FACING FINANCE

Dirty Profits 8

Plastic Profits: Disposable plastics, indispensable planet English summary

Contents

Disclaimer: This report is a summary of the German Report *Dirty Profits 8: Einweg ohne Ausweg? Plastikprofite von Banken und Konzernen und ihre Folgen für die Umwelt*.

The full report can be downloaded here: dp8.facing-finance.org

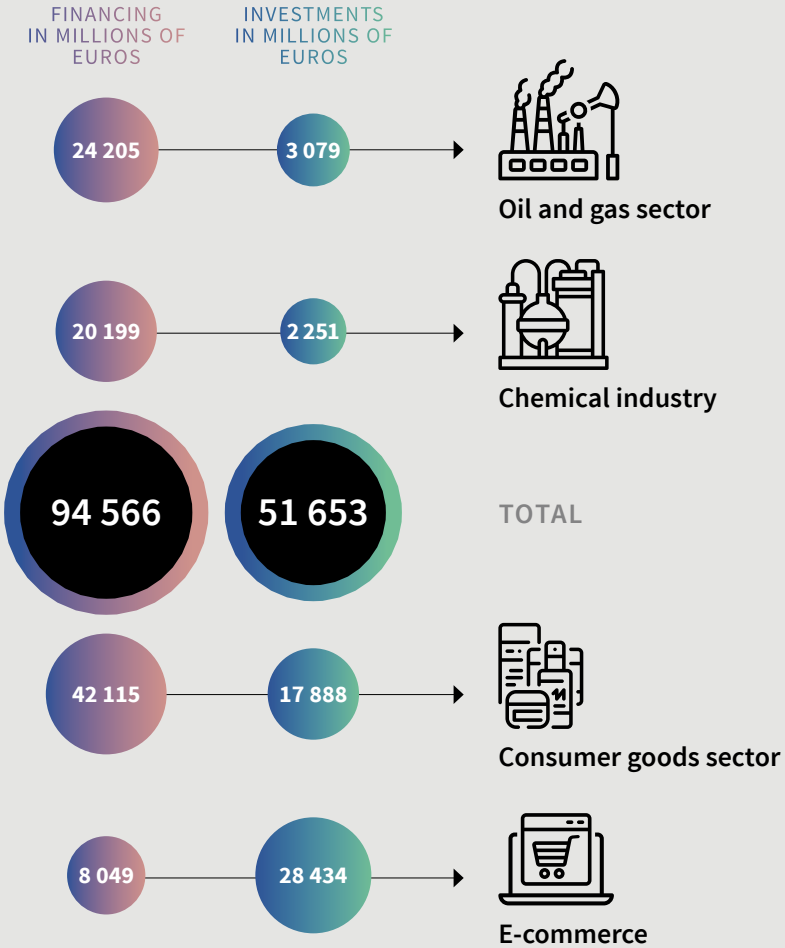
Cover picture:
The three-year-old polar bear Aurora plays with a plastic Coca-Cola bottle in Royev Ruchey Zoo, Krasnoyarsk, Russia (2013).

Microplastics in the seas now outnumber stars in our galaxy. From remote islands to the Arctic, nowhere is untouched. If present trends continue, by 2050 our oceans will have more plastic than fish.“

António Guterres, Secretary-General of the United Nations

Summary: Companies and banks are in the same boat – and it's made of plastic

IN MILLIONS OF EUR	FINANCING IN MILLIONS OF EUROS	INVESTMENTS IN MILLIONS OF EUROS
BNP Paribas	16 905	3 293
Commerzbank	2 404	72
Deutsche Bank	21 693	11 456
HSBC	24 655	7 714
ING	7 756	43
Santander	10 651	520
UBS	7 161	28 511
UniCredit	3 341	43



European banks contribute to and profit from global plastic pollution through their investments and financing.

* Differences due to rounding.

This study examines eight European funders of the plastic industry. Banks play a central role in the global plastic pollution caused by companies. They invest in commodity companies like ExxonMobil and Shell, lend to chemicals producers such as BASF and Ineos, and help consumer goods enterprises like Coca-Cola or Nestlé to place bonds. By doing this without demanding any environmental minimum standards, these banks make money out of plastics and exacerbate the crisis. All fourteen companies examined in this study do far too little to curb the plastic pollution they cause.

Plastic is both a curse and a blessing. The ongoing coronavirus pandemic, which had infected over 80 million people by the end of 2020 and whose effects endanger the social and economic lives of people all over the world, has brought this contradiction into sharp relief. Today's surgeries and hospitals are completely dependent on plastics. In modern medical equipment – ventilators, syringes, infusion bags and personal protective equipment – plastics are among the most used materials. They are not only versatile, light and reliable but also cheap.[1]

On the other hand, plastics corporations have produced over 8.3 billion tonnes of plastic since the 1950s. Of the 6.3 billion tonnes of waste this has produced, only 9 percent has been recycled and another 12 percent incinerated.[2] Almost 80 percent of the total waste produced has thus ended up in landfill or somewhere in nature. Despite these alarming figures, there has been no successful process of rethinking about how to avoid plastic in industry. Quite the contrary, worldwide plastic production is rising. Numerous new production facilities are springing up to transform oil and gas into plastics.

Despite the coronavirus pandemic, the greatest demand for plastics comes not from medical technology or even the transport sector or construction. The lion's share, around 40 percent of European plastic production, is used by the packaging industry.[3] Worldwide, single-use plastic makes up around half of all plastics produced.[4] Global plastic pollution, which can be found at the most remote spots in the world, is in large part a result of this business model. A model that is based on fast, short-lived and continuous consumption – and consequently leads to ever greater quantities of cheap, disposable products. These are the subject of this report. This connection is visible along coastlines and in other environments in the form of product packaging from Coca-Cola, Nestlé and PepsiCo that pollutes the landscape. The consequences for people, nature and the climate go far beyond littering, as this report shows.

The research focused on a total of fourteen companies that play a significant role in global plastic pollution: the energy corporations Eni, ExxonMobil and Shell*, who extract oil and gas – without which plastics cannot be produced; BASF, Ineos, Dow and DuPont de Nemours**, who synthesise the raw materials; the consumer goods corporations Coca-Cola, Mondelēz, Nestlé, PepsiCo and Unilever, who are failing to meet their responsibilities with their single-use plastic products clogging up our planet; and finally the two online retailers Amazon and Alibaba with their promise of round-the-clock consumption, which are increasing the flood of packaging in record tempo.

THE ROLE OF BANKS

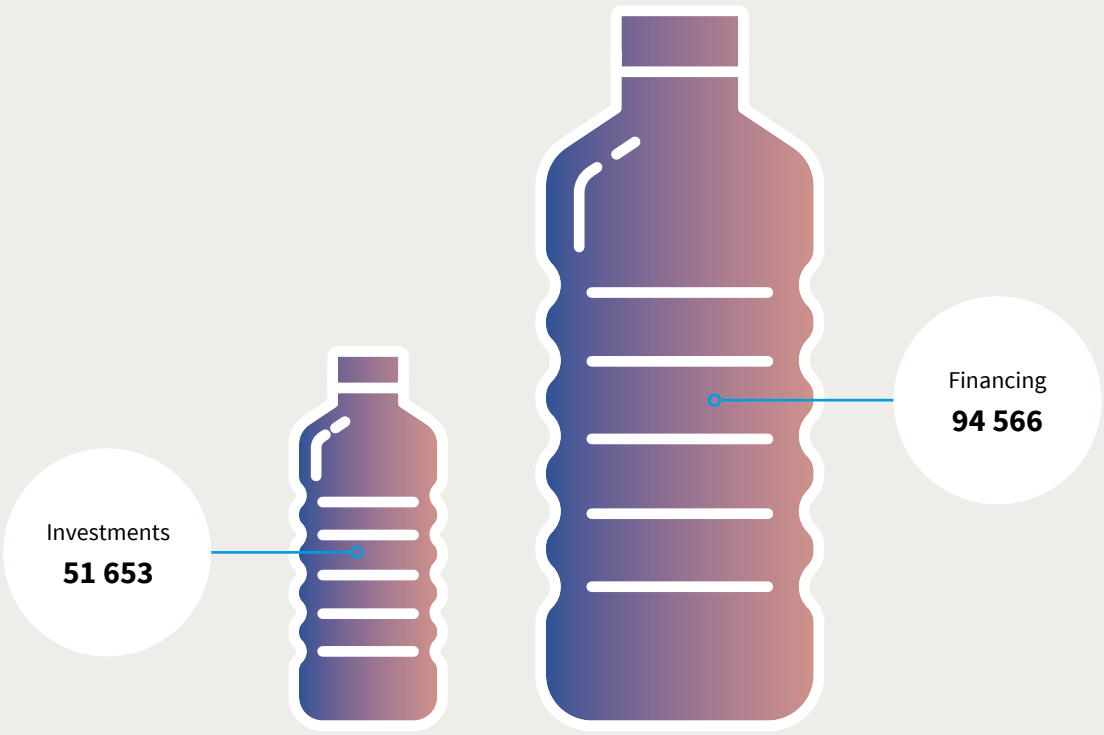
Banks play a central role in the global plastic pollution caused by the plastics industry. Plastics corporations are part of the real economy but, like all companies, they need capital. The decision as to which companies receive money should not, however, be a purely economic one. It should also take social and environmental responsibility into account. Just as financing and investment decisions made many years ago are playing out in current crises like global warming and plastics pollution, today's decisions will impact tomorrow's world. So banks can also contribute to overcoming contemporary and future crises.

Faced with pressure from the public, many banks have in recent years made at least some improvements to their sustainability guidelines in relation to climate change and human rights. But the plastic problem has so far played virtually no role in the voluntary commitments made by the financial institutions. Only one of the eight banks investigated, the Dutch ING Groep, has even a rudimentary plastic strategy available to the public. None of the banks has a comprehensive plastic policy – either in relation to individual downstream industries such as oil and gas or on the chemicals or consumer goods industries, or about the whole plastic lifecycle.

* Shell is discussed in the feature "Shell's Plastic Complex in Pennsylvania" on p. 25.

** Dow and DuPont de Nemours are discussed together: their history of mergers and splits means it is not always possible to distinguish them clearly.

VALUE OF FINANCIAL RELATIONSHIPS FOUND in millions of euros



FINDINGS FROM FINANCIAL RESEARCH

The banks selected for financial research were the major European banks BNP Paribas, Commerzbank, Deutsche Bank (including DWS), HSBC, ING, Santander, UBS and UniCredit. The financial research carried out for financings between early 2017 and October 2020 and investments as of October 2020 show **an extremely high volume of business for the eight banks vis-à-vis the fourteen companies researched, amounting to over 146 billion euros.** While Nestlé and ExxonMobil were the largest recipients of credit financing, the banks also have particularly profitable holdings in the mail-order companies Alibaba and Amazon.

Since 2017, the eight selected European banks have provided a total of 95 billion euros in capital to the 14 selected companies for the financing of their business models. This amounts to just under 65 percent of the identified financial relationships. Fresh capital was provided in the form of participation in loans and issuance of shares and bonds. Financing a company is considered the strongest form of support for economic activities because it directly increases the company's funds. Almost 80 percent of the identified finance volume is accounted for by **HSBC**, **Deutsche Bank**, **BNP Paribas** and **Santander**. These four banks, taken together, have provided financing in the double-digit billions to each of the firms in this study. Deutsche Bank and HSBC have financed all the companies under examination during the period of the study, and BNP Paribas has financed almost all of them.

A much lower finance volume was recorded for Commerzbank, UniCredit, UBS and ING, but this can be attributed to these banks' lower overall balance sheet totals.

Total financing of the fourteen companies from January 2017 to October 2020 in millions of euros

	Issuance of shares	Issuance of bonds	Lending
BNP Paribas	388	10 916	5 601
Commerzbank		1 115	1 290
Deutsche Bank	938	13 166	7 588
HSBC	373	12 964	11 318
ING	317	1 918	5 521
Santander		7 056	3 595
UBS	317	4 701	2 143
UniCredit		2 216	1 125
GESAMT	2 333	54 053	38 181

In capital investment, high **investment volume** of almost **52 million euros** can be seen across all sectors in the form of held shares and bonds. At 29 billion euros, the Swiss bank **UBS** is particularly prominent, in contrast to its presence in financing, with high investments in the mail-order retailer Alibaba. Over half of all shares and bonds found are held by UBS. But **Deutsche Bank**, **HSBC** and **BNP Paribas** also have large holdings in the firms in the study. Moreover, all four of these banks have invested in all the companies in the study. ING, UniCredit and Commerzbank, the banks with the lowest balance sheet totals, are the smallest investors – in terms of both the amount of their holdings and the number of financial connections to the firms in the study.

Total investments in the fourteen companies as of October 2020 in millions of euros

	Bondholdings	Shareholdings
BNP Paribas	145	3 148
Commerzbank		72
Deutsche Bank	728	10 727
HSBC	147	7 567
ING		43
Santander	3	517
UBS	954	27 558
UniCredit		43
GESAMT	1 977	49 676

Considering the scale of the financial relationships found, the policies and processes that have been established and published on the subject of plastic are inadequate. Without practices for environmental protection and avoidance of plastics, banks are deliberately supporting companies that produce or use plastics by providing them with capital. As long as this is the case, they cannot claim to be following a responsible investment policy. We call on all banks to overhaul commitments they have already made or are currently developing and to align them with the principles of a responsible **circular economy** with the ultimate goal of **plastic avoidance**.

RitaE, pixabay.

We believe in a world
where the land, sky, oceans, and water
is home to an abundance of life,
not an abundance of plastic,
and where the air we breathe,
the water we drink
and the food we eat
is free of toxic by-products of plastic pollution.

In this world the principles of
environmental justice,
social justice,
public health,
and human rights
lead government policy,
not the demands of elites and corporations.

This is a future we believe in and are creating together."

Break Free From Plastic

Plastic – the last straw?

The world is drowning in plastic. An ever-growing layer of plastic is covering coasts, fields and cities. The march of plastic does not stop even at the world's most remote locations. Plastic rustles in the snow on the Alps, drifts around the Antarctic embedded in ice floes, rains over the Grand Canyon and floats in the sea currents around the Galapagos Islands. Plastic is an unwanted ingredient in the diet of humans and animals.

Excesses of our plastic consumption, Czech Republic (2017). vchal, iStock.

As the world strove for affluence after the Second World War, the irresistible rise of plastics began. Industry quickly recognised the potential of this cheap material and its value and importance for the burgeoning consumer society. The supply chains were straight lines. When packaging or bottles had been used once, they went straight into the bin. By neglecting the possibility of reuse or recycling, corporations were saving themselves effort – and money. The model of disposable packaging, based on short-lived but frequent consumption, eventually came to dominate worldwide by the late 1970s.[5] The remorseless march of plastics had begun, and it has resulted in an all-pervading global pollution. With the estimated service life for a takeaway coffee cup of 15 minutes and for a plastic bag of 25 minutes, the problem is constantly present in everyday life.[6]

Plastic pollution manifests itself in the accumulation of plastics in the environment, with negative effects on the oceans and marine inhabitants, the climate and the habitats of humans and animals.[7] Seabirds and turtles, for example, often mistake some of the eight to thirteen million tonnes of plastic that ends up in the oceans each year for food, and starve.[8] Over 100,000 sea mammals, such as whales, dolphins and sealions, die each year because they eat plastic or get caught in fishing nets and suffocate.[9] Invasive species can be washed across the oceans on plastic waste and harm native ecosystems and animal and plant species.[10] Delicate coral colonies fall sick because of marine debris and the bacteria that colonize plastic surfaces.[11] Most of the plastic waste in the seas sinks to the ocean floor where we cannot see it.[12] According to estimates by the *Ellen MacArthur Foundation*, by 2050 there may be more plastic, by mass, than fish in the sea.[13]

Seal with plastic in Britain. David J. Martin, shutterstock.

Scattered across bodies of water or land and consumed by living creatures, the next destination for plastic is our plates. Whether in fish, sugar, salt, water or beer – according to conservative estimates, each of us consumes an average of around 50,000 particles of microplastic per year. We take plastic in through the air in roughly similar quantities – it is everywhere.[14] It makes its way into the environment not just as direct waste but also as sludge used as fertiliser in agriculture, as artificial fibres shed by synthetic clothing in the laundry or as tyre-wear particles washed off the roads by rain. But it is not just in microscopic form that plastic finds its way into the human body. When oil and gas are extracted and

transported, refined and processed into plastic, when the resulting products are consumed and then disposed of, people are exposed to various toxins such as benzene, heavy metals and dioxins.[15]

Microplastics found on the beach (2019). vchal, iStock.

Plastic causes harm in other ways, too. Its manufacture in the extremely energy-intensive plastic processing industry and the extraction of its raw materials, oil and gas, contribute to climate change.[16] The production increase planned by the plastics industry is incompatible with the Paris climate goals. According to the calculations of the civil society organisation *Center for International Environmental Law*, if plastics production continues on its current growth trajectory, it will consume over 10 percent of the total CO_2 budget available until 2050.[17] But it is not just the manufacturing process that harms the climate. When the material is incinerated – a process euphemistically called "waste-to-energy" – huge volumes of greenhouse gases are produced. Without a resource-saving circular economy, the efforts to avert the climate crisis are undermined.

Another climate-related danger that scientists fear is the negative impact on the "trees of the ocean": phytoplankton.[18] When they photosynthesise, these organisms take the carbon that dissolves from atmospheric carbon dioxide into the upper water levels of the sea and transform it into biomass. When they die, they sink with the carbon into the depths. Because the oceans absorb around 25 percent of anthropogenic carbon dioxide, they play a central role in the global climate.[19] Until there is conclusive evidence about whether microplastics harm this biological process, which is so vital for the world's climate, the precautionary principle must kick in. The potential harm is too great.

The plastic crisis can neither be recycled away nor overcome with technological inventions. To tackle the problem, plastic must be systematically eliminated, right from the start of its lifecycle. Because once plastic has been produced, it is there to stay. Almost 80 percent of the total plastic waste produced before 2015 has ended up in landfill or somewhere in the environment.[20] It does not decompose in nature.[21] Nonetheless, there is no departure from plastic in sight. Quite the reverse: the plastic boom continues uninterrupted. More than half of all plastic ever produced has been manufactured in the 21st century.[22] By 2050, annual plastic production could have almost quadrupled again.[23]

Manufacturers in the western hemisphere like to advertise with "100 percent recyclable". But this environmentally friendly sounding attribute does not mean this packaging will actually be recycled. Worldwide, only 14 percent of plastic packaging is recycled.[24] Even in Germany, often extolled as a world champion of recycling, the percentage is not much higher (see p. 15). And there are problems associated with the alternatives to conventional plastic too. *Bioplastic* is made from vegetable materials, such as sugar cane, which mostly grow in highly industrialised monocultures. At the end of its life, bioplastic generally does not biodegrade, even though its name implies it does. If there is a shift towards paper packaging, this would mean increased deforestation. Plastic pollution, like the climate crisis, is a structural problem. If industry shifts the blame to consumers or states without well-developed waste management systems, it is simply distracting from its own responsibility. Firstly, the statistics have long shown that waste sorting and recycling are not a sufficient answer to the crisis. Secondly, corporations are externalising a significant part of their costs to society. According to estimates by *Carbon Tracker*, this amounts to at least 1,000 US dollars per tonne of plastic and is made up of quantifiable factors such as CO_2, airborne toxins, collection and sorting of plastic waste and the cost of cleaning the oceans.[25]

Corporations in a range of industries – including oil and gas, chemicals and consumer goods – are still choosing to use plastics. So far, their statements on the plastic crisis have been little more than aspirations. But all over the world, people are demanding a new approach. According to a survey on plastic waste published in autumn 2019 in which 65,000 people in 24 countries were questioned, plastic waste ranks second among environmental concerns worldwide, and in Eastern Europe and Asia is in first place. While companies allocate blame for plastic pollution to recycling-averse consumers, the survey shows that consumers do not accept this narrative. The largest proportion of respondents (48 percent) primarily see the real plastic polluters – the corporations – as responsible, before governments (24 percent), consumers (19 percent) and the retail sector (7 percent).[26] In a joint report, *WWF International*, the *Ellen MacArthur Foundation* and *Boston Consulting Group* come to the further conclusion that no material is as unpopular as plastic. 65 percent of consumers associate plastic directly with the pollution of the seas; 57 percent consider it toxic.

Consumer goods companies need a broad customer base. Large parts of the public clearly have a negative perception of plastic, so it seems safe to assume they will not be fobbed off with ineffective measures indefinitely. According to a 2019 *Ipsos* survey about plastic that questioned almost 20,000 people in 28 countries, 75 percent of consumers feel better, or tend to feel better, when they buy brands that reduce their environmental footprint. 75 percent of those surveyed also wanted, or tended to want, products with as little plastic packaging as possible when shopping. 63 percent said they would be prepared to go to a different shop if this meant lower personal plastic consumption.[27] A perfect illustration of consumers' desire for business models based on lower packaging use and the promotion of the common good is the strong demand for packaging-free shops. In early 2020 there were already 190 such businesses in Germany; another 180 were in the planning phase.[28]

Governments have also been active. Banning plastic carrier bags may be the politics of symbolism, but it forms part of a long list of regulations and government projects around the world. In a total of 137 countries there are either existing laws on single-use plastics (115 countries) or plans to enact such laws by 2021 (22 countries). Since 2015 this figure has more than doubled, which underlines both the urgency of instituting legal change and the readiness to do so.[29] In addition, in May 2019 187 states agreed on stricter rules for plastic exports in the Basel Convention.[30] In 2018, the European Commission took further steps, for example the *European Strategy for Plastics in A Circular Economy* and the target of ensuring all plastic packaging brought into circulation in the EU market is either reusable or suitable for cost-efficient recycling by 2030. In 2019, the European Commission enacted a single-use plastic directive that addresses the ten plastic product residues most commonly found on European beaches as well as abandoned fishing equipment; the list covers 70 percent of sea waste. The mix of measures, which includes bans, extended producer responsibility and increased recycling, is being introduced successively in all member states with completion scheduled for December 2024.[31] In addition, there are plans for a plastics levy on non-recycled plastic waste in the EU from 2021. Governments and civil society organisations, as well as some companies, have long been calling for a comprehensive UN convention on prevention of plastic pollution.[32]

Protest on a landfill site in Jakarta, Indonesia (2019). Creativa Images, shutterstock.

A UN convention on plastic is long overdue!

Plastic pollution is a worldwide problem and needs a cross-border solution. The ever-increasing pollution of our environment cannot be solved by any one government or civil society organisation. Nor can it be solved by any one company. The mass of single-use plastic placed daily on the market worldwide has long since grown too vast for individual measures to curb. Improvements in waste management are essential, but cannot keep up with the sheer volume of plastic being produced. Plastic pollution can only be contained if there is a global agreement on avoiding plastic use. There needs to be a binding target for reducing plastic pollution worldwide, along with standardised procedures for measurement and monitoring of compliance. Plastic products that are difficult or impossible to recycle must be restricted, along with toxic additives, and reuse systems and a circular economy must be promoted. With national action and reduction plans and solidarity-based financing mechanisms, it becomes possible to formulate measures in an international agreement but implement them locally.[33] Harmonised legislation offers companies legal and planning certainty. There is already one model to learn from: the Montreal Protocol, signed over 30 years ago, which began the phase-out of chlorofluorocarbons (CFCs) and thus curbed the destruction of the ozone layer.

In October 2020, some of the companies researched in this report – BASF, Coca-Cola, Mondelēz, Nestlé, PepsiCo and Unilever – drafted a manifesto in which, for the first time, they called for a UN treaty on plastics.[34] This joint declaration is welcome but should not be used as an excuse to delay individual company targets and national legislative projects unnecessarily.

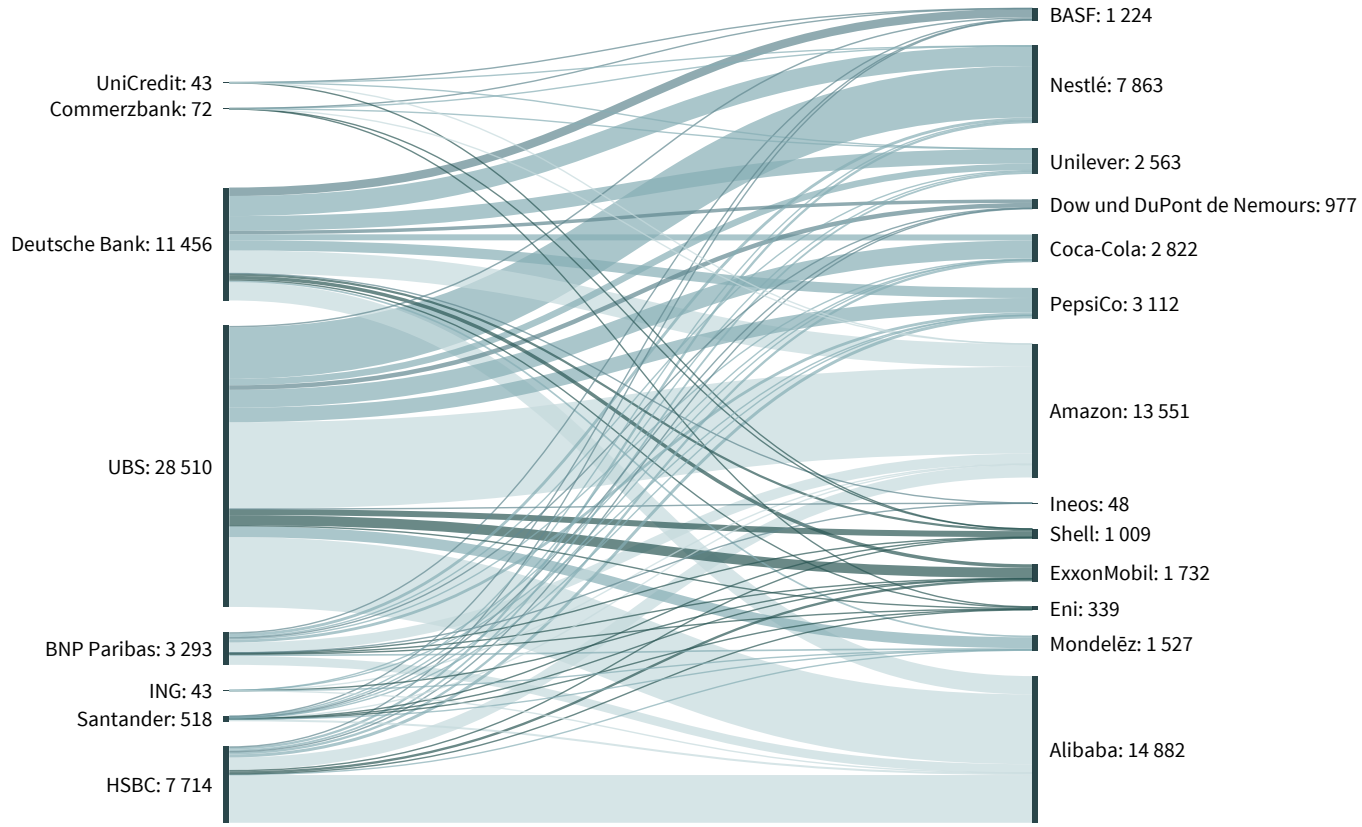
While consumers and some governments are clearly turning away from single-use plastics, the petrochemicals industry remains remarkably positive in its forecasts for the oil and plastic market. Financial experts from the thinktank *Carbon Tracker* recently warned of a vast miscalculation (totalling up to 400 billion US dollars) in *stranded assets* – that is, assets still on the books that can no longer actually be converted into money.[35] The *International Energy Agency* predicts an annual 2 percent increase in plastic until 2040 – and the industry sometimes places the figure at 3 to 4 percent. But *Carbon Tracker* expects demand to begin stagnating in 2027. Its analysts see too wide a gulf between, on the one hand, the industry's expectations of plastic as the last driver for oil demand and, on the other, the priorities of consumers and governments.[36]

When banks provide capital to plastics corporations without imposing any environmental standards, they block the transformation to a circular economy and to an economic system based on sustainability. Neither oil and gas companies nor the chemicals industry have an interest in lower plastic production capacities. Quite the reverse; new petrochemicals plants are continuously being built even though there is already over-capacity, which results in low prices.[37] And when newly manufactured plastic is cheap, the consumer goods industry has little incentive to avoid it.

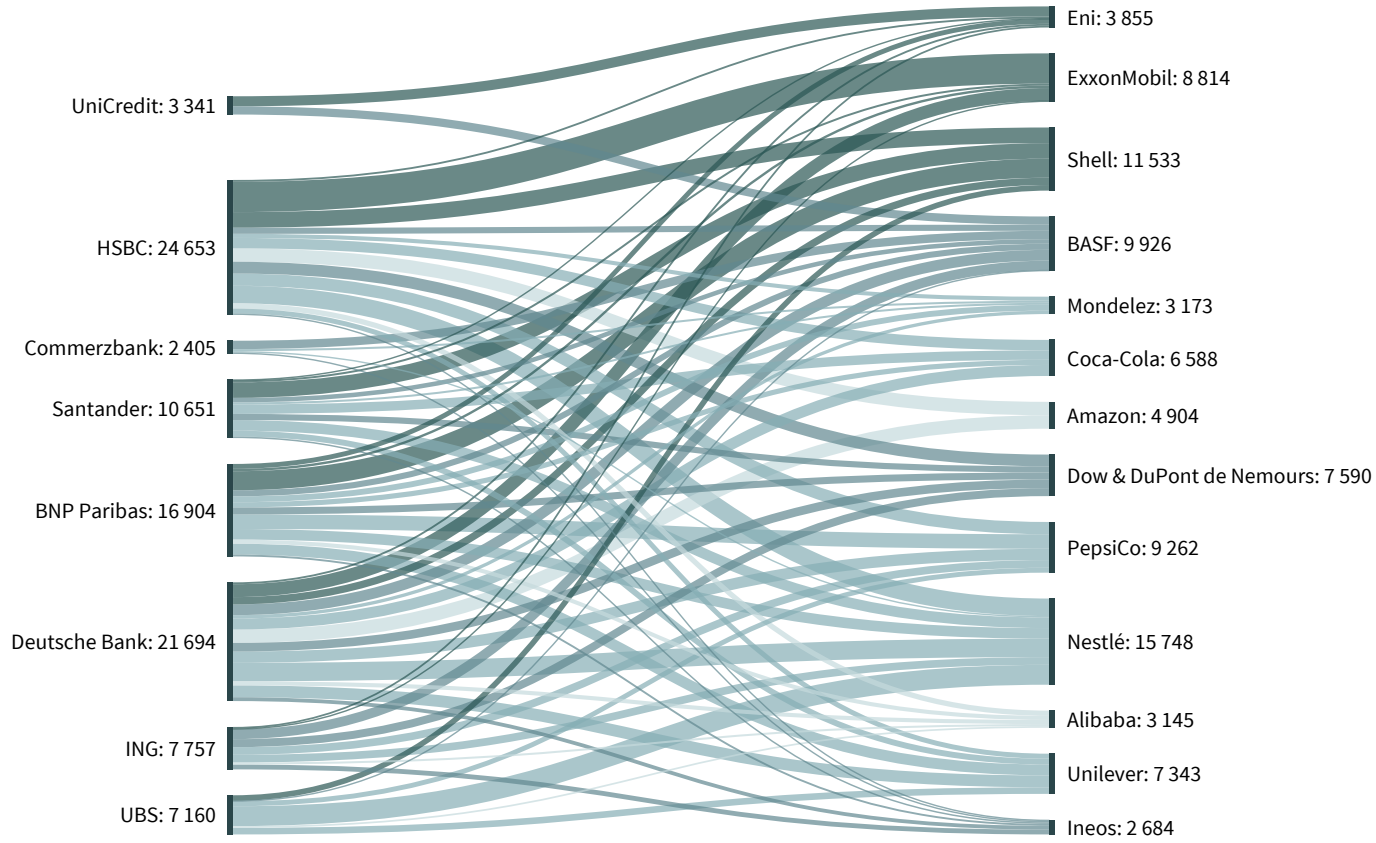
However, as societies place higher demands and governments plan new legislation, a long-term scenario is emerging in which the demand for plastic – as forecast by *Carbon Tracker* – shrinks, in line with a turn towards a circular economy. Such a transformation is inevitable, not only because plastic waste in the environment directly harms habitats but also because production increases are incompatible with the Paris climate goals.

It is therefore in banks' own interests to act quickly. They must take a holistic view of plastics and set avoidance of single-use plastic as a condition of all loans and investments along the plastic lifecycle. At a time when all industries are being required to reduce their emissions, the plastic industry should not be increasing the emissions values of portfolios. If plastic demand does indeed stagnate or collapse, the newly built factories will be worthless. And ultimately it is not only companies in the real economy but also banks that will suffer losses – to their image now and to their bottom line later – if they block the transformation or fail to actively support it.

Investment flows as of October 2020 in millions of euros
(Bonds and shares held)



Total financing of the fourteen companies from January 2017 to October 2020 in millions of euros
(Lending and issuance of shares and bonds)

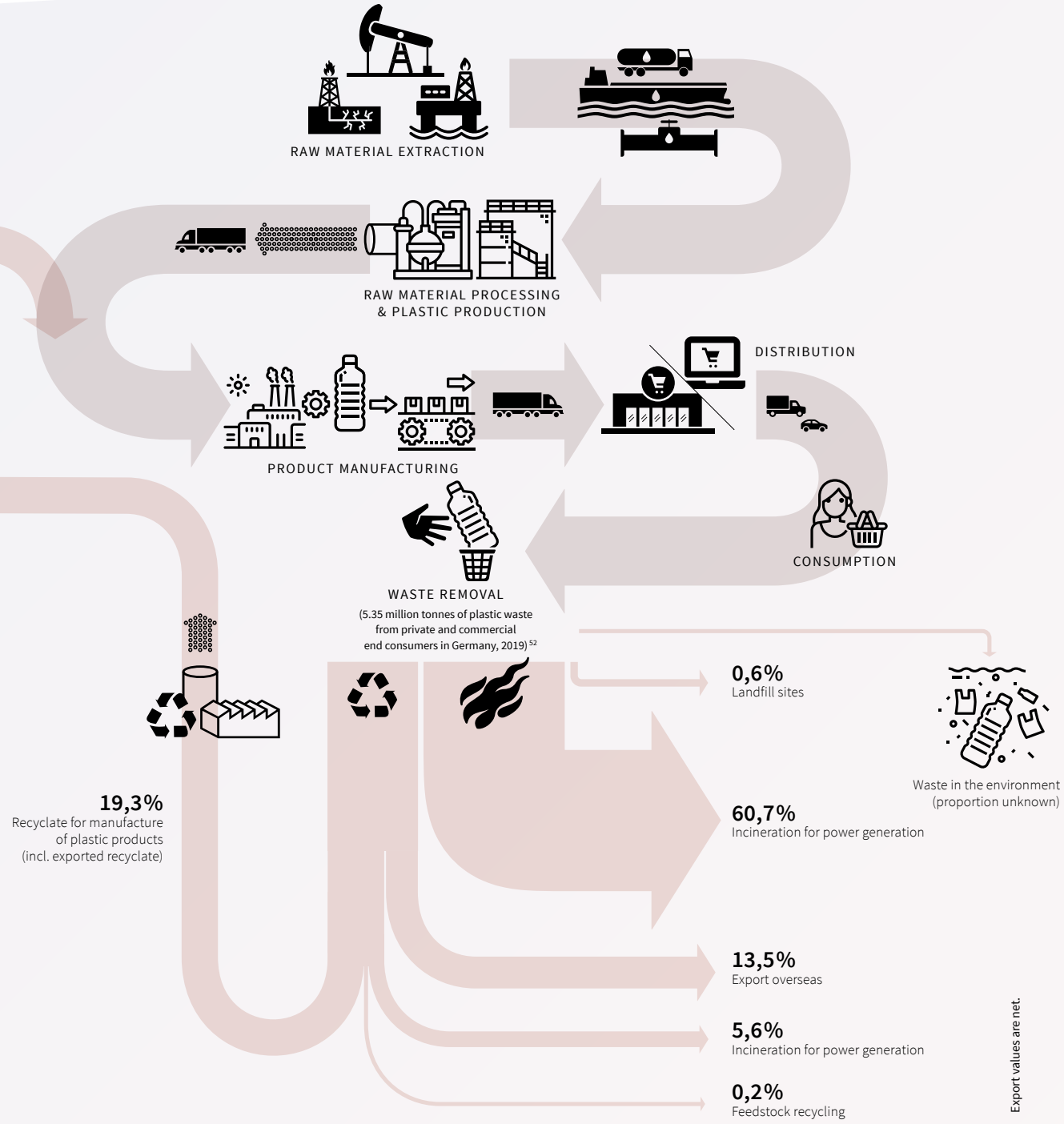


* Differences due to rounding.
** Diagrams created using SankeyMATIC.

Plastic: here to stay

Waste collectors on a refuse dump with smouldering fires and grazing cattle in Siem Reap, Cambodia (2016). Dgmorn, shutterstock.

The plastic journey: from oil and gas to waste



The global plastics crisis is more than purely a waste problem. It is constantly present throughout the plastics lifecycle – with real dangers for people, environment and climate. It begins in the irreversible damage caused to the environment through prospecting for and extracting raw materials. It continues its energy-intensive journey in the chemical conversion of oil and gas first into plastic granules and then into end products. It enters our bodies in the form of minute particles and pollutants during use. It is eventually disposed of, but that is not the end of its story. It ends up in the landscape or is released into the air in the form of toxic smoke from waste incineration plants. In rare cases, it is recycled.

Raw material extraction: Oil and gas as building blocks for plastic production

Plastic is synthetically produced; 99 percent is based on fossil fuels such as oil and natural gas.[53] The creeping contamination of entire regions by crude oil leaking from ailing pipelines on land, gigantic oil slicks in the sea caused by tanker wrecks and accidents on drilling rigs, or landscapes destroyed by fracking: these are only the visible side effects of the hunger for fossil energy. In addition to this obvious ecological damage to the environment, the fossil fuel business has always been an invisible threat to the climate. Around 35 percent of the world's greenhouse gas emissions since 1965 are directly attributable to 20 oil, gas and coal companies in the energy sector.[54] However, it is not only the environment that suffers while the industry profits. The energy and raw materials sector is responsible for almost a third of the world's business-related human rights complaints.[55]

Raw material processing and plastic production: a climate-damaging industry

In a series of complex extraction and processing processes, naphtha produced during oil extraction and ethane produced during natural gas extraction are split into the basic chemicals required for plastic production.[56] This process, known as *steam cracking,* is considered the "most energy-intensive process in the chemical industry",[57] according to the *Intergovernmental Panel on Climate Change*. So the plastics crisis must primarily be understood as also a climate crisis. According to conservative estimates by the non-governmental organisation *Center for International Environmental Law*, the production and combustion of plastic is likely to have emitted about as much greenhouse gases as 189 coal-fired power plants in 2019, and by 2030 the material's climate damage could correspond to the emissions of some 300 coal-fired power plants. By 2050, more than 10 percent of the total CO_2 budget available to meet the 1.5-degree target would be used up. As a pioneer in the production and consumption of plastics, the chemical industry has a special responsibility for the climate. However, according to data from the *Center for International Environmental Law* in 2019, about 300 new petrochemical plants are being built primarily for the production of plastics in the US alone.[58]

Product manufacturing: consumer goods companies under pressure

Consumer goods companies are coming under increasing pressure to rethink their hunger for plastics. Just because a product has "recyclable" on its packaging, this does not in any way guarantee it will be used at the end of its life to make new products. Many companies proudly advertise that they use bioplastics or alternatives made of paper. However, as is so often the case, the environmental consequences simply shift elsewhere (e.g. towards land competition and deforestation) and the overall environmental outcome is no better.[59] In a 2019 study, researchers at the *University of Plymouth* reported that supermarket plastic bags advertised as biodegradable were still almost completely intact after being exposed to wind and weather for three years.[60] What is the alternative? Avoid plastic and rely on truly reusable systems – the only way to conserve valuable raw materials right from the start!

Consumption: plastic in everyday life

Demand for plastics from industries in Europe totalled 51.2 million tonnes in 2018. Packaging accounts for around 40 percent of this – a proportion that can be influenced, to an extent, by changes in consumer behaviour. In 2018, 39 kilograms of plastic waste were generated per person in Germany.[61] Plastic is often touted as safe and hygienic. However, it contains many additives that can be transferred from packaging to food and eventually into the human body. In fact, this transmission route is considered to be the main source of plastic-associated exposure to pollutants for humans. So plastic is clearly not always the safer choice.[62] For many food products, such as juice, milk and honey, there are established systems that show that reuse is entirely possible. Packaging-free shops, where customers bring their own containers and bags, are booming.

Disposal: out of sight, out of mind

8.3 billion tonnes of plastic were produced worldwide between 1950 and 2015, of which 6.3 billion tonnes – more than 75 percent – eventually became waste. The vast majority of plastic waste was disposed of in landfills (79%), a smaller proportion was incinerated (12%) and even less recycled (9%).[63] Most of the waste is packaging: according to a study by the German Environment Agency (UBA), more than 3.2 million tonnes of plastic packaging waste was thrown away in Germany alone in 2018, and the trend is increasing. As the graphic on p. 15 shows, even the recycling world champion Germany does relatively little actual recycling and a lot of incinerating.

Industrial initiatives – rethinking or greenwashing?

A diver asks plastic companies whether this plastic bottle, filled with moss animals, nudibranchs, crabs and barnacles and floating in the Great Pacific Garbage Patch, belongs to them (2018). © Justin Hofman, Greenpeace.

Many large plastics producers and consumer goods companies join alliances and initiatives to combat plastic waste, funding organizations in dozens of countries that purport to promote environmental protection. Many companies take voluntary measures to make their products more recyclable or to use less new plastic in packaging. However, most of these initiatives and pledges continue to focus mainly on consumers and recycling. None of the initiatives see the manufacturers as responsible for where their products end up.

None of the initiatives sees companies as under an obligation to bear the risks posed by their products to the environment and health. It is still local authorities that have to live with the consequences and costs resulting from irresponsible business decisions and the huge quantities of plastic that is used only once.[64] Moreover, if corporations simultaneously oppose bans, deposit-return systems, standardised labelling and higher recycling rates, then even the best corporate initiative cannot have much to offer.[65]

A SELECTION OF INDUSTRY INITIATIVES THAT ADDRESS THE GLOBAL PLASTIC WASTE PROBLEM.

All the industry measures in the table are voluntary, and there are no sanctions for failure to meet the targets.

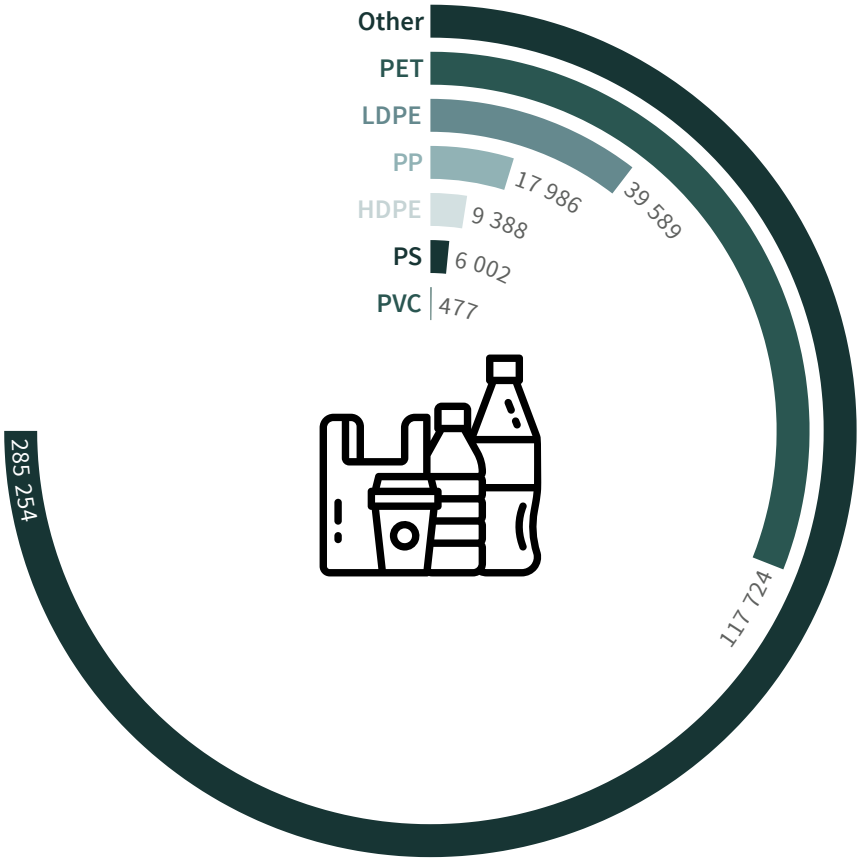
Initiative	Measures and objectives	Assessment[66]	Companies (selection)
New Plastics Economy Global Commitment (Ellen MacArthur Foundation)	By 2025: · Elimination of problematic or unnecessary plastic packaging · Switching from disposable to reusable models where relevant · 100% reusable, recyclable or compostable plastic packaging · Increasing the proportion of recycled content in plastic packaging	⊕ Starts with the companies ⊕ Increases transparency ⊕ Addresses the use of toxic chemicals ⊕ Wide reach (over 500 companies)[67] ⊖ Voluntary obligations without enforcement mechanism; no consequences in the event of non-compliance. Many companies have missed similar targets multiple times in the past. Greenwashing danger.[68] ⊖ Companies do not have to publish all the data they share with the Foundation.[69] ⊖ No auditing of the data.[70] ⊖ Chemical and mechanical recycling are considered equivalent in a circular economy.[71] ⊖ There are efforts to find reuse models, but they are not consistent. Despite declaring that the crisis cannot be recycled away,[72] the wording remains too vague and the third obligation does not favour *reusable* over *recyclable.* Moreover, the percentage of reusable packaging produced by signatories has improved in practice by only 0.1 percentage point in a year and is still only 1.9 percent.[73] ⊖ There is space for greenwashing: for example, Coca-Cola meets the third target by 99 percent – but less than 3 percent of the plastic is considered reusable.[74] At the same time, no other company is behind so much found plastic waste in Clean-Ups.[75]	BASF Coca-Cola Mondelēz Nestlé PepsiCo Unilever

Alliance to End Plastic Waste	· Infrastructure development for waste collection and recycling in Asia (e.g. city partnerships) · Innovations in waste management and recycling · Mobilisation through education and inclusion of governments, businesses and local authorities · Clean-up operations in affected regions, in particular on waterways	⊖ Industry initiative aims to combat plastic waste at the same time as increasing plastic production: the promised funding of USD 1.5 billion by 2024[76] for the initiative is negligible compared to what the signatory companies continue to invest in plastic production facilities (approximately 89 billion dollars by 2030[77]). As a result, lasting results are unlikely. ⊖ The name sums it up: The focus is on already produced plastic waste and on consumers and cities. No requirements or obligations are placed on the companies themselves, which choose to continue producing single-use plastics, for which there are no disposal options in most countries. ⊖ Isolated projects; no sustainable financing[78] ⊖ Strong parallels with the US's *Keep America Beautiful* greenwashing initiative, which also shifts responsibility to consumers[79]	BASF Dow Eni / Versalis ExxonMobil PepsiCo Shell
Trash Free Seas Alliance (Ocean Conservancy)	· Establishing practical cooperation with the aim of reducing the amount of plastic waste entering the sea by 50% by 2025[80]	⊕ Carrying out extensive coastal clean-ups and cataloguing the types of plastic. This makes it possible to see which types of disposable plastic make up a particularly high proportion of plastic pollution. Unfortunately, no cataloguing by company. The clean-ups carried out by the Ocean Conservancy are not part of the industry initiative.[81] ⊖ Unbalanced narrative that five Asian countries are responsible for more than half of the plastic waste in the world's oceans [82] ⊖ Promotion of incineration in countries that are already struggling with high levels of air pollution, an approach that more than 200 organisations have strongly rejected.[83] Although the Alliance is in favour of solutions that reduce the largest possible amounts of plastic in the oceans in the shortest possible time,[84] these must not be at the expense of the environment and human health. ⊖ Uncritical of industry with at times a positive depiction of increases in plastic production, which is presented as inevitable; no demand for a reduction in plastic production by partner companies.[85] Numerous corporations on the steering committee of the reports published.	Coca-Cola Dow Nestlé Waters PepsiCo
The Recycling Partnership	Only in the US: · Provision of funding, grants and technical support for municipal recycling programmes · Research, data collection and best practices · Partnerships, e.g. with local authorities, companies and industry leaders · Scalability: increasing reach and acceptance of best practices	⊕ Is a credible advocate for recycling in the US. ⊖ Is funded by companies that continue to focus on plastics and still do not make serious efforts to avoid their use. The board is also staffed by figures from leading industry organisations, including the *American Beverage Association* and the *American Chemistry Council*, which have repeatedly blocked legislation on plastic.[86] ⊖ Argues there is not enough recyclate available to meet the companies' 2025 goals under the *Ellen MacArthur Foundation's New Plastics Economy Global Commitment*. However, The Recycling Partnership (RP) does not recommend deposit-return systems even though it acknowledges they lead to a significantly higher return of PET bottles. RP points to unsuccessful extensions of the current deposit-return laws in the US and to disagreement between companies on this issue.[87] ⊖ While RP notes the inadequate recycling arrangements in the US, it seeks only to improve, not replace, the existing system – to the satisfaction of its donors.	Amazon Coca-Cola Dow ExxonMobil Nestlé PepsiCo
Closed Loop Infrastructure Fund	· Loans to local authorities and others, including for the development of recycling infrastructure · Closed Loop Partners is an investment firm and sees itself as an innovation centre for the development of a circular economy · 100 million US dollars from industry to be quadrupled by donations and investors	⊕ Loans are low- or no-interest. ⊖ Is funded by companies that continue to focus on plastics and still do not make serious efforts to avoid their use. Responsibility for plastic waste is passed on to consumers or cities and local authorities. Companies themselves have no responsibility to avoid plastic. This leads to lower costs for companies than they would incur if deposit-return laws and extended producer responsibility were introduced.[88] ⊖ Encourages investments in chemical recycling.[89]	Amazon Coca-Cola Nestlé Waters PepsiCo Unilever

Methodology

Plastic as far as the eye can see.
Supermarket in Ubud, Indonesia.
Bernard Hermant, unsplash.

Not all plastics are the same



Number of plastic pieces found during the clean-ups of *Break Free From Plastic* in 2019.
Most of them could no longer be identified.

Definitions
Whether round, angular, soft, flexible, firm, transparent or colourful – the range of shapes and properties plastic can have, and therefore its uses, are virtually limitless. But what is plastic? The term *plastic* colloquially refers to synthetic materials of all kinds. These are artificially produced in a complex process. Their origin is usually a hole in the ground: 99 percent of plastics are made from the fossil fuels natural gas and oil – and sometimes coal.[38] For example, to make a polyethylene shampoo bottle, around one litre of oil has to be processed.[39]

Plastics are made of organic polymers. These in turn are made up of a variety of repeating units (monomers) that can form different structures. In order to create a plastic with a particular set of properties from the polymers, additives are usually used during the production process, for example plasticisers, dyes or flame retardants.[40]

According to the EU's single-use plastics Directive, a **single-use plastic item** is "*a product that is made wholly or partly from plastic and that is not conceived, designed or placed on the market to accomplish, within its life span, multiple trips or rotations by being returned to a producer for refill or re-used for the same purpose for which it was conceived*".[41] Whether plastic packaging or disposable plastic plates – these are all products that are designed from the outset as disposable items. According to estimates, global production of disposable plastics accounts for roughly half of plastic production.[42] Only a fraction of it is recycled. In 2013, only 14 percent of the 78 million tonnes of plastic packaging produced was collected for recycling worldwide.[43]

SELECTION OF COMPANIES AND RESTRICTIONS

The process of producing usable plastic end products is a complex one. Many people and organisations are involved in the life of a piece of plastic packaging before it ends up in the shopping trolley: the oil and gas sector, the chemical industry and their customers from the consumer goods industry. To analyse global plastic pollution at its source, therefore, means to examine the responsibility of several actors in more detail.

Because plastics are made from oil and gas products, many of the companies in that sector have integrated a chemicals segment into their group structure (e.g. ExxonMobil has its ExxonMobil Chemicals branch and Shell has Shell Chemicals). The prospect of falling sales figures in the conventional oil and gas business because of the switch to renewable energies further reinforces the trend of chemical integration. Conversely, traditional chemical companies often have financial stakes in oil or gas companies or projects (e.g. BASF holds 67 percent of Wintershall Dea and Dow holds stakes in projects for the development of shale gas projects in Argentina).[44] Due to the closeness of these industries, the five* largest plastics corporations – which include both oil and gas companies as well as traditional chemical companies – were included in the study based on their annual worldwide sales in 2018.[45] In a guest article on p. 25, the Plastic Soup Foundation from the Netherlands also discusses Shell.

Consumer goods corporations put plastic into circulation, in the form of packaging, on a huge scale. For a long time there was a lack of transparency as to how much plastic (or other materials) corporations were using. With its call for the plastics industry to commit to a set of goals towards a circular economy and greater transparency, the *Ellen MacArthur Foundation* made progress in this regard in autumn 2018.[46] Big corporations such as Coca-Cola have for the first time published their plastics consumption as part of their commitments.[47] But it is still a long way from comprehensive, industry-wide disclosure of disaggregated data.[48] Accordingly, the selection of companies was based not on plastic consumption – this would have disadvantaged the more transparent companies as against those that publish no details – but on the share of global plastic pollution caused by the products of individual companies. The data comes from the *Clean-ups* undertaken by the international movement *Break Free From Plastic*. Their meticulous cataloguing of the pieces of plastic they find in nature, allocated to individual companies, has created a meaningful overall picture, pieced together from individual collections. It has also, for the first time, given global plastic pollution one or more names: Coca-Cola, PepsiCo, Nestlé, Mondelēz and Unilever were the most frequently represented finds in the collections of 2018, 2019 and 2020.

In the context of plastic, the role played by a triumphant e-commerce sector is sometimes overlooked. While packages are generally shipped in cardboard boxes, the products inside are often swaddled in plastic wrap or protected by air pillows. It is estimated that e-commerce will reach a total turnover of more than 6.5 trillion US dollars worldwide by 2023.[49] The largest online retailers, Amazon and Alibaba, which have a high volume of savings due to their immense consumption of packaging material, form the final group of companies examined. Amazon is the world's largest online retailer in most e-commerce markets, including the fastest-growing ones, with market shares estimated by the environmental organisation *Oceana* of 48 percent in Canada, 37 percent in the United States, 31 percent in India, 30 percent in the United Kingdom, 49 percent in Germany and 20 percent in Japan. Only in China is Alibaba ahead; Amazon has left the country.[50]

* Dow and DuPont de Nemours were considered jointly because of their history of mergers and splits.

All the companies in this report were examined only in terms of their use of plastic. Plastics-using companies outside the consumer goods industry, e.g. in agriculture, the automotive industry or medical technology, were not included. In these industries, the use of plastic is often justified, although there is potential for reductions. Waste management companies, which play an important role in a functioning circular economy, are also outside the scope of this research.

SELECTION OF BANKS

For the financial research, the largest banks by balance sheet total in 2018 were selected from the UK (HSBC), France (BNP Paribas), Spain (Santander), Germany (Deutsche Bank, including its asset manager DWS), the Netherlands (ING), Switzerland (UBS) and Italy (UniCredit), which are also among the 15 largest banks in Europe (as of 2018).[51] Commerzbank was also included as the secondary major bank in Germany.

HOW WE ARRIVED AT OUR RESULTS

The financial relationships identified were obtained from the economic database *Refinitiv Eikon* in September and October 2020 for a period from January 2017 to October 2020. The database contains information provided by capital management companies and banks, although this cannot be considered conclusive, especially as regards the granting of loans. Neither are the figures presented in this report claimed to be exhaustive. Different currencies may also lead to minor rounding errors, but these are negligible relative to the amounts in question. Where there was no pro rata breakdown of a banking consortium, the amount was divided by the number of banks. All the banks examined were given the opportunity to comment on the results of the financial research prior to publication. None of the eight major banks chose to take up this offer, in several cases making reference to banking secrecy.

The research considered loans, support for the issuance of bonds and shares as well as investments in securities in the form of bonds and shares. The banks' profits in these financial arrangements come from interest, dividends, price gains and commissions.

WHAT DID WE INVESTIGATE AND WHY AND HOW DID WE INVESTIGATE IT?

The financial research maps the financial relations between banks and companies. In most cases, the information gathered about financial relationships includes neither the purposes for which the firms used the capital they obtained from the banks nor the amount of profit the banks made from the transactions.

FINANCING

The provision of capital to companies in the form of loans and the issuance of bonds and shares can be seen as the strongest form of support for economic activities.

Loans
The easiest way for companies to get capital is to take out a loan. They usually receive these funds for "general purposes". The debt is usually not earmarked, and the company can use the money freely: for either ecologically justifiable projects or controversial ones, e.g. an expansion of plastic production. We have excluded from our analysis loans that are clearly not related to plastics production or use. The granting of loans should be linked to minimum social and environmental requirements.

Issuance of shares and bonds
Companies can also increase their liquid assets by selling shares and bonds. Banks, on the other hand, act as intermediaries to ensure that there are enough buyers and that companies get good prices. Proceeds from the sale of shares flow into a company's equity – regardless of whether parcels of existing shares are being sold or the company is issuing shares for the first time. A bond, however, is nothing more than a large loan in which the company makes an appearance as a capital market participant. Banks first put the issued shares or bonds onto their own books and then sell them to other investors as quickly as possible. Once the securities have been successfully placed on the market, banks ensure that they continue to be traded. We have excluded from the analysis sales of shares and bonds that are clearly not related to the production or use of plastics, as well as so-called *green bonds*, which companies, by their own account, explicitly use for ecologically beneficial projects. But banks should also take care in all other business relationships that real-economy companies do not violate environmental standards and human rights in their activities, for example by contributing to plastic pollution.

INVESTMENTS

Management of shares and bonds (holdings)
Banks invest on their own account as well as for their customers. However, transactions on behalf of individual customers are confidential and as invisible as a bank's own investments. Only investment funds are obliged to disclose all positions every six months. It is clear that banks benefit from the management of investments on behalf of third parties through the fees they charge, just as they do from the management or distribution of investment funds. Another way banks share responsibility for corporate business models is a result of their work facilitating the availability of capital for companies – and consequently the conduct of business – by keeping bonds and shares liquid on the financial markets. As shareholders, they have a right to vote at annual general meetings, and they can use this, for example, to vote in the interests of climate protection. As shareholders, they should also demand social and environmental improvements from companies in a process of critical dialogue.

Features

El Salvador Villa, Peru. Jordan Beltran, Unsplash

The case of Shell's plastic plant in Pennsylvania

PLASTIC SOUP FOUNDATION

Largest investments in Shell in millions of euros

UBS	609
Deutsche Bank	227
HSBC	129

Largest provision of finance in millions of euros

BNP Paribas	3 476
HSBC	2 858
Santander	2 841

PLASTIC SOUP: WHAT'S THAT?

The huge volumes of plastic waste floating in the seas, gradually breaking up into smaller pieces, is termed plastic soup. The material is not bio-degradable; it collects where sea currents converge. The particles are dangerous for both the natural world and shipping. A wider definition of the term plastic soup also covers (micro)plastics on land, in lakes and in the air.

Plastic soup (2019). luoman, iStock.

The oil industry considers plastic production to be a lifeline now that climate action and energy transition are putting revenues under pressure. But this appears to be a risky gamble.

The increased production of shale gas has led to new crackers that process ethane for the production of plastics. By 2023 the American chemical industry will invest at least 164 billion dollars in 264 new plastic factories. Among them is Royal Dutch Shell's 100%-owned Pennsylvania Petrochemicals Complex.

This multi-billion-dollar plant will yearly produce 1.6 million tonnes of polyethylene in the form of tiny pellets. Polyethylene is widely used for packaging, among other products. Single-use plastic packaging is the main cause of plastic pollution. Fracking for shale gas also has major ecological consequences, as has the emission of associated greenhouse gases.

When Big Oil started to invest massively in plastic production, plastic was considered a growing market generating high profits. However, times are changing. Financial experts from *Carbon Tracker* have analysed in detail why plastic is not going to save Big Oil. Among the reasons are: the COVID 19-pandemic, increasing regulation by governments to curb plastic use, substitution by other materials and mandatory use of recycled content to improve recycling. Big Oil faces the increased risks of stranded assets.[90]

SHALE GAS AND PLASTIC: THE INVESTOR'S BLIND SPOT

The adverse effects of shale gas extraction on the environment and climate are well-known and are an increasing topic of conversation among investors. In contrast, the direct relationship between shale gas, the production of plastic and the plastic soup in our waters resulting from the loss of single-use plastic products is still unknown to many market parties.

Plastic is used by food and beverage multinationals to sell billions of bottles, sachets and trays each year, all over the world. Many countries have a weak or non-existing waste collection system. Plastic packaging is not properly collected and recycled. It contributes to increasing plastic pollution, being dumped or incinerated in the open air; it causes severe and growing damage to the environment and human and animal health.[91]

As a result of their investments in companies such as Shell, ExxonMobil, DowDuPont and Chevron, banks and insurers play a role in the growth of plastic production and thus the increasing plastic pollution crisis. All banks and insurers say they embrace the United Nations Sustainable Development Goals (SDGs). These goals include protection of the climate and the oceans. Investments in shale gas companies and companies that produce plastics are directly opposed to achieving the SDGs. Banks' claim to be concerned about the plastic soup, but often have no policy regarding investment in plastic production.[92]

In 2019 it was established that most major banks and insurers in the Netherlands have, between them, invested a total of more than 10 billion dollars in companies that extract shale gas and produce plastics since 2010. The report by the *Fair Finance Guide Netherlands* in collaboration with the *Plastic Soup Foundation* establishes the direct relationship between Dutch investments in shale gas and plastic production and the environmental issue of plastic soup. Shell was found to be the most important recipient with more than one and a half billion dollars in issued shares.[93]

THE ALLIANCE TO END PLASTIC WASTE

In January 2019 Shell was one of the founders of a new initiative, the *Alliance to End Plastic Waste* (AEPW). Multinational firms like BASF, Dow, Shell Chemical and ExxonMobil, Procter & Gamble, all global players in oil, chemical and plastic industries, pledged more than 1 billion dollars to fight plastic pollution. The approach is two-fold; on the one hand, solutions are to be developed for size and treatment of plastic waste, and, on the other hand, reuse and recycling are promoted. In September 2020, the first annual report was presented.[94]

The focus lies largely on the improvement of waste management infrastructure, more and better recycling, raising awareness to governments, businesses and communities, and clean-ups. There is no pledge to reduce the production of plastic, to introduce plastic that can be re-used multiple times, or to adapt alternative delivery systems like re-fill. The overall messages are: people, not industry, are responsible for the plastic pollution; the plastic pollution crisis can be solved through recycling and technology.[95]

The 1 billion earmarked for the AEPW for clean-ups and recycling is peanuts compared to the investments by Big Oil in new plastic. Shell's focus on recycling as the way to go through AEPW is very cynical. The extra production of cheap virgin plastics of good quality is the reason why the recycling sector cannot compete. So, wherever plastic is collected for recycling, there is no real market for it. And if there is a market, it is one for low quality products. Industry's focus is on a circular economy that will not be realised for plastics.

SHELL'S CARBON BOOKKEEPING

In 2015 it was agreed at the Paris Climate Conference to decrease global warming by two degrees and do everything possible to stay below 1.5 degrees. This can only be realized if emissions of carbon dioxide (CO_2) — the most important greenhouse gas — are reduced by 45 percent by 2030 and are entirely phased out by 2050. The plastics industry poses a serious threat to the achievement of the climate targets. Greenhouse gas emissions from plastics are, however, excluded from Shell's CO_2 accounts, because Shell calculates only the CO_2 emissions of processing energy products like petrol. Other products, such as plastic and ethylene, are excluded. According to a recent report, the Pennsylvania plant alone will emit as many greenhouse gases as almost 500,000 new cars a year.[96]

BAD INVESTMENTS

In March 2020 15 European countries and 66 companies signed the European Plastic Pact that aims to reduce plastic production by at least 20 percent by 2025. Producers like Shell, being the most important players, did not sign. Any reduction of plastic will be a threat for Shell's business.

Advice agencies for investors analyse that impending measures to limit plastic packaging will have direct detrimental consequences for industry. With business-as-usual, companies like Shell will become less creditworthy.

Construction of the Shell Pennsylvania Petrochemicals Complex in the US (2020). Robert Michaud, iStock.

Let's set the record straight and #breakfreefromplastic

#break free from plastic

The *Break Free From Plastic* movement was born in 2016, out of an urgent need to tackle the plastic pollution crisis. At the time, stories were being published in the press, accusing South East Asian countries of being the biggest plastic polluters.[97] It was imperative to act in order to set the record straight.

CALLING OUT POLLUTERS WITH THE BRAND AUDIT & CITIZEN SCIENCE

The first Brand Audit was organised by the movement's members in 2018, in order to identify the world's real plastic polluters. 10,000 volunteers did 239 clean-ups in 42 countries. The 187,851 pieces of plastic pollution that were collected were then meticulously catalogued.

When the report came out, it made waves across the world. The data showed that Coca-Cola, PepsiCo, Mondelez International, Nestlé and Unilever were the real culprits behind the plastic waste clogging up rivers and destroying ocean ecosystems. South East Asian countries had been accused of polluting, when in fact it was plastic waste produced by western companies. Thanks to the Brand Audit, *Break Free From Plastic* members were able to successfully shift the narrative and prove that the multinational companies were the drivers behind plastic pollution.

The oil and plastic lobby have worked hard to make sure individuals believe that they are the ones responsible for the plastic waste from the products they consume; however of all of the single-use-plastic that has been created, only 9 percent has actually been recycled. Furthermore, plastic cannot be recycled indefinitely while keeping its initial quality. It inevitably ends up in a landfill, incinerator or in our oceans. Microplastics have now become so pervasive, that they can be found in the water we drink, the air we breathe, and in the food we eat. Recycling is not the answer. It is imperative that we stop the production of single-use plastic at source.

If business as usual continues, plastic production could double by 2030 and even triple by 2050. We cannot afford to let this happen. From the extraction of the fossil fuel used as feedstock, to landfill and incineration, plastic pollutes along its entire life cycle. It is the frontline communities, living near the production plants that suffer the most from the polluted air, land and water. Cancer rates are higher for members of these communities.

The Brand Audits continue to take place every year, with more and more volunteers joining the ranks, in order to keep the pressure on the world's biggest polluters. The externalised costs of their single use plastic products are still completely unaccounted for. We demand that these big polluters take full responsibility for the pollution and carbon emissions that their products create, stop using single-use plastic packaging, and implement refill and reuse systems. Our lifestyles and economy must fit within the environmental limits of the planet. We must build a global circular economy.

ZERO WASTE CITIES IN ASIA PACIFIC

Innovative Zero Waste Cities projects, both in the public and private sectors, provide an important opportunity to build local circular economies while avoiding serious environmental harm from plastic pollution and waste disposal. Members of *Break Free From Plastic* have been successfully implementing community-based resource management systems in Asia Pacific.

The goal is to have communities properly sort through their waste at the household level so that recycling can be strictly and effectively implemented at material recovery facilities, while compostable and organic waste is transformed into soil. This is a decentralised waste management system where communities play a central role in the waste management system, which ensures ecological solutions towards a circular economy.

CASE STUDY: SAN FERNANDO AND MALABON CITY IN THE PHILIPPINES

Local government units are often convinced by industry to manage their wastes through landfills and dumpsites as well as to construct waste-to-energy incinerators that transform the waste from one toxic form to another (low-value single-use plastics to dirty air).

Before partnering with *GAIA Asia Pacific* and *Mother Earth Foundation*, the city of San Fernando, in Pampanga, Philippines, had been offered waste-to-energy incinerators for the city several times by waste-to-energy incineration companies, which they systematically declined. Political will and community participation ensured that San Fernando was not be duped into burning their waste.

Since 2013, the city of San Fernando has consistently diverted at least 50 percent of waste, meaning that instead of going to landfill or dump sites, the waste is now efficiently recycled and composted through the Zero Waste Cities programme. Driven by continual improvement goals, over 80 percent of collected material now goes to composting and recycling.

San Fernando is a short distance from Metro Manila, where the city of Malabon's zero waste programme makes the city cleaner and safer, and the local government employs 65 people for daily waste collection. In a Zero Waste Cities project, previously informal waste workers are hired as authorised garbage collectors or as monitoring staff, for the daily collection of waste. This system increases worker income, where previous income barely met daily needs.

Beyond the Philippines, other Zero Waste City programmes are currently underway in Indonesia, Malaysia, Vietnam, China, India, and other countries in Asia with place-specific retrofitting according to the contexts and needs. The benefits of these programmes are manifold. These projects have a whole-of-community approach in terms of resource management, with local governments units, socio-civic organisations and individual households all contributing to implementation of systemic change. Residents receive a highly reliable service and cities benefit from reasonable and predictable costs. The programmes also create a high number of jobs compared to waste disposal sites like incinerators and landfills. Most importantly, the environmental harm from plastic pollution and other waste disposal is greatly reduced and frontline communities are less exposed.

However, cities with such programmes continue to struggle with the management of non-recyclable waste; mostly low-value single-use plastics such as sachets and other plastic packaging. The cities of San Fernando, and San Carlos in Negros Occidental in central Philippines, for example, are implementing strict and effective plastic bag and styrofoam regulations, but this remains a problem.

CONCLUSION

As we saw with these Zero Waste Cities programmes, the best solutions for waste management are often small scaled, with a strong community component. Yet this is not enough to successfully put an end to plastic waste. Multinational corporations have to take full responsibility for the externalized costs of the products and packaging that they produce. Deposit return systems, and reuse systems, must be put in place. Municipalities of all sizes must make this demand to policymakers and push back on the linear approach of multinational companies. With recycling, return and reuse, municipalities will have built robust systems, for a greener and fairer future.

Further reading:
https://zerowasteworld.org/wp-content/uploads/San-Fernando.pdf

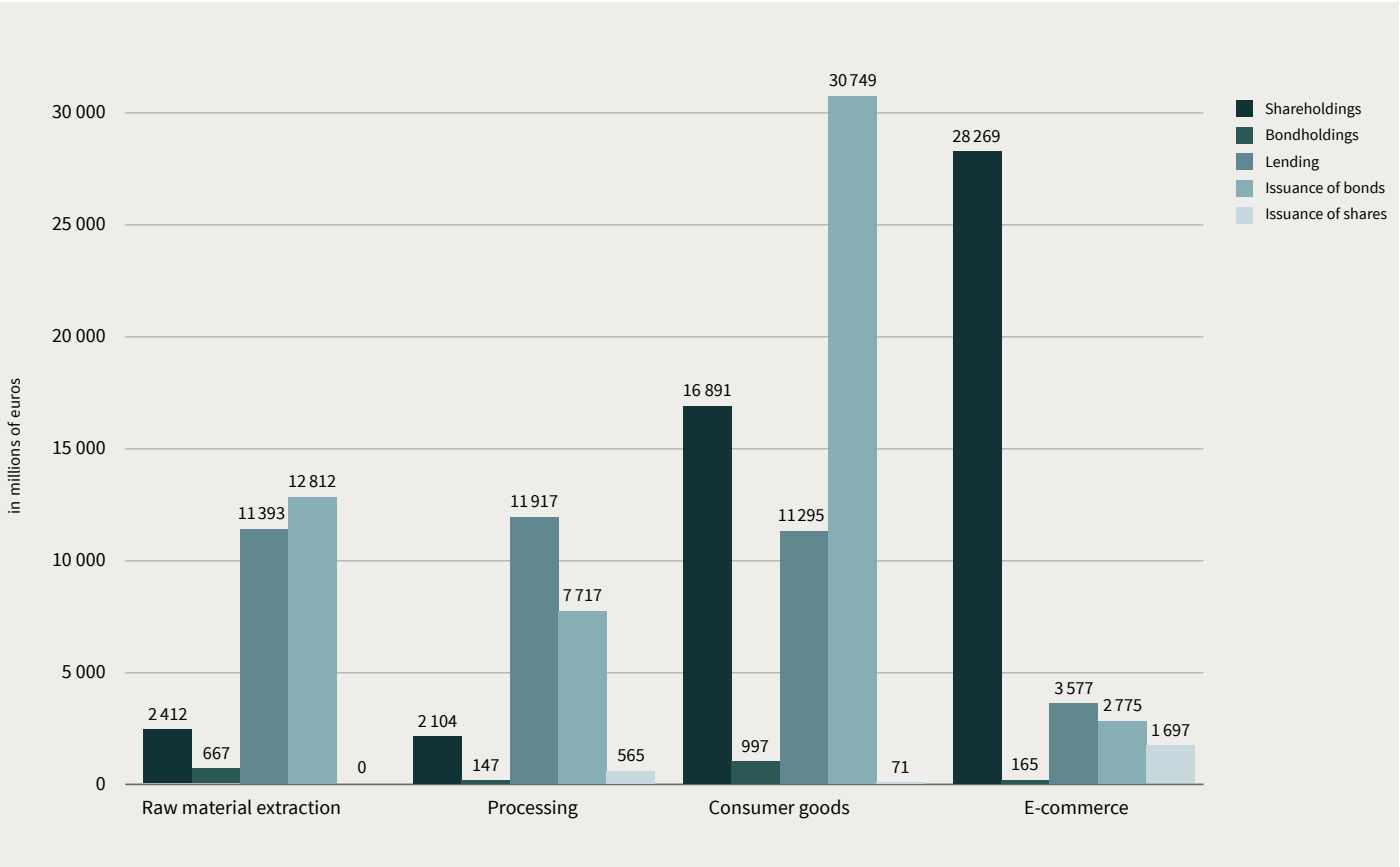
Harmful Investments

A crab caught in a discarded plastic cup with branding from the company Zagu off Verde Island in Batanga Province in the Philippines. The island is known worldwide for its marine biodiversity (2019).
© Noel Guevara, Greenpeace.

Financial research

The eight major European banks investigated – BNP Paribas, Commerzbank, Deutsche Bank including DWS, HSBC, ING, Santander, UBS and UniCredit – have financial links totalling EUR 146 billion to the fourteen companies analysed in this report. Nearly 65 percent, or **95 billion euros**, is attributable to the **financing** of business by participation in loans and issuance of bonds. The **investment volume**, mainly in the form of shares and, less frequently, in the form of bond holdings, amounts to **52 billion** euros. The issuing of shares is only a small part.

For all four industries examined in this study, banks must formulate policies on plastics, covering both investment and financing. The latter is considered to be the strongest form of support for business activities because it directly increases the financial resources companies have access to for implementing their business models. Comparing sectors and volumes of financial relationships can help to identify priorities: in e-commerce, investment policies are more urgently required, while in the raw materials, chemical and consumer goods sectors, financing is in more need of regulation.



Between January 2017 and October 2020, the eight European banks selected **lent** a total of **38 billion euros** to eleven of the companies in the study. Britain's HSBC is the only financial institution to approve loans in the tens of billions. However, Deutsche Bank, BNP Paribas and ING have also granted high-volume loans. Nestlé, ExxonMobil, BASF (including Wintershall) and Shell were the largest borrowers.

Lending in millions of euros

	BNP Paribas	Commerzbank	Deutsche Bank	HSBC	ING	Santander	UBS	UniCredit
Alibaba	374		374	531				
Amazon			1 149	1 149				
BASF (incl. Wintershall)	734	639	1 136	639	1 136	236	85	639
Dow and DuPont de Nemours*	673		859	1 480	1 077	673		
Eni	313		217	217	217			486
ExxonMobil	279		1 050	3 917	129	279		
Ineos	165	165	626	165	626	165		
Mondelez	518	226	226	549		226		
Nestlé	1 036	260	1 036	1 036	1 036	1 036	1 036	
PepsiCo	475			637	1 299		662	
Shell	1 034		915	997		981	360	
TOTAL	**5 601**	**1 290**	**7 588**	**11 318**	**5 521**	**3 595**	**2 143**	**1 125**

* Dow and DuPont de Nemours were considered jointly because of their history of mergers and splits.

The eight European banks supported fourteen companies to place **54 billion euros'** worth of **bonds** between January 2017 and October 2020. Deutsche Bank, HSBC and BNP Paribas were each involved in transactions in the double-digit billions. Nestlé, Unilever and Shell raised the most money through bonds during the investigation period.

Issuance of bonds in millions of euros

	BNP Paribas	Commerzbank	Deutsche Bank	HSBC	ING	Santander	UBS	UniCredit
Alibaba	56			56	56			
Amazon			1 303	1 303				
BASF (incl. Wintershall)	377	893	266	478	643	597		863
Coca-Cola	945		2 012	1 904		1 727		
Dow and DuPont de Nemours*	614		714	672	381	447		
Eni	580		130	128	106	106		1 353
ExxonMobil	164		1 298	1 612		86		
Ineos	185	75	70	75	255	110		
Mondelez	556	146	385	194		146		
Nestlé	899		2 338	2 166	372	895	2 601	
PepsiCo	2 181		2 065	1 603	105		235	
Shell	2 442		422	1 861		1 861	662	
Unilever	1 915		2 163	909		1 082	1 203	
TOTAL	**10 916**	**1 115**	**13 166**	**12 964**	**1 918**	**7 056**	**4 701**	**2 216**

* Dow and DuPont de Nemours were considered jointly because of their history of mergers and splits.

Five of the eight banks participated in the **share issues** of three companies between January 2017 and October 2020. At **2 billion euros**, however, share issues were the smallest of the three types of financing examined. According to total value of shares, Deutsche Bank had the largest involvement in share placements.

Issuance of shares in millions of euros

	BNP Paribas	Deutsche Bank	HSBC	ING	UBS
Alibaba	317	373	373	317	317
BASF		565			
Unilever	71				
TOTAL	**388**	**938**	**373**	**317**	**317**

INVESTMENTS

As of October 2020, the eight banks hold **shares** of around **50 billion euros** in thirteen companies. The Swiss bank UBS holds a total of more than half of the total investment volume with 28 billion euros, with Deutsche Bank and HSBC following in the next two places. The two online retailers Alibaba and Amazon account for around half of the banks' holdings by share value.

Shareholdings in millions of euros

	BNP Paribas	Commerzbank	Deutsche Bank*	HSBC	ING	Santander	UBS	UniCredit
Alibaba	891		1 801	4 826	1	207	7 056	
Amazon	1 039	2	2 304	1 262	37	68	8 772	2
BASF	102	25	850	45		7	147	27
Coca-Cola	120		445	224	1	18	1 704	
Dow	18		50	27		9	227	
DuPont de Nemours	66		260	34		2	209	
Eni	23	3	90	20		26	62	
ExxonMobil	85		278	233	2	19	906	
Mondelez	133		148	76	1	2	993	
Nestlé	282	26	2 015	230		44	5 072	2
PepsiCo	276		926	298	1	1	1 431	
Shell	11	2	177	117		11	344	2
Unilever	100	14	1 383	176		101	637	10
GESAMT	**3 148**	**72**	**10 727**	**7 567**	**43**	**517**	**27 558**	**43**

*incl. DWS

As of October 2020, five of the eight banks hold nearly **2 billion euros** in **bonds** from the companies in the study**.** Once again, UBS accounts for the largest share, followed by Deutsche Bank. The banks' largest bond packages are in Shell, Coca-Cola and ExxonMobil.

Bondholdings in millions of euros

	BNP Paribas	Deutsche Bank*	HSBC	Santander	UBS
Alibaba	1	49	18		33
Amazon	2	25	10		28
BASF	7	8	3		5
Coca-Cola	20	164	15	1	111
Dow	1	34	3		15
DuPont de Nemours		12	5		7
Eni	15	25	37	2	35
ExxonMobil	1	80	11		119
Ineos	15	20			13
Mondelez	35	24	2		113
Nestlé	12	22	9		149
PepsiCo	12	111	12		43
Shell	18	49	12		264
Unilever	8	106	9		19
GESAMT	**145**	**728**	**147**	**3**	**954**

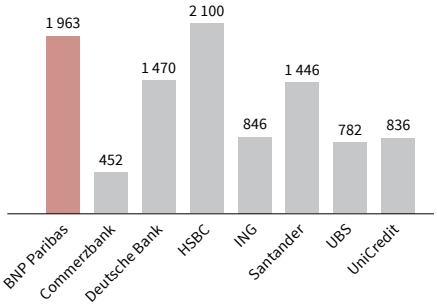
*incl. DWS

In dialogue with European Banks

Of the eight European banks researched, five responded constructively to Facing Finance's requests in connection with this study: BNP Paribas, Deutsche Bank and DWS, ING, UBS and UniCredit. Commerzbank merely referred us to already published documents. The British bank HSBC promised to respond, but at the time of going to press has not done so. Spain's Santander did not respond to any requests for comment.

BNP PARIBAS

2018 balance sheet total in billions of euros



Largest investments in millions of euros

Amazon	1 041
Alibaba	892
Nestlé	294
PepsiCo	289
Mondelēz	168

Largest provision of finance in millions of euros

Shell	3 476
PepsiCo	2 656
Unilever	1 986
Nestlé	1 935
Dow und DuPont de Nemours	1 287

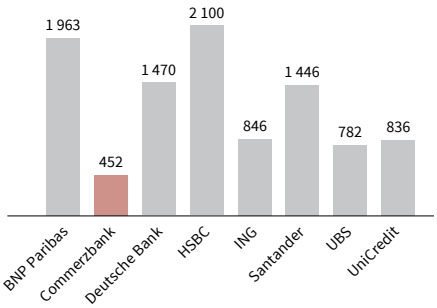
France's BNP Paribas has answered Facing Finance in detail, saying it is aware of the problem of plastic pollution. In its statement it describes the efforts it has made, which it sees as part of the transformation into an economy in which plastic is avoided and goods remain in circulation. Waste management is thus a criterion it applies in assessing the sustainability of companies. The bank says it has issued a number of bonds with interest rates linked to the reduction of plastics, and it finances companies that produce plastic-free packaging. Finally, BNP Paribas even offers a fund that tracks an index of companies that are pioneers in the circular economy. All these approaches raise questions: How important is waste management as a criterion? How many of these bonds are there? How many companies offering alternatives to plastic do they cover? Why are Ford and Nike in the top ten of the circular economy index?

Despite all its endeavours, its detailed response and the offer to engage in a dialogue with Facing Finance, BNP Paribas has stakes ranging from eight- to ten-figure sums in all the companies in this report. For example, there are few restrictions on conventionally produced oil in the commitments – when BNP talks about ending its involvement in fossil fuels, it is referring only to coal. On the positive side, BNP Paribas has discontinued business relationships with companies with main operations in shale gas (and tar sands). However, the financial research conducted in this report shows that, in practice, financial relationships still exist between the bank and companies that engage in shale gas extraction among other lines of business. BNP Paribas, as with coal, should seek full exclusion.

BNP Paribas Asset Management, BNP's asset management subsidiary, has joined *the Ellen MacArthur Foundation's New Plastics Economy (NPEC) Global Commitment*. However, it does not specifically require the companies in which it invests to make an explicit commitment to the plastic reduction targets – which would be a more relevant pledge for plastics-producing companies than in the internal operations of a bank.

COMMERZBANK

2018 balance sheet total in billions of euros



Largest investments in millions of euros

Nestlé	26
BASF	25
Unilever	14
Eni	3
Amazon	2

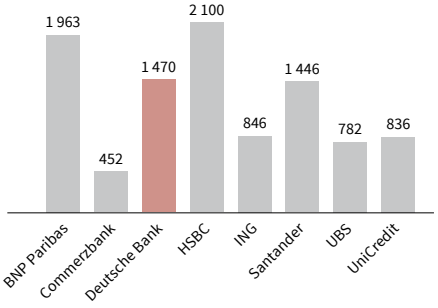
Largest provision of finance in millions of euros

BASF	1 532
Mondelez	372
Nestlé	260
Ineos	241

When contacted, Commerzbank referred to documents in the public domain on its website. However, these do not contain any explicit reference to plastic or waste in general. The guidelines on the oil and gas sector, which are evaluated by Facing Finance as part of the *Fair Finance Guide* project, are very weak. On the positive side is its rejection of Arctic deep-sea drilling and rejection of the construction of new coal power plants and mines. The bank partially abstains from financing projects for the extraction of oil shale, shale gas and oil sands. What is missing, on the other hand, are guidelines on consultation with the local population affected by projects and on sufficient measures to prevent accidents.

DEUTSCHE BANK

2018 balance sheet total in billions of euros



Largest investments in millions of euros

Amazon	2 329
Nestlé	2 037
Alibaba	1 850
Unilever	1 489
PepsiCo	1 037

Largest provision of finance in millions of euros

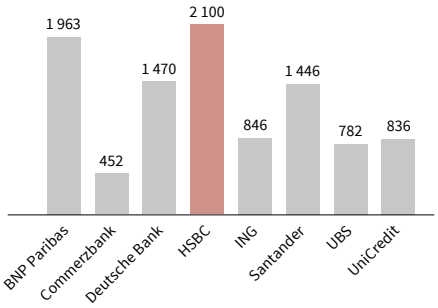
Nestlé	3 374
Amazon	2 452
ExxonMobil	2 348
Unilever	2 163
PepsiCo	2 065

In a telephone conversation with Facing Finance in November 2020, Deutsche Bank and its subsidiary DWS explained their views on the plastics industry. In order to encourage companies to become more sustainable, they held dialogues with them. Neither the bank nor the asset management firm has published a written position with a specific reference to plastics – such as minimum ecological requirements or reduction targets for production.

Deutsche Bank's guidelines on the oil and gas sector are very weak. Certain types of new projects, such as new oil and gas projects in the Arctic and oil sands projects, are excluded from financing, but there is no blanket rejection of oil and gas extraction, and oil shale mining, for example, is not excluded. Other issues without specific guidelines are environmental impacts and adverse health consequences resulting from the dismantling of production facilities. The bank has announced plans to review its existing links with the oil and gas sector. Based on the results, it plans to develop reduction targets for the next few years.

HSBC

2018 balance sheet total in billions of euros



Largest investments in millions of euros

Alibaba	4 844
Amazon	1 272
PepsiCo	311
ExxonMobil	243
Coca-Cola	239

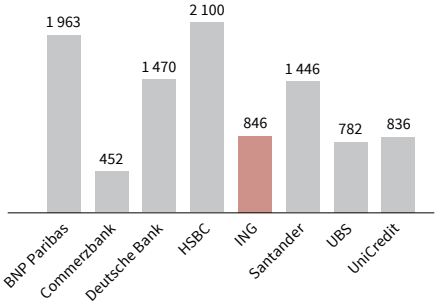
Largest provision of finance in millions of euros

ExxonMobil	5 529
Nestlé	3 203
Shell	2 858
Amazon	2 452
PepsiCo	2 240

As of going to press, the British bank HSBC has not responded to our request for policies or exclusion criteria for financing or investing in plastics-related companies. Facing Finance looked independently for financing or investment policies directly related to plastic but did not find any. When it comes to financing in the energy, oil and gas sectors, there are individual criteria that are on the weak side.[98] One positive note is HSBC's financing guidelines for the chemical industry, which exclude producers of persistent organic pollutants (POPs) in accordance with the Stockholm Convention. These substances are also widely used in plastics.[99] The chemical companies examined in this report are nevertheless investment targets and business partners for HSBC.

ING

2018 balance sheet total in billions of euros



Largest investments in millions of euros

Amazon	37
ExxonMobil	2
Alibaba	1
Mondelez	1
Coca-Cola	1

Largest provision of finance in millions of euros

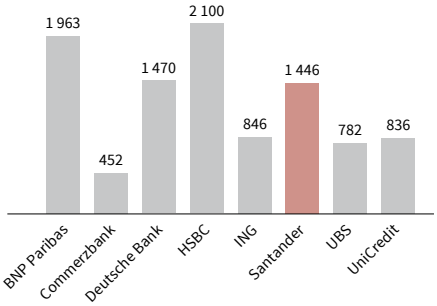
BASF	1 780
Dow und DuPont de Nemours	1 458
Nestlé	1 408
PepsiCo	1 404
Ineos	881

The Dutch bank ING responded to our request for comment on its efforts. The bank expects all stakeholders in the plastics lifecycle to take responsibility, i.e. to reconsider production and consumption. It states that it at least encourages the use of more environmentally friendly products and processes in its dealings with packaging manufacturers and recycling companies. However, there is no reference to actual dialogues, so the bank is yet to provide any evidence of success. ING has joined the *Ellen MacArthur Foundation's New Plastics Economy (NPEC) Global Commitment*, but it does not explicitly specify whether it applies the plastic reduction goals described therein to the plastics producers that it finances or just ING's own operations.

ING is assessed by the *Fair Finance Guide* in relation to its oil and gas policies. The verdict is that these are average in comparison to other banks. For example, the bank refuses to finance controversial methods such as oil extraction from oil sands or offshore drilling in Arctic areas, but it does not reject other harmful practices, such as oil extraction from shale.

SANTANDER

2018 balance sheet total in billions of euros



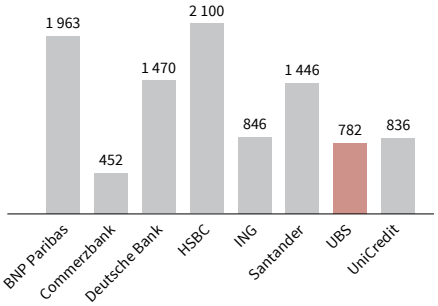
Largest investments in millions of euros	
Alibaba	207
Unilever	101
Amazon	68
Nestlé	44
Eni	28

Largest provision of finance in millions of euros	
Shell	2 841
Nestlé	1 931
Coca-Cola	1 727
Dow und DuPont de Nemours	1 120
Unilever	1 082

Spain's Banco Santander did not respond to a request for comment on the policies or exclusion criteria for financing or investing in plastics-related companies. Facing Finance looked independently for financing or investment policies directly related to plastic but did not find any. When it comes to financing in the energy sector, there are individual criteria, such as increased attention to oil and gas exploration, production and refining, including drilling activities, but these remain too vague.[100]

UBS GROUP

2018 balance sheet total in billions of euros



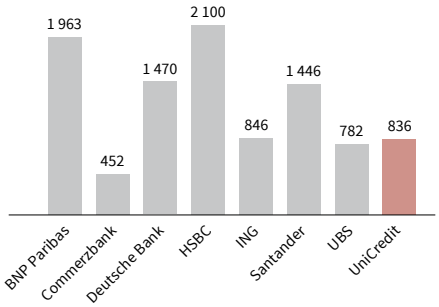
Largest investments in millions of euros	
Amazon	8 800
Alibaba	7 088
Nestlé	5 221
Coca-Cola	1 814
PepsiCo	1 473

Largest provision of finance in millions of euros	
Nestlé	3 637
Unilever	1 203
Shell	1 021
PepsiCo	897
Alibaba	317

In its written response, UBS says it sees its role in enabling investments that support the Sustainable Development Goals (SDGs). With regard to plastic pollution, it mentions Goals 12 and 14 – sustainable consumption and the protection of water bodies. The bank refers to effective methods it uses, but these do not include listing the main companies responsible for global plastic pollution as in this report. UBS does not give specific guidelines on how a capital flow can contribute to the achievement of the SDGs or to the reduction of the entry of plastic into the environment. Guidelines on the oil and gas sector are rather weak, e.g. limited to extended due diligence with respect to fracking.[101]

UNICREDIT GROUP

2018 balance sheet total in billions of euros



Largest investments in millions of euros	
BASF	27
Unilever	10
Shell	2
Nestlé	2
Amazon	2

Largest provision of finance in millions of euros	
Eni	1 840
BASF	1 501

UniCredit Bank AG, better known in Germany under its brand HypoVereinsbank, is a subsidiary of the Italian UniCredit Group. When asked, the Group said it had no specific lending guidelines with reference to plastic, just that efforts were made to reduce plastic consumption within the bank, for example by means of reusable bottles. However, the issue is also taken seriously in terms of financing and is measured against competitors. There is at least an exclusion, albeit one formulated with all manner of exceptions, of the most controversial types of oil and gas extraction, namely oil sands and shale, as well as oil and gas exploration in the Arctic.

Recommendations:

stop the plastic monster

Illustration of plastic monster made of disposable plastic items such as bags, lids, food containers, cutlery, cigarettes and bottles (2020). peepo, iStock.

RECOMMENDATIONS FOR BANKS

Financial institutions play a central role in the transformation from a linear to a low-plastic and low-waste circular economic system, one built on the prevention of unnecessary waste and a closed-circuit economy. When banks seize this fundamental innovation opportunity and scale as investors, they not only promote the protection of ecosystems, climate and livelihoods of people around the world, they can also benefit financially. With increasing regulation of plastic and the expected internalisation of disposal costs, those companies that are already moving toward the circular economy will emerge as winners.

This report shows that the banks' policies have so far been insufficient to adequately address the plastic crisis. In practice, there is widespread financing and investing in companies that account for a high proportion of global plastic pollution.

Facing Finance recommends a multi-level model for financial institutions to address the plastic crisis.

POLICIES

Financial institutions should start developing and implementing publicly documented and comprehensive plastic financing and investment policies as soon as possible, primarily with regard to disposable plastics and along the entire plastic lifecycle.

According to the EU taxonomy on sustainable management, a company's plastics production is only considered sustainable if a maximum of 10 percent of its end products is disposable plastic or if at least 90 percent recycled material is used – with further requirements for the use of biological material, for chemical recycling with regard to its climate impact and in terms of water management and handling of pollutants.[102]

Facing Finance recommends that the **avoidance of plastic** be set as the top priority in the plastic-producing industry and beyond. Reuse should take precedence over recycling, in line with the EU waste hierarchy. The guidelines should include positions on chemical recycling, where there are currently many unanswered questions on environmental and health risks and, not least, on the issue of economic efficiency, in addition to the climate impact addressed by the EU, and on the use of alternative materials. It is important to ensure that disposable plastics based on fossil raw materials are not replaced in the portfolio by alternative materials such as paper or bio-based raw materials without further specifications. Where renewable raw materials are used, this must be on condition of socially and ecologically sustainable management, for example in line with the EU taxonomy or the section on forestry in the *Fair Finance Guide*,[103] and the exclusion of land competition.

Securities from the companies researched in this report are not uncommon in investment funds, as the information portal faire-fonds.info, run by Facing Finance, shows. For example, the oil company ExxonMobil is included in 392 of the approximately 4,500 funds in the database.105 Forty-five of these 392 funds are even advertised as sustainable by their operators, presenting themselves as a socially and ecologically oriented alternative for consumers. Corporations involved in the spread of plastics find their way into these funds because specific criteria relating to plastics are still rare. Where they do exist, they are not so strict that infringements lead to exclusion. When corporations that play a role in the plastics life-cycle get through a sustainability fund's filter, it is because of other business activities, such as the extraction of oil in sensitive ecosystems.

The aim of a plastics guideline should be a financial shift away from plastic-intensive and plastic-dependent companies and to promote innovative no-waste or low-waste solutions and businesses. An interplay of minimum and positive criteria as well as negative and clear exclusion criteria is effective and should be formulated individually for each sector. Initial pointers can be found in the recommendations for companies on p. 41 and from independent alliances (e.g. *Break Free From Plastic*) and civil society organisations. Performance indicators aimed at companies must be formulated in a specific, measurable, time-bound and transparent manner. Banks should check voluntary industry initiatives for greenwashing allegations (see p. 17).

Companies in the raw materials sector that are involved in the exploration and extraction of **shale gas and oil** should never be eligible for financing and investment. Fracking is not only particularly harmful to the environment, climate and human species, it is also a driver of excessive plastic production due to the cheap availability of ethane as a starting material for ethylene production. An **expansion of plastic production** by chemical companies should not be tolerated, because it undermines the social objective of plastic avoidance. Companies that actively hinder **legislative projects** designed to promote re-use and extended producer responsibility,

and thus the transformation towards a **circular economy**, should be examined equally critically and – as a last resort – excluded from financing or investment, as should consumer goods companies and mail order companies with excessive plastic consumption that still are not paying attention to the issue of plastic by the end of 2021. Banks should demand a **plastic avoidance strategy** from these companies.

In addition to a plastics directive, banks should establish a policy across industries **to promote a resource-efficient, low-emission and non-toxic circular economy.**

DUE DILIGENCE

Banks need to regularly and carefully review both existing and potential new financial relationships with companies, taking each into consideration in the context of its wider corporate group, auditing its plastic consumption and contribution to plastic pollution. Such screening should identify companies along the plastic value chain that do not meet the criteria set by banks and run counter to the principles of a circular economy, for example by hindering the kind of legislative projects described above.

Banks should use all the resources at their disposal for a due diligence audit. Banks should draw on information from the companies themselves and from research and rating agencies, as well as from civil society organisations and experts. When planning waste infrastructure projects in countries in the Global South, they should seek dialogue with stakeholders, such as resident communities near petrochemical plants, indigenous communities affected by oil and gas projects or civil society organisations. Greenwashing suspicions are common when it comes to plastic and should be addressed by a comprehensive review. Companies that are seen to repeatedly miss targets, or shift and dilute them, should be subject to special monitoring. Lifecycle analyses should be examined critically and should not be the sole basis for assessment.

Any irregularity detected in the screening process should lead to a pre-defined and timed follow-up, e.g. a dialogue or, in serious cases, a termination of financial relations.

ENGAGEMENT

If companies do not meet the criteria required by banks or do not meet them sufficiently, an engagement process should be triggered immediately. To achieve the best possible results from such a dialogue, banks should also consult external stakeholders. It makes sense to form alliances with other investors and consortium members to exert greater influence.

The engagement should take place within a limited, pre-defined time window. For all companies along the plastic lifecycle, objectives, measures and consequences in the event of non-compliance should be set out in an action plan and regularly reviewed. For consumer goods companies, Facing Finance recommends 2025 as a deadline year, because many companies have set goals to be achieved by this date. Online retailers should also measure themselves against this date.

In consultation with the companies concerned, banks should work to make the dialogue process as transparent as possible. At the very least, they should insist on public documentation that records the company, the theme and the success – or failure – of the dialogue process. Banks should contractually stipulate, at least with large corporate customers, that lending may be made public.

DIVESTMENT

If corporations breach hard exclusion criteria, the financial relationship must be terminated as quickly as possible with reference to unacceptable business models. If a company fails to meet the objectives defined in an engagement process within a predetermined period (e.g. 3–5 years), banks should, as a last resort, announce the termination of business relations. In order to exert public pressure on the company in question and any others with controversial activities, the details of the exclusion should be published with reasons.

INTERNAL PROCUREMENT

Banks should lead by example, calculating their plastic footprint and defining reduction targets, and so demonstrate their own commitment to resource awareness and conservation. Single-use plastic products should be completely banned from business premises and replaced with long-life products. Office kitchens, cafeterias, restaurants and conference rooms should serve unpackaged food as soon as this is once again safe after the Corona pandemic. Drinks should be offered in reusable containers or through refill systems. Requirements for suppliers should include criteria for materials, in particular packaging.

RECOMMENDATIONS FOR COMPANIES

As the main cause of global plastic pollution, companies have a high responsibility to implement resource-efficient business models that do not require disposable plastics. Consumer goods companies have fuelled the trend towards a throwaway society with unnecessary and short-lived disposable products, flooding countries, especially in the Global South, with plastic packaging for which there is no corresponding waste infrastructure. All over the world they have replaced traditional reusable systems with short-lived products and packages that are cheaper only because disposal costs are externalised. Corporations along the plastic lifecycle should see therefore themselves as part of the problem, but also as part of the solution. They should stay away from approaches that place responsibility solely or mostly on consumers, and start systematically switching to reusable solutions and sustainable product design. The top priority must be producing fewer plastic products, especially single-use plastic. It makes sense for plastics-producing companies to take their lead from the EU's taxonomy for sustainable activities. The taxonomy considers a maximum of 10 percent disposable plastic in end products as sustainable. Alternatively, at least 90 percent recycled material must be ensured. Biological material and chemical recycling may be used only subject to minimum standards on water management and the handling of pollutants.[104]

TRANSPARENCY

Plastics producers, consumer goods corporations and online retailers should publish their entire consumption of plastics and other materials in detail every year. The disclosure should include product designations and quantities, broken down by country, in addition to total consumption. Published figures must be independently verified. The chemical industry should also be required to publish plastic production figures, types of plastic and how these are distributed between sectors and countries.

Companies throughout the plastics supply chain should disclose not only their plastic footprint but also their chemical footprint. This means they need to take not just end products into account but also, for example, the use of additives in plastic production, as well as the composition of liquid mixtures used by oil and gas companies in fracking.

BINDING AND AMBITIOUS OBLIGATIONS

The commitments made so far by companies are not sufficient to get plastic pollution under control. Moreover, not all consumer goods companies, let alone companies in the oil, gas and chemical sectors and online retail, have formulated targets that make an effective contribution to reducing the ongoing pollution of the planet by plastic.

Companies should make **ambitious, time-bound and binding commitments** to significantly cut their plastic consumption, primarily in terms of reducing the share of single-use plastics in their overall production and in individual products. It is essential that they draft action plans with clear and measurable objectives, actions and timetables, and publish them transparently. Where country-specific circumstances require different measures, a breakdown is appropriate. Where implementation is expected to be difficult (e.g. due to legislation or availability of recyclates), this should be identified and explained, and planned measures should be introduced to overcome the hurdles (e.g. proactive support for the legal introduction of industry-wide reusable systems at country level).

When trying to eliminate problematic and unnecessary plastics, companies should use a model like the EU's waste hierarchy and focus first on **the prevention of packaging** and, as a matter of secondary importance, on **reuse.** Recyclability is still important and must be considered right from the start of the product design process. Companies must ensure their products can be recycled in every country where they are sold, but in an ambitious circular economy, recycling is the last resort. Instead, the goal must be to design products that are **long-lasting, non-toxic and repairable.**

In order to systematically save plastic and resources, companies should consistently switch to **reusable, deposit-return** and **refill systems** from the start of their supply chains right up to delivery to end users. In order to develop appropriately standardised, accepted and scalable solutions (see for example the reusable glass bottles in Germany, which are standardised and so can be used jointly by many manufacturers), companies and retailers should work together, with the involvement of governments, experts, consumers and civil society organisations. Some corporations have announced individual pilot projects, but the larger-scale impact that is desperately needed can be better achieved with shared solutions.

Companies should develop policies on bioplastics, paper etc. and define clear rules on when an application is justified under what conditions. They should make it clear that a system change is needed and that it is neither a suitable nor a sustainable solution to simply replace fossil-fuel-based plastics with other materials. Where companies buy in renewable raw materials, they must make this conditional on sustainable management and the prevention of land competition. In addition, companies should ensure "bioplastic" packaging is clearly labelled, so consumers dispose of it properly. Similarly, corporations should develop a considered position on chemical recycling and not present it as a magic bullet – too many questions remain unresolved.

Finally, companies should acknowledge their responsibility by **proactively supporting legislation on extended producer responsibility and the application of the polluter pays principle for placing plastic packaging and products on the market along the entire life cycle of plastic.** If companies promote ambitious systems for reuse, deposit-return and refill, they are demonstrating their willingness to curb global plastic pollution – which should also make them credible and welcome business partners for banks and other financial institutions. Where companies are still members of industry initiatives that seek to prevent positive legislation, they should leave and publicly state their reasons for doing so.

Sources

Waste pickers in India (2014).
Dipak Shelare, shutterstock.

1 Reinhardt, Peter (13 June 2018): “Kunststoffe in der Medizin: Materialien, Anwendung und Verarbeitung.” In: DeviceMed, accessed 12 April 2020: https://www.devicemed.de/kunststoffe-in-der-medizin-materialien-anwendung-und-verarbeitung-a-725299/

2 Geyer, Roland / Jambeck, Jenna R. / Law, Kara Lavender (2017): “Production, use, and fate of all plastics ever made.” Science Advances 3. P. 1.

3 PlasticsEurope Deutschland (2019): “Plastics – the Facts 2019.” P. 14.

4 European Parliament / Council of the European Union (2019): “Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment” 2019/904, Article 3.
UN Environment / Beat Plastic Pollution (2018): “Our planet is drowning in plastic pollution.” Accessed 30 December 2020: https://www.unenvironment.org/interactive/beat-plastic-pollution/
Plastic Oceans International (n.d.): “The Facts.” Website, accessed 30 December 2020: https://plasticoceans.org/the-facts/

5 Heinrich-Böll-Stiftung / Bund für Umwelt und Naturschutz Deutschland (2019): “Plastikatlas: Daten und Fakten über eine Welt voller Kunststoff.” [third edition]. Berlin: P. 12.
Parker, Laura (2018): “We made plastic. We depend on it. Now we’re drowning in it.” In: National Geographic. Accessed 29 December 2020: https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-waste-pollution-trash-crisis/

6 Deutsche Umwelthilfe (2015): “Coffee to go-Einwegbecher – Umweltauswirkungen und Alternativen: Hintergrundpapier der Deutschen Umwelthilfe.” Radolfzell / Berlin: P. 3.

7 International Union for Conservation of Nature (2018): “Marine Plastics.” Issues Brief. P. 1f.

8 UN Environment / Beat Plastic Pollution (2018): “World Environment Day 2018: Overview.” P. 1. Accessed 29 December 2020: https://wedocs.unep.org/bitstream/handle/20.500.11822/25398/WED%20Messaging%20Two-Page%2027April.pdf?sequence=12&isAllowed=y
United Nations Environment Programme (2018): “Our planet is drowning in plastic pollution. This World Environment Day, it’s time for a change.” Interactive website, accessed 19 November 2020: https://www.unenvironment.org/interactive/beat-plastic-pollution/
International Union for Conservation of Nature (2018): “Marine Plastics.” Issues Brief. P. 1.

9 WWF Australia (11 October 2018): “Plastic in our oceans is killing marine mammals.” Accessed 23 December 2020: https://www.wwf.org.au/news/blogs/plastic-in-our-oceans-is-killing-marine-mammals#gsn2uo1q
Plasticontrol (n.d.): “Zahlen und Fakten zur Plastikkrise.” website, accessed 23 December 2020: https://plasticontrol.de/?page_id=1249&gclid=EAIaIQobChMIjNWu8p2W7gIVEKh3Ch10RwBJEAAYAiAAEgIZ4fD_BwE

10 Pipkin, Whitney (29 August 2018): “Plastik trägt invasive Arten über die Weltmeere.” Updated 5 November 2020. In: National Geographic, accessed 29 December 2020: https://www.nationalgeographic.de/planet-or-plastic/2018/08/plastik-traegt-invasive-arten-ueber-die-weltmeere
Kumar, Sanjay / Rajesh, Mridula / KM, Rajesh / NK; Suyani / Rasheeq, A. Ahamed / KS, Pratiksha (19.10.2020): “Impact of Microplastics on Aquatic Organisms and Human Health: A Review.” International Journal of Environmental Sciences & Natural Resources 26 (2): P. 062.

11 WWF Deutschland (8 June 2018): “Bedrohtes Unterwasserparadies: Plastikmüll im Korallendreieick.” Accessed 29 December 2020: https://www.wwf.de/themen-projekte/meere-kuesten/plastik/korallendreieck

12 Detloff, Kim Cornelius (n.d.): “Plastikmüll und seine Folgen: Abfälle bedrohen Vögel, Delfine und Co.” Berlin: NABU – Naturschutzbund Deutschland. Website, accessed 19 November 2020: https://www.nabu.de/natur-und-landschaft/meere/muellkippemeer/muellkippemeer.html#:~:text=Mehr%20als%20zehn%20Millionen%20Tonnen,verfangen%20sich%20in%20alten%20Fischernetzen.&text=Kaum%20eine%20Bedrohung%20der%20Meere,wie%20die%20Belastung%20durch%20Plastikabf%C3%A4lle.

13 Ellen MacArthur Foundation / World Economic Forum / McKinsey & Company (2016): “The New Plastics Economy: Rethinking the future of plastics.” P. 14.

14 Carrington, Damian (5 June 2019): “People eat at least 50,000 plastic particles a year, study finds.” In: The Guardian, accessed 29 December 2020: https://www.theguardian.com/environment/2019/jun/05/people-eat-at-least-50000-plastic-particles-a-year-study-finds

15 Center for International Environmental Law / Earthworks / Global Alliance for Incinerator Alternatives / Healthy Babies Bright Future / IPEN / Texas Environmental Justice Advocacy Services / Upstream / Break Free From Plastic (2019): “Plastic & health: The hidden costs of a plastic planet.” P. 1–9.

16 IPCC (2014): “Climate change 2014: Mitigation of Climate Change.” Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA: P. 759.

17 Center for International Environmental Law / Environmental Integrity Project / FracTracker Alliance / Global Alliance for Incinerator Alternatives / 5Gyres (2019): “Plastic & Climate: The Hidden Costs of a Plastic Planet.” P. 2-3, 7.
Fischedick M., J. Roy, A. Abdel-Aziz, A. Acquaye, J.M. Allwood, J.-P. Ceron, Y. Geng, H. Kheshgi, A. Lanza, D. Perczyk, L. Price, E. Santalla, C. Sheinbaum, and K. Tanaka, 2014: Industry. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA: P. 745f.

18 Quoted by Boris Koch in Reimer, Nick (8 July 2016): “Haben alle das Plankton vergessen?” In: Zeit Online, accessed 11 December 2020: https://www.zeit.de/wissen/umwelt/2016-07/klimawandel-kohlenstoff-ozeane-wasser-kangertittivaq

19 Heinrich-Böll-Stiftung / Bund für Umwelt und Naturschutz Deutschland (2019): “Plastikatlas: Daten und Fakten über eine Welt voller Kunststoff.” [third edition]. Berlin: P. 27.
Major, Kerri (04.07.2019): “Plastic waste and climate change – what’s the connection?” In: WWF Australia, accessed 29 December 2020: https://www.wwf.org.au/news/blogs/plastic-waste-and-climate-change-whats-the-connection#gsn7a46r
Shen, Maocai / Ye, Shujing / Zeng, Guangming / Zhang, Yaxin / Xing, Lang / Tang, Wangwang / Wen, Xiaofeng / Liu, Shaoheng (2020): “Can microplastics pose a threat to ocean sequestration?” Marine Pollution Bulletin 150.
Reimer, Nick (8 July 2016): “Haben alle das Plankton vergessen?” In: Zeit Online, accessed 11 December 2020: https://www.zeit.de/wissen/umwelt/2016-07/klimawandel-kohlenstoff-ozeane-wasser-kangertittivaq
O’Sullivan (30 April 2019): “Plastic eaten by plankton may impair ocean’s ability to trap CO2.” In: The Irish Times, accessed 29 December 2020: https://www.irishtimes.com/news/environment/plastic-eaten-by-plankton-may-impair-oceans-ability-to-trap-co2-1.3875434

20 Geyer, Roland / Jambeck, Jenna R. / Law, Kara Lavender (2017): “Production, use, and fate of all plastics ever made.” Science Advances 3. P. 1.

21 German Environment Agency (UBA) (2017): “Verrottet Plastik gar nicht oder nur sehr langsam?” Accessed 29 December 2020: https://www.umweltbundesamt.de/service/uba-fragen/verrottet-plastik-gar-nicht-nur-sehr-langsam

22 Parker, Laura (20 December 2018): “Fast facts about plastic pollution.” In: National Geographic, accessed 29 December 2020: https://www.nationalgeographic.com/news/2018/05/plastics-facts-infographics-ocean-pollution/
Geyer, Roland / Jambeck, Jenna R. / Law, Kara Lavender (2017): “Production, use, and fate of all plastics ever made.” Science Advances 3. P. 1.

23 Ellen MacArthur Foundation / World Economic Forum / McKinsey & Company (2016): “The New Plastics Economy: Rethinking the future of plastics.” P. 10, accessed 25 November 2020: http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf

24 Ellen MacArthur Foundation / World Economic Forum / McKinsey & Company (2016): “The New Plastics Economy: Rethinking the future of plastics.” P. 12f., accessed 25 November 2020: http://www3.weforum.org/docs/WEF_The_ New_Plastics_Economy.pdf

25 Bond, Kingsmill / Benham, Harry / Vaughan, Ed / Chau, Lily (2020): “The Future’s Not in Plastics: Why plastics demand won’t rescue the oil sector.” Analyst Note: September 2020, P. 10. London: Carbon Tracker.

26 Babbage, Natalie / Herbert, Richard / Koll, Oliver / Truelove, John (September 2019): “Who cares, who does? Consumer response to plastic waste” Kantar / Europanel, P. 4, 21.

27 Ipsos (2019): “A throwaway world. The challenge of plastic packaging and waste.” Ipsos Survey: P. 8-10. Accessed 29 December 2020: https://www.ipsos.com/sites/default/files/ct/news/documents/2019-11/a_throwaway_world_global_advisor_0.pdf

28 Unverpackt Verband (February 2020): “Unverpackt-Läden weiter auf dem Vormarsch.” Press release, P. 1, accessed 5 January 2020: https://unverpackt-verband.de/pressstorage/Pressemitteilungen/Der%20 Verband%20auf%20der%20Biofach%202020.pdf

29 WWF / Ellen MacArthur Foundation / BCG (2020): “The business case for a UN treaty on plastic pollution.” P. 12.

30 Basel Action Network (12 May 2019): “The Norwegian amendments: Implications for recyclers.” Washington. Accessed 29 December 2020: http://wiki.ban.org/images/3/3e/Norwegian_Implications.pdf

31 WWF / Ellen MacArthur Foundation / BCG (2020): “The business case for an UN treaty on plastic pollution.” P. 12. European Commission (2018): “A European Strategy for Plastics in a Circular Economy.” Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2018). Brussels. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0028&from=EN
European Commission (21 May 2019): “Circular Economy: Commission welcomes Council final adoption of new rules in single-use plastics to reduce marine plastic litter.” IP/19/2631. Brussels: Press release.
European Commission (2020): “European strategy for plastics.” Accessed 29 December 2020: https://ec.europa.eu/environment/waste/plastic_waste.htm

32 WWF / Ellen MacArthur Foundation / BCG (2020): “The business case for a UN treaty on plastic pollution.” Environmental Investigation Agency (2020): “Global Convention.” Website, accessed 4 January 2020: https://reports.eia-international.org/globalplastics/global-convention/

33 Environmental Investigation Agency / Global Alliance for Incinerator Alternatives / Center for International Environmental Law / Break Free From Plastic (June 2020): “Convention on Plastic Pollution: Toward a new global agreement to address plastic pollution.”
Environmental Investigation Agency (2020): “Global Convention.” Website, accessed 4 January 2020: https://reports.eia-international.org/globalplastics/global-convention/
Environmental Investigation Agency / Center for International Environmental Law / Break Free From Plastic (2017): “Towards an International Legally Binding Agreement on Plastics and Plastic Pollution.” Policy Paper, accessed 4 January 2020: https://docs.google.com/document/d/1CsXj3hkyx-YPdiQ2s2QDKaKrliLk-wp9N3JrzpN65feM/edit

34 Joint appeal by several corporations (2020): “Manifesto: The business call for a UN treaty on plastic pollution.” Website, accessed 5 January 2020: www.plasticpollutiontreaty.org

35 Bond, Kingsmill / Benham, Harry / Vaughan, Ed / Chau, Lily (2020): “The future’s not in plastics: Why plastics demand won’t rescue the oil sector.” Analyst Note: September 2020, P. 4. London: Carbon Tracker.

36 Bond, Kingsmill / Benham, Harry / Vaughan, Ed / Chau, Lily (2020): “The future’s not in plastics: Why plastics demand won’t rescue the oil sector.” Analyst Note: September 2020, P. 4, 10, 29. London: Carbon Tracker.

37 Bond, Kingsmill / Benham, Harry / Vaughan, Ed / Chau, Lily (2020): “The future’s not in plastics: Why plastics demand won’t rescue the oil sector.” Analyst Note: September 2020, P. 4, 37-39. London: Carbon Tracker.
Niranjan, Ajit (26.03.2020): “Oil companies pivot to plastics to stave off losses from fuel demand.” In: Deutsche Welle, accessed 11 December 2020: https://www.dw.com/en/plastic-oil-petrochemicals-coronavirus/a-52834661

38 Center for International Environmental Law (2017): „Fueling Plastics: Fossils, Plastics & Petrochemical Feedstocks.” Report, P. 1.

39 Center for International Environmental Law (2017): “Fueling plastics: Fossils, plastics, & petrochemical feedstock.” P. 1

40 Taylor, Matthew / Watts, Jonathan (9 October 2019): “Revealed: the 20 firms behind a third of all carbon emissions.” In: The Guardian, accessed 11 November 2020: https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions

41 European Parliament / Council of the European Union (2019): “Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment” 2019/904, Article 3.

42 UN Environment / Beat Plastic Pollution (2018): "Our planet is drowning in plastic pollution." Website accessed 30 December 2020: https://www.unenvironment.org/interactive/beat-plastic-pollution/
Plastic Oceans International (n.d.): "The Facts." Website accessed 30 December 2020: https://plasticoceans.org/the-facts/

43 Ellen MacArthur Foundation / World Economic Forum / McKinsey & Company (2016): "The New Plastics Economy: Rethinking the future of plastics." P. 10., accessed 25 November 2020: http://www3.weforum.org/docs/WEF_The_ New_Plastics_Economy.pdf

44 Center for International Environmental Law (2017): "Fueling plastics: Fossils, plastics, & petrochemical feedstocks." P. 3f.
Dow Argentina (2017): "Advanced manufacturing plan for Argentina." P. 18.
BASF (1 May 2019): "BASF und LetterOne vollziehen Zusammenschluss von Wintershall und DEA." Press release, accessed 18 November 2020: https://www.basf.com/global/de/media/news-releases/2019/05/p-19-199.html

45 German Environment Agency (UBA) (4 February 2020): "Biobasierte und biologisch abbaubare Kunststoffe." Accessed 16 November 2020: https://www.umweltbundesamt.de/biobasierte-biologisch-abbaubare-kunststoffe#11-was-ist-der-unterschied-zwischen-biobasierten-und-biologisch-abbaubaren-kunststoffen

46 Ellen MacArthur Foundation (n.d.): "New Plastics Economy: A circular economy for plastic in which it never becomes waste." Website accessed 18 November 2020: https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy
Ellen MacArthur Foundation (23 October 2019): "First annual New Plastics Economy Global Commitment progress report published." Press release accessed 18 November 2020: https://www.ellenmacarthurfoundation.org/news/first-annual-new-plastics-economy-global-commitment-progress-report-published

47 Laville, Sandra (14 March 2019): "Coca-Cola admits it produces 3m tonnes of plastic packaging a year." In: The Guardian, accessed 18 November 2020: https://www.theguardian.com/business/2019/mar/14/coca-cola-admits-it-produces-3m-tonnes-of-plastic-packaging-a-year

48 MacKerron, Conrad / McBee, Kelly / Shugar, David (2020): "Waste & opportunity 2020: Searching for Corporate Leadership." Berkeley: As You Sow. P. 24-27.

49 87 J. Clement (2020): "Global retail e-commerce sales 2014-2023." In: statista, 19 February 2020. https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/, accessed 28 May 2020.
Ecommerce magazine (21 September 2019): „Ist Ihr Omnichannel-Fulfillment dem Weihnachtsgeschäft gewachsen?" accessed 11 December 2020: https://www.e-commerce-magazin.de/ist-ihr-omni-channel-fulfillment-dem-weihnachtsgeschaeft-gewachsen/

50 88 Oceana (2020): "Amazon's Plastic Problem Revealed: How Amazon is flooding our communities, environment, and oceans with hundreds of millions of pounds of plastic packaging and how they can stop." Washington, D.C.: P. 10, 14.

51 Garrido, Francis / Chaudhry, Saqib / Palicpic, Ciaralou (11 April 2019): "Europe's 50 largest banks by assets." In: S&P Global, accessed 14 April 2020: https://www.spglobal.com/marketintelligence/en/news-insights/trending/7NsXjB8GspSSHHkvF0LgYA2
Plasticontrol (undatiert): „Zahlen und Fakten zur Plastikkrise." Website, abgerufen am 23.12.2020: https://plasticontrol.de/?page_id=1249&gclid=EAIaIQobChMIjNWu8p2W7gIVEKh3Ch10RwBJEAAYAiAAEgIZ4fD_BwE

52 Lindner, Christoph / Schmitt, Jan / Hein, Julia (2020): „Kurzfassung der Conversio Studie: Stoffstrombild Kunststoffe in Deutschland 2019." S. 12. Mainaschaff: Conversio Market & Strategy GmbH.

53 39 Center for International Environmental Law (2017): "fueling plastics: fossils, plastics, & petrochemical feedstock." P. 1.

54 40 Taylor, Matthew / Watts, Jonathan (9 October 2019): "Revealed: the 20 firms behind a third of all carbon emissions." In: The Guardian, accessed 11 November 2020: https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions

55 41 Heydenreich, Cornelia / Paasch, Armin (2017): "Bericht 2017 (Kurzfassung): Globale Energiewirtschaft und Menschenrechte. Deutsche Unternehmen und Politik auf dem Prüfstand." P. 2. Aachen / Berlin: Bischöfliches Hilfswerk MISEREOR e.V. / Germanwatch e.V.

56 Center for International Environmental Law / Environmental Integrity Project / FracTracker Alliance / Global Alliance for Incinerator Alternatives / 5Gyres (2019): "Plastic & climate: The hidden costs of a plastic planet." P. 1ff, 43.

57 Intergovernmental Panel on Climate Change (2014): "Climate Change 2014: Mitigation of Climate Change." Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA: P. 759.

58 44 Heydenreich, Cornelia / Paasch, Armin (2017): "Bericht 2017 (Kurzfassung): Globale Energiewirtschaft und Menschenrechte. Deutsche Unternehmen und Politik auf dem Prüfstand." P. 2. Aachen / Berlin: Bischöfliches Hilfswerk MISEREOR e.V. / Germanwatch e.V.

59 Umweltbundesamt (4 February 2020): „Biobasierte und biologisch abbaubare Kunststoffe." Accessed 16 November 2020: https://www.umweltbundesamt.de/biobasierte-biologisch-abbaubare-kunststoffe#11-was-ist-der-unterschied-zwischen-biobasierten-und-biologisch-abbaubaren-kunststoffen

60 46 Laville, Sandra (29.04.2019): „Biodegradable plastic bags survive three years in soil and sea." In: The Guardian, accessed 16 November 2020: https://www.theguardian.com/environment/2019/apr/29/biodegradable-plastic-bags-survive-three-years-in-soil-and-sea

61 PlasticsEurope Deutschland e. V. (2019): „Plastics – The Facts 2019." P. 20, accessed 16 November 2020: https://www.plasticseurope.org/application/files/9715/7129/9584/FINAL_web_version_Plastics_the_facts2019_14102019.pdf
Schüler, Kurt (2020): „Aufkommen und Verwertung von Verpackungsabfällen in Deutschland im Jahr 2018." 166/2020. Dessau-Roßlau: Umweltbundesamt. P. 43f.

62 Center for International Environmental Law / Earthwork / Global Alliance for Incinerator Alternatives / Healthy Babies Bright Future / IPEN / Texas Environmental Justice Advocacy Servives / Upstream / Break Free From Plastic (2019): "Plastic & health: The hidden costs of a plastic planet." P. 31.

63 Geyer, Roland / Jambeck, Jenna R. / Law, Kara Lavender (2017): "Plastics: Production, use, and fate of all plastics ever made." In: Science Advances 3 (7). P. 1.

64 Break Free From Plastic (2019): "Branded Vol. II: Identifying the world's top corporate plastic polluters." P. 6.

65 Coca-Cola Europe (2016): "Radar Screen of EU Public Policies." Accessed 15 April 2020: https://www.documentcloud.org/documents/3409808-EU-Radar-Screen-Issue-Update-2016-02-03.html
Lerner, Sharon (18 October 2019): "Leaked audio reveals how Coca-Cola undermines plastic recycling efforts." In: The Intercept, 23 December 2020: https://theintercept.com/2019/10/18/coca-cola-recycling-plastics-pollution/
Greenpeace Central and Eastern Europe (2019): "Nestlé – Ein riesiges Plastik- und Verpackungsproblem." Factsheet. Vienna: P. 6. Accessed 23 December 2020: https://greenpeace.at/assets/uploads/publications/presse/1904_Factsheet_Nestl%C3%A9_Plastik.pdf

66 A detailed evaluation of various industry initiatives can be found in: Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking Trash: The corporate playbook of false solutions to plastics crisis." P.30f. Utrecht / London: Changing Markets Foundation.

67 Despite the comparatively wide reach, it should be borne in mind that while the signatory companies make up 20 percent of plastic producers, the remaining 80 percent are not covered.

68 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking Trash: The corporate playbook of false solutions to plastics crisis." P.30f. Utrecht / London: Changing Markets Foundation.

69 Abboud, Leila (24 October 2019): "Consumer goods giants fall short on plastic pledges." In: Financial Times, accessed 23 December 2020: https://www.ft.com/content/c04b9806-f58d-11e9-b018-3ef8794b17c6
Ellen MacArthur Foundation (2020): "The Global Commitment 2020 progress report." P. 11.

70 Abboud, Leila (24 October 2019): "Consumer goods giants fall short on plastic pledges." In: Financial Times, accessed 23 December 2020: https://www.ft.com/content/c04b9806-f58d-11e9-b018-3ef8794b17c6

71 Ellen MacArthur Foundation (2020): "New Plastics Economy Global Commitment: Commitments, vision and definitions." P. 8.
Ellen MacArthur Foundation (n.d.): "New Plastics Economy Global Commitment." P. 10, accessed 23 December 2020: https://www.ellenmacarthurfoundation.org/assets/downloads/13319-Global-Commitment-Definitions.pdf

72 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): „Talking Trash: The corporate playbook of false solutions to plastics crisis." P.30f. Utrecht / London: Changing Markets Foundation.
Ellen MacArthur Foundation (n.d.): "A vision of a Circular Economy for plastic." P. 2, accessed 23 December 2020: https://www.newplasticseconomy.org/assets/doc/npec-vision.pdf

73 Ellen MacArthur Foundation (2020): "The Global Commitment 2020 Progress Report."

74 Ellen MacArthur Foundation (2020): "Organisation report for 2020 reporting cycle: The Coca-Cola Company." Website, accessed 18 December 2020: https://www.ellenmacarthurfoundation.org/resources/apply/global-commitment-progress-report/organisation-reports/report/ppu/rec9MNy2Ttzw0iKe8

75 Break Free From Plastic (2020): "Branded Vol. III: Demanding Corporate Accountability for Plastic Pollution." P. 2.
Ellen MacArthur Foundation (2020): "Organisation report for 2020 reporting cycle: The Coca-Cola Company." Website, accessed 18 December 2020: https://www.ellenmacarthurfoundation.org/resources/apply/global-commitment-progress-report/organisation-reports/report/ppu/rec9MNy2Ttzw0iKe8

76 Alliance to End Plastic Waste (15 January 2019): "The Alliance launches today." Accessed 18 December 2020: https://endplasticwaste.org/en/news/the-alliance-launches-today

77 Recycling Netwerk Benelux (2019): "Over $89 billion in plastic expansion undermines "End Plastic Waste" Alliance goals." Accessed 23 December 2020: https://gallery.mailchimp.com/709c873f9b07cbf5172d573b6/files/f2ed2be5-6fd1-4c04-8c82-1c26c0baf3ea/Story_12_Over_89_Billion_in_Plastic_Expansion_Undermines_End_Plastic_Alliance_Goals.01.pdf

78 Roth, Sascha (14 February 2019): "Es ist nicht alles grün, was glänzt: Ein kritischer Blick auf die 'Alliance to End Plastic Waste'." Naturschutzbund Deutschland, accessed 23 December 2020: https://blogs.nabu.de/alliance-to-end-plastic-waste/

79 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking trash: The corporate playbook of false solutions to plastics crisis." P.30. Utrecht / London: Changing Markets Foundation.

80 Ocean Conservancy (n.d.): "Trash Free Seas Alliance Membership Principles." Website, accessed 23 December 23 2020: https://oceanconservancy.org/trash-free-seas/plastics-in-the-ocean/trash-free-seas-alliance/membership-principles/

81 Ocean Conservancy (2020): "Together, We are Team Ocean." 2020 Report. Washington, D.C.: P. 14-21.

82 Ocean Conservancy / McKinsey Center for Business and Environment (2015): "Stemming the Tide: Land-based strategies for a plastic-free ocean."

83 Ramachandran, Kripa (2018): "Zero Waste Cities: Tackling the Global Waste Problem." Global Alliance for Incinerator Alternatives, accessed 23 December 2020: https://www.no-burn.org/zero-waste-cities-tackling-the-global-waste-problem/
Global Alliance for Incinerator Alternatives (2 October 2015): "Technical Critique of 'Stemming the Tide'." P. 4f.
Various civil society organisations (2 October 2015): "Open Letter to the Ocean Conservancy regarding the Report 'Stemming the Tide'." P. 2, accessed 23 December 2020: https://www.no-burn.org/wp-content/uploads/Open_Letter_Stemming_the_Tide_Report_2_Oct_15.pdf

84 Ocean Conservancy (n.d.): "Trash Free Seas Alliance Membership Principles." Website, accessed 23 December 2020: https://oceanconservancyoceanconservancy.org/trash-free-seas/plastics-in-the-ocean/trash-free-seas-alliance/membership-principles/

85 Ocean Conservancy (n.d.): "Trash Free Seas Alliance Membership Principles." Website, accessed 23 December 2020: https://oceanconservancy.org/trash-free-seas/plastics-in-the-ocean/trash-free-seas-alliance/membership-principles/

86 72 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): „Talking Trash: The corporate playbook of false solutions to plastics crisis." P. 47. Utrecht / London: Changing Markets Foundation.
Recycling Partnership (n.d.): „Meet our Board of Directors." Website, accessed at December 23, 2020: https://recyclingpartnership.org/board-of-directors/

87 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking trash: The corporate playbook of false solutions to plastics crisis." P. 47. Utrecht / London: Changing Markets Foundation.
Kersten-Johnston, Stephanie (2019): "The Bridge to Circularity." P. 46. Falls Church: The Recycling Partnership.

88 Walker, Leon (9 June 2014): "Group slam Walmart's recycling fund." In: Environment + Energy Leader. Accessed 23 December 2020: https://www.environmentalleader.com/2014/06/groups-slam-walmarts-recycling-fund/
Gelles, David (28 November 2015): "Big companies put their money where the trash is." In: New York Times. Accessed 23 December 2020: https://www.nytimes.com/2015/11/29/business/energy-environment/big-companies-put-their-money-where-the-trash-is.html

89 Closed Loop Partners / Center for the Circular Economy (2019): "Accelerating circular supply chains for plastics: A landscape of transformational technologies that stop plastic waste, keep materials in play and grow markets."
See also relevant investments: Schlegel, Ivy (2020): "Deception by the numbers: American Chemistry Council claims about chemical recycling investments fail to hold up to scrutiny." Washington, D.C.: Greenpeace Inc.

90 Bond, Kingsmill / Benham, Harry / Vaughan, Ed / Chau, Lily (2020): "The future's not in plastics: Why plastics demand won't rescue the oil sector." Analyst Note: September 2020. London: Carbon Tracker.

91 Gower, Rich / Green, Joanne / Williams, Mari (2020): „The Burning Question: Will companies reduce their plastic use." Teddington: Tearfund.

92 Plastic Soup Foundation: (16 July 2019): „Banks and Insurance Companies in The Netherlands invest Billions in Shale Gas and Plastic Production." Amsterdam. Accessed at December 30, 2020: https://www.plasticsoupfoundation.org/en/2019/07/banks-and-insurance-companies-in-the-netherlands-invest-billions-in-shale-gas-and-plastic-production/

93 Kiezebrink, Vincent / Roscam Abbing, Michiel / de Lege, Jorien (2019): „Plastic Finance: How Dutch financial institutions enable shale gas to fuel the plastic soup disaster." Im Auftrag des Fair Finance Guide Netherlands, einer Koalition aus Amnesty International, FNV, Milieudefensie, Oxfam Novib, PAX und World Animal Protection. Niederlande: Amsterdam.

94 Alliance to End Plastic Waste (2020): „Progress Report 2020: It all starts with Collaboration."

95 This policy is critically analysed in great detail in Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking trash: The corporate playbook of false solutions to plastics crisis." Utrecht / London: Changing Markets Foundation.

96 Center for International Environmental Law / Environmental Integrity Project / FracTracker Alliance / Global Alliance for Incinerator Alternatives / 5Gyres (2019): "Plastic & climate: The Hidden Costs of a Plastic Planet."

97 Compare Leung, Hannah (21.04.2018): „Five Asian Countries dump more Plastic into the Oceans than anyone else combined: How you can help." In: Forbes, accessed at December 14, 2020: https://www.forbes.com/sites/ hannahleung/2018/04/21/five-asian-countries-dump-more-plastic-than-anyone-else-combined-how-you-can-help/

98 A detailed evaluation of various industry initiatives can be found in: Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking trash: The corporate playbook of false solutions to plastics crisis." P.30f. Utrecht / London: Changing Markets Foundation.

99 98 HSBC (n.d.): "HSBC Chemicals Industry Policy." Accessed 17 December 2020: https://www.hsbc.com/-/files/hsbc/our-approach/risk-and-responsibility/pdfs/200817-hsbc-chemicals-policy.pdf?download=1s

100 Delemare Tangpuori, Alice / Harding-Rolls, George / Urbancic, Nusa / Banegas Zallio, Ximena Purita (2020): "Talking trash: The corporate playbook of false solutions to plastics crisis." P.30f. Utrecht / London: Changing Markets Foundation.

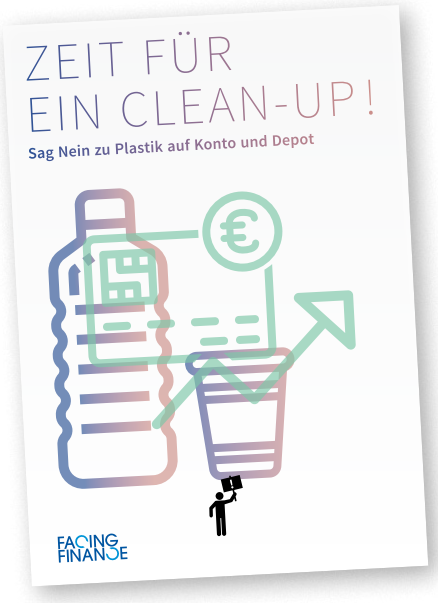
101 See also the UBS assessment in: Kirsch, Alison / Disterhoft, Jason Opeña / Marr, Grant / McCully, Paddy / Gürsöz, Ayse / Aitken, Greig / Hamlett, Claire / Saldamando, Alberto / Louvel, Yann / Pinson, Lucie / Cushing, Ben / Brown, Gabby / Stockman, Lorne (2020): "Banking on Climate Change: Fossil Fuel Finance Report 2020." Rainforest Action Network / BankTrack / Indigenous Environmental Network / Oil Change International / Reclaim Finance / Sierra Club.
UBS (2020): "Environmental and social risk policy framework." P. 4. Accessed 17 December 2020: https://www.ubs.com/global/ en/ubs-society/our-documents/_jcr_content/mainpar/toplevelgrid/col1/tabteaser/innergrid_1976054452/xcol3/teaser/linklist/link_731997085.0396920782.file/bGluay9wYXRoPS9jb250ZW50L2RhbS91YnMvZ2xvYmFsL3Vicy1zb2NpZXR5L2Vzci1mcmFtZXdvcmstMjAxOS1lbi5wZGY=/esr-framework-2019-en.pdf

102 [102] EU Technical Expert Group on Sustainable Finance (2020): "Taxonomy Report: Technical Annex", P. 200-204.

103 Van Gelder, J.W. and L. van Loenen (2020), Fair Finance Guide International Methodology 2020, Amsterdam, Netherlands: Profundo. P. 156.

104 Ellen MacArthur Foundation (2020): "The Global Commitment 2020 progress report."

105 Facing Finance (2020): Website "Faire-Fonds.info." Accessed 30 December 2020: https://www.faire-fonds.info
Walker, Bill / Wathen, Emily / Andrews, Dave (11.04.2017): „Cancer-Causing Pesticide 'Garbage' Taints Tap Water for Millions in California." In: Environmental Working Group, abgerufen am 16.10.2020: https://www.ewg.org/research/cancer-causing-pesticide-garbage-taints-tap-water-millions-california
Environmental Working Group (11.04.2017): „Shell, Dow Hid Cancer-Causing Chemical in Pesticides, Contaminating Drinking Water for Millions." In: EcoWatch, abgerufen am 16.10.2020: https://www.ecowatch.com/shell-dow-chemical-drinking-water-2355598384.html
Coca-Cola Company (30.01.2020): „Coca-Cola Reports Strong Growth in Fourth Quarter and Full Year 2019; Company Achieves or Exceeds All Full Year Guidance." News Release, abgerufen am 09.04.2020: https://d1io3yog0oux5.cloudfront.net/_dd4583be483bf2e0219513632824f641/cocacolacompany/news/2020-01-30_Coca_Cola_Reports_Strong_Growth_in_Fourth_Quarter__981.pdf,
The Coca-Cola Company (2018): „2018 Business & Sustainability Report." S. 6.
Mondelēz International (24.3.2020): „Mondelēz International Joins Ellen MacArthur Foundation's New Plastics Economy Initiative and The UK Plastics Pact to Accelerate Company's Transition to a Circular Economy for Plastic." Abgerufen am 21.12.2020: https://ir.mondelezinternational.com/news-releases/news-release-details/mondelez-international-joins-ellen-macarthur-foundations-new
Plasticontrol (n.d.): „Problem Mikroplastik." Website, abgerufen am 13.12.2020: https://mikroplastik.de/mikroplastik/



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