FAQs and Industry Myths

Frequently Asked Questions

Where does plastic come from?

Broadly speaking, plastics are materials formed from organic polymers — long molecules made by linking together long chains of smaller molecules, called monomers. These monomers are themselves products of a supply chain that almost always starts at a wellhead, oil rig, or coal mine. Virtually all (over 99%) plastics are produced from chemicals sourced from fossil fuels. [Source]

What kinds of plastic are there?

While there is a wide variety of different types of plastic, five kinds of plastic constitute over 90% (by weight) of all plastic produced:

- polyethylene (34.4%)
- polypropylene (24.2%)
- polyvinyl chloride (16.5%)
- polyethylene terephthalate (7.7%)
- polystyrene (7.3%)

[Source]

What is driving the plastics boom?

Cheap shale gas in the United States resulting from the fracking boom is fueling massive new investments in plastics infrastructure in the US and abroad, with $164 billion planned for 264 new facilities or expansion projects in the US alone. Many projects, including the largest, remain in the construction or planning stages and face significant public opposition.

China is also investing heavily in plastics infrastructure, including heavy investments in expensive, carbon-intensive coal-to-olefins technology.

The fracking boom is also fueling new plastics plants in Europe, which will rely heavily on a steady flow of American natural gas.

A recent wave of plastics investments in the Middle East will further intensify the industry's search for new plastics markets and its efforts to increase plastics consumption.

By 2025, production capacity is expected to increase by 33-36% for both ethylene and propylene. If constructed, this massive expansion in capacity could lock in plastic production for decades, undermining efforts to reduce consumption and reverse the plastics crisis. [Source]

What is zero waste?

Zero Waste is an innovative approach to the use of resources. It ensures resource efficiency (e.g, resources are not wasted), resource recovery (e.g., resources are reused or otherwise recycled, not burned or buried), and protection of scarce natural resources (e.g., use of renewable resources).

Currently, we are operating on a linear system, a one-way path from resource extraction to production to consumption to disposal. This model is fundamentally unsustainable. It assumes that the resources are infinite (which they are not) and that the disposed items do not cause problems (which they do).

Zero Waste is a move away from this unsustainable linear industrial system into a circular system under which unnecessary extraction and consumption is minimized, waste is reduced, and products and materials are reused or recycled back into the market.

Under a Zero Waste model, the resources that we use can be safely and economically recycled, reused, and composted, or turned into biogas through anaerobic digestion (a type of composting). Zero Waste also means avoiding the use of disposable products and redesigning products that are toxic-free and built to last. Zero Waste involves:

- Reducing consumption
- Reusing discards
- Product redesign
- Shift to alternative delivery systems
- Comprehensive recycling
- A ban on waste incineration

- Comprehensive composting or biodigestion of organic materials
- Citizen and worker participation
- Policies, regulations, incentives, and financing structures to support these systems
- Phasing out waste exports to other nations

[Source]

What are waste assessments and brand audits?

Waste Assessment and Brand Audit (WABA) is a methodical process of collecting and analyzing waste to determine the amount and types of waste generated in a locality and which brands are responsible for producing what proportion of the waste found.

Zero Waste implementers conduct at-source WABA (at the point of waste generation such as households) to understand the waste generation in the community and identify the products and brands generated at the source, before they are leaked into the environment. Data from household WABA inform Zero Waste implementers and community decision makers in their policy work (e.g., policies that must be crafted to push for plastic reduction) and program work (e.g. designing an appropriate waste management program for the community).

Brand audits are one of Break Free From Plastic's most valuable tools to hold corporate plastic polluters accountable and demand a shift in the way they deliver their products to people. In a nutshell, the brand audit is a coordinated process of recording data about the plastic waste items found during a cleanup, with a special focus on documenting the brands represented. Since 2018, thousands of people around the world have performed hundreds of brand audits to record data on plastic waste and the companies that produced it. By counting branded plastics found during a cleanup, these volunteers helped us identify the companies most responsible for plastic pollution on a global scale.

By combining hard data, citizen science, and community organizing, brand audits have become a powerful tool for recording and tracking down the companies responsible for polluting the planet with plastic. Our most recent analysis of 2019's global data was published in BRANDED II: Identifying the World's Top Corporate Plastic Polluters, and reveals the following as the 2019 Top 10 Global Polluters: Coca Cola, Nestle, PepsiCo, Mondelez International, Unilever, Mars, P&G, Colgate-Palmolive, Phillip Morris, and Perfetti Van Mille.

Learn how to do a brand audit here. [Source 1] [Source 2]

What are sachets and why are they problematic?

Single-portion plastic sachets (made from a multi-laminate material) are used to package products as diverse as coffee and washing powder. They are a low-value, currently non-recyclable item that are easier and cheaper to produce and transport than bottles with tamper-proof lids.

The uptake in some low and middle-income countries has been huge. In India and South-East Asian countries, sample-size sachets of food and non-food products are estimated to account for 95 per cent of industry sales in terms of volume and 60 per cent in terms of value.

But while sachets may bring convenience, and – in some places – a level of affordability, they are a significant contributor to the waste crisis in many poor contexts. In Tearfund and WasteAid's survey on the impacts of plastic pollution on poverty, plastic sachets were the most commonly identified item among mismanaged solid waste. The scale of the problem is also apparent from waste audits. For example, in a waste and brand audit carried out in the Philippines, a total of 54,260 pieces of plastic waste were collected, with most products being sachets. The prolific use of sachets in many parts of Asia and Africa has been justified around arguments of accessibility: many families are unable to afford standard sizes of new (often internationally owned) branded products, so single-serve sachets are more accessible ways for them to access these products. In some cases the cost per sachet is cheaper than larger packets, so it also drives wealthier people to buy them in bulk, for example in India. However, in other countries, such as Indonesia, the long-term cost of multiple sachets is considerably more than buying the full-sized item. [Source]

Is paper a good alternative to plastic?

Some companies are attempting to address their plastics problem by switching their disposable packaging from plastic to paper. Companies tout these switches as positive moves - and receive praise for them - because paper has long been seen as an environmentally sustainable material.

However, in reality, this switch is problematic. Forests play an important role in our ecosystem, supporting a stunning array of biodiversity, removing and storing carbon, providing sustenance and livelihood to indigenous peoples, and performing a range of ecological services that sustain life. The pulp and paper industry is responsible for substantial impacts to the environment, including climate change, as logging and large-scale industrial tree plantations drive natural forest loss degradation, emitting huge amounts of CO2. While recycled paper is sometimes available, it's not sufficient to meet demand as is, let alone if we see substitution from single use plastic packaging to paper. [Source]

What are bioplastics and are they a good alternative?

Many companies are swapping single-use plastics derived from fossil fuels with bio-based plastics, which are often erroneously promoted as biodegradable or compostable. The word “bioplastics” does not have a standardized definition and is often used to refer to plastic that is either bio-based, biodegradable or compostable and can even include fossil fuel based plastic.

Both conventional fossil-based plastic or bio-based plastic can be engineered to degrade under certain conditions; these are known as either degradable or biodegradable plastics. However, the heat and humidity conditions required are rarely, if ever, met in the natural environment, and when that biodegradable plastic does break apart, it may not fully disappear but instead fragment into smaller pieces, including microplastics, which can be ingested by animals and enter the food web.

The impression that these products are more ‘natural’ because they are from plants is also false: production of bio-based plastic can involve similar chemical additives to conventional fossil-based plastic.

Another confusing marketing term associated with bio-based plastics and biodegradability is the claim that a disposable item is compostable. Compostable plastic is engineered to fully decompose (as opposed to breaking into small fragments) under certain conditions that are met in either industrial composting facilities, or, less commonly, in home composting systems. But not all municipalities have industrial composting, and many cannot recycle compostable plastic packaging, and thus it is most likely to be landfilled or incinerated, making it little different to conventional single-use plastic. [Source]

Is incineration or waste-to-energy (WTE) a good solution to managing plastic waste?

WTE proponents make numerous false claims about WTE, among them, that this technology is Zero Waste. But incineration and Zero Waste are two opposite paths to resource and waste management. Incineration does not address the problem of waste generation. To the contrary, it encourages it.

- WTE plants are incinerators. They don’t magically make waste disappear. They merely transform the waste into other forms of waste such as toxic ash and air and water pollution which are harder to dispose of and are usually more toxic than the original waste.

- More than 90% of waste that is burned or sent to landfills can be reused, recycled, and composted. WTE incinerators need to be continuously fed thus creating a never-ending demand for more waste. This discourages waste reduction and promotes waste generation.
- WTE incinerators consume more energy than they produce. In Asia, the majority of the waste produced is compostable which produces a very small amount of energy when burned. In contrast, Zero Waste practices such as recycling and composting conserve three to five times the amount of energy produced by waste incineration.
- WTE incinerators pose risks to the health and environment of neighboring communities as well as that of the general population. Even the most advanced incinerators release thousands of pollutants that contaminate the air, soil, and water which enter the food supply and concentrate up through the food chain. Aside from toxic air emissions, incineration technologies produce highly toxic by-products that are released into the environment.

[Source]

Can't corporations just recycle the plastic they use?

FMCG companies and the plastics industry have long promoted the idea that recycling is the best way to keep plastic out of the landfill, but more than 90% of all the plastic ever produced has not been recycled. Plastic is far more likely to end up in landfills, incinerators or in the environment than to be recycled. Recycling systems cannot keep up with the huge volume of plastic waste generated.

Plastic packaging made of polyethylene terephthalate (PET) (e.g.soda and water bottles) and high density polyethylene (HDPE) (eg. milk jugs, laundry detergent containers) are commonly recyclable in many municipal systems, but recycling rates for these are still shockingly low: half of the PET sold is never collected for recycling, and only 7% of those bottles collected for recycling are turned into new bottles. Much of the plastic packaging is "downcycled," which means that instead of making a new plastic package from an old one, the plastic is reprocessed into products of lesser quality or value which are not further recyclable and not possible to recycle.

Flexible plastic packaging such as wrappers, sachets, pouches, shrink-wrap, and savory snack bags now dominate grocery stores - the market for this grew by 19% just in 2017 - and this type of packaging is often made of multiple materials that make it difficult if not impossible to recycle. [Source]

What is the impact of plastics on human health?

At every stage of its lifecycle, plastic poses distinct risks to human health, arising from both exposure to plastic particles themselves and associated chemicals. The majority of people worldwide are exposed at multiple stages of this lifecycle.

- The extraction of oil and gas, particularly the use of hydraulic fracturing or “fracking” for natural gas, releases an array of toxic substances into the air and water, often in significant volumes.
- Transforming fossil fuel into plastic resins and additives releases carcinogenic and other highly toxic substances into the air.
- The use of plastic products leads to ingestion and/or inhalation of large amounts of both microplastic particles and hundreds of toxic substances with carcinogenic, developmental, or endocrine disrupting impacts.
- All plastic waste management technologies (including incineration, co-incineration, gasification, and pyrolysis) result in the release of toxic metals such as lead and mercury, organic substances (dioxins and furans), acid gases, and other toxic substances to the air, water, and soils.
- Microplastics entering the human body via direct exposures through contact, ingestion, or inhalation can lead to an array of health impacts, including inflammation, genotoxicity, oxidative stress, apoptosis, and necrosis, which are linked to an array of negative health outcomes including cancer, cardiovascular diseases, inflammatory bowel disease, diabetes, rheumatoid arthritis, chronic inflammation, autoimmune conditions, neurodegenerative diseases, and stroke.
- Most plastic additives are not bound to the polymer matrix and easily leach into the surrounding environment, including air, water, food, or body tissues. As plastic particles continue to degrade, new surface areas are exposed, allowing continued leaching of additives from the core to the surface of the particle in the environment and the human body.
- Once plastic reaches the environment in the form of macro- or microplastics, it contaminates and accumulates in food chains through agricultural soils, terrestrial and aquatic food chains, and the water supply.

[Source]

What is the global waste trade?

Wealthy countries had grown accustomed to exporting their plastic problems, with little thought or effort to ensure that the plastic they were exporting got recycled and did not harm other countries. North Americans and Europeans exported not just their plastic waste, but the pollution that went with getting rid of it.

Plastic waste—and the environmental and health problems it causes—is diverted to other shores, stressing infrastructure and amplifying the problems of plastic pollution in lower-income countries awash in the trash of wealthy nations.

The dangers faced by people working in the waste trade underline the ultimate truth about plastic waste: recycling is not enough. The global plastic waste trade puts people and communities at risk, has long-term impacts on health and the environment, and enables the continued production of new plastics and its unchecked consumption. It is treated as a solution to plastic waste, but in reality a scant 9 percent of the plastic the world has produced since 1950 has been recycled. [Source]

What is the Break Free From Plastic movement?

#breakfreefromplastic is a global movement envisioning a future free from plastic pollution. Since its launch in September 2016, nearly 1,900 organizations from across the world have joined the movement to demand massive reductions in single-use plastics and to push for lasting solutions to the plastic pollution crisis. These organizations share the common values of environmental protection and social justice, which guide their work at the community level and represent a global, unified vision. Sign up at www.breakfreefromplastic.org.

Big Plastic Myths, Busted

MYTH: All plastics are recyclable

Although all plastics are all technically recyclable in a laboratory, what's possible in a lab has little significance in addressing the plastic crisis. What's down-played by the plastics industry is that recycling is subject to markets and market prices and recycled material is rarely cost-competitive. The collection and sorting of materials, the cost of infrastructure and running recycling programs and the lack of incentive for companies to use recycled content contribute to why only a fraction of plastic gets recycled.

Myth: Plastics are better for the environment

While it's true that plastic has enabled lighter packaging material that weighs less to transport, that same shift to 'disposable' plastic packaging has normalized a wasteful, throwaway culture causing widespread environmental damage. Many lifecycle analyses of plastics (often industry-funded) fail to assess the true scale of the environmental afterlife associated with plastic. Furthermore, the plastic industry is now one of the fastest-growing contributors to greenhouse gas emissions, accelerating the heating of our planet. According to CIEL, in the next 10 years alone, emissions from the collective plastics lifecycle could reach the equivalent to 295 coal-fired power plants. [source]

Myth: Plastic is an oceans problem

As *The Story of Plastic* exposes, plastic pollutes at each stage of its lifecycle, from extraction, refinery, exposure to toxic chemicals, through end of life -- landfill, incineration and the well-established problems of plastic leaking into the environment. Framing plastics as an oceans problem enables its proponents to characterize the plastics crisis as a waste management problem, one that can always be improved through innovation, infrastructure and a tweak here or there, which we now know to be a false narrative.

Myth: Consumer education is the key to overcoming plastic pollution

This idea has been a key argument made by major consumer brands since the 1970s, involving public relations campaigns to direct the responsibility for plastic pollution to the consumer and away from the producer, symbolized by the infamous Crying Indian PSA. The idea is that if we can just get enough people to do the 'right thing', the problem will disappear.

This argument is flawed on several levels, the problem as it exists today would not be resolved by 'responsible consumer behavior', the global waste trade is evidence that even the richest global north countries are not able to manage their waste responsibly. The plastics crisis has exposed the need to reevaluate our linear 'make, use, waste' system, and transition towards a circular, zero-waste model.

Myth: Regulating packaging materials is overburdening businesses

Part of the reason that single use plastic is ubiquitous is because it's cheap. Its low price is derived in part from the fact that plastic externalizes its litany of social, environmental and health costs onto citizens, often at the expense of taxpayer and vulnerable communities. This includes the health impacts to frontline and fenceline communities, the cost of litter clean up, and of managing landfill and recycling programs.

If plastics manufacturers couldn't outsource these costs, its price would be less competitive. That's why increasingly states and countries are exploring extended producer responsibility laws that are redirecting some of these costs back to producers, in doing so incentivizing companies to reevaluate their delivery models and use of single use plastic.

Myth: Plastics are important in the fight against coronavirus

The plastics industry is exploiting this moment of crisis to push plastic production and use. They are doubling down on their narrative that in the age of COVID-19, plastic is the safest and most hygienic material for delivering products to consumers regardless of the fact that the coronavirus can survive in a transmittable form on plastic. However, they fail to address how virus contaminated waste will be dealt with across the full lifecycle of their product even though we know plastic waste can compromise human health, especially in vulnerable communities who are facing the brunt of the pollution to begin with.

Although health and safety must be the number one priority for everyone at this time, all steps taken should be on the basis of science, not to advance pro-disposable plastic agendas and legislation. Single-use disposable items are not necessarily safer than properly washed reusables as they can harbor viruses and pathogenic bacteria, including exposure during the manufacture, transport, and storage processes leading up to eventual use. Medical experts are on the record explaining that soap and hot water are effective at killing coronavirus on reusable items.