Plastics Explained

Executive Summary

Full document
bpf.co.uk/PlasticsExplained

British Plastics Federation

Reducing global greenhouse gas emissions is of urgent necessity if mankind is to minimise the impact of climate change.

Plastic is a resource efficient, recyclable and lightweight material, vital for every major industry to function. It is an amazing material when it is used intelligently. A world without plastics would see increased global warming.[1]

In the same way we value the modern comfort and safety plastic brings, the material needs to be valued as a resource that is kept in functional use for as long as possible.

However, the UK needs to improve its plastic collection and recycling infrastructure for this to be possible, and to reduce its reliance on exporting plastic waste. This urgently needs government support to achieve this.

All commonly used plastic can be recycled and technologies are rapidly developing that mean even more of the plastic we rely upon can be recycled at scale.

As a start, all plastic packaging should be collected – as it is in most other European countries. This is easier for everyone to understand and will help to develop markets for recycled material.

We have an opportunity to create a truly circular economy for plastics. Let's work together to achieve this.

#ValuePlastic

1. Plastics and Climate in Perspective (2020), Denkstatt Vienna, https://denkstatt.eu/download/15971/ Last visited: 26 May 2021

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Key topics

Plastics and net zero

In recognising the urgent need to address climate change, the UK was the first country in the world to legislate the commitment to achieve an economy-wide net zero target. By 2050, the entire country's greenhouse gas (GHG) emissions need to be zero, and it is important to note that throughout their lifecycle and use, plastics contribute significantly to keeping down GHG emissions.

The highest 2019 overall UK GHG emissions were from the transport sector (27%), followed by energy supply (21%), business (17%), residential (15%) and agriculture (10%).[2] Whilst it is clear that plastics need to be used more sustainably, plastics are also key in applications to help reduce GHG emissions.

Plastic products used for thermal insulation and renewable energy generation enable climate change mitigation strategies that play a key role in reducing GHG emissions. In the transport sector, motor vehicles and aircraft are much lighter and more fuel efficient as a direct result of the amount of plastic incorporated in their design. There are a multitude of applications where no other material can fulfil the same functions with an equal or lower GHG emission footprint than plastics.

Going forward, increasing the amount of plastic recycled through mechanical and chemical recycling, as well as maximising the amount of recycled content integrated into products will help to further reduce GHG emissions from plastic products. Other innovative technologies will also be needed in the long term, such as carbon capture and utilisation to decarbonise feedstock production while bio feedstocks for plastics can play a role too. In the meantime, society needs to consider the negative impact on the climate of transitioning to other materials, which are often heavier, require more resources to produce and have different environmental impacts.

2. The Department for Business, Energy and Industrial Strategy – 2019 UK Greenhouse Gas Emissions

Plastic is a key enabler of sustainable technologies

Used in thermal insulation

Key for renewable energy technologies

Enables lightweight vehicles

Marine litter

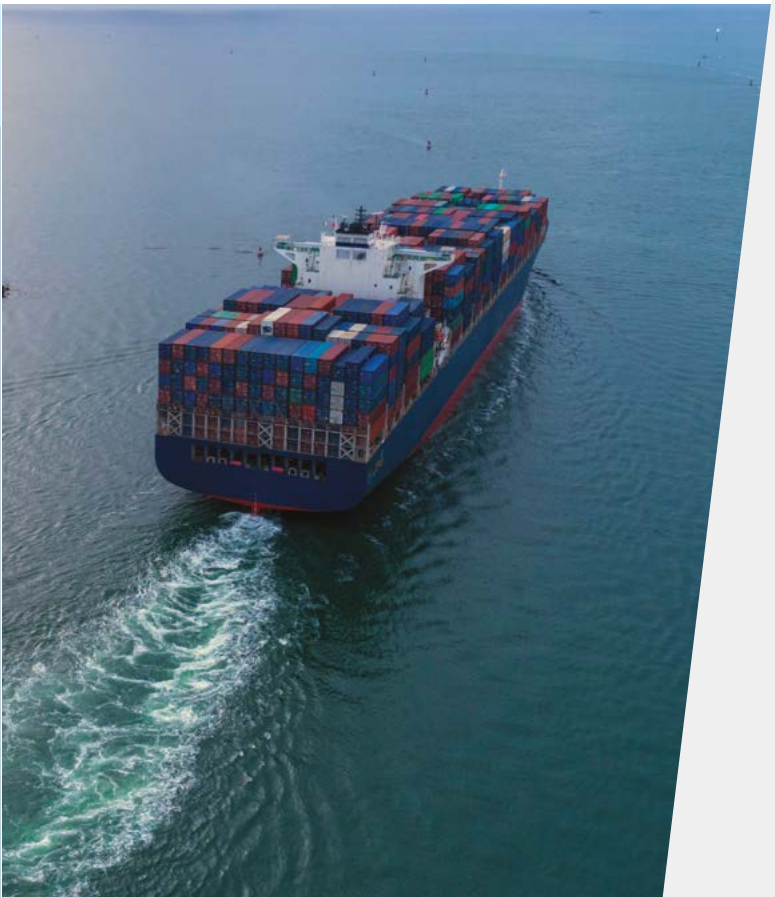
Plastics should not end up in the aquatic environment. Consumers, government and industry all have a part to play to ensure the plastic we use is easily recovered.

What are the sources of marine pollution?

- Personal care items being flushed into the sewage system (e.g. wet wipes).
- Waste being illegally dumped at sea.
- Primary and secondary microplastics (e.g. car tyres or degraded discarded litter).
- Lost or intentionally abandoned fishing gear.
- Used articles discarded on beaches and other littering (both on land and sea).

The BPF believes

- Improving waste management is a critical factor in reducing marine litter.
- The government should work with industry to improve and simplify the waste management infrastructure, particularly looking at 'binfrastructure' (having appropriate disposal options for people when 'on the go')
- Further investment is needed so plastics are recycled as close to market as possible.
- The shipping and fishing industries should continue to work to minimise waste escaping from ships/shipping containers, with a recycling scheme for fishing gear.
- Industry-led schemes for prevention (such as Operation Clean Sweep®) are vital.



Exporting plastic waste for recycling

The UK is dependent on export markets to achieve plastic recycling targets. In 2021, the BPF published a *Recycling Roadmap*, which shows how exports of plastic waste can be more than halved and the export of low-quality material eliminated by 2030.

The BPF believes

- By 2030, plastic waste exported for recycling could account for just 9% of packaging waste.
- Investment in the UK's recycling capacity is needed to achieve this, which could come from EPR reforms or revenue raised by the plastics packaging tax.
- Quality of material is key for both UK and export markets. A set of quality standards is needed to ensure only high-quality, uncontaminated waste is permitted for export.
- BPF supports policies/legislation that lowers climate change in a circular economy.

Consistent collections: including film and other flexibles for recycling

Most councils provide collection services for plastic bottles, pots tubs and trays. Very few councils collect 'flexible packaging' (e.g. film/bags). As a result, only 38% of all plastic was collected from households in 2019.[3]

The BPF believes

- All plastic packaging needs to be collected and recycled for a truly circular economy.
- All plastics including flexibles should be collected kerbside (it is technologically feasible).
- Collecting all plastic packaging will make the recycling of packaging simpler and more convenient for the consumer, and result in lower environmental impacts by diverting material from landfill and incineration.
- The introduction of the UK plastics packaging tax will increase demand for recyclate.
- The cost of collecting and sorting the material will be met through EPR reforms, as proposed by the government, and investment in new plants to recycle film and other flexible formats has already commenced. But for investment to continue, the collection of film and flexible plastic packaging from households and businesses needs to be mandated by the government.

3. Valpak Packflow, October 2020

Deposit return schemes (DRS)

Successfully introducing a DRS in the UK will need to enable convenience and flexibility for the consumer to return containers.

The BPF believes

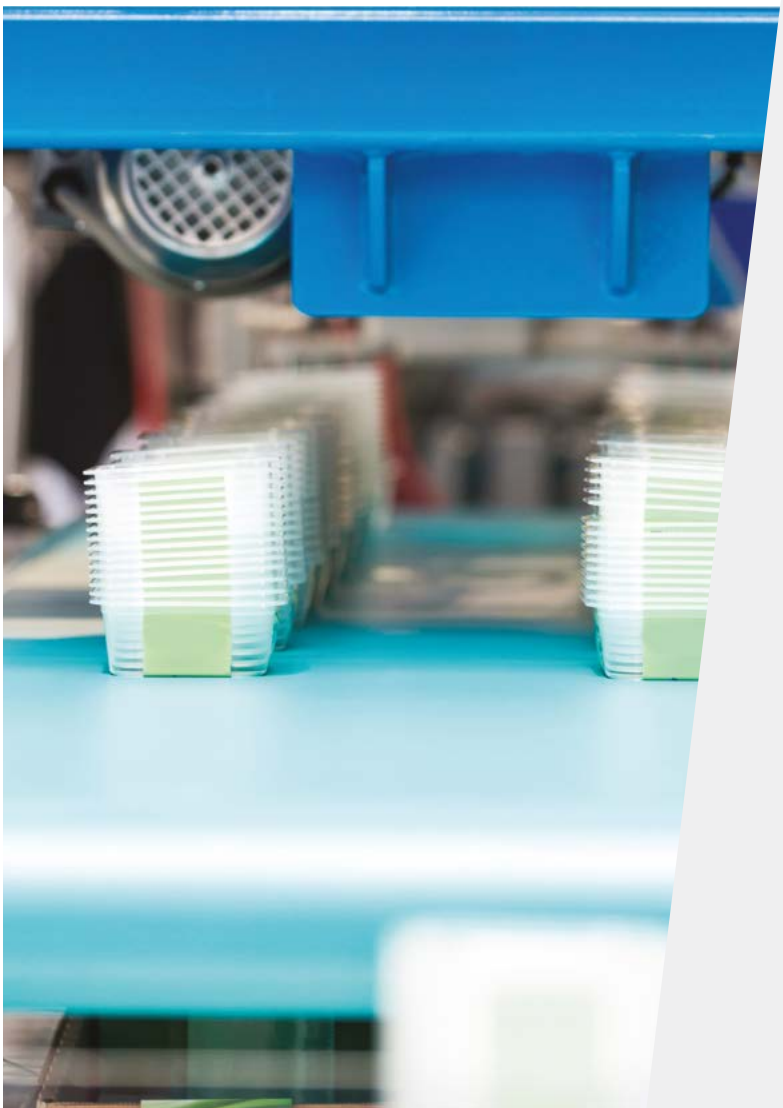
- Design of a DRS should be consistent across the UK to ensure one simple system.
- Systems that enable consumers to redeem deposits kerbside and 'on the go' should be explored to minimise the inconvenience of only redeeming deposits in-store.
- A DRS should be introduced in line with EPR as both are forms of producer responsibility.
- A DRS should use one fee for consistency and ease of the consumer.
- A DRS would best compliment kerbside collection if focused on packaging typically used outside the home and should cover all beverage types consumed 'on the go'.
- Multipacks may need a separate charge due to the disproportionate economic impact on these purchases for consumers.

Taxing plastic packaging based upon the amount of recycled content

The BPF supports the UK government's overall objective of increasing the use of recycled content.

The BPF believes

- Money raised by the plastic packaging tax (PPT) needs to be reinvested to address the lack of suitable UK collection, sorting and recycling infrastructure for plastic.
- The PPT is due before consistent collections are introduced and if regulatory barriers have not been addressed, some businesses will not be able access recycled material.
- The definition of 'packaging' should be changed to align with other packaging regulations.
- A recognised certification method will be required to minimise the risk of fraud.



Extended producer responsibility

Extended producer responsibility (EPR) aims to cover the costs of end of life treatment and to incentivise producers to ensure products placed on the market are recyclable.

The BPF believes

- Current government EPR proposals only focus on recyclability and recycling. They need to factor in using pack designs that deliver lowest climate change impact.
- EPR reform must deliver the infrastructure for collection/ recycling of all plastic packaging.
- When it comes to litter, the industry would support activities associated with education, behaviour change and infrastructure needs, but not litter clean up.
- Compostable materials should be included in an EPR scheme, with separate collection. We agree with current labelling where there are not separate collections.
- Businesses should bear costs associated with business waste as in the PRN system.
- Local councils should be obligated to collect/segregate waste for recycling efficiently.
- We support the government's proposal to require exporters of plastic waste ensure that waste is recycled.

Fraud and waste crime

Fraud and waste crime is a concern for the plastics industry. It not only undermines the industry but makes it harder for legitimate companies to operate due to the impact on the market.

Fraud / waste crime occur in various areas including the PRN system, the waste export market and in fraudulent recycled content claims.

The BPF believes...

- A verification/certification scheme is needed for recycled content.
- Current enforcement action is not sufficient to deter criminal activity and needs to be tightened, with more emphasis on full traceability and duty of care requirements.
- Regulators should monitor those who increase PRN/PERN evidence when prices are high.
- Auditing is needed for exported material to ensure it's recycled at its end destination and managed soundly. A database of licenced export facilities would assist this.
- Investment in UK recycling infrastructure is required to reduce the UK's reliance on exporting plastic waste for recycling, which will also make material easier to trace and reduce the opportunities for criminal activity.

Chemical recycling

Chemical recycling (a subset of non-mechanical recycling) offers the capability to process plastic waste - both fossil and non-fossil derived - that is difficult to recycle into high quality recyclate.

What benefits can chemical recycling deliver?

- Recycling of mixed plastic waste and mixed material streams that cannot be mechanically recycled, for example plastic waste contaminated with product residue or that has high levels of print coverage and/or colourants.
- Recycling of thermoformed composites.

The BPF believes

- Chemical recycling needs to be recognised by DEFRA as a means of recycling.
- The Environment Agency (EA) should make it broadly eligible for PRNs.
- Recognition of existing accredited certification schemes for recyclate is needed.
- Public sector support and investment is needed for commercial scale development.
- Consistent collections by UK councils of all plastic packaging waste are needed for access to feedstock (including flexible plastic packaging like wrappers, films and bags).

Biobased, biodegradable, oxo-degradable plastics and littering

- 'Biobased plastics' describe different plastics made wholly or partially from biomass.
- 'Biodegradable plastics' break down into water, biomass and carbon dioxide.
- 'Compostable' materials are a subset of biodegradable plastics that break down safely into water, biomass and carbon dioxide under controlled conditions.
- 'Oxo-degradable plastics' are traditional fossil feedstocks that are treated with additives to cause degradation. Their biodegradability is currently contested.

The BPF believes

- The use of biodegradable / compostable products should always be accompanied by lifecycle analysis to determine whether they are the best choice environmentally.
- Biodegradable products should be certified compostable to recognised standards.
- Compostable plastics should be avoided where there is potential for them to contaminate conventional plastics recycling. A separate collection is therefore required.
- Compostable materials are best used in applications such as food caddy liners, coffee capsules and tea bags, fruit and veg stickers, as well as in closed loop situations where separate collections exist.
- Biodegradable plastics are not a solution to littering.

Microplastics

Microplastics are typically defined as small pieces of solid polymer-containing material, to which additives or other substances may have been added, five millimetres (mm) in size or less.

What are the sources of microplastics?

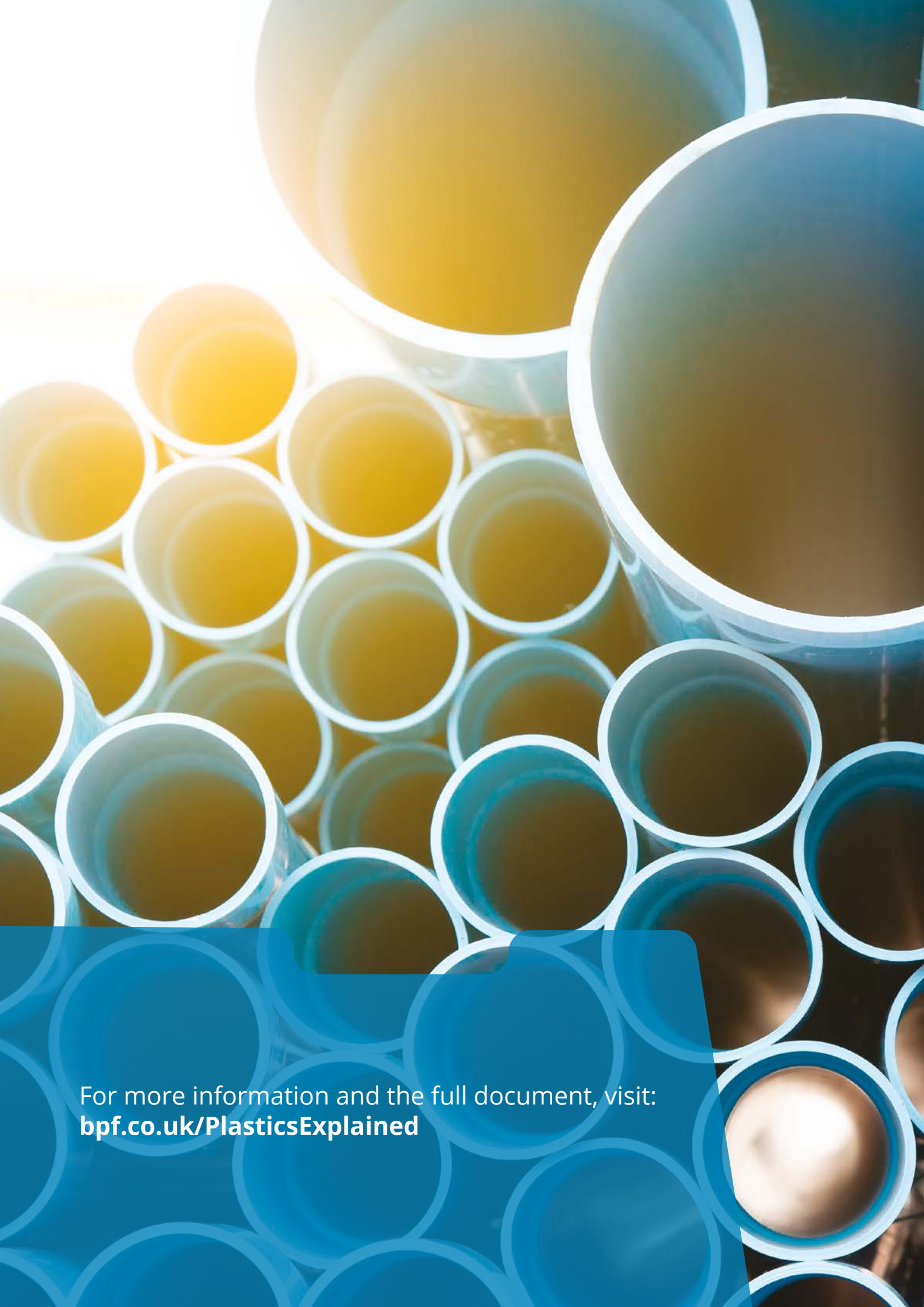
- **Primary**: microbeads, plastic pellets for manufacture, microfibres shed from washing clothes, particles from tyre erosion, road markings, marine coatings and city dust.
- **Secondary**: breakdown and degradation of larger pieces of plastic waste.

Is there action to reduce microplastics entering the environment?

- Operation Clean Sweep™, an initiative preventing pellet loss into the environment.
- The BPF sponsored the first international standard on pellet management.
- The BPF is pioneering several sustainable plastic design workstreams.
- Industry has funded initiatives to reduce the leakage of waste into the environment.
- Industry supported the 2018 restriction on microbeads in personal care products.

The BPF believes

- In supporting global efforts to reduce waste plastics leaking into the environment.
- Environmental and human safety are of paramount importance and the presence of plastic waste in the environment is unacceptable.
- More research on the impact of microplastics and reducing their presence in the environment is needed.



For more information and the full document, visit:
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