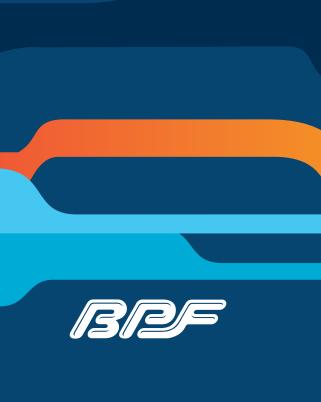
Understanding the debate about plastic



At a time when a 'climate emergency' has been declared, it is important that people understand that 'plastic free' does not necessarily mean 'better for the environment'.

For example, researchers found that switching to alternative materials could quadruple what they dubbed 'the environmental cost.'

Plastic will – and should – continue to play a vital role in all our lives going forward.

That may surprise many of you. But this document helps explain why.



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Key facts and figures

3rd largest employer in manufacturing sector



Food and drink 400,000



500,000+ directly and indirectly employed* 182,000

PEOPLE EMPLOYED in the plastics industry

in the plastics industry

*In manufacturing, commerce, transport, real estate, and other industries.

Plastic is one of the UK's **top 10 exports**





More than a third of plastics and plastic products are exported

*Includes plastic products, machinery, raw materials

ad across the UK **5%**

Scotland

4% 27%
orthern North

eland England

6% 32%

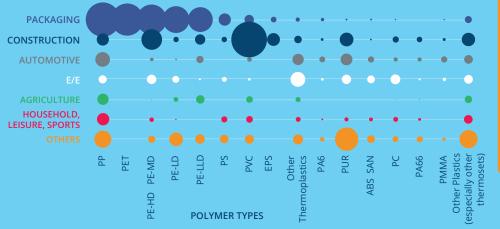
Valor Midlands

26%

and East

Plastic is used in almost every sector

There are many types of plastic with distinct properties, making it an exceptional material for an extremely wide range of products.



How important is plastic **for the future?**

Plastics patents

Top 5

63,000+

(This is more patents than pharmaceutical or biotech)

Source: PlasticsEurope Market Research Group (PEMRG) and Conversio Market and Strategy GmbH

Effect of substituting plastic packaging with alternatives

Total masses for same functional units

x 3.6

x 2.2

Plastic packaging

Alternative materials

GHG emissions for total life-cycle

x 3.6

x 2.7

In acknowledgement of such important factors, over 40 academics from across the UK have come out in support of the environmental benefits of plastics.

To continue to improve, we need to develop **recycling infrastructure** in the UK







Extra recycling capacity is needed in the UK to sort and process plastic waste



25,000 new jobs



could be created by 2030 if the UK's plastic recycling capacity is significantly extended

The right to choose (wisely)

People have the right to choose the packaging they do or do not need in their lives. But if we are giving people a choice, we also need to present them with enough information to make an informed choice.

When making decisions about what packaging format is best for the environment, it involves considering more than simply the recyclability of the packaging.

Experts factor in its weight, bulk, water and energy use, the distance the food has to travel, the greenhouse gas emissions that were generated when making or growing a product, how much of that product may or may not end up spoiling with or without particular packaging, as well as the resource efficiency and recyclability of the packaging.

The potential spreading of germs via loose produce may also be considered.

Other materials have a different environmental impact, and may use more land, energy and water to create, as well as being heavier and bulkier. One study from 2016 found that switching to alternative materials could quadruple what the researchers dubbed 'the environmental cost'.

As we continue to learn how to use plastic more intelligently, we also need to remember to

#valueplastic

Switching to bulkier, heavier packaging materials and/or allowing food waste to rise could easily result in greenhouse gas emissions increasing.

We need to be careful that people do not understand 'plastic free' to necessarily mean 'good for the environment'.

Plastic will – and should – continue to play a vital role in all our lives going forward.

As we continue to learn how to use plastic more intelligently, we also need to remember to **#valueplastic**





We can all make a difference.

People can help by educating themselves about the vital role packaging plays to help them make informed decisions about the packaging and products they do or do not need in their lives. And obviously, littering

any item risks it finding its way into the natural environment, where it can cause well-documented harm.

In addition to reducing the UK's reliance on exporting plastic for recycling, the plastics industry, government, local authorities and the wider supply chain need to work together to simplify the process of recycling for people across the entire UK.

Meanwhile, the plastics industry is:

Monitoring and trialling different solutions as the retail environment evolves.

Investing in innovative sorting and recycling technologies around the world.

Willing to promote reuse mechanisms in cases where it makes clear sense to do so.

Willing to pay a fair share of the cost of recovering and recycling plastic products.

Developing and promoting ecodesign guides to ensure plastic packaging is easily recyclable.

Committed to helping to stop plastic packaging going to landfill before 2030.

For more information visit: www.bpf.co.uk/vision www.bpf.co.uk/eco-design www.marinelitterthefacts.com



Government proposals and the industry's position

The government has proposed four ways the UK can potentially improve the way it manages plastic waste:

Taxing packaging products that do not contain at least 30% recycled content Refining extended producer responsibility (EPR) obligations Introducing a deposit return scheme (DRS)

Aiming for consistent collection schemes across the UK

The plastics industry shares the government's objective of reducing the level of plastic waste in the UK and welcomes the fact that the government remains focused on analysing the evidence.

Although the above proposals are all well intentioned, certain technical issues and complications mean things are not as straight forward as many suppose.



Why do we need single-use plastic?

Many packaging materials are only used once before being recycled or sent to landfill. However, plastic, rather than other materials, is typically attached to the term 'single use' in the media. In an ideal world, plastic would not be thought of in this way because it would always be recycled into another product, reducing our dependence upon virgin material.

78% of plastic packaging is recovered in the UK, 46% is recycled and the UK is ranked 7th in Europe. All plastics can be recycled but there are currently technical barriers to recycling some types of them on an industrial scale, although work is being done around the world to overcome these.

Why do we need single-use plastic in the first place?

- When food or other products are packaged in plastic, they are protected and in the case of fresh goods, they remain fresher for longer.
- Keeping food from spoiling reduces food waste, which helps reduce the strain in the planet's resources and keeps costs down. This is partly why pre-packaged goods are often cheaper than loose goods.
- Because plastic packaging is so good at protecting and preserving fresh goods, it means we are able to eat a wide variety of fresh foods year-round rather than seasonally, expanding the range of foods we can enjoy.



- Plastic packaging is extremely hygienic, keeping food and other products insulated against any air-borne germs. It also prevents germs from being spread by people handling goods intended for consumption.
- It is an extremely versatile material that in many cases is resealable and helps present goods in convenient sizes, bundles or portions.
- As well as presenting the product in an attractive way, it helps convey key information such as use-by dates, allergen information and recycling information.
- It should also be remembered that single-use plastic such as blood bags and syringes helps modern healthcare remain affordable for all and helps provide a safe and hygienic environment in hospitals.
- Stringent regulations are in place to protect consumers of all ages.



What about single-use plastics that cannot currently be recycled?

- Where you live influences the range of materials that can be recycled because there are 39 different sets of rules across the UK, something the plastics industry and recycling industry would like simplified.
- Most rigid plastic packaging can be recycled right across the UK and recycling rates have been improving for over 20 years.
- Flexible packaging formats are less commonly recycled, although the technology exists to do so.
- If you consider the overall environmental impact
 of the products packaging protects which includes
 energy use, water use, land use and greenhouse gas
 emissions there remains a case for using resource
 efficient single-use plastics, even in a more difficult-torecycle format.



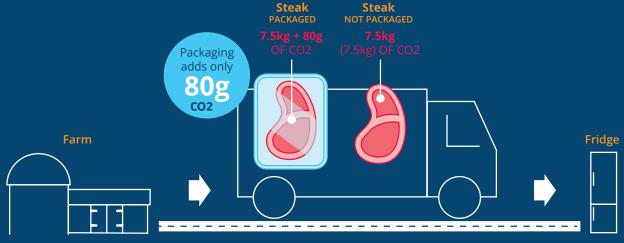
- In these cases, the energy should be recovered via an Energy from Waste facility until developments in technology allow for them to be recycled at scale.
- Plastic remains the most resource efficient material in these cases — more than alternatives — as it typically uses less water, land and energy to manufacture and keeps CO² emissions down during transportation because it is very lightweight.

Based on the evidence, the BPF believes...

There remains a case for single-use packaging as it reduces food waste and cost, minimises the risk of contamination and increases the range of products we are able to buy.

- It is sensible to package goods early in the supply chain to keep them fresh and protected for as long as possible.
- Food that benefits from plastic packaging will ultimately last longer on its journey from farm to fridge, keeping costs down because less food spoils.
- Plastic packaging typically uses far less resources than the products it protects. For example, a 330g steak generates 7.5kg of CO² on its journey from farm to fridge; the plastic tray protecting it increases shelf life by up to 26 days and is responsible for just 80g.

- Moving away from single-use packaging may mean food and other products are more likely to be exposed to germs either through the air or by being handled.
- Technologies currently exist that mean every type of plastic can be recycled. Work is being done around the world to scale this technology up so that it can serve communities on an industrial scale.
- Producers of plastic packaging contribute to society's recycling and waste management costs via their EPR obligations. During 2019 these are being reviewed and updated.
- Single-use plastics will continue to have a role to play in modern society and everyone has a role to play in ensuring as much material is recaptured for recycling as possible.



Source: https://www.bpf.co.uk/media/download.aspx?MediaId=2794

Extended producer responsibility

The UK plastics industry supports the government's objective of reducing plastic waste and improving recycling rates. Refining existing extended producer responsibility (EPR) obligations is a means of improving the design of plastic packaging to aid recycling and paving the way to harmonising the various kerbside collection schemes across the UK. However, there are several aspects to take into consideration.



- Improving the EPR system so that it helps achieve more consistent collections of used plastic packaging across the UK will lead to more plastic being recycled, therefore reducing plastic waste.
- Other aims and objectives include potentially transferring the cost of collecting, sorting and cleaning materials intended for recycling away from local councils.
- Proposed reforms also support communication initiatives that will lead to increased consumer participation in kerbside recycling and raise awareness of littering.



Are there any complications?

- It is important that when defining the recyclability of materials that all recyclable plastics are recognised and collected. This is the approach that has been adopted in many other European members states with an operational EPR system.
- When allocating costs and modulating fees, it is imperative that both resource use and resource efficiency are considered alongside end of life considerations to establish the relative carbon impacts.





Based on the evidence, the BPF believes...

During the process of reforming EPR, any measures should ensure continued improvement in the collection of waste for recycling and the development of a robust and efficient domestic recycling infrastructure. Key considerations include:

- Reducing or eliminating the current de-minimis level to ensure all businesses are obligated under the reforms, whilst ensuring administrative burdens for small businesses are minimised.
- Modulated fees should not solely be based upon whether an item is recyclable or not. They should ensure that resource efficiency is incorporated alongside the amount of recycled material used and the recyclability of the product.
- Ensuring businesses continue to bear the costs associated with business waste, whether or not it takes the form of 'household' or 'household-like' waste.
- If producers are to bear the costs of collection, then a producer advisory board should determine how the funds collected are allocated. Funds should be used to support:
 - Achieving consistent collection of all plastics within the UK.
 - Developing an improved recycling infrastructure, including sorting.

- Local councils should have an obligation to collect waste for recycling in the most efficient way, ensuring high consumer participation and delivering materials for sortation and recycling with the lowest level of contamination.
- Local councils should be rewarded and incentivised based on achieving best practice in relation to consumer engagement with recycling initiatives and the efficient collection of segregated waste for recycling.
- Those involved in the collection and sorting of material should be responsible for reprocessing that material to the required bale quality as specified by leading European member states.
- Consumer responsibility to engage in recycling and prevent littering needs to be recognised.
- EPR modifications need to embrace the overseeing and monitoring of compliance.



Taxing plastic packaging based upon the amount of recycled content

The British Plastics Federation very much supports the UK government's overall objective of addressing single-use plastic waste. In 2019 the government proposed taxing plastic packaging products that do not contain at least 30% recycled material. This well-intentioned proposal, however, presents a number of technical challenges and may not be the best thing for the environment.

What are the issues with taxing products based upon the amount of recycled content they contain?

- The barriers to increasing 30% recycled content are not primarily financial but technical, so are not therefore readily influenced by the introduction of a tax.
- 85% of the plastics packaging industry is increasing the amount of recycled content in its products anyway.
- 25% of plastic packaging is incapable of incorporating 30% recycled content due to current regulations.
- Medical packaging, for example, is not permitted to contain recycled content.
- A thin plastic film contains a minuscule amount of plastic, is exceptionally resource efficient and saves huge amounts of food from spoiling every year. Many of these also cannot contain recycled content due to food safety laws.
- Some products would need to be made thicker and probably multi-material — a retrograde step that introduces problems for recyclers as well as using more plastic.
- Some plastics are perfect for packaging particular food products, are widely collected, easy to recycle and have thriving end markets such as the construction industry but cannot legally incorporate recycled content when used for packaging.

25%

PLASTIC PACKAGING

Not permitted to contain recycled content

Medical packaging For example



What other impacts might the tax have?

- There is a current lack of recycled material available in the UK. 60% of our recycled plastic is imported. If 30% recycled content is suddenly demanded, this may cause a rush for recycled content on the international markets, driving business overseas. It may also disadvantage smaller businesses that may not be able to compete on price with the larger, established brands and retailers.
- As not all plastic packaging is presently collected for recycling by councils and waste management companies, this will place a further constraint on the availability of material. The government does not plan to address this until after 2023, whereas it is proposed that the tax is introduced in April 2022.
- It is impossible to tell what is and isn't recycled content in a product, opening up the opportunity for fraud.

60%

OF OUR RECYCLED PLASTIC

IS IMPORTED

- 30% of plastic packaging waste is imported and prefilled, yet this would be exempt from the tax.
 If pre-filled packaging is exempt – even though it accounts for a third of packaging waste – this could result in £120m of business every year being lost to overseas companies and 1,500 jobs being exported.
- Attempting to encourage change with a tax does not guarantee that the money raised will be invested where it is most needed: in the UK's recycling and waste management infrastructure.
- Taxing companies in cases where regulations do not permit the use of recycled material would be unfair and is likely to result in extra costs for consumers.

£120m

1,500
JOBS EXPORTED

Based on the evidence, the BPF believes...

Because insisting upon increasing recycled content can result in more plastic being used, is not legally possible in many cases, is likely to shift business overseas and creates opportunities for fraud, analysis conducted by the BPF and Ernst and Young concluded that the current proposal is not an effective option for reducing plastic waste.

- Recycled content should be maximised where it delivers the most benefit to the environment and where regulations allow it to be used.
- Where recycled content cannot be incorporated due to food safety regulations needs to be recognised.
- An incentive needs to remain for manufacturers that make products capable of including significantly more than 30% recycled content.
- Recycled content is better evaluated in line with Wrap's Plastic Pact, which states that the average amount of recycled plastic across all packaging should be 30% by 2025.

- Increasing the plastic industry's obligation towards helping to meet the costs of recycling is better met through refining the existing Extended Producer Responsibility System, which could be modulated to take into account a total resource efficiency approach, including the amount of recycled content and recyclability.
- Refining the EPR system, instead of a tax, would help ensure any extra money raised is invested in the UK's recycling and waste management infrastructure.
- This approach would ensure alignment and cohesion with other measures proposed as part of the government's Waste Strategy, as well as a reduction in plastic waste.



A deposit return scheme (DRS) involves increasing the cost of particular products – typically beverage containers – and having the extra cost refunded to you when you return it to a specific location. Every DRS throughout the world is different and some exclude milk, juice, wine or spirit containers, while others exclude all larger beverage containers.

Most DRSs were introduced over a decade ago, before kerbside systems were developed. In the UK, we already have a mature kerbside collection scheme and growing recycling rates. For a DRS to be successful in this country, it must be introduced nationwide, while providing a convenient way of returning containers used 'on the go'. At the same time, it must not undermine or inconvenience consumers recycling packaging at their kerbside.

Can a DRS increase recycling rates?

- Some countries (Germany, Norway, Sweden) achieve higher rates of plastic bottle recycling with DRSs: over 90%.
- Other regions, despite having a DRS, achieve rates lower than the UK: South Australia (65%), Hawaii (61%), and Oregon (52%).
- The UK currently recycles 74% of plastic (PET/HDPE) drinks bottles. This is higher than any other drink container material.
- A DRS may even harm the overall packaging recycling rate (rather than bottle recycling rates), as happened in Germany, which saw a significant drop in overall packaging recycling rates after it introduced a DRS in 2003. By 2014 these rates had not recovered to pre-DRS levels.

Does a DRS reduce littering?

- Research in Germany has found "no significant quantitative effects in litter reduction and no economic effect in street cleaning identifiable as a result" of implementing a DRS.
- Data from Australia shows that, despite having a DRS since 1977, South Australia does not have the lowest litter rates. Since the introduction of a DRS in the Northern Territory in 2012, littered items have actually increased.
- Litter surveys from Australia also indicate that Victoria — a state that employed behaviour change methodologies instead of a DRS — has seen the strongest decline in the number of littered items in Australia.
- Due to the monetary value ascribed to particular packaging products, the risk of 'bin mining' needs to be carefully considered when designing any scheme.

Based on the evidence, the BPF believes...

To increase the recycling rates in the UK, the few remaining councils that don't have a kerbside collection scheme for bottles, should implement one. Research should also identify the most effective way of ensuring that beverage containers used outside of the home are recycled.

 If a DRS is implemented in the UK, it should be carefully constructed so that it does not compromise the existing kerbside system and overall packaging recycling rates.



'On the go' packaging

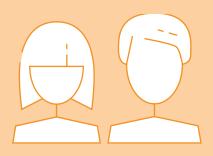
- A DRS would best complement the kerbside system if it focused on packaging typically consumed outside of the home.
- Any proposed DRS would need to cover all beverage packaging types that are consumed 'on the go' to maximise recycling and minimising littering.
- A careful cost-benefit assessment should be conducted to understand whether a DRS is the best option to achieve these policy objectives, and whether reforming extended producer responsibility obligations could potentially provide the necessary



Kitchen and bathroom bottles

funding for improving 'on the go' recycling.

- A consistent approach to kerbside recycling, funding and targets (similar to the work that has been done in Wales) should be promoted as a policy to improve overall recycling rates. This should be implemented as a priority and before a DRS.
- Campaigns should be developed to promote the recyclability of household bottles that tend to be recycled less, such as kitchen and bathroom bottles.
- Littering is best addressed through behaviourchange campaigns and these should encompass all littered items.
- Any policy intending to increase recycling in the UK should be developed from a holistic viewpoint and should aim to increase overall recycling rates and not just those of individual product categories.



Behaviour change

Exporting plastic waste for recycling

The export of plastic waste materials for recycling, particularly to developing countries, is sometimes seen as a questionable practice. However, the UK remains dependent upon export markets to achieve its plastic recycling targets because we do not currently have capacity to recycle all our plastic waste.

Why do we currently export some of our plastic waste for recycling?

We need to export material when there is not enough capacity within the UK to recycle it.

This needs to take place without a detrimental effect on the quality of material and making sure that the exported plastic waste is managed in an environmentally sound manner once it reaches its end destination.

It is vital that waste exporters adhere to national and international legislation governing waste exports.



Biodegradable and oxo-degradable plastics

Biodegradable or oxo-degradable plastics are sometimes touted as a solution for packaging that is not currently economically recyclable and to address issues such as the presence of littered plastics in the natural environment. The industry is concerned about these statements and feel that standards are required to ensure there are no false claims about how these materials break down and under what conditions.

Biodegradable and oxo-degradable plastics are not a solution to litter. The UN has highlighted that items labelled as 'biodegradable may actually increase litter as people are more likely to think that its acceptable to throw items onto the ground'.

The UK plastics industry is also concerned about the impact that these materials will have on the established recycling stream. Applications of any type of product which biodegrades needs to be in areas where it will be prevented from entering the recycling stream, as they cannot be easily identified and separated from conventional plastics. The presence of these materials in the recycling stream will adversely affect the quality and marketability of the resulting products.

What are biodegradable plastics?

- Biodegradable plastics can either be made from natural derivatives such as corn starch or a traditional plastic made from petrochemicals.
- The material has been engineered to break down by biological activity, especially by enzymatic action, leading to a significant change in the chemical structure of the material.
- Oxo-degradable plastics also consist of a traditional plastic made from petrochemicals but have the addition of oxo-additives. It involves the degradation of the polymer through both oxidative and "cell-mediated phenomena, either simultaneously or successively."

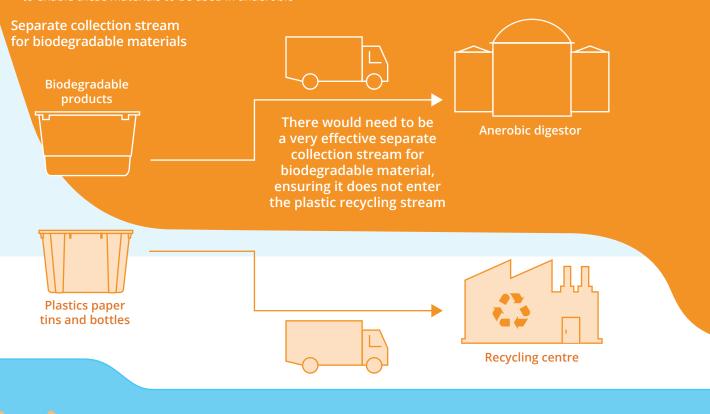
Biodegradable and oxo-degradable material does not offer a solution to litter and could even encourage the irresponsible disposal of products.

Based on the evidence, the BPF believes...

Biodegradable and oxo-degradable plastics are concepts that may resonate with some of the general public but they do not provide a viable solution to reducing the amount of plastic that wrongly ends up in the natural environment. These materials do not currently fully break down in the marine environment and could even cause harm during this process. Some of these products may break down faster under specific conditions but these conditions are not normally found in the natural environment.

- Compostable materials should only be used where there is a benefit in using them, e.g. to return the nutritional food material that remains in contact with packaging to the soil. This would limit their use to applications such as compostable plant pots, liners for food caddies, coffee capsules, food service type items, and packaging that is highly contaminated by food and currently poses significant challenges to recycle economically.
- There would need to be a very effective separate collection stream for this material, ensuring it does not enter the plastic recycling stream, combined with clear communication to the consumer about the disposal route required for compostable plastics. Furthermore, there would have to be technical developments to enable these materials to be used in anaerobic

- digesters, which is the UK's preferred way of recycling food waste to produce the materials.
- Biodegradable and oxo-degradable material does not offer a solution to litter and could even encourage the irresponsible disposal of products. The focus should be on public education and developing the UK's waste infrastructure.
- Compostable materials are notably more expensive to produce at this time, providing a barrier to their wide adoption and further reducing the likelihood of councils being able to justify the cost of a separate collection scheme. For a wide scale adoption of compostable material, they would need to be produced at a more competitive cost to be able to compete with non-compostable plastics, and in their manufacture should not divert resources used in food production.
- The use of biodegradable products should always be accompanied by a lifecycle analysis to determine whether or not they are the best environmental choice.
- It is important that any new biodegradable materials entering the market are accompanied by the development of appropriate standards to ensure there are no false claims and that the products perform in the way expected.



Marine litter

Plastics should not end up in the aquatic environment, where they may cause harm to wildlife. In the UK we have a well-established recycling collection infrastructure in place that allows us to turn post-consumer plastics into new products.

Consumers, government and industry all have a part to play in protecting the environment and ensuring that the plastic we use to protect products and ensure safety, convenience and hygiene is easily recovered for re-use, recycling or to be converted into fuels, chemical feedstocks and other useful petroleum-based goods.

How does it get there?

Used articles carelessly discarded on beaches as well as other littering on both land and sea.

Inappropriate items being flushed into the sewage system.

Poor waste management practices.

Plastic pellets accidentally lost at some point during production, transport, processing or waste management.

Based on the evidence, the BPF believes...

Plastics are durable and they are recyclable so we all need to ensure they are reclaimed for reprocessing rather than irresponsibly discarded.

- Waste management is a critical factor in reducing marine litter. Bans of plastic products will not solve the problem.
- There is a need for more support and investment in waste management infrastructure, with a focus on Southeast Asia.
- Current evidence suggests that the best way of reducing littering in the UK is to mount public information campaigns to discourage littering.
- To further increase recycling rates in the UK, the government should work with industry to improve and simplify the waste management infrastructure, as well as exploring behaviour change campaigns for those who do not recycle.

- Further investment should be made in the recycling infrastructure in the UK to develop a circular economy, ensuring that plastics can be recycled as close to market as possible and remain within a welldeveloped waste management infrastructure.
- The shipping industry and fishing industry should continue work to minimise plastic waste entering the sea from ships and shipping containers.
- The UK plastics industry should continue to play its part by signing up to the principles of industry-led schemes such as Operation Clean Sweep® as well as continue to support anti-littering campaigns and relevant education initiatives.
- Microbeads should not be used in cosmetic products.

For sources visit: www.bpf.co.uk/positionstatements



