



HM Treasury

# Tackling the plastic problem

## Summary of responses to the call for evidence

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August 2018



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# Foreword

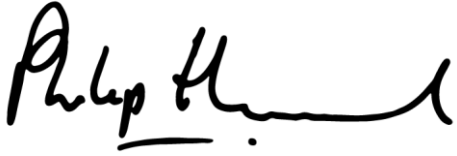
Over the last few months, it has been extraordinary to see the level of public interest in the issue of plastic waste and litter, with 162,000 responses to our call for evidence on single-use plastic waste. This is the largest response to a call for evidence in the Treasury's history. I would like to thank each and every person who took the time to make their voice heard, by writing to us, meeting with us or signing a petition.

As well as hearing from so many members of the public, we have received responses from representatives of 222 diverse organisations, from manufacturers to environmental groups, from retailers to recyclers, and the evidence we have received reflects the breadth of their expertise. Building this evidence base is incredibly useful in helping us to work out the best approach to tackling this important issue.

I am grateful for all of the ideas for addressing single-use plastic waste that have been submitted. This document briefly summarises the responses and suggestions that we have received. Over the coming months, the government will consider the most promising policies in more depth. This includes ideas to use tax to shift demand towards using recycled plastic in manufacturing, to encourage more sustainable design of plastic items and discourage those that prove difficult to recycle such as carbon black plastics, to reduce demand for commonly littered single use plastic items, including single-use coffee cups and takeaway boxes, and to ensure the right incentives are in place to encourage recycling of waste that is currently incinerated. I've also committed to investing to develop new, greener products and processes funded from some of the revenues that are raised. At Budget, I will announce policies that we plan to take forward.

We are committed to taking appropriate action through the tax system as well as through a wider government commitment to addressing this problem. At Spring Statement, I announced the allocation of £20 million to plastics innovation, and in June the first £4 million round of funding was opened for applications. In April, the Prime Minister announced another £61 million investment in the Commonwealth Clean Oceans Alliance, tackling marine plastic around the world through research and improved waste management in developing countries. As a government, we have identified several single-use plastic items that require more urgent action by banning or restricting their sale, and we will consult on banning the sale of plastic-stemmed cotton buds, plastic coffee stirrers and plastic straws. These policies will feed into the government's Resources and Waste Strategy, to be published in the autumn.

We are determined to be the first generation to leave the environment in a better state than we found it. By tackling the scourge of plastic waste, we can secure a cleaner, greener future for our country.

A handwritten signature in black ink, appearing to read 'Philip Hammond'. The signature is written in a cursive style with a prominent initial 'P' and a long, sweeping underline.

Philip Hammond

Chancellor of the Exchequer

# Chapter 1

## Introduction

- 1.1 The government's work on using the tax system or charges to address single-use plastic waste is one element of work underway to meet the commitment to eliminate all avoidable plastic waste.
- 1.2 At Spring Statement, the Chancellor launched the call for evidence on "Tackling the Plastic Problem", and also announced £20 million of funding for plastics innovation. The Plastic Research Innovation Fund (PRIF) has now been launched, including £2 million for a UK Circular Plastics Network to deliver leadership and knowledge exchange, £8 million for creative research in plastics and £10 million for business-led research and development to foster innovation. The first competition for this funding recently closed.
- 1.3 In April, the Prime Minister launched the Commonwealth Clean Oceans Alliance as an agreement between member states to join forces to fight plastic pollution in the world's oceans through investment in research and better waste management in developing countries. Countries including New Zealand, Sri Lanka and Ghana have signed up with the UK and Vanuatu-led initiative that will work in partnership with businesses and NGOs. The UK is providing £61m in funding to support the Alliance.
- 1.4 The Secretary of State for the Environment has now received cross-industry recommendations for the principles on which to reform the existing Producer Responsibility regime for packaging. These reforms will be consulted on later this year, along with the publication of the new Resources and Waste Strategy. The Strategy includes commitments to consult on a deposit return scheme for beverage containers, remove all single-use plastic from the government estate, implement a ban on microbeads and extend the existing plastic bag charge.
- 1.5 The government has also identified a small number of single-use plastic items where urgent action needs to be taken by banning or restricting their sale. In April, the Prime Minister announced that the government will consult on banning the sale & distribution of plastic straws, plastic-stemmed cotton buds and plastic stirrers, whilst continuing to work with industry to develop alternatives and ensure there is sufficient time to adapt.

### Engagement with the call for evidence

- 1.6 The government received responses to this call for evidence from 162,000 unique individuals. These responses included 154 from companies and their trade bodies as well as 30 responses on behalf of environmental charities, and 40 from other organisations, including local government and public



bodies, with the remainder submitted by private individuals. The responses from private individuals tended to focus solely on providing views on government action, whereas the other respondents also tended to provide evidence and data.

- 1.7 During the call for evidence period, the government engaged directly with over 100 organisations, including manufacturers, retailers, environmental charities and other experts to discuss the call for evidence in more depth. In addition, the government received a petition with 241,950 signatories calling for government to “introduce a visible tax on throwaway (single use) plastic. This should happen at the point of sale like the current plastic bag charge”.
- 1.8 This document sets out a summary of responses to the call for evidence and highlights areas for intervention that the government will consider further. The number of responses means that this document can only provide a high-level summary, but the government is grateful for the large volume of evidence submitted, which will be used in developing policies over the coming months. At Budget 2018, the Chancellor will announce policies that the government plans to take forward.
- 1.9 Chapter 2 of this document summarises the answers received to the questions on defining and assessing the value of single-use plastics, and provides the government’s response. Chapters 3-6 summarise answers to questions about each stage of the lifecycle: production, retail, consumption and disposal, and provide the government’s response at each stage. Chapter 7 summarises those recommendations that fell out of scope of this call for evidence and outlines government action in these areas. Chapter 8 outlines next steps.

# Chapter 2

## Defining and assessing single-use plastics

- 2.1 This section asked about the nature of single-use plastic waste, looking at the scope of a definition, the necessity of use and environmental impact. Questions were aimed at all respondents and we received responses from all types of stakeholders.

### Question 1 – How should the government define single-use plastics, and what items should be included and excluded, and why?

#### Definitions of single-use

- 2.2 A number of respondents stated their agreement with the government's proposed definition of "all products that are made wholly or partly of plastic and are typically intended to be used just once and/or for a short period of time before being disposed of", and some responses provided additional clarification and examples.
- 2.3 Some plastic manufacturers suggested that items that are reusable, recyclable or can otherwise be considered valuable after use should be exempt, as they have some post-consumer application other than landfill. They described the majority of plastics as technically recyclable.
- 2.4 However, most responses from other groups suggested that the definition should include those items designed with the intention of being used once before being thrown away or recycled.

#### Differences in type of use

- 2.5 Other responses categorised single-use plastics according to the way they are used, rather than the duration or number of uses. These categories were according to usefulness, necessity, substitutability or likelihood of littering. For example, one producer recommended categorising single-use plastics according to whether they are likely to be "incautiously" used or not, and therefore escape into nature. Many responses referenced items that were consumed on-the-go.

#### Lists of items

- 2.6 Some responses preferred a list-based approach. In some recommendations, mostly by producers and consumers, this would be a list of items that they suggested be subject to a tax or charge, while some environmental groups

and some waste managers recommended a broad definition with exemptions for items on an approved list.

### The value of a definition

- 2.7 Some environmental groups suggested that defining single-use plastics may not be useful for policy interventions. One made the argument that any policy intervention should instead be much broader and reduce all plastic waste. One environmental consultancy suggested that a single definition may not be necessary if more targeted interventions are designed to deal with particular types or applications of single-use plastic. Many other responses said that interventions should address the groups of products that are more problematic, rather than single-use items as a category.

### Question 2 - What are the most important problems associated with single-use plastics, and why?

- 2.8 The government received a large amount of high quality evidence about the impacts of single-use plastics that will be used to inform policy decisions.

### Litter

- 2.9 Many respondents mentioned the problem of litter both on land and in water, and the associated clean-up costs. Most responses mentioned the impact on wildlife, including those animals that consume or become entangled in plastic litter. A few respondents pointed out that the long-term cumulative effects of microplastics in the food chain are as yet unknown, and therefore represent an uncertain health risk.
- 2.10 We received data from a number of charities from their clean-ups and litter surveys, looking at the single-use plastic items that are most commonly littered:
- items commonly used “on-the-go”, such as:
    - takeaway packaging, cutlery and sauce sachets
    - cigarette butts
    - chewing gum
    - beverage containers
    - crisps and confectionary packets
  - items thought of as “flushable” by consumers, in particular wet wipes and plastic-stemmed cotton buds
- 2.11 Respondents blamed irresponsible behaviour, insufficient bins available on streets for people on-the-go and the fact that lightweight plastic waste can easily be blown out of bins.

### Recycling and other waste treatments

- 2.12 Many respondents said that recycling for plastics is too low, wasting energy and raw materials and causing unnecessary carbon emissions. Low levels of UK recycling were identified as a missed economic opportunity.
- 2.13 Items widely thought to be a problem for recycling were films, laminated packaging, mixed polymer items, expanded polystyrene items and pots, tubs and trays. Polyvinyl chloride (PVC) was identified as a frequent contaminant.

Polystyrene (PS), low-density polyethylene (LDPE) and PVC were said to be rarely recycled in post-consumer waste.

- 2.14 While there was broad consensus that landfill was an undesirable way to dispose of plastic waste, there was disagreement over the relative benefits of incineration, with producers and many waste managers suggesting that energy from waste was a form of reuse and a positive outcome, whilst other responses, particularly from environmental groups, thought more should be done to move waste further up the waste hierarchy.

#### Excessive use

- 2.15 Most responses from environmental groups and private individuals mentioned that some of these items could be deemed unnecessary in the first place.
- 2.16 Some producers of less recyclable films and flexible packaging noted that they allow packagers to reduce the amount of plastic they use which they argued is preferable to recycling in the waste hierarchy.

### Question 3 - Are there more environmentally friendly alternatives, currently available or possible in the future, to these types of single-use plastic items or their manufacturing processes, and can they still offer similar benefits?

#### Necessity of use

- 2.17 A consortium of environmental groups – Greenpeace, the Environmental Investigation Agency, the Marine Conservation Society, the Campaign to Protect Rural England, Surfers Against Sewage and 23 others – recommended a hierarchy of plastics according to the necessity of the product as well as the necessity of including plastic, categorising them as “pointless”, “replaceable”, “problem”, “harder to replace” and “essential”. They recommended that policy interventions be targeted accordingly, ranging from bans, to taxes or charges, to regulations around responsible disposal. Most responses from private individuals also identified that some items are unnecessary.

#### Comparing plastic to other materials

- 2.18 Some producers pointed out that the environmental impact of materials should be considered holistically, and said that food waste reduction, resource and energy efficiency, water footprints, land use and emissions should all be considered. They provided examples and evidence of plastic often being the best material according to those metrics.
- 2.19 Although most producers identified plastic items or packaging that could not be substituted for alternative materials while retaining the same performance, there were many examples given of more recyclable options.

#### Alternative plastics

- 2.20 Many responses emphasised the importance of distinguishing between compostability, biodegradability, oxo-biodegradability and bio-based plastics, and the conditions under which each of these processes realistically occurs, citing the importance of clear labelling. There were some producers

who supported each type of material as the best alternative to regular plastics, although they noted that use should be context dependent. Producers of oxo-biodegradable additives recommended that they should be added to all plastic packaging, although many other stakeholders strongly disagreed and a small number suggested banning them. Compostable alternatives were generally recommended in certain applications, such as agricultural plastic or on-the-go food packaging, as long as food and garden waste collection were available and composting or anaerobic digestion infrastructure were expanded to treat them.

- 2.21 Most recyclers and waste management companies opposed all of these options because they would lead to greater consumer confusion in terms of separating recycling. If these items do end up in the recycling stream, it can be difficult to identify and separate them from conventional plastics. Furthermore, they can begin to break down in the conditions in which waste is generally collected and sorted. They noted that this would all lead to much greater contamination of recyclable waste.

#### **Question 4 - Are there single-use plastic items that are deemed essential by their nature or application, which cannot be substituted or avoided?**

- 2.22 Most responses to this question were clear that single-use plastic in medical applications, including medicine packaging, is essential and should not be targeted for substitution or reduction. A small number of responses highlighted the regulation around the disposal of certain medical waste and how this may limit options for waste treatment.
- 2.23 Some producers said that packaging that reduces food waste should not be substituted.

#### **Government response:**

- 2.24 For the purposes of this stage of policy development, the government's working definition of 'single-use plastics' includes all products that are made wholly or partly of plastic and are typically designed to be used just once and/or used briefly before being disposed of. This includes much plastic packaging as well as a variety of other items. While the government recognises the environmental benefits of diverting waste from landfill to energy recovery or recycling, the waste hierarchy suggests that extended or repeated use is distinct and preferable, where possible.
- 2.25 This does not necessarily mean that the policies proposed will target all items within this category and there may be a case for differential treatment of different types of single-use plastic. For example, the government recognises that single-use plastics that are used on-the-go have particular environmental issues associated with their use. Some of these on-the-go items have reusable or less environmentally damaging substitutes, or are avoidable altogether.
- 2.26 Biodegradable or compostable substitutes may contribute to tackling plastic waste but the responses to this call for evidence reflect that there is still uncertainty on the impacts of these materials. The government's upcoming

Bioeconomy Strategy will examine the impact of a standard for these materials.

- 2.27 The government recognises the broad support for ensuring that any policies do not negatively impact the provision of medical items or medicines.

# Chapter 3

## Production

3.1 This section asked about the production of single-use plastics, and the role of producers in the supply chain. Questions were aimed at producers who make plastic raw materials or plastic products, but we received responses to these questions from other parties as well.

Question 5 - What factors influence the choice of polymer, or combination of polymers, in the production of single-use items?

Question 6 - What proportion of the plastic that you produce is made of recycled plastic, and what are the barriers to increasing this?

Question 7 - What proportion of the plastic that you produce is commercially recyclable and what are the barriers to increasing this and improving the grade it can be recycled to?

Question 8 - In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?

### Increasing recyclability

3.2 Most producers said that all or most of the products that they produce are technically recyclable although some said that their products are currently not recycled because of limited collection and recycling infrastructure. Responses from individual consumers also said that they were unable to recycle a lot of their plastic waste through their kerbside recycling collections.

3.3 Some producers that we spoke to during this call for evidence have improved the recyclability of their products by reducing the number of components, materials and polymers. However, recyclability is not the only consideration when selecting polymers. Plastics producers identified the following as factors in choosing plastic and specific polymers:

- performance properties such as barrier properties, response to temperature, tensile strength, suitability for the type of manufacturing technique, e.g. blow moulding
- aesthetic properties, such as clarity and gloss
- cost

3.4 Some producers could increase recyclability by reducing the use of dyes, other additives and through clear labelling for consumers about recyclability but said the marketing efforts of brands and retailers can be a barrier to this. Most responses from environmental groups and waste industry representatives, and some private individuals, agreed that many of these

materials could be substituted for more recyclable options if brands and retailers prioritised recyclability more highly.

- 3.5 Some responses from the waste industry, from environmental groups and from private individuals proposed using tax to encourage design for recyclability. Around 40,000 responses organised by the Marine Conservation Society call for tax to reward recyclability. Recommendations included taxing particular dyes and additives that reduce recyclability, or a tax on plastic, with different rates according to how recyclable the type of polymer is. Another suggestion was to tax all final products that are not widely recyclable.

## Increasing the use of recycled material

- 3.6 The level of recycled content varies significantly between producers, who reported a range of proportions for any given item. The highest proportions of recycled content (100%) appeared in Polyethylene Terephthalate (PET) products and non-consumer products, such as those used in outdoor furniture and construction, for instance in flooring and cladding.
- 3.7 Some responses said that recycled content can be difficult to use because it “downcycles” and can lose quality as it is reprocessed. This is a barrier for producers raising recycled content because of hygiene concerns, especially where food standards regulations apply. There were, however, responses from producers who have recycled content over 95% for food contact packaging. Products and packaging with a high degree of recycled material generally also have lower clarity or otherwise diminished aesthetics, on which some retailers and brands can be unwilling to compromise. There were, however, some examples of producers, brands and retailers increasing recycled content in creative ways, and successfully incorporating those environmental credentials into their branding.
- 3.8 Some producers said that they faced difficulties sourcing recycled plastic. They reported that they needed to import in order to access recycled material of sufficient quality, or else use virgin material.
- 3.9 A wide range of responses, especially from the waste industry, recyclers and environmental groups, and also a few retailers and plastic product manufacturers, supported encouraging manufacturers to use more recycled material in their products by using tax to make it a more cost-effective option. 40,000 responses organised by the Marine Conservation Society called for taxes to be used in this way. Suggestions included reliefs or exemptions on other taxes according to recycled content in plastic products or a tax on unrecycled or virgin plastic material. Some waste companies and recyclers identified increasing demand for recycled content in plastic products as an important requirement for investing in further recycling capacity.

## Reducing the production of single-use items

- 3.10 Many responses from consumers and environmental groups suggested that the production and use of some items is inherently unnecessary or excessive, as discussed in Chapter 2. These responses argued that the very cheap



availability of these items results in their overuse and recommended using tax to encourage a reduction in production and use of some items, or to encourage the development of more environmentally friendly alternatives.

3.11 Some of these responses recommended introducing taxes on such items at the point of production, or banning some items. The items recommended included:

- single-use cutlery, plates and tableware
- single use food packaging, including takeaway packaging
- chewing gum
- cigarettes
- tyres
- packets, including crisp, sweet, confectionery and pet food
- pots, tubs and trays in packaging
- bottles (including those used for drinks, toiletries and cleaning products)
- single-use cups and lids, including those for coffee, soft drinks, ice cream, porridge/cereal and soup
- 4 and 6 pack yokes
- balloons and balloon sticks
- plastic strapping
- sauce sachets
- single-use plastic toys and merchandise
- fruit netting
- cling film and plastic wrap
- fishing gear
- agricultural wrap

3.12 Others suggested a tax on packaging or a tax on all single-use items. Some producers agreed that targeted taxes on some problematic items could be useful, but most said that a tax on all packaging could increase food waste. Interventions on many of these items were also recommended at other points in the supply chain, and are discussed in Chapter 4.

## Other recommendations

3.13 A few responses from private individuals suggested taxing all plastic, or all plastic packaging.

3.14 Most producers noted that as employers, important suppliers to key industries and – in many cases – exporters, they are a significant and high value-added UK industry. They were concerned about the impact of taxes on the health of the industry in the UK. They also shared their concerns about potential unintended behavioural consequences, either by shifting demand towards materials with more damaging environmental impacts or by increasing product waste. The government received some data demonstrating how various polymers are used and traded, making it clear that plastics play a significant part in a wide variety of sectors and that polymers have highly distinctive markets according to their properties. The evidence also shows that plastic exists in a very international market, although data is limited in places. Many responses recommended caution given the complexity of the market.

- 3.15 Many responses suggested that some of the revenue raised from new taxes should be spent on solutions to plastic waste. Suggestions included support for research and innovation in plastics, investment in a cohesive recycling collection strategy, consumer education and improvements in infrastructure.
- 3.16 Most businesses strongly recommended that any policy interventions be consistently applied across the UK to limit the burden of operating across different regulatory regimes and tax systems.
- 3.17 Almost all responses from producers, alongside responses from elsewhere in the supply chain, recommended reform of the Packaging Recovery Note system (PRN), which is dealt with separately in Chapter 7.

## Government response

- 3.18 The government is committed to working with industry and other stakeholders as it examines these proposals in more depth:
- using tax to shift demand towards recycled plastic inputs
  - using tax to encourage items to be designed in a way that is easier to recycle
  - taxing specific plastic items that are commonly used on-the-go and littered, in order to encourage a reduction in production and use.
- 3.19 The government recognises that industry are concerned about coherence between any taxes or charges and PRN reform, as well as inconsistency across the UK. Government departments will continue to work closely together and with the devolved administrations to develop joined-up policy.

# Chapter 4

## Retail

4.1 This section asked about retailers and brands, looking at the role of their purchasing in the use of single-use plastics. Questions were aimed at consumer brands and retailers across a range of sectors, but we received responses to these questions from other parties as well.

**Question 9: What factors influence the design and specifications you make for the single-use plastic items you sell, and what are the barriers to using alternatives?**

**Question 10: Can you provide data on the volumes and costs of different types of single-use plastic used?**

**Question 11: Have you taken any steps to address the environmental impact of the single-use plastic items you sell, including their end-of-life?**

**Question 12 - In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?**

### Retailer priorities

4.2 Retailers, but more specifically brands, noted that they specify design of items with an eye for:

- customer convenience and preference
- technical requirements (including hygiene and food safety)
- environmental impact (including end of life, recyclability and ease of disposal)
- functionality and user friendliness
- cost
- substitutability

4.3 Retailers noted that consumer and producer decisions were critical to the retail offer. They said that retailers will compete on matters that consumers prioritise most highly, and many people who responded as individual consumers objected to what they considered excessive use of single-use plastics by retailers.

4.4 However, some retailers mentioned that if they reduce some kinds of single-use plastics by offering wooden alternatives or introducing their own deposit return system, they expect to lose some customers to competitors.

4.5 Some producers suggested that aesthetics take priority when brands and retailers specify designs, choosing the best option for marketing to consumers, at the cost of a higher environmental impact. Examples of this included using more dyes, mixed plastics and laminated or mixed materials.

Black plastic in particular, when used in packaging, was repeatedly described as an entirely aesthetic choice that is hard to sort and recycle.

## Limited market power

- 4.6 Many retailers reported limited control over packaging and products and say that they can only influence the design of their own brand offer. Smaller retailers noted that they have very little power in the market to influence single-use plastic design.

## Improving recycling

- 4.7 Some retailers have reduced their use of hard to recycle packaging and products, such as black plastic and PVC. Many have improved recyclability through redesign and improved labelling.
- 4.8 Some have specified increased recycled content in their products and packaging in order to reduce the carbon and resource impact of production. Retailers and brands also noted the importance of considering their other environmental impacts, such as food waste, transport emissions and other carbon impacts. Many brands shared details of the work they do to reduce their whole environmental impact and advocated a holistic approach.

## Corporate Social Responsibility

- 4.9 Some retailers and brands engage in other activities to reduce their environmental impact, such as taking responsibility for litter in their immediate surroundings. Some retailers and brands have corporate social responsibility spending for environmental purposes.

## Reducing use of single-use plastic

- 4.10 Many businesses declined to share data on the level of single-use plastic use due to reasons of commercial sensitivity but some organisations provided estimates of consumption, with the UK estimated to have among the highest consumption rates per capita in Europe for a variety of items, including the consumption of crisp packets, single-use cutlery and disposable cups.
- 4.11 Businesses discussed a variety of measures they had taken to reduce their single-use plastic use. Retailers of cosmetics noted their compliance with the microbead ban, while other retailers and brands have removed other harmful products from their offer, such as plastic-stemmed cotton buds, or plastic drinking straws. Many hospitality companies noted the success of gentler nudge interventions, such as only giving out straws on request. Rather than eliminating single-use items, many retailers have substituted plastic for alternatives, such as paper straws and wooden coffee stirrers.
- 4.12 There were various recommendations around rewarding retailers who offer reuse loyalty schemes, who use items that are designed for recyclability and who use recycled content in their products. Suggestions included Corporation Tax reductions and reduced VAT rates.
- 4.13 A few respondents suggested using tax reliefs to encourage retailers to introduce “plastic-free aisles” of unpackaged products or packaging made of

alternative materials. There were mixed views about the value of this, as some respondents were sceptical of rewarding the use of compostable plastics as an alternative. Some consumers recommended that retailers be taxed on all plastic packaging used.

## Consumer taxes or charges on single-use items

- 4.14 The majority of responses proposed some kind of tax, charge or ban on the retail of single-use items. These are listed in Chapter 3, but items most commonly referenced include:
- single-use cups
  - single-use plastic cutlery
  - single-use plastic takeaway packaging and other tableware
  - single-use plastic sachets for sauce
- 4.15 90,000 responses organised by Greenpeace, particularly advocated charges on single-use cups, and 40,000 responses organised by the Marine Conservation Society call for charges on single-use items such as cutlery, plastic cups and lids, straws and tableware.
- 4.16 The goal of such a policy would be to reduce consumption of these items by encouraging consumers to avoid them and retailers to provide alternatives. As discussed in Chapter 3, some responses suggested a tax on the items' manufacture instead.
- 4.17 Although most responses appeared to treat taxes and charges as interchangeable, there were some respondents with a preference. A few recommended charges that retailers would collect and donate to an environmental cause, while a few recommended a tax generating government revenue.
- 4.18 Many people recommended taxing coffee cups in a "Latte Levy", supporting the recommendations of the Environmental Audit Committee last year but some retailers noted that there was no reason to tax single-use coffee cups without also taxing single-use cups used for other beverages, such as for soft drinks.

## Government response

- 4.19 The government is committed to working with industry and other stakeholders as it examines this proposal in more depth:
- taxes or charges on specific plastic items that are commonly used on-the-go and littered, in order to encourage a reduction in production and use
- 4.20 The government recognises that retailers and brands are concerned about coherence between this work and PRN reform. We also recognise the need to consider the cumulative impact of these policies and proposed regulations around bans, sale restrictions or a deposit return scheme, as well as the impact of different interventions across the UK. Government departments will continue to work closely together, and with the devolved administrations, to develop a coherent approach to tackling the plastic problem.

# Chapter 5

## Consumption

5.1 This section asked about consumer behaviours related to the use of single-use plastic. Questions were aimed at consumers, but we received responses to these questions from other parties as well – particularly from retailers.

Question 13 – What factors influence consumers' choices related to single-use items?

Question 14 – What are the barriers to consumers choosing alternatives to single-use plastic items, and how responsive would consumers be to price changes?

Question 15 – In what way, and to what extent, do the decisions of producers and retailers influence consumer choice?

Question 16 - In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?

### Product features

5.2 Features that were identified as being significant for consumer choices on single-use items are:

- consumer enjoyment of appearance and feel
- brand recognition
- availability
- avoidability, since many products can't be bought without packaging
- ease of use
- cost
- environmental concerns, which were thought by some respondents to be an increasingly important factor

### Consumer choice

5.3 Many responses from individual consumers suggested that it is very hard to avoid plastic packaging. People identified availability as a key determinant of consumer behaviour and we received many examples of consumers' willingness to change behaviour when alternatives are available. However, it was suggested that better environmental decisions are contingent on these choices being made available. Contrary to this, retailers and brands said that consumer demand is a direct determinant of the types of products and packaging they offer.

5.4 Some responses suggested that any alternatives must be convenient for the consumer. For example, it was suggested that consumers would only carry around reusables if it is easy to do so, and will only use non-plastic materials if they can do so conveniently.

- 5.5 As well as producers and retailers, some responses from private individuals and various other stakeholders noted that local waste collection systems significantly limit the choice that consumers have over disposal, particularly in areas where there is partial recycling collection, such as in areas with blocks of flats.
- 5.6 It was also clear that consumers received mixed messages about the environmental credentials of different materials and products and about how they should behave, but that good communication from retailers can and often does make a difference to consumers' ability to make informed choices about consumption and disposal.

## Consumer responsiveness to price signals

- 5.7 A vast number of responses from all types of stakeholder referred to the plastic bag charge as an example of consumer responsiveness to very small price changes, although some suggested that larger price changes are necessary to overcome consumer preferences for convenience.
- 5.8 A few responses noted that the charge as a proportion of the overall price (rather than the magnitude of the charge) would determine the change in consumer behaviour. They pointed out that a 5p charge on a carrier bag represents the whole cost of that bag to the consumer, whereas items that consumers already pay for are less likely to be as sensitive to price changes.
- 5.9 Many responses suggested that as well as the size of a price difference, the presentation of it can make a significant difference. Many responses that recommended taxes or charges on consumers suggested that the visibility of the price difference to consumers would be an important determinant of behaviour change.
- 5.10 Several responses referred to the idea that consumers are more likely to change their behaviour in response to a charge than a discount. One major retail brand has recently completed a trial to test this; with the findings suggesting a much larger consumer response to charges than to discounts.

## Balancing the burden on consumers

- 5.11 Many respondents said that taxes or charges on consumers wouldn't be fair unless consumers have a choice.
- 5.12 Many responses from private individuals recommended taxes or charges on consumers at the point of purchase for a range of single-use plastics. A petition from 38 Degrees, signed by 241,950 members of the public also recommended a visible tax on consumption. The specific items recommended for consumption taxes are discussed in Chapter 4.
- 5.13 On the other hand, other responses from private individuals recommended that the costs of taxation should be borne by producers and retailers, not by consumers. Many responses from producers and retailers noted that the cost of taxes further up the supply chain would eventually be passed on to consumers.

## Government response

5.14 As indicated in section 4, the government intends to explore this proposal in more depth:

- taxes or charges on specific plastic items that are commonly used on-the-go and littered, in order to encourage a reduction in production and use



# Chapter 6

## Disposal

6.1 This section asked about the disposal of waste by businesses, local authorities and consumers, including the collection, sorting and treatment of waste. Questions were aimed at waste management firms, local authorities, recyclers and other waste treatment firms, but responses to these questions were received from other parties as well.

**Question 17 - What are the barriers to the collection of single-use plastics and more environmentally friendly methods of waste treatment, including barriers to any existing technologies?**

**Question 18 - In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?**

### Contamination of recyclable material

6.2 Contamination was identified as a key barrier to increasing recycling. This can come in multiple forms, but the main two are contamination of recyclable materials by non-recyclable materials and contamination of dry materials by food waste. There was debate over whether collection systems should focus on segregating materials at source for collection or collecting a mixed recycling stream for further sorting (co-mingled).

6.3 Linked to this, a number of respondents highlighted the low levels of separate food waste collection in England. They suggested that increasing this might help tackle contamination of recycling and enable wider use of biodegradable or compostable plastics while also encouraging investment in more innovative waste treatment infrastructure.

### Consumer behaviour

6.4 Another barrier to greater levels of recycling highlighted by respondents was consumer attitudes and confusion which stem from inconsistencies in waste collection systems, both kerbside and on-the-go, in addition to complexity in labelling. Some respondents claimed that consumer knowledge was a larger issue than contamination, though the two are closely linked.

6.5 Litter was also identified as a significant problem and financial burden for local authorities, as well as being a general disamenity of public places. There was also a suggestion to place an environmental tax on the sale of cigarettes and chewing gum which are currently heavily littered, with some of the revenues ring-fenced for clearing up litter.

## Underinvestment in recycling capacity

- 6.6 A further barrier, previously discussed in Chapter 3, which was repeatedly raised, was a perceived lack of recycling infrastructure in the UK. Respondents stated that this is something that has been recently exposed by the decision by China to ban the imports of low grade plastic and paper for reprocessing, creating a capacity issue in the UK. Several reasons were given for the suggested underinvestment in recycling capacity.
- 6.7 It was suggested that the inclusion of waste exported for recycling in UK statistics used to measure performance against targets further discourages investment in recycling capacity, and some suggested that in some cases, exported material is not always recycled. Furthermore, several respondents, especially recyclers, suggested that PRNs and their equivalent notes for exports, PERNs, being valued the same actually encouraged the export of waste for recycling. There were some calls for the taxation of exporting waste for recycling in order to support domestic recycling.
- 6.8 Some responses suggested that the majority of waste treatment and disposal contracts agreed by Local Authorities lock them in to providing a minimum tonnage of waste, and so they are prevented from moving to more innovative and environmentally friendly forms of waste treatment.
- 6.9 There were suggestions to provide tax relief for a number of positive behaviours, such as investment in recycling facilities.

## Demand for recycled material

- 6.10 A majority of respondents to this section highlighted the lack of end markets for recycled plastic material, or a lack of requirement to use recycled content, as one of the main barriers to increased investment in recycling infrastructure.
- 6.11 Respondents across the supply chain mentioned the complexity in material or polymer type used in single-use plastic products and highlighted the difficulty in sorting these materials, which in many cases have little end value. Specific examples of these include multi-layer or composite polymer films, such as those used in crisp packets, and black plastic, which are difficult to recognise in recycling centres.
- 6.12 A number of respondents suggested a tax to modify the economic value of using virgin or recycled polymers, thereby increasing demand for recycled plastic material, and encouraging the waste industry to expand capacity for recycling.

## Driving waste towards treatment higher up the waste hierarchy

- 6.13 Certain respondents suggested that the uptake of incineration as a form of residual waste treatment was a key barrier to driving waste up the waste hierarchy. A few respondents said that weight-based recycling targets and weight-based gate fees are a limited incentive when applied to lightweight plastic materials.
- 6.14 Respondents from across the supply chain have suggested a tax on the incineration of waste. This could be done based on input tonnages or the

material composition of waste, or using some form of emissions metric. However, there was recognition that this might impact certain sectors, such as cement kilns who currently substitute conventional fossil fuel with residual waste and tyres.

6.15 It was also suggested that the government could provide a lower rate of Landfill Tax on organic waste. Others suggested that the government set out Landfill Tax rates further into the future in order to provide greater certainty which in turn would encourage investment and innovation.

6.16 There was some opposition to the use of any taxation at this stage from those concerned that the burden would fall on Local Authorities.

## Government response

6.17 The government is committed to working with industry and other stakeholders as it examines this proposal in more depth:

- using tax to ensure that the right incentives are in place to encourage greater recycling of waste that is currently incinerated

# Chapter 7

## Other responses to the call for evidence

- 7.1 Several hundred people sent emails that were generally supportive of government action, without giving specific recommendations. A handful of people sent emails that opposed all government intervention in this area.
- 7.2 Many other responses included recommendations that fall outside the scope of the call for evidence, which have been summarised here.
- 7.3 Several hundred people stated that they would like the government to encourage brands and retailers to reduce their packaging.
- 7.4 A lot of responses recommended a deposit return scheme for beverage containers.
- 7.5 As mentioned previously in the document, the vast majority of responses from organisations advocated reform of the packaging waste regulations in some form or other. There was general support for ongoing work being done on this reform, to recover more of the costs of managing packaging waste from producers and to improve transparency and effectiveness of spending. There were mixed views about the format of a reformed PRN system, with some recommending modulated fees according to the kinds of polymers or packaging used, the level of recycled plastic content and the recyclability of the final product. There were also divergent views about how it should be governed and how fees should be set, while the priorities for spending ranged from more innovative recycling and public education campaigns, to local authority waste costs and compliance costs.
- 7.6 A few hundred responses recommended increased and more consistent local authority recycling collections.
- 7.7 Several hundred people advocated improving consumer knowledge with better labelling or public information campaigns.
- 7.8 Other suggestions for regulatory intervention include enforcing the industry-led Operation Clean Sweep to reduce the leakage of plastic pellets from manufacturers into the natural environment, as well as encouraging the fitting of sand filters in waste water treatment to filter out plastic fibres from synthetic clothes.
- 7.9 Many people suggested bans or sale restrictions on a variety of single-use items, including plastic-stemmed cotton buds, straws and coffee stirrers as well as many others.

## Government response:

- 7.10 The government is developing a new strategy on resources and waste that looks ahead at opportunities outside the EU. This will set out the detail of how the government will meet the ambitions for resources and waste that are set out in the Clean Growth Strategy, Industrial Strategy and the 25 Year Environment Plan.
- 7.11 The aim of the strategy will be to make the UK a world leader in resource efficiency and resource productivity, and increase competitiveness. It will set out how the government will work towards our ambitions of doubling resource productivity and zero avoidable waste by 2050, maximising the value we extract from our resources and minimising waste and the associated negative environmental impacts.
- 7.12 The strategy will be published this year, as will a consultation on the reform of the packaging waste regulations and a deposit return scheme for beverage containers.

# Chapter 8

## Next Steps

- 8.1 The large number of responses that the government has received has provided us with a valuable evidence base to inform policy decisions. The government has received a wide range of ideas and recommendations. Over the coming months, the government plans to explore the following proposals in more depth:
- using tax to shift demand towards recycled plastic inputs
  - using tax to encourage items to be designed in a way that is easier to recycle
  - taxes or charges on specific plastic items that are commonly used on-the-go and littered, in order to encourage a reduction in production and use
  - using tax to ensure that the right incentives are in place to encourage greater recycling of waste that is currently incinerated
- 8.2 The government has committed to investing to develop new, greener, products and processes funded from some of the revenues that are raised.
- 8.3 At Budget 2018, the Chancellor will announce the policies that the government will take forward. Where necessary, more detailed consultation on the design and implementation of policies will follow the Budget.

# Annex A

## List of respondents

360 environment  
A Plastic Planet  
Abergele Town Council  
Ace UK  
Anaerobic Digestion and Bioresources Association  
Addmaster  
Alpa UK Ltd  
Alupro  
Amcor  
Amey  
Anglian Water Services  
Aquapak  
Arc21  
Asda  
Association of Accounting Technicians  
Association of Convenience Stores  
Aston Manors Ciders  
Automatic Vending Association  
Axion Group  
Ball Beverage Packaging Europe  
Bath and North East Somerset Council  
Baxi Heating UK  
Bio-Based and Biodegradable Industries Association  
Benders Coffee Cups  
Bericap  
Biffa  
Bio Ladies Network  
Biocare  
Bockatech  
Boots  
BPF Recycling Group  
BPIF Cartons  
Braiform  
Brecon Town Council Environment Committee  
Brighter Tomorrow  
BRITA  
British and Irish Portable Battery Association  
British Beer and Pub Association  
British Generic Manufacturers Association

British Plastics Federation  
British Retail Consortium  
British Soft Drinks Association  
British Specialist Nutrition Association (BSNA)  
British Tyre Manufacturers Association  
British Woodworking Federation  
Britvic  
Bunzl UK & Ireland  
Campaign to Protect Rural England  
Canal and Rivers Trust  
Cawston Press  
Chartered Institution of Wastes Management  
Coca Cola  
Community R4C  
Company Chemists Association  
Confederation of Paper Industries  
Construction Products Association  
Consumer Futures Unit (CAB Scotland)  
Co-op Group  
Cornish Plastic Pollution Coalition  
Cory Riverside Energy  
Costa Coffee  
Council for Responsible Nutrition  
Coveris  
Coveris Rigid (Chester-le-Street and Stanley)  
Dairy UK  
Danone  
Dart  
Deliveroo  
Devon County Council  
Devon Wildlife Trust  
DS Smith  
East Sussex Councils  
Eastern Inshore Fisheries and Conservation Authority  
Ecosurety  
Ellen MacArthur Foundation  
Envirocomms  
Environment Agency  
Environmental Association for Universities & Colleges  
Environmental Industries Commission  
Environmental Packaging Solutions  
Environmental Services Association  
Eunomia  
European Recycling Platform  
Fauna & Flora International  
Food & Drink Federation  
Fidra  
Foodservice Packaging Association  
Forterra



Friends of the Earth  
Futamura  
Greater London Authority  
Green Alliance  
Greenpeace UK, Environmental Investigation Agency, The Marine  
Conservation Society, the Campaign to Protect Rural England & Surfers  
Against Sewage (joint submission)  
Hampshire County Council  
Health Foods Manufacturers Association  
Heart of London Business Alliance  
Highland Spring Group  
Huhtamaki  
Human Fertilisation & Embryology Authority  
Iceland  
Industry Council for Packaging & the Environment  
Innocent Drinks  
Innovia Films Ltd.  
Inovyn  
Institute of Chartered Accountants in England and Wales  
Institute of Chartered Accountants of Scotland  
Just Eat  
Keep Britain Tidy  
Keep Northern Ireland Beautiful  
Keep Scotland Beautiful  
Klockner Pentaplast  
KM Packaging  
Lanes Health - Jakemans  
London Environment Directors' Network  
Leicestershire County Council  
Local Authority Recycling Committee  
Local Authority Support Resource London  
Local Government Association  
London Assembly Environment Committee  
London Borough of Sutton  
London Waste & Recycling Board  
LR Suntory  
Luton Borough Council  
Mars UK  
Mars Wrigley Confectionary UK  
McDonalds  
Merseyside Recycling and Waste Authority  
Metal Packaging Manufacturers Association  
Methodist Homes for the Aged  
Mineral Products Association  
Muller  
Naked Ideas  
Nappy Alliance  
National Farmers Union  
National Trust

Natural Hydration Council  
National Association of Waste Disposal Officers  
Neal's Yard Remedies  
Nestle  
NHS Scotland  
Nipak & Scotpak  
North London Waste Authority  
Nottinghamshire Joint Waste Management Committee  
Novamont  
Nupik-Flo UK Ltd  
Ocado  
On-Pack Recycling Label  
P & G  
Pack2Go  
Packaged in Itself  
Paper Cup Alliance  
Paper Cup Recycling and Recovery Group  
Pennine-Pack  
PepsiCo  
Phillip Morris  
Plastic Oceans  
Plastipak  
Podpak  
Potato Processors Association  
Pro Carton  
Professional Publishers Association  
Proprietary Association of Great Britain  
Provision Trade Federation  
Rapid Action Packaging  
Recoup  
Recycling Technologies  
ReNew ELP  
Renewable Energy Association  
Retail Mailing Solutions  
RPC  
Scottish Water  
Sustainable Development Unit (NHSI)  
Seda UK  
Serco  
Sharpak  
Sky  
Somerset Waste Partnership  
South Tyne and Wear Waste Management Partnership  
Starbucks UK  
Suez  
Sunbranding Solutions  
Surfers Against Sewage  
Surrey Waste Partnership  
Sustainable Restaurant Association

Symphony Environmental Ltd.  
TCL Packaging  
Tech UK  
Tesco  
Textiles Services Association  
Cosmetic Toiletry & Perfumery Association  
Independent Packaging Environment and Safety Forum  
Packaging Federation  
The Whent  
TIPA  
Tobacco Manufacturers Association  
Transcend Packaging  
Two Sides  
UK Hospitality  
UK Seafood Industry Alliance  
Ulster Wildlife  
United Utilities  
Unpackaged Innovation  
Urology Trade Association  
Valpak  
Vegware  
Velocys  
Veolia  
Viridor  
Wales Environment Link  
Waste Disposal Authority of Cumbria  
Welsh Local Government Association  
West London Waste Authority  
West Sussex Councils  
Western Riverside Waste Authority  
Whale and Dolphin Conservation  
Wildlife and Countryside Link  
Wood Mackenzie Chemicals  
Waste & Resources Action Programme  
Wrapex  
World Wildlife Foundation  
Zilch  
Zulu Packaging

The government also received responses from around 162,000 individuals who responded in a private capacity.

**HM Treasury contacts**

This document can be downloaded from  
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