Tackling the plastic problem
Using the tax system or charges to address single-use plastic waste

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Correction: Page 16, Chart 3.A

Text currently reads:

Source: http://www.wrap.org.uk/content/prn-prices

Text should read:

Source: http://www.letsrecycle.com

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## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>2</td>
</tr>
<tr>
<td>Chapter 1 Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Chapter 2 Defining and assessing single-use plastics</td>
<td>8</td>
</tr>
<tr>
<td>Chapter 3 The life cycle of single-use plastics</td>
<td>10</td>
</tr>
<tr>
<td>Annex A Existing economic incentives for waste</td>
<td>15</td>
</tr>
</tbody>
</table>
Foreword by the Chancellor of the Exchequer

From coffee cups to takeaway boxes, the UK produces millions of tonnes of single-use plastic waste a year, much of which does not get recycled and instead will be littered, sent to landfill or incinerated. Single-use plastics that have been used for only a few seconds can last centuries in the natural environment. We are all too familiar with the eyesore of litter across our landscapes and we are starting to learn more about the damage it can do to wildlife and delicate ecosystems. When we hear of sea-birds on the Scottish coast choking on the waste that we produce, or see the global scale of the problem on the BBC’s Blue Planet, it strikes at the very heart of our values of conservation.

This government wants to be the first generation to leave the environment in a better state than we found it. Britain can be proud of the fact that it has led the world in climate change agreements and in protecting the ocean. Earlier this year, the Prime Minister set out the government’s plan to eliminate avoidable plastic waste by 2042 in the landmark 25 Year Environment Plan, and the government’s ban on plastic microbeads in cosmetics products has just came into force. Now we must take bold action to become a world leader in tackling the scourge of single-use plastic littering our streets, countryside and coastline.

But we cannot do this alone. That is why we are calling on all areas of society, from industry and green groups, to local government and the public, to work with us to fulfil our ambition of moving to a greener economy. By assembling the first serious and comprehensive evidence base on this issue, this call for evidence will enable us to examine how changes to the tax system or the introduction of new charges could change the behaviour of companies and consumers to become more sustainable.

This move to a greener economy will not only be about changes in consumption, but also about innovation. Developing new, greener products and improving our ability to recycle existing ones will be a vital part of this work.

Let us be clear – this process is not about placing unnecessary new burdens on business, but about ensuring the right incentives are in place to encourage sustainable behaviours and drive technological progress, which in turn will create new jobs and prosperity. Britain’s businesses and universities are already rising to this challenge and we want the UK to lead the world in this area.

This is why we want to hear from industry, public services, consumers, local authorities, environmental experts and all those who are interested in this issue. The better our evidence, the better our policy can be. This is an opportunity to think creatively and constructively about the barriers to change, and I would like to
encourage all those who are interested to engage closely with us so that we can tackle this challenge together.

Philip Hammond

Chancellor of the Exchequer
Chapter 1
Introduction

Background

1.1 In January, the Prime Minister launched the 25 Year Environment Plan, outlining the government’s new ambitions for protecting the environment. The plan sets out steps to tackle a wide range of environmental issues, including plastic waste and the impact it has on the marine environment. The Prime Minister announced that the government has pledged to eradicate all avoidable plastic waste by the end of 2042 and will publish a Resources and Waste Strategy later this year.

1.2 A key element of the government’s plan to eliminate avoidable plastic waste is to examine how economic incentives can be used to encourage more sustainable behaviour. It is in that context that Autumn Budget 2017 announced this call for evidence.

1.3 The government has already taken a number of steps to tackle plastic waste and pollution, including a world-leading ban on plastic microbeads in cosmetics, as well as a Litter Strategy that was launched in April 2017. The 5p charge on single-use plastic carrier bags has successfully reduced their use by over 80%. This policy landscape is discussed in more detail below.

The policy landscape

1.4 A number of existing policies use economic incentives to address waste, and in certain cases, plastic waste specifically. The government wants to consider how changes to the tax system or charges could complement these existing interventions.

1.5 Landfill Tax was introduced in 1996, with the aim of reducing the amount of waste going to landfill and incentivising alternative disposal methods. The evidence shows it has been successful in achieving its policy aims. Since 2000, the amount of waste sent to landfill has dropped by over 65% and average household recycling rates have risen from 18% to 44% over the same period.

1.6 The recent introduction of the single-use plastic carrier bag charge has demonstrated that even small economic incentives can change both consumer and retailer behaviour to encourage reuse and the reduction of waste, in this case of around 9 billion bags a year. The 25 Year Environment Plan proposed an extension of the plastic carrier bag charge to small retailers to further reduce unnecessary plastic waste and discourage litter. This has also had the
additional benefit of providing support to good causes, as most of the money raised by retailers through the charge is donated.

1.7 Another economic incentive already in place in the UK is the Packaging Waste Recovery Note (PRN) system, which follows the ‘polluter pays principle’. Through the purchase of PRNs, obligated producers contribute to the cost of recycling a proportion of the packaging they place on the market while also providing revenue for investment in waste reprocessing infrastructure and capacity. The scheme sets minimum recycling targets for each of the six packaging waste materials included in the scheme, one of which is plastic. The 2020 recycling target for plastic packaging waste is 57%. The 25 Year Environment Plan announced that the government will reform the producer responsibility systems to encourage producers to take greater responsibility for the environmental impacts of their products.

1.8 More detail on these existing policies can be found in Annex A to this document.

1.9 The government also established a working group to consider the viability of deposit return schemes (DRS) to reduce littering and increase recycling of drinks containers, including plastic bottles. The working group has reported to ministers on its findings and the government will issue its response in due course. Part of this work involved a separate call for evidence on this subject, so these schemes are out of scope of this exercise.
Purpose of the call for evidence

1.10 This call for evidence will explore how changes to the tax system or charges could be used to reduce the amount of single-use plastics we waste in order to deliver better environmental outcomes, which would be the primary objective of any such intervention. Specifically, the government would like to understand how further economic incentives can be effective in continuing to reduce waste from single-use plastics by reducing unnecessary production, increasing reuse, and improving recycling.

1.11 Alongside this, the government would like to explore how the same economic incentives can drive innovation, for example by stimulating businesses to develop and integrate new technology, or by encouraging growth in the recycling industry by addressing barriers to investment.

1.12 The government will consider all options for using the tax system and charges to address single-use plastic waste and to drive innovation, and will use the evidence gathered from this call to inform that process. The government wants to look broadly across the whole supply chain, from production and retail to consumption and disposal, in order to gain the best possible understanding of the whole landscape before deciding on the best course of action. This will ensure that any action taken is effective and does not introduce unintended consequences.

1.13 Following the announcement at Autumn Budget 2017, the government has engaged with relevant stakeholders to design a call for evidence that would best provide the understanding that will be required. The government wishes to express its gratitude for this engagement so far and hopes to carry this through the duration of the consultation process.

1.14 There are a number of areas of environmental policy that are devolved. As part of this process, the government will engage with the devolved administrations on the role that taxes and charges could play in reducing waste from single-use plastics in Scotland, Wales and Northern Ireland. Please note, in order to aid policy development, relevant responses may be passed on to the devolved administrations, unless respondents request otherwise.

1.15 Below, there are 18 questions about single-use plastics. Chapter 2 asks about defining single-use plastics and assessing the benefits and harms. Chapter 3 outlines the points in the life cycle at which the government could intervene, which are production, retail, consumption and discarding. There are questions about the nature of these stages and about the impact of potential interventions. Respondents may wish to focus on the stage of the life cycle which most affects them, but the government welcomes responses to any questions which respondents choose to answer.

Next Steps

1.16 The deadline for responses to this call for evidence is 18 May 2018. If you are interested in attending a meeting to discuss this work or would like to send a representation by email, please email ETTanswers@hmtreasury.gsi.gov.uk. Representations by email are preferable but hard copies can be sent to:
Single-use plastics call for evidence

Energy and Transport Tax team
HM Treasury
1 Horse Guards Road
London
SW1A 2HQ

1.17 Paper copies of this document or copies in Welsh and alternative formats (large print, audio and Braille) may be obtained free of charge from the above address. This document can also be accessed from GOV.UK. All responses will be acknowledged, but it will not be possible to give substantive replies to individual representations.

1.18 When responding please say if you are a business, consultancy, individual or representative body. Please provide demographics of your organisation; in the case of representative bodies, please provide information on the number and nature of people you represent. Where possible, please also provide evidence to support your responses.

1.19 This call for evidence will inform future policy development. The government will set out its intentions once it has considered the responses received.

Confidentiality

1.20 Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with the access to information regimes. These are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 (DPA) and the Environmental Information Regulations 2004.

1.21 If you want the information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals with, amongst other things, obligations of confidence. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on HM Treasury.

1.22 HM Treasury will process your personal data in accordance with the DPA and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.
Chapter 2
Defining and assessing single-use plastics

The definition of single-use plastics

2.1 This call for evidence starts from the view that the term single-use plastics includes 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. Examples of items commonly recognised as single-use plastics include: takeaway boxes, disposable coffee cups, stirrers, plastic wrap, polystyrene packaging and cigarette filters. However, the government wants to understand more about how to define single-use plastic and what items fall into this category, recognising that there may be a spectrum in terms of their effects on the environment and viability of alternatives. Though some of these items (e.g. takeaway boxes, coffee cups) are already covered by the government’s producer responsibility schemes, such as the PRN system mentioned previously, the government would still like to receive evidence on them to gain a full understanding of the issues around single-use plastics.

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

Assessing single-use plastics

2.2 Plastic is a remarkable material with enormous benefits. It is durable, light, cheap and versatile, and has made huge technical innovation possible. Plastic has made many consumer products more affordable, and has made it possible to reduce the weight of aeroplanes and vehicles, which reduces fuel use. Single-use plastics can also be very useful, for example in low-cost hygienic medical plastics. Plastic packaging can protect goods from damage and extend the shelf life of food. This can significantly reduce waste, including food waste.

2.3 However, the durability of plastic also presents significant challenges. When littered, it can last centuries in the natural environment, where wildlife can become entangled in plastic or ingest small pieces of it. This damages delicate ecosystems, such as the Arctic, which is where the majority of UK marine
plastic pollution ends up\(^1\). Plastic litter blights UK countryside and waterways, and is a major threat to wildlife as well as fish stocks in the English Channel. Litter in towns and cities is dominated by single-use items containing plastic such as cigarette butts and food and drink-related debris. In addition, plastics can eventually degrade into micro-plastics, which enter the food chain.

2.4 Plastics can be a highly effective carrier of pollutants, giving them the ability to act as a vehicle for trace metals and other chemicals in the natural environment. This has the potential to further harm the wildlife consuming them, and might also affect water and soil conditions more than litter made up of inert materials.

2.5 The government believes that incentives are not currently aligned to reduce unnecessary production of single-use plastics, nor to encourage re-use and the effective recovery and recycling of plastic. While some plastic products can easily be recycled, some polymer types and the majority of products made of mixed plastics are not financially worthwhile to collect and reprocess.

2.6 This means that a large proportion of plastic is disposed of at landfill or via incineration. The value of this wasted material is estimated to be significant, although there is limited data in this specific area. The environmental costs of disposing of unrecycled plastic are also significant.

Questions:
2. What are the most important problems associated with single-use plastics, and why?
   - Which polymer types are particularly problematic?
   - Which items are particularly problematic?

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?
   - Should the government encourage biodegradability in plastics, and if so, how?

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

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Chapter 3
The life cycle of single-use plastics

3.1 As discussed above, the government is seeking evidence across the whole life cycle of single-use plastics. As such, the questions below have been separated into sections, each one representing a specific point in the life cycle.

3.2 The questions themselves have been asked in such a way as to provide the government with a better understanding of the drivers behind the behaviours at each stage, what interventions could be brought in to affect behaviour and the effect that an intervention will have on the life cycle. They also aim to guide respondents to their relevant sections, though the government welcomes responses to all questions respondents choose to address.

Production

3.3 This section concentrates on both the initial stage of plastics production, during which petroleum or other naturally occurring substances are processed into polymers, and the conversion of polymers into single-use plastic products and packaging.

3.4 Plastics also return to this stage of manufacturing when they are chemically reprocessed, but the capacity to easily reprocess plastic varies significantly between different polymer types. The degradation in value means that some polymer types can only be reprocessed once, while others are not economically viable for reprocessing at all. The government is seeking responses that reflect this variation by breaking down evidence by polymer, where possible.

3.5 Plastic production is a large manufacturing sector with significant exports. The high added value nature of production makes it a particularly valuable industry, as does its role in the supply chains of countless other industries. Material converters supply many different industries, but this call for evidence focuses on those parts of the industry that manufacture single-use plastic products and packaging.

3.6 There is considerable public interest in reducing packaging on consumer products. Material converters who work in packaging have done much to address this issue by “lightweighting”, in which they develop ways to reduce the weight and size of packaging. As well as reducing waste, this also cuts resource and energy use in production and transport. However, achieving this often involves changing materials and processes which can sometimes make them harder to recycle, such as when plastic and cardboard are bonded together, or when plastic films are used instead of more recyclable plastics.
3.7 Parts of industry have taken significant steps to reduce their environmental footprint by lightweighting, and also by tackling plastic pellets leaking into the environment. The government is interested in responses that show how economic instruments could further reduce plastic waste, either by changing consumption and production patterns or by supporting businesses to continue to innovate their processes. As seen with the reformulation of sugary drinks in direct response to the Soft Drinks Industry Levy, economic instruments can successfully encourage production practices that reduce the negative impacts of products which are sold.

3.8 The government also has incentives in place which encourage behaviour change, such as improved energy efficiency in the case of Enhanced Capital Allowances for energy saving equipment. As well as exploring new taxes or charges, the government would like to explore whether policies such as these could be used to encourage more sustainable behaviour.

Questions:

5. What factors influence the choice of polymer, or combination of polymers, in the production of single-use items?
   - Can you provide data on the production and use of single-use plastic items you produce?
   - What proportion of the polymers you use or sell do you import and export, respectively?
   - What proportion of the single-use plastics you produce do you export?

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

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?

8. In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?
   - What interventions should be implemented, and why?
   - What behavioural effect would these interventions have, both on this stage in the supply chain, and more broadly?
   - What would be the impact on your business?

Retail

3.9 This section concentrates on the retail part of the supply chain where single-use plastics are sold to the final consumer. As such, this section will also include single-use plastic used for the packaging and transport of products, though as mentioned previously, much of this waste material will already be covered by the government’s producer responsibility schemes.
3.10 Brands and retailers will place a premium on products and packaging which are more resilient during production and transportation, and ones which are attractive to consumers compared to those of their competitors. But they are also likely to do this at minimum cost. The government would like to understand what factors influence product design and how these compare to each other, and what barriers hinder or prevent them from using alternatives or more recycled content.

3.11 The government hopes to gather evidence at this stage on the choices of single-use plastics by retailers who are responsible for manufacturing their own products or are involved in the sale of products produced by third parties. The government also hopes to receive evidence in this section from brands who sell their products through retailers.

Questions:
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?
   - In what way, and to what extent, do the decisions of producers and consumers influence the choice of single-use plastics you use in the items you sell?

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

11. Have you taken any steps to address the environmental impact of the single-use plastic items you sell, including their end-of-life?
   - Can you provide evidence of the effect these actions have had?

12. In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?
   - What interventions should be implemented, and why?
   - What behavioural effect would these interventions have, both on this stage in the supply chain, and more broadly?
   - What would be the impact on your business?

Consumption

3.12 This section concentrates on the part of the supply chain where the final consumption of single-use plastics occurs. The government envisages that this will include the purchase of single-use items for business use, for example: single-use plastic office supplies and single-use plastic cutlery in canteens. The government is also seeking to understand how, and the extent to which, single-use plastics are used within the public sector, for example by local authorities.

3.13 Consumers are influenced by the design and marketing of products. However, the government hopes to gather evidence on the extent to which consumers have a choice over the single-use plastics they purchase and the impact this has on their production. The government would also like to understand the
barriers faced by consumers in choosing better alternatives, and how receptive consumers might be to economic incentives.

3.14 As seen with the single-use plastic carrier bag charge, consumer behaviour can be greatly influenced by government policy and retailers can respond to this in the design of bags which are available to consumers. The ability of these bags to be re-used has directly resulted in the success of the charge. The government would therefore like to explore whether there are alternatives to other single-use plastic items which mean they would be suitable for a similar charge.

3.15 For example, the Environmental Audit Committee has suggested introducing a charge on disposable coffee cups, referred to as the “latte levy”. The government will consider this alongside other options, and is therefore seeking views on this idea. As mentioned previously, the government is already considering the evidence for a deposit return scheme (DRS) on drinks containers, so these types of schemes are not in scope for this call for evidence.

Questions:
13. What factors influence consumers’ choices related to single-use plastic items?
   • How can the government encourage the re-use of these items?

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

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

16. In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?
   • What interventions should be implemented, and why?
   • What behavioural effect would these interventions have, both on this stage in the supply chain, and more broadly?
   • What would be the impact on consumers?
   • Are there specific items the government should be focussing on?

Discarding and waste treatment

3.16 As previously highlighted, there is a clear problem with the way single-use plastics are discarded, and where this occurs. The government hopes to gain a better understanding of the reasons for this, for example consumer behaviour, infrastructure and product design. It hopes to gather evidence on the end-of-life treatment of single-use plastics, and how this is influenced by both the design of the items and by behaviour.

3.17 The government also seeks to understand the barriers to better forms of waste treatment. In particular, the government hopes to receive evidence in this section from local authorities and the waste management sector. An example of government policy influencing behaviour at this stage is Landfill Tax, which
has resulted in a considerable reduction in the amount of waste sent to landfill.

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?

18. In your opinion, how can the tax system or charges play a role in delivering better environmental outcomes at this stage?
   - What interventions should be implemented, and why?
   - What behavioural effect would these interventions have, both on this stage in the supply chain, and more broadly?
   - What would be the impact on Local Authorities and business?
Annex A

Existing economic incentives for waste

Producer responsibility

A.1 Producer responsibility schemes are one way in which the government requires producers to account for a proportion of the environmental costs of the products they place on the market when they become waste. The government’s current producer responsibility schemes cover packaging waste, waste electricals and electronics, waste batteries and end-of-life vehicles. The UK legislation for these stems from EU directives.

A.2 For packaging waste, the Producer Responsibility Obligations (Packaging Waste) Regulations set out minimum recycling targets for UK businesses in the packaging supply chain. These targets cover the main materials that make up packaging – plastic, glass, paper, wood, steel and aluminium.

A.3 All UK companies that have both a turnover of more than £2 million a year and that handled 50 tonnes or more of packaging or packaging materials in the previous year are classed as ‘obligated producers’.

A.4 In order to comply with the regulations, obligated producers must demonstrate a minimum level of recovery and recycling of packaging waste being undertaken on their behalf by obtaining a Packaging Waste Recovery Note (PRN). PRNs are issued by reprocessors or recyclers when a tonne of relevant packaging material has been recovered or is exported for reprocessing. If the packaging waste is exported for reprocessing or recycling, a Packaging Waste Export Recovery Note (PERN) must be obtained. In this way, obligated packaging producers take legal responsibility for a proportion of the cost of dealing with the packaging they place on the market at the end of its life.

A.5 The tonnage of packaging waste that a producer has to recover or recycle is calculated based on:

- The activity they performed in relation to that packaging (e.g. manufacture, retail, etc.)
- Differential recycling targets for each of the six types of packaging materials listed in the regulations.

A.6 The demand for PRNs (or PERNs) from obligated producers creates a market, where reprocessors/exporters sell them to obligated producers. For each of these, the cost should reflect the additional cost of diverting material from
landfill or incineration to recycling that is not covered by existing economic drivers. A very low PRN level would indicate that little additional incentive is required to deliver the level of recycling set by statutory targets. Chart 3.A below shows the cost of a PRN for each of the six materials between June 2016 and June 2017.

A.7 Income derived from the sale of evidence notes is used by reprocessors and exporters to finance the recovery and recycling of waste packaging. Therefore revenue from the PRN system does not come to the government: revenue from the PRNs flows directly from packaging producers to reprocessors and then back through the supply chain.

Chart 3.A: UK PRN prices (£ per tonne), 2017

![PRN prices - 2017](http://www.letsrecycle.com)

Source: [http://www.letsrecycle.com](http://www.letsrecycle.com)

**Landfill Tax**

A.8 In 1996, the government introduced a tax on all waste disposed of by way of landfill. The aim of this was to reduce the amount of waste being disposed of at landfill and to promote alternative, more environmentally friendly methods. There are two rates of Landfill Tax – a standard rate and a lower rate for material deemed to be inert.

A.9 The rates of Landfill Tax have been increased over time to encourage waste disposal towards more environmentally friendly alternatives, which it has done successfully. Since 2000, the amount of waste going to landfill has fallen by over 65% and it has contributed to a threefold increase in recycling.

A.10 Autumn Budget 2017 announced that the scope of Landfill Tax would be extended to include illegal waste sites, in order to deter this behaviour and tackle waste crime in the sector.
Carrier bag charge

A.11 In 2015, the government brought in legislation which requires large retailers in England to charge 5p for all single-use plastic carrier bags. This was done to reduce the use of single-use plastic carrier bags, and the litter they can cause, by encouraging people to reuse bags.

A.12 Whether or not a shop must charge for bags depends on the size of the company that runs the shop, not on the size of an individual branch. This applies to retailers who have 250 or more employees. The 25 Year Environment Plan, published this January, announced that this would be extended by a voluntary scheme to small and medium businesses.

A.13 The single-use plastic carrier bag charge has made a big difference. Since the government introduced the scheme, the number of bags used has gone down by more than 80% in England. This means that more than nine billion fewer plastic bags have been used.

A.14 This scheme is not a tax and the money from the charge does not go to the government. The government expects retailers to give the proceeds of the scheme to good causes, but it is for them to choose what to do, and which causes to support. Data shows that over the first 18 months since the charge was introduced, at least £95 million was donated to a variety of good causes covering the arts, education, environment, health, heritage and sports as well as local causes chosen by customers or staff.
HM Treasury contacts

This document can be downloaded from www.gov.uk

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