

Assessing the Economic Impacts of a Possible Ban on Single-use Plastic Carrier Bags

Final Report to Defra

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Executive Summary

Eunomia Research & Consulting Ltd (Eunomia) was commissioned by Defra to explore the possible impacts of a ban on the consumption of single-use plastic bags in England.

The focus of the study was on a ban on the types of single-use carrier bag that are currently within the scope of the charge.

E.1.0 Key Findings

The key findings can be summarised as follows:

- Current situation and trends
 - There is currently a move away from the use of SUPBs, with 5 of the 7 major supermarkets having already phased out, or announced the forthcoming phase out, of SUPBs, with PE Bags for Life typically offered in their place, usually priced at circa 10p.
 - It is suggested by some stakeholders that part of the rationale for moving away from SUPBs is to avoid payment of the charge, and of the associated reporting requirements. In the absence of a requirement to report the number of Bags for Life supplied, it is difficult to verify the claims by retailers that a certain proportion of the income from charging for Bags for Life does indeed go to charitable causes.
 - Indeed it is reported that Sainsbury's 5p Bag for Life has been deliberately designed to be just outside the boundary for inclusion in the charge.
 - It is considered likely that this trend away from SUPBs will continue among the larger retailers currently required to charge for SUPBs.
- Stakeholder perspectives on a ban on SUPBs
 - Representatives of smaller retailers are looking forward to being covered by the requirement to charge – as they have been calling for since prior to the implementation of the charge in 2015. As such, there is concern that if a ban is implemented, they will be 'back to square one', in that unless they are required to charge for alternatives (i.e. PE Bags for Life), they will feel compelled to provide these for free.
 - Given that Bags for Life are more expensive to purchase than SUPBs, the smaller retailers fear they may be worse off than they are at present.
 - One stakeholder noted that while it would reduce NGO income, a ban would likely be welcome if it further reduced the amount of SUPBs used and also littered. However, he also felt that reporting requirements should be amended, to require the retailers to publish data on Bags for Life sales, and to encourage them to donate proceeds to charity.

- It was requested that an exemption be put in place for the compostable bags that are provided in Co-operative stores where they are suitable for the type of food waste treatment operated by the local authority.
- Stakeholders also noted that at present, there is a lack of public awareness that Bags for Life can be replaced for free by the relevant retailer. It is felt that retailers do little to encourage greater awareness of this fact, so that they can maximise sales of new Bags for Life.
- Likely switches under a ban
 - The characteristics of SUPBs such as their light weight, low price, and the fact that the material is waterproof, are most closely shared with PE Bags for Life.
 - Given the existence of a charge since 2015, it is likely that members of the public have already built up a stock of woven polypropylene (PP), jute and cotton bags, and it was felt that the effect of a ban would not necessarily lead to a switch to such bags
 - Accordingly, the switch modelled in this study is to PE Bags for Life.
- Effects of a Ban
 - If a ban were implemented in 2020/21, there would be a reduction in consumption of SUPBs in that year (relative to the baseline) of 4.265 billion.
 - There would be an increase in consumption of bags for life in 2020/21, taking account of the relative number of reuse cycles, of 602 million.
 - The 4.3 billion SUPBs avoided in 2020/21, equates to a reduction in weight of 31,989 tonnes
 - The additional 602 million Bags for Life would lead to an increase of 21,557 tonnes of consumption of these types of bags.
 - The overall effect would be a reduction in material throughput of 10,432 tonnes.
 - While Bags for Life cost more than SUPBs, for smaller retailers, who aren't currently expected to charge for any types of bag, the increase in the cost of providing an individual Bag for Life rather than a SUPB should be more than offset by the reduced frequency of having to provide them (if the number of reuse cycles observed in Wales holds constant). However, if they are not required to charge for Bags for Life, and feel compelled to give them away for free, consumption may be relatively similar to that of SUPBs.
 - On the basis that 50% of Bags for Life bags are produced in the UK, and none of the SUPBs are domestically produced, the associated net increase in UK employment would be 162 FTEs.

The pros and cons of banning SUPBs, in the absence of any other mitigating policy measures, are presented in Table 1.

Table 1: Pros and Cons of a Ban on SUPBs

| Pros | Cons |
|--|---|
| A further reduction in the number of SUPBs consumed and littered. | SMEs would be ‘back to square one’ or worse, feeling compelled to provide Bags for Life for free. |
| A ban would codify the trend of phasing out SUPBs already observed among the largest retailers. | The revenue generated through the charge for charitable causes would be lost. |
| As Bags for Life are manufactured domestically while SUPBs are imported, a ban on SUPBs would result in a net increase in UK employment. | There is a possibility that some retailers may simply switch to bags just above the thickness boundary at which the ban is set. |

E.2.0 Recommendations

It appears that when it comes to plastic bags, there is a case to be argued for moving away from the trend towards lightweighting that is often observed in respect of packaging items, and instead to focus on the use of bags that are thicker, and thus more durable. In order to extend the lifetimes of bags and encourage repeated use, it would seem necessary to incentivise a move towards thicker, more durable bags.

However, merely disincentivising the use of lightweight bags in favour of heavier, more durable bags does not ensure the highest possible levels of repeated use and eventual capture for recycling of those heavier bags.

From an environmental perspective, it would be preferable for the more durable bags for life to be used as many times as possible, and to then be recycled at the end of life.

There is, however, a potential tension between providing incentives for the return of bags to retailers, and encouraging high levels of reuse. Furthermore, high levels of return of Bags for Life accompanied by the requirement for retailers to replace returned bags free of charge can mean that retailer costs are not covered.

This challenge could potentially be met by incorporating a deposit return element into the payment mechanism, with a partial refund. This could work as follows:¹

¹ The level of the charge and the partial refund would need some consideration. In the case where a ban on SUPBs were not implemented, but a charge on SUPBs were applied to all retailers, it would be

- 1) The consumer is charged 30 pence up front for a bag for life
- 2) The consumer then receives 10 pence back when they return the bag for life for replacement/recycling when it is worn out;
- 3) This might typically be used when replacing the old bag with a new one, meaning that the effect is for a replacement bag to be charged at 20 pence.

This would introduce a financial disincentive for using a new bag before the old one is worn out, while maintaining a positive (but smaller) incentive to return the used bag for recycling in order to obtain a partial refund, which would be viewed as a discount on the new bag(s).

To the consumer this could be portrayed as 'bring your old bag back and you will receive a discount on a new one', but in the legislation, it might be sensible to instead treat it as a partial refund of the initial charge. This would then allow for situations where consumers might return several used bags at one time, and either not purchase a new one, or purchase fewer than have been returned.

important to explore the potential effects of setting the Bag for Life initial charge at different levels relative to the SUPB charge.

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1.0 Introduction

Eunomia Research & Consulting Ltd (Eunomia) was commissioned by Defra to explore the possible impacts of a ban on the consumption of single-use plastic bags in England.

The focus of the study was on a ban on the types of single-use carrier bag that are currently within the scope of the charge.

In Sections 1.1 through to 1.3 we briefly introduce the relevant definitions, record keeping requirements under the charge, and the reporting requirements, as these are of relevance to the behaviours witnessed to date (and proposed) by some of the larger retailers, and to the potential supporting measures that might accompany a ban.

The remainder of the report is laid out as follows:

- Section 2.0 considers current consumption and likely future trends;
- Section 3.0 presents the changes in consumption and associated impacts under a ban;
- Section 4.0 notes some stakeholder perspectives on a potential ban; and
- Section 5.0 considers the appropriate supporting measures that might be beneficial alongside a ban on SUPBs, or indeed alongside an extension of the current charge to all retailers.

1.1 Definitions

Defra has indicated that the plastic bags that might be banned are those currently subject to a charge. Schedule 2 of the Single Use Carrier Bags Charges (England) Order 2015 defines a single use carrier bag (SUPB) as:²

An unused bag made of lightweight plastic material with handles other than an excluded bag

Schedule 2 further identifies bags that are *excluded* from the charge. Of greatest relevance to this study, the following are excluded:

- Unwrapped food bag – a bag intended to be used solely to contain wholly or partly unwrapped food for human or animal consumption
- Uncooked meat food bag – a bag intended to be used solely to contain uncooked fish or fish products, meat or meat products or poultry products
- Returnable multiple reuse bag – a bag which is sold for an amount not less than the minimum amount specified in article 3 (5 pence at present) and which:

² Available at http://www.legislation.gov.uk/uksi/2015/776/pdfs/ukxi_20150776_en.pdf

- Is intended to be returnable to the seller from whom it was purchased to be replaced free of charge;
- Is made from material the thickness of which is not less than 50 microns but not greater than 70 microns; and
- Disregarding the width of any gussets, or the height of any handles extending above the main body of the bag:
 - Has a width and height greater (in each case) than 404mm; and
 - Has a width or height greater (in either case) than 439mm

1.2 Record Keeping

Schedule 3 of the Single Use Carrier Bags Charges (England) Order 2015 outlines the record keeping requirements upon sellers. Sellers are required to keep a record in relation to each reporting year if required to charge, and the record must include the following information:³

- The number of SUPBs supplied by the seller during the reporting year; and
- In relation to those bags:
 - The gross proceeds of the charge
 - The amount of VAT received by way of the gross proceeds of the charge
 - The amount of any reasonable costs
 - The apportionment between any different kinds of reasonable costs
 - The net proceeds of the charge
 - The uses to which the net proceeds of the charge have been put

1.3 Reporting Requirements

Retailers who fall within the scope of the carrier bag charge are required to register and report their single-use carrier bag data. They are not required to report on carrier bag use if:

- they do not distribute bags within the definition of single-use plastic carrier bags
- they only distribute paper bags
- they only sell bags for life, that is, bags which are thicker than 70 microns (these are exempt from the charge)
- they are small and medium-sized businesses with less than 250 full-time equivalent employees (as they are not required to charge for bags)

³ Available at http://www.legislation.gov.uk/uksi/2015/776/pdfs/uksi_20150776_en.pdf

2.0 Current Consumption and Future Trends

Since 5 October 2015, large retailers (those with 250 or more employees) in England have been required to charge 5p for all single use plastic carrier bags. Data is made available on SUPB consumption for these retailers, but not for SMEs. In the sections below we describe:

- The changes that have taken place to date, and those planned, by the seven major supermarkets (Section 2.1);
- Changes made and/or proposed by a selection of other large retailers (Section 2.2);
- The conceivable changes that may have occurred in terms of the number of SUPBs provided by SMEs (Section 2.3);
- What can be discerned about consumer behaviour to date in respect of bag reuse, recycling and littering (Section 2.4); and
- The anticipated trend in consumption of SUPBs (in the absence of any further policy interventions) out to 2020/21, which is the point at which we assume the ban would come into place (Section 2.5)

2.1 Seven Major Supermarkets

Five of the seven major supermarkets have already phased out, or are planning to phase out SUPBs, as follows:

- ASDA – Phasing out during 2018
- Morrisons – Phasing out from March 2019
- Sainsbury's – Already phased out in store
- Tesco – Already phased out in store
- Waitrose – Will be removed from stores by March 2019

Marks & Spencer and the Co-operative have not announced any plans to phase out SUPBs.

Table 2 shows data published by Defra in 2018 which outlines the number of SUPBs issued by the 7 largest supermarkets since the carrier bag charge was introduced.⁴

Table 2: Number of SUPBs issued by 7 Major Retailers (million)

| Retailer | 2015/16* | 2016/17 | 2017/18 | Decrease 16/17 - 17/18 | % Decrease 16/17 - 17/18 |
|---------------------------------|--------------|--------------|--------------|---------------------------|-----------------------------|
| Tesco | 639.4 | 637.2 | 332.7 | 304.4 | 48% |
| Asda | 124.8 | 165.8 | 193.0 | -27.2 | -16% |
| Morrison | 189.6 | 191.5 | 183.3 | 8.2 | 4% |
| Co-op | 124.8 | 125.9 | 120.6 | 5.3 | 4% |
| M&S | 91.4 | 92.5 | 92.3 | 0.2 | 0% |
| Waitrose | 61.8 | 62.8 | 62.7 | 0.1 | 0% |
| Sainsbury's | 50.2 | 51.8 | 53.9 | -2.2 | -4% |
| 7 Major Retailers | 1,281 | 1,327 | 1,038 | 288 | 22% |
| Defra Reported Total | 2,104 | 2,116 | 1,754 | 361 | 17% |

Note: Data is for financial year (April - April)
*** Data is an estimate based on 6 months of data for the latter half of the financial year**

Further information about action to date, and future plans announced by the seven major supermarkets are described in the following sections.

⁴ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

2.1.1 ASDA

ASDA reported that between April 2017 and April 2018 it issued 193 million SUPBs, 27 million more than in the same period in 2016/2017.^{5,6} It is the second highest issuer of SUPBs after Tesco. Its bags for life, which will be replaced for free when worn out, are sold for 9p each although it is not clear from the ASDA website where the funds from these sales – or the sales of SUPBs – are going in England.^{7,8}

Asda announced in February 2018 that it will be phasing out SUPBs during 2018 in favour of bags for life.⁹ It also stated that it is planning on testing carrier bags made from alternative materials to plastics, such as potato starch.

2.1.2 Marks and Spencer

Marks and Spencer reported that between April 2017 and April 2018 it issued 92 million SUPBs, 1 million fewer than reported in the same period the year before.¹⁰

Marks and Spencer states that half the money made from the SUPB charges goes to local charities and community causes, and half goes to national charities.¹¹ As an alternative to the SUPBs, Marks and Spencer offers a 10p 'Bag for life' which it states is made from 100% recycled material. Marks and Spencer replaces this free of charge when it wears out, in addition to recycling any old bags.¹²

⁵ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁶ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁷ Money Saving Expert (2018) Asda to axe 5p plastic bags, available at <https://www.moneysavingexpert.com/news/shopping/2018/02/asda-to-scrap-5p-plastic-bags>

⁸ ASDA (2018) Carrier Bags, available at <https://sustainability.asda.com/carrier-bags>

⁹ Asda (2018) Plastic unwrapped: Our Pledge to Use Less and Recycle More, available at https://corporate.asda.com/media-library/document/plastic-unwrapped/_proxyDocument?id=00000161-6552-dcfd-a37b-fff368bf0000

¹⁰ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

¹¹ M&S (2018) Why does M&S charge for carrier bags? available at <http://help.marksandspencer.com/support/company-website/carrier-bags>

¹² M&S (2018) Why does M&S charge for carrier bags? available at <http://help.marksandspencer.com/support/company-website/carrier-bags>

2.1.3 Morrisons

Morrisons reported that between April 2017 and April 2018 it issued 183 million SUPBs, 8 million fewer than in the same period in 2017/2018 (a 4% decrease).¹³

Morrisons claims that currently all net proceeds generated from the charge on its SUPBs are used to support good causes, with the Morrisons Foundation being the main beneficiary.¹⁴ The retailer has offered a bag for life in the past, but now no longer offers new sales of these bags. However, customers can still exchange their existing worn out bags for life for a new one.

This year, Morrisons stated that it is planning on phasing out its 5p SUPBs, beginning in March 2019. It explained that it had trialled a ban in certain stores and, after receiving a positive response from customers, decided that “now is the right time to stop offering [SUPBs] altogether”.¹⁵

In June 2018 it was reported that Morrisons will be using brown paper bags for loose fruit and vegetables, replacing the plastic alternatives (i.e. very thin plastic bags without handles).¹⁶

2.1.4 Sainsbury's

Sainsbury's has banned SUPBs altogether in its stores, offering reusable 'bags for life' charged at 5p or 10p instead. The bags for life are made of 100% recycled content and, once worn, stores replace them in addition to recycling any old bags.¹⁷ However, the retailer's cheapest 'bag for life (charged at 5p) is only slightly thicker and larger than the SUPBs that it replaces.

Defra figures show that for online purchases, Sainsbury's issued 54 million SUPBs between April 2017 and April 2018, 2 million higher than in the same period a year prior.¹⁸ These online purchases of SUPBs are charged at a flat rate of 40p per delivery

¹³ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

¹⁴ <https://www.morrisons-corporate.com/cr/our-carrier-bag-savings-in-the-uk/>

¹⁵ I News (2018) available at <https://inews.co.uk/news/exclusive-morrisons-joins-asda-tesco-sainsburys-scraping-5p-plastic-bags/>

¹⁶ Telegraph (2018) Morrisons brings back paper bags for groceries to cut out plastic, available at <https://www.telegraph.co.uk/business/2018/06/24/morrisons-brings-back-paper-bags-groceries-cut-plastic/>

¹⁷ Sainsbury's (2018) Bags of help for good causes – and the planet, available at <https://www.about.sainsburys.co.uk/making-a-difference/our-values/our-stories/2017/bags-of-help-for-good-causes-and-the-planet>

¹⁸ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

regardless of the number used; however, there is an option allowing customers to request that their groceries be delivered without bags.^{19,20}

Sainsbury's states that all profits from the carrier bag charge, including all profits from the 5p and 10p reusable bags, go to good causes.²¹

2.1.5 Tesco

Tesco phased out SUPBs in stores at the end of August 2017, and since then has offered only thicker bags for life at a cost of 10p.²² The Tesco website states that:²³

In-store – We encourage our customers to bring their own recyclable bags. Single use carrier bags have been replaced by a new Bag for Life, priced at 10p and made from 94% recyclable plastic. Customers can have their Bag for Life replaced for free if broken or damaged – just bring it in to your nearest store.

Defra figures show that Tesco issued 333 million SUPBs between April 2017 and April 2018. This was a 48% decrease compared to the same period a year prior, but still left the retailer as the biggest issuer of SUPBs in 2017 (as reported to Defra).²⁴ This is partially due to Tesco only phasing the bags out mid-way throughout this reporting year.

2.1.6 The Co-operative Group

The Co-operative website shows that the retailer still issues SUPBs, charged at 5p each, but encourages customers to use their alternatives.²⁵ The Co-operative offers a bag for life, priced at 10p, and the retailer offers to replace them for free in store when they are worn out. It also has a 'fold away bag' available for £1, made from 100% recycled PET (polyethylene terephthalate) and which can be recycled at textile recycling banks, as well

¹⁹ Sainsbury's (2018) Sainsburys plastics bags, available at https://www.about.sainsburys.co.uk/~media/Files/S/Sainsburys/documents/our-stories/sainsburys_plastic_bags.pdf

²⁰ Sainsbury's (2018) Carrier bag charge, available at <https://help.sainsburys.co.uk/help/delivery-collection/carrier-bag-charge>

²¹ Sainsbury's (2018) Bags of help for good causes – and the planet, available at <https://www.about.sainsburys.co.uk/making-a-difference/our-values/our-stories/2017/bags-of-help-for-good-causes-and-the-planet>

²² Guardian (2017) available at Tesco to end sales of 5p carrier bags, 7 August 2017, available at <https://www.theguardian.com/environment/2017/aug/07/tesco-to-end-sales-of-5p-carrier-bags>, and Tesco (2018) Carrier bag charging and how it affects me?, available at <https://www.tesco.com/carrier-bags/>

²³ Tesco (2018) Carrier bag charging and how it affects me?, available at <https://www.tesco.com/carrier-bags/>

²⁴ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

²⁵ The cooperative (2018) Carrier Bags, available at <https://food.coop.co.uk/food-ethics/carrier-bags/>

as ‘large shopper’ and ‘small shopper’ bags, both available for £1 and made from recycled PP (polypropylene), which can also be recycled at textile recycling banks.²⁶

The Co-operative states that money raised through 5p shopping bag sales ‘helps to fund local projects’, but does not specify how much. A news release from 2014 suggests that the Co-operative is using money raised from all bag sales (i.e. reusable and SUP) for good causes.²⁷

Looking in more detail, it appears that the situation varies between the Co-operative stores. In 2014, the Co-operative started issuing ‘compostable carriers’ in around 400 of its stores, at 6p each.²⁸ Individual stores have had their own initiatives, such as in Lincolnshire where the Co-operative gave out foldable reusable bags for free at shows and events in return for people ‘pledging’ to use fewer plastic bags in the future.²⁹

Defra figures show that The Co-operative issued 121 million SUPBs between April 2017 and April 2018. This was a 5% decrease compared with the same period in 2016/2017.³⁰

The Co-operative was one of only two retailers (the other being Aldi) reporting on the number of reusable bags it issued. Defra’s data shows that the retailer issued 20 million reusable bags in 2016-17 and 20 million again in the same period the following year. Reusable bags therefore represented around 14% of the Co-operatives bags issued in 2017/18.³¹

2.1.7 Waitrose

Waitrose offers SUPBs in store at 5p, or online at a flat rate of 30p (collect instore) or 40p (home delivery) per shop/delivery – the same flat rate as Sainsbury’s in the case of home delivery.

²⁶ The cooperative (2018) Carrier Bags, available at <https://food.coop.co.uk/food-ethics/carrier-bags/>

²⁷ The cooperative (2014) The Co-operative Food Gets Carried Away With The Carrier Bag Charge, available at <https://www.co-operative.coop/media/news-releases/the-co-operative-food-gets-carried-away-with-the-carrier-bag-charge>

²⁸ The cooperative (2014) The Co-operative is first to offer compostable carriers in hundreds of stores, available at <https://www.co-operative.coop/media/news-releases/the-co-operative-is-first-to-offer-compostable-carriers-in-hundreds-of-stores>

²⁹ Coop News (2018) Lincolnshire Co-op makes new drive to cut carrier bag use, available at <https://www.thenews.coop/129087/topic/environment/lincolnshire-co-op-makes-new-drive-cut-carrier-bag-use/>

³⁰ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

³¹ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

Waitrose states that all money raised from the sale of carrier bags goes into a community and environmental fund.³² Waitrose offers 10p ‘bags for life’ instore, and the retailer was one of the first to offer these alternatives back in 1997.³³

Defra figures show that Waitrose issued 63 million SUPBs between April 2017 and April 2018. This was the same as in the previous year (2016/17).³⁴

Waitrose has announced that it will remove all 5p plastic bags from its shops by March 2019.³⁵

2.2 Other Large Retailers

A number of other larger retailers have made announcements of interventions relating to SUPBs.

2.2.1 Ocado

Defra figures showed a 10% increase in the number of plastic bags issued by Ocado from April 2016 to April 2017 compared to the same period in 2017/18.³⁶ It appears that all bags issued by Ocado, an online supermarket company, are single use. A report from 2015 shows that there was originally some anger when Ocado first enforced the 5p charge for its carriers, as it did not offer an option for customers to opt out.³⁷ The same year Ocado launched its ‘Bag Recycle Bonus’ scheme which offers to pay customers 5p for every SUPB that they return for recycling, including both Ocado’s own SUPBs and those from other stores.³⁸

³² Waitrose (2018) Carrier bag charges, available at https://www.waitrose.com/content/waitrose/en/home/inspiration/about_waitrose/the_waitrose_way/cARRIER-BAG-CHARGES.html

³³ Self sufficientish (2018) available at <https://www.selfsufficientish.com/waitrose.htm>

³⁴ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

³⁵ Waitrose (2018) Carrier bag charges, available at https://www.waitrose.com/content/waitrose/en/home/inspiration/about_waitrose/the_waitrose_way/cARRIER-BAG-CHARGES.html

³⁶ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

³⁷ Independent (2015) Ocado angers customers by charging 5p for bags without offering opt out <https://www.independent.co.uk/news/uk/home-news/ocado-angers-customers-by-charging-5p-for-bags-without-offering-opt-out-a6674476.html>

³⁸ Ocado (2015) Ocado launches Bag Recycle Bonus Scheme, available at http://www.ocadogroup.com/news-and-media/news-centre/2015/20150930_bag_recycle_bonus.aspx

2.2.2 Iceland

Defra figures show that Iceland issued 101 million SUPBs between April 2017 and April 2018.³⁹ Iceland's SUPBs are charged at 5p, with all money raised going to good causes.⁴⁰ The retailer's website states that *"Re-usable carrier bags have long been available and heavily promoted in all our stores"*.

This year, Iceland announced that it would be trialling replacing SUPBs with paper bags.⁴¹ The retailer states that the trial will run for eight weeks and will give customers a choice between a paper carrier bag and a version made from post-consumer plastic waste, with both priced at 10p.⁴²

2.2.3 ALDI

ALDI has pledged to phase out all SUPBs by the end of 2018 instead offering bags for life costing 9p, which will be made from back-of-store plastic waste.⁴³ According to a FoodBev 2018 article, ALDI has charged for single-use bags since its first store opened in 1990, and has been making its reusable carrier bags from its back of store waste since 2017.⁴⁴ Defra figures show a 12% increase between 2016/17 and 2017/18, with ALDI issuing 75 million SUPBs in the latter period.⁴⁵

ALDI is one of two of the major retailers to report on numbers of reusable bags issued (along with the Co-operative). The Defra data shows that it issued just under 4 million reusable bags in 2016/17, and the same number the following year. This represented 5% of the total number of bags issued by the retailer.⁴⁶

³⁹ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁴⁰ Iceland (2018) Reducing Waste, available at <http://about.iceland.co.uk/our-power-for-good/reducing-waste/>

⁴¹ Business Green (2018) Iceland launches trial of paper carrier bags, available at <https://www.businessgreen.com/bg/news/3035185/iceland-launches-trial-of-paper-carrier-bags>

⁴² Business Green (2018) Iceland launches trial of paper carrier bags, available at <https://www.businessgreen.com/bg/news/3035185/iceland-launches-trial-of-paper-carrier-bags>

⁴³ Aldi (2018) Product packaging and waste, available at <https://www.aldi.co.uk/about-aldi/corporate-responsibility/resources-for-our-products/product-packaging-and-waste>

⁴⁴ FoodBev (2018) ALDI to cut waste with move away from single se plastic bags, available at <https://www.foodbev.com/news/aldi-aims-cut-waste-move-away-single-use-plastic-bags/>

⁴⁵ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁴⁶ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

2.2.4 Lidl

According to Defra data, Lidl demonstrated a 93% decrease in SUPBs issued in 2017/18 compared with 2016/17, down from 53 million to 4 million.⁴⁷ In March this year, Lidl announced that it is to phase out its 5p SUPBs completely by the end of 2018, instead offering its 9p reusable bag.^{48,49} Last year, concerns were raised that Lidl would not be giving the money raised from its 9p bags to charity.⁵⁰

2.2.5 John Lewis

Defra data shows that John Lewis issued 11.3 million SUPBs in 2016/17 compared with 10.7 million the following year.⁵¹ We have been unable to find any data regarding the retailer's use of reusable alternatives.

⁴⁷ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁴⁸ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

⁴⁹ Money Saving Expert (2018) Lidl to scrap 5p plastic bags, available at <https://www.moneysavingexpert.com/news/2018/03/lidl-to-scrap-5p-plastic-bags/>

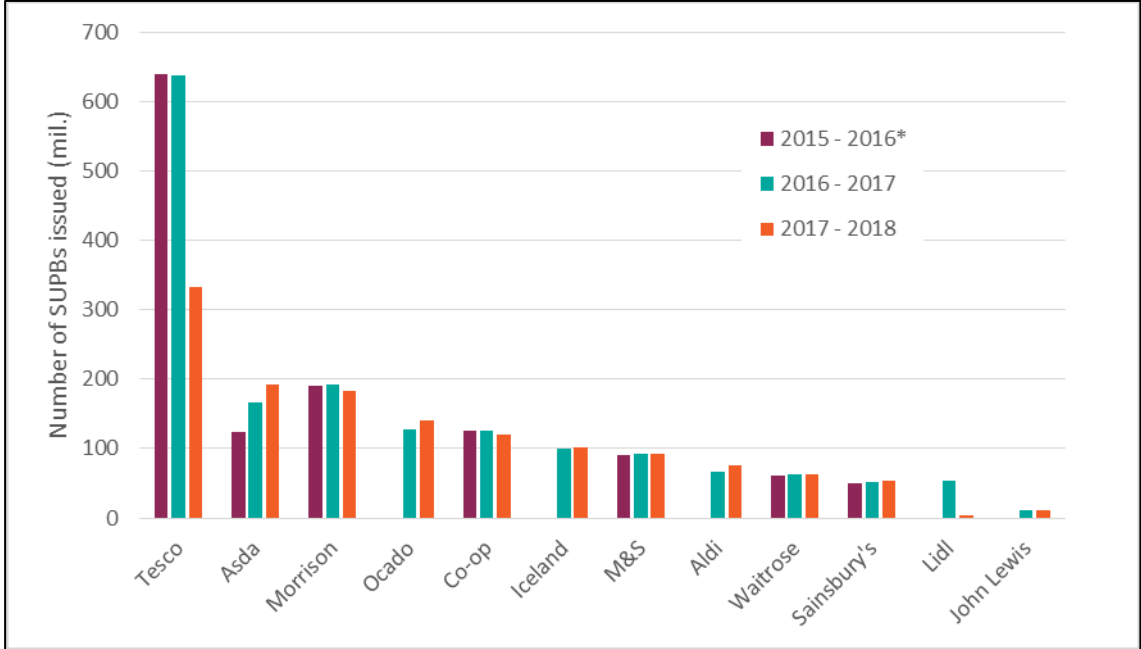
⁵⁰ Telegraph (2017) Lidl bans 5p single use plastic bags but plans to make millions, available at <https://www.telegraph.co.uk/news/2016/09/28/lidl-bans-5p-single-use-plastic-bags-but-plans-to-make-millions/>

⁵¹ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

2.2.6 Summary

The number of SUPBs issued by the large retailers described above in recent years is shown in Figure 1.

Figure 1: Number of SUPBs Issued by a Selection of Large Retailers



Note: Data is for financial year (April - April)

* Data is an estimate based on 6 months of data for the latter half of the financial year

2.3 SMEs

Small and medium enterprises (SMEs) are currently exempt from the 5p SUPB charge legislation.⁵² This is due to a government policy to avoid imposing regulatory requirements on SMEs where possible.⁵³ As they are not required to report on the number of SUPBs they issue, this figure can only be estimated. Defra’s 2014 Impact Assessment on a plastic carrier bags charge estimated that over 3.4 billion single-use plastic bags are supplied annually by small and medium-sized enterprises (SMEs).⁵⁴

⁵² Defra (2018) Carrier bags: why there’s a charge, available at <https://www.gov.uk/government/publications/single-use-plastic-carrier-bags-why-were-introducing-the-charge/carrier-bags-why-theres-a-5p-charge>

⁵³ European Commission (2013) Minimising regulatory burden for SMEs, available at http://ec.europa.eu/smart-regulation/refit/simplification/sme/sme_en.htm

⁵⁴ Defra (2014) Plastic Carrier Bags Charge Impact Assessment, available online at <http://ec.europa.eu/growth/tools-databases/tris/en/index.cfm/search/?trisaction=search.detail&year=2014&num=638&iLang=EN>

Since the time of this estimate, one might reasonably expect that the number of SUPBs issued by SMEs may have increased. Reasons for this could be a result of economic growth (leading to increased buying and an increased need for plastic bags). Alternatively, it could be a result of the fact that SUPBs are given away for free in the majority of SMEs, leading to people ‘stocking up’ on SUPBs when they go to a smaller retailer.

On the other hand, there are reasons to suspect that the number of SUPBs given out by SMEs may have gone down since 2014. It would not be unreasonable to imagine that with the increasing use of reusable alternatives, there could have been a change in consumer behaviour, leading to people being more likely to bring reusable bags to SMEs as well as using them in supermarkets.

In September 2018, The Association of Convenience Stores reported that 46% of the 2,420 independent retailers surveyed for the Local Shop Report 2018 now voluntarily charge 5p for the bags they provide.⁵⁵

However, also in 2018, Defra stated that while trade bodies representing 40,000 small retailers have already launched a voluntarily approach to a 5p charge, this accounts for less than one-fifth of England’s estimated 220,000 SMEs.⁵⁶ It appears that, without the requirement to charge being enforced on the SMEs, the majority of these retailers have continued to supply SUPBs for free since the charge was put in place in 2015.

In August 2018, Defra announced that it would consult on plans to extend the SUPB charge to SMEs, as well as it potentially being increased to at least 10p.⁵⁷

2.4 Consumer Behaviour to Date

2.4.1 Re-use of Bags

The Post-implementation review of the Welsh Carrier Bag charge finds that on average, consumers report re-using plastic SUPBs 3.6 times. Thicker plastic ‘Bags for Life’ are reportedly re-used 25.5 times, with canvas/jute/cloth bags being used 43.6 times on average.⁵⁸

⁵⁵ The Association of Convenience Stores (2018), The Local Shop Report 2018, available at https://www.acs.org.uk/sites/default/files/local_shop_report_2018.pdf

⁵⁶ Defra (2018) Plastic bag charge set to be rolled out to all retailers, available at <https://www.gov.uk/government/news/plastic-bag-charge-set-to-be-rolled-out-to-all-retailers>

⁵⁷ Defra (2018) Plastic bag charge set to be rolled out to all retailers, available at <https://www.gov.uk/government/news/plastic-bag-charge-set-to-be-rolled-out-to-all-retailers>

⁵⁸ Welsh Government (2016) Post-Implementation Review of the Single Use Carrier Bag Charge in Wales, March 2016, available at <https://gov.wales/statistics-and-research/post-implementation-review-single-use-carrier-bag-charge-wales/?lang=en>

Single-use plastic bags are assumed to weigh 7.5g, while Bags for Life are assumed to weigh 35.8g. This means that in terms of ‘weight per use’, as shown in Table 3 bags for life use 1.4g per use, while SUPBs use 2.1g per use.

What this means in practice is that every bag for life displaces the use of just over 7 SUPBs.

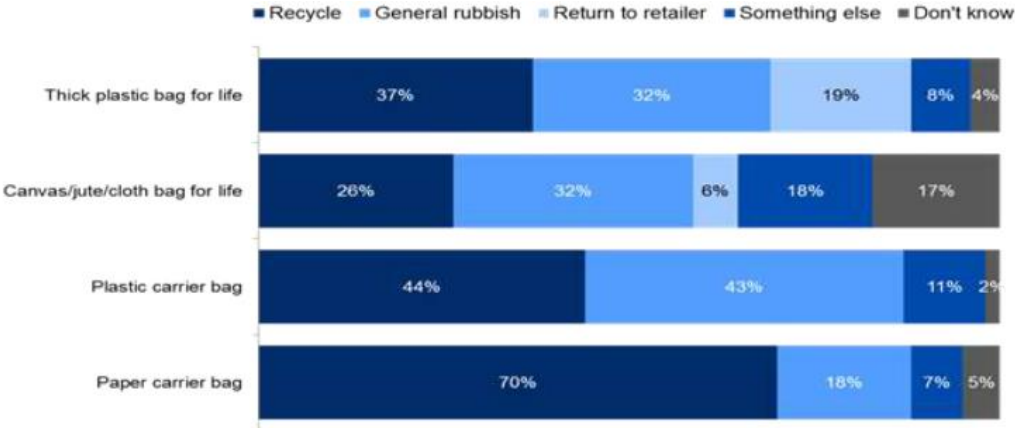
Table 3: Bag Material Weight ‘Per Use’

| Bag Type | Weight (g) | Reuse Cycles | Material weight per use (g) |
|--------------|------------|--------------|-----------------------------|
| SUPB | 7.5 | 3.6 | 2.1 |
| Bag for Life | 35.8g | 25.5 | 1.4 |

2.4.2 Recycling of Bags

The Post-implementation review of the Welsh Carrier Bag charge finds that, as shown in Figure 2, 19% of thick plastic bags for life are returned to retailers, while no plastic carrier bags are returned to retailers. It seems likely that all of those returned to retailers have a good chance of being recycled.

Figure 2: End of Life Fates of Bags in Wales



However, some caution has to be applied in terms of the description of ‘recycle’ for the plastic bags in Figure 2. If this is through household recycling, it seems unlikely that these will actually be recycled, as most local authorities do not accept plastic bags.⁵⁹

⁵⁹ See <http://www.recycleforwales.org.uk/what-to-do-with/carrier-bags-0>; <https://www.recyclenow.com/what-to-do-with/plastic-film>

Accordingly, to maximise the chances of plastic bags being recycled, they should be returned to retailers to be collected in a clean, homogenous stream.

2.4.3 Littering of Plastic Bags

A Welsh study on litter composition from 2017 (i.e. several years after the charge was implemented) assessed both single-use plastic bags and bags for life in terms of their prevalence in the litter stream. The units measured were percentage by weight. Single-use plastic bags were more prevalent in street litter than bags for life, accounting for 1.0% and 0.2% of the weight of litter respectively.⁶⁰

By count, given that bags for life are heavier, the discrepancy will be greater. Thus while by weight, five times as many SUPBs were in the litter stream than Bags for Life, by number, there are 24 times as many SUPBs in the litter stream.

The proportion of bags appearing in related waste streams by weight is shown in Table 4.

Table 4: Prevalence of bags in litter by percentage weight in Wales, 2017

| Waste stream | Single-use plastic bags | Bags for life |
|--------------------------|-------------------------|---------------|
| Street litter | 1.0% | 0.2% |
| Litter bins | 0.8% | 0.4% |
| Recycling-on-the-go bins | 0.4% | 0.3% |

Source: Resource Futures (2017) *Litter composition study - Wales*, Report for WRAP, March 2017

It is possible to estimate a littering rate for plastic bags, combining these figures with the following sources of information:

- Bag consumption in Wales (Table 5)⁶¹
- Average bag weights of 7.5g for single-use plastic bags and 35.8g for plastic lightweight bags-for-life
- Littering tonnages per capita at an average of 3.76kg/capita ground litter, based on data from the UK and Belgium.⁶² For Wales, this gives a litter tonnage of 11,751 t based on the 2017 government population projections.

⁶⁰ Resource Futures (2017) [Litter composition study - Wales](#), Report for WRAP, March 2017

⁶¹ Central scenario for single-use plastic bags and bags-for-life. Warmington, J., Owen, D.N., Mayne, B., Downing, P., Holland, D.M., Poortinga, W., and Whitmarsh, L. (2016) [Post-Implementation Review of the Single Use Carrier Bag Charge in Wales](#), Report for Welsh Government, 2016

⁶² Eunomia Research & Consulting (2018) *Plastics: Reuse, recycling and marine litter – Impact assessment of measures to reduce litter from single use plastics*, Report for DG Environment, 2018, http://ec.europa.eu/environment/waste/pdf/Study_sups.pdf

At a contribution to the weight of litter at 1.2% for all bags, the weight of carrier bags littered in Wales can therefore be estimated at 141 t, which is equal to 6.7% of the total number consumed overall; a rate of 15.4% for single-use plastics bags and 1.8% for bags-for-life.

Table 5: Plastic bag consumption in Wales

| Year | Single-use plastic bags - HDPE | | Bags for life - LDPE | | Total | |
|---------------------------|--------------------------------|-------|----------------------|-------|-------|-------|
| | m | t | m | t | m | t |
| 2011 (pre-charge) | 324 | 2,430 | 21 | 752 | 345 | 3,182 |
| 2015 (latest year) | 102 | 765 | 37 | 1,325 | 139 | 2,090 |

Source: Warmington, J., et al., (2016) Post-Implementation Review of the Single Use Carrier Bag Charge in Wales, Report for Welsh Government.

2.5 Estimated SUPB Consumption to 2020/21

We assume that the ban comes into effect in 2020/21. Accordingly, it is necessary to estimate the number of SUPBs that will be placed on the market in 2020/21 in the absence of any policy intervention.

Figure 3 shows the number of SUPBs issued by retailers from 2015/16 out to 2020/21. Defra’s 2014 Impact Assessment estimated that in 2015/16, 3.4 billion SUPBs were issued by SMEs⁶³. As discussed in Section 2.3, there are several factors that could cause this figure to have either increased or decreased since the implementation of the charge. While some SME retailers are thought to be charging on a voluntary basis, it is not possible to know the full extent of this charging, or indeed how effectively or thoroughly it is applied. Therefore, as we have no definitive evidence to show movement in either direction, we have assumed that this figure has remained constant. This leaves SMEs as the largest current issuers of SUPBs.

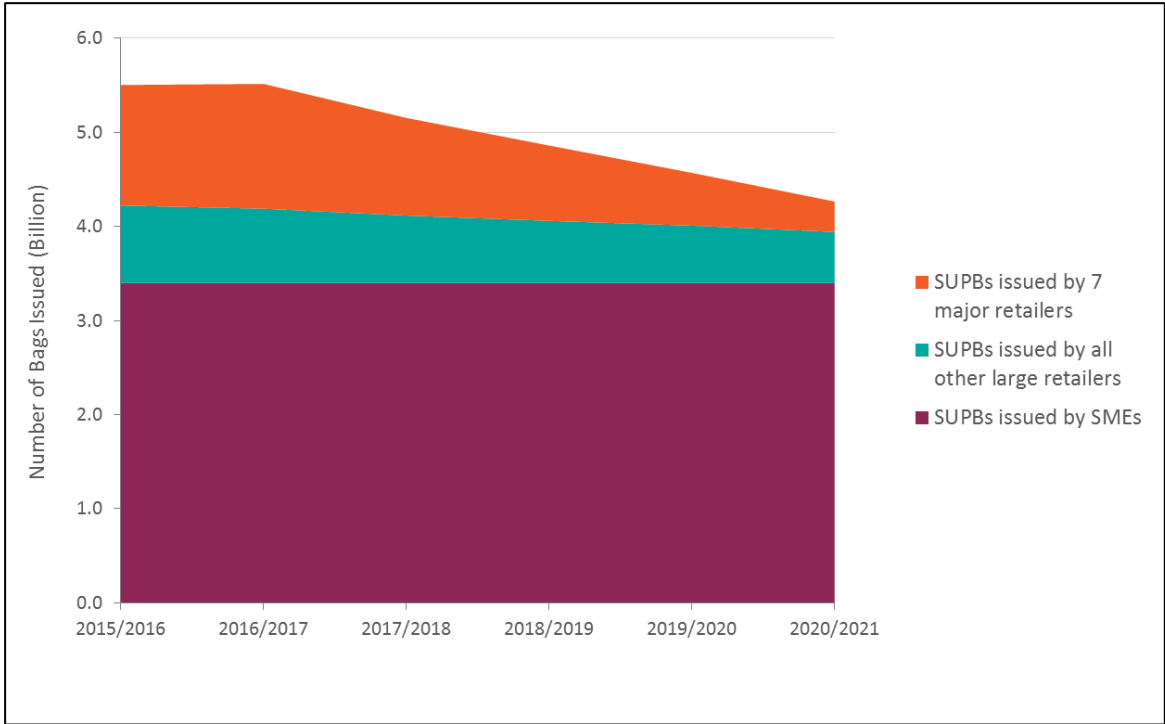
⁶³ Defra (2014) Plastic Carrier Bags Charge Impact Assessment, available online at <http://ec.europa.eu/growth/tools-databases/tris/en/index.cfm/search/?trisaction=search.detail&year=2014&num=638&iLang=EN>

For major supermarkets and other large retailers, data for years prior to 2018/19 was taken from Defra’s published figures.⁶⁴ Whilst 1 billion SUPBs were issued by the 7 major retailers in 2017/2018, we have estimated that this figure will decrease steadily over time to reach 323 million in 2020/2021. This prediction takes into account the various commitments made by these retailers to phase out SUPBs. For all these cases, it was assumed that some SUPBs would still be issued in 2020/21 to account for online sales. We assumed that 7.5% of the number of SUPBs issued in 2017/8 would remain for these retailers, representing a rough representation of online sales.⁶⁵ It was assumed that for the retailers who have, as of yet, made no commitment to phase out SUPBs, the number of SUPBs issued over time will remain constant.

The other large retailers were responsible for issuing 716 million SUPBs in 2017/18. Again taking into account existing commitments to phase out SUPBs – in this case from Aldi and Lidl – we have estimated that this number will decrease to approximately 542 million SUPBs in 2020/21..

Accordingly, it is estimated that in the absence of any policy intervention, a total of 4.265 billion SUPBs will be placed on the market in 2020/21.

Figure 3: Total SUPBs Issued to 2020/21



⁶⁴ Defra (2018) Single-use plastic carrier bags charge data for England, available at <https://data.gov.uk/dataset/682843a8-168c-4056-b6fe-741161a39f60/single-use-plastic-carrier-bags-charge-data-for-england>

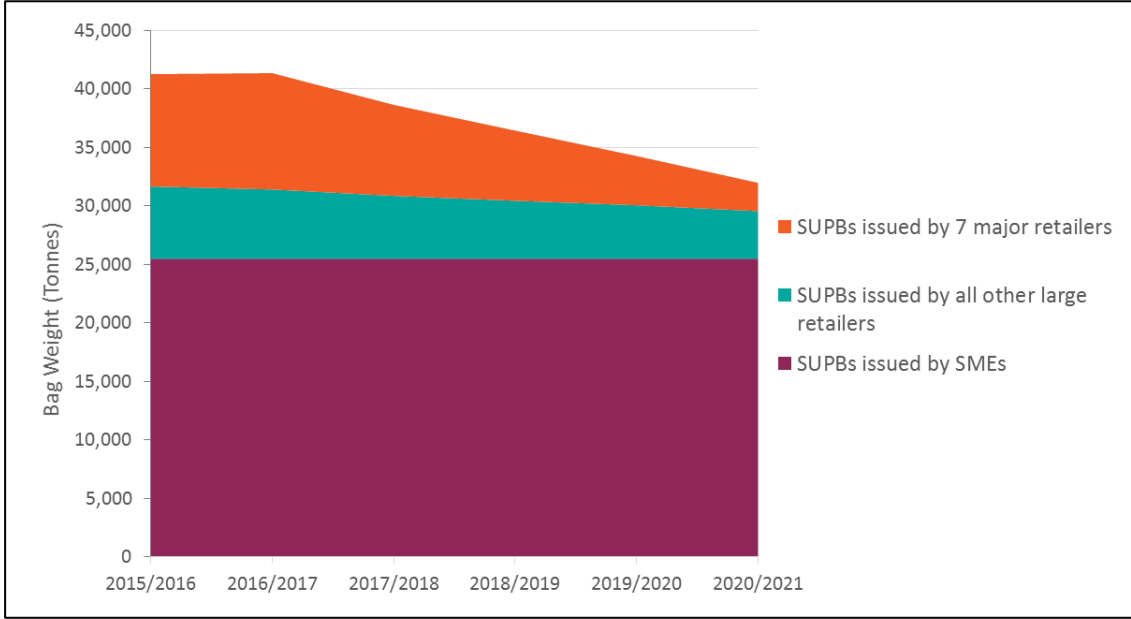
⁶⁵ Statista (2018) available at <https://www.statista.com/topics/3144/online-grocery-shopping-in-the-united-kingdom/>

2.5.1 Weight of Bags issued Over Time

Figure 4 shows the weight of SUPBs issued over time by retailers, on the basis of a SUPB weighing 7.5 grams.

On the basis that 4.265 billion SUPBs will be placed on the market in 2020/21, this equates to a weight of 31,989 tonnes.

Figure 4: Weight of Bags



3.0 Changes in Consumption and Impacts under a Ban

If a ban were implemented in 2020/21, there would be a reduction in consumption of SUPBs (relative to the baseline) of 4.265 billion.

On the assumption that consumers would instead shift to the use of LDPE Bags for Life (of the type currently typically sold for circa 9p to 10p), there would be an increase in consumption of bags for life, taking account of the relative number of reuse cycles, of 602 million.

3.1 Material Consumption

The 4.265 billion SUPBs avoided in 2020/21 equates to a reduction in weight of 31,989 tonnes.

The additional 602 million Bags for Life would lead to an increase of 21,557 tonnes of consumption of these types of bags.

The overall effect would be a reduction in material throughput of 10,432 tonnes. Assuming an average SUPB weight of 7.5 g, this overall material reduction equates to an avoidance of 1.391 billion SUPBs worth of material.

3.2 Costs to Retailers

Single-use plastic bags are estimated to cost circa 1.5 pence to large retailers, and the typical Bags for Life are estimated to cost 6 pence.⁶⁶ Therefore Bags for Life typically cost four times more than SUPBs.

For smaller retailers, the costs increase for both types of bags as they will not have the bulk purchasing power of the largest retailers. Our research has shown that prices of up to 7 pence per SUPB might be charged to smaller retailers.⁶⁷ Data is lacking on Bags for Life for smaller retailers, but if the BFL:SUPB ratio exhibited for supermarkets holds constant for smaller retailers, it could be up to 28 pence per bag (albeit we suspect that this would be an overestimate).

Retailers would therefore make savings on the avoided purchase of SUPBs, but would have to purchase Bags for Life and, in the case of small retailers, unless they are brought within the scope of the charge, they would be compelled to give them away for free.

However, even if the Bags for Life did cost four times the amount that small retailers are currently paying for SUPBs, on the basis that one Bag for Life displaces just over seven SUPBs, there would be a net saving to the retailer (if the number of reuse cycles observed in Wales holds constant).

Of course, this is sensitive to the assumption relating to the reuse rate of Bags for Life. If smaller retailers are not required to charge for Bags for Life, and feel compelled to give them away for free, consumption may be relatively similar to that of SUPBs at present.

3.3 Impacts on Employment

It is reported that SUPBs are typically imported from the Far East, with no UK-based manufacture. However, it is understood that a number of production facilities in the Midlands, takes back-of-store plastic and supplies retailers with Bags for Life. Tesco's Bags for Life are reportedly manufactured by in Germany.⁶⁸ In the absence of any more

⁶⁶ Personal communication with a large retailer

⁶⁷ Review of prices on <https://www.polybags.co.uk>

⁶⁸ Personal communication with a large retailer

detailed data, we assume that half of the Bags for Life are manufactured in the UK, and half are manufactured elsewhere in the EU.

We have not been able to obtain employment intensity data from UK bag producers, and thus apply the same assumption used in work for the European Commission, which is that the number of people employed per tonne of plastic bags produced is 0.015 to assess the impacts.⁶⁹

On the basis of a 21,557 tonne increase in consumption of Bags for Life, this would lead to an increase in employment in the EU of 323 FTEs. On the basis that 50% of such bags are produced in the UK, the associated increase in UK employment would be 162 FTEs.

We assume that there would be no UK job losses due to the reduction in consumption of SUPBs, given that these are all imported. There may potentially be some job losses in distribution (albeit Bags for Life would still require distribution), but we anticipate these would be minimal.

3.4 Litter

A littering rate of 15.4% for single-use plastics bags and 1.8% for bags-for-life was calculated in Section 2.4.3. Applying these figures would suggest that once SUPBs are banned, there will be 10.8 million Bags for Life littered in the course of a year at a total weight of 388 tonnes.

However, against this is the avoided littering of 656 million SUPBs, totalling 4,926 tonnes. It must be cautioned, however, that the littering rate was calculated in Wales, where the charge already covers SME retailers. This means that the littering rate was calculated based on a smaller sample of people who would have paid the charge, and still littered. It may be the case that the actual littering rate of SUPBs in England is lower.

If it were half the calculated rate, at 7.7%, the avoided littering of SUPBs would equate to 328 million SUPBs (2,463 tonnes).

3.5 Recycling of Bags

All things being equal, Bags for Life have a greater chance of being recycled than do SUPBs, as shown in the proportion currently returned to retailers in Section 2.4.2. A shift towards Bags for Life and away from SUPBs is likely to increase the proportion of carrier bags recycled. Section 5.0 describes the ways in which high levels of recycling can best be encouraged, and some of the risks to retailers associated with efforts to increase recycling that may reduce levels of reuse.

⁶⁹ Eunomia (2012) Assistance to the Commission to Complement an Assessment of the Socio-economic Costs and Benefits of Options to Reduce the Use of Single-use Plastic Carrier Bags in the EU, October 2012

4.0 Stakeholder Perspectives

Discussions, either by phone, or face to face, took place with a number of stakeholders in the course of this work, including individual large retailers, trade associations for small retailers, and environmental NGOs.

4.1 Key Responses

From the perspective of the large retailers, and the major supermarkets in particular, it was noted that a ban would simply codify what a number of such retailers are already doing, or are planning to do, i.e. move away from SUPBs entirely.

Smaller retailers, by contrast, were concerned that if a ban were implemented instead of the proposed extension of the charge to include them, they would be back in a situation where the policy mechanism did not support them in recouping the costs of bag provision. With no charge in place, they felt that consumers would expect them to provide bags for free, but in this new scenario it would be the more expensive Bags for Life that they would feel compelled to distribute for free. Therefore, they would actually be worse off than they are at present. Their preference under such a scenario would be for mandatory charging to cover Bags for Life, in order that they should be able to cover their costs, and for there to be a level playing field.

The desirability of bringing Bags for Life within the scope of a charge, and associated reporting, was also noted by some who felt that the motivation of larger retailers that had moved away from SUPBs to date, or were planning to do so, was to:

- Avoid having to report on consumption data;
- Avoid having to donate an equivalent proportion of the proceeds to charity; and
- Avoid the public scrutiny of the amount donated compared to the amount of bags used, due to the lack of data in the public domain

In terms of litter prevention, it was felt that a ban would have a positive impact, as, observationally, SUPBs appear to be more prevalent in the litter stream than Bags for Life. A possible cause of this was suggested as being that Bags for Life feel to be of a much higher quality than SUPBs, and so were something that people would value that bit more.

It was also noted by a number of stakeholders that there is a lack of public awareness that Bags for Life can be replaced for free by the relevant retailer. It is felt that retailers do little to encourage greater awareness of this fact, so that they can maximise sales of new Bags for Life.

5.0 Supporting Measures

It appears that when it comes to plastic bags, there is a case to be argued for moving away from the trend towards lightweighting that is often observed in respect of packaging items, and instead to focus on the use of bags that are thicker, and thus more durable.

In order to extend the lifetimes of bags and encourage repeated use, it would seem necessary to incentivise a move towards thicker, more durable bags. As detailed in Section 2.0 there has already been some success in this regard, with all of the seven largest supermarkets offering a 'bag for life' in some form (although Morrisons has ceased sales of new bags for life and now only replaces old ones). Moreover, both Sainsbury's and Tesco no longer provide SUPBs, while ASDA, Morrisons and Waitrose have announced plans to stop doing so.

By definition, and through the relatively lightweight nature of its construction, a single-use bag is not suited to being used as many times as possible. The SUPB charge is therefore already helping in part to move behaviour towards the use of more durable bags, and the extension of the charge to cover SMEs as well as large retailers will do even more to help. However, merely disincentivising the use of lightweight bags in favour of heavier, more durable bags does not ensure the highest possible levels of repeated use and eventual capture for recycling of those heavier bags.

From an environmental perspective, it would be preferable for the more durable bags for life to be used as many times as possible, and to then be recycled at the end of life.

5.1 Encouraging the Appropriate Behaviour

From a policy design perspective, the question is then: what measures can be put in place to best encourage this ideal scenario?

As shown in the evaluation of the Welsh Carrier Bag Charge, based on a survey of 1,010 consumers living in Wales, Bags for Life are currently reused on average 25.5 times, with 19% returning them to the retailer for recycling. The challenge then is to seek to increase both the number of times that the bags are reused, while also increasing the recycling rate at the end of life.

We turn first to the latter.

5.1.1 Incentivising Carrier Bag Return

There is at present a lack of consumer awareness regarding the fact that many retailers will replace bags for life once they are worn out and no longer usable. This service, which in effect constitutes something like a leasing model of ownership for bags, should be promoted much more vigorously by retailers if the recycling rate is to increase significantly. At present, the messages printed on some bags for life to inform consumers of their ability to get a free replacement seem to be placed in such a way that they are not particularly prominent. For example:

- Tesco 10p Bag for Life: The only message relating to this is tucked away in the gusset at the base of the bag, where, amongst other text, but in a different colour, is the phrase “If this bag breaks we will replace it FREE of charge”.
- Co-op 10p Bag for Life: Again the text is placed in the gusset on the base of the bag, in quite a small font, where after messages about food safety and advice on safe use of the bag, it says: “Remember to take me shopping, and when worn out, we’ll recycle it and replace it for free!”

Sainsbury’s has a more prominent notification – on one side only of their 10p Bag for life, it states “I’m a reusable bag. I’m 100% recycled plastic and when I’m completely worn out, you can take me back to Sainsbury’s and swap me for a shiny new one – for free!” There is also a less prominent version of this message in smaller text on both sides.

On the side of Sainsbury’s 5p Bag for Life there is a moderately prominent message on both sides, albeit in a rather faint colour, stating “When this bag is worn out please return it and we will give you a new one free. We will then recycle your old bag. This bag is made from 100% recycled plastic.”

Greater awareness raising would appear to be required in order to increase the number of bags taken back to store for recycling. Consumers would arguably need to be educated to view their ‘bag for life’ as more of a *service* provided by the retailer, and less of a specific, single bag that can be disposed of in the same way as a single-use one. A leasing service is not the kind of thing that can be disposed of, and if consumers thought of individual bags only as instantiations of a service, it should be clear to them that disposing of individual bags would only forfeit their financial investment in the service.

5.1.2 Cost Implications

However, there are potentially significant cost implications for retailers associated with such a model of bag provision (which is akin to the current system, but with a much higher level of uptake). If all consumers were to pay an upfront charge on a bag for life, and then claim replacement bags indefinitely, there would be no new money coming into the system to cover retailer costs (or to be potentially donated to good causes). Effectively retailers would, over time, be in a position where they are having to give away bags for life for free again if all consumers always brought them back.

Of course this is an extreme scenario, as it’s unlikely that all consumers would always return their bags, but at high rates of return of bags for life, the reduction in new funds coming to retailers would mean that they would not be covering their costs. This would be a significant concern for smaller retailers as they will inevitably have to pay more for their bags for life than larger retailers, who would get a discount due to the larger numbers being purchased.

5.1.3 Effect on Reuse Cycles

There is also a potential tension in that if consumers were made more fully aware that they could obtain a new bag for life if they returned their old bag for life, the number of reuse cycles might drop, meaning more frequent replacement of bags, and an overall

increase in the tonnage throughput each year. Accordingly, there is a need to incentivise high rates of return of bags at the end of their life, while still maintaining an incentive to use them as many times as possible, and in so doing, ensure that retailers of all sizes do not end up bearing undue costs.

5.1.4 Possible Approach

This challenge could potentially be met by incorporating a deposit return element into the payment mechanism, with a partial refund. This could work as follows:

- 1) The consumer is charged 30 pence up front for a bag for life
- 2) The consumer then receives 10 pence back when they return the bag for life for replacement/recycling when it is worn out;
- 3) This might typically be used when replacing the old bag with a new one, meaning that the effect is for a replacement bag to be charged at 20 pence.

This would introduce a financial disincentive for using a new bag before the old one is worn out, while maintaining a positive (but smaller) incentive to return the used bag for recycling in order to obtain a partial refund, which would be viewed as a discount on the new bag(s).

To the consumer this could be portrayed as 'bring your old bag back and you will receive a discount on a new one', but in the legislation, it might be sensible to instead treat it as a partial refund of the initial charge. This would then allow for situations where consumers might return several used bags at one time, and either not purchase a new one, or purchase fewer than have been returned.

The level of the charge and the partial refund would need some consideration. In the case where a ban on SUPBs were not implemented, but a charge on SUPBs were applied to all retailers, it would be important to explore the potential effects of setting the Bag for Life initial charge at different levels relative to the SUPB charge.

5.1.5 Bag for Life Consumption Data

It is clear then that there would need to be a monetary charge associated with the provision of bags for life, in order to encourage both the sense of investment and behaviour patterns of repeated use.

However, although the major retailers are charging for their bags for life, at present only two of them (ALDI and the Co-operative) are reporting sales figures for bags for life (on a voluntary basis).

In order to properly understand the impacts on bag for life (i.e. bags of 50–70 microns) consumption as a result of either a ban on SUPBs or an increase in the charge on SUPBs, Defra will need robust data on the consumption of bags for life. This will require that retailers are mandated to report sales figures for bags for life, in the same way that they now do so for SUPBs under the charge. Although reporting on SUPBs is linked to the mandatory charge on SUPBs, reporting on bags for life could be mandated whether or not Defra decides to set a mandatory, minimum charge on bags for life or not. However, it would of course be easier to create the ideal pattern of consumer behaviour (i.e.

repeated bag use followed by return) if the charge/partial refund system discussed above were mandatory.

There would also be merit in requiring reporting on the number of bags for life returned (data for which would be available under the mandatory charge/partial refund system described above) or perhaps the *tonnage* returned if a charge/partial refund is not mandated. It would also be useful to understand the fate of the bags returned, in order to confirm that they have indeed been recycled if collection with that intention in mind.

5.1.6 Northern Ireland Bag for Life Charge

Northern Irish policy provides an example of a charge on both SUPBs and bags for life. It also provides an example of a mandatory requirement for retailers to report on all carrier bags with a retail value of less than 20 pence that they provide. This reporting is made to the Department of Agriculture, Environment and Rural Affairs (DAERA).

In Northern Ireland, since 19th January 2015 a 5 pence levy has applied to all new carrier bags (both plastic and other materials) with a retail value below 20 pence, regardless of whether they are single use or reusable. Retailers either charge the minimum 5 pence or between 5 pence and 20 pence, depending on the value of the bags provided. In instances where more than 5 pence is charged, retailers are only obliged to pay the net proceeds of the 5 pence levy to DAERA. The proceeds of the levy are spent on local environmental projects.

On a quarterly basis, retailers are required to:

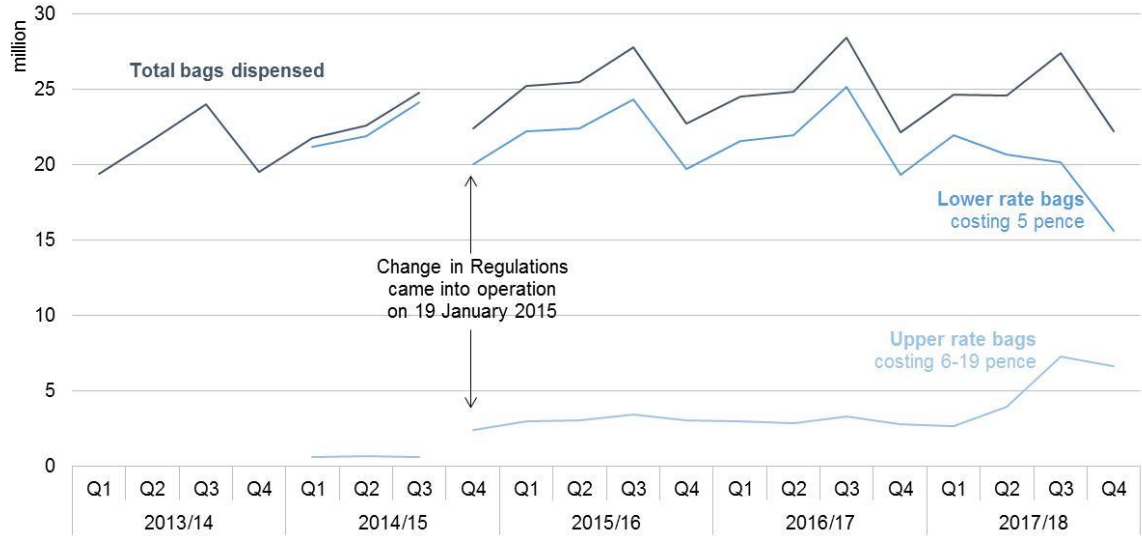
- declare the number of carrier bags provided for which they charged only the 5p levy;
- declare the number of carrier bags provided for which they charged both the 5p levy and their own retail price of less than 20p; and
- make the associated payment to DAERA within 28 days of the end of the quarter.⁷⁰

The DAERA data on carrier bag consumption differentiates between lower rate bags (those charged at only the 5 pence levy) and upper rate bags (those charged at the 5 pence levy plus a cost added by the retailer).⁷¹ As can be seen in Figure 5, this data allows DAERA to plot the consumption of lightweight and heavier bags against each other, and to observe any relationships between the two consumption rates.

⁷⁰ NI Direct, Government Services website, Carrier Bag Levy
<https://www.nidirect.gov.uk/articles/carrier-bag-levy>

⁷¹ DAERA website, Northern Ireland carrier bag levy statistics
<https://www.daera-ni.gov.uk/articles/northern-ireland-carrier-bag-levy-statistics>

Figure 5: Carrier Bags Dispensed in Northern Ireland, Q1 2013/2014 to Q4 2017/18



Source: Northern Ireland, Department of Agriculture, Environment and Rural Affairs

Introducing mandatory reporting on the provision of reusable / bags for life would allow Defra to similarly track the relative performance of these bags against SUPBs in England.

APPENDICES

A.1.0 SUPB Reduction Measures in the EU

In 2016, Eunomia undertook work to assist the European Commission’s DG Environment in developing a common EU methodology for calculating annual consumption of lightweight plastic carrier bags.⁷² As part of this work, Member States were asked to provide details of the national measures they had put in place to reduce the consumption of SUPBs. A summary of these measures is presented in Table 6.

Table 6: SUPB Reduction Measures in Place in EU Member States, 2016

| Reduction Measure | Countries Implementing the Measure |
|---|---|
| Voluntary or mandatory retailer reduction targets | Belgium, Spain |
| Tax/levy on producers/importers based on weight of bags | Denmark, Hungary, Latvia, Malta, |
| Tax/levy on producers/importers based on numbers of bags | Portugal |
| Tax/levy on bags at point of sale | Ireland, UK (Northern Ireland), Croatia |
| Mandatory charge on bags at point of sale, not passed back to government | UK (Wales), UK (Scotland), UK (England) |
| Voluntary charge on bags at point of sale, not passed back to government | Finland, Luxembourg, Austria, Slovenia, Slovakia, Germany |
| Ban | Italy |

A.2.0 SUPB Consumption Reporting in the EU

Across the EU, Member States take many different approaches to quantifying plastic bag consumption. In the work undertaken for DG Environment, we examined the range of national methodologies currently used. Methodologies were grouped into main categories based on the type of data stakeholders report. On a secondary level, groupings were based on how data is reported (i.e. who is reporting and on what basis).

On this scheme, four main categories emerged, grouping methodologies into:

⁷² Study to Assist the Commission to Develop a Methodology for Calculation of Annual Consumption of Lightweight Plastic Carrier Bags (2016), Eunomia, 26th April 2016
<https://publications.europa.eu/en/publication-detail/-/publication/4cbf84be-2e06-11e6-b497-01aa75ed71a1>

- 1) Those based on reporting of the weight of bags produced;
- 2) Those based on reporting of the number of bags sold;
- 3) Those based on a combination of reporting of the weight produced and the number of bags sold; and
- 4) Those based on a residual waste analysis.

Within these main categories, a number of sub-categories of methodology types were developed, leading to a total of eleven methodology groups across the four main categories. Table 7 presents, in pictorial form, the stakeholder reporting relationships of individual Member State calculation methodologies, grouped under the eleven methodology groups.

Table 7: Summary of Reporting Chains in EU Member States, Grouped by Methodology Type

| Methodology Group Description | | | |
|---|---|--|------------------------------|
| 1. Calculated according to weight produced | 1a. Mandatory producer/importer reporting based on weight of bags | DK: | HU: |
| | 1b. Mandatory retailer reporting based on weight of bags | BE: | |
| | 1c. Mandatory reporting from weight based data from both retail quantities and production/imports | | |
| | 1d. Voluntary calculation from survey of production/import and potentially retail weights | ES: DK: SE: | FI: PT: IT: |
| 2. Calculated by number of units sold | 2a. Mandatory retailer reporting where there is a tax/charge on number of bags | IE: | UK (Wales): UK (England): |
| | 2b. Voluntary retailer reporting where there is a tax/charge on number of bags | UK (Northern Ireland): UK (Scotland): | |
| | 2c. Retailer reporting on number of bags in the case of a voluntary charge | LU: | |
| | 2d. Voluntary industry calculation based on retailer data on units | FI: SK: | FI: |
| 3. Hybrid calculations | 3a. Hybrid calculation: voluntary calculation from combination of production/import weights and numbers of retail units | HR: | |
| | 3b. Hybrid calculation: Voluntary retailer reporting on both weight and units | UK: BE: | DE: CZ: |
| 4. Residual waste analysis | | NL: | |
| Key: Producer / importer = P/I Extended producer responsibility scheme = EPR Retailer = R Government organisation / tax office = Gov Industry body = IB Research institute / consultancy = Inst Unspecified = ? | | | |