<b>Title:</b> Extending the 5p charge for single use carrier bags to all retailers and reviewing the minimum 5p charge levied to at least	Impact Assessment (IA)					
10p in England.	Date: 26/11/2018					
IA No: [tba]	Stage: ConsultationSource of intervention: DomesticType of measure: Primary legislation					
RPC Reference No:						
Lead department or agency: Defra						
Other departments or agencies:	<b>Contact for enquiries:</b> Ladislav Tvaruzek, Graeme Vickery, Shelley King					
Summary: Intervention and Options	RPC Opinion: RPC Opinion Status					
Cost of Proferred (or more likely) Option (2016 prices 2017 present value)						

Cost of Preferred (or more likely) Option (2016 prices, 2017 present value)							
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2016 prices)	One-In, Three-Out	Business Impact Target Status			
£234.6m	£784.6m	-£91.1m	Not in scope	Qualifying provision			

What is the problem under consideration? Why is government intervention necessary?

In October 2015, government introduced the mandatory 5p charge for single use carrier bags (SUCBs) on all large retailers to tackle the negative impacts associated with their use on the environment, wildlife and societal costs. Since then the policy has successfully contributed to an 86% reduction in the usage of SUCBs by these retailers. Approximately 13 billion plastic bags have been taken out of circulation over the last two years. The policy excluded retailers with less than 250 employees from the charge. This was to avoid placing additional regulatory burdens on small businesses. However, small businesses still circulate an estimated 3.6 billion SUCBs in 2017 alone. Government intervention is required to further reduce use of these bags to further lessen the associated negative impacts.

#### What are the policy objectives and the intended effects?

The policy objective is to reduce further the number of SUCBs used and disposed of in England by introducing a mandatory plastic bag charge paid by consumers at point of sale in all retailers (large and small). Even after accounting for substitution effects (e.g. increased bin liner use), reduced SUCBs consumption is expected to reduce litter, greenhouse gas (GHG) emissions, resource use, waste generation and the associated costs of waste treatment. There is expected to be a net benefit to business from the policy as retailers will be able to retain a portion of the proceeds of the charge to cover their costs. Large retailers are encouraged to donate the remainder of the proceeds to good causes which are expected to benefit charities.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

**Option 1: Do nothing (Baseline)** This is the current situation; in the absence of any further policy intervention, only large retailers are obligated to charge for SUCBs. Consumption of SUCBs remains at current levels of around 4.6 billion plastic bags per year. Consumers continue to pay for these bags through their shopping bills (hidden costs at SMEs).

**Option 2: Extend the charging obligation to SMEs and micro businesses.** This option will require all SME and micro businesses to start charging 5p for SUCBs. These businesses will not be expected to monitor and report on SUCBs sales. Extension of the 5p charge is expected to reduce the overall volume of SUCBs currently distributed. The existing voluntary approach has not led to a consistent policy of charging across the SME sector resulting in the proposed regulatory approach.

Option 3: Increasing the current 5p charge on SUCBs to 10p for all retailers (Large, SMEs and micro businesses). This option provides additional incentives to consumers to reduce SUCBs use at all retailers. It is expected to reduce SUCBs usage even further than in Option 2.

**Option 3 is the preferred option.** Further action is required to reduce the production and use of SUCBs across the whole of England, as is being done in Wales and Northern Ireland.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 2024							
Does implementation go beyond minimum EU requirements? No							
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes			
What is the $CO_2$ equivalent change in greenhouse gas emissions? (Million tonnes $CO_2$ equivalent)		Traded: 0.65	Non-1	traded:			

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY:

Date:

## Summary: Analysis & Evidence

Description: Do nothing (Baseline) FULL ECONOMIC ASSESSMENT

Price Base	<b>PV</b> Bas	se	Time Period	Net Benefit (Present Value (PV)) (£m)					
<b>Year</b> 2018	Year 2	019	Years 10	Low:			High:	Best Estimate: 0	
COSTS (£	m)		Total Tr	ansition			Average Annual	Т	otal Cost
1			(Constant Price)	Years	(excl.	Trans	ition) (Constant Price)	(Pres	ent Value)
LOW				-					
Reat Eatimat	ta		C0m	4			<u></u>		
Description	and coal	e of k		oste by fr	nain aff	octor		£	<i>/</i> ///
No change from current situation – no net costs									
Other key non-monetised costs by 'main affected groups' No change from current situation – no net costs									
BENEFITS	6 (£m)		Total Tr (Constant Price)	<b>ansition</b> Years	(excl.	Trans	Average Annual ition) (Constant Price)	<b>Total Benefit</b> (Present Value)	
Low									
High									
Best Estimat	te		£0m				£0m	£	)m
Description and scale of key monetised benefits by 'main affected groups'         No change from current situation – no net benefits         Other key non-monetised benefits by 'main affected groups'         No change from current situation – no net benefits									
Key assumptions/sensitivities/risks Discount rate									
BUSINESS AS	SESSM	ENT (	Option 1)						
Direct impac	t on bus	iness	(Equivalent An	nual) £m:		Sco	ore for Business Imp	pact Target (qualifyi	ng
Costs: Benefits: Net:					pro	visions only) £m:			

## Summary: Analysis & Evidence

#### Description: Extend the 5p SUCBs charging obligation to SMEs and micro businesses.

#### FULL ECONOMIC ASSESSMENT

Price Base PV Base		e Time Period		Net Benefit (Present Value (PV)) (£m)										
<b>Year</b> 2018	Year 20	019 Years 10	Low:	Low: High:		Best Estimate: 141.6								
COSTS (£	:m)	Total Transit (Constant Price)	on Years	n Average Annual (excl. Transition) (Constant Price)		Average Annual         Total Co           ars         (excl. Transition) (Constant Price)         (Present Value)		Total Cost (Present Value)						
Low														
High			1											
Best Estima	ate	3.0		57.2		57.2		57.2		57.2		57.2		513.2
D · / ·		1 (1)												

Description and scale of key monetised costs by 'main affected groups'

SMEs and micro businesses face familiarisation and IT costs in Year 1 (£3.0m). No further costs to business expected. Consumers see costs from 5p charge at SMEs and micro retail outlets (£380m), VAT paid as part of 5p charge (£76.0m), hidden costs from increased use of paper bags (£2.8m) and costs from increased use of bags for life (£35.6m) and bin liners (£14.4m). Government and public sector see increase in enforcement costs (£1.4m). All values are discounted over ten a year appraisal period.

#### Other key non-monetised costs by 'main affected groups'

Consumers will be inconvenienced by not having access to 'free' bags, but this will be mitigated by behavioural responses to the charge, i.e. increased re-use of bags.

BENEFITS (£m)	<b>Total Transitio</b> (Constant Price) Ye	ears	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High		0		
Best Estimate	0		74.4	654.9

#### Description and scale of key monetised benefits by 'main affected groups'

SMEs and micro businesses keep 25% of savings from stocking SUCBs (£23.7m) and from 5p charge (£95.0m). 75% of savings to business are assumed to be passed back to consumers in goods offers or reduced retail prices (£285m from charging income; £71.0 from reduced stock costs). GHGs emissions savings (£14.9m) and waste management savings (£18.2m) from reduced circulation in SUCBs and increase in the use of alternatives. Government revenue from VAT paid on 5p charge (£76.0m). Savings from reduced litter costs (£71.0m). All values are discounted over a ten year appraisal period.

#### Other key non-monetised benefits by 'main affected groups'

A major non-monetised benefit would be the further reduced disamenity impact of litter as there are likely to be fewer littered SUCBs in urban and rural areas. There are also likely to be benefits to wildlife in the marine and terrestrial environment with less damage to organisms from fewer littered bags or pieces of bags.

#### Key assumptions/sensitivities/risks

#### Discount rate (%)

3.5

The key uncertainties among the assumptions are around the extent of any switch to paper bags and bags for life by SMEs and micro businesses and by consumers. Other uncertainties include the level of pass through of any business surplus income back to consumers (assumed 75%) and the level of reduction in SUCBs use by consumers (assumed 23% in the first year of change, 80% by third year and no change thereafter). This assumption is line with the drop in single use carrier bags in Wales from the year the charge was first introduced (2011) compared to the previous year.

#### **BUSINESS ASSESSMENT (Option 2)**

Direct impact on b	usiness (Equivalent /	Annual) £m:	Score for Business Impact Target (qualifying
Costs: 0.3	Benefits: 55.1	Net: -54.8	provisions only) £m:
			-246.9

## Summary: Analysis & Evidence

#### Description: Increasing the current 5p charge on SUCBs to 10p for all retailers

#### FULL ECONOMIC ASSESSMENT

Price Base PV Base Time Period				Not Bonofit (Brocont ) (alua (B)()) (Cm)						
Year 2018	Year 20	) 19	Years 10	Low		Net Benefit (Present Val	ue (PV)) (±m) Rest Estimate: 260 /	1		
				LOW.	Low. Tigh.		Best Estimate. 200.4	•		
COSTS (£	:m)		Total Transitio (Constant Price) Ye	n ears	Average Annual         Total           s         (excl. Transition) (Constant Price)         (Preser					
Low										
High				1						
Best Estima	ate		3.2			94.8	865.1			
Descriptior	n and sc	ale o	of key monetise	ed cost	s by 'm	ain affected groups'				
Large, SMEs and micro businesses face familiarisation and IT costs in Year 1 (£3.2m). No further costs to business expected. Consumers see costs from 10p charge at large, SMEs and micro retail outlets (£667.1r VAT paid as part of 10p charge (£133.4m), hidden costs from increased use of paper bags (£3.5m) and cost from increased use of bags for life (£138.5m) and bin liners (£14.4m). Government and public sector see increase in enforcement costs (£1.4m). All values discounted over ten year appraisal period.							s to 57.1m), d costs ee			
Consumers behavioural	will be in response	conve es to t	enienced by not the charge, i.e. in	having a hcreased	iccess t d re-use	o 'free' bags, but this wi of bags.	ll be mitigated by			
BENEFIT	S <mark>(£</mark> m)		Total Transitio (Constant Price)Ye	n ears	(excl. ]	Average Annual Transition) (Constant Price)	<b>Total Benefit</b> (Present Value)			
Low										
High				0						
Best Estima	ate		0			126.0	1,125.4			
All retailers £25.6m) an (£139.2m) a 100% of lar (£110.3m). circulation i charge (£13	assume and pass b and pass ger retail GHGs e n SUCB 33.4m). §	d to k ack 7 back ler ind missi s and Saving	eep 25% of savi 5% to consume 75% of charge come from the in ons savings (£1 increase in the gs from reduced	ings from rs in sav to consu creased 8.4m) ar use of al	n reduce rings (£ umers ir charge nd waste ternativ sts (£80	ed stocking SUCBs (SM 155.0m). SMEs keep 25 a goods offers or reduce are passed back to cha e management savings es. Government revenu .1m). All values discour	MEs: £26.1m; large: 5% from 10p charge ed retail prices (£417. arity or consumers (£19.7m) from reduc ue from VAT paid on 1 nted over ten years po	6m). æd 10p eriod.		
Other key n	on-mon	etise	d benefits by 'n	nain affe	ected a	roups'	, , ,			
A major non likely to be f in the marin pieces of ba	n-monetis wer litte e and te ags.	sed b ered rrestr	enefit would be SUCBs in urbar ial environment	the furt n and ru t with les	her red ral area ss dam	uced disamenity impa as. There are also likel age to organisms from	ct of litter as there as y to be benefits to w fewer littered bags	re 'ildlife or		
Key assun	nptions/	sensi	tivities/risks				Discount rate (%)	3.5		
The key uncertainties among the assumptions are around the extent of any switch to paper bags and bags for life by SMEs and micro businesses and by consumers. Other uncertainties include the level of pass through of any business surplus income back to consumers (75/100% for smaller/large retailers) and the level of reduction in SUCBs use by consumers (23% in the first year of change, 80% by third year and no change thereafter). This assumption is line with the drop in single use carrier bags in Wales the year the charge was first introduced (2011) compared to the previous year.										
BUSINESS A	SSESSM	ENT (	Option 3)							
Direct impa	ct on bus	iness	(Equivalent Ann	nual) £m:		Score for Business Im	pact Target (qualifying	1		
Costs: 0.4 Benefits:101.5 Net: -101.1 provisions only) £m:										

-455.7

## Executive summary

The introduction of the 5p charge in England in October 2015 has reduced the use of single use plastic bags (SUCBs). Consumption has fallen by 89% since the charge first begun. In the past two years alone, the supply of SUCBs by major supermarkets has fallen by 13 billion compared to levels before the introduction of the charge. In addition, a much of the proceeds from the charge has returned to society. Large retailers have donated a total of £117m to charities and local enterprises<sup>1</sup>. Other retailers have used the proceeds of the charge to fund the provision of re-useable bags for life, which can be returned to the retailer for a free replacement.

There have also been further positive consequences as many businesses have taken significant steps to reduce consumption of single use plastic bags. Of the seven largest retailers and providers of SUCBs, six have already phased out or committed to phasing out SUCBs in 2018 and 2019 respectively. Many supermarkets are also providing alternative, returnable, bags for life.

While the 5p charge has been an effective policy there remains scope to encourage further reduction in SUCBs use. Current policy excludes retailers with less than 250 employees from the charge. This includes all small and medium sized enterprises (SMEs) and micro businesses.

At the time, the rationale to exclude these businesses was to avoid placing additional regulatory burdens on small businesses if required to report on the usage. However, last year SME and micro businesses supplied an estimated 3.6 billion SUCBs compared to the 1.7 billion bags sold by large retailers. Some small retailers have chosen to voluntarily introduce a 5p charge for SUCBs. In March 2018 two trade bodies, the Association of Convenience Stores and the National Association of Retail Newsagents launched an initiative to encourage their members to voluntarily introduce a 5p charge in the continued absence of a mandatory approach. This has had some success with the Local Shop Report 2018 reporting 46% of convenience stores applying a voluntary charge. However convenience stores represent only a proportion of the SMEs retail sector. The trade bodies continue to express concern that many members are not prepared to charge unless a mandatory approach is introduced that "levels the playing field" to ensure those who are choosing to charge do not lose customers to other local retailers who choose not to charge. For this reason a mandatory charge for all SMEs and micro businesses helps set a level playing field.

This analysis first considers the current situation to establish the baseline to compare against the proposed policy options. Option 2 assess the impact of extending the 5p charge to all SMEs and micro businesses with no impacts on larger retailers. Option 3 considers the impact of increasing the levy to 10p across all businesses (Option 3).

This impact assessment concludes Option 3 is the preferred approach because it is likely to bring the greatest net benefit to society based on the costs and benefits that could be monetised in this appraisal. It is expected to reduce SUCBs use even further in large retailers. It is also estimated to reduce SUCBs use in SMEs and micro businesses by 70-80%.

In both options the use of bags for life (BFLs)

s), paper bags and use of bin liners is expected to rise. Overall, greenhouse gas emissions, litter clearing costs and waste management costs are estimated to decrease. SMEs and micro businesses will face some modest upfront costs though will be able to keep the proceeds from the charge. Some of these may be redistributed to consumers through product pricing or voluntarily donated to charity. Large retailers will face some upfront costs under Option 3 and can continue to deduct administrative, monitoring and reporting costs. Charities are expected to continue benefitting from the charge as large retailers donate profits to charitable causes. Consumers will face costs if they choose from having to pay a SUCBs charge in all retail outlets or to purchase BFLs. Government will face additional enforcement costs in both options. The net present value of Option 3 is £260.4, suggesting that the benefits to society outweigh the costs.

Table 1 summarises the societal costs and benefits of proposed options.

<sup>&</sup>lt;sup>1</sup> https://www.gov.uk/government/publications/carrier-bag-charge-summary-of-data-in-england/single-use-plastic-carrier-bags-charge-data-inengland-for-2017-to-2018

Table 1: Summa	y of costs and	benefits for p	roposed options
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Over 10 years, discounted	Option 2: extending 5p charge to small retailers	Option 3: 10p charge for all retailers
Total costs	£510.m	£865.1m
Familiarisations and IT costs	SMEs: £0.95m Micro businesses: £2.1m	Large retailers: £0.2m SMEs: £0.95m Micro businesses: £2.1m
Costs to consumers – additional 5/10p charge	£380.0m	£667.1m
Costs to consumers - VAT paid on the 5/10p charge (transfer)	£76.0m	£133.4m
Government and public sector enforcement costs	£1.4m	£1.4m
Costs to consumers – hidden costs from increased use of paper bags	£2.8m	£3.5m
Costs to consumers – increased use of bags for life	£35.6m	£42.0m
Costs to consumers – increased use of bin liners	£14.4m	£14.4m
Total savings	<b>-£654.9m</b>	-£1,125.4m
Net savings to retailers from reduced stocking, transport and storage of SUCBs	SMEs and micro: -£23.7m	SMEs and micro: -£26.1m Large: -£25.6m
Net surplus from 5p charge to retailers	SMEs and micro: -£95.0m	SMEs and micro: -£139.2m
Savings passed back to consumers from	SMEs and micro: -£356.0m	SMEs/large from charging: -£417.6m/-£110.3m
retailers		All retailers from stock savings: -£155.0m
GHGs emissions savings from reduced circulation of SUCBs and increase of alternatives	-£14.9m	-£18.4m
Waste management savings from reduced circulation of SUCBs and increase in use of alternatives	-£18.2m	-£19.7m
Government revenue - VAT paid on top of 5/10p charge (transfer)	-£76.0m	-£133.4m
Savings from reduced litter costs	-£71.0m	-£80.1m
Net present value (+ societal savings, - societal costs)	£141.6m	£260.4m

## Problem under consideration and rationale for government intervention

The 5p charge has been an effective tool to reduce SUCBs use. However, in 2017 there are still estimated to be one billion SUCBs being sold by large retailers and a further 3.6 billion being supplied by SMEs and micro businesses.

SME and micro businesses can voluntarily charge 5p for SUCBs, although the majority are still given away free at the point of sale. Here, the cost of SUCBs are hidden in the price of goods. This means consumers are not incentivised to limit their consumption of SUCBs. Without further intervention, consumption level could remain the same or even increase over time. The latter effect was seen in a report on the impacts of the plastic bag levy in Ireland.<sup>2</sup> Here plastic bag usage initially fell with introduction of the first levy in 2002 but rose again five years post levy.

The use of SUCBs impose negative externalities on society. Their single-use nature means they are susceptible to littering. This imposes both an environmental and a disamenity cost. Their production relies on non-renewable resources and generates greenhouse gas emissions. When disposed of correctly they impose waste management costs on society with some forms of disposal also generating greenhouse gas emissions.

These factors provide the rationale for government intervention to address this problem and to further reduce SUCBs consumption to the lowest possible levels.

## Policy objective and intended effects

The policy objective of the proposed policy measures is to extend the SUCBs charge to SMEs and micro businesses without imposing unnecessary costs in order to reduce the consumption of SUCBs further. The policy is also intended to rectify the negative environmental and social impacts associated with the production, usage and disposal of SUCBs.

The policy measures outlined here also aims to influence consumers to make more sustainable purchasing decisions.

Both options under consideration should lower the use of SUCBs in England further.

## Description of options considered

#### Option 1: Do nothing scenario (Baseline)

This is the current situation. Only large retailers are obligated to charge for single use plastic bags. In this scenario, consumption of SUCBs are projected to remain at current levels of more than 3.6 billion plastic bags per year. Consumers continue to pay indirectly for these bags through the price of goods. The costs to society of littered bags and emissions from bag production remain at current levels.

#### Option 2: Extend the charging obligation to SMEs and micro businesses.

This option will require all SME and micro businesses to start charging 5p for SUCBs. These businesses will not be expected to monitor and report on SUCBs sales. Extension of the 5p charge is expected to reduce the overall volume of SUCBs currently distributed.

Option 2 is also expected to reduce the use of non-renewable resources required for the production of SUBPs. It will reduce the cost to local authorities associated with the transport, treatment and disposal of waste and litter caused by SUCBs and to effect a positive behaviour change.

#### Option 3: Increasing the current 5p charge on SUCBs to 10p for all retailers

This option provides additional incentives to consumers to reduce SUCBs use at all retailers. It is expected to reduce SUCBs usage even further than in Option 2.

<sup>&</sup>lt;sup>2</sup> Green Budget Europe report, available online here

Some countries have implemented an outright ban on supply of SUCBs. The Government has discounted this option. We recognise in particular the role that a SUCB can play in spontaneous, unplanned purchasing and that alternative bag types can potentially have a significantly higher carbon impact than SUCBs. A paper bag for example having to be used <u>3 or 4 times<sup>3</sup></u> to achieve the same carbon impact as a SUCB used once. New measures would be required to avoid harmful consequences of such a ban. In particular new measures to discourage possible excessive use of bags for life along with incentives to return them once worn out. There are also concerns that since BFLs are replaced free of charge, this could lead to SMEs having to bear the cost of constantly replacing BFLs for free, with no additional sales revenue being generated.

## Analysis of options

The economic impacts of all options 1, 2 and 3 were calculated in line with HM Treasury's Green Book guidelines. The analysis in this assessment is in line with the previous impact assessment on the Plastic Carrier Bags Charge from 2015.<sup>4</sup> Key industry information and estimates used in this assessment are sourced from the publicly available data.

In assessing the impacts of the charge it is necessary to make assumptions about the likely change in bag usage following its introduction since both options 2 and 3 will affect all types of carrier bag use. In the absence of comprehensive market data, assumptions have been made based on the previous impact assessment from 2015. We welcome views on these assumptions during the consultation period.

Wider impacts such as the cost of dealing with litter and waste management costs were accounted for using the 2015 analysis updated to reflect 2018 prices. Since this was a low cost regulation, this method was considered appropriate and proportionate in line with the guidance laid out in the Better Regulations Framework Manual.

SUCBs usage in Option 2 is estimated for SMEs only, as they are affected by the policy measure. The effect of the charge on the usage of bags for life are also considered, as they are a possible substitute for SUCBs.

Paper bag and bin liner use is estimated because some increase in their use is expected since they are exempt from the charge.

#### **Option 1 (Baseline) costs and benefits**

This section establishes the baseline, or counterfactual, i.e. the projected impacts in the absence of a policy change. The costs and benefits of the other options will be assessed in relation to the baseline. To set the baseline, it is necessary to estimate current levels of bag use. Since this option represents the status quo, there are no additional cost or benefits to this option.

After the initial 80% decrease bag usage when the 5p charge was introduced in 2015, there was a further decrease in SUCBs usage by large retailers in 2018 and a further decrease is expected in 2019. This is due to the voluntary commitments made by some of the largest retailers and contributors of SUCBs to phase out the bags by the end of 2018 and the beginning of 2019 respectively.<sup>5</sup>

As per the 2015 Impact Assessment, after these voluntary commitments are enacted we assume that the number of SUCBs at high street remain unchanged and for SMEs use of SUCBs grow by 1% per year from the current estimated level of 3.6 billion<sup>6</sup>. Table 2 shows estimated number of millions of SUCBs used in England from 2018 to 2028. For large supermarkets, voluntary commitments are estimated to reduce SUCBs usage to 100 million per year by 2019<sup>7</sup>. Other high street SUCBs sales are

<sup>&</sup>lt;sup>3</sup> Life cycle assessment of supermarket carrier bags

<sup>&</sup>lt;sup>4</sup> The impact assessment is available online <u>here</u>

<sup>&</sup>lt;sup>5</sup>Article in <u>The Grocer</u> (2018)

<sup>&</sup>lt;sup>6</sup> 1% growth per year is based on the assumption that SMEs accounted for 27% of SUCBs in 2012 and 33% in 2018. While this was largely driven by the fall in SUCBs usage following the 5p charge introduction, the two years prior to the charge, SUCBs grew by 1%. Hence, we assume they continue to grow by 1% per year even after the charge.

<sup>&</sup>lt;sup>7</sup> Six of the seven large retailers have announced that they will phase out all bags by 2019. We estimate this to result to around 100 million bags in 2018.

estimated to remain at existing levels (630 million per year) as they don't offer a wider range of alternative bags like BFLs or paper bags.

Millions	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Supermarket SUCBs	1,040	277	100	100	100	100	100	100	100	100	100	100
Growth rate		-73%	-64%	0%	0%	0%	0%	0%	0%	0%	0%	0%
High street	710	630	630	630	630	630	630	630	630	630	630	630
Growth rate		-11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
all large retailers	1,750	907	730	730	730	730	730	730	730	730	730	730
Total SMEs	3,632	3,630	3,666	3,702	3,739	3,776	3,814	3,851	3,889	3,928	3,967	4,006
Growth rate		1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
All retailers	5,382	4,537	4,396	4,433	4,469	4,506	4,544	4,581	4,620	4,658	4,697	4,736

Table 2 Projected SUCBs usage of all businesses in the baseline (England)

Note: 2017 Figures are based on latest available data. 2018 to 2028 are all projected estimates.

# Option 2 (Extend the charging obligation to SMEs and micro businesses) costs and benefits

Option 2 extends the mandatory 5p charge for SUCBs paid by consumers to all currently exempt SMEs and micro business in England. The charge is assumed to take effect from 2019. To minimise the regulatory burden on these businesses, they will be exempt from monitoring and reporting requirements. In this option we assume large businesses are unaffected and continue operating as normal as they are already required to charge for the SUCBs. In the absence of comprehensive market data, assumptions have been made based on the previous <u>impact assessment</u> from 2015.

Bags for life (BFLs) are a widely available alternative to SUCBs and their usage is expected to increase. Although they are reusable they will offset some of the benefits of reduced SUCBs use. There is also assumed to be some increased usage of paper bags. Finally, we also expect to see rise in the sale of bin liners after the increase of the charge as we assume consumers will no longer utilise SUCBs to dispose of waste.

Extending the 5p SUCB charge to SMEs is estimated to result in an 80% decrease in SUCBs from 3.6 billion in 2018 to 734 million SUCBs by the third year of the change (2021). This is commensurate with the drop observed in large retailers in the first year of the charge. However, for SME and micro businesses we assume a more gradual reduction to account for the fact that consumers might take longer to adjust in the case of unplanned shopping. The cost and benefits under Option 2 are summarized below. These are explained in more detail in sections that follow. Table 3 presents the summary of monetised costs and benefits where all values are net costs or benefits when compared to Option 1 – baseline.

	Year 1	10 years appraisal period (discounted)
Total costs	£147.4m	£513.2m
Familiarisations and IT costs to SMEs and micro businesses	SMEs: £0.95m Micro businesses: £2.1m	SMEs: £0.95m Micro businesses: £2.1m
Costs to consumers - 5p charge at SMEs and micro business outlets	£117.7m	£380.0m
Costs to consumers - VAT paid on the 5p charge (transfer)	£23.5m	£76.0m
Government and public sector enforcement costs	£0.2m	£1.4m
Costs to consumers – hidden costs from increased use of SME's paper bags	£0.2m	£2.8m

Table 3 Projected SUCBs usage of all businesses in the baseline (England)

Costs to consumers – increased use of bags for life	£1.4m	£35.6m
Costs to consumers – increased use of bin liners	£1.5m	£14.4m
Total savings	-£148.3m	-£654.9m
Net savings to SMEs and micro retailers from reduced stocking, transport and storage of SUCBs (assuming 25% kept by retailers)	-£0.9m	-£23.7m
Net surplus from 5p charge to SMEs and micro retailers (excluding VAT, assuming 25% of surplus kept by retailers)	-£29.4m	-£95.0m
Savings passed back to consumers from retailers (assumed 75% pass through from surplus income and stock savings)	-£90.8m	-£356.0m
Net GHGs emissions savings from reduced circulation of SUCBs and slight increase of alternatives	-£0.1m	-£14.9m
Net waste management savings from reduced circulation of SUCBs and slight increase in use of alternatives	-£1.2m	-£18.2m
Government revenue - VAT paid on top of 5p charge (transfer)	-£23.5m	-£76.0m
Savings from reduced litter costs	-£2.4m	-£71.0m
Net present value (+ societal savings, - societal costs)	£0.9m	£141.6m

#### Costs and benefits to business

There were an estimated 253,000 stores<sup>8</sup> operated by SMEs in the retail sector in England in 2017. Based on 2018 BEIS <u>Business population estimates</u>, micro businesses<sup>9</sup> make up 94% of SMEs. This could include, for example, off licenses, green grocers, market stalls and other small enterprises. As a result, the analysis assumes that a large proportion of the affected businesses are not expected to incur costs of major IT changes associated with reorganising checkout systems.<sup>10</sup>

The cost to business associated with the increase of the charge under Option 2 consists of one of "transition" costs such as the cost of employee time to read and understand the new regulations. These cost are based on one hour of employee time and calculated on a per outlet basis. We have estimated the familiarisation cost (the time necessary to read, understand and implement the charging requirements) at one hour of a retail assistant's time per retail outlet. Other one off cost include IT cost to change tills and stocking systems. The IT costs are calculated on a per retail outlet basis at the cost of  $\frac{1}{2}$  hour to reprogram systems to accept the new charge.

We have estimated the familiarisation cost (the time necessary to read, understand and implement the charging requirements) at one hour of a retail assistant's time per retail outlet and 0.5 hours of an IT professional time to alter systems. This is estimated at £9.09 and £21.43 in 2018 prices. Micro businesses would not normally use retail systems but in order to account for uncertainty the analysis makes the conservative estimate that 50% of all micro businesses would incur IT costs as well as the above listed administrative costs. The total cost to businesses under this option equates to £3m in one off cost with no ongoing costs<sup>11</sup>.

As a result of reduced use of SUCBs following extension of the 5p charge, businesses would see a reduction in the costs associated with stocking, storage and transportation. We estimate this reduction to be around £3.5m in the first year (2019) and increasing up to £13.0m by 2028<sup>12</sup>. This represents a direct saving to businesses. However, similar to the 2015 IA, we assume that businesses choose to pass on

<sup>&</sup>lt;sup>8</sup> <u>http://www.retailresearch.org/retailatbay2018.php</u>, Retail at Bay 2018; table 6.1, pg 27

<sup>&</sup>lt;sup>9</sup> These are businesses with 0-5 employees – in our analysis we have also included a small number of businesses with 5-9 employees into this category

<sup>&</sup>lt;sup>10</sup> Based on a response to the earlier call for evidence on the initial charge in 2015, a representative of SMEs stated that "if the scheme is revised to include small retailers we do not envisage our members facing any financial burden from the scheme".

<sup>&</sup>lt;sup>11</sup> All unit costs based on the 2015 Impact Assessment (Plastic Carrier Bags Charge) methodology.

<sup>&</sup>lt;sup>12</sup> These costs (per bag basis) are estimated as follows: Stocking =0.01pence; Transport and storage =0.01pence. These are based on estimates from the 2015 IA and have been uprated to 2018 prices.

75% of the savings on to consumers in the form of special offers and reduced prices of goods, keeping the remaining 25%. This leads to net present savings estimate to businesses of £23.7m over the ten year appraisal period.

Businesses also receive income of £117.7m from the 5p charge in the first year (discounted income of £380.0m over ten year's period). Again, it is assumed business pass around 75% of this income back on to consumers because of the competitive nature of the retail sector. This equates to businesses keeping £29.4m in the first year and discounted £95.0m over the ten years period.

Costs (+) and savings (-) to businesses, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Familiarization costs to Micro businesses	1.0	-	-	-	-	-	-	-	-	-
IT cost for micro businesses	1.1	-	-	-	-	-	-	-	-	-
IT and familiarization cost to SMEs	0.95	-	-	-	-	-	-	-	-	-
Total direct costs	3.0	-	-	-	-	-	-	-	-	-
Net savings from reduced stocking, transport and storage of SUCBs	-0.9	-2.2	-3.0	-3.0	-3.1	-3.1	-3.1	-3.2	-3.2	-3.3
Net surplus from 5p charge to retailers (excluding VAT)	-29.4	-15.3	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6
Savings passed back to consumers from retailers (75% of surplus income from charging; transfer)	-88.3	-45.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9
Savings passed back to consumers from retailers (75% of reduced stock costs; transfer)	-2.6	-6.7	-9.0	-9.1	-9.2	-9.3	-9.4	-9.5	-9.6	-9.8
Total direct business benefits	-121.1	-70.1	-42.5	-42.7	-42.8	-43.0	-43.1	-43.3	-43.4	-43.6
of which passed back to consumers	-90.8	-52.6	-31.9	-32.0	-32.1	-32.2	-32.4	-32.5	-32.6	-32.7

#### Table 4 Overview of costs and benefits to business under option 2

#### Costs and benefits to consumers

The main impact of Option 2 is the introduction of 5p charge on consumers buying SUCBs at SME and micro premises. Given that we assume a gradual reduction in the use of SUCBs and substitution to alternatives, the costs to consumers in 2019 are estimated at £117.7m and dropping to £30.6m from the third year (2021) onwards.

At present, consumers to SME and micro businesses are provided with SUCBs free of charge, while the actual cost of the bags are embedded in the price of the goods and passed on to the consumer in full. The charge will remove this hidden cost and, as above, 75% of the business proceeds from the charge and savings from reduced stocking, transportation and storage are passed back to consumers in reduced prices. This proportion follows the original IA 2015 to reflect the competitive nature of the retail sector.

We expect that consumers would see a slight increase in hidden costs of paper bags<sup>13</sup>. This is the result of increased substitution to paper bags after the 5p charge is introduced. Where businesses switch to paper bags the associated costs are expected to be reflected in retail prices.

Consumers will incur extra costs of £1.5m on bin liners after the charge since they will no longer have access to 'free' SUCBs, commonly used as bin liners. Consumers are also expected to spend £1.9m in

<sup>&</sup>lt;sup>13</sup> The unit costs of paper bags are estimated at 0.30 in 2018 terms. This comes from the 2015 IA and have been uprated to 2018 prices using 2014 and 2018 GDP deflators.

the first year on new 'bags for life' (BFLs) which are expected to be substituted for SUCBs once the charge is in effect.

The expected initial increase in BFL usage is calculated 141% based on past experience from the Welsh charge for SUCBs<sup>14</sup>. The annual increase in usage of BFLs is calculated using the historical data provided by WRAP on <u>Carrier bag usage</u> 2010-2014 which showed an average increase in BFL usage of 2% per year. This is considered a conservative approach to take because consumers may have already purchased them from larger retailers and take these with them when they shop at smaller retailers.

Expected sales in bin liners vary only according to SUCBs consumption as there is very little information on how this would develop and if these costs would increase or decrease over time. The private cost of bin liners is taken as the average price of those bin liners that were affected by the charge in Wales (swing and pedal bin liners) uprated for 2018 which is £0.05 per bag.

The gross revenue from the charge is already counted as a cost to consumers in the analysis.

Table 5 Overview of costs and benefits to consumers u	nder Option 2
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Costs (+) and savings (-) to consumers, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
5p charge at SMEs and micro businesses	117.7	61.2	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6
VAT paid on the 5p charge (transfer)	23.5	12.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Hidden costs - increased paper bags use	0.2	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.0
Cost of BFLs	1.4	2.8	4.2	4.4	4.5	4.7	4.8	5.0	5.2	5.3
Cost of bin liners	1.5	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Total direct costs	144.3	78.4	43.3	43.3	43.4	43.5	43.5	43.6	43.7	43.8
Savings passed back to consumers from retailers (75% of surplus income from charging; transfer)	-88.3	-45.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9
Savings passed back to consumers from retailers (75% of reduced stock costs; transfer)	-2.6	-6.7	-9.0	-9.1	-9.2	-9.3	-9.4	-9.5	-9.6	-9.8
Total indirect benefits	-90.8	-52.6	-31.9	-32.0	-32.1	-32.2	-32.4	-32.5	-32.6	-32.7

#### Costs and benefits to public sector

We expect the monitoring and enforcement costs to be relatively low because the charge for bags has been widely accepted by the public, few complaints are received, and local authorities prioritize their activities based on risk so are not proactive in carrying out inspections. Representative bodies of small retailers have pressed for and will welcome the mandatory approach proposed and are therefore likely to work proactively with the SMEs sector to raise awareness of the obligations thus reducing the risk of non-compliance and consequential resource implications for regulators. Additionally the mandatory approach will ensure a level playing field amongst SMEs and unlike many regulations brings a net benefit to individual businesses rather than a net cost of compliance. For that reason and anecdotal evidence of high levels of compliance by large retailers we expect additional enforcement costs to be relatively low.

Based on the experience in Wales, approximately 50% of complaints were about non-compliance by SMEs. Compliance costs were therefore uprated to 2018 prices, and then adjusted to reflect the SME proportion of affected businesses.

<sup>&</sup>lt;sup>14</sup> This is based on initial observed increase in Welsh supermarkets and judgement that this will fall after an initial spike, since bags for life are bought for reuse.

Cost to government will be in the form of a marginal increase in enforcement costs due to the additional businesses coming under the charging obligation as well as familiarization cost to Government staff of reading and understanding the changes in legislation. This is estimated at one off cost of £0.02m for the time needed for an employee to read and understand the changes in legislation.

The cost to Government is therefore estimated at £0.2m per year in responding to complaints of noncompliance which we consider is a reasonable estimate since SMEs have no incentive not to charge for SUCBs as they can retain all of the net revenue from the charge.

Please see the consultation document discussing this point – we will review our assumptions on enforcement and monitoring costs in the final stage impact assessment.

Costs (+) and savings (-) to public sector, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Government and public sector enforcement costs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Government revenue from VAT paid on top of 5p charge (transfer)	-23.5	-12.2	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1

#### Table 6 Overview of costs and benefits to public sector under option 2

#### Wider impacts: GHGs emissions, litter and waste management savings

There are monetised benefits of having fewer SUCBs in the waste stream. While the number of plastic bags littered is likely to vary approximately in the same proportion as the number of bags used, some of the costs of cleaning litter may be fixed, or may not vary in direct proportion to the number of bags littered.

For example, litter bins will still need to be emptied and litter pickers will still need to be employed to pick up other items of litter. However, it would be expected that as a lower level of litter is reached (with fewer bags used and disposed of, bins filling up more slowly etc.) this would largely translate into lower costs for authorities responsible for collecting litter. It is assumed that 80% of the change in bag use in any year results in lower costs from cleaning littered bags, i.e. a 1% fall in bag use results in a 0.8% fall in the cost of littered bags.

There is no evidence to support a particular figure, so 80% is an assumption based on the reasoning that most but not all of the reduction in littered bags would result in a reduction in local authorities waste management costs by estimated £2.1m per year and reduced disposal and collection cost of litter to the order of £8.4m per year.

There are also estimated carbon savings of £1.9m per year or £14.9m in ten years. SUCBs are mostly imported from Asia, where around 70-90% of emissions arise during the extraction and manufacturing process. As per Government guidance, the traded price of carbon has been applied in this analysis to account for emissions which occur overseas. The GHG impact of the bag usage in Option 2 is monetised using BEIS 2018 updated short-term traded <u>carbon values</u> to be used for UK public policy appraisal.

Non monetised benefits include the reduced dis-amenity impact of fewer littered SUCBs on land and in the marine environment. Recent findings in 2018, from The Centre for Environment, Fisheries and Aquaculture Science <u>Cefas</u> revealed since the 5p charge on plastic bags was introduced, there has been an estimated 50% reduction in plastic bag marine litter.<sup>15</sup>

Wider costs (+) and savings (-) to society, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
GHG emissions savings	-0.1	-0.2	-0.7	-1.1	-1.6	-2.0	-2.5	-3.0	-3.5	-4.0
Savings from reduced litter costs	-2.4	-6.9	-9.4	-9.4	-9.4	-9.4	-9.3	-9.3	-9.3	-9.2

#### Table 7 Overview of wider societal savings under Option 2

<sup>&</sup>lt;sup>15</sup> The Centre for Environment, Fisheries and Aquaculture Science.

Waste management savings from reduced circulation in SUCBs and increase in alternatives (excl. landfill tax)	-1.2	-1.8	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
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#### Key assumptions

Data on SUCBs use by SMEs is not readily available, so it is necessary to make assumptions around SMEs contribution to SUCBs. Based on the initial 2015 Impact assessment, SMEs accounted for around 27% of turnover in the retail trade industry and assumed to contribute 27% of the total proportion of SUCBs usage which equated to 3.4 billion bags.

By 2018, SMEs share had risen to 33.3% (6 percentage points higher) of total retail trade turnover over the six years. This is equivalent to a 1% increase per year on average. Hence, in Option 1 (baseline) scenario, we assumed that following no new policy measure, their share will continue to grow by 1% per year. This results in an estimated total of 3.6bn bags circulated by SMEs in 2018.

SMEs paper bag usage is assumed at 1% of total SMEs bag usage. BFL usage is also assumed at 1% of total SMEs bag usage, the remaining 98% are assumed to be SUCBs. SMEs SUCBs usage may have decreased since 2015 but since they are currently not subject to a charge there is no reason to believe that their bag usage would behave differently to how it has in the past.

<u>Observational research</u> by WRAP (2015) showed that most unplanned shops take place in SMEs as opposed to a planned shopping in a large supermarket. We, therefore, believe it is a reasonable assumption that SMEs bag usage will continue to increase without the charge.

Based on our previous analysis of SUCBs usage, reduction in high street bags usage is typically at around 10% lower than supermarket SUCBs usage. The projected reduction in SUCBs usage takes this into account. We have also opted for a conservative approach to bag usage by keeping usage constant after the initial 80% reduction (by Year 3) caused by the charge (see table 8). Table 9 shows the overall impact of the 5p charge on all single use carrier bags in England. We expect to see a further 68% drop across the country. Figures in the table are reporting's for all retailers small and large.

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2018 - 2028
SUCBs	3,668	2,824	1,469	734	734	734	734	734	734	734	734	13,835
Growth rate		-23%	-48%	-50%	0%	0%	0%	0%	0%	0%	0%	-80%
BFLs	39	57	75	94	96	98	100	102	104	106	108	977
Growth rate		47%	32%	24%	2%	2%	2%	2%	2%	2%	2%	177%
Paper bags	37	38	40	40	40	40	40	40	40	40	40	438
Growth rate		3%	7%	0%	0%	0%	0%	0%	0%	0%	0%	10%
Bin liners	215	256	256	256	256	256	256	256	256	256	256	2770
Growth rate		19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%
Total bag usage	3,958	3,175	1,840	1,124	1,126	1,128	1,130	1,132	1,134	1,136	1,138	18,021
Growth rate		-20%	-42%	-39%	0%	0%	0%	0%	0%	0%	0%	-71%

#### Table 8: Projected bag usage under Option 2, millions, SME's, 2018-2028.

#### Table 9: Projected bags usage in Option 2, millions, all retailers, 2018-2028.

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2018-2028 % change
SUCB's	4,575	3,554	2,199	1,464	1,464	1,464	1,464	1,464	1,464	1,464	1,464	-68%
BFLs	713	752	792	832	858	885	912	941	971	1,003	1,036	45%
Paper bags	256	273	294	312	332	354	377	402	429	458	489	91%
Bin Liners	984	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	4%
Total bag usage	6,528	5,604	4,309	3,634	3,680	3,728	3,779	3,833	3,890	3,950	4,014	-39%

#### Option 3 (Increasing the current 5p charge on SUCBs to 10p for all retailers) costs and benefits

This option increases the current 5p charge on SUCBs to 10p for all retailers to reduce further the number that are currently distributed. We assume that this would lead to further reductions in the overall usage of SUCBs.

By increasing the charge to 10p, we assume a 90% reduction in SUCBs at supermarkets, 80% at high street retailers in Year 1 but 90% reduction for smaller retailers only by Year 3. This assumption draws on the evidence from England and other countries. Wales, Northern Ireland, Scotland and England all set the charge at 5p, and all saw average reductions in bag usage of around 81%. In the Republic of Ireland the charge was deliberately set six times higher than the average level that consumers reported that they would be willing to pay for a bag to influence consumer behaviour, this led to a 90% reduction in bag use<sup>16</sup>.

We believe that data on the introduction of charges in the Republic of Ireland provide a good insight for estimating the effects of a charge on plastic bags in England. Here, the levy was set at  $\in 0.15$  on most single-use bags sold to consumers at retail outlets of any kind. In the first year of operation, the use of lightweight plastic carrier bags fell by around  $90\%^{17}$ .

Once again it is assumed the reduction in high street bag usage typically lies at around 10% lower than supermarket SUCBs usage. Table 9 gives an overview of the expected reduction in SUCBs usage at 10p charge per bag.

SUCBs	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Supermarket SUCBs	277	28	28	28	28	28	28	28	28	28	28
% change		-90%	0%	0%	0%	0%	0%	0%	0%	0%	0%
High street retailers	630	126	126	126	126	126	126	126	126	126	126
% change		-80%	0%	0	0%	0%	0%	0%	0%	0%	0%
Total SMEs	3,668	2,824	1,469	367	367	367	367	367	367	367	367
% change		-23%	-48.0%	-75.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
All retailers	4,575	2,978	1,622	521	521	521	521	521	521	521	521
% change		-35%	-46%	-68%	0%	0%	0%	0%	0%	0%	0%

#### Table 10: Projected Single Use Plastic Bags usage in Option 3 (millions)

<sup>16</sup> Environmental Audit committee, <u>Reducing bag use</u>

<sup>17</sup> Proposed Plastic Bag Levy -

Table 11 looks at the change in bag usage of all bags. There is a slight increase in the usage of bags for life (BFLs) paper bags and bin liners as single use carrier bags fall.

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	% change (2018- 2028)
SUCBs	4,575	2,978	1,622	521	521	521	521	521	521	521	521	-89%
BFLs	713	752	792	832	858	885	912	941	971	1,003	1,036	45%
Paper bags	256	273	294	312	332	354	377	402	429	458	489	91%
Bin Liners	984	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	4%
Total bag usage	6,528	5,028	3,732	2,691	2,736	2,784	2,835	2,889	2,946	3,007	3,070	-53%

 Table 11: Projected bag usage, millions, all retailers, 2018-2028

Table 12 provides the summary of estimated impacts.

#### Table 12 Summary of impacts under Option 3

	Year 1	Over 10 years, discounted			
Total costs	£307.1m	£865.1m			
Familiarisations and IT costs to SMEs and micro businesses	Large retailers: £0.2m SMEs: £0.95m Micro businesses: £2.1m	Large retailers: £0.2m SMEs: £0.95m Micro businesses: £2.1m			
Costs to consumers - 10p charge at SMEs and micro business outlets	£248.2m	£667.1m			
Costs to consumers - VAT paid on the 10p charge (transfer)	£49.6m	£133.4m			
Government and public sector enforcement costs	£0.2m	£1.4m			
Costs to consumers – hidden costs from increased use of SME's paper bags	£0.2m	£3.5m			
Costs to consumers – increased use of bags for life	£4.2m	£42.0m			
Costs to consumers – increased use of bin liners	£1.5m	£14.4m			
Total savings	-£317.9m	-£1,125.4m			
Net savings to retailers from reduced stocking, transport and storage of SUCBs (assuming 25% kept by retailers)	SMEs and micro: -£0.9m Large: -£3.0m	SMEs and micro: -£26.1m Large: -£25.6m			
Net surplus from 10p charge to SMEs and micro retailers (excluding VAT, assuming 25% of surplus kept by retailers)	-£58.8m	-£139.2m			
Savings passed back to consumers from retailers (assumed 75%/100% pass through from surplus income and 75% from stock savings for	SMEs/large from charging: - £176.5m/-£12.8m	SMEs/large from charging: - £417.6m/-£110.3m			
SMEs/large retailers)	All retailers from stock savings: -£11.5m	All retailers from stock savings: -£155.0m			

Net GHGs emissions savings from reduced circulation of SUCBs and slight increase of alternatives	-£0.1m	-£18.4m
Net waste management savings from reduced circulation of SUCBs and slight increase in use of alternatives	-£0.8m	-£19.7m
Government revenue - VAT paid on top of 10p charge (transfer)	-£49.6m	-£133.4m
Savings from reduced litter costs	-£3.8m	-£80.1m
Net present value (+ societal savings, - societal costs)	£10.8m	£260.4m

If bag usage behaviours respond as expected due to a higher SUCB charge, we would expect a reduction in the use of bags and therefore a fall in overall VAT revenue in the long run. SUCB government revenue under this option will only account for an average of 0.01% per year of total government VAT receipts. This proportion is relatively higher in the first and second years at 0.04% and 0.02%. Government VAT receipts are estimated at 1.5 trillion between 2019 and 2028<sup>18</sup>.

#### Business costs and benefits

As for Option 2, the cost to business associated with the increase of the charge under Option 3 consists of one of "transition" costs such as the cost of employee time to read and understand the new regulations. These cost are based on one hour of employee time and calculated on a per outlet basis. We have estimated the familiarisation cost (the time necessary to read, understand and implement the charging requirements) at one hour of a retail assistant's time per retail outlet.

Other one off cost include IT cost to change tills and stocking systems. The IT costs are calculated on a per retail outlet basis at the cost of  $\frac{1}{2}$  hour to reprogram systems to accept the new charge. This cost is only applied to 50% of small and medium sized enterprises.

Large retailers are expected to incur costs of £0.2m from spending time on reading and understanding the new 10p charge. Large retailers would have previously incurred transition cost in the form of IT costs when the initial 5p charge was introduced in 2015. So that the analysis assumes that there will be no additional cost associated with changing stocking and tills with this increase in the charge.

These transition costs to large as well as smaller retailers are estimated at a total of £3.2m.

As a result of reduced use of SUCBs by retailers, businesses would see a reduction in the costs associated with stocking, storage and transport of SUCBs. This is estimated to be £15.3m in the first year (2019) and increasing up to £26.3m by 2028. However, like in Option 2, 75% of these savings are assumed to pass on to consumers in the form of special offers and reduced prices of goods Thus, net present savings to businesses of £51.8m over ten year's period because of keeping 25% of overall savings on buying and storing SUCBs.

Further, businesses receive income of £248.2m from the 10p charge in the first year (discounted income of £667.1m over ten year's period). Again, it is assumed that smaller businesses would pass around 75% of this income back on to consumers because of the competitive nature of the retail sector. Thus, keeping £58.8m in the first year and discounted £139.2m over the ten years period. Large retailers have traditionally donated income from the charge to charities and local enterprises so we assume 100% pass of their additional income from the charge to third parties or back to consumers (£12.8m in first year,  $\pounds$ 110.3m over ten years).

#### Table 13 Overview of costs and benefits to business under Option 3

Costs (+) and savings (-) to businesses, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Familiarisation costs to large retailers	0.2									

<sup>&</sup>lt;sup>18</sup> Estimates are based on Office for Budget Responsibility (OBR) forecasts obtained from their <u>historical Official forecasts database</u>. .Data is updated at every fiscal event.

Familiarization costs to Micro businesses	1.0	-	-	-	-	-	-	-	-	-
IT cost for micro businesses	1.1	-	-	-	-	-	-	-	-	-
IT and familiarization cost to SMEs	0.95	-	-	-	-	-	-	-	-	-
Total direct costs	3.2	-	-	-	-	-	-	-	-	-
SMEs: Savings kept from reduced stocking, transport and storage of SUCBs	-0.9	-2.2	-3.0	-3.0	-3.1	-3.1	-3.1	-3.2	-3.2	-3.3
Large: Savings kept from reduced stocking, transport and storage of SUCBs	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
All retailers: savings from reduced stocking passed back to consumers (transfer)	-11.5	-15.6	-19.0	-19.1	-19.2	-19.3	-19.4	-19.5	-19.6	-19.8
Net surplus from 10p charge to SMEs retailers (excluding VAT)	-58.8	-30.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6
SMEs: income from charging passed to consumers (transfer)	-176.5	-91.8	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9
Large: income from charging passed to consumers (transfer)	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8
Total direct savings	-260.6	-153.0	-65.7	-65.9	-66.0	-66.2	-66.3	-66.5	-66.6	-66.8
Of which passed back to consumers	-200.8	-120.2	-54.7	-54.8	-54.9	-55.1	-55.2	-55.3	-55.4	-55.5

#### **Consumers costs and benefits**

The main impact of Option 3 is the introduction of 10p charge on consumers buying SUCBs at large retailers, high street, SMEs and micro premises. Given that we assume a gradual reduction in the use of SUCBs and substitution to alternatives, the costs to consumers in 2019 are estimated at £248.2m and dropping to £43.4m from the third year (2021) onwards.

At present, consumers to SMEs are provided with SUCBs free of charge, while the actual cost of the bags are accounted for in the price of the goods and passed on to the consumer in full. The main impact on consumers of the charge is the reduction in hidden cost of SUCBs to retailers. In particular, we assumed that 75% of total savings to all businesses from reduced stocking, transportation and storage and income from charging would be passed back on to consumers in reduced prices, good offers. This proportion has been assumed in the original IA 2015 to reflect the competitive nature of the retail sector.

Consumers will incur extra costs of £1.5m on bin liners after the charge since they will no longer have access to 'free' SUCBs, commonly used as bin liners. These costs are expected to remain broadly unchanged relative to Option 2. This is because, for large businesses, we assume they have already seen the largest rise in the sale of bin liners following the 5p charge. Hence, an additional 5p charge should have little to no impact on bin liner sales for large businesses. Consequently, the increase in costs of bin liners in this scenario will largely be driven by SMEs not providing SUCBs for free anymore which has been accounted for already in Option 2 and is thus assumed to be same here<sup>19</sup>.

For the final impact assessment, we will aim to provide sensitivity analysis given the weak evidence regarding the impact on bin liners usage.

Consumers will also have additional expenditure of estimated £14.1m in the first year on new 'bags for life' (BFLs) which are expected to be substituted for SUCBs once the charge is in effect. This is because

<sup>&</sup>lt;sup>19</sup> The private cost of bin liners is taken as the average price of those bin liners that were affected by the charge in Wales (swing and pedal bin liners) uprated for 2018 which is £0.05 per bin liner.

we expect that some consumers will purchase BFLs from larger retailers and take these with them when they shop at smaller retailers.

The expected initial increase in BFL usage is calculated 141% based on past experience from the Welsh charge for SUCBs<sup>20</sup>. The annual increase in usage of BFLs is calculated using the historical data provided by WRAP on <u>Carrier bag usage</u> 2010-2014 which showed an average increase in BFL usage of 2% per year. For large retailers, the carrier bag usage data showed an increase by 4.5% over the period of 2010-2014. Thus, we assumed that, under 10p charge, the amount of BFLs in circulation would grow by 4.5% per year. Again, this is considered a conservative approach to take because consumers may have already purchased them from larger retailers and take these with them when they shop at smaller retailers.

The gross revenue from the charge is already counted as a cost to consumers in the analysis.

As explained in the section above, we assume that certain portion of business' surplus savings and charging income would be passed back to consumers. For completeness, Table 14 below presents the direct costs and indirect savings to be received by consumers.

Costs (+) and savings (- ) to consumers, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
10p charge at all retailers	248.2	135.2	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
VAT paid on the 10p charge (transfer)	49.6	27.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Hidden costs - increased paper bags use	0.2	0.7	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.1
Cost of BFLs	4.2	4.4	4.5	4.7	4.8	5.0	5.2	5.3	5.5	5.7
Cost of bin liners	1.5	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Total costs	303.7	168.8	59.0	59.1	59.2	59.2	59.3	59.4	59.5	59.6
All retailers: savings from reduced stocking passed back to consumers (transfer)	-11.5	-15.6	-19.0	-19.1	-19.2	-19.3	-19.4	-19.5	-19.6	-19.8
SMEs: income from charging passed to consumers (transfer)	-176.5	-91.8	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9	-22.9
Large: income from charging passed to consumers (transfer)	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8
Total indirect benefits	-200.8	-120.2	-54.7	-54.8	-54.9	-55.1	-55.2	-55.3	-55.4	-55.5

#### Table 14 Overview of costs and benefits to consumers under option 3

#### Costs and benefits to public sector

We expect the monitoring and enforcement costs to be relatively low because the charge for bags has been widely accepted by the public, few complaints are received, and local authorities prioritize their activities based on risk so are not proactive in carrying out inspections.

Based on the experience in Wales, approximately 50% of complaints were about non-compliance by SMEs. Compliance costs were therefore uprated to 2018 prices, and then adjusted to reflect the SME proportion of affected businesses.

Familiarization and transition cost to government increase marginally from Option 2 as the cost are already based on compliance and monitoring cost of the newly included SMEs and the same one off familiarization cost of reading and understanding the new regulation.

<sup>&</sup>lt;sup>20</sup> This is based on initial observed increase in Welsh supermarkets and judgement that this will fall after an initial spike, since bags for life are bought for reuse.

Cost to government will be in the form of a marginal increase in enforcement costs due to the additional businesses coming under the charging obligation as well as familiarization cost to Government staff of reading and understanding the changes in legislation. This is estimated at one off cost of £0.02m for the time needed for an employee to read and understand the changes in legislation.

The cost to Government is therefore estimated at £0.2m per year in responding to complaints of noncompliance which we consider is a reasonable estimate since SMEs have no incentive not to charge for SUCBs as they can retain all of the net revenue from the charge. Overall, we assume no change from the enforcement costs as observed under Option 2.

Please see the consultation document discussing this point – we will review our assumptions on enforcement and monitoring costs in the final stage impact assessment.

Costs (+) and savings (-) to public sector, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Government and public sector enforcement costs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Government revenue from VAT paid on top of 10p charge (transfer)	-49.6	-27.0	-8.7	-8.7	<del>-8</del> .7	-8.7	-8.7	-8.7	-8.7	-8.7

#### Table 15 Overview of costs and benefits to public sector under Option 3

#### Wider impacts: GHGs emissions, litter and waste management savings

There are monetised benefits of having fewer SUCBs in the waste stream. While the number of plastic bags littered is likely to vary approximately in the same proportion as the number of bags used, some of the costs of cleaning litter may be fixed, or may not vary in direct proportion to the number of bags littered.

For example, litter bins will still need to be emptied and litter pickers will still need to be employed to pick up other items of litter. However, it would be expected that as a lower level of litter is reached (with fewer bags used and disposed of, bins filling up more slowly etc.) this would largely translate into lower costs for authorities responsible for collecting litter. It is assumed that 80% of the change in bag use in any year results in lower costs from cleaning littered bags, i.e. a 1% fall in bag use results in a 0.8% fall in the cost of littered bags.

There is no evidence to support a particular figure, so 80% of the change in bag use is an assumption based on the reasoning that most but not all of the reduction in littered bags would result in a reduction in local authorities waste management costs by estimated £2.3m per year and reduced disposal and collection cost of litter to the order of £9.4m per year.

There are also carbon savings of £2.3m per year or £18.4m over the 10 year appraisal period. SUCBs are mostly imported from Asia, where around 70-90% of emissions arise during the extraction and manufacturing process. As per Government guidance, the traded price of carbon has been applied in this analysis to account for emissions which occur overseas. The GHG impact of the bag usage in Option 2 is monetised using BEIS 2018 updated short-term traded <u>carbon values</u> to be used for UK public policy appraisal.

Non monetised benefits include the reduced dis-amenity impact of fewer littered SUCBs on land and in the marine environment. Recent findings in 2018, from The Centre for Environment, Fisheries and Aquaculture Science (Cefas) revealed since the 5p charge on plastic bags was introduced, there has been an estimated 50% reduction in plastic bag marine litter.<sup>21</sup>

#### Table 16 Overview of wider societal savings under Option 3

Wider costs (+) and savings (-) to society, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
GHG emissions savings	-0.1	-0.2	-0.9	-1.4	-2.0	-2.5	-3.1	-3.7	-4.3	-4.9

<sup>&</sup>lt;sup>21</sup> The Centre for Environment, Fisheries and Aquaculture Science

Savings from reduced litter costs	-3.8	-7.5	-10.4	-10.4	-10.4	-10.4	-10.4	-10.4	-10.3	-10.3
Waste management savings from reduced circulation in SUCBs and increase in alternatives (excl. landfill tax)	-0.8	-1.7	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.7	-2.7

#### Key assumptions

According to information sourced from the <u>Impact Assessment of the SUCBs in Wales</u>, most of the SUCBs currently placed into circulation in England are imported. Consequently, domestic producers of single-use bags might incur one-off costs in switching to the supply of bags-for-life, though these are thought to be minimal.

The cost of new bin liners and bags for life are also unchanged in this option to account for uncertainty around the exact impact of the 10p change on BFL usage and bin liners sales.

SMEs can keep 100% of the charge as an incentive to ensure compliance but it is expected that a proportion of this income will be passed on to the consumers in the form of lower priced goods. We assumed this to be 75% passed back to consumers. As expressed in Option 2, there is no evidence about the degree of pass through of cost savings from retailers to customers. This expectation is based on the competitive nature of the retail sector which suggests that retailers will pass large portion of cost savings to consumers through lower prices (e.g. special offers) in order to attract and retain customers.

The increased charge of 10p is expected to reduce the use of SUCBs by 90% in the first year for large retailers and 23% for SMEs. SMEs see a gradual fall reaching 90% drop in the third year (2021) relative to the year the charge is introduced (2019) also furthers by a further .Consequently, this leads to fewer SUCBs in the waste stream and landfill. Any increase in the usage of BFLs instead of SUCBs also means a possible increase in recycling and recyclate revenue.

### Small and Micro Business Assessment

When the Government announced in September 2013 its intention to introduce a charge for SUCBs, it stated that small retailers would be exempt from the charge. In response to the Call for

Evidence several representatives of small retailers, namely the Association of Convenience Stores and the National Federation of Retail Newsagents, argued against the exemption on the grounds that it would deprive small businesses of the financial savings gained from having to purchase and stock fewer plastic bags and being able to recover the costs of those that were used. Additionally the British Retail Consortium argued against the SME exemption as it would not result in a level playing field since many SMEs (especially franchises) are in direct competition with larger retailers on high streets. In addition a franchise retailer described three of their stores all operating under three different models which might be treated differently under the proposals.

Larger retailers also argued against the SME exemption on the grounds that it would result in major differences in design between the charge in different parts of the UK (Wales and Northern Ireland have included all retailers in their charges). The EAC also called on the Government to include SMEs in the charge.

On the other hand, responses from some small organisations and the Charity Retail Association welcomed the exemption on the basis that setting up charging schemes would put a disproportionate administrative burden on small organisations. In separate discussions, the Federation of Small Businesses has supported the exemption on the same grounds.

EU Directive 2015/720 required Member States to take measures to achieve sustained reduction in consumption of SUCBs that bring consumption of SUCBs to 90 units per person by 31 December 2019 and/or measures to prevent SUCBs being provided free of charge to consumers. The extension to SMEs will assist the UK in meeting these targets.

After listening to these various arguments the Government has opted to revise its initial decision of exempting SME's and micro businesses to including them from the charge. This is because SME's produce a substantial amount of SUCBs (around 3.6 million per year). However, SME's are exempt from

reporting to lessen the regulatory burden on them. Hence, Option 3 is the preferred option. The Government is committed to creating a better environment while considering the best possible way of reducing the burden on SME's and micro businesses.

## Summary and implementation plan

Option 3 is the preferred option because it is expected to bring the greatest net benefit to society based on the costs and benefits that could be monetised in this appraisal. Option 3 most upholds the extending the 5p charge to 10p, likely to reduce single-use plastic bags use further in large retailers, and reducing single-use plastic bag use by 70-80% in SME's and micro businesses in England.

Conversely, the use of BFLs, paper bags and bin liners is expected to rise. Overall, we expect to see less greenhouse gas emissions, reduced costs of clearing litter and reduced waste management costs. There will be costs on consumers, government and retailers, but the latter will be offset by the ability of retailers to reclaim their administrative, monitoring and reporting costs from the charge so there is net benefit to business. Charities will benefit from the charge as large retailers will be encouraged to donate remaining proceeds from the charge to charitable causes as encourage in the initial 5p charge policy. The net present value of Option 3 is £163.9m, suggesting that the benefits to society outweigh the costs.

The impacts of the introduction of the 10p charge for SUCBs will be closely monitored and the policy will be formally reviewed after five years. That period of time will allow for enough data collection to which will evidence on the effect i.e whether there has been any unacceptable unintended effects, such as a large scale substitution towards paper bags or BFLs without sufficient re-use, in which case the design and scope of the policy could be changed as necessary. In the absence of data reporting obligations placed on these businesses, it is nevertheless important to ensure the impact of this change can be fully assessed. The Government is considering introducing a requirement on producers of plastic packaging to separately report the number of SUCBs they place on the market in England Scotland and Wales as part of their current reporting obligations under the Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended).