



Department of the
Environment
www.doeni.gov.uk

**BIODEGRADABLE
CARRIER BAGS REPORT:
EXEMPTIONS FROM THE NORTHERN
IRELAND CARRIER BAG LEVY**

April 2015

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Section 1

INTRODUCTION

From 19 January 2015, new carrier bags - regardless of whether they are considered single use or reusable - with a retail price between 0 and 19 pence have been subject to a 5 pence carrier bag levy.

The levy is not restricted to plastic bags – it applies to bags made from any material including paper, plant-based material or natural starch.

The relevant legislation contains a number of exemptions from the levy. These include replacement bags issued as part of ‘bags for life’ schemes operated by some larger retailers. There are also exemptions for various other bags on the grounds of, for example, health and safety and consumer protection. However the legislation does not contain an exemption for any type of bag on the grounds of ‘biodegradability’.

The Carrier Bags Act (Northern Ireland) 2014¹ requires the Department to review the position on biodegradable carrier bags by 28 October 2015. The purpose of the review is to consider the desirability of any exemptions from the carrier bag levy on the grounds of biodegradability and how any such exemptions should be applied and implemented.

This report:

- (i) summarises the legislative framework for carrier bag charging and the scope of existing charging arrangements; and
- (ii) considers the desirability of exemptions from charging - or some type of differential treatment - for paper bags (which are considered to be biodegradable by nature of their main constituent material) and for biodegradable plastic bags.

¹ 2014 c.7 <http://www.legislation.gov.uk/nia/2014/7/enacted>

EXECUTIVE SUMMARY

In 2012 around 300 million single use bags were dispensed in Northern Ireland. Following the introduction of the 5 pence carrier bag levy on 8 April 2013 this fell to 84.5 million single use bags in 2013/14². Such reductions, if they are sustained in the longer term, would equate to at least 1 billion fewer bags over a 5 year period.

The Department's policy objective is to avoid the unnecessary use of carrier bags, regardless of the materials from which they are made. The Department believes that these statistics represent clear evidence that this objective is being achieved; the carrier bag levy has generated significant changes in consumer behaviour.

This report summarises the legislative framework for carrier bag charging and the statutory provision for this review. It considers how any exemptions on biodegradability grounds might impact on overall bag consumption and the associated environmental, economic and consumer implications.

The report finds that neither paper bags nor biodegradable plastic bags are an environmentally harmless alternative to 'standard' plastic carrier bags. It also contends that the availability of any type of free bag would prompt retailers to distribute and consumers to use more bags than necessary – and would ultimately drive consumption back towards pre-levy levels.

It concludes that an exemption for biodegradable bags would therefore conflict with the policy objective of the carrier bag levy and that biodegradability considerations should not be incorporated into the charging framework at this point in time.

The report confirms that the Department is closely monitoring developments within the UK and further afield which may drive or influence future local policy decisions. It also states that the issue of biodegradability will be revisited as part of a wider 2017 review of carrier bag charging arrangements.

² http://www.doeni.gov.uk/carrier_bag_levy_-_annual_statistics_2013-14.pdf

Section 2

THE REVIEW

Terms of Reference

Section 10 of the Carrier Bags Act (Northern Ireland) 2014³ contains a requirement for the Department to prepare a report on biodegradable carrier bags within 18 months of the Act receiving Royal Assent:

Report on biodegradable carrier bags

10.—(1) The Department must, within 18 months of Royal Assent, prepare a report on biodegradable carrier bags.

(2) A report under this section must consider—

(a) the desirability of any exemptions on the grounds of biodegradability from the requirement to charge for carrier bags;

(b) the criteria under which any such exemptions should apply; and

(c) how any exemptions on the grounds of biodegradability proposed in the report would be implemented.

(3) The Department must—

(a) lay a report under this section before the Assembly; and

(b) publish a report under this section in such a manner as it thinks appropriate.

This report fulfils this statutory requirement.

Section 1 contains an Introduction and an Executive Summary outlining the content of the report and its main conclusions.

³ 2014 c.7 <http://www.legislation.gov.uk/nia/2014/7/enacted>

Section 2 outlines the statutory terms of reference for the review.

Section 3 sets out the context for the review including the existing legislative framework and the scope of current charging arrangements.

Sections 4 addresses the desirability of an exemption for paper carrier bags (which are considered to be biodegradable by nature of their main constituent material) and for biodegradable plastic bags.

Section 5 sums up the main conclusions of the review.

The report has been published on the Department's website⁴ and on the NIDirect website⁵ and was laid before the Northern Ireland Assembly on 16 April 2015.

⁴ http://www.doeni.gov.uk/index/protect_the_environment/waste/baglevy.htm

⁵ <http://www.nidirect.gov.uk/index/information-and-services/environment-and-greener-living/waste-and-recycling/carrier-bag-levy/carrier-bag-levy-legislation-and-guidance.htm>

Section 3

BACKGROUND

Legislation

The Department of the Environment (“the Department”) adopted a phased approach to the implementation of carrier bag charging. The Single Use Carrier Bags Charge Regulations (Northern Ireland) 2013⁶ (“the 2013 Regulations”), which were made under the Climate Change Act 2008⁷, provided for the first phase of charging arrangements – the introduction of a 5 pence levy on single use carrier bags on 8 April 2013.

The Carrier Bags Act (Northern Ireland) 2014 – which received Royal Assent on 28 April 2014 – provided for the second phase of charging arrangements. It amended the 2013 Regulations to apply the charging provision to a wider variety of carrier bags – specifically to target the cheaper versions of reusable bags. The effect is that all new carrier bags with a retail price of between 0 and 19 pence became subject to the levy on 19 January 2015.

Rationale for Phase 2

While a modest sustained increase in reusable bag sales may be expected as a result of a single use bag charge, the levy was extended (as intended through the Department’s phased approach) to cheap reusable bags to restrain any such increase. By providing shoppers with an incentive to reuse rather than to purchase new reusable bags, sales of these bags could be limited to necessary purchases only.

⁶ S.R. 2013 No. 4 <http://www.legislation.gov.uk/nisr/2013/4/introduction/made>

⁷ 2008 c.27 as amended by the Single Use Carrier Bags Act (Northern Ireland) 2011 (2011 c.26) <http://www.legislation.gov.uk/ukpga/2008/27/contents>

Data from a number of retailers indicate that low cost reusable bag sales in Northern Ireland increased by around 800% since the introduction of the levy in April 2013. If this had been allowed to continue unchecked, the unnecessary purchase of millions of new reusable bags would have had significant adverse environmental impacts, as reusable bags are typically of a heavier gauge than single use bags.

Scope of the Levy

The levy applies to all new carrier bags with a retail price of between 0 and 19 pence. This includes bags intended to be used to carry goods on a single occasion (“single use bags”) as well as bags manufactured for multiple reuse (“reusable bags”).

The levy is not restricted to plastic bags – it applies to all new bags, regardless of the material from which they are made.

Exemptions

The requirement to charge the levy does not apply to the supply of certain carrier bags in some circumstances⁸.

All carrier bags with a retail price of at least 20 pence (excluding the 5 pence levy) are exempt from the levy. This ensures that the levy does not apply to more durable reusable bags which are much less likely to be prematurely discarded.

The legislation also allows retailers to continue to operate what are commonly known as “bags for life” schemes if they choose to do so – offering replacement reusable bags free of charge. While the first purchase of bags meeting certain technical specifications is subject to the 5 pence levy, subsequent replacement bags are exempt.

⁸ See Schedule 1 of The Single Use Carrier Bags Charge Regulations (Northern Ireland) 2013 (S.R. 2013 No. 4) as amended by the Carrier Bags Act (Northern Ireland) 2014 (2014 c.7) <http://www.legislation.gov.uk/changes/affected/nisr/2013/4>

The Regulations also provide for specific exemptions from the levy on grounds such as patient confidentiality, hygiene and food safety and for the protection of both goods and consumers.

On this basis sellers are not required to charge the levy on the following types of carrier bags:

1. Bags of any size used:

- a. to contain hot foods or hot drinks intended for consumption away from the premises on which they are sold;
- b. to contain items purchased in the departure zone in airports and on board vehicles, vessels and aircraft;
- c. solely to contain certain items listed in the Regulations:
 - wholly or partially unwrapped food for human or animal consumption – for example loose fruit and vegetables and bread and other baked goods;
 - loose seeds, bulbs, corms or rhizomes;
 - unpackaged axes, knives, and knife or razor blades;
 - unpackaged goods contaminated by soil – for example vegetables or pot plants; and
 - items or appliances supplied under a prescription.

2. Bags of a certain size used solely to contain packaged uncooked meat, poultry or fish.

There are also exemptions for:

- Small bags of a certain size and type – for example the types of bags typically used to contain greetings cards or pick and mix confectionery.
- Certain types of specialist bags – for example mail order dispatch or courier bags.

However the legislation does not contain an exemption for any type of bag on the grounds of 'biodegradability'.

Position in other jurisdictions

The Department's approach to carrier bag charging is broadly the same as that in Wales and Scotland in that each of these jurisdictions requires all sellers to apply a 5 pence charge to carrier bags of any material. However in both Wales and Scotland the charge is currently confined to single use bags⁹.

In England the charge - which is due to be introduced in October 2015 - will apply only to bags made of plastic. A 5 pence charge must be applied to single use plastic carrier bags issued by large retailers¹⁰.

In Ireland the levy is also confined to plastic bags. A 22 cent levy must be applied by all sellers to all plastic carrier bags retailing at less than 75 cents¹¹.

When announcing the proposals for a carrier bag charge for England, the Department for Environment Food and Rural Affairs (Defra) announced that biodegradable plastic carrier bags would be exempt from the levy:

*"The charge in England will not include biodegradable plastic bags that meet defined criteria. This is part of our challenge to UK industry to find innovative approaches to decrease the environmental impact of plastic bags"*¹².

However this exemption will not be implemented immediately as Defra is not aware of any bag which meets its aspirations for the standard:

⁹ Information on the carrier bag charge in:

Wales: wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/substance/carrierbags

Scotland: <http://carrierbagchargescotland.org.uk/>

¹⁰ Information on the plastic carrier bag charge in England:

<https://www.gov.uk/government/policies/reducing-and-managing-waste/supporting-pages/charging-for-single-use-plastic-carrier-bags>

¹¹ Information on the plastic carrier bag charge in Ireland:

www.environ.ie/en/Environment/Waste/PlasticBags/

¹² Defra - Single-Use Plastic Bag Charge for England - Call for Evidence (November 2013)

Introduction paragraph 8 p 2:

https://consult.defra.gov.uk/resource-atmosphere-and-sustainability/call-for-evidence-plastic-bag-charge-for-england/supporting_documents/131125%20SUPB%20Call%20for%20Evidence.pdf

“We are encouraging the development of better biodegradable bags to provide consumers with options for those times when they do need a bag, with an exemption from the requirement to charge for biodegradable bags that meet certain standards. Standards are yet to be developed and we are looking to industry to innovate in this area”¹³.

Defra’s draft legislation laid before Parliament in December 2014 includes a requirement for the Secretary of State to complete a review of existing industry standards for the biodegradability of lightweight plastic material; to report to Parliament by October 2015 as to whether there is an appropriate standard for an exemption; and if so how that exemption would be implemented.

The European Commission intends to amend Directive 94/62/CE on Packaging and Packaging Waste to reduce the consumption of lightweight plastic carrier bags. The proposed amendments are yet to be finalised however they include proposals on mandatory labelling of biodegradable/compostable plastic carrier bags as well as a Commission survey on the impact on the environment of the use of oxo-degradable plastic bags with legislative proposals to follow if appropriate¹⁴.

¹³ Defra written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 22: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4598.html>

¹⁴ Further information on proposals to amend Directive 94/62/EC: http://ec.europa.eu/environment/waste/packaging/index_en.htm

Section 4

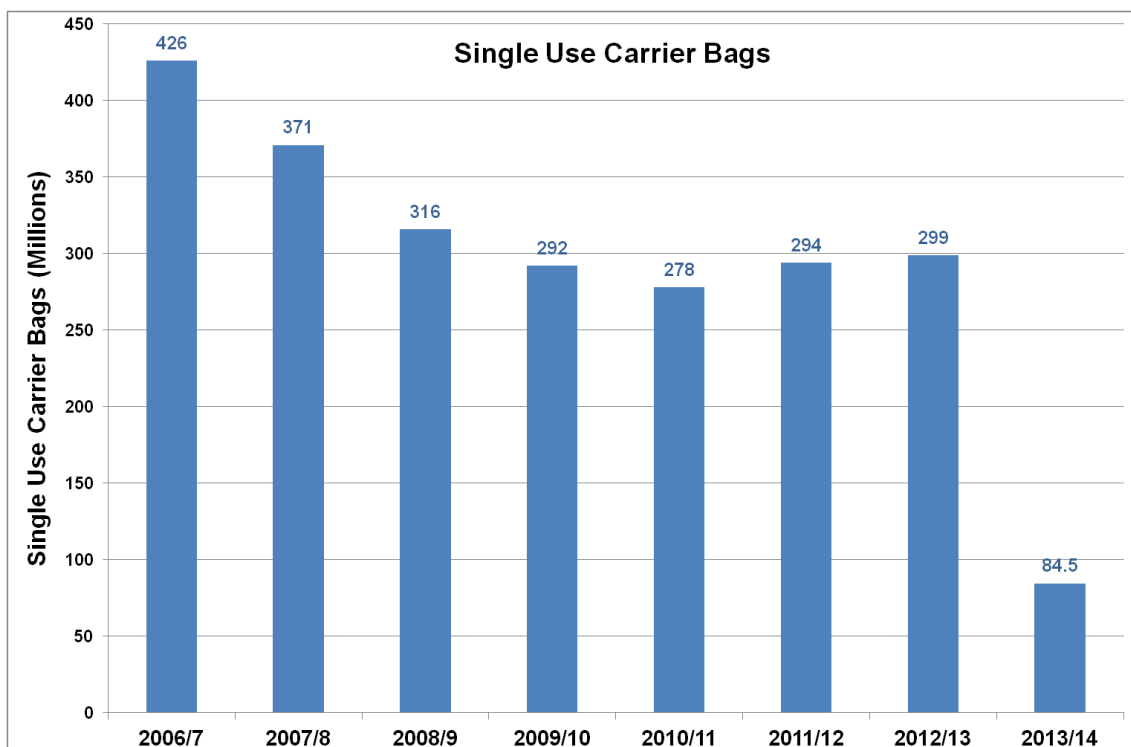
Paper and Biodegradable Plastic Bags

General

Figure 1 illustrates the huge reduction in single use bag numbers that has been achieved in Northern Ireland through the WRAP/BRC Voluntary Agreement¹⁵ and 5 pence carrier bag levy.

The number of single use bags dispensed fell from around 426m in 2006/7 to 278m in 2010/11. In recent years, the number of bags dispensed had started to increase slowly again (reaching around 299m in 2012/13). Following the introduction of the levy in April 2013, the number of bags dispensed dropped dramatically – to 84.5m units.

Figure 1: Single Use Carrier Bags Dispensed in Northern Ireland



¹⁵ Waste & Resources Action Programme/British Retail Consortium. For further information see www.wrap.org.uk/content/carrier-bags-reducing-their-environmental-impact

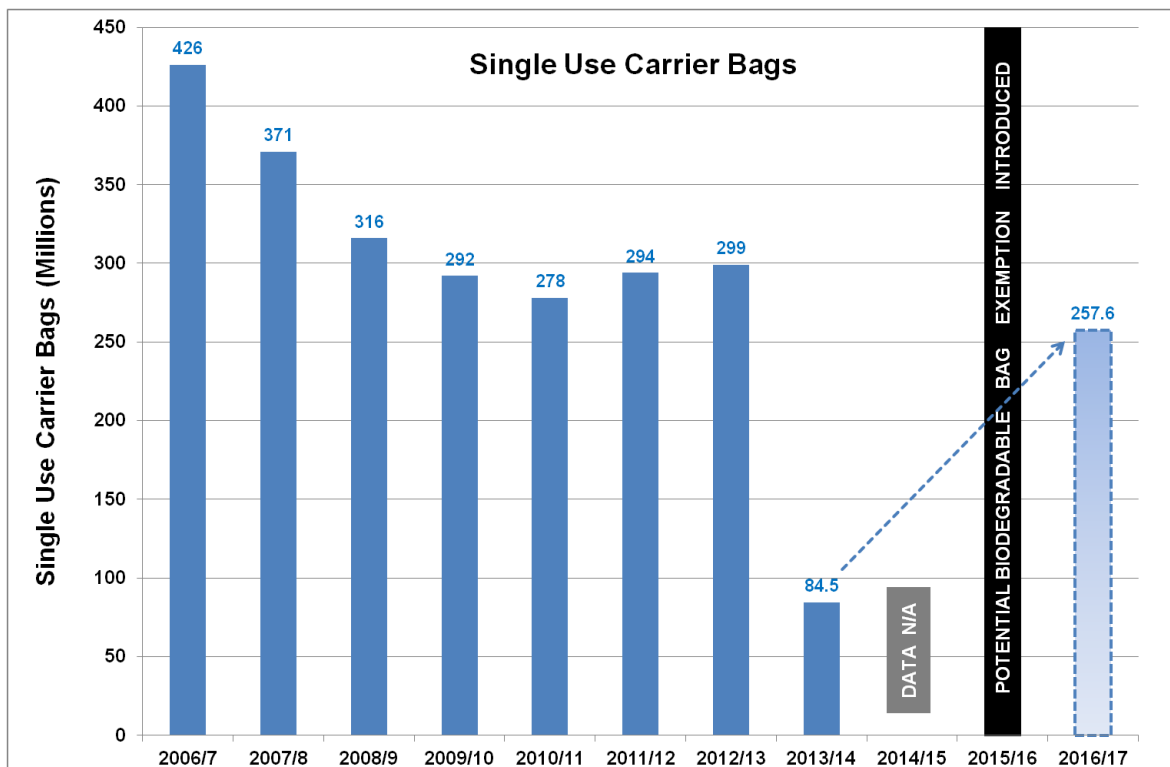
Given that the primary purpose of the carrier bag levy is to reduce or eliminate the unnecessary use of all types of carrier bags in Northern Ireland, creating exemptions for bags which have been termed by some as ‘environmentally friendly’ is likely to frustrate achievement of this objective.

Retailers could simply switch to using a carrier bag that qualified for the appropriate exemption – and could therefore be issued free of charge. This would effectively remove the financial incentive for consumers to reuse a carrier bag. Competitive pressures would be likely to result in the vast majority of retailers making such bags freely available to their customers. The excellent progress that has already been made in reducing bag consumption would, at least partially, be undone.

Even if only the major retailers that are signed up to the WRAP/BRC Voluntary Agreement chose to reintroduce free single use bags (by opting for biodegradable designs), the number of single use carrier bags could increase again by over 170 million units per year (assuming shoppers return to pre-levy behaviour).

This would drive up the total number of single use carrier bags dispensed in Northern Ireland to around 257 million units per year (**Figure 2**).

Figure 2: Potential Impact of Biodegradable Bag Exemption



In practice, the figure could be even higher as competitive pressures would be likely to force other retailers to reintroduce free carrier bags. The total number of bags dispensed could even exceed the estimated 300 million single use bags dispensed in Northern Ireland in 2012/13 as certain biodegradable bags – particularly paper bags – are likely to be less suitable for reuse than standard plastic carrier bags which are usually capable of at least some degree of secondary use.

In relation to the carrier bag charge proposals for England, the environmental charity Surfers Against Sewage commented:

“We believe that any charge should cover all single use bags. This is to ensure that other forms of single use packaging do not simply replace plastic shopping bags - replacing free plastic shopping bags with free paper or biodegradable bags is not a solution. The public should be encouraged to reuse bags, rather than replacing one form of disposable bag for another. Exemptions for paper and biodegradable bags could also have the perverse effect of increasing the number of these bags in circulation, both of which have environmental implications¹⁶.”

The implications of increased carrier bag consumption and other aspects of a biodegradable bag exemption are considered below.

Environmental factors

Paper Carrier Bags

As stated in Section 3, the carrier bag levy which has been in place in Northern Ireland since 8 April 2013, applies to paper bags as well as to those made of plastic.

Paper is considered by some to be more ‘environmentally friendly’ than plastic. This reflects a perception that paper comes from a completely renewable source, is ‘biodegradable’ - disintegrating quickly and completely – recyclable and can be

¹⁶ Surfers Against Sewage - Break the Bag Habit: <http://www.breakthebaghabit.org.uk/faq.php>

composted. On this basis, it has been suggested that the levy should not apply to paper carrier bags which, it has been argued, are a non-toxic and relatively harmless alternative to plastic bags.

Indeed Defra justified its decision to exclude paper bags from the proposed English charge on the basis that it was: “*focussed on tackling the use of plastic single use carrier bags to reduce litter and damage to the marine environment*” and commented that paper bags are not a substantial risk to either¹⁷.

However, while paper carrier bags undoubtedly have a lesser impact than plastic bags in terms of long-lasting litter and damage to the marine environment, it is completely erroneous to perceive them as environmentally harmless. Paper bag production, transport and disposal generate a range of negative environmental impacts¹⁸. These are summarised below:

- Where natural forests are removed for paper production and are not replanted, this leads to deforestation – a major contributor to climate change. Even where forests are replanted, the new monoculture plantations often do not provide the

¹⁷ Defra's written evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags (December 2013) paragraph 10 and paragraph 26:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4598.html>

¹⁸ There are number of documents setting out the environmental impacts of paper carrier bags and much of the information in this section draws on these:

A detailed assessment of the environmental impact of a variety of types of carrier bags – including paper bags - is contained in the UK Environment Agency's Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148): www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

A useful factsheet setting out information on carrier bags – including the environmental impacts of paper bags - has been produced by WRAP – Factsheet 6 - Carrier Bags (April 2011): www.wrap.org.uk/sites/files/wrap/LA_FactSheet_6_Carrier_Bags.pdf

The issue of deforestation and an overview of the literature on this topic is examined in The Root of the Problem – What's Driving Tropical Deforestation Today? Union of Concerned Scientists (June 2011) - Chapter 7 – Timber and Pulp: http://www.ucsusa.org/assets/documents/global_warming/UCS_RootoftheProblem_DriversofDeforestation_FullReport.pdf

same ecological function as the forests they replace. This has the effect of reducing the natural habitat for a wide range of animal and plant life.

- Huge amounts of energy, water, bleaches and chemicals go into the manufacture of paper bags exacting a heavy environmental impact. This includes atmospheric acidification and eutrophication of water bodies through air and water pollution.
- Paper bags are typically heavier and bulkier than plastic bags. In abolishing single use plastic carrier bags from its UK stores in 2006, IKEA rejected a move back to paper bags commenting that 1 pallet of its plastic carrier bags equated to 10 pallets of paper bags¹⁹. Paper bags therefore impose a greater transport burden – resulting in greater carbon emissions.
- If disposed of in a landfill site, paper bags are likely to degrade and release methane in the same way as other organic materials.

Overall, the UK Environment Agency calculated that a month's worth of paper bags results in carbon emissions of 5.52kg, compared with 2.08kg for a month's worth of single use plastic bags. On this basis paper bags need to be reused at least 3 times in order to have less of a carbon impact than a single use plastic bag that is used once and thrown away²⁰. Obviously where the conventional plastic bag is reused – for example as a bin liner – this figure is even higher, particularly given the inherent limits to the reusability of paper bags.

Thus any exemption from charging for paper carrier bags has the potential to greatly reduce the environmental benefits of the levy.

In considering the English proposals for carrier bag charging, the British Retail Consortium (BRC) commented:

¹⁹ IKEA Statement to Surfers Against Sewage - Break the Bag Habit:
www.breakthebaghabit.org.uk/faq.php

²⁰ UK Environment Agency's Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148) Executive Summary and Chapter 5:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

“a focus on restricting the use of single use plastic bags only will send a policy signal to consumers that single use bags made from paper (and other materials) are environmentally acceptable and can continue to be used and disposed of in unlimited quantities. This would be short-sighted given the greater environmental impact of paper carrier bags”²¹

There is no reliable data on how many Northern Ireland retailers would be likely to provide paper carrier bags free of charge to consumers if an appropriate exemption was granted.

Defra has contended that this is unlikely to be a major issue in England. It stated that the higher costs of manufacturing, transporting and storing paper carrier bags would act as a natural disincentive to their free provision in addition to their unsuitability for many purposes. Defra concluded that even if customers of large retailers increased their paper bag use by 50% after the introduction of the plastic bag charge in England there would still be a negligible environmental impact in terms of carbon emissions due to the very low current levels of use²².

However, the House of Commons Environmental Audit Committee commented that there was little basis for this assertion and felt that the increase could be significantly higher than 50%²³.

²¹ BRC written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 4.2.4: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4342.html>

²² Defra’s written evidence to the house of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 26 <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4598.html>

See also Government’s response to the House of Commons Environmental Audit Committee’s conclusions and recommendations (June 2014) paragraph 18: www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/239/23904.htm

²³The House of Commons Environmental Audit Committee - Eleventh Report: Plastic bags (HC 861) (February 2014) paragraph 27: www.publications.parliament.uk/pa/cm201314/cmselect/cmenvaud/861/86105.htm#a4

In Ireland, higher paper bag consumption since its plastic bag levy was introduced in 2002 has led to calls, such as this from the Friends of the Irish Environment, for the Irish levy to be extended to paper bags:

“A paper bag weighs roughly six times more than plastic, is about four times more expensive and takes up to ten times more storage space. The plastic bag levy has led to a displacement to paper bags which could be as high as 80% according to Irish industry sources. A higher incidence of double bagging of paper bags for strength as well as heavier paper bags is another result of the levy.”²⁴

The BRC stated that at least two of its Irish members:

“felt compelled by customer responses to offer levy-exempt paper bags following the introduction of the charge in RoI...The switch to paper bags for food purchases has effectively increased the carbon footprint of this retailer’s carrier bags in RoI by 300%”.²⁵

In conclusion, it is probable that in the event of an exemption from the Northern Ireland carrier bag levy for paper carrier bags, at least some retailers would switch to providing paper bags free of charge to consumers with the inevitable consequence of an increase in overall bag consumption back towards pre-levy levels.

As the BRC commented:

“If the charge is not applied to all single use carrier bags, it could prompt some retailers to avoid being placed at a competitive disadvantage by offering paper bags, with a higher environmental impact, instead of single use plastic bags. This would

²⁴ Friends of the Irish Environment Press Release (September 2013):
www.friendsoftheirishenvironment.org/press-releases/17163-

²⁵ BRC written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 4.2.6:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4342.html>

*increase the environmental impact of single use bags which runs contrary to the aims of the proposed charge*²⁶.

That the carrier bag charge in Wales extends to paper bags (and compostable bags) as well as to plastic bags is directly attributable to the Welsh Government's desire to avoid this type of "substitution effect."²⁷

Biodegradable Plastic Carrier Bags

There are fundamental difficulties in defining "biodegradable" plastic carrier bags and in substantiating such claims by manufacturers.

However, even in the absence of an agreed standard, there is often a common assumption that a bag made of a plastic material termed 'biodegradable' by a manufacturer must be environmentally superior to a conventional plastic bag and, therefore, can be used as a 'guilt-free' alternative. This is emphatically not the case.

There are two main types of commonly available plastic degradable bags²⁸.

However, neither type currently provides a truly environmentally-friendly solution to the plastic carrier bag problem:

²⁶ BRC written evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags (December 2013) paragraph 4.2.5: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4342.html>

²⁷ Oral evidence from Environment Director for the Welsh Government to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags (December 2013) Q11: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/oral/4661.html>

²⁸ There are number of documents setting out the environmental impacts of biodegradable plastic carrier bags and much of the information in this section draws on these:

A detailed assessment of the environmental impact of a variety of types of carrier bags – including biodegradable plastic bags - is contained in the UK Environment Agency's Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

A useful factsheet setting out information on carrier bags – including the environmental impacts of biodegradable plastic bags - has been produced by WRAP – Factsheet 6 - Carrier Bags (April 2011): www.wrap.org.uk/sites/files/wrap/LA_FactSheet_6_Carrier_Bags.pdf

- **Bio-degradable bags** – these are normally made from plant material such as corn-starch - often blended with conventional plastics. They are usually thicker and heavier than standard plastic bags, therefore imposing a greater transport burden with correspondingly higher carbon emissions and they are typically more expensive. In addition, concerns have been raised about the land and resources used to grow the crops utilised in the production of this type of bag²⁹ .

Bio-based plastics are capable of being broken down by bacteria or other organisms. However there can be a huge variation in the time frame over which this will occur and the conditions in which it is possible. Some biodegradable bags are compostable and biodegrade in a composting process within a specified timeframe. Certification EN13432 can be used where a biodegradation level of at least 90% has been achieved in less than 6 months. However such bags will only degrade in this way in commercial composting plants at certain temperatures, humidity and ph levels, not in the natural environment or in home composters.

If landfilled, biodegradable plastic bags will release methane thus contributing to climate change. This could be an issue as recent customer research carried out by Waitrose revealed that the majority of customers welcomed the concept of a free biodegradable carrier bag but confirmed that they would continue to use such bags as bin liners. On this basis it is likely that a large number of these bags would end up in landfill where they are not designed to degrade and would release methane under such conditions. As Waitrose commented, these results reveal the poor understanding amongst consumers of what biodegradable really means³⁰.

The House of Commons Environmental Audit Committee – Eleventh Report: Plastic Bags – (HC 861) (February 2014):

www.publications.parliament.uk/pa/cm201314/cmselect/cmenvaud/861/86102.htm

²⁹ Marine Conservation Society written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags – (December 2013) paragraph 32:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4214.html>

³⁰ Waitrose written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) – paragraphs 3.9 and 4.1:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4321.html>

Professor Richard Thompson of Plymouth University, who has carried out a great deal of research on how plastics degrade, concurs:

“Unless we create a specific waste stream for [biodegradable] plastic bags it is unlikely that many will end up in a composter”³¹.

The Environment Agency concluded that because of these types of factors i.e. they are heavier, have higher material production impacts and a higher end-of-life impact in landfill, starch-polyester blend bags have a higher global warming potential than standard plastic carrier bags³².

- **Oxo-degradable bags** – these are plastic bags made from petroleum-derived polymers which contain special additives that cause them to degrade after a certain amount of exposure to mechanical stress, light or heat. This causes the plastic to fragment into small pieces.

In making its case for an exemption for biodegradable bags from the levy in England, the Oxo-Biodegradable Plastics Association asserted that oxo-biodegradable plastic is designed to *“degrade and then biodegrade at the end of its useful life in the open environment in the presence of oxygen in whatever approximate timescale is desired”³³.*

However others, such as Professor Thompson, have raised concerns about how far this type of plastic bag will degrade – particularly in the colder and darker marine environment. Professor Thompson has suggested that in some cases the

³¹ Professor Richard Thompson, Plymouth University, written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (January 2014) Q131:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/5345.html>

³² UK Environment Agency’s Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148) Chapters 5 - 8:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

³³ Oxo-Biodegradable Plastics Association written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 7:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4296.html>

end result of the degradation will be fragments that are not further degradable 'microplastics' - the long-term environmental impacts of which are unclear at present³⁴.

He comments that:

*"I would be concerned if an exemption from the (English carrier bag) Levy effectively promoted increased usage of bags that fragment into powder in the home/office environment..."*³⁵

In addition, given that they are designed to degrade, the reusability of these types of bags for long term storage is clearly limited. As such, they are relatively resource intensive.

The Environment Agency assessment concluded that the overall environmental impact of an oxo-degradable bag was inferior to that of a standard plastic carrier bag³⁶.

Professor Thompson sums up the results of his research into degradable plastic carrier bags as follows:

"It is unlikely that a material can be developed for use as a plastic bag that will remain viable prior to use at a range of temperatures, in locations exposed to moisture and sunlight, that will fulfil its function to carry goods home from shops in a range of weather conditions; and more crucially that will also completely degrade into

³⁴ Professor Richard Thompson, Plymouth University, written evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags (December 2013): <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4346.html>

³⁵ Professor Richard Thompson, Plymouth University, written evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags (January 2014) Q131: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/5345.htm>

³⁶ UK Environment Agency's Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148) See Particularly Chapters 5 - 8 : https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

harmless constituents within a sufficiently rapid timescale (i.e. a timescale that would prevent the negative impacts on wildlife, aesthetics and economy) when the bag becomes litter in the environment... There is currently no evidence to justify exemption of degradable plastic bags from the [English carrier bag] levy”³⁷.

Similarly, the Packaging and Films Association pointed out:

“there is no material that will instantaneously breakdown when littered in the sea, on land, in rivers, when buried or composted. The time taken to breakdown will be influenced by the environment the materials find themselves in, the type of product e.g. compostable or oxidegradable and can be typically between 6 months and 2 years”³⁸.

In addition, an exemption for biodegradable bags has been called a *“licence to litter”³⁹* on the basis that if the public believe that these types of bags will break down harmlessly they may well be more inclined to discard them carelessly.

Of course, due to the fact that they take some time – often years – to break down in the open environment, discarded biodegradable plastic bags will continue to form litter and can pose a major danger to wildlife and marine life. The Marine Conservation Society has pointed to a study showing the threat posed to sea turtles

³⁷ Professor Richard Thompson, Plymouth University, written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraphs 2 and 5:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4346.html>

³⁸ Packaging and Films Association, written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) paragraph 4.5.4:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4198.html>

³⁹ PlasRecycle Limited written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags (December 2013) Paragraph 3:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4140.html>

by the ingestion of all types of plastic carrier bags given the slow rate of decomposition observed in even the most rapidly degrading bag⁴⁰.

Given the above, it is therefore not surprising that when announcing its proposed exemption for biodegradable bags from the English carrier bag charge (see Section 3), Defra admitted that no existing bag qualified for such an exemption. This exemption therefore remains aspirational and Defra has confirmed that it will not immediately come into effect when the legislation for the 5 pence charge in England comes into force in 2015⁴¹.

The Shadow Environment Secretary described such a bag as a “*fantasy*”⁴² however several Defra-funded research projects are underway in an attempt to develop “*biodegradable plastic carrier bags that have low environmental impacts while still being useful to consumers*” and to improve plastics separation techniques⁴³.

In general, even if an appropriate exemption could be developed – and developments in England will, of course, be monitored – the Department takes the

⁴⁰ Marine Conservation Society written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags – (December 2013) paragraph 13:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4214.html>

⁴¹ Government’s response to the House of Commons Environmental Audit Committee’s conclusions and recommendations in its report on Carrier Bags (June 2014) paragraph 32 :

www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/239/23904.htm

⁴² Hansard (12 June 2014 Column 684):

<http://www.publications.parliament.uk/pa/cm201415/cmhansrd/cm140612/debtext/140612-0001.htm>

⁴³ Single-Use Plastic Bag Charge for England - Call for Evidence (November 2013) paragraph 40:

https://consult.defra.gov.uk/resource-atmosphere-and-sustainability/call-for-evidence-plastic-bag-charge-for-england/supporting_documents/131125%20SUPB%20Call%20for%20Evidence.pdf and

Defra - Invitation to Tender for: SBRI Project on Biodegradable Plastic Carrier Bags – Solutions through

Innovation: Tender Reference WE0109 November 2013 - <https://defra.bravosolution.co.uk/web/login.shtml>

Defra’s letter to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags – January 2014:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/5253.html>

view that any exemption for biodegradable plastic bags may give the erroneous impression that such bags are an environmentally-friendly and therefore 'guilt-free' alternative to standard plastic bags and would risk facilitating a substitution effect that would inevitably cause carrier bag numbers to head back towards pre-levy levels.

As the Campaign to Protect Rural England commented:

"It is a contrary message to give – this plastic is good but this plastic is bad – and would reduce any of the associated positive changes in behaviour that arise from schemes designed to incentivise responsible environmental behaviour"⁴⁴.

Ultimately, all bags are worse for the environment than no bags at all.

Consumer factors

It could be argued that that an exemption for biodegradable bags would provide greater convenience for consumers since retailers would, once again, be able to provide them with free carrier bags – including paper bags.

It has also been suggested that it is unfair that consumers have to pay for paper carrier bags for clothes – particularly expensive items – and for bags for small items of food.

In relation to food, the objection is largely based on an erroneous reading of the legislation. Many small bags used to carry food items (e.g. unwrapped bakery goods such as bread, sausage rolls and patisserie items) are already exempt from charging under the current legislative framework which provides that bags can be supplied free of charge for unwrapped (which includes partially wrapped) food.

⁴⁴ Campaign to Protect Rural England written evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags – (December 2013) paragraph 14:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4256.html>

More generally, a levy on paper bags - including those provided by clothing retailers - has been an integral part of carrier bag charging arrangements since 8 April 2013. The Department is of the view that allowing retailers to revert to the pre-levy position regarding paper carrier bags would be a retrograde step.

The introduction of additional exemptions for paper and, potentially, for biodegradable plastic bags risks creating confusion amongst shoppers who have already had to adapt to one major change in the charging arrangements - the extension of the levy to reusable bags in January 2015.

It is also likely to compromise the Department's communication campaign which has focused on the objective of avoiding the unnecessary use of all carrier bags and stressed that the best environmental outcome comes from re-using each bag as often as possible rather than replacing one type of bag with another.

In addition, in relation to timing, if a biodegradable bag exemption were to be progressed now while the European Commission is developing its proposals (see Section 3) consumers – and retailers – could be faced with a confusing array of exemptions and continuous changes – undermining the environmental objectives of the levy.

Economic Factors

The Department has been informed that some 8 jobs have been lost in the carrier bag industry in Northern Ireland as a direct result of the introduction of carrier bag charging and the associated sharp decline in demand for bags⁴⁵.

On this basis, it could be argued that additional exemptions for some types of carrier bags, by increasing the overall demand for bags, would prove positive for the bag manufacturing and distribution sectors.

⁴⁵ See comments from Mr J Allister MLA in the debate on the Carrier Bag Bill: Further Consideration Stage – 25 February 2014 (10.45am): www.niassembly.gov.uk/Assembly-Business/Official-Report/Reports-13-14/25-February-2014/#1

In relation to manufacturing, the vast majority of all UK carrier bags are now made overseas – mainly in the Far East – and the Department understands that there is little, if any, manufacturing activity in Northern Ireland. It is therefore extremely likely that any newly exempt bags would also be manufactured abroad and, consequently, it is very unlikely that there would be an economic dividend in relation to increased manufacturing opportunities in Northern Ireland.

However, some Northern Ireland–based economic activity is associated with the import and supply of carrier bags and the Department would accept that there have been some redundancies in this sector related to the introduction of the levy. The Department’s own Regulatory Impact Assessment (RIA), prepared prior to the commencement of charging, suggested that approximately 9 jobs in Northern Ireland’s carrier bag industry would be lost due to the introduction of the levy⁴⁶. This is consistent with the 8 reported job losses.

It is possible that future exemptions may reverse some of these job losses however, given the small numbers of jobs involved, any additional employment benefit would be negligible.

In relation to the Northern Ireland retail sector, some retailers and organisations representing retailers have commented that business in smaller shops has been affected by the levy. They have pointed to, for example, an increase in shoplifting and a decline in impulse purchases - with consumers restricting themselves to what they can carry - and have also suggested that there has been a decline in opportunities for retailers to utilise carrier bags for promotional purposes⁴⁷. It could

⁴⁶ Department of the Environment: Carrier Bag Levy - Regulatory Impact Assessment (February 2013) paragraph 63:

www.doeni.gov.uk/carrier_bag_levy_-_regulatory_impact_assessment_ria_-_2013.pdf

⁴⁷ Evidence from Northern Ireland Independent Retail Trade Association/Northern Ireland Retail Consortium/Northern Ireland Environment Link/Northern Ireland Local Government Association to Northern Ireland Environment Committee on the Carrier Bags Bill (26 September 2013):

www.niassembly.gov.uk/Assembly-Business/Official-Report/Committee-Minutes-of-Evidence/Session-2013-2014/September-2013/Carrier-Bags-Bill-NIIRTANIRCNIELNILGA-Briefing/

See also comments from Mr J Allister MLA in the debate on the Carrier Bag Bill: Further Consideration Stage (25 February 2014):

www.niassembly.gov.uk/Assembly-Business/Official-Report/Reports-13-14/25-February-2014/#1

be argued that an exemption for biodegradable bags would help address these issues.

Again, the Department's RIA had predicted such outcomes. However the RIA also noted that, given the experience of retailers in Ireland, many of these types of losses should abate after an initial 'settling in' period and, in any case, should be greatly outweighed by the savings to retailers relating to the purchase and distribution of carrier bags which were previously distributed to customers free of charge⁴⁸.

Just before the levy was introduced, John McDowell (Parliamentary Spokesperson, National Federation of Retail Newsagents Northern Ireland) commented that:

"The introduction of the levy will lead to significant cost savings for our members which will greatly outweigh any administrative costs incurred as well as contributing to waste management and environmental strategies⁴⁹".

In addition, in a 2013 survey of retailers⁵⁰, 80% of those questioned welcomed the introduction of the levy and of those reporting an impact on business costs, retailers indicating that the levy had reduced their costs (32%) outnumbered those indicating the levy had increased their costs (15%) by more than two to one.

As already discussed, in the event that an exemption were to be granted for carrier bags made of paper and biodegradable plastic, it is likely that carrier bag numbers would increase significantly – with much of the annual reduction of 219m bags (2013/14) reversed. On this basis, while some retailers may welcome the ability to provide bags free of charge to customers, any economic benefit to retailers would be greatly diluted by the increased overheads that would result.

⁴⁸ Department of the Environment: Carrier Bag Levy - Regulatory Impact Assessment (February 2013) paragraphs 79-85:
www.doeni.gov.uk/carrier_bag_levy_-_regulatory_impact_assessment_ria_-_2013.pdf

⁴⁹ Department of the Environment Press Release (19 March 2013)
www.northernireland.gov.uk/news-doe-190313-retailers-should-now

⁵⁰ Survey carried out on behalf of the Department of the Environment by Millward Brown - Research to measure impact of DOE Communications – Carrier Bag Levy (June 2013)

In addition, there may be implications for retailers regarding reporting of carrier bags issued to customers. At present details of carrier bags which are exempt from the levy do not need to be reported to the Department. However, in the event of an exemption for paper and/or biodegradable plastic bags it is possible that the Department will require that data is kept on the number of such bags issued in order to assess the impact of any exemption. This would place a greater administrative burden on retailers – and is likely to involve more complex procedures than currently in place with records and reporting required for some exempt bags but not for others.

It is also possible that increased carrier bag litter, arising from the ready availability of free bags, could negatively impact on Northern Ireland's green image and tourism sector.

Finally, there are serious concerns about the impact of biodegradable bags on the UK plastics recycling sector. Large quantities of conventional plastic bags are currently recycled to make polythene film. The House of Commons Environmental Audit Committee heard evidence that there is widespread anxiety about the risk of contamination of this waste stream with materials which are specifically designed to degrade thus potentially jeopardising the durability and quality of the finished products. Several recycling companies commented that it would be impossible to completely segregate degradable plastic - or would be uneconomic to do so - and that even the perception of such contamination could cause irreparable damage to the reputation and hence profitability of the UK's recycling industry and lead to job losses⁵¹.

⁵¹ Evidence to the House of Commons Environmental Audit Committee inquiry into the Government's proposals for a charge on single use plastic bags. Submissions included the following:

The Packaging and Films Association (December 2013) paragraphs 4.5.8 – 4.7:

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4198.html>

Regain Polymers Ltd (November 2013):

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4097.html>

Axion Recycling Ltd (December 2013):

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4218.html>

British Polythene Industries PLC (December 2013):

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4170.html>

The Environmental Audit Committee commented that, while it had heard some opposing evidence that some bio-degradable plastics could be recycled without affecting the performance of the recycled plastic⁵², it had come to the conclusion that:

“The Government should remove the proposed exemption [from the English carrier bag charge] for biodegradable bags. It presents risks to recyclers...”⁵³.

As discussed above, Defra has confirmed that this exemption will not come into effect with the legislation for the 5 pence charge in England in 2015 stating that:

“We are well aware of the concerns regarding contamination of the recycling stream with biodegradable plastics and are addressing this with feasibility studies considering innovative solutions to detect and separate out plastics when mixed in the waste stream. We will carefully assess the impact on the industry before introducing any exemption for biodegradable bags”⁵⁴.

Impact on local environmental programmes

While the primary aim of the levy is to drive down bag consumption, the revenue generated by any bag sales is used by the Department to promote environmental benefit.

The net proceeds of the levy are used to support a range of environmental programmes in Northern Ireland at community level - particularly those that deliver social and economic benefits.

⁵² Oxo-Biodegradable Plastics Association written evidence to the House of Commons Environmental Audit Committee inquiry into the Government’s proposals for a charge on single use plastic bags – (December 2013) paragraph 32

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/plastic-bags/written/4296.html>

⁵³ House of Commons Environmental Audit Committee Report - Plastic Bags – Eleventh Report of Session 2013-14 (HC 861) (February 2014) Recommendations - paragraph 64:

www.publications.parliament.uk/pa/cm201314/cmselect/cmenvaud/861/86102.htm

⁵⁴ Government’s response to the House of Commons Environmental Audit Committee’s conclusions and recommendations in its report on Carrier Bags (June 2014) paragraph 33:

www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/239/23904.htm

The Department allocated a total of £2.3 million to the Environmental Challenge Fund for 2014. This Fund provides money for communities and organisations to develop a number of new and inspiring local environmental projects. In total, 251 projects successfully bid for granted funding. An additional £0.6 million was also allocated to the annual Natural Heritage Grant, £0.2 million to the Sustainability Innovation Fund and £0.3million to Local Clean-up Support⁵⁵.

Using the proceeds generated by the levy in this way helps to offset the negative impacts of residual carrier bag production. Additional exemptions for some types of carrier bags would therefore not only mean that carrier bag numbers would be likely to increase significantly - with corresponding environmental damage - but also would mean less funding for communities, schools, charities and environmental groups.

In addition, as the levy is self-financing and a portion of the levy funds go towards monitoring and enforcement, a substantial fall in levy income might also mean that the Department would have to finance these activities from its core funding – with implications for other Departmental functions. This would be a particular issue where additional enforcement was required to ensure that sellers were complying with any biodegradability standards and would inevitably push up enforcement costs at the same time that levy proceeds were falling due to the additional exemptions.

⁵⁵ Information on the Challenge Fund and the projects which have been assisted by funding from the Carrier Bag Levy via the Challenge Fund is available at:
www.nienvironmentlink.org/projects/nieachallengefund/challenge-fund-2014.php

Section 5

CONCLUSION

This report has considered how exemptions from the carrier bag levy on the grounds of biodegradability might impact on overall carrier bag consumption and the environmental, consumer, economic and other implications of such exemptions.

Figure 3 illustrates the main conclusions reached and the environmental and other impacts of 'standard' plastic, paper and degradable plastic carrier bags.

The final issue which merits examination is whether any type of biodegradability consideration - short of a full exemption - should be incorporated into the Northern Ireland carrier bag charging framework. This might involve, for example, differential charging i.e. a lower levy for some types of biodegradable bags.

Overall, the evidence outlined in Section 4 makes it clear that neither paper bags nor biodegradable plastic bags are an environmentally harmless alternative to 'standard' plastic carrier bags. It also illustrates that the availability of any type of free carrier bag would be likely to ultimately drive consumption back towards pre-levy levels with correspondingly harmful environmental impacts.

The Department believes that this is equally true of any type of partial exemption or differential treatment for paper or plastic biodegradable bags. In addition to the factors already outlined in relation to the risks of complicating the scheme for retailers and confusing consumers, the Department would argue that if paper and plastic biodegradable bags are no better and, in some cases, actually more harmful to the environment than standard plastic carrier bags, then any concessions in relation to these bags would put the Department at variance with the available scientific evidence.

On this basis, the Department rules out any differential treatment at the present time.

Figure 3: Impact of Carrier Bags: Plastic, Paper and Degradable Plastic⁵⁶

Carrier Bag Type		Global Warming Potential	Pollution			Resource Depletion	Deforestation / Loss of Habitat	Potential Risk to Recycling Industry	Employment (in carrier bag industry)	Consumer Utility
			Air	Water	Litter					
'Standard' Plastic (High-density polyethylene - HDPE)		×	×	××	×××	××	-	-	✓	✓✓✓
Degradable Plastic	Oxo-degradable (HDPE + prodegradant additive)	×	×	××	××	××	-	×××	✓	✓✓
	Biodegradable (Starch-polyester / Biopolymer)	××	××	×××	××	××	×	×××	✓	✓✓
Paper		×××	××	×××	×	××	×××	-	✓	✓

Key: × = Negative Impact ✓ = Positive Impact

⁵⁶ Much of this material is taken from the UK Environment Agency's Report: Evidence - Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006 (February 2011) (SC030148): www.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf

That is not to say that the Department will not monitor any developments in this area carefully.

Mention has already been made of the Defra-funded research projects which are underway in an attempt to both develop biodegradable plastic carrier bags with low environmental impacts and to improve plastics separation techniques. While it is clear that a biodegradable bag exemption will not be in place by the time that the English carrier bag charge is introduced in late 2015, the Department will maintain close links with Defra colleagues in relation to the outcome of the research projects and will consider further evidence in relation to potential future exemptions accordingly.

Other innovations in this area may also merit further examination.

For example the Co-operative Group operates a scheme in a number of its food stores in England and Scotland in areas that accept food waste collections. In those stores, it sells clearly labelled compostable bags made from compostable polymer and starch at 6p each. These are used initially to carry shopping home but then can be reused as caddy liners for local authority food waste collection or in home composting bins.⁵⁷

It should be remembered that in Northern Ireland these bags would be subject to the carrier bag levy which, assuming that they had a retail price of 6 pence would increase the price to the customer to around 11 pence. This is likely to suppress demand to some extent compared to England or Scotland. However while there are definitely points of interest in this scheme for the Department, as in England and Scotland, a great deal of discussion with local government would be required to ensure that these bags were compatible with council waste collection arrangements. This would take some time and no early decisions should be made.

In conclusion, the Department believes that in circumstances where any commonly available alternatives to standard plastic bags have equally harmful environmental

⁵⁷ <http://www.co-operativefood.co.uk/food-matters/carrier-bags/>

impacts and in a context of developments in Europe, biodegradability considerations should not be incorporated into the Northern Ireland charging framework at this point in time.

However the issue of biodegradability will be revisited as part of a wider 2017 review of carrier bag charging arrangements during which scientific advances and new initiatives will, of course, be considered for their suitability in the Northern Ireland context.