

Papur Datgan Sbwriel Bagiau Plastig

Plastic Bag Litter Position Paper



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Executive Summary

Keep Wales Tidy has examined the issues surrounding plastic bag litter, and has reached the conclusion that the best means of addressing this problem, while conferring minimal costs onto taxpayers, retailers and government, is to apply a levy on plastic carrier bags.

Our policy statement is “the competent legislative authority should introduce legislation for Wales that mandates the application of a levy to plastic carrier bags in order to reduce the defacement caused by these items to the Welsh environment”.

The value of the levy is recommended to be 10p per bag at the time of writing, with the net proceeds being directed to environmental activities.

As a measure to reduce plastic bag litter, a levy is extremely effective. In Europe’s only consumer-focused levy, in the Republic of Ireland, there has been a 94% reduction in plastic bags distributed, with a 95.6% reduction in plastic bag litter.

Plastic bags comprise 2.7% by weight of litter in Wales, and the estimated annual cost to local authorities in Wales of cleaning up littered plastic bags is £1 million. The hidden cost to Welsh consumers of these ‘free’ plastic bags is calculated to be nearly £4¾ million every year.

Plastic bags are highly persistent in the environment and easily transportable by wind and water. They cause fatalities of wildlife, particularly marine animals. The Welsh public is familiar with, and fed up of, the sight of plastic bags caught in bushes and trees. A levy is a very popular means of solving the problem.

Other benefits of a plastic bag levy include:

- increasing public awareness of litter and environmental issues generally
- revenue being raised by the levy contributing towards environmental objectives

The plastic bag lobby has been actively providing misinformation about plastic bags, and about the plastic bag industry. These myths are tackled in Part II of the document.

**Cadwch Gymru’n Daclus/Keep Wales Tidy
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“The day of the plastic bag is coming towards an end... It is the policy of this Government to tax plastic bags as a means of discouraging their use. Over 1.2 billion plastic bags are handed out, free of charge, every year to customers in about 19,000 shops and other retail outlets throughout this country. Most end up in landfill. Too many end up in the environment as litter. They are an eyesore on our streets and roadsides, and in hedges and trees throughout the countryside. In addition, plastic bag pollution is a threat to our ecosystems, natural habitats and wildlife. We simply cannot allow this to continue”

Noel Dempsey, Former Irish Minister for the Environment and Local Government¹



Afon Rhondda at Hopkinstown. Photo: B. Williams

“Waste issues like this are, clearly, best tackled by avoidance at source through levies and the provision of alternatives. Given industry’s unwillingness to accept responsibility for the huge quantity of plastic bags that enter our environment - and, indeed, their unwillingness to acknowledge the potential environmental damage that these bags can cause - it seems clear that some regulatory, financial and education incentives are required... Nothing - I repeat: nothing - strikes as much fear into industry’s heart as a proposal that environmental costs be factored into point-of-sale purchases through levies or similar means... The whole point of the levy is to change that behaviour which industry wrongly asserts to be inelastic and get people to use fewer bags - to find alternatives and thus avoid paying the levy. Recent experience from the Irish levy in fact suggests that this behaviour is highly elastic. The submission says that the levy is a ‘distortionary impost’. Nonsense! What in fact is distortionary is the current situation, where there is no clear link between behaviour and cost, as the cost of addressing the environmental impact of plastic bags through litter clean-up, wildlife rescue et cetera is borne by the broader community through their rates and taxes. A point-of-sale tax - one that the consumer can readily avoid by choice - shoots the responsibility home to the user and provides a strong signal to find more appropriate and less costly behaviours”.

Councillor Leo Kelly, Metropolitan Vice-President, Local Government Association of NSW and Shires Association of NSW²



Introduction

Plastic carrier bags have been a feature of society in Wales for a few decades now. Lightweight, strong, and seemingly free of charge, they epitomised a modern technological solution to a problem of goods portability. But before the widespread use of plastic for this purpose, people used all manner of alternatives. For the most part, people used cloth or string bags – eminently reusable and practical. It is Keep Wales Tidy’s desire to reduce littering of carrier bags, preferably by a return to the re-use of multi-trip bags. This document sets out our means of achieving this aim.

“The plastic bag tax in Ireland is an excellent example of an environmental tax seeking to change behaviour. Its success will not be measured by the revenue it raises but by the fall in the number of bags filling landfill sites or littering the streets... Many of those that escape the landfill site will end up littering our streets where, as we all know, they are a particular problem. Plastic bags are light and are often blown into trees and bushes as very visible evidence of our wastefulness”

Sue Essex, Former Welsh Environment Minister³

The Problem

There are two problematic features of plastic bags:

- their physical properties render them both easily transportable by weather, which causes wide dispersal, and not readily degradable, so they persist for long periods in the environment
- enormous numbers of them are given out

These features contribute to the following two issues:

- they cause problems in the environment, particularly the marine environment, society’s knowledge of which is rather poor
- they form a substantial component of litter in Wales

Degradability and Transportability

Plastic bags are estimated to take from 500⁴ to 1000⁵ years to break down and are thus highly persistent visual pollutants. Plastics are resistant to biodegradation and are only broken down through weathering⁶, because no biological organisms exist that can break them down. As a result, the number of plastic bags in the environment is, in effect, cumulative, with Welsh people adding millions more each year. They have gone from being ‘rare’ in the marine environment in the early 1990’s⁷, to being “almost everywhere from Spitzbergen 78° North to Falklands 51° South”⁷. Some countries even have pet names for plastic bag litter: the Chinese call them ‘white pollution’⁸, in South Africa, their ubiquity earned them the titles of ‘national flower’ and ‘roadside daisies’⁹, and in Ireland they are known as ‘witches’ knickers’⁹.

“Once used, most plastic bags take generations to degrade in the natural environment”

Councillor Theo Blackwell, Former Deputy Leader of Camden Council¹⁰

Because of their lightweight nature, plastic bags are easily transported by wind and water¹¹. This enables them to travel extensively. In addition to bags that are littered, many enter the environment despite more appropriate disposal, after escaping from litter bins, bin lorries, and from landfill sites. Animal interactions with rubbish bins compound the problem¹¹. Wales has greater mean wind speed than much of the rest of the UK¹², which means that plastic bags disposed of in Wales will be more likely to escape into the environment than they are in Northern Ireland and England. Even in landfill sites, plastic film such as carrier bags causes problems because it interferes with the behaviour of water in the landfill mass¹³. When plastic bags are blown into streams and rivers, they cost money to clean up¹⁴; plastic bags are also very effective at causing blockages in drainage systems. The ultimate destination for most of these carrier bags will be the sea¹⁵, where they cause serious problems for marine organisms.

“Plastic bags are without a doubt our biggest litter problem... no matter how neat you keep your landfill, they just drift everywhere. They’re really all that creates litter here. The very light supermarket plastic bags just blow away”

Ross Currie, director of the Twigg Group, which runs the Brooklyn landfill site near Sunbury¹⁶

Vast Numbers are in Circulation

In research conducted by B&Q, most people stated that they are given between three and ten plastic carrier bags per week by retailers¹⁷. In a B&Q survey of 12,000 people across the UK¹⁸:

- 47% had more than 20 bags at home, while 9% hoarded up to 80.
- 40% felt guilty about not re-using more of their plastic bags.

The Plastic Bags Working Group concluded that plastic bags are Australia's "highest volume 'add-on' packaging designed as a single use or disposable product" and are not essential to product integrity¹¹.

"Plastic bags are so inexpensive that in the stores no one treats them as worth anything... they use two, three, or four when one would do just as well"

Robert Bateman, President of Roplast Industries, a manufacturer of plastic bags in California¹⁹

Estimates of the numbers of plastic bags distributed in the UK vary from 8 billion²⁰ to 17½ billion²¹, indicating that the number is unknown but enormous. A conservative estimate of plastic bag use in the UK, used in this paper, is that 10 billion plastic carrier bags are distributed each year²² - 32% of which are imported from Malaysia, 24% from China and 20% from Thailand²³. In total, approximately 90% of plastic carrier bags in the UK are imported from the Far East and China²⁴. These imports all involve transportation, with related pollution costs.

Since 4.9% of the UK's population lives in Wales²⁵, approximately 490 million bags are used in Wales each year. That equates to an average of more than 168 bags per person per year, or nearly 9.5 million bags every week. The direct financial cost of these plastic bags does not take into account the social cost of the environmental problems that are already falling on Welsh taxpayers. Nonetheless, Keep Wales Tidy has conservatively calculated that the annual cost absorbed in shopping prices by Welsh consumers is £1.63 each for their 'free' plastic bags (see Annex 1). This equates to a total price of £4,741,500 for the country as a whole. Since the price of plastic bags is directly related to the oil price²⁶, this subsidy is likely to increase year on year. It is important to note that this is a conservative estimate. The Republic of Ireland, with just un-

der 4 million people, used 1.26 billion bags before introduction of the levy. Per capita, therefore, the estimate of 490 million bags used per year suggests that Welsh people use 47% fewer plastic carrier bags per capita than the people of Ireland did before the levy (Annex 2).

Problems for Wildlife

Plastic bags in the open environment "undoubtedly" pose a risk to wildlife²⁷. The Scottish Society for the Prevention of Cruelty to Animals highlights plastic and polythene bags as one of five "particularly problematic" types of litter²⁸.

"The evidence of the negative impact of plastic carrier bags on wildlife and the environment is clear"

Stuart Boags, B&Q Director of Operations in Scotland²⁹

International Coastal Clean-up reports that 2.2% of all animals found dead during the 2004 survey had been entangled in plastic bags³⁰. But the biggest threat associated with plastic bags for marine wildlife is ingestion; animals confuse these items with prey species³¹. Plastic bags are especially noteworthy in this regard. As a result of their large surface area and small mass, they float in the water column for a considerable time. Floating marine debris has been identified as having the greatest potential for ingestion by marine wildlife of all marine debris³¹.

Ingestion of plastic bags can result in gastrointestinal obstruction, pain, trauma, stomach ulceration, rotting of food in the stomach, shrinking of organs including the liver and spleen, internal infections, atrophy of fat, absence of cardiac fat, toxic effects, starvation, and emaciation³¹. Ingestion of plastic bag litter can also cause a false sensation of fullness or satiation, as the litter may remain in the stomach⁶. This can lead to starvation and death³². Plastic bags are a particular hazard to those species that eat jellyfish or squid⁶, because they can choke as they try to swallow them³³.

Birds, whales, seals and turtles are all known to ingest plastic bags³⁴; plastic litter is estimated to suffocate and strangle a million seabirds and 100,000 mammals annually worldwide¹⁸. In the Netherlands, 96% of dead fulmars autopsied had double

the amount of plastic fragments in their stomachs as they did twenty years previously³⁵. A dead Minke whale washed up on the Normandy coast in 2002 was found to have 800g of plastic bags inside its stomach³⁶. A study of dead green turtles washed up on the coast of Brazil determined that 47% had white or transparent plastic bags in their stomachs³⁷.

The stomach of a Bryde's Whale beached in Queensland in 2000 contained a tight ball of plastic packaging, the total area of which was 6 square metres³¹. 12% of the total plastic blockage was shopping bags that originated from all over the south Pacific³⁸.

The inert nature of plastic bags means that they do not degrade easily – a bag that causes death by ingestion will be released to keep polluting, once the corpse has decayed⁶. This slow rate of decomposition means that every additional bag that enters the waterways compounds the problem.

The impact of plastics, including plastic bags, is “massively understated” in the marine environment³⁸, because many affected animals die at sea. Of those that are washed up, only a small proportion of carcasses are analysed. Society takes no substantive consideration of lethal or sublethal effects of plastic bag ingestion by wildlife, or entanglement.

“The problem is that, when we do not know what the cost of [the litter impact] is, it is discounted. In other words, it is not taken into account. One of the problems we are facing here is that we know that there is an impact on fisheries, for example, but because we do not have a dollar assessment of that, it is counted as zero”

[Australian Senator Bob Brown, in evidence during the Senate Environment, Communications, IT and the Arts Legislation Committee³⁹](#)

Common in Litter

The plastic bag lobby has consistently understated and underplayed the litter problems caused by plastic bags.

Plastic bags are found in large numbers on UK beaches⁴⁰. During Beachwatch 2004, 39 plastic bags were found for every kilometre of beach surveyed⁴⁰. Over the ten year period 1994-2004,

plastic bags have become 32% more common on beaches in the UK⁶. The Marine Conservation Society estimates that the cost of clearing plastic bags from beaches in the UK is £290,000⁶. Internationally, plastic bags are the fifth most common item of litter found on beaches⁴¹.

“Walkers in urban or rural areas cannot fail to be aware of unsightly litter caused by plastic bags getting caught in hedgerows, fences, watercourses and around our coast”

[The Ramblers Association⁴²](#)

Plastic bags do not just end up on the coast. 70% of total litter in dredge samples from the continental shelf of the Spanish and French Atlantic was plastic bags⁴³. They also comprised 47.6% of all floating marine debris in a survey in the south east Pacific⁴⁴, far outnumbering any other category of litter. Plastic bags are now the most common floating litter item in the nearshore North East Atlantic⁶.

In the terrestrial environment, plastic bags are a highly visible and symbolic form of litter²⁷, and they are visually intrusive and persistent⁴⁵. Their prevalence suggests a carelessness towards the environment and disregard for the environmental image that is conveyed⁴⁶. It is this high visibility and ubiquitousness that earns the plastic bag its high level of disapproval in the eye of the Welsh public. Two-thirds of people responding to a Keep Wales Tidy survey described them as a ‘major problem’⁴⁷, while 73% of people in a B&Q survey were ‘annoyed’ at plastic bag litter in their neighbourhood¹⁸.

“In a few weeks leaves will camouflage them, but for now they make the countryside look really untidy. Why is it that wherever you look, there are so many plastic bags stuck to our fences, trees, and bushes?”

[Worthing Borough Council⁴⁸](#)

A study in England, funded by the packaging industry (INCPEN) determined that 37 items of litter, out of 22791, were carrier bags⁴⁹. This equates to 0.162% of all litter. However, these 37 carrier bags formed 1.14% of all non-cigarette related litter, which demonstrates the ‘skewing’ effect of cigarette litter in litter statistics. The Local Environmental Quality Survey of England 2004/05 identifies plastic carrier bags as defacing 7% of streets⁵⁰.

“Although plastic bags are only found on around 7% of streets, they are highly visible forms of rubbish that have been known to choke animals and blow onto windscreens causing major accidents”

Steve Graham, EnCams Regional Director for the north east of England⁵¹

In Australia, studies show that plastic bags represent numerically around 2% of the litter stream at most surveyed sites¹¹.

The most thorough analysis to date of litter in Wales indicates that refuse sacks and carrier bags form 3.3% of litter by weight⁵². In Keep Wales Tidy’s extensive experience of litter analysis and monitoring, no less than 90% of littered ‘refuse sacks and carrier bags’ by number are carrier bags, so we estimate that 2.7% of litter by weight in Wales is carrier bags (Annex 3). Following this, we calculate that 3.4 plastic bags are found in every kilogram of litter in Wales (Annex 4). As a proportionate cost of the £37 million annual cost of street cleansing in Wales, dealing with plastic bag litter costs local authorities in Wales £1 million annually.

Perhaps the biggest visual pollutant effect of plastic bags is on riverside vegetation. When rivers are in spate, all manner of debris is carried along, and of these, the plastic bag is one of the most likely to

get caught on low-hanging branches. These river-hanging bags are far more difficult to clean up than general street litter, because of their location on the riverbank and on overhanging branches⁵³.

As a result of topography and high rainfall, Wales is blessed with a particularly high density of rivers. However, this means that Wales has a disproportionately high amount of tree-hanging plastic bag litter compared to other countries in the UK. Many of these rivers, particularly in the south Wales valleys, run directly through the centre of densely populated communities, and plastic bag litter will therefore be a highly visible component of litter. These valleys communities are also largely the poorest communities in Wales: in a very real sense, plastic bag litter has an inordinately visually polluting effect on Wales’ poorest communities.

“It’s terrible up in Ystrad Mynach and Ebbw Vale. The trees are covered with plastic bags, it’s like Christmas decorations up there...”

Tom Richards, River Projects Officer, Keep Wales Tidy⁵³

This analysis leads Keep Wales Tidy to the conclusion that plastic bags are a significant cause of litter in Wales, in terms of number, mass, area, and visibility.

Experience Elsewhere

Bangladesh: In March 2002, Bangladesh banned polythene bags after it was found that they were blocking drainage systems and had been a major culprit during the 1988 and 1998 floods that submerged two-thirds of the country²³.

Denmark: In January 1994 the Danish Government introduced a tax on plastic carrier bags, which reduced consumption by 66%⁵⁴. The tax is included in the wholesale price of bags to the retailers, and is therefore not obvious to customers⁵⁵.

Hong Kong: A plastic bag tax proposed by a Hong Kong NGO in 2004 was supported by the Environmental Protection Department. Research conducted by the Green Student Council determined that one-

third of the 10 million plastic bags being given out every day were distributed unneeded⁵⁶.

India: Several states in India have banned, or are in the process of banning, plastic bags. Momentum has grown following flooding in Bombay in July 2005, which killed more than 1,000 people, and caused damage totalling more than £1.5 billion. The city’s authorities lay part of the blame on plastic bags, masses of which had clogged gutters and drains, preventing the monsoon waters from draining away⁵⁷. Although plastic bags had been banned in Bombay after previous floods, an illicit trade in them had developed⁵⁷. In the early 1990s, the Ladakh Women’s Alliance and other citizens groups led a successful campaign to ban plastic bags in the district, where the first of May is now celebrated as “Plastic Ban Day”⁵⁸.



“Walk down any city street or village road, turn any corner, find a spot at the beach or in a park and you will find mounds and mounds of dirty plastic bags, food wrappings, plastic cups, bottles and cartons lie piled high, or blocking drainage systems and seres. The road outside our house is littered with flimsy multi-coloured plastic bags. The wind blows these bags into the open gutter. The bags collect and block the gutter which then spills on to the road. Mosquitoes thrive in the stagnant water. Pigs and rats wallow in the slime, carrying disease. The place stinks and the air is polluted... the clutter and slime increases every week”

Usha Jesudasan, *The Hindu*⁵⁹

Japan: Japan’s Ministry of the Environment announced plans on 13 June 2005 to introduce a bill to make shoppers pay for plastic bags⁶⁰. The government plans to submit a revision of the law in 2006, with the aim of introducing a fee system for plastic shopping bags in the financial year 2007/08⁶¹.

Kenya: Experts from the Kenya Institute for Public Policy Research have concluded that flimsy plastic bags should be banned, and a levy put on the thicker ones⁶². The bags have become a familiar eyesore in urban and rural areas, and Wangari Mathaai, 2004 Nobel Peace Prize winner, has linked them with an increasing rate of malaria infection in Kenya⁶². Eight million plastic bags are distributed monthly at supermarkets in Kenya⁶³; shopping bags made from natural products are available but are hardly used because of the easy and free availability of plastic shopping bags in market outlets, and the low price at which the plastic bags are sold in outdoor markets⁶³.

Rwanda: On 4 October 2004, Rwandan President Paul Kagame announced a ban on plastic bags⁹.

South Africa: Customers in South Africa now have a choice of buying the new government-regulated bags, shopping with no bags, or taking their own bags, following new legislation which has been broadly welcomed⁶⁴. The price of a bag ranges from 25 to 46 cents depending on its size⁶⁵. Some of the money from the sale of the bags is being used to fund a not-for-profit venture to recycle plastic bags⁶⁵. Supermarkets noted that they would be able to offer goods at lower prices as a result of the legislation⁶⁵. Sales of reusable bags have rapidly increased. An initial order of 300,000 cloth bags from a major retailer was sold out within two days, prompting an order for a further 2 million bags⁶⁶.

Taiwan: Following the introduction in 2002 of some “very successful” legislation⁶⁷ implementing a levy on the distribution of plastic bags in Taiwan, their use fell by 80 per cent⁵⁶.

The USA: San Francisco’s planned 17-cent tax on paper and plastic bags was rejected by the city council in 2005. The fee of 17 cents was calculated as being the cost borne by the city as a result of plastic bag litter and recycling contamination (\$8.7 million), divided by the number of bags given out (50 million)⁶⁸. The cost of disposing of littered bags was calculated to be 5.2 cents per bag, a total of \$2.6 million⁶⁸. Initially, the tax was due to apply only to customers at larger stores, but an option to extend the law to other bag distributors was available. The idea was proposed in order to change people’s behaviour, and the proposal included provision for subsidising the use of bags by people suffering financial hardship⁶⁹. In the end, a 13-month voluntary agreement was adopted by grocery stores in San Francisco: city officials said removing the hoped-for 10 million bags from the waste stream would keep 95 tons of plastic out of landfills⁷⁰. The retail industry also agreed to contribute \$100,000 to a campaign to make San Franciscans aware of the conservation and recycling programme⁷¹.

Options for Reducing Plastic Bag Litter

Keep Wales Tidy has considered a wide range of options to reduce the presence of plastic bags in litter. Both reusing and recycling will help reduce the number of plastic bags that are produced. But at the top of the waste hierarchy is 'reduce', and one of our primary tenets is that a reduction in the total amount of bags in circulation will lessen the amount flowing to the environment, and hence reduce the litter burden.

Keep Wales Tidy calls on shops to incentivise people's use of alternatives. This could include dedicated tills in supermarkets for people not using new plastic bags, or charging for plastic bags (as some companies already do). Staff at shops should be trained not to automatically assume that customers require a plastic bag for their shopping, because studies indicate that a substantial proportion of plastic bags are not needed by the customer. Staff might also benefit from training to pack shopping bags more effectively.

At the end of their useful life, plastic bags almost invariably end up in landfill. In order to reduce this waste of resources, Keep Wales Tidy would like every supermarket in Wales to provide front-of-store plastic bag recycling facilities.

The use of biodegradable or compostable plastic bags, or paper bags, is preferable from a litter point of view. Paper bags degrade completely and safely over a period of months, rather than decades or centuries, and this degradation is enhanced when they reach the ground and during wet periods⁷². Paper bags are less flexible than plastic bags. They will absorb water and sink, so are less likely to attach themselves to bushes and grasses along roadsides and waterways¹¹. British Polythene Industries makes the point about compostable bags that "these sacks do address the issue of litter in that they are likely to disappear when left outside for a short period of time"⁷³.

"Paper does biodegrade, and would be preferable to plastic in the environment from a litter perspective"

Waste and Resources Action Programme⁴⁵

Publicity campaigns could target consumers to encourage them to reduce their use of plastic bags.

"Whilst I think it is important to raise awareness and obviously we are very pleased that this issue is on the agenda in the media and in the broader public, something like a levy is incredibly more powerful in getting the message out to every person"

Suzie Brown, Director, Sustainable Production and Consumption Campaign, Environment Victoria⁷⁴

A levy could be applied to plastic bags. The experience of the Republic of Ireland is relevant to Wales in this regard.

"The levy was introduced primarily as an anti-litter measure. While not the largest component of litter in Ireland, disposable plastic bags were perceived to be the most visible and unsightly. Dropped by careless consumers and whipped up by the Irish winds, plastic bags were a common and unwelcome decoration on Irish trees and hedgerows"

Declan Kelly, Irish Ambassador to Australia⁷⁵

A voluntary code of practice may have some impact on reducing the use of plastic bags by retailers.

A proposition in Australia was that plastic bags should be subject to some form of deposit that would only be refundable at certain times during the week⁵⁵. The idea was that voluntary groups would be able to collect bags and return them, keeping the proceeds for charitable causes. However, such a system is thought to have too many difficulties in implementation to provide a meaningful solution.

Also in Australia, a 'sliding scale' of levy has been mooted, with less payable for corn starch bags, more for 'longer-term biodegradable bags', and the maximum levy for plastic bags⁷⁶.

Having studied the available evidence, Keep Wales Tidy has determined that the single most effective means to reduce the distribution of plastic carrier bags - and hence their littering - would be the imposition of a levy on the customer for each plastic bag taken.



Why a Plastic Bag Levy?

The strongest argument in favour of a levy is that it hugely diminishes the number of plastic bags in circulation. Within a few weeks of the advent of the levy in the Republic of Ireland, plastic bag use had decreased by 90%. Three years down the line, use had stabilised at 94% less than pre-levy levels⁷⁷. In its Ireland division, the Musgrave group issues just over 11 plastic bags per €1000 of turnover, while in its UK division it gives out nearly 110 bags for the equivalent turnover unit⁷⁸. No other means of reducing plastic bag distribution has been as effective, other than an outright ban. The experience of the Republic of Ireland would certainly suggest that a well-implemented and well-advertised levy with retailers on board is the best option for reducing the number of bags being used by consumers and then entering the litter stream⁴⁶. A consumer-focused bag levy results in a substantial shift in consumer behaviour, and that results in lower once-only usage of bags, greater use of reusable bags and an increase in no-bag retail transactions⁵⁴.

“The objective of the minister in this is not an environmental one only, it is a litter one so it isn’t enough to say we will get biodegradable plastic bags or we’ll get paper bags because they will cause litter as well... the objective is to have customers at every shop, and every outlet to use the same bags over and over again... that saves the economy money, it saves the environment, and it solves the litter problem.”

Irish Senator Feargal Quinn, Executive Chairman of Superquinn⁷⁹

Although thin plastic shopping bags are still an option for consumers in the Republic of Ireland, if they choose to pay the levy: “peer pressure would make you ashamed to do your shopping and pay for plastic bags”⁸⁰. Since behaviour change is the main object of the levy, this sort of sentiment – common in the Republic of Ireland – indicates that it has been a spectacular success.

Environmentally, plastic bag levies have a net positive impact. The plastic bag lobby misleads the debate by focusing on paper bags, and assuming widespread substitution of plastic bags with paper. However, in the Republic of Ireland, a 2003 survey indicated that approximately 90% of shoppers now use robust reusable/long life bags, 6% use cardboard

boxes, 4 % plastic bags and 1% other means⁸¹. “Just about everyone” in Ireland now carries with them a reusable bag⁸².

“The differences between single use paper, biodegradable plastics, HDPE, polypropylene or whatever are not dramatic. There is some divergence, but the environmental change occurs if you can get a multitrip life out of that product and therefore that is where you get a bigger gain, rather than in material substitution”

Peter Allan, Senior Recycling Consultant, Nolan-ITU⁸³

An extensive study in Australia by Nolan-ITU confirmed that the best environmental outcome of five options would be to introduce a levy of approximately 10p per plastic bag⁵⁴. It predicted results of a 63% reduction in primary energy use, a 65% reduction in global warming impacts, and an 82% reduction in contribution to litter (using persistence as the measure)⁵⁴. If a plastic bag is embodied with a value – whether that comes from a transparent charge or by increasing its scarcity – greater consideration is likely to be given to its disposal¹⁵.

The benefits of a levy on plastic bags would lie not only in dramatically reducing the number of plastic bags used and subsequently littered, but would also play a valuable educative role³¹. With a good information and awareness-raising campaign, as conducted in the Republic of Ireland, the problem of plastic bags can lead to a greater awareness of litter issues more generally, and a better understanding of local environmental quality.

A poll for Clean Up Australia in 2001 found that although 92% of those surveyed indicated that the effect of plastic bags on wildlife was a major concern, the majority of respondents indicated that they weren’t likely to use an alternative (72%), reuse a bag (63%), or recycle a bag (64%)⁵⁵. Despite a high awareness of the environmental problems posed by plastic bags, without the financial imperative, consumer behaviour is extremely resistant to change. Research conducted in Scotland suggests that consumers find it very difficult to instigate behavioural change in the absence of external drivers⁸⁴. The Welsh Consumer Council concluded that “the single greatest motivating factor in respondents’ consumer decisionmaking, however, was cost”⁸⁵.



It is widely believed that the most effective trigger that leads to consumer behaviour change – particularly for goods for which demand is elastic – is an economic signal to the consumer. If a fundamental change in consumer behaviour is sought, as it is by Keep Wales Tidy, a pricing signal needs to be given to consumers⁸³. A levy is the most appropriate tool to achieve this.

“The introduction of the levy has resulted in a visible move away from plastic based packaging at retail level to other more environmentally friendly alternatives”

Office of the Revenue Commissioners, Government of the Republic of Ireland⁸⁶

Plastic bag levies are popular with consumers. Most respondents in a Welsh Consumer Council study thought it would be “an effective move”⁸⁵. A MORI poll revealed that only 15% of people in Wales would oppose a 10p levy on plastic bags; 81% were supportive of a levy⁸⁷. A 2003 survey on the environment in the Republic of Ireland found that 91% of people believe the plastic bag levy to be a good idea⁸¹. Some of the reasons given for its popularity are that it is better for the environment, there are no plastic bags visible in the streets (it was also a rural problem with bags snagged in fences, hedgerows

and trees) and that re-usable bags are more convenient for holding shopping⁸¹.

The vast majority of people in Wales want to do the right thing environmentally, but also want to be sure that other people are contributing equally: “Many respondents said they felt there was no point... boycotting excess packaging while nobody else did the same”⁸⁵. The application, by legislation, of a levy, affects everybody across the board, and ensures that people feel that a positive difference is collectively being made.

A levy would provide a level playing field for businesses, and would provide regulatory certainty. A levy is also fair for consumers because only those who choose to use a plastic bag would pay the levy. It would not apply to robust reusable bags, so those consumers who wish to avoid paying the levy need simply use any alternative, such as a robust cloth or plastic bag. The expectation of receiving free bags in shops in Britain is a relatively recent phenomenon, and one around which behaviour could therefore be expected to change relatively easily²⁷.

“By implementing practical measures such as this [plastic bag levy], the environment wins”

Martin Cullen, Former Irish Minister of Environment, Heritage, and Local Government⁸⁸



Windblown plastic bags near a supermarket in Ystrad Mynach, Caerffili. Photo: T. Richards

Evidence for Litter Reduction

The primary reason for Keep Wales Tidy's endorsement of a plastic bag levy is the outstanding litter reduction effect.

“My Lords, perhaps it would help my noble friend to know that in Ireland, where I live, it is not just a question of plastic bags constituting 1 per cent of waste; the ban [levy] has literally transformed the rural and urban landscape”

Lord Putnam⁸⁹

The original intention of the plastic bag tax in the Republic of Ireland was on environmental grounds “in an attempt to end the sight of windblown, discarded bags that often litter the Irish countryside”⁷⁹. It is estimated that plastic bags formed 5% of litter in the Republic of Ireland before the tax^{81,90}. According to the national litter pollution monitoring system, the proportion of plastic bag litter had fallen to 0.32% by December 2002, 0.25% in 2003, and 0.22% in August 2004⁹⁰.

“We simply had a very visible litter problem; when it became clear that retailers had a viable alternative in bags for life, we introduced the levy and the problem disappeared immediately”

Sean O'Suilleabhain, Department of Environment, Heritage, and Local Government, Government of Ireland⁹⁰

The Department of Environment, Heritage and Local Government commented that “littering of plas-

tic carrier bags is no longer a problem”²⁴. 90% of respondents in research undertaken by Convery and McDonnell were of the opinion that the plastic bag tax had been positive for the environment, with a noticeable reduction in the presence of plastic bags in the environment⁹¹. The evidence indicates that the Republic of Ireland is looking better as a result of the plastic bag tax⁹².

Evidence presented to the Environment and Rural Development Committee in Scotland “suggests that a levy would reduce littering of plastic bags substantially”²⁷. Some witnesses suggested that a levy was a valid proposal on those terms alone²⁷.

The Director of the Scottish Retail Consortium noted “There is no denying that the plastic bag tax in Ireland has proved popular and has reduced the amount of plastic bag litter across the country”⁹³.

The number of plastic bags distributed in the Republic of Ireland has decreased by 94% since enactment of the Environment Bill⁷⁷. The reason that the litter reduction has been even greater than this – 95.6% – can probably be attributed to consumers being less likely to waste a resource that now bears a cash value, and for which they themselves have paid.

“This levy has been an outstanding success in achieving what it set out to do... The reduction in the use of disposable plastic shopping bags has been immediate and the positive visual impact on the environment is plain to see”

Martin Cullen, Former Irish Minister of Environment, Heritage, and Local Government⁸⁸

Other Benefits

Revenue Raising

The Financial Memorandum for the Bill in Scotland estimated the potential revenue total from a plastic bag levy to be around £10 million per year²⁷. In 2004, the plastic bag levy raised €13.5 million in the Republic of Ireland⁸¹, which has been invested in a number of additional recycling facilities that are operated by local authorities, and is also used to fund enforcement activities, research, and environmental awareness⁹⁰. As a result of the levy, millions

of euros have been put towards waste awareness campaigns and anti-litter initiatives – all funded by those who choose to pay the plastic bag tax⁹⁰.

“Whilst the principal objective of the levy has been to encourage a move away from plastic however, the yield still remains buoyant, which has had the effect of creating positive flows to the benefit of the Environmental Fund on the ‘polluter pays’ principle”

Office of the Revenue Commissioners, Government of the Republic of Ireland⁸⁶

Keep Wales Tidy recommends that the finance raised by a plastic bag levy be allocated to an environmental fund. In the Republic of Ireland, it is paid into a 'ring-fenced' Environmental Fund⁸¹, so all monies raised from the levy are used for environmental purposes⁸⁸. In the first instance, in Wales, this money could be used to rehabilitate riverbanks and riparian vegetation from the visible effects of decades of plastic bag pollution.

An idea being floated in Australia is to provide five free calico (a cheap type of cotton) bags to every household in the country at the same time as the levy is introduced⁹⁴. Planet Ark calculated that with a 25c levy (approximately 10p), and a 90% reduction in plastic bag use, the money would be recouped by the government in 50 days⁹⁴.

Retailer Benefit

A survey conducted by the Federation of Small Businesses found that just 47% of small retailers were against the introduction of a levy as proposed in the Bill put forward in the Scottish parliament⁹⁵.

“Retailers, who were sceptical of the levy, and the additional work involved in administering it, were soon won over when they saw the money they saved on disposable bags - and the margin they made on selling ‘Bags For Life’ ... Most importantly of all it has been very popular with the public”

Declan Kelly, Irish Ambassador to Australia⁷⁵

Progressive retailers will generate additional revenue through increased sale of robust reusable bags. In the Republic of Ireland, there has been no negative impact on food retail sales because all retailers operate on a level playing field; all competitors are covered by the same legislation⁷⁸. Retailers in the Republic of Ireland stated that the impact of the levy was neutral or positive⁴⁶. Although additional costs were realized from book-keeping and ensuring VAT compliance, these were generally less than the savings resulting from not having to purchase plastic bags, and in some cases, from increased sales of bin liners⁴⁶. The Chambers of Commerce in Ireland welcomed the levy⁵.

“As far as our experience shows in Ireland... there has been minimal effect on the business. We believe there has been minimal customer complaints and the vast majority of customers are either managing without carrier bags or bringing in their own. Any business which currently uses a significant number of plastic bags is likely to make a cost saving with the anticipated reduction in bags issued”

B&Q¹⁷

Spurring an Environmental Ethic

“Helping to reduce the number of plastic bags in the UK can only have a positive impact on our environment”

David Clelland MP⁹⁶

The former Minister for the Environment in the Republic of Ireland, Martin Cullen, revealed that the real value in plastic bag tax was a Trojan horse for getting the public to change to more environmentally-friendly behaviour. “Education and awareness is crucial - how do you get people to ‘buy in’ to it?... the real success of the plastic bag levy was in changing behaviour, getting people involved, making them understand why it was important”⁹⁷. The Environment and Rural Development Committee notes that a levy could “act as an awareness-raising ‘trail-blazer’, which helps to establish a strong and direct ‘polluter pays’ principle”²⁷. It could therefore play a disproportionately important role in influencing public attitudes²⁷.

“In terms of the visual impact that any improvement arising from less littering may bring, that can only have the effect of raising the profile of the environment in the widest sense. That in itself is likely to make people recognise the value and benefit of environmental initiatives and help make the community, in the widest sense, more positively disposed towards caring for and protecting their environment”

Renfrewshire Council⁹⁸

The fact that more than one billion plastic bags were removed from circulation in the Republic of Ireland in the first year of the plastic bag tax’s operation is

“evidence that the mindset is changing”⁸⁸. Cullen states that in addition to changing behaviour, the levy “has also raised national consciousness about the role each one of us can, and must play if we are to tackle collectively the problems of litter and waste management”⁸⁸.

“Disposable shopping bags of all types are a high profile example of the use and dispose culture and any measures that are effective in moving the public away from this attitude are to be welcomed... It has clearly been demonstrated in Ireland that a levy can change consumer behaviour”

Scottish Environmental Protection Agency⁹⁹

Recycling rates have increased in the Republic of Ireland since the introduction of the plastic bag tax. Mike Pringle MSP notes that “Recycling rates in Ireland have gone through the roof since they introduced the plastax there... Government figures there show they were on 39.4% last June... and they were on just 14% before the tax... Government officials I’ve spoken to said this was the catalyst for change”³³.

It is Popular

Consumers have been agreeable to giving up plastic bags in the Republic of Ireland. Claire Wilton, senior waste campaigner at Greenpeace-UK noted “There certainly hasn’t been an angry uprising of shoppers saying we want our bags for free”¹⁰⁰. Research in Ireland shows that householders are very much in favour of the plastic bag tax⁹¹.

“It is clear that the public have embraced this initiative from the day it was introduced. They have accepted the discipline of bringing their reusable bags with them when they shop and the retailing sector also responded very positively to the new disciplines involved in operating the levy”

Martin Cullen, Former Irish Minister of Environment, Heritage, and Local Government⁸⁸

In Wales, 81% of people support paying 10p at shops for plastic bags⁸⁷; across Britain, the levy is popular right across the political spectrum¹⁰¹. Research indicates that people are more sympathetic to new charges if there is a clear environmental benefit and if revenue is ring-fenced for environmental initiatives¹⁰¹. 76% of B&Q’s customers think the company’s policy of charging 10p for carrier bags in Scotland is a good or very good idea¹⁷. Plastic bag use at Scottish B&Q shops has been cut by 82%⁹⁶.

“The research evidence from Ireland and the UK suggests... that consumers will broadly accept a plastic bag levy and it is likely to lead to a change in consumer behaviour”

Scottish Consumer Council⁸⁴

Consumers in Scotland were concerned about the “visibility and complete lack of necessity of plastic bags from retailers... and were in favour of banning such items, as a means of forcing change in our behaviour”⁸⁴.

“Is my noble friend aware that in this country we use 8 billion plastic bags a year; that the life of a plastic bag, when disposed of, is between 100 years and 1 million years; that plastic causes an enormous number of deaths and injuries to birds, marine mammals and other forms of wildlife; and that the Republic of Ireland’s tax has reduced plastic bag usage by 90 per cent? Does my noble friend agree that the proposal to tax plastic bags would be good for the planet, good for wildlife and good for the Chancellor? When do the Government have a win, win, win solution?”

Lord Dubs²⁰

Conclusion

Keep Wales Tidy proposes that a levy of 10p be applied to all plastic carrier bags, with exemptions as for the Republic of Ireland. The competent legislative authority should introduce such a levy in order to reduce the substantial litter effect of plastic bags on the Welsh environment.

Our policy statement is “the competent legislative authority should introduce legislation for Wales that mandates the application of a levy to plastic carrier

bags in order to reduce the defacement caused by these items to the Welsh environment”.

The value of the levy is recommended to be 10p per bag, with the net proceeds being directed to environmental activities.

“I think it’s a cracking good idea”

Michael Meacher, former UK Environment Minister, on the plastic bag levy¹⁰²



Stork with unconventional plumage. Photo courtesy of Planet Ark

Tackling Misinformation

The well-financed plastic bag lobby has been particularly active in spreading misinformation in the wake of the Irish plastic bag levy, and during the debate on the proposed levy in Scotland. Here, Keep Wales Tidy sheds some light on the issues raised.

Myth No. 1: 'Plastic bags make up an insignificant proportion of litter'

Much is made of a 2004 study that 'concludes' that 0.064% of litter items in England are plastic bags. If we remove the misleading 'chewing gum stains' from the study – no official document exists in the UK that defines these as litter, nor are they classed as litter in legislation in any constituent country of the UK – then the plastic bag fraction of litter increases to 0.162%. This is the figure that should be quoted.

Furthermore, this sort of study puts large litter items on an equal footing with small ones – the obvious outlier being cigarette ends. The importance of larger litter items is described by Stein and Syrek thus: "litter is usually considered to be first and foremost a visual form of pollution where the larger items are more visible to pedestrians and doubly so to motorists. However, the primary problem with including the small items [in research methodology] is they bias the results towards the less visible components of litter... Adding a cigarette butt litter category... would also distort other categories, making them appear inappropriately smaller"¹⁰³. Since cigarette ends comprise about 85% of litter items in most cases, all other forms of litter will look insignificant in comparison. Keep Wales Tidy believes that this 'skewing' effect of cigarette ends has been used in the information produced by all other categories of litter-producing industries as a pretext for inaction. Excluding cigarette-related litter from the results provides a more credible 1.14% of litter for plastic bags.

"I have to say that the argument that has been put a number of times - that they [plastic bags] only make up a small percentage of the litter stream and therefore there is no pressing need to deal with them - seems to me to be rather flimsy. One could make that argument with respect to any component of the litter stream as a justification for inaction"

Australian Senator Penny Wong¹⁰⁴

Additionally, most litter measuring methodology deals only with litter found on adopted land, principally streets. These surveys do not usually take account of items caught in hedges or trees, nor is there a rigorous programme of riverside, submarine, or offshore litter analysis. Plastic bags form a disproportionately large fraction of litter caught in vegetation⁵³.

Whatever fraction of litter an item comprises, Keep Wales Tidy has a duty to tackle all Local Environmental Quality issues that cause umbrage to the people of Wales, and there is no doubt that plastic bag waste, as a particularly visible feature of litter, consistently appears as an annoyance to the people of Wales.

An alternative and robust study of 925kg of litter, carried out in Wales by AEA Technology⁵², indicates that 2.7% of litter by weight is plastic bags (Annex 3). This evidence refutes absolutely the claim that plastic bags are an insignificant component of litter.

Fact: In Wales, plastic bags comprise 2.7% of litter by weight.

Myth No. 2: 'Under a levy, plastic bags will be substituted by paper bags'

The plastic bag industry makes enormous mileage out of substitution. It has very cleverly focused the argument against a levy on an almost meaningless factor in the debate.

The Musgrave Group, which has a 25% share of the retail food market in the Republic of Ireland, simply does not offer paper bags; it offers robust reusable bags, and some cardboard boxes⁷⁸. A University of Dublin report stated that shops had made significant savings in bag expenditure, indicating that there had been little switch from plastic to paper¹⁰⁵. Nolan-

ITU reports that although the levy does not apply to paper bags, they have not replaced plastic shopping bags in the supermarket sector⁵⁴. Forrest supports this contention, noting that a cultural change in Ireland has led to people bringing their own reusable shopping bags to shops¹⁰⁶. A large number of businesses in the non-food retail sector – the sector presumed most likely to ‘switch’ to the use of paper bags – already use them¹⁰⁵; there is very little evidence to indicate that a switch to paper occurred in Ireland¹⁰⁵.

Only 35% of small retailers in a survey by the Federation of Small Businesses say they would substitute plastic bags with paper bags⁹⁵. Longstaffe concurs that “well-documented experience” shows that substitution is not a major issue, and that paper would not substantially benefit from a tax on plastic carrier bags¹⁰⁷.

The most important players in terms of plastic bag pollution are the big supermarket retailers. They issue more than three quarters of all plastic bags distributed¹⁰⁶, and if they are willing to promote robust reusable bags following legislation, rather than substitute plastic bags for paper bags, there will be a net environmental benefit. The greater bulk, or volume, of paper bags is the very reason that supermarkets are extremely unlikely to stock them. Considerably more space would be required to store a few thousand paper bags under each checkout than for plastic bags⁸⁰. Supermarkets will in all probability move directly to the sale of reusable bags.

The industry claims that a tax on plastic bags will discriminate in favour of products that have “greater environmental burden”¹⁰⁸. Quite aside from the environmental externality of plastic bags being festooned in trees for decades, or ending up in the stomachs of marine organisms, the stated target of this action is to change behaviour, so that people choose robust reusable bags, not other flimsy one-way options.

“We have not yet seen a whale killed by a paper bag”

John Dee, Managing Director, Planet Ark Environmental Foundation⁹⁴

The main aim of any legislation should be to instigate behaviour change. The major environmental benefit occurs if you can get a multitrip life out of

any product, rather than in material substitution⁸³. Experience from the Republic of Ireland shows that approximately 90% of shoppers now use reusable/long life bags, 6% use cardboard boxes, 4% plastic bags and 1% other means⁸¹.

Fact: The evidence suggests that plastic bags are not likely to be substituted to any large degree by paper bags under a levy scenario.

Myth No. 3: ‘Environmentally, we’re the good guys’

The plastic bag industry argues that its product is not one of the most serious environmental problems, and a levy would “send the opposite signals about products which have far more serious environmental impacts – such as cigarette litter, chewing gum, fast-food packaging and junk mail”¹⁰⁸. Keep Wales Tidy refutes this contention. In our considerable experience of litter issues, the raising of awareness of any one issue actually raises general awareness of environmental problems in general, and litter problems in particular. The idea that people will suddenly start disposing of other forms of litter more prodigiously on account of a levy on plastic bags is not borne out in any known research.

The plastics industry also claims that a tax on plastic bags “effectively condones litter-dropping”¹⁰⁹. Keep Wales Tidy finds this contention quite staggering, particularly in view of experience in the Republic of Ireland, where people have not been discarding their plastic bags in huge numbers because they somehow feel justified in littering.

The UK plastics industry claims that it “already puts a huge amount of effort into addressing litter”¹⁰⁹. However, its sole example to substantiate this statement is being a “key member of EnCams”. It also claims to be “involved in pioneering more imaginative solutions to deal with litter and local environmental quality across the UK”¹⁰⁹, yet Keep Wales Tidy is unaware of any contribution the industry has made to minimising the problems of litter and poor environmental quality in Wales. Keep Wales Tidy is interested to note the ideas of the British Plastics Federation in reducing litter, which broadly fall under the categories of education and enforcement¹⁰⁹. However, we are also aware that none of the proposed solutions requires any action on behalf of the industry, and puts the onus either on the public purse – by local authorities - or by a voluntary organisation, EnCams.

The industry claims that, since the raw material for plastic bags is a by-product of refining petroleum, it would somehow go to waste, for example, by being flared off, if it was not used to make carrier bags¹¹⁰. However, Turner makes it quite clear that the raw material is used by the “polymer industry”¹¹⁰, which includes the production of bin bags and other plastic films. Langlands confirms that less than 0.5% of British Polythene Industries’ production is used for carrier bags, with the remainder being used for stretch wraps, heavy duty sacks, and agricultural and horticultural film¹¹¹.

The plastic bag industry states that paper bags are inherently less environmentally favourable than plastic bags¹⁰⁸. We would reiterate that the environmental externalities of longevity have not been sufficiently accounted for in any analysis of plastic bags, and that paper bags are unlikely to be substituted to any great extent. Keep Wales Tidy concurs that paper bags produce carbon dioxide on decomposition, but since they are derived from waste paper or trees, the net carbon dioxide balance is zero. When energy is derived from plastic bags at the end of their life, the carbon dioxide released is that which would otherwise have been used to make some other polythene product, thus adding to the greenhouse effect to a greater extent than would paper bag decomposition. In any case, Keep Wales Tidy estimates that less than 1% of all plastic bags used in Wales are processed for energy recovery, with the remainder being littered or landfilled.

The plastic bag industry claims that it has a “very strong track record of recycling”¹⁰⁸. However, despite repeated requests for information, neither the Carrier Bag Consortium nor any industry source has been able to provide Keep Wales Tidy with any figures for the percentage of carrier bags recycled. This suggests to us that the proportion of plastic bags that is recycled is extremely low or negligible. The Carrier Bag Consortium states that, of the plastic film collected by supermarkets, “we are unable to say what proportion of this waste is plastic carrier bags but it will not be large”¹¹². In Australia, where in-store recycling is heavily promoted, the carrier bag recycling rate is 3.2% and decreasing¹¹³. Indeed, 27.4% of Australians still put plastic bags straight in the bin when they get home¹¹⁴. In the USA, just 0.6% of plastic carrier bags are returned for recycling⁵⁸, and in Ireland, pre-levy, it was less than 0.5%⁸⁰. The plastic bag industry in the UK has not provided any reason for Keep Wales Tidy to

believe that the recycling of plastic bags in Wales is any greater than it is in the USA or Ireland. Perhaps one of the reasons for such a low recycling rate is that plastic carrier bags have a low value per tonne for recycling (less than £50 per tonne in 2002⁵⁴), which impedes the commercial incentive to recycle them. Using a weight of 8g per plastic bag, approximately 125,000 bags are required to make up a tonne of plastic bags. Furthermore, one of the key issues with recycling plastic bags is that they need to be clean of any contaminants. Anecdotal evidence suggests that many of the plastic bags put into recycling bins contain foreign material that substantially reduces the efficiency of plastic bag recycling¹¹⁵.

In fact, plastic bags impede recycling because they are a significant contaminant in the material collected through kerbside recycling services¹⁵. In some council areas plastic bags are the single main contaminant to kerbside collections¹¹⁶.

“The suggestion is that a good kerbside collection and system is the panacea for our waste related environmental problems. Let me emphatically state that local government will not be carrying the can by collecting these worthless commodities. Who gives industry and state and federal ministers the right to make this commitment on our behalf? No-one has spoken to local government. I have no doubt that when the code is examined for its nonperformance in 2005 industry will say the main cause is that councils did not come on board and provide effective kerbside services. I will go on the record now to say to industry: single use plastic bags are your creation. You are championing them. This is your problem, not ours. What particularly galls us in local government is that when confronted with a social or environmental imperative such as this industry will drag out the usual rhetoric, and not very convincingly in this case, as I have suggested before, to show why it cannot work - but give them an economic imperative such as maintaining profit levels during a downturn and they invariably find a way in a very short time frame, and you will see them downsizing, staff lay-offs and branch closures before you can blink an eyelid ”

Councillor Leo Kelly, Metropolitan Vice-President, Local Government Association of NSW and Shires Association of NSW²

A plastic packaging company states that “plastic can be recycled and used an infinite number of times”¹¹⁷, but, again, no industry source has been able to provide us with any figures for the proportion of plastic bags recycled. The plastics industry insists that “retailers are already encouraging consumers to reuse and recycle carrier bags”¹⁰⁹. We should question the efficacy of these efforts, when less than 1% of these bags are recycled. Presumably the remainder eventually ends up in landfill or as litter.

In any case, the slogan of ‘reduce, reuse, recycle’ puts the words in that order for a reason. A plastic bag levy clearly acts at the top end of the waste spectrum.

The plastic bag industry claims that plastic bags have ‘outstanding environmental credentials’¹⁰⁸. Keep Wales Tidy believes that robust reusable plastic or cloth bags have environmental credentials far superior to those of common plastic bags. A move from plastic carrier bags to reusable bags would also substantially reduce lorry movements on the roads of Wales, because far fewer would be needed to transport multi-use cloth or robust plastic bags that are destined to be used for many months.

Fact: Keep Wales Tidy is unaware of any single litter abatement contribution that the plastic bag industry has made in Wales. The plastic bag industry has no credentials to indicate that it is an environmental champion.

Myth No. 4: ‘A voluntary scheme would do the trick’

“Frankly, I think they entered the original [voluntary] code thinking, ‘This will keep governments quiet’”

Robert Joy, Chairman, National Packaging Covenant Council (Australia)¹¹⁸

Keep Wales Tidy is interested to note the British Plastics Federation’s proposal for a ‘Voluntary Code of Conduct’ for retailers and bags, which, it is claimed, “would be much more effective than a tax”¹⁰⁹. Keep Wales Tidy fails to see how a Voluntary Code of Conduct would produce a much more effective reduction than 90% in plastic bag use and associated litter. A voluntary scheme operating in Australia reduced bag use by just 21% over the 2-year scheme¹¹⁸, which was described by one

Australian Senator as “a flop”¹²⁰. The problem with voluntary codes is that they depend on the goodwill of the retailers: in Australia, just 4% of the smaller businesses responsible for 55% of carrier bags distributed¹²¹, have signed up to the campaign¹¹³. The most impressive reductions of 80% were achieved by those sectors that started to charge customers for carrier bags¹²². The average number of carrier bags used per capita by the end of this period was 235¹²² – well in excess of Keep Wales Tidy’s estimate of use in Wales. In addition, this is in the context of an industry that recognises a major longer-term downsizing; the government is negotiating with retailers to achieve a complete phase-out of all but essential plastic bags by the end of 2008¹¹⁹. The draft ‘Agreement to Phase Out Light Weight Single Use Plastic Carry Bags’ forsee the introduction of regulation from the start of 2009 so that “all retailers are prohibited from issuing single use carry bags”¹²³. Indeed, South Australia has already committed to a total ban in order to “rid the state of the environmental scourge”¹²⁴ by the end of 2008. The targets raised by the voluntary agreement in Australia were compared with the plastic bag tax in Ireland thus: “some of the targets are quite low, especially when compared with the effectiveness of the Irish plastic bag levy which, within three months or so, resulted in a 90 per cent decrease in plastic bag use, and you are now looking at reducing it by 50 per cent and reach 15 per cent recycling. These figures are not even in the same league”¹²⁵.

“The evidence we have had to date about the previous capacity of this industry to meet its voluntary commitments in this regard has been spectacularly poor”.

Australian Senator Penny Wong¹⁰⁴

Some supermarkets currently charge for plastic bags, and these efforts to reduce litter should be applauded. However, the biggest supermarkets, responsible for most of the plastic bags being distributed, feel that they would be placing themselves at a competitive disadvantage if they unilaterally imposed a charge¹²⁶. In any case, a piecemeal approach will never promote the massive shift in consumer behaviour that Keep Wales Tidy seeks.

“The Irish experiment indicates that it takes a financial impediment like a tax to coax people off their plastic bag habits”

Jon Dee, Managing Director of Planet Ark Environmental Foundation⁹⁴

Fact: Voluntary initiatives to minimise plastic bag use will never be as effective as a levy. Levies reduce use by more than 90%, voluntary codes by up to 25%.

Myth No. 5: ‘Plastic bags are extensively re-used’

An NOP survey, commissioned by DEFRA in 2000 and oft-quoted by the plastic bag lobby, suggests that more than 80% of people re-use their plastic carrier bags¹²⁷. However, this simply means that 80% of people re-use some of their plastic bags some of the time¹²⁸. Furthermore, research undertaken by the Scottish Waste Awareness Group indicates that most of these are ultimately used as bin liners¹²⁹. A study commissioned by WRAP in 2005 determined that the main reuse of plastic bags was as a bin liner or other waste receptacle²². 79% of respondents either used them once in this manner or simply discarded them²². In Australia, 75% of people reuse shopping bags as ‘free’ bin liners¹³⁰. Reuse of plastic bags only delays the plastic entering the environment; the more sensible option is to remove them from the production chain altogether³⁴.

“The litter issue with so many plastic bags is that although once they are brought home they might be used as bin liners, many find their way to other destinations, where they blow about in the street looking unsightly”.

Michael Meacher, former UK Minister for the Environment¹⁰²

Evidence from Scotland indicates that only 15% of shoppers re-use their disposable bags for shopping²⁷. The small numerical increases in sales of kitchen bin liners and garbage bags in the Republic of Ireland would also indicate that the actual levels of plastic bag re-use in Ireland were nowhere near as high as the industry had previously suggested¹¹⁵.

Fact: Where plastic bags are reused at all, the vast majority are reused only once, as bin liners.

Myth No. 6: ‘More waste will be produced if a levy is imposed’

Keep Wales Tidy has already shown that most people will turn to reusable bags, instead of single-use paper bags, under a levy scenario, thus obviating the ‘paper bag substitution’ argument. Some groups have claimed that sales of refuse sacks in the Republic of Ireland increased by as much as 300% following the plastic bag tax, but most witnesses to the Scottish Executive agreed that there was a 77% increase in sale of plastic kitchen bags, which equates to 70 million bags²⁷. The 90% reduction in carrier bags equated to a reduction of 1 billion bags, leaving a net reduction of 930 million bags²⁷.

In the only existing case study of a consumer-directed levy, in the Republic of Ireland, it is believed that the effect of the levy has been neutral on landfill⁹⁰. In any case, other measures, such as the landfill tax, are better tools for reducing landfill⁹⁰.

“My Lords, perhaps the Minister’s observation that plastic bags make up only 1 per cent of waste and therefore it is not worth doing anything about it is one reason why the waste pile is ever growing as opposed to diminishing”

Baroness Miller of Chilthorne Domer¹³¹

Fact: The aim of a plastic bag levy is to change behaviour and reduce litter. Nonetheless, the only case study available indicates that the effect on landfill is likely to be neutral.

Myth No. 7: ‘A levy would hit poorer people hardest’

The whole basis of the levy is that people do not need to pay it! The levy is designed to change behaviour to the extent that poor and rich people alike are not required to pay: it is principally a behaviour change tool¹³². Research by Convery and McDonnell suggests that people who are unemployed do not feel that the levy in the Republic of Ireland is ‘unfair’⁹¹, and there is no evidence that low-income consumers feel disadvantaged by the levy⁹¹. The Scottish Consumer Council is of the opinion that “while the proportion of real income may be greater, the impact is not likely to be significant because consumers can change their behaviour, and opt not to pay the levy”⁸⁴. In fact, Keep Wales Tidy

believes that poorer consumers will have greater incentive to change their behaviour than the better-off, and so it is the well-off who will be more likely to be paying into the environmental fund. This sentiment is supported by evidence from MORI showing that people in all wealth brackets support a levy⁸⁷. In fact, people from households where the income is less than £17,500 are more supportive of a levy than those in the £17,500 to £30,000 wealth bracket⁸⁷. The fact that cut-price grocery chain Aldi already charges for plastic bags shows that a levy will be unlikely to adversely affect poorer Welsh people. The reality is that Aldi customers, whether economically-challenged or not, avoid the plastic bag charge by bringing their own bags or containers to Aldi stores¹¹⁴.

Keep Wales Tidy also believes that the cost of buying enough reusable bags to cover people's shopping needs would be more than compensated for by the savings delivered to them by retailers – and society – not being obliged to pay for the wastage and littering of disposable carrier bags. A 'bag for life' pays for itself after 10 uses¹³³, and can be used in exactly the same means as carrier bags, to carry goods home on public transport if need be. Environmentally, by the time a robust plastic bag is reused on four occasions it outstrips the performance of all other plastic or paper alternatives¹³⁴. Of course, those people who use very many 'free' plastic bags can thank the rest of the Welsh population for subsidising them. People who seldom take one are helping to subsidise the wasteful practices of others.

Furthermore, council tax payers Wales-wide subsidise the cost of collecting plastic bag litter to the tune of £1 million, and of landfilling the plastic bags that are not recycled – which Keep Wales Tidy assumes to be upwards of 99% of plastic carrier bags. A change to the use of cotton or robust plastic bags would remove these costs from their council tax bill. Keep Wales Tidy has also concluded earlier in this paper that poor people are disproportionately affected by plastic bag litter.

“Much has been said about the problems that the bill might create for people who are on lower incomes – those who cannot use cars and so on. If we look back 25 or 30 years, every housewife had a shopping bag... I suggest that most old ladies probably take a shopping bag with them when they go shopping and probably use it far more than people who are on higher incomes. The supermarket chains Lidl and Kwik Save... already charge for plastic bags. Lidl tries to be extremely competitive in price and it has always charged for its plastic bags. I genuinely do not believe that the proposed levy would have an effect on people who are on lower incomes”

Mike Pringle MSP¹⁰⁵

Fact: A levy is supported across all wealth brackets, with poorer people being more supportive than middle-income households. A levy would only affect those who choose to pay it, regardless of income, so poorer people are less likely to be affected.

Myth No. 8: 'Theft increases when a levy is adopted'

The plastics industry claims that theft has increased in the Republic of Ireland as a result of the plastic bag tax¹⁰⁹. Retailers there state that there has not been a noticeable large change in theft levels⁷⁸. Retail theft initially rose in Ireland, but has since fallen to lower than pre-levy levels⁸⁴. The increase in theft was a 'blip'¹²⁶. A change in retailer behaviour reversed the incidence after a month or two¹²⁶, while preventive measures such as coin-slot devices on trolleys meant that fewer of those items were going missing than before¹²⁶. B&Q states that there is no evidence of increased theft as a result of their carrier bags costing 10p¹⁰⁶. Retail theft ('shrinkage') in Ireland was 1.22% in 2005, compared to 1.34% in 2004¹³⁵. In the UK, the figures were 1.38% in 2005, down from 1.59% in 2004¹³⁵. The fact is that retail theft is more of a problem in the UK, which disperses 10 billion 'free' plastic bags each year, than in the Republic of Ireland, which charges 15c for the 76.4 million bags⁴⁶ that are distributed each year.

Fact: Retail theft does not increase when a levy is applied to plastic bags.

Myth No. 9: 'A levy would be illegal'

The plastic bag industry claims that a plastic bag levy “will be seen as in direct contravention of EU Competition Law”, and “our industry will ensure it is challenged”¹⁰⁸. Keep Wales Tidy is surprised that the Republic of Ireland, with a European Commissioner for the Internal Market and Services, is suspected of being in breach of Competition Law. If it is in breach of the Treaties, why has there not been a legal challenge? Keep Wales Tidy is of the opinion that this threat is in fact groundless, and that a plastic bag tax is not in breach of Competition Law. Medley¹³³ clarifies the situation by noting that since the product is not banned, merely taxed, the consumer can still choose to use plastic bags. Ross Finnie, the Scottish Minister for the Environment and Rural Development states: “We are not aware that a challenge would be sustained under European law; that would be difficult, given that there is clear opinion that using the route suggested in the bill is legitimate and that our parliamentary authorities have deemed the bill competent at the point of introduction”¹³⁶.

Fact: A levy is a perfectly lawful means to address an environmental problem.

Myth No. 10: 'There would be substantial job losses as a result of the levy'

The plastic bag industry claims that a plastic bag tax could lead to job losses¹⁰⁸. In the Republic of Ireland, there is no evidence to suggest that there were job losses⁹⁰, even though Irish manufacturers sup-

plied 25% of disposable plastic bags⁹⁰. JJ O'Toole claims that the impact on local manufacturers of plastic bags was non-existent as lower prices offered by far eastern countries had led to their closure prior to the levy being introduced¹³⁷. In the UK, 90% of plastic bags are supplied by countries in Asia²⁴.

The plastic bag industry also fails to point out that jobs would be created as a result of a levy, both in environmental projects funded by the levy's proceeds¹²⁸, and in the industry for robust reusable bags. The UK Bag Manufacturers' Association stated that 99% of any substituted paper bags as a result of a plastic bag levy will be manufactured in the UK from recycled raw materials, which the Scottish Environment and Rural Development Committee considered to indicate a net benefit to the UK in terms of employment²⁷, in addition to the savings in transport miles.

While Keep Wales Tidy considers that employment is a relevant consideration, it should not be an overriding reason to maintain Wales' usage of 490 million plastic bags each year, especially as most of these bags are imported. Creative ways of helping protect indigenous industry could be developed, for example, by stipulating a minimum recycled content of plastic bags, which would make it more difficult for overseas manufacturers to compete¹⁵.

Fact: The few jobs depending on the plastic bag industry in Wales that could conceivably be lost by the application of a levy would be more than compensated for by other employment opportunities.

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Annex 1

For this scenario, we use the conservative assumption that 10 billion plastic carrier bags are distributed every year²². Assuming Welsh consumers use a population-proportionate share of the UK plastic carrier bags, approximately 490 million bags are used in Wales each year (4.9% of the UK's population lives in Wales²⁵).

Given that the population of Wales in mid 2001 was 2,910,200, the average number of bags per person is 168.37.

Plastic bags cost large retailers 0.747p each¹³⁸, and small and medium businesses 1.494p per bag¹³⁸. We follow the assumption used by AEA Technology that 70% of plastic carrier bags are distributed by large retailers²⁴:

The average cost of a plastic bag
= $(0.747 \times 0.7) + (1.494 \times 0.3)$
= $0.5229 + 0.4482$
= 0.9711p

a conservative estimate of the annual cost absorbed in shopping prices by Welsh consumers is

$$168.37 \times 0.9711 = 163.5$$

just over £1.63 each for their 'free' plastic bags. Since the price of plastic bags is directly related to the oil price²⁶, this subsidy is likely to increase year on year.

Annex 2

Conservative estimate of annual plastic bag use in UK = 10 billion.
Proportionate share of this total for Wales (based on population) = 490 million.
Per capita usage in Wales = 168

Actual pre-levy plastic bag use in Republic of Ireland = 1.26 billion
Pre-levy per capita usage in Republic of Ireland = 321

Using these figures, Welsh consumers appear to use roughly half as many plastic bags as Irish consumers did before the levy.

Annex 3

Refuse sacks and carrier bags form 3.3% of litter by weight in Wales⁵². In Keep Wales Tidy's experience, no less than 90% of littered 'refuse sacks and carrier bags' by number are carrier bags. Bin liners weigh nearly twice as much as carrier bags²⁴.

To determine the weight of littered carrier bags in Wales:

$$(90 \times a \text{ [carrier bag fraction]}) + (10 \times (2a) \text{ [bin liner fraction]}) = 3.3$$

$$90a + 20a = 3.3$$

$$110a = 3.3$$

$$a = 3.3/110$$

$$a = 0.03$$

$$90 \times 0.03 = 2.7$$

so we estimate that 2.7% of litter by weight in Wales is carrier bags.

Annex 4

The AEA Technology research analysed 925kg of litter⁵². 2.7% (or 24.975kg) of this litter was carrier bags. Individual lightweight carrier bags weigh 8g each²⁴. Thus:

$$24975 / 8 = 3122$$

3122 items comprised the carrier bag fraction of the litter.

Per kilogram of litter:

$$3122 / 925 = 3.375$$

3.4 plastic bags will be found in every kilogram of litter in Wales.

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Keep Wales Tidy is an independent National Voluntary Organisation with Charity Status working to achieve a “clean, safe and tidy Wales” www.keepwalestidy.org