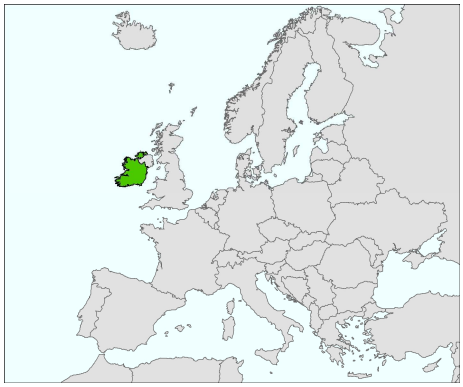
Levy on plastic bags in Ireland



1. Summary

Country/Geographical Area	Ireland
Level implementation	National
Scale	Roll out
Waste fraction / Specific Waste Type	Packaging / Plastic bags
Target Audience	Producers and importers of plastic bags
Objective	Reducing the quantity of plastic bags distributed to consumers
Initiator/coordinator	Irish Government
Other key actors involved	Dept of the Environment, Community and Local Government, Retailers, Local authorities, Revenue Commissioners
Duration	March 2001 - present
Number in Mapping Report	110, new factsheet to complement to complement 26 & 94
Drafted by	IBGE, November 2011
Contacts	*Sources: Documents presented at Brussels Environment conference on economic instruments in support of waste prevention on 22/11/2011* *www.bruxellesenvironnement.be/wastepreventionconference* • *EUNOMIA « A Comparative Study on Economic Instruments Promoting Waste Prevention Final Report to Bruxelles Environnement » Dr Dominic Hogg, Dr Chris Sherrington, Thomas Vergunst, 8 November 2011.* • *William Culbert, Irish Department of the Environment, Community and Local Government presentation "Plastic Bag Levies - The Irish Experience". William.culbert@environ.ie*

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2. Context

In the 90's plastic bags constituted significant litter problem. They accounted for **5%** of litter in Ireland with a highly visible impact, countering Ireland's image as clean & green. A new Government in 1997 committed to examine means of discouraging the use of plastic bags.

3. Strategy

Objectives

The Irish Government's intention was to set a rate of tax which would act to change consumer behaviour, i.e. discourage the use of plastic bags. As such, the initial rate of tax was set at six times consumers' average maximum willingness to pay for the purchase of plastic bags.

Preconditions

In 1998, a **consultancy study** was commissioned "to identify and assess possible fiscal, regulatory or other measures that might be undertaken to minimise the use and environmental impact of plastic bags".

Published in January 1999, the study found that 1.26 billion plastic bags were dispensed free of charge at retail outlets per year, which represented 328 per inhabitant per year. Sources of plastic bags were: domestic producers (20%), imported (80%) (55% EU; 25% Third Countries). Employment by home producers represented circa 200 jobs. 82% of plastic bags were consumed in the grocery sector. The consultants recommended minimum **4 cent** levy to be effective. Consultants did not recommend whether **'supply side'** or **'point of sale'** levy would be most effective

A **public consultation process** undertaken late 1999 showed a very strong public support for the levy and principle opposition from plastic industry, packaging importers/distributors, and sections of retail sector.

Based on these results, initial preference was for a **supply-side** levy that was considered the simplest and more cost-efficient option. However, difficulties were subsequently encountered with relevant stakeholders regarding the implementation and enforcement mechanisms of supply-side levy. Further reflection regarding the levy amount considered that **15 cent** would be more effective.

Government approval was obtained March 2001 for **point of sale** levy to be applied on customers by retailers (circa 30,000) and special Environment Fund established. Producers/importers/distributors opposed, while retailers were supportive though there were worries about customer refusal to pay, and consumers were supportive with some concerns regarding effects on low-incomes.

Procedure

The Irish plastic bag levy was introduced in March 2002 under the Waste Management (Environmental Levy) (Plastic Bag) Regulations 2001. Initially, the tax was set at €0.15 per plastic bag, with exemptions for smaller plastic bags that met specific conditions and used to store non-packaged goods such as dairy products, fruit and vegetables, nuts, confectionary, hot or cold cooked food and ice –these are known as levy-free bags (reusable plastic bags are also exempt as long as the charge for the bag exceeds €0.70).[1]

The tax is passed directly to consumers at the point of sale, and has thus been reported to provide a clearer, more consistent message than systems where retailers are responsible for the levy (such as in Denmark and South Africa).[2,3]

The tax was implemented to 'change consumers' behaviour to reduce the presence of plastic bags in the rural landscape, and to increase public awareness of littering'. Revenues from the tax are paid into an Environmental Fund which is administered by the Department of Environment, Heritage and Local Government. The fund is used to cover administrative costs (3% of total revenues) and support a wide range of environmental programmes. The costs of implementation are reported to be very low because bookkeeping and reporting has been integrated with VAT returns.[4]

The levy is not a Pigouvian tax, in that the rate of the tax was not devised with the intention of internalising the marginal external costs. Instead, the Irish Government's intention was to set a rate of tax which would act to change consumer behaviour. As such, the initial rate of tax was set at six times consumers' average maximum willingness to pay for the purchase of plastic bags.[5]

Regarding implementation and enforcement, local authorities are responsible for enforcing application of levy at point of sale (spot-checks), and the Revenue Commissioners are responsible for the collection of levy due from retailers.

1 According to the Department of the Environment, Community and Local Government 'Bags not exceeding 225mm in width (exclusive of any gussets), by 345mm in depth (inclusive of any gussets), by 450mm in length, (inclusive of any handles) have been marketed as "Levy Free Bags". The regulations, however, do not provide for "Levy Free Bags". The Plastic Bag Levy applies on all plastic bags, even if marketed as "Levy Free Bags", when used in circumstances not exempted by the regulations'. See: Department of the Environment, Community and Local Government (2007) Plastic Bags, Date Accessed: 19 September 2011, www.environ.ie/en/Environment/Waste/PlasticBags/.
2 Dikgang, J. Leiman, A. and Visser, M. (2010) Analysis of the Plastic-Bag Levy in South Africa, Policy Paper No. 18, Environmental Policy Research Unit, School of Economics, University of Cape Town, July 2010, www.econrsa.org/papers/p_papers/pp18.pdf
3 Plastic Bag: Friend or Foe? (no date given) *Market Based Examples*, Date Accessed: 20 September 2011, www.plasticbageconomics.com/index.php?option=com_content&task=view&id=26&Itemid=40
4 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, Environmental and Resource Economics, September 2007, Vol. 38, No. 1, pp. 1-11
5 Ibid.

Instruments

Primary and secondary legislation complemented prior to its commencements by

- Service level agreement with Revenue Commissioners
- Extensive multi-media public information campaign (6 weeks towards general public and retailers)

Primary Legislation

Waste Management (Amendment) Act 2001 provided for the establishment of a new Environment Fund and the provision of charges for the landfill levy & the plastic bag levy

Plastic bag were defined as "a bag –

i. made wholly or in part of plastic, and
ii. which is suitable for use by a customer at the point of sale in a supermarket, service station or other sales outlet,

other than a class of bag exempted in regulations."

Secondary Legislation:

Regulations: established the amount of original levy – **15 cent** per bag in March 2002 and increased it to 22 cent in July 2007

Exemptions from levy:

smaller-sized in-store bags used to hold meat, poultry, fish
smaller-sized in-store bags used to hold fresh fruit and vegetables
long-life reusable bags sold for not less than 70 cent

Bio-degradable bags were not excluded, because they also pose a littering problem and because it would not be possible for local authorities to check on the spot if a bag provided by a retailer is biodegradable.

Paper bags are not included

4 .Resources

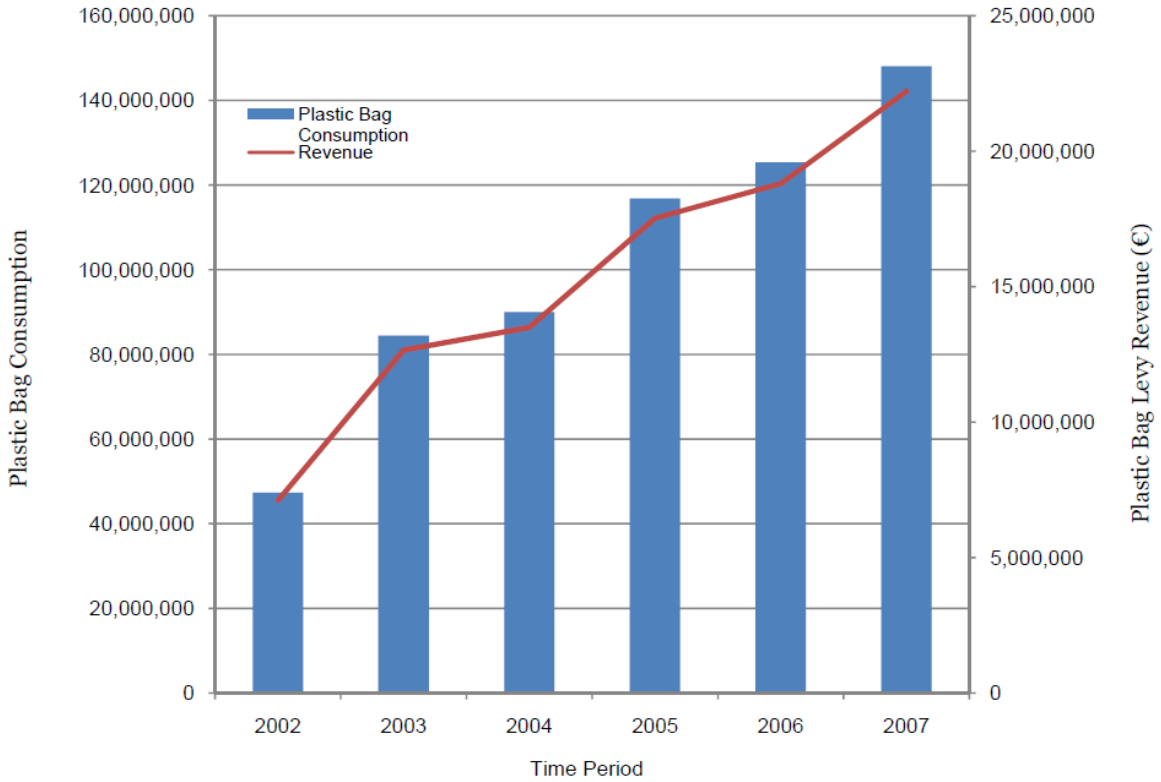
Financial Resources

Revenues from the tax are paid into an Environmental Fund which is administered by the Department of Environment, Community and Local Government. The fund is used to cover administrative costs (3% of total revenues) and support a wide range of environmental programmes. The costs of implementation are reported to be very low because bookkeeping and reporting has been integrated with VAT returns.[6]

Since the introduction of the levy to end 2010, a total of **€166m** were collected (landfill levy has generated an additional €274m) – all for environmental purposes. The proceeds are used for waste recycling infrastructure (capital & operational costs), stepped-up enforcement, intensive waste awareness campaigns, anti-litter initiatives, environmental research etc.

Plastic bag levy receipts are declining from a maximum of **26.7m** in 2008 to **17.3m** in 2010; which is an indication of success.

Figure 1: Unadjusted Plastic Bag Consumption and Associated Revenue



Source: Department of Environment, Heritage and Local Government, 2008

No data is available on other resources (human, communication tools…) and their allocation over time.

6 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, Environmental and Resource Economics, September 2007, Vol. 38, No. 1, pp. 1-11

5. Evaluation

Results

- Participation

It has been reported that this policy has been very effective and has 'proved so popular with the Irish public that it would be politically damaging to remove it'.[7]

Currently, **90%** of shoppers use reusable/long life bags, **6%** use cardboard boxes, **4%** plastic bags and **1%** other means

- Avoided waste quantities (or toxicity)

There was a marked decrease in the use of plastic bags in the short term, a trend which reversed slightly over the years, but which was countered by the increase in the plastic bag levy in 2007.

Immediate > 90% reduction in plastic bag consumption
Pre levy consumption – **328** bags/inhabitant/year
Post levy consumption – **21** bags/inhabitant/year
Pre levy increase 2007 – **33** bags/inhabitant/year
Post levy increase 2007– **26** bags/inhabitant/year
Usage in 2010 – **18** bags/inhabitant/year

A 2008 regulatory impact assessment of Ireland's plastic bag levy reported that:

> *'…whilst the preliminary data show the recent levy increase to 22 cent has reduced per capita usage the current actual level of approximately 30 bags per person remains considerably higher than the 2002 post-levy levels of approximately 22 bags per person. Thus the impact of the initial levy has not been sustained in terms of the reduction in per capita usage of plastic bags. This sustained increase in demand since 2002 is believed to be attributable in part to the decline in the real value of the initial 15 cent levy.'.*[8]

7 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, Environmental and Resource Economics, September 2007, Vol. 38, No. 1, pp. 1-11
8 AP EnvEcon Limited (2008) Regulatory Impact Analysis on Proposed Legislation to Increase Levies on Plastic Shopping Bags and Certain Waste Facilities, Report for the Department of Environment, Heritage and Local Government, November 2008, www.environ.ie/en/Legislation/Environment/Waste/WasteManagement/FileDownLoad,21599,en.pdf

Impacts

- Costs for Retailers and Consumers

An evaluation of the impact of the levy on householders and retail sector was undertaken by Convery et al.[9] The authors interviewed seven leaders in the retail sector and conducted random telephone interviews with consumers, the results were as follows:

- Retailers found the effects of the tax on their well-being neutral or positive, closely related to the fact that the additional costs of implementation were generally less than the savings resulting from not having to purchase plastic bags. Implementation costs were low because book-keeping was integrated with VAT returns; and

- Overall, consumers were very much in favour of the levy. While the levy had caused them some expense, through either paying the levy or buying long-life bags, virtually all respondents responded that they felt the impact on the environment was positive, producing a noticeable reduction in plastic bags 'in the environment'.

Environmental Impacts

The levy applies only to single-use plastic bags and as a result it has been suggested that since the introduction of the levy paper shopping bags are more prevalent (though it was not possible to find data on the consumption of paper bags before or after the introduction of the tax, although it is expected that usage has increased). Surveys have indicated, however, that up to 90% of shoppers used long-life bags in 2003, compared with 36% in 1999, which suggests that the switch to paper bags has been a far from universal switch, and that there has been a discernible switch to long-life bags.[10]

Fehily Timoney *et al* carried out an ex ante study on the impact of the tax on the plastic bag industry. [11] This study included a life cycle assessment (LCA) of plastic and paper bags using a weighting system, based on how far away each impact was from a sustainable target level. Using this approach, plastic bags were shown to have a lower total impact score of 7.9 compared to paper bags with a score of 8.9.[12] The higher impact of paper bags has been confirmed in a more recent LCA published by the Environment Agency in England.[13] In this study it was found that a paper bag would have to be used three times before its global warming potential would match that of a HDPE plastic bag being used only once (Table 1). The researchers found that HDPE plastic bags were frequently reused, either as bin liners or for subsequent shopping excursions, and in such instances paper and cotton reusable bags would have to be used a significant number of times before their higher global warming potential had been offset. For example, if plastic bags were used as bin liners 40.3% of the time (a survey found this this to be the average usage rate in England) a paper bag would have to be used four times to match the global warming impact.

[9] Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, *Environmental and Resource Economics*, September 2007, Vol. 38, No. 1, pp. 1-11
[10] Department of the Environment, Community and Local Government (2007) *Plastic Bags Levy to be Increased to 22c from 1 July 2007*, Press Release: 21/02/2007, Date Accessed: 19 September 2011, www.environ.ie/en/Environment/Waste/PlasticBags/News/MainBody,3199,en.htm
[11] Fehily, Timoney & Company (1999) *Consultancy Study on Plastic Bags*, Report prepared for the Department of Environment and Local Government, Dublin.
[12] Ibid.
[13] Environment Agency (2011) Life-Cycle Assessment of Supermarket Carrier Bags, http://www.environment-agency.gov.uk/research/library/publications/129364.aspx

Table 1: The Amount of Primary Use Required to Take Reusable Bags Below the Global Warming Potential of HDPE Bags with and Without Secondary Use

Type of carrier	HDPE bag (no secondary use)	HDPE bag (40.3% reused as bin liners)	HDPE bag (100% reused as bin liners)	HDPE bag (used three times)
Paper bag	3	4	7	9
LDPE bag	4	5	9	12
Non-woven PP bag	11	14	26	33
Cotton bag	131	173	327	393
Source: Environment Agency, 2011				

One way of viewing this is that LCAs play an important role in highlighting some of the potentially contradictory factors of such taxes and the importance of incorporating data on the overall environmental impact of the various available options. In this case it might be perceived that a narrow focus on litter or waste prevention may in fact exacerbate the environmental impact of a particular activity. Indeed an environmental group in Ireland has called for all single use bags, most notably paper bags, to be included in the tax system.[14]

However, criticism could also be levelled at the LCA approach, which arguably places too much emphasis on greenhouse gas impacts to the exclusion of other, less well understood impacts. One of the key issues as far as plastic bags are concerned is the downstream impact of plastic bags as land-based and marine litter. In the terrestrial environment, plastic bags are one of the more visible forms of litter, and presumably, for this reason, contribute much to litter-related disamenity. Indeed, the early discussion around a levy in South Africa was given impetus by the environment minister's encounters with plastic bag litter in otherwise pristine environments.

Plastics dominate marine litter and represent a significant threat to the marine environment due to their abundance, longevity in the marine environment and their ability to travel vast distances.[15] Despite representing only 10% of all waste produced, plastics account for between 50-80% of marine litter and this is not expected to decline for the foreseeable future (particularly as plastics do not degrade quickly).[16] Of all plastics, it is, arguably, single use plastic bags that have the greatest impact. Data taken from the International Bottom Trawl Survey and the Clean Seas Environmental Monitoring Programme indicate that plastic bags make up 40% of all marine litter in the waters of the North East Atlantic. The French research institute IFREMER has also found

14 Friends of the Irish Environment (2010) *Call for Ireland to Extend Levy to all Single-use Bags*, Date Published: December 2010, Date Accessed: 19 September 2011, www.friendsoftheirishenvironment.net/index.php?do=friendswork&action=view&id=878
15 KIMO (2010) Economic Impacts of Marine Litter, Kommunernes Internationale Miljøorganisation Local Authorities International Environmental Organisation, September 2010, available at www.kimointernational.org/Portals/0/Files/Marine%20Litter/Economic%20Impacts%20of%20Marine%20Litter%20Low%20Res.pdf
16 Thompson, R.C., Swan, S.H., Moore, C.J. and vom Saal, F.S. (2009a) Our Plastic Age. Philosophical Transactions of the Royal Society B: Biological Sciences 364(1526): 1969-2166; Barnes, D.K.A., Galgani, F., Thompson, R.C. and Barlaz, M. (2009) Accumulation and fragmentation of plastic debris in global environments. Philosophical Transactions of the Royal Society B: Biological Sciences 364(1526): 1985-1998; Thompson, R.C., Moore, C.J., vom Saal, F.S., and Swan, S.H. (2009b) Plastics, the environment and human health: current consensus and future trends. Philosophical Transactions of the Royal Society B: Biological Sciences 364(1526): 2153-2166.

that in the Bay of Biscay most of the waste items found on the seabed were plastic (92%) and of those 94% were plastic bags. [17]

It is thus essential that as far as possible, an holistic view be taken when setting up taxes on products, one in which *all* the environmental impacts of the various options are quantified and accounted for, not just those associated with emissions under assumptions that the materials are all well-managed. The Carbon Based Packaging Tax introduced in the Netherlands in 2008 has been one of the first systems which has attempted to base the levy on the relative impact of different packaging materials. However, the tax, which considers the life cycle impact of packaging materials based on greenhouse gas emissions and is applied using a relevant metric for each material, does not, as per the discussion above, necessarily address all impacts.[18,19] The Danish packaging tax considered a wider range of poillutants, but not litter, but the Danish system also includes a deposit refund system for beverage packaging which tends to reduce littering of these items.

Other Impacts: Litter

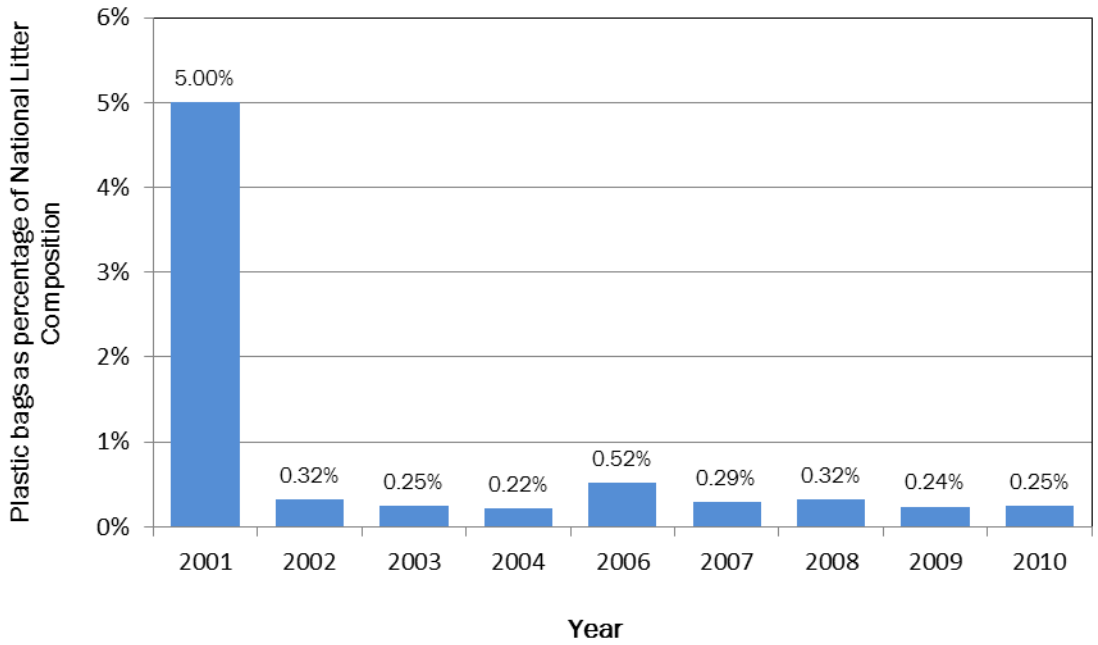
The main objective of Ireland's plastic bag tax has been to reduce quantities of litter. In this regard the tax has had a marked effect and again Convery et al report that:

> *'A combined project by Irish Business Against Litter and An Taisce (National Trust of Ireland) produced a number of litter surveys. These have found that between January 2002 and April 2003 the number of "clear" areas (i.e. areas in which there is no evidence of plastic bag litter) has increased by 21%, while the number of areas without "traces" has increased by 56%.*[20] *These numbers are remarkably high given the long lasting nature of plastic bags in the environment. A different source, the National Litter Pollution Monitoring System notes that plastic bag litter accounted for 5% of national litter composition before the introduction of the levy. In 2002, this number fell to 0.32%, in 2003 to 0.25% and to 0.22% in 2004'.*[21]

This rate has remained more or less constant since this time, as is shown in Figure 2 below.[22] It is worth noting that the Department of Environment, Heritage and Local Government estimated the figure of 5% in their first Annual National Litter Pollution Monitoring Systems Annual Report (May 2003). Consequently, one cannot be certain that the decline in litter quantities has been as dramatic as the figure would appear to suggest. However, the public commonly believes that the amount of plastic bag litter has decreased substantially since the introduction of the tax.[23]

17 Seas at Risk (2011) Commission Consults on Binning Plastic Bags, available at www.seas-at-risk.org/news_n2.php?page=408
18 CE Delf (2007) *Environmental Indices for the Dutch Packaging Tax*, November 2007, www.cedelft.eu/publicatie/environmental_indices_for_the_dutch_packaging_tax/724?PHPSESSID=f138219238c72e8038a0a5694354af1d
19 CE Delf (2010) *The Environmental Impact of the Dutch Packaging Tax*, August 2010, www.cedelft.eu/publicatie/the_environmental_impact_of_the_dutch_packaging_tax/1102?PHPSESSID=0e0760e789da090aec15fb6e48a0d3c9
20 "Traces" of litter is defined as up to five items over a linear distance of 1 m.
21 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, Environmental and Resource Economics, September 2007, Vol. 38, No. 1, pp. 1-11
22 Litter Monitoring Body and TOBIN Consulting Engineers (2011) The National Litter Pollution Monitoring System – Litter Monitoring Body: System Results 2010, Report for the Department of the Environment, Heritage and Local Government, April 2011, www.litter.ie/system_survey_results/index.shtml
23 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, Environmental and Resource Economics, September 2007, Vol. 38, No. 1, pp. 1-11

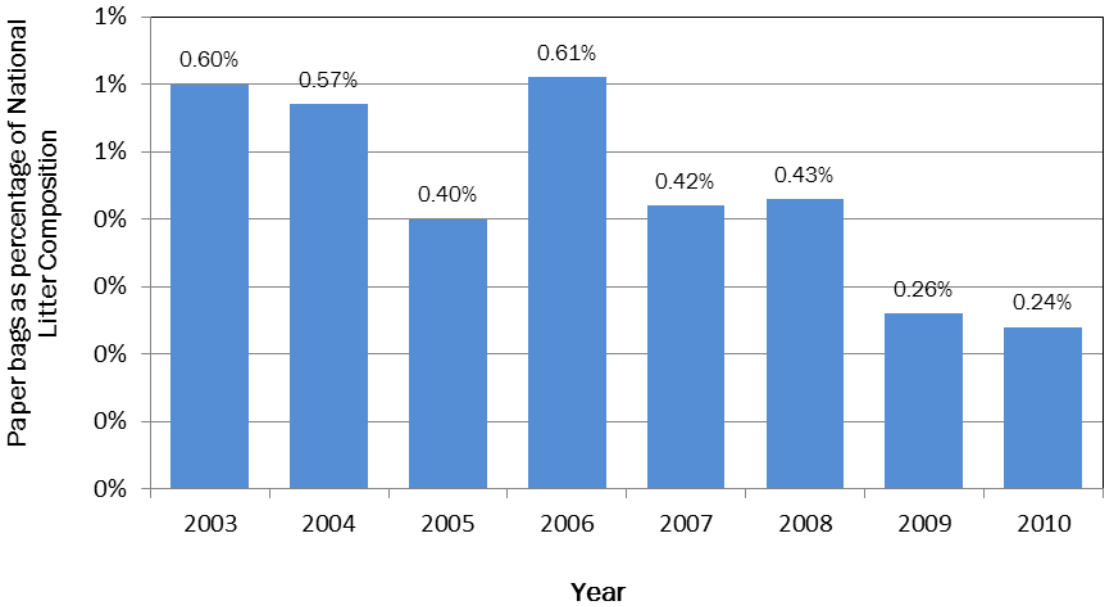
Figure 2: Plastic Bags as a Percentage of Ireland's National Litter Composition



Source: Litter Monitoring Body, Annual System Results, 2011

Despite possible increases in the use of single-use paper bags it appears as if their presence as litter has decreased over recent years (Figure 3). This may further corroborate the results of the survey mentioned above, which suggests that the tax has largely caused people to shift towards the use of reusable bags, rather than paper bag substitutes.

Figure 3: Paper bags as a Percentage of the National Litter Composition*



*Source: Litter Monitoring Body, Annual System Results *Note: The figures provided for 2007 to 2010 appear under the sub-category 'bags' and it is unclear if this refers exclusively to paper bags - in earlier years this category appears to have been reported as 'paper bags'*

- Continuation over time

This is a long term action introduced in 2001. The taxation rate was increased in 2007 to provide continued incentive.

Initially the increase was limited to change in the Consumer Price Index (CPI). This proved ineffective in a time of low inflation and was amended by Environment (Miscellaneous Provisions) Act 2011 which now limits increase to inflation plus 10%. However, there are no plans to increase the levy at this time.

Monitoring System

The costs of implementation are reported to be very low because bookkeeping and reporting has been integrated with VAT returns. An evaluation of the impact of the levy on householders and retail sector was undertaken.[24]

A 2008 regulatory impact assessment of Ireland's plastic bag levy based on preliminary data reported on the number of bags used and the funds collected.

Litter surveys and National Litter Pollution Monitoring to estimate changes in littering.

A national survey on the Environment "Attitudes and Actions 2003" showed that the tax was very popular:

- **91%** of respondents were in favour of the levy because
  - better for the environment,
  - there are no plastic bags visible in the streets, and
  - re-usable bags are more convenient for holding shopping
- **6%** were against it because
  - missed having plastic bags about the house, and
  - were frustrated when they forgot to bring-usable bags into the shop
- **3%** had no opinion

24 Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, *Environmental and Resource Economics*, September 2007, Vol. 38, No. 1, pp. 1-11

7. Lesson learnt & recomendations

Key factors of success

Success factors identified by the Irish Government:

- Ring-fencing of proceeds has assisted in public acceptance of measure
- Success assisted by available substitute – reusable bags
- Advance consultation with stakeholders and arrangements were critical in winning support
- Simplicity – easy to enforce; easy to administer.

Other success factor identified by Eunomia:

- Passed directly to consumers

The literature suggests that levies on plastic bags tend to be more successful when they are passed directly to consumers. In Denmark and South Africa, for example, the retailer is expected to cover the tax and not obliged to pass on the full costs to the consumer. This can have the effect of reducing the financial incentive for consumers to change their behaviour and 'hide' the tax from public view. In order to create public awareness and achieve the greatest degree of behaviour change Ireland applies its tax at the point of sale and advertised the tax widely before it was implemented. Indeed, Convery et al. note that when introducing taxes on single-use products it is frequently necessary to undertake a publicity campaign to clearly demonstrate the reasons and rationale behind the tax. This was undertaken in Ireland and, according to these authors, it helped to improve the initial acceptance and effectiveness of the tax.[25]

In addition, the introduction of direct and variable rate charging at the household level, would, at the margin, support the financial case for reusable rather than disposable products, such as bags and cutlery. Such a charging scheme, placing the incentive directly at the household level would enhance the effectiveness of measures to reduce consumption of non-recyclable items.

Recommended improvements/adaptations

In 2008 AP EnvEcon Limited reviewed Ireland's plastic bag levy and concluded that in order to be effective it needed to be more flexible. Greater flexibility reduces the need to continually revisit primary legislation, and can more easily account for changing economic and consumer environments. The authors of the review suggested that each year the tax should be allowed to increase with inflation (measure by the Consumer Price Index), and that on top of this there should be the option to increase the levy by up to 10% of the base level for that year.[26] It would seem that flexibility in the levy structure of any eco-tax on disposable products would be desirable, especially at a time of much economic uncertainty and where rates of inflation and consumer spending are likely to fluctuate substantially over coming years. This recommendation was taken up by the Irish Government in 2011.

[25] Convery, F., McDonnell, S. and Ferreira, S. (2007) The Most Popular Tax in Europe? Lessons from the Irish Plastic Bags Levy, *Environmental and Resource Economics*, September 2007, Vol. 38, No. 1, pp. 1-11

[26] AP EnvEcon Limited (2008) *Regulatory Impact Analysis on Proposed Legislation to Increase Levies on Plastic Shopping Bags and Certain Waste Facilities*, November 2008, www.environ.ie/en/Legislation/Environment/Waste/WasteManagement/FileDownLoad,21599,en.pdf

When implementing taxes on single-use disposable products (amongst others), Eunomia recommends the following approaches:

- Apply taxes to items where alternatives are clearly available (this is likely to ensure a reasonable response to the tax);
- Continual review of the tax to ensure that its effectiveness is not being eroded over time (e.g. through inflation);
- Ensure the tax is designed with sufficient inbuilt flexibility to adapt to changing economic conditions;
- Prior to introducing the tax, develop an effective communication campaign to advertise the rationale behind the tax. In this respect, there should be a clear rationale for the tax; and
- Albeit that this is desirable rather than necessary, it is helpful to be introducing such measures against the backdrop of a direct and variable rate charging for household waste. This can help strengthen the response to price changes occasioned by the tax.

6. Comparison with similar actions

In different location/context

Can be compared with

- Belgian Eco-taxation on disposable plastic bags, disposable kitchen utensils, food wrap & aluminium foil , Belgium (Pre-waste Factsheet 26).
- Romanian Eco-taxation on disposable plastic bags (Pre-waste Factsheet 94).

Examples of Taxes on Plastic Carrier Bags and Their Impact on Consumption[27]

Rate of Tax	Consumption trends	Impacts on litter
Belgium, April 2007[1,2]		
€3.00 per kg of plastic bags (1 to 10 cents per bag, depending on weight)	Reduction in sales of 80% between 2003 and 2009	n/a
Ireland, March 2002[3]		
Initially €0.15, but raised to €0.22 per plastic bag in July 2007	Consumption decreased from 328 bags per capita prior to the levy, to 21 the year after (this increased to 30 units per capita prior to the price increase in 2007)	Plastic bag litter reduced from 5% (estimated figure) in 2001 to 0.25% in 2010
Italy, 2002[4]		
Initially €0.13, but raised to €0.20 per plastic bag in 2007	Use of plastic bags decreased from 1.3 billion prior to the tax to 20 million units the year after (consumption then began to increase to 140 million units per annum)	n/a
South Africa, May 2003[5]		
Initially ZAR 0.46 (€0.04) for standard 24L bags, but subsequently decreased as retailers have absorbed the costs (retailers are liable for the tax)	For high-income earners consumption of plastic bags per ZAR 1,000 worth of shopping (€92 on 22 September 2011) has decreased by approximately 57% and for low-income earners the reduction has been approximately 50%. There was an initial sharp drop in demand, but this was soon reversed	According to the cited paper, no pre or post levy data exists on litter levels in South Africa

Notes:
1. Pre-Waste workshop (2011) www.prewaste.eu
2. Pre-Waste mapping report (2010) www.prewaste.eu
3. The full impacts of this levy are covered in the case study described in the preceding section
4. Friends of the Irish Environment (2010) Call for Ireland to Extend Levy to all Single-use Bags, Date Published: 30 December 2010, Date Accessed: 19 September 2011, www.friendsoftheirishenvironment.net/index.php?do=friendswork&action=view&id=878
5. Dikgang, J. Leiman, A. and Visser, M. (2010) Analysis of the Plastic-Bag Levy in South Africa, Policy Paper No. 18, Environmental Policy Research Unit, School of Economics, University of Cape Town, July 2010, www.econrsa.org/papers/p_papers/pp18.pdf

[27] Source: EUNOMIA (2011) « A Comparative Study on Economic Instruments Promoting Waste Prevention Final Report to Bruxelles Environnement » Dr Dominic Hogg, Dr Chris Sherrington, Thomas Vergunst, 8 November