PRO EUROPE's position on plastic carrier bags

Summary

Plastic bags often dominate environmental headlines. In recent years, a number of political initiatives (national and local) have been taken, involving the introduction of a levy or ban on plastic shopping bags in Europe.

Within this context of an increased interest on this issue, PRO EUROPE intends, through this paper, to give its view on this highly sensitive political issue.

Based on various facts and figures as well as the expertise accumulated by its members throughout Europe, PRO EUROPE's position on carrier plastic bags can be summarised as follows:

- Neither the **introduction of an EU mandatory levy** or **ban on plastic bags** nor the **promotion of biodegradable plastic bags** constitutes adequate tools to reduce the environmental impact of plastic bags used by consumers. On the contrary such measures might increase the environmental impact.
- Efforts to achieve environmental improvements should include **initiatives involving the business sector to reduce the use of one-way plastic bags** which can be developed through constructive collaboration with local authorities and governments. These initiatives prove to be more effective especially when they are combined with education and awareness raising campaigns as well as with the promotion of reusable bags.

About plastic carrier bags

Definition

"A polymer carry bag provided or utilised at the retail point of sale for carrying and transporting retail goods. This includes all plastic retail carry bags, but excludes produce bags used in-store, dry cleaning bags, garbage bags and other primary product packaging".[1]

Environmental impact of plastic bags

Plastic bags only constitute a tiny percentage of the overall waste stream but they tend to be in the spotlight because they are an icon of modern convenience culture and unsustainable lifestyles. For example, in the UK plastic bags relate to only 0.1% of the municipal waste stream and, according to data from Spain, they represent only 0.4% of the total urban waste.[2]

The main arguments against plastic bags are linked to the littering issue, including marine littering. However, of the total volume of plastic carrier bags, only a tiny percentage ends up as litter. A study in Ireland showed that plastic bags only account for 0.24% of the litter. A similar result has been found for marine litter. According to a study by OSPAR Commission, out of 1000 items found in the sea, arranged

[1] NOLAN iTU, Plastic Shopping Bags – Analysis of levies and Environmental Impacts, 2002.

[2] Division between the data of the Spanish Plastics Confederation ANAIP (100.00 tons of plastics carrier bags per year) and the total of municipal waste stream in Spain according to data the Spanish Environmental Ministry (24 Mill. per year) http://www.marm.es/es/calidad-y-evaluacion-ambiental/temas/informacion-ambiental-indicadores-ambientales/2_7Residuos_tcm7-161525.pdf.

into a table from most to least, small plastic bags and shopping bags only ranked 17th and 18th highest. Topping the table was plastic pieces smaller than 50cm followed by rope / cord / nets smaller than 50cm and several other products.[3] Solving littering requires other measures such as awareness raising campaigns against littering and also better waste management both on shore and at sea. Ideally, the problem of marine litter should be addressed at a global level.

Moreover, several studies have shown that consumers in several European countries use a high percentage of these plastic shopping bags to hold kitchen waste prior to depositing it in their waste bins for collection and recycling. For example, Defra[4] estimate that four out of five UK consumers reuse their single use carrier bags in the home. Data from Norway, Sweden, Finland and Spain have shown similar results with a reuse rate of 60% to 99% in households.[5] Thus, any suggested measure must take into account the impact of purchases of other plastic bags for the home, such as garbage bags.

When considering any legislative measures in addition to the general obligations from the respective national packaging legislation, the true environmental impact of plastic bags needs to be taken into account as measures might appear disproportionate to the environmental benefit that they would bring compared to tackling other, larger waste streams. Putting in place high profile measures on such a small proportion of the waste stream risks sending the wrong environmental message because consumers may think that they are "doing their bit" by reducing or reusing bags and thus ignore the rest of their environmental impacts, which could be far more significant. Also, due care should be taken when promoting alternatives to plastic bags since these should always be supported within a life cycle thinking context.

Options to reduce the use of plastic carrier bags

Views on the environmental impact of plastic bag consumption vary greatly. Whereas some consider that they are just a nuisance, others believe plastic bags are a real hazard that should be banned. This is also reflected in the variety of instruments used to tackle the plastic bag issue.

Various measures have been taken in order to address the impacts mentioned above with some success. These measures can be categorised as follows:

- Ban on plastic bags
- Market-based instruments (mandatory or agreed on a voluntary basis) such as the use of taxation or charges
- Infrastructure to deal with end of life plastic bags (i.e. producer responsibility schemes)
- Awareness raising campaigns
- Biodegradable bags

[3] OSPAR Commission “Marine litter” (http://www.ospar.org/html_documents/ospar/html/marine_litter_unep_ospar.pdf)
[4] Defra is the UK government department responsible for policy and regulations on the environment, food and rural affairs, http://www.defra.gov.uk/index.htm
[5] “Sustainable use and recovery”, Green Dot Norway/Mepex Consult AS, 2008, and EPRO member survey, June 2011; Omnibus consumer survey by FIPIP 2003, Finland; Cicloplast; Spain.

Ban on plastic bags

A ban is a very powerful tool in environmental policy. A ban of plastic bags can indeed stimulate the use of other types of bags with potentially greater environmental impacts but it is also radical and market intrusive and should therefore only be used as a last resort. It should be deployed only when there are substantial environmental grounds for such a measure based on LCA results, which is not the case for plastic bags.

Before introducing a ban it is important to propose effective and practical alternatives to consumers for ways to carry their shopping home. In cases where consumers do not have reusable bags with them, they should still be able to carry home their shopping safely in order to avoid any bigger environmental damage like the loss or spoilage of the product itself.

A ban on one product made from a particular material - such as the plastic carrier bag - cannot solve the problem of litter. Litter consists of many different fractions of which the plastic carrier bag accounts for only a small proportion.

Finally, a ban would be illegal under EU law (the Packaging and Packaging Waste Directive) as all packaging which fulfils the Essential Requirements is allowed to be used all over the European Union.[6] It seems important that the EU Commissions stresses this again to all Member States.

Market-based instruments

The power of market-based instruments to change behaviour is undeniable but there must be a clear link between the instrument adopted and the environmental aim being pursued. The suitability of a measure should be carefully evaluated and benchmarked vis-à-vis other available options and the costs of the measures proposed should be proportionate to their environmental benefit. The use of economic instruments such as taxation should not be used for the primary purpose of raising revenue for the state.

Introducing a levy on plastic bags may reduce their consumption in the short term but has proven to be unsustainable in the long run. For example, Ireland introduced a levy on plastic bags in 2002 mainly to reduce litter. The levy had the desired effect in the first years with a sharp drop in plastic bag usage (95%) and a shift to reusable bags and/or consumers buying plastic carrier bags for their groceries at the cashier desk. However, after some years, plastic bag usage started to slightly increase again as consumers got used to paying the fee for the plastic carrier bags, which in turn pushed the Irish government to increase the levy in 2007 to 00.22€.

One further issue with any taxation or levy fee system is deciding how the revenue raised should be used. Often this income just goes into general taxation rather than directly used for any environmental benefit.

From this perspective, voluntary agreements with retailers including realistic short term reduction targets and long term ambitious goals are a sustainable solution in order to reduce the use of one-way plastic bags. Retailers should, and in most countries they now do charge the price for a bag plus the costs for the collection and recovery system so that consumers understand the value of such a bag. For example, these kind of voluntary agreements appear to be working well in the UK, where leading high

[6] When France tried to introduce a decree including a general ban on the distribution of non-biodegradable single-use carrier bags to end consumers in 2006, the European Commission considered it was contrary to article 18 of the Directive on Packaging and Packaging Waste which states that Member States shall not impede the placing on the market of their territory of packaging which satisfies the provisions of this Directive. The European Commission added that the measures envisaged in the French decree lacked proportionality.

street and grocery retailers exceeded their voluntary target (facilitated through WRAP) to reduce the environmental impact of carrier bags by 25% by the end of 2008. Since the commitment in 2006, retailers actually delivered a 40% reduction in the environmental impact of carrier bags. This was achieved through an absolute reduction in the number of carrier bags distributed to customers by 26% and simultaneous efforts to increase the recycled content of single use bags and reductions in their overall weight.

In Spain, the main retailers associations (big and small commerces) have signed up to voluntary agreements with the Regional Public Authorities to promote the prevention and more sustainable use of carrier bags among consumers. The aim of the agreement was to reduce the consumption of one-way bags in 2012 by 50%. In 2010, a reduction of 40% had already been achieved.

In Luxembourg, PRO EUROPE member Valorux launched a successful project to reduce the use of free plastic carrier bags. In cooperation with the Environment ministry and big retailers they introduced a levy of 0.03€ on one-way shopping bags and at the same time they introduced eco-bags, PP woven reusable bags. After the introduction of the project, the consumption of one-way plastic bags fell considerably from 90 million to 10 million payable plastic bags within a year.[7] Similarly in France, the amount of plastic bags decreased by 85% between 2000 and 2008 through voluntary agreements without introducing any taxation or ban.[8]

In Belgium, the retail sector, Comeos, launched a voluntary commitment aimed at reducing the distribution of single-use checkout bags and increasing the number of reusable alternative solutions. In 2010, Comeos members achieved an 86% reduction in the ratio of "tonnage of single-use plastic checkout bags/revenue" compared with 2003.[9]

In Portugal, a major retail chain moved from free bags to paid bags by free initiative in 2007. Each bags costs 0.02€. The University of Madeira, together with Quercus (a Portuguese environmental NGO) studied the behavior of 1028 consumers from March to April of 2009 in several supermarkets and found that the initiative resulted in a 64% reduction of bag consumption. Moreover, it found that the reuse rate was only 5% when bags were free and 49% when they were being paid for. [10]

From the examples above it becomes apparent that there is no one-size-fits-all solution for all of the Member States as each of them has different habits and cultures. Therefore, any measure implemented in relation to plastic bags should be based on a national approach in close cooperation with the industrial sector and local authorities. It also shows that past activities have delivered success which led to an absolute reduction in the number of plastic carrier bags. This is also supported by data from the Waste & Resources Action Programme which showed that plastic carrier bags were reduced by 40% between 2006 and 2010 in the UK (from 10.7 mill in 2006 to 6.1 mill in 2010), which is the equivalent to 103 carrier bags per person per year.

Producer responsibility

Successful alternative economic instruments, such as producer responsibility-based recycling systems for packaging, should be further taken into consideration when the environmental impacts of plastic

[7] Further information available in the Annex.
[8] Statistics provided by EcoEmballages – this figure refers to licensed quantities of plastic bags given for free (that pay the green dot) but they do not include the bags bought by the consumers (that do not pay the green dot).
[9] See Annex II for further details
[10] Pagamento dos Sacos de Plástico, Influência na Reutilização e Optimização. Universidade da Madeira + Quercus, June 2009 (see Annex III for further details)

bags are in question. These systems have indeed proven to be more effective in triggering environmental improvement than taxation, in a cost-effective and flexible way.

The environmental impact linked to the consumption of raw materials and production processes can be best offset by high levels of material recycling and energy recovery. In cases where a collection system for plastic packaging, including plastic films, is in place, plastic bags (bags not reused as waste bags) are integrated within this system and are therefore part of the solution (e.g. in the UK, Germany, Spain, Austria, Sweden and Ireland). These systems can indeed use several technological solutions that allow for the collection, sorting, recovery and recycling of plastic bags and can therefore reduce the flow of plastic shopping bags into landfill and litter. The environmental impact of plastic bags is lowest when these are recycled or incinerated with energy recovery alongside other plastic waste. Plastic shopping bags, normally based on polyethylene (PE), are well suited for recycling.

Solutions to the plastic bag issue should therefore involve the improvement of plastics collection and recovery and efforts from the authorities should be geared towards supporting markets for reprocessed plastics.

Consumer communication

An important part of the solution to the impacts of plastic bags is to produce a permanent change in behaviour by engaging customers through education and encouragement. It is necessary to drive forward local communication and information campaigns to raise consumer awareness of the issue, its associated problems (for example littering) and the appropriate solutions. In the UK the Government funded a national campaign known as 'Get a bag habit' to encourage a change in consumer behaviour. In Spain, as a result of communication campaigns carried out from 2005 to 2010, only 11% of the population was not aware that plastic bags have to be put in a yellow container. Such communication efforts ensure that plastic bags get recycled.

In order for any national or local campaign to achieve success it also needs to be complemented by ensuring that alternative reusable bags are readily available to consumers at a reasonable cost. In most European countries these alternatives are widely available and commonly used.

Retailers can play an important role in encouraging consumers to change their consumption habits with regard to this. They can be involved in the development of communications strategies that would educate and motivate customers to consume less one-way plastic shopping bags and encourage more sustainable options towards ways of carrying their goods home.

Also, some retailers have sought to encourage their customers to be greener through the use of additional reward points when using reusable carrier bags in their stores. In France, an awareness campaign directed at consumers, which included the training of cashiers, has led to the almost complete disappearance of free plastic bags in shops.

Any measure implemented in relation to plastic bags should proactively involve consumers.

Biodegradable bags

There is an increasing enthusiasm for biodegradable plastic bags and for so called degradable plastic bags due to the growing perception that they are more environmentally friendly. However, biodegradable bags do not magically vanish into the environment or the water while the degradable

ones are in many cases only fragmentable (meaning that the plastic breaks up but it is still present). Biological degradation without the required conditions (micro-organism, temperature and humidity) is very slow and can take several years.[11] Academic Ramani Narayan found that biodegradable bags must ensure a complete biodegradability in the environment in a short and defined time frame, e.g. one growing season. He argues that "designing hydrophobic polyolefin plastics, like polyethylene (PE) to be degradable, without ensuing that the degraded fragments are completely assimilated by the microbial populations in the disposal infrastructure in a short time period, has the potential to harm the environment more than if it was not made degradable."[12]

The Institute for Energy and Environmental Research (ifeu) found in a study that "the current bags made from bioplastics […] have less favourable environmental impact profiles than the other materials examined."[13] The other materials examined were amongst other PE bags.

A shift to these types of bags would therefore not reduce the amount of bags discarded as litter. On the contrary, they can potentially add to the litter problem as the consumer may believe that they simply "break down and disappear" after disposal. According to the Littering report for 2009 of Keep Sweden Beautiful/ Statistics Sweden, 19% of people when asked why they do litter, said; "I throw away what is compostable." We therefore call on the Commission to change the definition of biodegradable so that only material that biodegrades in natural conditions is called biodegradable.

Both in the market and of course amongst consumers we see confusion regarding all kinds of "bio" plastics. Being biodegradable does not mean being biomass based. In fact, a lot of biomass based bags contain about 50% of fossil resource. In addition, from a resource point of view, biodegradability is not beneficial. Biodegradability makes bags disappear with a complete loss of resources which had been spent to produce those bags, and without releasing any nutriment.

Finally, biodegradable bags offer no advantage in terms of waste management over conventional bags. Indeed, a study has proven that energy recovery is a better environmental end-of-life than compost. [14] And they could damage existing collection and recycling systems for plastic packaging. They need to be sorted separately otherwise they contaminate the other plastic waste and harm the quality of the recycled output. For example, a study in Spain has shown that 8% to 24% of these biodegradable bags are mixed with the current plastic bags (normally based or PE) and generate serious problems in the recycling process.[15] Sorting different kinds of collected plastic film (PE, compostable, biodegradable, degradable) for recycling is challenging and the increasing variety of materials can, in the worst-case scenario, be a threat to collection and recycling of plastic packaging. An environmental study conducted by VITO on PLA and MaterBi comparing end-of-life processing for bioplastics also found that incineration with energy recovery presents a better environmental solution than composting. The worst end of life option would be landfill. If carrier bags made from bioplastics end up at landfills methane emissions would be produced due to anaerobic rotting processes.

[11] Defra study "Assessing the Environmental Impacts of Oxo-degradable Plastics Across Their Life Cycle", January 2010 (http://randd.defra.gov.uk/Document.aspx?Document=EV0422_8858_FRP.pdf)
[12] Ramani Narayan "Fundamental Principles and Concepts of Biodegradability – Sorting through the facts, hypes, and claims of biodegradable plastics in the marketplace", Michigan State University, published in BioPlastics magazine (01/09) vol 4.
[13] Institute for Energy and Environmental Research "LCA of waste bags on behalf of European Waste Bag Producers", June 2009.
[14] Analyse van de milieu-effecten van verwerkingsopties voor biomaterialen: MATER-BI KF, VITO, 2008.
[15] Madrid Polytechnic University; Engineers School. With the support of Gaiker, Research Institute.

National authorities promoting these types of bags and retailers using these new materials therefore have a responsibility to introduce them in a responsible and coordinated manner so that previous education efforts for waste prevention and recycling are not undermined.[16]

Conclusions

Focusing on plastic bags is in general a very limited approach because they only constitute a tiny part of overall waste and littering. In order to reduce the environmental impacts a more holistic approach is needed than imposing a ban on plastic bags or a levy to address the plastic bag issue.

Consumers need to be given a better understanding of the relative environmental impacts of their lifestyles in order to make effective choices. The introduction of a mandatory levy or ban on plastic bags, and/or the promotion of biodegradable plastic bags do not constitute as adequate tools to reduce the environmental impact of plastic bags used by consumers.

Efforts to achieve environmental improvements should include voluntary agreements between government and industry. They prove to be more effective especially when they are combined with raising awareness and education campaigns as well as the promotion of reusable bags.

About PRO EUROPE

PRO EUROPE s.p.r.l. (PACKAGING RECOVERY ORGANISATION EUROPE), founded in 1995, is the umbrella organisation for European packaging and packaging waste recovery and recycling schemes active in 32 European countries plus Canada. These schemes mainly use the "Green Dot" trademark as a financing symbol. In its primary role, PRO EUROPE is the general licensor of the "Green Dot" trademark. It also acts as the authoritative voice and common policy platform representing the interests of all packaging recovery and recycling organisations founded and run by or on behalf of obliged industry.

Key fact about PRO EUROPE

- Since its foundation PRO EUROPE has been organising the exchange of experience and know-how on the recovery and recycling of household packaging between 33 systems in 33 countries.
- About 170,000 companies are contributing licensees/members of PRO EUROPE member systems.
- About 400 million inhabitants have access to separate collection financed by PRO EUROPE member systems.
- About 32,000,000 tonnes of packaging has been recovered by PRO EUROPE member systems in 2009.
- About 3000 kt of plastic packaging have been recycled by PRO EUROPE member systems in 2009.
- More than 25 million tonnes of CO2 equivalent has been saved by the work of PRO EUROPE member systems in 2009.

About 460 billion packaging items are labeled yearly with the ‘Green Dot’, a registered trademark in more than 170 countries.

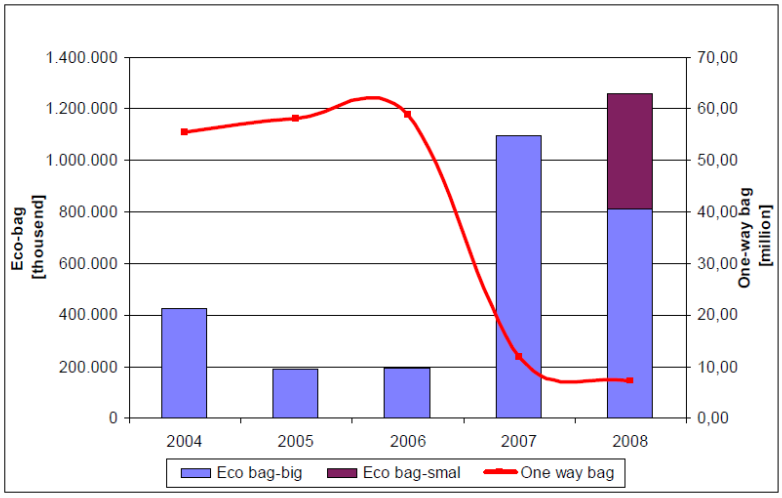
[16] For further information about biodegradable packaging please read the bioplastic factsheet of PRO EUROPE (http://www.pro-e.org/files/Factsheet_on_bioplastics_230309.pdf).

Annex I: Case study from Luxembourg

Plastic shopping bags – example from Luxemburg

The project is based on an environmental agreement with the Ministry of the Environment and VALORLUX which aims to introduce preventative measures as far as packaging and packaging waste is concerned.

In 2004, after elaborating several projects, VALORLUX finally chose to implement the eco-bag project, a PP woven reusable bag. The table below shows the evolution of this project.



This data represents the quantities sold by the 6 major supermarket groups in the Grand Duchy of Luxembourg and are therefore representative for the Grand Duchy.

At the launch phase in 2004/2005, consumers did not really change their habits and were still using one-way plastic bags. VALORLUX then launched an awareness campaign in collaboration with the 6 major supermarket groups and the other members. They decided to support this project because on the one hand it reduced their costs and on the other hand, through VALORLUX they were able to provide consumers with a positive image of themselves by actively participating in an environmental project.

In 2008 VALORLUX had, and this on consumer demand, produced an eco-bag of a smaller size. This small eco-bag is primarily used for small purchases, and is perceived more like a “town bag” since it can be bent easily to fit in one’s pocket.

With the introduction of the small eco-bag the major supermarkets also decided to drop the free one-way plastic bags and replace them with payable bags with one single pattern. This bag is produced with 40% recycled material, which again contributes to reducing the use of raw plastic material.

These two initiatives were so successful that consumption of one-way plastic bags fell considerably from 90 million to only 10 million payable plastic bags within a year. Since 2004, VALORLUX has distributed 3.12 million eco-bags (2.67 million large eco-bags and 0.45 million small eco-bags) to our partners. This represents approximately 6.4 eco-bags per inhabitant of the Grand Duchy when taking year 2008 as a reference.

VALORLUX regular does surveys that aim to measure the influence of its prevention activities on the public. The figures represent a parameter to guide our sensitivity and information actions.

This success is based on two criteria: the neutrality of the eco-bag on the one side and the good collaboration between the partners (the Ministry of the Environment, major supermarket groups and VALORLUX) on the other.

Since this project is not limited to supermarkets or grocery shops, VALORLUX has extended this project to businesses such as bakeries, butchers and DIY shops. VALORLUX satisfactorily noticed that this project is now widely accepted by consumers and that VALORLUX managed to change consumer behaviour within a timeframe of less than 5 years.

It is also worth mentioning that other companies have tried in the past to distribute a similar bag, but their results were by far incomparable to those of VALORLUX.

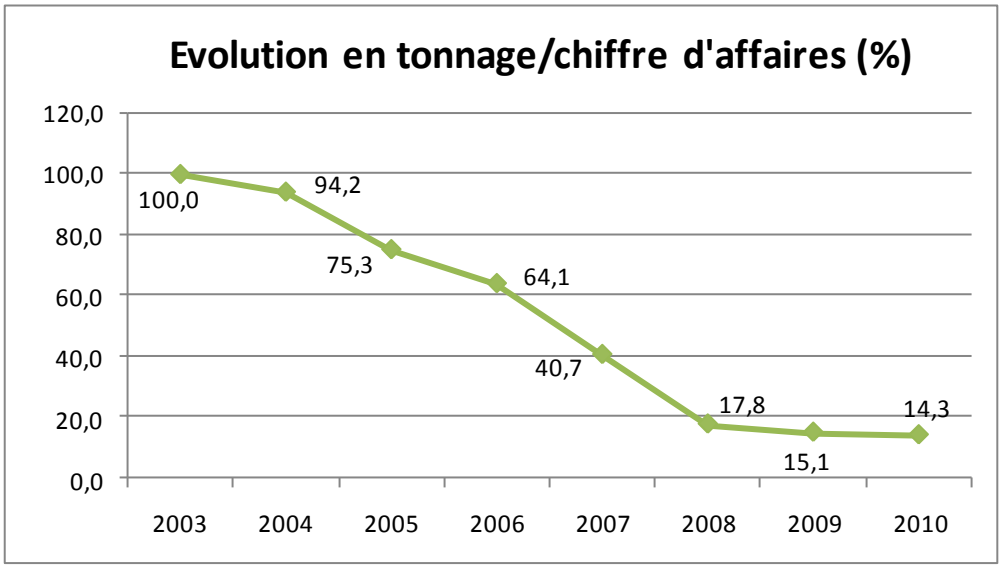
Currently VALORLUX has 85 partners from various sectors and the demand to participate in this innovative project is rapidly growing.

Annex II: Case study from Belgium

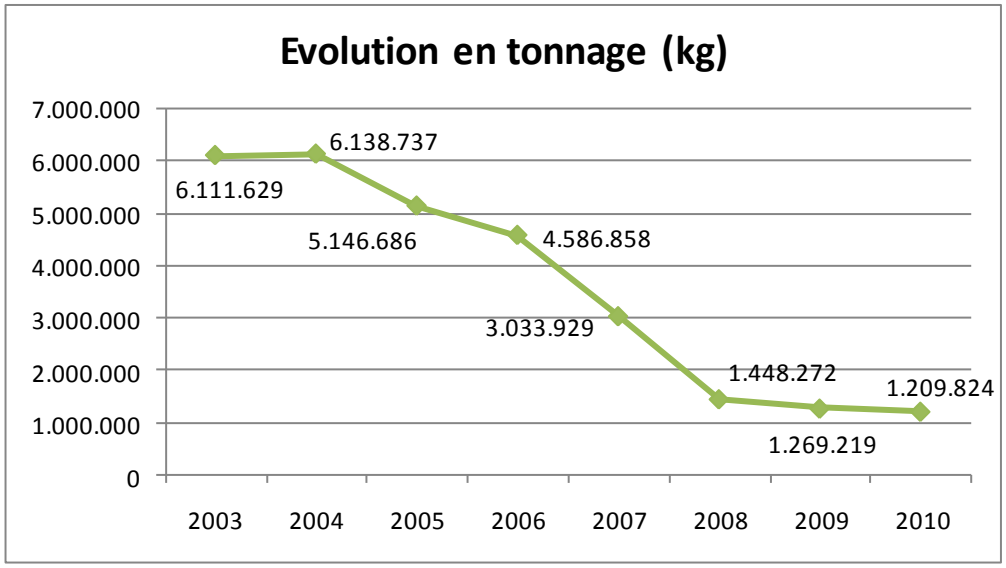
1. Development of single-use plastic bags

In 2003, the Belgian retail sector launched a voluntary commitment aimed at reducing the distribution of single-use checkout bags and increasing the number of reusable alternative solutions. This commitment is assessed annually in the form of a Comeos survey of its members. The figures are based on the data available from Comeos members who have participated in the initiative since 2003. This memo is based on the 2010 figures and compares them with the initial situation in 2003.

In 2010, Comeos members achieved an 86% reduction in the ratio of “tonnage of single-use plastic checkout bags/revenue” compared with 2003. Our calculation takes account of the development of companies’ revenues. The communicated results are therefore expressed in terms of equal revenue compared with 2003. In terms of tonnage, a saving of 4,902 tonnes of plastic was achieved.



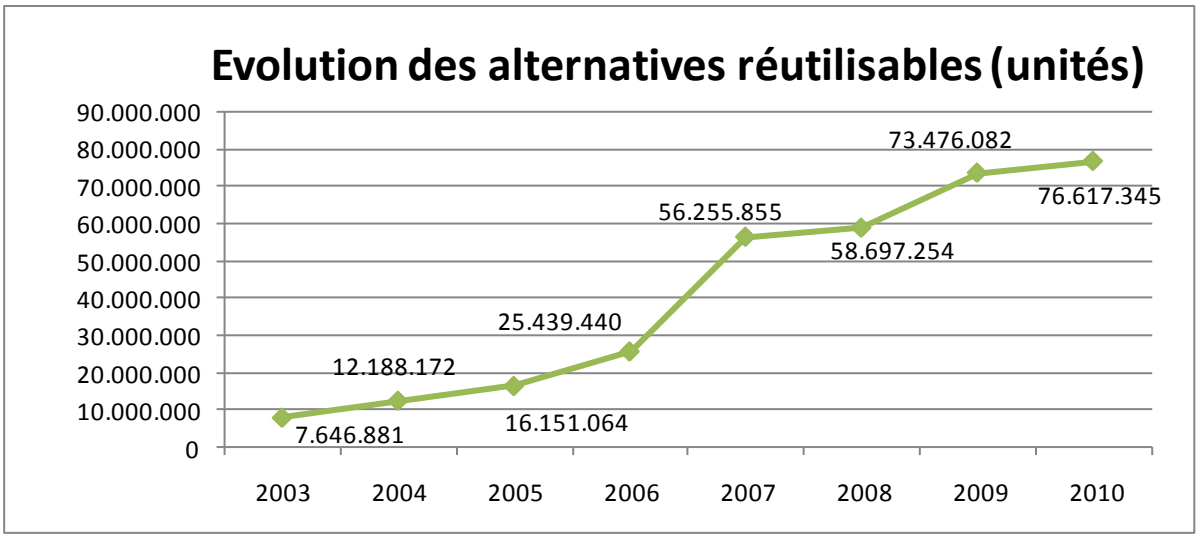
Development in tonnage/revenue (%)



Development in tonnage (kg)

2. Development of reusable alternatives

Comeos members have increased the total number of distributed reusable alternatives 10-fold (see the unit development in the graph below) thanks to the fact that an increasing number of companies now offer alternatives such as reusable bags, reusable boxes, trays, folding cases, smart boxes and 'click boxes', trolleys equipped with plastic trays, reusable isothermal bags, fridge boxes and cool boxes, canvas, jute, PP, nylon and net shopping bags, paper bags and finally biodegradable and compostable bags.



Development of reusable alternatives (units)

3. Conclusion

The few single-use bags that are still distributed today are practically all essential. They are mainly used for impulsive purchases, which prove that the retail sector has prompted a change in mentality among consumers: now, customers pick up their reusable bags when they head out shopping. Customers only ask for a normal plastic bag when they have bought items they did not anticipate buying.

Another notable fact: the initiative was not limited to the food sector. In the non-food sector, major retailers have also voluntarily replaced disposable bags with reusable bags which show greater respect for the environment.

The decline was spectacular in the initial years: from one day to the next, companies simply replaced single-use plastic bags with reusable alternatives. Logically, this trend is reducing and becoming less impressive. Nonetheless, we still think we can reach the initial goal (90 percent fewer disposable bags by 2013).

Annex III: Case study from Portugal

An example of consumer restraint on the consumption of plastic cashier bags was shown in Portugal with a major retail chain, known by consumers as “Pingo Doce”. In 2007, this retailer shifted from free bags to paid bags by free initiative. The consumer pays the bag as with any other product in the shop and each bag costs 0.02€. The University of Madeira, together with Quercus (a Portuguese environmental NGO) studied the behavior of 1028 consumers from March to April of 2009 in several supermarkets, where roughly half of those studied were Pingo Doce supermarket customers where cashier bags were paid and the other half customers in supermarkets belonging to similar retail chains with free cashier bags. Besides the 0.02€ bags, Pingo Doce also started to sell long-life reusable shopping bags. The study addressed parameters such as the number of clients that used the free or paid cashier’s bag and the number of clients that brought back a bag for the purpose of reusing it. The objective of the study was to ascertain the influence of a paid shopping bag in the behavior of consumers regarding reuse and optimal use of the bags. The study reached the following conclusions regarding reuse rates:

- When bags were free, the reuse rate was of 5%;
- When bags were paid for, the reuse rate was of 49%.

Regarding the optimal use of the bags the study also measured how full the bags were at the checkout, dividing filling levels into three categories, full (2/3 to 3/3), medium (1/3 to 2/3) and almost empty (below 1/3). The results found are shown in the table below:

Type of bag	Full	Medium	Almost Empty
Free	17%	60%	23%
Paid	52%	40%	8%

The increased reutilization of bags combined with an increase in their optimal use due to the fact that consumers now had to pay, resulted in an overall reduction of 64% in bag consumption.