



**ZERO
WASTE
SCOTLAND**

The Hidden Cost of Grocery Packaging

Author: Michael Lenaghan

Consumers in Scotland are buying more than 300,000 tonnes of single-use packaging for their groceries every year. All this single-use packaging doesn't just come at a cost to the environment. It also costs Scottish households, which collectively pay an estimated £600 million annually, a significant spend which is hidden within the overall price of their groceries. This means that **the average Scottish household buys 130kg of single-use grocery packaging each year, at a cost of almost £250 - or 7% of the average annual grocery bill.** In addition, Scots also pay around £40 million a year in waste management costs incurred by local authorities which must deal with this single-use packaging once it has been disposed of.

Behavioural science shows that consumers will seek to avoid packaging if the cost of that packaging is clear. In most cases however, the cost of packaging is not evident in the price of packaged goods, meaning consumers don't receive a clear price signal. If consumers were more aware of the unseen cost of grocery packaging, would there be more demand for reusable packaging, and packaging-free alternatives?

Out of sight, out of mind: the hidden cost of product packaging

Packaging is often essential to both preserve and protect the things we buy. Without it, food would spoil faster, and fragile products would be damaged more easily.

However, too many products come in packaging which is unnecessary and single-use, generating significant emissions and waste. This costs consumers money at the point of purchase, and the public money at the point of waste management.

It is easy to think of packaging as part of the product we want, rather than as a product in its own right. In truth, when we buy 500ml of shampoo, we are also buying a 500ml shampoo bottle, even if the price of that bottle is unclear. This packaging is not free. Add it all up, and the average consumer spends a lot buying single-use packaging¹.

What we pay for grocery packaging in Scotland

Grocery packaging makes up approximately 13% (315,000 tonnes) of all household waste in Scotland². This equates to roughly 130kg of packaging per Scottish household and generates an estimated 650,000 tonnes in global production emissions per year³, which is the equivalent to emissions from around four million car journeys from Aberdeen to London.



¹ In some cases, the cost of the packaging may exceed that of the product itself.

² Scottish Packaging Market Assessment (Zero Waste Scotland, 2015. Unpublished).

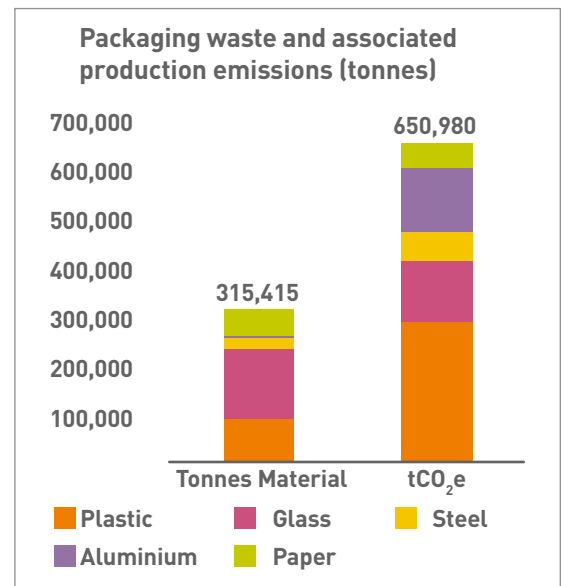
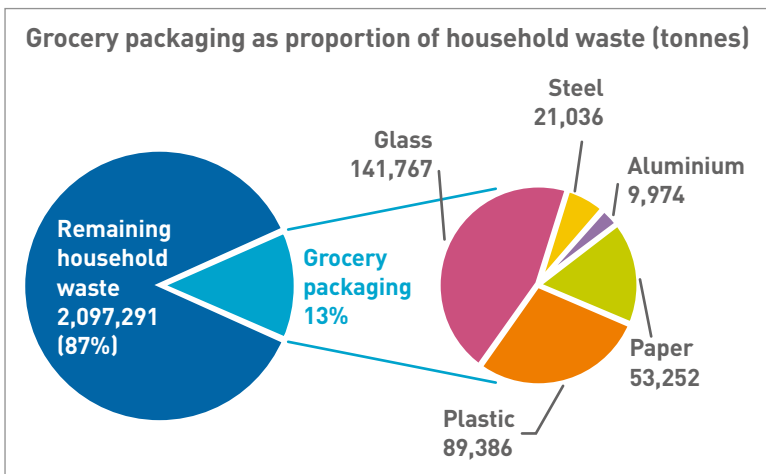
³ Worked out using the Scottish Carbon Metric, a calculator developed by Zero Waste Scotland to measure the whole-life carbon impact of Scotland's waste.

Zero Waste Scotland estimated the cost of all this grocery packaging by obtaining wholesale prices from a wide range of packaging manufacturers. Additional costs (such as shipping, marketing and waste management) were excluded, and the lowest cost/kg obtained for each packaging category was used to

ensure a conservative estimate. The results, presented in Table 1 below, show **the average Scottish household buys around £250 worth of grocery packaging annually, accounting for roughly 7% of the average annual household grocery bill.**

Packaging Materials	Format	Packaging Mass (kg)	Packaging Cost (£/kg)	Cost
Plastics	Bottles	14.25	£3.03	£43.15
	Pots, tubs and trays	12.59	£3.59	£45.28
	Film	9.94	£4.17	£41.51
Glass	Jars	13.52	£1.30	£17.56
	Bottles	44.33	£0.69	£30.74
	Other	0.18	£1.00	£0.18
Steel	Cans	6.94	£1.87	£13.00
	Lids and Closures	0.12	Price of lids included in container cost	
	Other	1.60	£1.87	£2.99
Aluminium	Cans	2.91	£1.97	£5.74
	Aerosols	0.33	£1.97	£0.65
	Foil Containers	0.12	£1.97	£1.45
	Other	0.74	£1.97	£43.13
Paper and cardboard		21.91	£1.97	£43.13
Estimated costs of grocery packaging for average Scottish household				£245.61

Table 1. The cost of grocery packaging to the average Scottish household.



Doing it for the money: how packaging price affects consumer behaviour

When consumers can see the cost of packaging, they will seek to avoid it, even if the cost is very small. The power of price signals to change consumer behaviour is the driving force behind several well-known programmes to reduce, reuse and recycle packaging:

- **Deposit return schemes:** using a redeemable deposit to encourage package recycling
- **Coffee cup charges:** numerous studies⁴ show a charge on disposable cups increases reusable cup use.
- **Scotland's carrier bag charge:** the 5p charge reduced single-use carrier bags by 80% in just one year⁵.

In each example, consumers respond to a clear price on packaging by changing their behaviour to reduce costs. The benefit of such measures is that they encourage environmental behaviour change among all consumers, even if they don't have strong environmental motivations. The point of highlighting the cost of single-use packaging is not to say that packaging is inherently bad, but that it is inherently a product, and like any other product, consumers can make more informed decisions about whether the service provided is worth the cost if that cost is made clear upfront.

Letting consumers know the real cost of single-use packaging will help them evaluate the potential financial benefits of reusable alternatives, particularly if these alternatives come with a comparable 'cost per use' figure.

Balancing the scales: the comparative cost of reusable and single-use packaging

In response to growing concerns about single-use packaging, many companies are developing reusable alternatives. Perhaps the most high-profile example is [LOOP](#) launched by TerraCycle which will offer consumers access to big brand products in refillable containers. Yet, whether it is glass milk bottles, reusable coffee cups, cloth carrier bags or LOOP, reusables face two fundamental disadvantages against incumbent disposables:

1. **Cost:** Reusables typically come with a clear financial cost, while single-use packaging *appears* to be free.
2. **Convenience:** Reusables generally require more effort compared to 'use it and lose it' disposables.

While some consumers are willing to overlook these disadvantages and embrace reusables for the sake of the environment, most are not. Fortunately, behavioural science suggests that simply making the existing but hidden financial cost of single-use packaging clear to consumers will encourage more people to seek out reusable packaging, or unpackaged, options.

Packaging costs as a proportion of average annual grocery bill



⁴Middlemass (2018) The Impacts of a Charge on Disposable Coffee Cups on Consumer Behaviour, Thesis. University of Edinburgh; Poortinga and Whittaker (2018) Promoting the Use of Reusable Coffee Cups through Environmental Messaging, the Provision of Alternatives and Financial Incentives, Sustainability, 10, 873; Starbucks disposable coffee cup charge trial | 2018 Impact report | Hubbub
⁵ZWS (2015)

Conclusion

Price signalling is a powerful tool that can drive positive behavioural change. Today, the cost of single-use packaging is hidden from consumers within the total price of the products they buy.

If consumers knew what they paid for packaging, research suggests they would be more inclined to seek unpackaged products, and reusable packaging options, irrespective of their sustainability concerns. This in turn could encourage product manufacturers and retailers to find ways of reducing and/or eliminating single-use packaging, resulting in cost savings for the consumer, and environmental benefits for the planet.





**ZERO
WASTE
SCOTLAND**

@ZeroWasteScot
zerowastescotland.org.uk



European Union



gov.scot

EUROPE & SCOTLAND
European Regional Development Fund
Investing in a Smart, Sustainable and Inclusive Future