

Zero Waste Scotland: Deposit return system- call for evidence

Executive Summary

Valpak is the UK's largest producer compliance scheme operator with member schemes for the Packaging, WEEE and Waste Battery regulations. In addition we provide recycling services and sustainable development consultancy.

We wish to offer further evidence to contribute to the Zero Waste Scotland call for evidence on the implementation of a deposit return system in Scotland.

The key areas we have covered in our response are detailed below:

- We have compiled further data relating to the tonnage of beverage packaging placed on the market in Scotland. This data is compiled using alternative sources to those used in the feasibility study, including Valpak's internal weights database and data from the joint WRAP and Valpak Consulting material flow projects. Our analysis suggests that the tonnage of packaging likely to be covered by a DRS is significantly lower than estimated in the feasibility study
- We have examined potential costs of implementing a DRS versus current costs of recycling to illustrate how this may impact producers and consumers. The resulting data illustrates the additional recycling a DRS could generate and the associated costs which are estimated to be considerably higher per tonne than existing producer responsibility costs.
- We have used external data sources to examine the relationship between beverage containers (plastic bottles) recycling levels and littering and have not been able to determine a link.
- Using data from our internal database, we have further examined the number of product lines that would be affected by the introduction of the DRS. Our data suggests that this is likely to be significantly higher than estimated in the feasibility study. We have offered some details on how this is likely to affect producers.
- Lastly, analysing recycling figures and the current market value of materials, we have provided an estimate of how the implementation of a DRS may affect the level of income from collected materials by Local Authorities in Scotland.



Zero Waste Scotland: Deposit return system- call for evidence

Response

1. Are you aware of additional evidence that is relevant to any consideration of the suitability of a deposit return system in Scotland?

(e.g. the impact of the targeted items when littered; improvements in recycling rates or reductions in litter achieved by deposit schemes or pilots elsewhere; wider social, environmental, or economic impacts; the extent to which performance estimates match experience elsewhere; the extent to which comparable performance could be delivered at lower cost)

Tonnage of packaging affected

We have compiled further data relating to the flow of beverage packaging placed on the market in Scotland and associated recycling rates:

Container	Flow onto the Market (t)
Glass drinks bottles	126,600
Plastic drinks bottles	38,500
Aluminium drink cans	5,500
Steel drink cans	2,700
Cartons	5,000

Table 1: Packaging flow onto the market in Scotland per container type

The methodology used by Valpak differs to the methodology utilised in the feasibility study.

In summary the differences between the feasibility study and Valpak methodologies are:

- The feasibility study uses a method of;
 - UK sales units of beverage containers for 2009
 - Scale down to Scotland proportion
 - Apply average packaging weight per material
- Valpak use a more detailed method of:
 - Use total UK tonnage flow of packaging
 - Scale down to Scotland proportion
 - Apply assumptions to ascertain the total amount of beverage containers within this total packaging flow per material. These assumptions are based on Valpak's comprehensive EPIC database covering packaging information for over 800,000 products and information provided through stakeholder engagement such as trade associations.

There are also differences between Valpak's and the feasibility study's average weights of packaging units, which indicate that in a number of cases the Valpak weights are significantly lower than those used by the feasibility study. We



Zero Waste Scotland: Deposit return system- call for evidence

believe that Valpak's weights are more likely to be accurate because they are obtained from our EPIC database. **They represent over 50% of the grocery market and are constantly updated to incorporate packaging weights received from suppliers and also through in-house weighing of items.**

Container	Average weight (g)	
	Eunomia	Valpak
beer/soft/cidar glass bottles	300	229
Wine, champagne, spirit glass bottles	500	448
PET Bottles	33	33
HDPE Bottles	56	36
Steel cans	35	38
Aluminium cans	17	17
Cartons over 500ml	28	34
Cartons 500ml or less	12	14

Table 2: Feasibility study and Valpak average beverage container weight comparisons

Our key conclusions from this data are that:

- The consumer beverage market in Scotland is estimated to be around 178k tonnes of packaging based on our workings. This is 45k tonnes less than the feasibility study's estimate of 223k tonnes.
- In addition to lower unit weights we have not included commercial beverage containers (eg. those sold through the commercial sector such as pubs, hotels and restaurants). We are not aware of any existing deposit systems which include commercial containers, because of the practical difficulties involved. This would suggest that it is unlikely that commercial beverage packaging would be included within the scheme.
- If the DRS scheme is to be around 45k tonnes smaller than outlined in the feasibility study, this would lead to an increase in scheme costs due to a smaller market size (as indicated in the feasibility study's sensitivity analysis in section 5 of their report).

Impact on recycling rate and costs

We have examined potential costs of implementing a DRS versus current costs of recycling to illustrate how this may impact producers and consumers. In order to calculate costs we have used the following rationale:

- To estimate the cost of achieving the current level of beverage container recycling rate, we have assessed the quantity in tonnes collected and the cost to comply with this through the current PRN system.
- Local authority costs are included within this cost, however in the DRS system there would still be collection costs but with additional benefits (as outlined in the feasibility study). We have acknowledged these saving benefits in the estimate of additional costs so a comparison can be drawn.
- In undertaking the assessment we have assumed that the DRS would achieve an 80% recycling rate.



Zero Waste Scotland: Deposit return system- call for evidence

	Onto the market (ktonnes)	Current Recycling Rate	Tonnage Recycled (ktonnes)	PRN Price (£)	Cost (£k)	Additional tonnage at 80% recycling rate (kT)
Plastic	38.5	51%	19.6	30	589	11.2
Aluminium	5.9	63%	3.7	16	59	1
Steel	2.7	68%	1.8	14	26	0.3
Glass	126.8	70%	88.8	20	1775	12.7
Cartons	5	32%	1.6	1	2	2.4
Total	178.9		115.5		2,451	27.6

Table 3: Current costs of recycling and tonnage to achieve 80% recycling rate

Based on our analysis and the resultant data shown in Table 3 it can be said that:

- The current cost of recycling equates to £21.21 per tonne.
- If the 80% recycling rate is achieved through the DRS, this would **generate an additional 27.6k tonnes of recycled material**.
- Based on the feasibility study, this would be at a cost of £43.9 million to consumers and producers, with benefits of £22.5 million. The net cost of achieving this additional recycling is therefore £21.4 million. This cost excludes the initial set up costs for the system which the feasibility study estimates at £36.8 million.
- This equates to **£775.36 per tonne** to achieve this recycling (excluding the initial set up costs for the DRS system as per the feasibility study).
- Based on the data above, if beverage container recycling rates were increased to 80%, total recycling rates for packaging in Scotland would **increase by 2 percentage points from 57% to 59%** (based on 2013 packaging recycling data).

Impact on litter

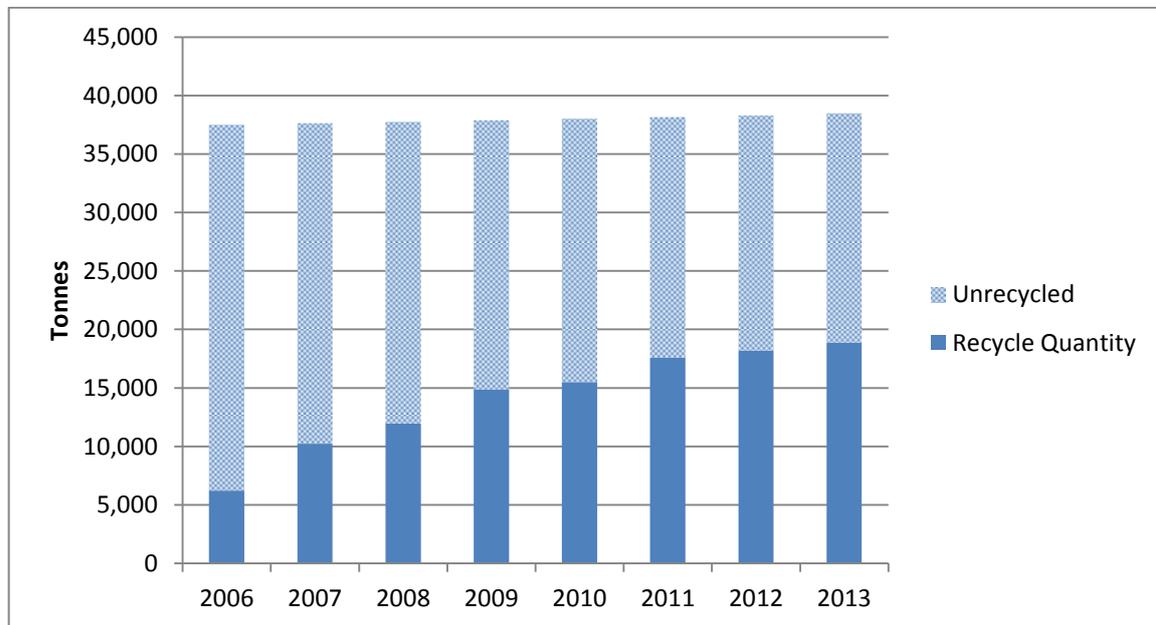
We have considered the relationship between beverage containers (specifically plastic bottles) in relation to littering. Various estimates place the annual growth rate in plastic bottles somewhere between 0 to 0.7%. We have combined this with other data sources to examine plastic bottle beverage containers and the link to litter as an example:

- Using a Recoup report undertaken in 2006 combined with current composition analysis, we estimate that the quantity of beverage plastic bottles placed on the Scottish market is 38.5ktonnes. This figure assumes that 22% of bottles placed on the market are non-beverage.
- Using a mid-point 0.35% growth rate the quantity of beverage plastic bottles being placed on the Scottish market is currently 38.5ktonnes. The current recycling rate for plastic bottles in Scotland is 51% (using Waste Data Flow and Recoup sources)
- Using this data, the quantity of unrecycled plastic bottles in Scotland and thus the figure available to litter has reduced from 31.3k tonnes to 19.6k tonnes: an annual reduction of 7%.



Zero Waste Scotland: Deposit return system- call for evidence

- If marine litter has significantly increased during this period, it would suggest that **there is no link between recycling rate and littering** (or there are sampling issues in the marine litter surveys).



Graph to illustrate recycled and unrecycled tonnage of plastic bottles placed on the market in Scotland from 2006-2013

2. Do you have evidence that is relevant to any consideration of how a deposit return system could be designed and managed?

(e.g. the governance arrangements and contracting; the way in which services are procured; the extent of public/private/third sector involvement; the ownership of material within the scheme; on the coverage of materials/products; the implications for re-usable/recyclable container design; the interaction with other Scottish/UK regulatory systems; changes/amendments that would improve the performance or value of the initial system proposed)

The feasibility study estimates that around 2,000 product lines would be included within the DRS. Using our EPIC database, we estimate that this figure is likely to be much higher and **in the region of 15,000 product lines**. In terms of coverage of products, this would suggest a greater impact on beverage producers, especially in relation to product labelling, production planning and scheduling, stock control and distribution.

This would also be likely to have a noticeable impact upon retailers and wholesalers, particularly those supplying smaller outlets such as local convenience stores. We do not have any specific information on the impacts of individual companies, but would suspect that there would be a particular impact on those who have distribution centres or warehouses in the north of England or southern Scotland which supply stores both north and south of the border. These would presumably be required to hold double the number of different SKUs for the affected products with the associated space and availability issues, but we have not been able to quantify this impact.

Zero Waste Scotland: Deposit return system- call for evidence

3. Do you have any evidence on the anticipated impacts of a deposit return system on your own organisation, or on the public more widely? (eg costs to businesses, costs to the public, public acceptability)

Economic impacts on Local Authorities

If the DRS were to be implemented there would be a loss of material value to Scottish Local Authority systems. We estimate this lost revenue to be up to approximately **£8.9 million lost revenue**, based on current market value as shown below:

	Tonnage at 80% Recycling rate (kTonnes)	Material Value (£)	Total Value (£k)
Plastic	30.8	120	3696
Aluminium	4.7	800	3776
Steel	2.2	80	172.8
Glass	101.4	10	1014.4
Cartons	4	55	220
Total	143.1		8,879

Table 4: Material revenue loss to Local Authority systems

Contact

Thank you for the opportunity to comment on this consultation. Please address any comments or queries in response to Lucy Singleton via email, lucy.singleton@valpak.co.uk, or via telephone on **01789 208 723**.

