Report

Spring 2015

Review of feasibility study for a Deposit Return System for Drinks Containers

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1 Background

Scottish Government asked Zero Waste Scotland to commission a piece of work to explore the feasibility of improving recycling and reducing littering of drinks containers in Scotland via a Deposit Return System (DRS). DRS systems are a feature of recycling infrastructure in a number of European countries, and around the world. In a DRS system, the consumer pays a small deposit when they purchase a product in a targeted container – this money is refunded when the container is returned to be recycled at a system collection point.

The feasibility study was undertaken by Eunomia, and is published alongside this paper. The feasibility study identified - based on practice overseas, previous relevant studies, and stakeholder consultations - how a DRS system could work in Scotland, how it might perform, the design choices that would be relevant, and some of the costs and benefits that would be expected from a Scottish DRS.

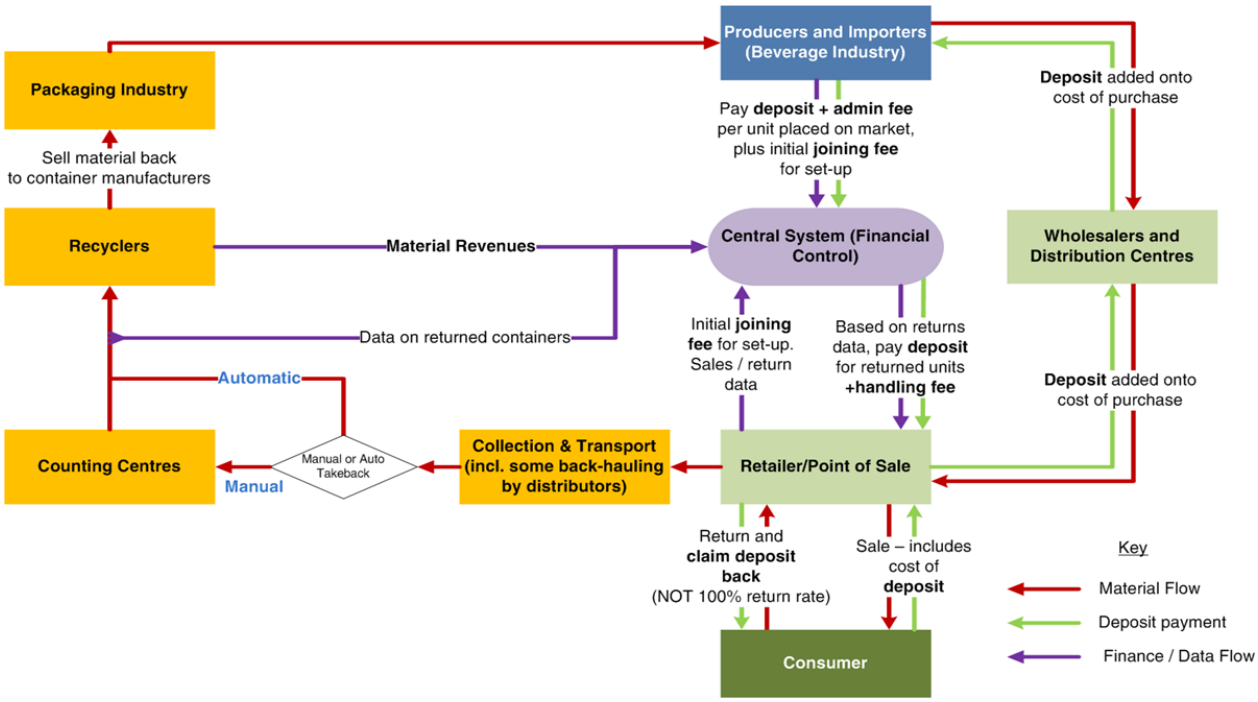
This document provides a brief review by Zero Waste Scotland. We first describe the system outlined by Eunomia, and then consider some of the elements of the Eunomia study that would benefit from further consideration, or where evidence on a DRS option could be further developed.

2 Feasibility study for a Scottish Deposit Return System

Eunomia Research and Consulting are experts in deposit return and have undertaken previous feasibility studies on the issue at the UK level. The model is designed to fit into the current Scottish context, and is based on models overseas – in some cases best practice is identified, and in others choices are presented.

2.1 Key design features

The diagram below (taken from the Eunomia study) shows the basic design principles and operating flows in the DRS system they describe.



Deposit Return System as described by Eunomia

In terms of general design principles, Eunomia highlight that while the system can be extended to other items – and suggest the feasibility of doing so is explored – they also highlight that drinks containers (with a short purchase-consume-dispose span) are very suitable for deposits, as the deposit is not locked away for a long period.

Eunomia envisage a scheme accepting the broadest range of materials possible (PET, HDPE, cans, glass, cartons). Any scheme should cover all potential packaging options for a product class to avoid creating an incentive to switch between packaging options. The deposit suggested would be between 10p and 20p for a standard container (with provision for this to be changed over time in line with inflation), and they predict, based on overseas experience, this would give a return rate of over 85%.

On the ground the system would be a mix of automated and manual take back, primarily at point of retail. No issues are envisaged in incorporating remote rural areas or the islands. The material would be owned by the DRS system.

Eunomia describe a model where a single central body manages the system on a on a non-profit basis, and highlight a number of considerations around system governance, transparency and design. Alternative management options are also briefly discussed.

Eunomia assess the risk of fraud as relatively low given Scotland's geographical context and the suggested level of deposits. Various process options are also suggested to reduce fraud. Clear labelling will both minimise fraud and maximise understanding.

Eunomia identifies that Scotland has the powers to oblige a deposit to be charged and create a central body to administer a system under the Climate Change (Scotland) Act 2009.

Packaging labelling is an issue reserved to the UK but the Scottish legislation includes powers to specify how refundable containers should be identified, so legislative options or a voluntary approach to labelling, would need further exploration. Eunomia highlight that the system could adopt different levels of labelling, from changes to bar codes to consumer-facing logos. Any labelling required for a DRS would also need to be in line with EU guidance. Eunomia assumes no changes to the UK Producer Responsibility PRN system for packaging are needed and that the two systems would run alongside each other.

Eunomia suggest the following direct costs and benefits of running a system:

System Costs

- One-off set up costs = £15m
- Machine take back (p.a.) = £29m
- Manual take back (p.a.) = £8m
- Logistics (p.a.) = £20m
- Counting centres (p.a.) = £3m
- Admin (p.a.) = £3m

System Income

- Income from unredeemed deposits (p.a.) = £24m - £36m
- Income from material (p.a.) = £20m - £22m
- Producer fees (covering system shortfall) (p.a.) = £6m - £17m

Local Authorities

- Modelling suggests a net saving (from collection and disposal costs) (p.a.) = £5m (kerbside); £1m (HWRC); £7m (litter)

Other benefits identified in the study included the improvement in litter disamenity – i.e. the social dissatisfaction caused by litter, This is provisionally valued at £205m p.a. Better material quality, a small increase in recycling rates, and the job creation associated with running the scheme were also highlighted, but no monetary value was assigned.

Based on Eunomia's sensitivity analysis– focused primarily on differing assumptions around material levels – little difference in these figures is produced.

Eunomia suggest it would take at least two years from any DRS scheme design being finalised, to an actual system launch.

2.2 Key considerations

This is a credible and well thought-through scheme design, based on overseas experience. It also highlights where significant design choices are available. A few key assumptions would benefit from further consideration.

Small variations in design might impact both performance and cost in unexpected ways, thus it seems likely that there is less certainty around predicted performance than appears in the headline figures. For example, whilst overseas experience suggests the return rates identified are credible, the Scottish context, and existing habits, are of course unique. Currently the sensitivity analysis conducted is limited to the volumes of material available to the scheme and a small variation in return rates. This does not necessarily cover all the wider elements that might impact on scheme performance.

Clear, consistent, consumer-facing changes to relevant packaging labelling would be important to help maximise scheme performance, by improving public understanding and acceptability, and the user experience, they would also help minimise fraud, though this is not identified as a big concern in the study.

Analysis of the implications of any scheme for different stakeholders would benefit from clearer consideration of how costs and benefits might be shared across different groups. To some extent this is a presentational issue, but it clearly would make a difference, and could influence elements of scheme design.

Three areas relating to costs and benefits would benefit from further investigation. Firstly, current evidence on how the public's non-financial contribution to the scheme should be valued is limited, and Eunomia do not seek to quantify this in their study.

Secondly, the disamenity value of litter from the targeted items identified in the study is unlikely to command a consensus among all stakeholders. The method used in this study is clear and transparent, but different approaches would be expected to give different estimates. As the value identified here is so large relative to other costs and benefits, improving confidence in the estimate seems desirable.

A third area that would benefit from further investigation is that of the cost implications for local authorities. Whilst a net benefit is shown in the study, how these costs and benefits are distributed, and ensuring that they were realisable, would be an area that it would be good to understand in greater detail. For example, the identified collection efficiencies might prove hard to realise – especially if a significant number of containers fall outwith the scheme and / or continue to be disposed of by households at home for other reasons. In these cases local authorities could realise some value from unredeemed deposits where items end up in their collection routes, though whether this is practical is currently unclear. The Eunomia analysis assumes that existing assets can be optimised for the new material flows, but it is possible some will not be suitable, with implications for one-off transition costs. Local authorities would clearly need to manage the transition carefully, and this is not explored in detail in the study.

As Eunomia acknowledge, litter clearance savings to local authorities may not be completely scalable as indicated – though conversely, public bin servicing costs – not accounted for in the study – might be reduced, leading to further savings.

A final factor affecting local authority costs and benefits is how they might be involved in the running and management of the DRS itself. The Eunomia study currently assumes local authorities are not involved in the functioning of a DRS, but alternative management models could include local authorities much more directly.

It is assumed the DRS would function alongside the existing UK PRN. The extent to which this is optimal from a design and efficiency standpoint would benefit from further consideration. We would suggest the potential interaction between the two systems should be examined in more detail in any consultation or further work – in particular any unintended impacts that might come from the interplay of the two systems at either Scottish or UK level.

Zero Waste Scotland notes that currently the only business model for procuring DRS machines is outright purchase. We suggest that leasing models be explored both to encourage take-up and manage costs for potential sites.

This study is a good starting point for considering what a DRS might look like for Scotland. In general we think further discussion around some of the design choices presented and what might be most appropriate for Scotland would inform future debate. Greater insight into the public's view of this option might also be useful. This is an option that the public would interact with on a daily basis, and public opinion research was out of scope for this study. Were this option to be developed further, consideration of how such a scheme would best be managed and mobilised, and how transitions in existing arrangements would be optimised, would also benefit from a broader debate.

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