

Consultation on a Deposit Return Scheme

Valpak Supplementary Evidence

Valpak Limited is the UK's leading producer responsibility compliance scheme operator with member schemes for the Packaging, WEEE and Waste Batteries regulations. In addition, we provide our members services for the Carbon Reduction Commitment (CRC), Energy Savings Opportunity Scheme (ESOS) and other environmental areas such as recycling services, REACH, sustainable development consultancy and international compliance.

This note focusses on the modelling of litter costs, litter disamenity and reductions in litter disamenity in the DRS impact assessment.

We regard the disamenity impacts as highly questionable and subject to substantial uncertainties. For example, the economic benefit (the monetised reduction in litter disamenity) of a DRS is estimated at £986m per year and accounts for more than 90% of the total economic benefits modelled. This is a huge multiple of available estimates of the costs of UK litter collection and therefore a potentially implausibly large net economic benefit and implied benefit-cost ratio from public investment in litter collection.

We are also aware of a new economic briefing paper by Christopher Snowden of the Institute of Economic Affairs, "A Load of Rubbish? Introducing a Deposit Return Scheme to the UK", which provides some useful independent analysis and strongly questions the assumptions and conclusions of the IA (available here: <https://iea.org.uk/publications/a-load-of-rubbish-introducing-a-deposit-return-scheme-to-the-uk/>).

In the light of this we recommend that the IA should be re-evaluated in the light of better estimates or evidence where possible, or alternatively the likely savings from litter reduction moderated to provide a more balanced assessment.

Litter Disamenity

Figure 1 shows the estimated annual economic costs and benefits of introducing an all-in scope DRS for drinks containers and compares the total annual net economic costs excluding the impact of litter disamenity to those when including the impact of litter disamenity. The annual average cost of setting up and running the DRS is £834m compared to total economic benefits of just over £100m without the impact of litter disamenity, a **net cost** of £727m per year. By contrast, including the impact of litter disamenity yields a 10-fold increase in total economic benefits and **net savings** of £260m per year.

Figure 1: Impact of litter disamenity on per year net economic costs of all-in DRS.

Per year economic costs and benefits	All-in DRS	
	Excluding impact of litter disamenity	Including impact of litter disamenity
A: Total costs ^(a)	£834m	£834m
B: Total benefits	£107m	£1,094m
<i>of which</i>		
materials revenue	£37m	£37m
avoided GHG emissions ^(b)	£20m	£20m
savings on direct cost of litter	£50m	£50m
Reduction in cost of litter disamenity	-	£986m

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Total net costs per year ^(c) (A – B)	£727m	-£260m
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^(a) Average annual cost over 10 years undiscounted, £1,018m in year 1, £814m per year in years 2 to 10

^(b) Average annual savings over 10 years undiscounted, avoided GHG emissions are monetised at £12m in year 1, rising to £28m in year 10

^(c) a +ve figure is a net cost, a -ve figure is a net saving

Figure 2 shows a similar analysis for an OTG scope DRS for drinks containers. The annual average cost of setting up and running the DRS is £466m compared to total economic benefits of £30m a year without the impact of litter disamenity, a **net cost** of £436m per year. Including the impact of litter disamenity boosts total economic benefits to £351m with accordingly lower **net costs** to £115m per year.

Figure 2: Impact of litter disamenity on per year net economic costs of OTG DRS.

Per year economic costs and benefits	On-the-go DRS	
	Excluding impact of litter disamenity	Including impact of litter disamenity
A: Total costs ^(d)	£466m	£466m
B: Total benefits	£30m	£351m
<i>of which</i>		
materials revenue	£10m	£10m
avoided GHG emissions ^(e)	£6m	£6m
savings on direct cost of litter	£13m	£13m
Reduction in cost of litter disamenity	-	£321m
Total net costs per year (A – B)	£436m	£115m

^(d) Average annual cost over 10 years undiscounted, £466m in year 1, £302m per year in years 2 to 10

^(e) Average savings over 10 years undiscounted, avoided GHG emissions are monetised at £4m in year 1, rising to £9m in year 10

This analysis clearly demonstrates the overwhelming impact on the assessment of economic costs and benefits of introducing a DRS, resulting from the estimated litter disamenity impacts in the IA. However, this modelling is also subject to substantial uncertainties:

- It is based on responses from a survey study of 591 households (in London, Manchester & Coventry) on what they would be *willing* to pay to reduce litter by 1 point on a 10-point scale, not what they *actually* paid. The figure is then scaled up to the 27.2m households in the UK.
- It extrapolates the study's findings on willingness to pay. Our analysis based on the original figures provided by the study (without extrapolation but with scaling to the UK) shows substantially lower net economic benefits from reductions in litter disamenity. For both DRS scopes the result is substantial net economic costs. For the all-in scope DRS there would be a net economic cost of ~£440m per year, and for on the go DRS there would be a net economic cost of ~£190m per year.
- The disamenity cost of all-in scope DRS litter is assumed to be 40% (by volume) of the disamenity cost of all littered items. However, for OTG DRS littered items this is estimated to be 13%, a scale factor of 60% is mentioned in the IA but the rationale is not discussed. This is at odds with our view that in-scope OTG drinks containers are more likely to be littered, and less likely to be recycled.

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- The reduction in disamenity following the introduction of a DRS is assumed to be 50% of the return rate for drinks containers. This assumption is highly uncertain, there is limited evidence in support of it and it could vary substantially depending on the scope of the DRS.

Direct Litter Costs

Robust UK figures for the direct cost of packaging litter (and by in scope DRS drinks containers) don't exist. The modelling in the IA considers both count and weight-based fractions but then arbitrarily takes an average of these as the 'best' estimate.

In estimating direct litter costs for the UK, the analysis in the IA modelling scales Zero Waste Scotland's estimates of litter costs in Scotland to the UK by population. We consider this as subject to substantial uncertainty due to the very different geographies, population densities and potential for economies of scale elsewhere in the UK.

While the introduction of DRS may have an impact on quantity of littered in-scope materials, there is limited evidence on the potential for reduction in litter collection costs by local authorities (or other organisations) as there would still be the need for crews to go out collecting non-drinks items littered as well as the remaining drinks containers littered, particularly for on-the-go drinks containers.

Litter Reduction

A cornerstone of the rationale for the introduction of a DRS is the impact it has on litter reduction. A key assumption in the IA is that the quantity of littered DRS containers falls by 85% (the container return rate) following the introduction of a DRS. In part this follows from the behavior change incentivised by the deposit. However, exactly how people will change their behavior regarding use of a DRS alongside existing kerbside systems or littering is uncertain.

We note the contradiction between the assumptions as reported in the DRS consultation document and the IA. The DRS consultation document states '... meeting a 90% collection rate by 2030 (this would be 85% collected through a DRS, with an additional 5% expected to be recovered through kerbside collection)'. In the IA modelling it is assumed that 70% (the baseline container recycling rate) of the DRS containers not captured by DRS are collected by kerbside with the remainder either being littered or in the residual stream. Therefore, the overall capture of DRS containers is 95.5%.

The IA refers to an 85% reduction in litter following the introduction of a DRS, a more accurate description is an 85% reduction in DRS items littered or in residual. Figure 3 sets out the assumptions used to derive the reduction in litter/residual for the all-in and on-the-go DRS scenarios.

We note that the use of a baseline 54% recycling rate for on the go materials appears to have been incorrectly quoted from the Valpak/WRAP Drinks Recycling On The Go report. This value comes from the consumer survey which is subsequently revised down based on wider evidence to between 5% and 9% (see section 3.5 Drinks Disposal, available here <https://www.valpak.co.uk/information-zone/reports/material-flow-reports.>) The use of a

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54% recycling rate as the baseline for on the go materials substantially understates the modelled incremental improvement in the on the go recycling rate following the introduction of an OTG DRS.

Figure 3: Reduction in the quantity of litter for all-in and OTG DRS scenarios.

	All-in DRS	OTG DRS
Placed on the market	2,307,538	594,072
Current recycling rate (%)	70%	54%
Recycling	1,615,277	320,799
Residual/litter	692,261	273,273
DRS return rate (%)	85%	85%
DRS returned	1,961,407	504,961
DRS not returned	346,131	89,111
<i>of which</i>		
recycled via kerbside	242,291	48,120
remain in residual/litter	103,839	40,991
Reduction in residual/litter	588,422	232,282
Reduction in residual/litter (%)	-85%	-85%
Total recycling rate (%)	96%	93%