
DISCUSSION POINTS DRS PEER REVIEW BY DAVID PERCHARD

We are proposing to discuss the peer review at a meeting scheduled for 7th June 2005. This note sets out the key issues that we have identified as having informed the conclusions of the peer review.

The peer review concluded *“the report does not meet the project specification. We cannot see how it could be used to aid policy formulation unless it was completely rewritten”* Page 22. Furthermore *“There are a large number of factual errors and misconceptions about the operation and financing of DRS through out the report that undermine the validity of the analysis and conclusions”* P (Page) 21.

Our objective for the meeting is to establish whether the key issues are fundamental points of disagreement or not.

We have isolated 17 key issues and these have been shown in the table that starts on page 2. These have been placed in order of their significance in supporting the conclusions.

Other than these key issues we found the following comments to be helpful:

- Differences in the method of calculation makes international comparisons of packaging data problematic (page 5 bottom)
- Comments on the summary of Annex 1 (page 8)
- DRS in Denmark established in 2002 not 2001 (page 9)
- Transcript from August 1989 (page 10).
- Syrek tables on US litter research (pages 14, 15 and 16)
- Comments on wine bottles (page 17)
- Comments on DRS design features (page 18)
- Comments on hazardous packaging (page 20)

We are grateful for the time and effort taken to review the study and look forward to a discussion over the key issues we have identified.

	Key Issue Raised by Peer Review	Evidence	Reference
1	Does the pricing system operate in a DRS?	“OH also seem to assume that there is a direct correlation between the level of the deposit and the return rate”	Top of page 7
2	Does the profit maximising firm require a high container return rate for refilling operations?	“OH suggests that a higher deposit is required for refillables than for non-refillables”	Page 6 European Case Studies
3	What is the basis of the classification of DRS into two categories?	“The consultants distinguish between European style DRS, which they seem to believe are all refill systems, and US style systems which are for non-refillables. This demarcation is both confusing and incorrect”	Page 2 Ref Paragraph 3
4	What is the relationship between non-mandated refilling and mandated national deposit rates?	“The Consultants apparent misconception that the Danish and German deposit systems handle only refillables” “...which they seem to believe are all refill systems” “it is based on the erroneous assumption that the German mandatory deposit applies to refillables”	Page 6 Page 2 Page 9 Conclusions from European Experience
5	Should litter have been considered in this study?	“Litter abatement was not referred to in the Defra specification, and we wonder why it is discussed so thoroughly”	Page 13
6	Will the tonnage of materials delivered by a DRS overwhelm the PRN and/or local authority kerbside collection systems for recyclables?	“It is possible that recycling rates achieved may overshoot the targets” “The deposit system and the PRN system would compete with each other for material” “It seems to be based on the assumption that a DRS would capture all the packaging of a given material” “We cannot understand how the consultants conclude that a DRS for non refillables will not only meet but exceed the recycling targets for glass, plastic and metals”	Page 16 Ref Paragraph 276 Page 17 (top) Page 16 Ref Paragraph 281 Page 13 Ref Paragraph 246
7	What is the relationship between obligated businesses, local authorities and consumers who	“A deposit system would interfere...its expense would make it unlikely to survive the competition with cheaper	Page 17 second paragraph

	fail to redeem deposits in meeting cost of waste packaging targets?	collection systems in the PRN system”	
8	Was the objective to design a DRS?	“DRS Design Features...This section is extremely thin”	Page 18
9	Is a self-funding DRS flawed in principle?	“We are extremely concerned by the suggestion that a UK DRS for non refillables would rely on unredeemed deposits as its main source of income”	Page 4 paragraph 6
10	Should Germany have been used as a case study?	“We were surprised at the choice of European countries selected for the study”	Page 2 (top)
11	Are disputes between local and regional government over contracts for the treatment of waste relevant to the UK?	“In any case, it is incorrect – DSD, not the municipalities, determine how the material will be recycled”	Page 7 reference paragraph 54
12	Do the international comparisons of GDP with beverage consumption and types of packaging wastes provide any insights? (Were there omissions?)	“The data on the correlation between increased GDP and increased packaging waste seems muddled. Why do they show only data on beverage consumption?...The consultants focus on GDP as the key factor that affects packaging consumption, but there are many others, particularly demographics”	Page 6 reference to paragraphs 23 and 113ff
13	Do differential deposit rates for refillables and one way containers create financial incentives to relocate filling plants?	“The idea that German deposits could have the effect of encouraging international beverage producers to site their production plants closer to Germany is extraordinary”	Page 10 reference paragraph 72
14	Which operators would have the lowest costs imposed on them if refilling were compulsory?	“This is nonsense...such fillers will be the most unwilling to switch to refillables...” (<i>referring to the marginal cost analysis in which we identified some regional breweries as having the least cost route back to using refillables</i>)	Page 12 reference paragraph 196
15	Can price competition in the beverage market be extended to deposit rates?	“The idea that a local distributor could charge a lower deposit than a filler whose products are distributed more widely is frankly bizarre. It would be highly confusing to consumers”	Page 13 reference paragraph 226
16	In what circumstances is compulsion necessary?	“We see many errors and omissions in the analysis”	Page 10

		“We feel that OH should have gone on to consider the option of a mandatory reuse system...and require fillers (and possibly retailers) to participate in such a system”	ref Using a Mandatory DRS Page 11 second paragraph
17	What insights can be learned from asking questions about future intentions or responses to hypothetical events?	“There is no evidence of discussions with retailers”	Page 21

The peer review argues:

1. Does the pricing system operate in a DRS?

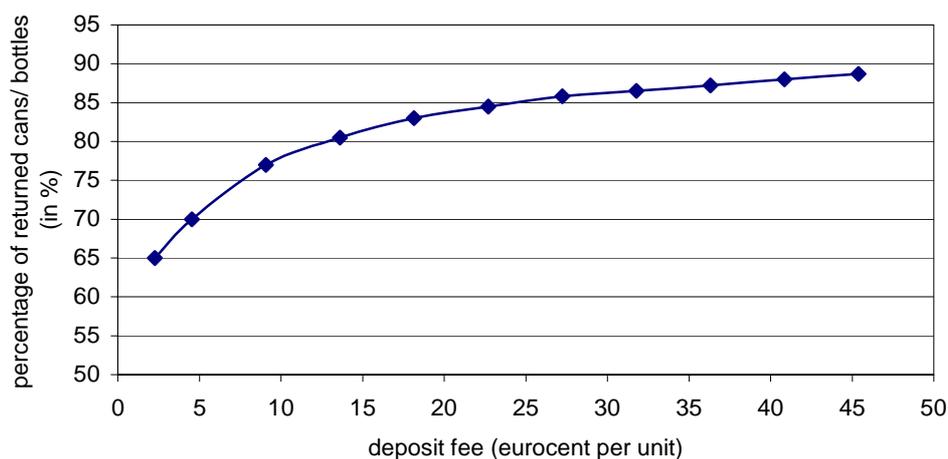
This issue, and derivatives of it, appear in several places. It also informs the objection to our general classification of DRS into either US style or European style systems, a classification based on the differences in deposit values (prices).

The price system generally recognises that as the price (value of the deposit) increases the supply of (returned deposit-bearing containers) increases. If the deposit were £1 per 50cl bottle, consumers would have a higher incentive to reclaim the deposit than if it were 1p.

Perhaps the point being made is that beyond a higher range of deposit values the law of diminishing returns can be expected to operate and perhaps even negative returns. We acknowledge that diminishing returns will operate but would like to understand the circumstances in which negative returns might occur. Negative returns would occur only when the deposit increased from say 50p to 51p but the rate of return fell.

We provided the CE research on DRS systems from around the world and as such should be based on a sufficient population to avoid distortions introduced by DRS that are badly designed. We have interpreted the graph as showing that the price mechanism does operate in this market.

Level of Deposit and Container Return Rate



Source: CE Study On Litter 2001

The DRS examples (on page 6 referring to our paragraph 49) from Sweden and Germany do not support the case that the price system ceases to operate for deposit bearing containers. They are examples of cross-subsidy, in this case of cross subsidy enforced by regulation. The deposit required to ensure the return of 90% of containers

is significantly higher than the deposit required to ensure the return of 70% of containers for recycling. The national price has been set at the higher level (27p in Denmark and 17p or 34p in Germany) contrast this with 3p or 7p in many US states where refilling is not a consideration. In our view it is essential that this issue of misunderstanding is thoroughly discussed and resolved.

Perhaps it is being argued that non price issues are more important. The top of page 7 lists three such factors. For example that no matter how high the deposit if there is no where to redeem it then price bears no relation to supply. In the extreme this is clearly possible, if this is the argument being presented we would like to discuss the evidence that these factors are so important that they overwhelm the price system.

2. Does the profit maximising firm require a high container return rate for refilling operations?

Our argument is constructed from the following elements:

- a. Refilling operations require high return rates - typically at least 85%.
- b. In order to achieve average trip rates per container of at least 8.
- c. The higher the trip rate above the breakeven average of about 8 trips, the greater the saving in resource use and the lower the cost of container replacement.
- d. The return rate for recycling purposes is not sensitive to the need for high average trip rates.
- e. Return rates for recycling can be set to achieve various national recycling targets. Typically the target rate is less than 85%, largely because of the growth in marginal costs associated with achieving each 1% increase in the return rate.
- f. Refilling **requires** a high rate of return. Recycling **only** does so **if** the recycling target determined by the regulator requires it.
- g. The deposit necessary to achieve an 85% rate of return should be higher than that necessary for a rate of less than 85%.

It may be that there is some doubt over the necessity of a high return rate for refilling. Where the deposit is greater than the replacement value plus all administrative costs, a refiller might be indifferent to the return rate. The profit maximising position in these circumstances is not necessarily an average trip rate of 1. This is only true when the cost of return and washing are greater than the replacement cost. We have shown that in financial terms these costs are typically less than replacement values and it is non financial issues that determine whether to abandon refilling. In these circumstances, once a return and washing system is in place there is a financial incentive to maximise the rate of return even when the deposit is set at replacement values.

The refiller could use a deposit rate of less than the replacement and administration value but because he needs to maximise the rate of return the price is set higher.

In practise, the deposits used by refillers (without regulatory intervention) are typically set at or above the replacement cost (7p to 10p) plus administration costs of 1p to 2p. This is a level of deposit that generates a high rate of return because the consumer has a sufficient incentive to redeem the deposit. If a lower deposit were

used, the return rate would be lower and consequently the average trip rate would fall below the profit maximising potential.

Refillers have established these deposits in market conditions over many decades. The single national rates imposed through regulation are set in some European countries so as to protect these refilling prices. They are not set to achieve a return rate that meets a specific recycling target.

3. What is the basis of the classification of DRS into two categories?

The classification we have used is designed to draw attention to pricing. In those US states that mandate a deposit, the objective was to embed a value in the container over and above its intrinsic recycling value. Typically this is 5 cents or 10 cents (3p to 7p) per container.

The national price used for deposit rates in the European examples is set at a much higher level. The higher the rate the higher is the risk of distortions being created in the product markets. This begs the question why higher deposit rates are used in countries such as Germany or Denmark? We argue that the reason is that the deposit rate is set to protect existing local deposit schemes that are used for refilling (mostly locally brewed beer).

“European” style DRS use high deposit rates because they are seeking to protect existing refilling deposits. “US” style DRS are not constrained by the need to protect refilling deposit systems and the deposit serves only to embed a financial value in the container so that more of them are redeemed either by the original purchaser or by a third party.

If European DRS systems used deposits of 3p or 7p instead of 17p, 27p or 34p per container there would have been no value in our creating the classification.

A further question arises: Why were lower nationally imposed deposit rates not used in European countries?

We note that on page 6 (second bullet point in reference to Germany) the peer review states “The deposit on refillables is voluntary and the rates are set by the fillers. They are much lower than the mandatory deposit.” This is used as evidence to justify the criticism of our remark that higher deposits are required for refilling.

It would be helpful to discuss explanations for why the national deposit rate is not 5 euro cents?

4. What is the relationship between non-mandated refilling and mandated national deposit rates?

We have used a general classification of US style and European style to draw attention to pricing issues. If refilling did not have to be defended in Denmark and Germany the price would not be as it is.

5. Should litter have been considered in this study?

The brief asked us to investigate whether DRS “would confer positive benefits over and above the current policy approach”.

DRS offers non-financial benefits that deserve to be addressed because of the implications for sustainable development. Sustainable development includes social benefits. The social benefits offered by DRS fall into two categories:

1. Engaging with charities, social organisations and the socially excluded.
2. Reducing container-derived litter.

Unredeemed deposits can be donated to social organisations and we have estimated the potential benefits to them of engaging with the waste issue in this way.

Using evidence from recent survey work in London, litter is an important issue for many urban residents. All district councils sample resident views on council services every few years and litter frequently features, especially during February and March when litter is most visible. DRS has an impact on litter as the Syrek tables show for certain US states.

Referring to the Syrek tables on page 14, we took from them that beverage container litter dropped by 73.4% and that litter in general fell by 27.3%. We did not use Syrek, quoted by Porter et al as well as advocates for “bottle bills”, as the data is so old. Nevertheless, the way in which the data was interpreted in the peer review deserves some discussion. We especially wish to understand why litter should be ignored and if it is to be discussed what constitutes a reasonable survey of composition, growth rates and likely impacts should DRS be applied to small plastic containers and cans.

6. Will the tonnage of materials delivered by a DRS overwhelm the PRN and/or local authority kerbside collection systems for recyclables?

We have provided the tonnage of materials that could be captured through a DRS on small plastic containers and cans. This does not represent anything remotely close to the tonnage of materials that are required to meet the recycling targets. This data is also provided.

The DRS would provide a base load of material much as household collection systems do so at present and the PRN system would operate over and above this base load to meet the remainder. If the remaining materials could be collected and processed from the least cost sources (that are free of charge) PRN prices could fall to zero. Nevertheless, as this is highly unlikely we agree that we should remove reference to PRN prices of zero.

The only risk of overshooting arises from the remote possibility that household collection systems provide a base load of recyclable materials that together with the DRS exceed the recycling targets. The DRS cannot remotely deliver more materials than are required to meet the recycling targets.

7. What is the relationship between obligated businesses, local authorities and consumers who fail to redeem deposits in meeting cost of waste packaging targets?

This question should aid our discussion “who pays the cost of PRNs and who would pay the costs of operating the proposed DRS. Are they different?

If they are different groups, those currently paying for PRNs have a choice. They may either pay more for PRNs, lobby Government to spend more on local authority collection systems or acknowledge that consumers who fail to redeem deposits take on some of the costs through a DRS.

8. Was the objective to design a DRS?

We were not expected to design a DRS. We were asked to investigate international experience and draw from it. We have done so in this case by taking the detailed financial review of Canadian DRS systems and included less comprehensive costs available from New York and Sweden. The financial data provided has been subject to external audit.

9. Is a self-funding DRS flawed in principle?

We have drawn attention to the considerable experience in other jurisdictions with the allocation of unredeemed deposits. All of these systems are self-funded. It is a simple design issue to set recycling targets and if necessary impose penalties for failure to meet these targets. Alternatively, to establish how any surpluses will be used.

We would like to understand quite why there is such a strong objection to the principle of self-funding.

10. Should Germany have been used as a case study?

The client proposed the inclusion of Germany in the light of the similarities between both economies and on-going events concerning DRS. We would like to understand why Finland and Norway would have been better European examples for the UK to draw on.

11. Are disputes between local and regional government over contracts for the treatment of waste relevant to the UK?

Where two tier local Government structures exist in the UK there is tension between the waste management objectives of the county council and the district councils. LATs targets for example require the county council to find ways of diverting biodegradable wastes from landfill. Failure to do so may result in a penalty of £150 per tonne. District councils need to meet weight-based statutory recycling targets. This creates tensions over which materials to collect for recycling and how much to collect given the costs of collection and processing. Glass is favoured by district councils, green waste by county councils.

Any waste technology provider expects to have some certainty over the composition of feedstock. Funders require that these issues are included in contracts (with the county council and others). The example of Herhoff, a leading MBT provider, and the contractual problems created by recycling activities by DSD is in our view relevant to the UK.

**12. Do the international comparisons of GDP with beverage consumption and types of packaging wastes provide any insights?
(Were there omissions?)**

We accept that comparing data from different countries raises various issues and that we could have made many other comparisons. Nevertheless, we are uncertain as to what the objection is to our comparing beverage consumption with GDP. Broadly it shows that as a nation becomes wealthier more beverages are consumed. We then asked if there is a link between preferences for certain beverages and packaging. This highlighted the very considerable differences in national preferences for types of beverages, each of which is packaged differently.

The consumption of beer from kegs and higher milk consumption in the UK versus carbonated mineral waters in Germany for example.

The objective was to put the issue of deposit systems in context and to show why Germany and Denmark have had a more pressing need to support refilling and beverage packaging recycling than the UK.

The data supports the conclusions. Had we made other comparisons, we are keen to learn what else we could have learned that would have changed these conclusions or presented other conclusions?

13. Do differential deposit rates for refillables and one-way containers create financial incentives to relocate filling plants?

The (mandatory) deposit in Germany on a 1 litre bottle of imported soft drinks is 25 cents. The deposit used by regional fillers using refill systems is 15 cents. Assuming an average retail price of 99 cents per litre, the 10 cent difference represents 10% of the product price.

If bottling production were to be moved from northern France to Bavaria it creates a financial incentive to use a local refilling system that cannot be operated from northern France because of the long supply chain. The relocated plant could then export from Bavaria to other European markets.

This is at least an element of the reason why such policies are a barrier to international trade.

14. Which operators would have the lowest costs imposed on them if refilling were compulsory?

Our purpose was to show that the costs of refilling will vary according to circumstances and that some will be able to start at a lower cost than others. We interviewed three regional breweries including Youngs in London who reported that the equipment and the space have neither been sold nor the space switched to other fixed term uses. They also had excellent knowledge of second hand equipment prices, some of which we quoted in the study. We checked the costs with regional brewers and confirmed them with Coca Cola who accepted that there would be some fillers able to respond quickly and more cheaply than others. We also had access to Steve Slater who used to manage a Coca Cola plant in Sidcup Kent that included a washing and refill line.

We would welcome the opportunity to discuss which aspects of the section do not make sense.

15. Can price competition in the beverage market be extended to deposit rates?

The review on page 6 outlines the German DRS pricing system and highlighted the different deposits for refillables and non refillables. Barrs in Scotland use a deposit system where as others do not. That there are different deposit rates should be no more confusing to consumers than variations in the price of bread.

16. In what circumstances is compulsion necessary?

The evidence provided was both financial and non financial. In many sectors it is the non financial issues that make refilling impractical. It is innovation in the packaging format that in many products segments drives increasing sales and this is not possible if the container must be in a standard format for refilling. For example, the response to the alcohol harm reduction strategy led by ODPM has led a switch from glass in the on-trade or the use of membranes to prevent shattering. A further example is the adoption of sealable lids to reduce the risk of date rapes drugs.

The purpose of showing how costs are distributed between different types of filler was to show that legislation requiring participation would create significant technical and cost difficulties for some and relatively minor disruption for others.

The only purpose served by describing possible legislation to force fillers to use refillables would be to present the constraint on free movement of goods argument.

That the reviewer is not convinced that refilling is impractical for some large sectors because of a constraint on innovation and for other sectors a significant cost disadvantage deserves some discussion.

17. What insights can be learned from asking questions about future intentions or responses to hypothetical events?

We contacted all the major UK retailers and reviewed some innovative Canadian retailer responses to DRS through David Doherty at WRAP. What insights were missed?