

Perchards



**DEPOSIT RETURN SYSTEMS FOR PACKAGING:
APPLYING INTERNATIONAL EXPERIENCE TO THE UK**

**Peer review of a study by
Oakdene Hollins Ltd**

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THE PROJECT BRIEF

Defra commissioned Oakdene Hollins (OH) to examine the potential for a deposit and return system (DRS) for reuse and/or for recycling of packaging. The objective was to “ascertain either of these approaches will confer positive benefit over and above current policy approach to managing” packaging waste.

The brief also tasked the consultants to take account of the wider context, specifically referring to:

- packaging waste legislation, which sets recycling targets and which provides some incentive for reuse and minimisation, and
- Article 3 of the Waste Framework Directive, which gives first priority to the reduction of waste production and second priority to the recovery of waste.

Defra has now commissioned Perchards to review the study submitted by Oakdene Hollins of December 2004. Defra asked Perchards to provide a view on whether:

- the report submitted complies with the project specification, particularly with respect to the current legislative framework for reusing and recycling packaging;
- data collection has fully utilised the sources available and the presentation of that data is appropriate and aids understanding of the analysis;
- conclusions flow from the discussion and are clearly supported with evidence from the analysis;
- there are issues that the peer reviewer considers are of note and which should be brought to Defra’s attention;
- there are improvements required of the analysis and conclusions and their presentation, with clear recommendations on how this might take place.

OAKDENE HOLLINS SUMMARY OF CONCLUSIONS

Para 2

We were surprised at the choice of European countries selected for study.

The German deposit system was triggered as a automatic response to legislation written in 1991, long before anybody knew whether DSD, the recovery system for all household packaging, would work. The current German system has not been designed or planned, but is merely an unstable series of ad hoc responses to provisions which intended mandatory deposits as a sanction for non-achievement of the market share quotas for refillables, not as a system that would actually be introduced. It was already under challenge at the European Court of Justice, and the legal requirements will be amended as a result of ECJ rulings delivered on 14 December 2004. For these reasons, the current German arrangements are not a guide to policymaking anywhere else.

Conversely, there is no real discussion of the longest-established and most stable European deposit systems for non-refillables – particularly those that operate in Sweden, Norway and possibly in Finland. The report contains only passing references to these systems. There are lessons to be learned from both systems that would be useful in devising a possible DRS for non-refillables in the UK. (Although Norway is not an EU member state, it must still implement the Packaging Directive as an EEA signatory). The absence of a thorough discussion of these systems is an omission that we feel needs to be addressed.

Para 3

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. Of the three European systems studied in the report – Denmark, Germany and The Netherlands – only the Dutch system handles exclusively refillables. The consultants are correct in their assessment that these systems were all originally aimed at promoting the use of refillable beverage containers. However they do not mandate a deposit on refillables.

Denmark’s deposit system for many years handled only refillables. This is because beverage cans were banned, and other legislative requirements in practice ruled out the use of other non-refillable beverage containers. New legislative requirements established a restructured deposit system in 2002. Since the ban on beverage cans was repealed and packaging taxes were restructured (the tax on all deposit-bearing containers was reduced) the same system now also handles non-refillables. The market share of non-refillables is still very small, but is expected to increase gradually in future.

In Germany there is no mandatory deposit on refillable containers. A mandatory deposit took effect in January 2003 on all non-refillable containers in the beverage categories that did not meet the market share quotas for refillables set by the 1991 Packaging Ordinance (as amended in 1998). The refill quotas are now being repealed following a European Court of Justice ruling in December 2004. Germany now proposes to replace this arrangement with a mandatory deposit on “environmentally unfavourable” beverage containers. These are non-refillable beverage containers except specified categories (beverage cartons, laminated pouches). Under the new rules there will still be no mandatory deposit on refillables.

The dichotomy between European deposits of 15p to 35p aimed at promoting refilling and US deposits of 5p aimed at litter reduction is not entirely accurate. The US deposit rates on non-refillables were set in the 1970s at levels which were intended to equate to the cost of buying a new refillable bottle. Some of the European deposits were also intended to be comparable to the price of a new bottle, but by the time they had been introduced (none were earlier than 1982, and most date from the 1990s), bottle prices had risen. Some European deposit systems set a much higher level of deposit, because this is thought to be what is needed to provide an adequate consumer incentive. Nostalgic memories of the 1950s, when children were happy to collect and return a boxful of empties for the sake of a few pence deposit are not relevant in the affluent 2000s, when the basic unit of value is how much it costs to rent a DVD or computer game from Blockbuster. US deposits remain low, because once such a provision is set in law, it can be very difficult to change it. If the law is to be amended, should its scope be extended to cover products unheard of when it was first introduced (high juice content fruit drinks, “alcopops” and so on). It may be better to leave well alone.

Oregon and Michigan set a two-tier deposit rate – 2¢ in OR and 5¢ in MI for standard bottles and 5¢ in OR and 10¢ in MI for proprietary bottles. This was supposed to encourage bottlers to move to standard bottles, but as the legislators eventually realised, bottlers did not always opt for the lowest deposit rate, not least because every bottle not returned allowed the bottler to retain the 10¢ – or only 5¢ in the case of a standard bottle. In practice, the Oregon rates moved into line with Michigan’s.

Although early on the US legislators thought that mandatory deposits would reverse or even slow the decline of the refillable glass bottle (there were no PET bottles in those days), the result was the opposite. Breakable glass bottles returned to the store needed to be handled with respect, and placed carefully in a crate; returned cans could be tossed into a bin, which took minimal staff time. Thus it was soon found that mandatory deposits actually hastened the decline of the refillable bottle, the evidence being that refillables had a much lower market share in the deposit states than in the non-deposit states.

Litter was the focus of the US deposit laws because litter was the packaging issue of the 1970s and early 1980s. By the time the European deposit laws were introduced, the focus had switched to recycling. Then US supporters of deposit systems claimed (with some justice) that deposits provided the critical mass for packaging recycling operations. In Europe, beverage container recycling was developed in the 1980s partly to head off the threat of mandatory deposits, and systems covering *all* packaging – not just beverage containers – were mandated at EU level by the Packaging and Packaging Waste Directive adopted in December 1994. More recently, the litter problem has come to the fore again, and litter abatement has been cited as the justification for intervention against non-refillable beverage containers in Europe. The alternative issues of litter or recycling as the principal motivation for deposit laws depends on when the measure is under discussion, not on geography,

Para 4

335 million people in 21 countries, provinces and US states may use mandatory deposit systems, but a considerably greater number in the same political jurisdictions (the EU, Australia, Canada and the US) do not. Only one Australian and ten US states have mandatory deposit, and a minority of EU member states.

Para 5

OH concludes that a DRS for refilling would not be cost effective. The costs of establishing the necessary infrastructure to business would outweigh the benefit in terms of packaging waste reduction.

The consultants say that *“there is a high risk that a high deposit European style DRS would merely result in the return of containers for recycling and not refilling. In which case a lower deposit US style DRS could have been used.”* A lower deposit rate would generate a lower return rate, whether for refilling or recycling.

Germany set the mandatory deposit on non-refillables at a much higher rate than was charged for refillables (where the deposit was set not by law, but by the fillers who wanted to get the bottles back). This was designed to encourage consumers to choose refillables by making non-refillables (or in future “environmentally unfavourable” containers) look more expensive. This approach can be counter-productive – there have been reports of dramatic falls in the return rate for refillables since the mandatory deposit took effect in Germany. Consumers have been buying refillables because the lower deposit makes them cheaper, but then not returning them.

Para 6

OH claim that *“international experience shows that a deposit of 5p per container should result in a 70% return rate.”* They do not explain why a 12p deposit on refillable containers in the UK 25 years ago produced a return rate which was of the same order of magnitude.

There is a big difference in the return rates achieved when sales are typically made by the crate – for beer or bottled waters, in countries where there is strong product loyalty often associated with local manufacture. Sales by the crate have never been the custom in the UK, where supermarkets did not stock soft drinks or beer until the advent of non-refillable bottles and cans and changes in the licensing laws.

Para 8

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. In our draft final report for DG Enterprise on the implementation and impact of Directive 94/62/EC on the functioning of the Internal Market (14 March 2005), we comment that

“The lower the return rate achieved by a deposit system, the higher the revenue from unredeemed deposits. Therefore, unless the deposit system has to meet a return target, it would be in the interest of a deposit system to operate inefficiently to ensure higher revenue from this source. In any case, a high deposit rate creates a stronger incentive to inefficiency.”

We would argue that revenue from unredeemed deposits can help to defray the investment and operating costs of a deposit system. However, some safeguards are needed – deposit systems should have to meet return rates as an incentive to operate efficiently, and there should be a penalty for failure (such as loss of operating permit, or higher packaging taxes as in Norway). Allowances may be made if low return rates are generated by factors beyond the control of the deposit system, such as extensive informal exports due to high alcohol taxes in a neighbouring country (as in Sweden).”

This suggests that a DRS should have return targets and that it would need a source of funding other than from unredeemed deposits. Dansk Retursystem provides a model for how this could be done.

The return target would be separate from the national recycling targets for packaging waste but set at a level to ensure that the DRS contributed to meeting them.

WASTE AND ECONOMIC DEVELOPMENT

Para 25

It is unsafe to rely on comparisons between EU member states made on the basis of their returns to the Commission in connection with the Packaging and Packaging Waste Directive. We made the following comment in our report for DG Enterprise (op. cit.):

“Member states use different methodologies to calculate packaging placed on the market, and these methodologies do not always yield comparable results. This is not an easy problem to solve. Member states have long had their own systems for collecting data, and if Decision 97/138/EC had imposed strict uniformity, it would have been impossible to compare post-1997 data with data from previous years. Also, it would have taken much longer for the member states to agree on a uniform Community-wide methodology, so information on the impacts of the Directive on recovery and recycling in 1997 and maybe also 1998 might never have become available.

The real issue is how the data are used. The most important thing is to be able to identify trends within a given member state, as this information can guide national policy. Because of the methodological differences, the data are not a reliable indicator of the relative performance of the member states, and should not be used as such. Member states do not have a uniform geography, environment or infrastructure or the same political priorities; the Directive is an Internal Market measure which lays down minimum environmental standards, but does not prescribe a particular environmental outcome.

One example of the danger of making such comparisons is that Ireland reports per capita consumption of packaging which is 40% higher than the UK’s – yet Ireland imports at least two-thirds of its packaged goods from the UK. The reason for this discrepancy is that Ireland’s methodology for calculating the amount of packaging placed on the market is entirely different from that used in the UK.

In section 11.2, OH advance various explanations of why UK packaging consumption is reported to be less than that of Denmark or Germany. Differences in calculation methodology are not one of them.

Para 23

The data on the correlation between increased GDP and increased packaging waste seems muddled. Why do they show only data on beverage consumption? People may buy more ready-meals when they can afford to, but not necessarily more packaged drinks. Other factors determine this, such as whether there is a tradition of consuming bottled mineral water. The increase in value may simply reflect that people are buying better quality drinks, not that they are drinking more of them.

Table 1 shows that there is actually less glass in MSW in Mexico than there is the US. A third of US MSW is paper, only a small proportion of which is likely to be food and drink packaging (beverage cartons etc). Some will be boxes from consumer durables, and non-packaging items such as telephone directories.

Para 113 ff

The consultants focus on GDP as the key factor that affects packaging consumption, but there are many others, particularly demographics.

THE EUROPEAN CASE STUDIES**Para 49**

OH suggests that a higher deposit is required for refillables than for non-refillables. First, it is incorrect that deposits are higher for refillables than for non-refillables.

- ♦ In Denmark, there is a special deposit rate for the standard refillable beer bottle (DKK 3.00 or 27p), and a special rate for 50 cl plastic bottles (DKK 1.50, or 13.5p. Apart from that the deposit rates do not distinguish between refillables and non-refillables (DKK 1.00, or 9p for all containers of up to 99 cl, and DKK 3.00 for all larger containers).
- ♦ In Germany the difference is more marked. The mandatory deposit that currently applies on non-refillable containers is 25 eurocents (17p) on containers up to 1.5 litre, and 50 cents (34p) on larger sizes. In future the deposit will apply at the same rate to “environmentally unfavourable” containers. The deposit on refillables is voluntary and the rates are set by the fillers. They are much lower than the mandatory deposit – 15 eurocents (10p) on glass bottles of water, milk and soft drinks (irrespective of size), 8 eurocents (6p) on glass beer bottles and 5 eurocents (3p) on glass wine bottles. The deposit on refillable PET is 15 eurocents (10p).

Perhaps this is explained by the consultant’s apparent misconception that the Danish and German deposit systems handle only refillables. As noted above, the level of the deposit in refill systems is usually the replacement cost of the bottle. The unredeemed deposit on the bottles not returned funds the purchase of replacement bottles, a point made by OH in Para 29.

OH also seem to assume that there is a direct correlation between the level of the deposit and the return rate. OH conclude that in “US style” systems (i.e. DRS for non-refillables) a lower deposit rate is charged and yields a lower return rate. We feel it appropriate to point out that Swedish law mandates a 90% return rate for aluminium beverage cans but the deposit set by the Swedish deposit system is only 50 öre (3p). The return rate each year is stable and was 85% was achieved in 2003. This suggests that, although the level of the deposit can affect the return rate achieved, other factors are also significant, for instance

- the habit of return not being lost
- ease of return and maybe consumer incentives (reverse vending machines)
- buying by the crate rather than buying individual bottles, so there is one single high-value transaction.

CASE STUDY: GERMANY

Para 52

Are the consultants suggesting that the recycling rates reported by Germany to the Commission are wrong? Germany reported a 79% overall recycling rate in 2001. We think that the recycling rates for transport packaging are higher than the consultants imagine. Transport packaging is generally less contaminated than packaging waste collected from households.

Para 53

This seems to suggest that the consultants think that deposits were introduced as a way of increasing recycling rates: *“Requiring DSD to achieve higher targets would have been effective and would have avoided the market dislocation costs such as closure of can making facilities both in Germany and elsewhere ...”*

In fact the German mandatory deposit on non-refillables is an economic instrument designed as a penalty for fillers that failed to meet the refill quotas. Once this happened, after a certain amount of controversy and numerous court cases, deposits were triggered automatically. The contribution made by the deposits to achieving higher recycling rates is irrelevant, because the objective of the mandatory deposit was not to achieve higher recycling rates.

As OH points out, DSD has consistently met its recycling targets. We are not aware of any discussion in Germany about raising the recycling targets further.

Para 54

This relates to the conflict between different levels of government in a federal state and is irrelevant to the UK. In any case, it is incorrect – DSD, not the municipalities, determine how the material will be recycled.

Paras 55-56

OH concludes that the mandatory deposit has succeeded in increasing demand for refillables, and they consider the impact of this on MSW arisings. We feel that it is too early to draw any firm conclusions on this. The development of practical arrangements for the new DRS for non-refillables has been chaotic for a variety of reasons. As a result, it has been difficult for consumers to get their deposit refunded on non-refillables, so they have been buying refillables (with a lower deposit) instead. This has probably increased the weight of beverage containers in MSW, as refillables are heavier than non-refillables. However we expect this to be a temporary phenomenon. We now expect more coherent arrangements to be made for deposit refund and it remains to be seen to what extent consumers buy refillables or non-refillables once they know that they can get their deposit refunded.

In any case, the impact of DRS is not only country-specific but also sector-specific, so care must be taken not to over-generalise. Although the market share of refillable beer bottles has increased since introduction of the mandatory deposit – sales of cans fell from 27% in September/ October 2002 to just 4% in the same period the following year – the non-alcoholic beverages sector displayed a very different response. In the first half of 2002, the year before the deposit was introduced, refillables accounted for 53.1% of take-home consumption of soft drinks, waters and juices. Two years later, in the first half of 2004, the share was 51.9%.

CASE STUDY: NETHERLANDS

Paras 59-61

The summary of Annex 1 is extremely confused. Annex 1 provides a reasonable overview of Dutch packaging policy, albeit with a few omissions. However we wonder why the only reference to the current proposals affecting deposits is a single speech made by the Environment Minister to the Dutch Parliament. All we learn is that the proposals were being amended because of proceedings against Germany in the ECJ. In para 61 the consultants say that political support for the deposit refund system seems to be weakening.

This is an over-simplification of the situation in the Netherlands. The main focus of the original Packaging Covenants was to meet recycling targets, although they also contained commitments on continued use of refillable beverage containers. The Covenant approach in relation to recycling is generally regarded as successful. However, in recent years, there has been growing concern about increased litter. It is this concern that has triggered the new policy developments.

We feel that the consultants should have pointed out that the commitments in the Packaging Covenant made by fillers to continue to use refillable beverage containers (para 480) has been challenged by the European Commission as a barrier to trade.

The final sentence of para 61 refers to new DRS policies focussed on small beverage containers. This is incorrect – new collection arrangements are being developed for 0.5 litre PET beverage bottles, but that these do not include a deposit. Industry is currently developing new collection methods, and meanwhile the Dutch government has proposed an advance disposal fee for these non-refillable bottles.

An omission from the review of Dutch policy is that there is no deposit on beverage cans.

CASE STUDY: DENMARK

Para 64

Although the “Key dates” in the Annex makes clear that a DRS for refillables has been in operation for a long time, para 64 implies that the establishment of a DRS in 2002 (not 2001) was new. Para 64 should make clear that what happened in 2001 was the restructuring of the long-established DRS for refillables. The aim was to improve the management of the refill system and to accommodate non-refillables. Until this time the structure of packaging taxes combined with a ban on beverage cans had effectively kept non-refillables on the Danish market. The restructuring of the packaging taxes in 2004 affected all deposit-bearing containers, which are now taxed at a lower rate than other beverage packaging.

Para 65

Data from the Danish Brewers’ Association indicates that the market share of non-refillables is currently around 4% of carbonated drinks, but that this is expected to increase. The comparison of German and Danish systems looks only at the current situation without taking account of future developments. The disappearance of cans from Germany was the unintended consequence of a specific provision in the German deposits provisions. At the insistence of the European Commission the provision is now being amended, but we cannot tell whether cans will again be readily available on the German market.

Nor are we quite sure how the impact on consumers is relevant to Defra’s brief. We feel that it would be more relevant to the brief to consider the impact on importers of the relevant drinks and container types. To do this, a consideration of the accessibility of both deposit systems to importers is necessary, and an assessment of the impact of the Danish taxes on beverage containers.

There have never been any beverage cans in Danish household waste as suggested in para 66. Cans were banned until the deposit system took effect. In any case, they are light, and so would represent a tiny proportion of household waste. The management of tinplate food cans remains unchanged by the deposit system.

CONCLUSIONS FROM EUROPEAN EXPERIENCE

This section needs thorough editing because it is based on the erroneous assumption that the German mandatory deposit applies to refillables.

Para 71

As OH says, refillable bottles are (usually) less resource-intensive when transport distances are short. Germany has a network of small brewers which never made the switch from refillables to non-refillables, and have used environmental concerns to protect their declining market share.

In 1989, when discussing the equivalent refillable bottle market share quota in the German Plastic Liquid Food Containers Ordinance which was later superseded by the Packaging Ordinance, the Federal Environment Minister of the time was quite open that this rule was designed to protect small German brewers:

"With disposable packaging, there is always a tendency towards centralisation and concentration; to put it another way, there are only twelve breweries in Germany which produce beer cans. There are, in all, some 1700 breweries in the German Federal Republic, which would mean a considerable investment of capital to allow for disposable packaging in cans in order to service large markets from one location, whereas the reusable product system, using bottles which can be refilled, actually has a decentralising effect, and helps the smaller breweries keep going. Last November I was awarded the Bavarian breweries' medal in recognition of my intervention on behalf of the reusable bottle, since replacement of the bottle by the disposable metal can will send a lot of the smaller breweries to the wall..."

(Transcript from "Hallo, Ü-Wagen" ("Hallo, this is the outside broadcast"), Westdeutsche Rundfunk 2, 10 August 1989)

The situation in the UK is quite different. The beverage industries have concentrated production in relatively few factories with efficient high-speed filling lines, and have focused on lightweight container types that minimise the vehicle movements that need to be made to distribute the product.

Para 72

The idea that the German deposits could have the effect of encouraging international beverage producers to site their production plants closer to Germany is extraordinary. Such a development is fundamentally at odds with the Internal Market which guarantees free access to all Member States' markets regardless of where in the Community they are based.

The soft drinks industry has traditionally relied on franchises to fill their products close to the market (many of these franchises have subsequently been acquired by the franchise owner). EU law requires natural mineral waters to be packed at the source, so local filling is not an option for that sector – nor for relatively small producers of any beverage who want to break into the large German market.

The comment is based on the assumption that the German deposit applies to refillables. It should be noted that the European Court did rule in December 2004 that the German refill quotas were a barrier to trade.

UK PACKAGING POLICIES

Paras 82-88 contain a good overview of the UK scene.

USING A MANDATORY DRS TO INCREASE THE USE OF REFILLABLE CONTAINERS SO AS TO REDUCE WASTE

We see many errors and omissions in the analysis made by OH that led them to reject a DRS for refillable beverage containers. We therefore fear that the conclusion would be open to challenge by both advocates and opponents of reuse.

One reason why OH rejects a reuse DRS is that not enough fillers would opt to participate in it voluntarily. This is because of the high capital costs of establishing such a system and because of the greater flexibility needed for product differentiations. We agree with OH's

assessment, as set out in section 12.7 of the report. We are aware of the opposition of sectors of the British drinks industry to deposits. For example, the British Soft Drinks Association submitted comments to us for our study for DG Enterprise that indicated strong opposition to any kind of deposit system.

However, we feel that OH should then have gone on to consider the option of a mandatory reuse system. We feel that it is implicit in the Defra brief that, if the conclusion is reached that a DRS for refillables would “confer positive benefit over and above existing policy instruments”, then that legislation would be needed to establish such a system and require fillers (and possibly retailers) to participate in such a system.

The implications of such legislative intervention are briefly discussed in para. 232. OH correctly alludes to the imposition of a deposit as a barrier to trade. However, we feel that this section needs to be expanded, and clarified. There are legislative options other than the imposition of a standardised deposit which also need to be reviewed, even if only briefly.

In our view the legal problems associated with the UK adopting statutory measures in support of a DRS for refillable beverage containers are a far stronger argument against such action than the fact that filler would not participate voluntarily in such a system. These arguments should also appear in the summary.

Our comments relate primarily to the summaries although we did briefly review the Annexes. The summaries must be comprehensible and accurate because most readers will not read the annexes.

Para 166

The AG Barr case study used by the consultants is an example of a unique system, which seems to rely on brand-specific bottles and specialised distribution systems. The system is currently profitable because of some 25% unredeemed deposits – and Barrs has set the deposit at more than the replacement cost of the bottles – and backloading. If a DRS were established, the Barrs refill system could well be threatened. If its retail outlets started to handle other deposit containers, they could well opt to operate only one system, which is likely to be the one covering the widest range of drinks and pack formats.

Para 175

OH mention that LCAs highlight trippage rate, transport distance and waste management systems as key factors in the relative environmental benefits of refill versus one-way. However, at various points in the report, they refer only to trippage rates, ignoring the other factors.

Para 192

This suggests that a mandatory deposit would not force any beverage producer to use refillable containers but would create a pool of returned containers. While this is undoubtedly true, we do not really understand why the sentence has been included in a chapter that discusses refillables. If the British government felt it appropriate to mandate increased reuse, it would have to design legislation aimed at this objective. A mandatory deposit could be just one element of such a measure.

The consultants do not discuss the measures that have been taken in other member states to promote reuse. We should also point out that the measures on reuse adopted by member states have all aimed to maintain existing reuse systems. *No member state has tried to re-establish a reuse system that was not already functioning.*

Para 195

Beverage fillers operate filling lines designed to handle specific types of pack. If they are using refillable bottles the filling line will be designed to fill these bottles – and they also need the washing and other equipment outlined by the consultants in paras 200 and 201. Fillers cannot simply switch from refillables to non-refillables on a daily basis.

Fillers equipped for refillables have purchased refillable bottles (and invested in the equipment to fill them). They see the bottles as a resource and voluntarily charge a deposit to ensure their return. The deposit also ensures that they are collected separately so they are never “mixed and hygienic waste”. Fillers using non-refillables would not be able to use the bottles.

In this para and in para 245 and para 383, the consultants seem to think that refillables and non-refillables would be collected mixed together in the same DRS. This is not usually the case. Danish arrangements provide the best model of how this could work. The larger retailers have RVMs which sort containers automatically by reading the bar code. The smaller retailers sort the refillables into crates and place in other containers into separate sacks for collection. Each sack must contain only one type of pack (cans in one, PET in another).

Para 196

This is nonsense. If a filler has recently switched from refillables to one-way glass, he will have removed the filling and washing equipment designed for refillables, and disposed of the refillable bottles and crates. This switch will have involved significant costs, such as the purchase of new filling equipment designed to last for many years. Such fillers will be the most unwilling to switch to refillables until they have amortised the investment cost and other costs associated with the change.

Paras 207-208

It is not accurate to say that small stores are usually excluded from DRS. In the Scandinavian systems and in Germany, there is no legal exemption for small retailers and they do handle returned containers.

OH suggests that space in supermarkets given over to recycling could be converted to deposit refund, “including secure storage for the returned containers”. This space is in most UK supermarkets a corner of the car park. We are not convinced that it would be appropriate for deposit refund, which is normally managed within the store or in an outbuilding.

We agree with the comment that many retailers would object to handling deposit refund. We note that large retailers do not participate in the AG Barr refill system described in para 166.

Para 209

The consultants do not explain how refillable containers would be transported. Refill systems are most appropriate where drinks are distributed directly from the filler to the retailer, and the empties can be backloaded when deliveries are made. However in the longer distribution chains common in the UK, this arrangement would not be appropriate. Drinks are mainly delivered to a retailer's central warehouse and transported from there to the supermarket. We doubt that these distribution patterns would make it possible to backload, so separate vehicles would be needed.

Para 226

The consultants seem to think that the deposit is the main source of funding for a deposit system. As we have argued above, relying on unredeemed deposits would encourage low return 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 for consumers. Deposits in both refill and non-refill systems are always set nationally, or as in the USA, on a State-wide basis. The purpose of a deposit in a refill system is only to provide an incentive to the consumer to return the container, and in refill systems to fund the purchase of containers to replace any not returned.

Para 246

We cannot understand how the consultants conclude that a DRS for non-refillables (this is in a chapter about DRS for refilling) will not only meet but also exceed the recycling targets for glass, plastic and metals. This is not even the case in member states with long-established deposit systems and a strong tradition of deposit return.

USING A MANDATORY DRS TO REDUCE LITTER

We are aware that the key objective in some other countries of a mandatory DRS was to reduce litter. However, litter abatement was not referred to in the Defra specification, and we wonder why it discussed so thoroughly. Litter abatement appears to receive a higher priority than meeting the recycling targets, although the latter was specifically referred to in the specification.

Mandatory deposits came into force in nine US states between 1972 and 1983 (the only deposit law adopted since then was in Hawaii in 2002, though a related measure was California's Advance Disposal Fee, adopted in 1986). The leading US authority on litter measurement, Dan Syrek of the Institute of Applied Research, conducted a series of litter studies in a number of US states during this period, including a series of "before and after" studies in the states where mandatory deposits were imposed on non-refillables, and "side-by-side" studies comparing results in adjacent deposit and non-deposit states.

These studies were carried out with a very robust methodology and they present an unsurpassed view of the effect of this policy measure on littering. We are unaware of any European studies of comparable comprehensiveness.

One of these studies, prepared for a Special Joint Committee of the Michigan Legislature to study the impact of the Beverage Container Deposit Law, collected samples in September 1978 and September 1979. The deposit law came into force on 3 December 1978. It was found that while beverage container litter had declined by 85%-88%, the changes in total litter rates were not statistically significant:

IAR FINDINGS ON DEPOSIT LEGISLATION EFFECTIVENESS				
	Measurement Parameter	Beverage container Litter rate	Other Litter rate	Total Litter rate
BEFORE-AND-AFTER STUDIES				
Michigan 1978	Visible items per mile	226.0	1447	1673
Michigan 1979	Visible items per mile	6.3	808	815
	<i>% change</i>	<i>-91.5%</i>	<i>+2.1%</i>	<i>-10.5%</i>
California 1986	Visible items per mile	70.0	1836	1953
California 1993	Visible items per mile	42.2	1970	2013
	<i>% change</i>	<i>-63.9%</i>	<i>+7.3%</i>	<i>+3.1%</i>
ADJACENT STATE STUDIES				
California 1974	Visible items per mile	228.2	1998	2226
Oregon 1977	Visible items per mile	27.6	1930	1958
	<i>% difference</i>	<i>-87.9%</i>	<i>-3.4%</i>	<i>-12.0%</i>
Pennsylvania 1984	Visible items per mile	167.5	3117	3285
New York 1984	Visible items per mile	52.7	3485	3538
	<i>% difference</i>	<i>-68.5%</i>	<i>+11.8%</i>	<i>+7.7%</i>
AVERAGE ALL FOUR STUDIES				
<i>Before (non deposit)</i>	<i>Visible items per mile</i>	<i>184.6</i>	<i>2100</i>	<i>2284</i>
<i>After (deposits)</i>	<i>Visible items per mile¹</i>	<i>35.4</i>	<i>2216</i>	<i>2251</i>
	<i>% difference</i>	<i>-80.8%</i>	<i>+5.5%</i>	<i>-1.4%</i>

Syrek also cites studies of deposit effectiveness conducted by state highway departments in Oregon, Vermont, Maine, Michigan and Iowa. Because these five surveys used different methodologies, the rates for beverage containers and other litter measured in one state cannot be compared with those of another. Like the studies carried out using the Institute For Applied Research methodology, they show that deposit legislation only has an impact on the targeted beverage containers and that its effect on other litter is negligible:

SURVEYS ON DEPOSIT LEGISLATION EFFECTIVENESS BY FIVE STATE HIGHWAY DEPARTMENTS				
	Measurement Parameter	Beverage container Litter rate	Other Litter rate	Total Litter rate
BEFORE-AND-AFTER STUDIES				
Oregon 1972	Items per mile/day	4.47	14.76	19.24
Oregon 1973	Items per mile/day	1.45	14.88	16.54
	<i>% change</i>	<i>-67.5%</i>	<i>+0.8%</i>	<i>-15.1%</i>
Vermont 1973	Barrels per 5 miles/3 months	2.51	3.82	6.33
Vermont 1974	Barrels per 5 miles/3 months	0.60	3.63	4.23
	<i>% change</i>	<i>-76.1%</i>	<i>-5.0%</i>	<i>-33.2%</i>
Maine 1977	Fresh items per mile/week	20.6	62.5	83.0
Maine 1979	Fresh items per mile/week	7.2	60.1	72.5
	<i>% change</i>	<i>-65.2%</i>	<i>+8.9%</i>	<i>-9.5%</i>
Michigan 1978	Items per mile/week	75.5	484.9	560.2
Michigan 1979	Items per mile/week	15.4	321.6	333.1
	<i>% change</i>	<i>-79.5%</i>	<i>-33.7%</i>	<i>-39.8%</i>
Iowa 1979	Cubic yards per 87.4 miles (accumulated)	101.97	72.42	174.39
Iowa 1980	Cubic yards per 87.4 miles (accumulated)	21.73	86.24	107.97
	<i>% change</i>	<i>-78.6%</i>	<i>+19.1%</i>	<i>-38.1%</i>
AVERAGE ALL STUDIES	<i>% change</i>	<i>-73.4%</i>	<i>-2.0%</i>	<i>-27.3%</i>

These studies indicate that deposits reduce total litter by some 27%. However, state highway department studies are biased towards rural areas and almost always are limited to state highway roadways. They do not usually include local rural roads, which are cleaned much less frequently than rural state highways and thus have an even higher percentage of non-degradable litter such as beverage containers. Also, they do not usually include urban city or county maintained streets which have an entirely different litter composition.

Beer and soft drink containers make up 11% and 15 % of rural freeways, state highways and rural local road litter. The percentage along urban freeways and city streets is much lower, about 5%. Thus samples of litter composition based mainly on rural state highway sites drastically overstate the contribution of such products to total litter.

Syrek's cautious conclusion from this was that when adjustments are made for traffic volume, income levels and state highway clean-up frequency, *"the differences between states are not great ... While it appears that states with deposit legislation, as well as those with total litter control programs, appear to have lower rates than those surveyed which did not have total litter control programs, it is impossible to assert at this time that this can be demonstrated at even moderate levels of statistical significance."*

Recent (2003) work by Syrek shows that under US conditions, beverage container deposits are by far the most expensive way of eliminating one item of litter:

"Beverage container deposit programs are also a very expensive way to reduce litter since it does not appear to have any significant effect in reducing non container litter. As a consequence, the added handling cost of the redemption system, must be absorbed solely by the reduction of covered beverage containers in litter. The problem is that unlike the 1970s, when a relatively large percentage of containers sold ended up as litter, our data from recent surveys indicates that, without deposits, less than 0.3% of all containers sold now end up as litter. This means that since only one of 164 containers sold end up as litter, the handling costs for 164 containers is now being spent to prevent a single potential item of litter. Based on a conservative estimate of a little over 2 cents per container to maintain a redemption system, this works out at a cost of \$3.42 to prevent the littering of one container. (Note that this analysis is concerned only with litter reduction and ignores any impacts such a program might have on waste reduction or materials and energy conservation.)"

The case can be made that such a deposit program does change littering behavior, but it does so only in regard to containers; and only so long as the financial inducement persists. Our data indicates, incidentally, that the reduction effects are greater in urban areas than in rural, as the decreasing percentage of containers being found in litter makes excursions to many rural areas to recover containers a losing proposition."

USING A MANDATORY DRS TO MEET RECYCLING TARGETS

Para 276

The stated aim in the UK is to meet the targets at lowest cost. However, once investment has been made in the necessary infrastructure (particularly in the expensive infrastructure of a DRS), then it is possible that recycling rates achieved may overshoot the targets. As the investment has been made, exceeding the targets may not necessarily result in increased compliance costs.

Para 281

This concludes that exceeding the targets would reduce the price of PRNs. Elsewhere in the report, the consultants have concluded that PRN prices could fall to zero if a DRS were established.

We are confused by this conclusion. It seems to be based on the assumption that a DRS would capture all the packaging of a given material, but this is unlikely. A DRS for glass would certainly not affect non-beverage glass packaging (jam jars etc). DRS in other countries do not usually include bottles for wines or spirits. In that case, the PRNs would

have to specifically exclude deposit-bearing containers (e.g. PRNs for all aluminium except beverage containers). If not, then the deposit system and the PRN system would compete with each other for material.

PRNs are a market-based instrument. We think that much more thought is needed to the impact on the PRN mechanism of a legally mandated DRS, which is a command-and-control mechanism. One of the objectives of the PRN system is to provide funding for collection, the idea being that PRN revenues will allocate this efficiently. A deposit system would interfere with this – its expense would make it unlikely to survive the competition with cheaper collection systems in the PRN system. PRNs would need to be revised to take account of it.

Para 282

The consultants argue that a DRS would undermine segregated collection of dry recyclables from households. They therefore seem to suggest that a DRS should target non-household packaging waste. The consultants seems to be referring to away-from-home consumption, rather than commercial/industrial packaging. This suggests that the consultants are satisfied with the development of close-to-home collection of recyclables, which we are not convinced is the case.

This is very muddled – we are not clear whether the consultants are suggesting a DRS for containers on leisure sites, schools etc, or whether they are suggesting a deposit system just for small plastic beverage bottles, or for beverages not sold to households but to the on-trade.

Para 315

The reason why beer is included in DRS is that this product was traditionally sold in refillable bottles (as was mineral water in Continental countries). Mandatory deposits were imposed on beer (and waters) when new, non-refillable formats first came on the market. Legislators wanted to avoid an increase in waste that, at that time, the state was still responsible for managing. The other reason is, as the consultants say, to protect small local brewers.

Para 319

We agree with the consultants that fraudulent redemption can be a problem. In some cases however, the container formats used in catering outlets are different from those sold through retail outlets so they would have a different bar code. Automatic reading of bar codes is the standard method of refunding the deposit in most systems.

Para 320

We would warn against the inclusion of wine bottles in a DRS. Participation in a DRS usually requires special marking requirements (a machine readable logo or bar code that an RVM can identify) and may result in higher compliance costs. Because the UK produces hardly any wine, these burdens would fall solely on importers. This would be vehemently challenged as a barrier to trade – particularly by the French wine producers.

It should be noted that no mandatory European deposit system includes wines or spirits bottles.

DRS DESIGN FEATURES

This section is extremely thin. There is no description of how the system would operate – just a list of bullet points. They suggest that the system would be managed by a board, but what would the board manage? Some of the issues that need to be discussed in this section include:

- What form would the legal obligations take mandating a DRS on selected non-refillable containers? Who would bear the legal obligation for operating the system – the fillers?
- A DRS is a form of collection system governed by Article 7 of the Packaging Directive. The deposit system would need to be formally approved by the UK authorities (the environment agencies?) What would the approval criteria and procedure be?
- How would the board be comprised and how would the directors be appointed?
- How would the upfront capital expenditure be funded? (RVMs etc)
- How would the returned containers be transported from the redemption centres or participating retailers to the recycler? This would be the largest ongoing operating cost.
- What would the arrangement be for clearing imbalances between the deposits paid and refunded by different retailers?
- What would happen to unredeemed deposits? OH suggested above that these would fund the system, and below that they would go to the redemption centres. However they refer to “surpluses” going to the Treasury. What would happen if the revenue from this source due to high return rates (or fraud)? This needs further explanation.
- A deposit-bearing container has a value. How would the DRS prevent fraud?
- How would imports participate in the system? What special requirements would be needed? (Most deposit systems require a special on-pack logo and/or a special bar code).

It is impossible to assess the operational and economic viability of the DRS for the selected beverage containers that OH propose without further thought on the issues listed above.

A recent development, which OH could not have been expected to include in their report, is that the German competition authority has decided that the German system should be managed by the retail trade, to avoid the creation of a powerful central funding organisation like DSD (which it is in the process of stripping of its status as the dominant recovery organisation). Given that the UK took the free-competition line and allowed a multiplicity of compliance organisations to be set up, this development could have implications for the UK market.

If retailers initiate the deposit, then they benefit from unredeemed deposits, which does not give them an economic incentive to make it easy for consumers to return their empties. In that case, flanking measures might be needed.

Para 325

If retailer participation in a DRS were voluntary, very few if any would participate. The report is lacking any insight into retailers' position on DRS.

Redemption centres are mentioned here for the first time. Who would operate such centres and where? Would they be dedicated sites? If so, 1p handling fee sounds rather low, particularly in south-east England where commercial rents are so high. Redemption centres are a North American idea. Perhaps the consultants are thinking of sites operated by charities, referred to in para. 389? Again, no explanation or examples are given so it is difficult to determine how this might operate. If the consultants are thinking of charity shops, we have doubts as to how many containers could be collected through this channel – most charity shops are small, and this would be less convenient for most consumers than redemption at the supermarket. The scrap value of used aluminium beverage cans in the UK is high anyway, we do not believe that the 5p per container proposed would not provide sufficient additional incentive.

Para 327

This refers to the operation cost of the Swedish deposit system for cans. This is the first reference to the Swedish deposit system, so there is no way of knowing how these costs would relate to the UK.

An analysis of the Swedish system would indicate, inter alia:

- A well-established system, so the infrastructure costs are amortised;
- It operates alongside a DRS for refillables and one for non-refillable PET, so some infrastructure is shared;
- low transport costs. Most containers are backloaded from the supermarket to regional depots, from where Returpack contractors collect them;
- high revenue from unredeemed deposits – a large proportion of Swedish cans end up in Norway, where beer is significantly more expensive. They enter the Norwegian deposit system, who does not refund the deposit.

Geographic scope of a possible deposit system

The specification refers to the “UK”, and OH have also looked at the UK as a whole. We suggest that consideration should be given to how a deposit system might operate in different regions of the UK. Scotland now has increased powers on environmental matters, and we believe that the Scottish Parliament would have to decide whether to introduce a DRS and what type. We believe that the Northern Ireland authorities would also make their own decision.

We think that more consideration should be given to scenarios in which England and Wales decided on a DRS, but Scotland and Northern Ireland do not, or in which they opt for a different arrangement. What would happen if there were a deposit system in England and Wales but not in Scotland on either refillables or non-refillables? How would national drinks producers and national retail chains respond? There is a risk of fraud if containers are deposit-bearing on one side of the border but not on the other.

Similar consideration is needed for Northern Ireland. What would be the implications for cross-border trade with the Irish Republic?

Perhaps a deposit system, if introduced, may need to apply uniformly in Great Britain, but not throughout the UK. Further consideration is needed on this issue.

HAZARDOUS PACKAGING WASTE

Para 347ff and Para 391

We agree with OH's conclusion that deposits are little used for hazardous packaging waste around the world and that other methods for collecting this material are more appropriate.

It may be helpful to note that, to implement the WEEE Directive, local authority civic amenity sites (CAs) throughout the UK will all have to be upgraded to handle old electrical and electronic items. Many CAs already have facilities to handle household hazardous waste, including packaging (DIY chemicals and containers, etc). Perhaps those that do not could make arrangements to handle such wastes alongside those for WEEE?

Para 357

The take-back systems for pharmaceuticals mentioned in France, Portugal and Spain are not really voluntary. They were established under the respective national requirements applicable to household packaging waste and they are subject to the same rules as the Green Dot systems. They are voluntary only to the extent that producers had a choice of what type of arrangements to make to meet their legal obligations.

The systems rely on consumers returning their empty medicine packs (and any unused medicines) to the pharmacy. The structure of pharmaceutical retailing in these countries is very different from in the UK. Unlike the UK, the vast majority of pharmacies there are specialised, independently owned and managed and they do not usually sell other products. Other retailers are not permitted to sell non-prescription medicines (aspirins, etc).

Para 366

The consultants briefly review a study undertaken by RRF in September 2004 on farm packaging. This reviewed collection arrangements around Europe and concluded that an advance disposal fee was the most appropriate mechanism for the UK.

We have not yet read the RRF report, but as far as we are aware, the most common collection arrangement in Europe for containers of agricultural chemicals and farm films (primarily silage wrap, which is not packaging) is collection facilities that rely on take-back by agricultural suppliers. These are usually funded by the producers of the chemicals or the films.

TRANSIT PACKAGING

Para 369

The consultants allude here to objections by the OFT about co-ordination of deposit rates. This would also apply to the DRS proposed by OH for beverage containers. A DRS presupposes a certain amount of co-operation between different economic operators. The consultants need to discuss how the DRS that they are proposing would meet the OFT's requirements.

Para 370- 376

We agree with OH's conclusions that reuse system for transport packaging are on the increase following voluntary decisions made by users without special legal obligations.

A discussion of the potential impact of a switch from one-way corrugated board to reusable plastic transport packaging on achievement of the UK's recycling targets would be helpful here. Recycling facilities for board are well-established and there is a strong international market for the material. This is not the case for plastics – even though plastic crates are reused, they are heavy and also need to be recycled or recovered once discarded.

PERCHARDS' OVERALL CONCLUSIONS:

There a large number of factual errors and misconceptions about the operation and financing of DRS throughout the report that undermine the validity of its analysis and conclusions.

OH's rejection of a DRS for refillable beverage containers on the grounds that take-up by fillers would be low needs radical revision. If the British government decided to introduce a DRS for refillables, then participation would have to be mandatory. The report lacks a discussion of what form such legal measures might take, based on international experience (such as refill quotas, packaging taxes). The report should then go on to discuss the compatibility of such measures with EU requirements on the free movement of goods and of their potential implications for the EU's internal market.

OH recommends a DRS for selected non-refillable beverage containers. However the information provided in the report to support this conclusion is muddled and disjointed. Although they have recommended this option, the report lacks a thorough discussion of how such a DRS might be structured, how it would operate, and how it would be funded. We challenge the proposal that it should be funded by unredeemed deposits since this would create an economic incentive to the operators not to achieve a high return rate.

We found the discussion of supply chain issues rather thin – there is evidence that OH spoke to some drinks producers, but no evidence of discussions with retailers. Given the key role that retailers often play in handling deposit refund, this is an omission that needs addressing.

A more thorough discussion is needed of the possible interplay between a DRS and the existing PRN system. We found it hard to understand how OH concluded that PRN prices for the materials handled through a DRS would fall to zero. The pack types that they recommend should be handled through a DRS (plastic bottles, alu cans and possible some glass) represent only a proportion of the packaging of those materials. The PRN system is a market

mechanism which, in our view, would need to be adapted if a DRS for selected non-refillable containers were introduced.

A discussion of competition policy issues is lacking. Although the report uses Germany as a case study, OH has not referred to the objections made by the German competition authorities (Bundeskartellamt). These objections have seriously hampered the establishment of the mandatory deposit system since 2003. The report suggests that the OFT would probably also object to some deposit arrangements, but there is no discussion of how to address the likely concerns of the UK competition authorities.

We conclude that 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.