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The Cross Sectoral Voice for Packaging and Packaged Goods

MANDATORY DEPOSITS ON NON-REFILLABLE BEVERAGE CONTAINERS IN GERMANY: THE ECONOMIC, ENVIRONMENTAL AND SOCIAL EFFECTS

I. INTRODUCTION

In January 2003, mandatory deposits were introduced on selected non-refillable beverage containers in Germany.

This paper considers the economic, environmental, social and legal effects of the deposit requirements and operating conditions. Current arrangements, intended to be transitional, have caused many difficulties for packaging converters, fillers, retailers and consumers alike, and look set to remain in place for the foreseeable future.

These arrangements have fragmented the market for drinks and resulted in market distortions. Moreover, while the introduction of mandatory deposits was intended as an environmental measure, it has in fact had a considerable negative effect on the environment.

II. ORIGINS AND CURRENT STATUS OF THE MANDATORY DEPOSITS

1. Legal framework

Mandatory deposits were introduced in Germany in line with provisions established in the German Packaging Ordinance, adopted in 1991.

The Ordinance places an obligation on fillers to charge a deposit on non-refillable beverage containers, if the market share of drinks in refillables falls below the level prevailing (72%) when the Ordinance was adopted. Similarly, it obliges retailers to take back all sales packaging from consumers and ensure that it is recycled, unless the industry operates a "Dual System" that ensures that a proportion of the packaging waste is recycled.

The then government's original idea had indeed been that retailers would take back packaging in-store and that a deposit system would operate for non-refillable beverage containers. Early drafts of the Ordinance were written along these lines. The government then agreed with industry representatives, however, that used sales packaging and beverage containers should be collected for recycling from people's homes, through a collective system. It added exemption clauses to the Ordinance to that effect, and these were adopted as law.

However it was the intention of the then Federal Environment Minister, Klaus Töpfer, to protect refillable beverage containers from competition from non-refillable packs – cans and plastic bottles – that were gaining in popularity. Refill quotas were added to the Ordinance to help achieve this. The deposit provisions remained in the text, both to provide an incentive to retailers and fillers to continue to use refillables, and as a sanction should the refill quotas not be achieved.

One condition for exemption from the deposit requirement has been met: the Dual System (DSD) has been set up. It has consistently reached all its recycling targets for sales packaging.

However, the market share of refillables decreased gradually after the Ordinance came into effect. In 1997 the market share for refillables fell below the 1991 level, and in September 2001 the Government released new data showing that the overall market share was below 72%, and the shares for beer and mineral water were below their respective 1991 levels. Federal Environment Minister Jürgen Trittin therefore decided to implement the deposit provisions of the Ordinance.

Meanwhile, the European Commission has received many complaints about the quotas and in 2001 it referred a case to the European Court of Justice (ECJ) to challenge those that affect mineral water. It is argued that the quotas are a barrier to intra-Community trade and discriminate against imported products.

The ECJ is also due to rule on a second case challenging the deposit. This case, referred by a German court in 2001, involves an Austrian drinks company that exports to Germany. The company argues that it participates in DSD, but that the deposit rules would force it to switch to refillables (impractical for a foreign company) or charge a deposit, which would be more expensive.

The German government acknowledges that the current deposit rules are unsatisfactory. Because it was introduced as a penalty for failing to maintain refill levels, the deposit applies only to the drinks categories that fall below 1991 levels. The government concedes that charging deposits on some drinks categories but not on others is confusing, and it has tried to amend the requirements.

The government proposes charging a deposit only on drinks containers considered "environmentally unfavourable". However, a legislative proposal to reform the Ordinance along these lines was rejected by the Bundesrat, the Upper Chamber of Parliament, in 2001.

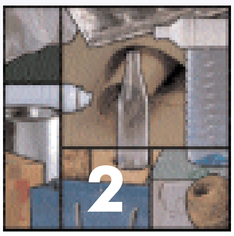
The government has now drawn up a new proposal along similar lines, which would extend the deposit to all drinks, but which would be mandatory only for "environmentally unfavourable" containers: cans, non-refillable glass, and non-refillable plastic. The Bundesrat, which represents the Länder (federal states), again looks unwilling to adopt this proposal. Several EU Member States also challenged the proposals when they were notified to the European Commission, and the Commission has expressed concerns about them.

Meanwhile the Bundesrat is considering an alternative reform - a combined refill/recycling quota. The penalty for not meeting the quota for beer, waters and carbonated soft drinks would not be the introduction of a deposit, but of a packaging tax. Beverage containers would again be collected through DSD.

A more detailed review of the legislation and the status of legal challenges can be found at Annex I.

2. Scope and rate of the deposit

Deposits were introduced on 1 January 2003 for non-refillable containers (cans, glass and plastic bottles) of water, beer, and carbonated soft drinks. The Minister exempted beverage cartons from the deposit[1] because Life Cycle Analysis (LCA) indicated that these were "environmentally favourable". The Ordinance does not contain a provision to this effect, however, and so the Minister plans to adopt one.



[1] In practice, this benefits only still waters, as carbonates are not supplied in cartons.

The deposit does not apply to still soft drinks and juices, yoghurt drinks, wines, sparkling wine, spirits and milk. Mixed drinks based on beer (e.g. shandies) are subject to the deposit but mixed drinks based on wine (e.g. spritzers) or on spirits (e.g. vodka lemon) are not.

The rate of the deposit, set by the Ordinance, is:

* 25 eurocents including turnover tax for containers of up to and including 1.5 litres, and
* 50 eurocents including tax for larger sizes.

These rates are significantly higher than deposits on refillables in Germany: the deposit on a beer can is 25 cents, but on a refillable beer bottle it is only 8 cents. Similarly, the deposit for a one litre non-refillable bottle is 25 cents, but for a refillable glass bottle of the same size only 15 cents.

The deposits are higher than those used in deposit systems for non-refillables elsewhere in Europe. In Sweden, the deposit on cans is around 6 eurocents and in Finland 15 cents. The deposit on a 1.5 litre non-refillable PET bottle in Sweden is only around 22 cents[2]. This high deposit rate is significant because it increases the incentive to make fraudulent attempts to get the German deposit refunded on non-deposit-bearing containers.

3. Transitional arrangements

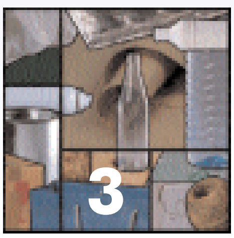
Because legal challenges to the deposits by beverage producers, importers and retailers were still ongoing when the deposits took effect, no arrangement had been made to establish a system to collect returns and refund the deposits on them. The businesses affected were unwilling to make the significant financial investment required, such as on reverse vending machines (RVMs), preparing space to accommodate them and other handling arrangements, while the legal outcome was uncertain.

The Minister was unwilling to defer the entry into force of the deposits but was concerned by the lack of preparation. He therefore summoned the operators affected to a meeting in December 2002, at which agreement was reached on transitional arrangements that would apply until October 2003. Industry undertook to ensure that a co-ordinated return system and clearing house was in place by that date.

During the transitional period:

* Consumers would be able to redeem deposits only at the store where the beverage had been purchased. In practice, most retailers refund deposits only if consumers present their receipt as proof of purchase, and some issue tokens; and

* The deposit would be charged and refunded only between retailers and end-consumers until a financial clearing house had been established. This arrangement diverges from the terms of the Ordinance, which stipulates that the deposit be charged to retailers, by fillers.



[2] Finland has no non-refillable PET because of high beverage taxes, which now being challenged by the Commission

4. Developing the system

Early in 2003, negotiations began in earnest among industry players to develop a system by October, as promised to the Minister.

Talks, initially led by AGVU[3], focused on establishing a financial clearing house (to balance differences between the deposits received and refunded and cost imbalances when retailers refund deposits on more containers than they sell) and on devising security arrangements to ensure that deposits were refunded only on German deposit-bearing containers.

Already in January the group announced that they would develop the system according to the following principles:

* All retailers would use machine readers when refunding the deposit, to avoid fraud. A range of different return facilities would be available, but it was a priority to ensure that consumers could redeem their deposit even from small retailers.

* New security on-pack marking. Negotiators had tried to find a way to avoid special marking, because any such marking requirements increase costs particularly for importers. Marking requirements can be considered a barrier to trade in the internal market and add to costs for German exporters who need to make special containers for export without the special marking. A deciding factor on marking was that German deposits are higher than elsewhere in Europe, and German industry feared fraudulent redemption of foreign non-deposit containers.

* AGVU then stopped work when it became clear that the German competition authority (BKA) would not support AGVU's proposal that DSD should operate the clearing house. In May BVE, the food industry association, took over work on developing the system.

In June there was a halt to industry negotiations on developing the deposit system. Development work was on schedule, according to BVE, but the legal situation was not secure. Industry felt unable to make the significant investments needed to establish a system that could be subject to legal challenge.

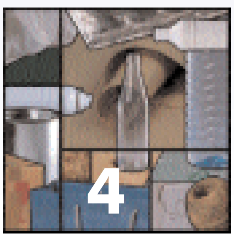
In its announcement, BVE referred to the letter written by the European Commission in May to the German government that challenged the mandatory deposits. BVE also said that it was far from certain that the German competition authorities would approve a single clearing house. A clearing arrangement for cost imbalances was unlikely to meet the approval of the competition authorities, although the government had originally promised its full support on any competition issues.

When it started to look unlikely that a clearing house would operate soon, retailers felt obliged to make their own alternative arrangements to handle deposits:

* Some major supermarkets delisted non-refillables and would sell only refillables. According to the major chains, including Metro, Edeka and Tengelmann, refunding deposits and handling returned containers was too problematic, and it would be uneconomic for them to participate in a national deposit system for non-refillables.

* Lekkerland-Tobaccoland, a wholesaler that supplies convenience stores and kiosks, set up its own deposit system. The Minister

[3] Arbeitsgemeinschaft Verpackung und Umwelt = Working Group Packaging and Environment



welcomed this initiative as a nationwide solution, even though beverages sold by these mainly small outlets represented only a small proportion of the total beverages market.

* Some discount chains developed "island solutions". These chains planned to sell only non-refillable drinks containers of a unique design. The Ordinance says that such retailers are not required to take back other containers purchased elsewhere, which means that they do not need to participate in a clearing house. In August the Ministry confirmed that these "island solutions" were legally acceptable.

* Drinks producer Red Bull also established its own "island solution", using a slightly different design of can.

On 21 October 2003, the European Commission initiated infringement proceedings against Germany - see 3.4 of Annex I. The focus of the Commission's complaint is on the unsatisfactory operating arrangements of the mandatory deposits, which it says are a barrier to trade. In December, the Minister replied to the Commission, defending the deposit system. On 20 April 2004, however, the Commission decided to send Germany a Reasoned Opinion, the second step of the infringement procedure set out under Article 226 of the Treaty.

5. Current arrangements for handling deposits

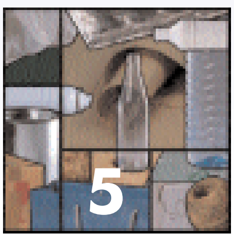
The unsatisfactory arrangements for returning and handling deposit-bearing containers, which were intended to be in place only until October 2003, remain in place today. Arrangements are the same as those operating when the Commission initiated infringement proceedings against Germany.

There is still no national deposit system or clearing house, so the market is fragmented, with several competing deposit options. There are "open systems", in principle open to any brand of drinks although each system focuses on a different retail sector, or on specific segments of the drinks market, or on specific packaging. These systems compete with each other and with the "island solutions" of individual retailers and some fillers. Long-established refill systems also continue to operate and some supermarkets now sell only refillables.

Only the open systems accept each other's containers, but together they represent 20% of the market for beverages in Germany, as shown in Fig 1 below. The discount chains that accept only their own containers account for the lion's share of the market.

Million litre	Total		Non-ref glass		Non-ref PET		Cans	
	Total quantity	% open system	Total quantity	% open system	Total quantity	% open system	Total quantity	% open system
Beer	204,350	27	34,900	45	68,860	0	100,590	40
Water	326,410	15	3,590	50	322,550	15	270	80
Carbonated Soft drinks	311,971	19	32,270	46	257,350	15	22,351	30
All deposit drinks	**842,731**	**20**	**70,760**	**46**	**648,760**	**13**	**123,211**	**38**

Fig 1 – Participation in open systems by drinks category and container type



5.1. Common features of the systems:

* All systems require that packs bear *special marking*[4]. The island solutions involve a special design of pack.

* They charge a *handling fee* per unit, on average higher than DSD's fees.

* All systems still use *manual handling* in-store – containers are returned and the deposit is refunded at the check-out. This method is slow and inconvenient, hence the consensus view that RVMs or some other form of automated return system are essential. However, this equipment is expensive and it is far from certain whether operators will be prepared to invest in it, when both the legal situation and the market are so uncertain.

A more detailed review of the deposit systems in operation and their features can be found at Annex II.

III. EFFECTS OF THE DEPOSIT

The effects outlined below relate to Germany, although some are relevant to any mandatory deposit. A more general discussion of the effects of mandatory deposits on non-refillable drinks containers can be found in EUROPEN's discussion paper, available at www.europen.be/mandatorydeposits.doc

1. ECONOMIC EFFECTS

1.1 Impact on the market

The patchwork of different deposit systems and island solutions, each with its own requirements for special marking or pack design, has fragmented the beverages market in Germany. This has added to production costs and reductions in economies of scale. The different rates of the deposit for refillables and non-refillables have affected consumer behaviour, which in turn has affected the decisions made by retailers and fillers. The way the deposit was imposed and the developments during 2003 described above have also created uncertainty in the market.

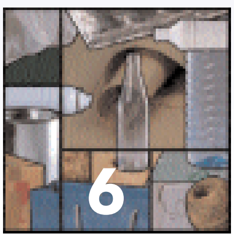
This situation has affected the whole beverages market – the market share of refillables, choice of container type and the market share of different beverages.

As it is proving difficult to reform the legal framework, the current rules look likely to remain in effect for the foreseeable future. Their effects look set to continue, therefore, although the responses of different market operators will evolve over time.

1.2. Impact on beverage sales

The upheavals in the marketplace since January 2003 have predictably caused significant disruption in the beverages market. Sales volumes have fallen in some sectors subject to the deposit (notably "classic" carbonated soft drinks and beer) but increased in others (particularly those not subject to the

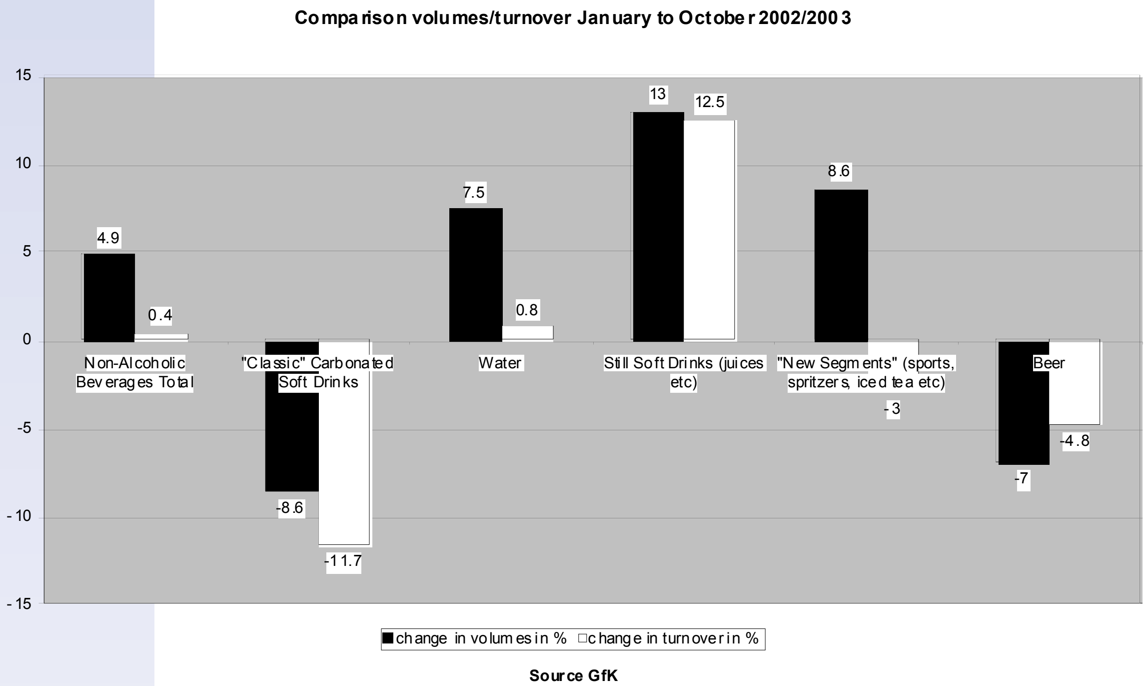
[4] The system operated by Vfw originally used coupons that consumers had to return together with the container to get their deposit back, but the arrangement was subject to legal challenge.



deposit). Sales volumes have increased for still soft drinks, not subject to the deposit, while volumes of water, which is deposit-bearing, have also increased, although turnover has increased only slightly. The greater increase in volume than in turnover suggests that suppliers have reduced the price of some drinks in order to maintain sales volumes.

Looking at volumes and turnover together, as shown in Fig 2 below, we can see that several correlating factors affect developments. The data, from market research company GfK, allows volumes and turnover over the period January – October 2003 to be compared with those in the same months the previous year. Similar data for the period December to June was used by consultants Prognos for their study for the Federal Ministry of Economics and Labour[5].

Fig 2 – Development of sales volume and turnover Jan-Oct 2003 versus Jan-Oct 2002



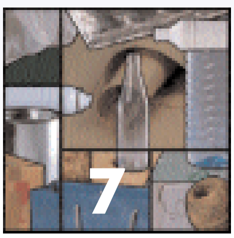
Prognos concluded that the following factors, in part contradictory, determined the developments in turnover and volumes sold:

* Heavy discounting by retail chains in November/December 2002 of non-refillables, to clear stocks in anticipation of the deposit. Consumers stocked up on the discounted drinks, resulting in low sales figures in early 2003.

* Confusion among consumers about the deposit, and the different responses by different retailers that affected sales.

* Impact of climate on demand for drinks. April and June 2003 were warmer than the equivalent months the previous year, and were marked by a corresponding increase in volume and turnover. The Prognos report was published before data was available that took account of the exceptionally long, hot summer. Data now available shows that the heatwave contributed to the increase in volumes of water (consumption in July-August 2003 was 18% higher

[5] Assessment of the economic and ecological effects of a mandatory deposit on certain beverage containers



than in the same period the previous year), and mitigated against the impact on other beverages. Sales of beer in July-August 2003 were 5% higher than the same period the previous year.

* The fall in volume/turnover of "classic" soft drinks and corresponding increase for non-carbonated soft drinks and juices is the result of a shift by consumers from deposit-bearing drinks to non-deposit equivalents.

* A general reduction in consumer spending in many sectors of the economy, leading to greater price sensitivity, is likely to play a more important role.

* The effect of price-policy decisions by fillers and retailers on turnover and volumes. Average prices of carbonated drinks were around 1 cent per litre lower than the previous year. This, according to Prognos, can be interpreted as a reaction by fillers to changed consumer demand.

Prognos concludes that the deposit was one factor among several affecting developments in the beverages market. The deposit is an important determinant, but not the only one.

1.3. Impact on market share of refillables

The imposition of the deposit has certainly achieved the effect intended by the Minister - namely of encouraging a shift back to refillables (see Fig 3 below).

There has been a significant shift in all the categories subject to the deposit – carbonated soft drinks, beer and water. These sectors together represent a high proportion of total non-refillables.

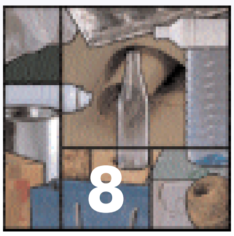
In contrast, there has been no significant increase in use of refillables for beverages not subject to the deposit. Use of refillables has in fact fallen for carbonated soft drinks, but remained stable for wine. The overall market share of refillables, for deposit and non-deposit drinks, has now increased to 69%, close to the 72% required by the current Ordinance.

Fig 3 - Market shares of refillables in 2002 and projected figures for 2003:

Drink category	*2002*	*2003*	*Quota*
Carbonated soft drinks	53%	77%	70%
Beer	68%	85%	76%
Water	69%	83%	89%
Non-carbonated soft drinks	30%	25%	
Wine	26%	26%	
Total	56%	69%	72%

Source: GVM, November 2003

However, this shift back to refillables is not the direct result of imposing the deposit. It is due to a combination of different reasons arising from the unsatisfactory transitional provisions and commercial responses by different sectors of the market to the market developments.



These factors are:

* Lack of a national clearing house and operating infrastructure, which made non-refillables expensive and hard to handle, and prompted key supermarket chains (Metro, Tengelmann, Edeka etc) to

stop selling non-refillables in favour of refillables.

* The large difference between deposit rates for non-refillables and refillables made refillables appear cheaper for consumers. This, combined with the difficulty of getting the deposit on non-refillables refunded, increased consumer demand for refillables. This benefited the specialist drinks retailers, whose market share increased at the expense of the discount chains.

In January 2004, GVM estimated that volume of beer, water and carbonated soft drinks in non-refillables had decreased from around 2,060 million litres in the 4th quarter of 2003 to just 840 million litres in the 4th quarter of 2004.

The shift back to refillables has prompted speculation in Germany that some drinks may again meet their quota and, in accordance with the refill provisions of the Ordinance, would no longer be subject to the deposit. There is some legal uncertainty as to whether the deposit would no longer apply to individual drinks sectors that met their individual quotas, or whether the overall market share of refillables would need to increase to above 72%. The government points out that, in any event, the deposit would continue to apply until after the relevant data has been published, in early 2005.

Trend analysis undertaken by GVM suggests that beer and soft drinks will meet their quotas but that the overall 72% refill quota will not be met. GVM anticipates that more island solutions will be established. These would shift the balance back to non-refillables to some extent, particularly since their operators represent such a large share of the drinks market.

Whatever happens to the market share of refillables, the situation highlights the need to reform the refill quota provisions of the Ordinance. The potential yo-yo effect of the quota creates yet more uncertainty for market operators in an already confused market.

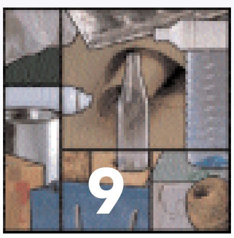
1.4. Impact on different container types

The shift to refillables has affected different container types unevenly, with marked differences between the main beverage categories.

The biggest single loser is cans, which have lost significant market share for both beer and carbonated soft drinks (CSD). The few cans still on the market are mainly sold in small convenience stores.

Cans were a particular target of the deposit, despite the fact that they were achieving high recycling rates through DSD and meet the Essential Requirements in the Directive on Packaging and Packaging Waste. In practice, a key reason why can use has decreased so much is that it is almost impossible to change the shape of a can (unlike PET containers). This makes cans unsuitable for "island solutions", where a unique shape of container is a pre-requisite.

The steel industry estimates that the German consumption of steel for beverage cans has decreased by 80% (from 220,000 tonnes per year) since the deposit took effect. This corresponds to an estimated market value of 9 million euro per month.



Non-refillable plastic containers have also suffered, particularly the 0.5 litre size, which has almost disappeared from the market. And over 13% of the 650 million litres sold in non-refillable PET in Q4 2003 are in "island solutions", involving special designs of bottles sold by discount chains.

The glass industry has also suffered a slight decrease in turnover[6], although the decrease in non-refillable glass consumption has been in part compensated for by an increase in refillable glass. Consumption of non-refillables decreased by 1.1 billion units, while the number of refillable bottles increased by 700 million.

One factor has been a 25% decrease in the market share of glass in the juice sector. Some fillers have switched to cartons, in anticipation of the revision of the Ordinance. This would extend the deposit to juices, but cartons would not be deposit-bearing.

Overall, glass consumption decreased by 1% (by number of units) in 2003. The decrease in demand for drinks bottles has been balanced by an increase in demand for other products - wines and spirits (currently outside the deposit), food, pharmaceuticals, etc. The low return rates for refillable drinks bottles will no doubt also have helped to reduce the impact on the glass industry.

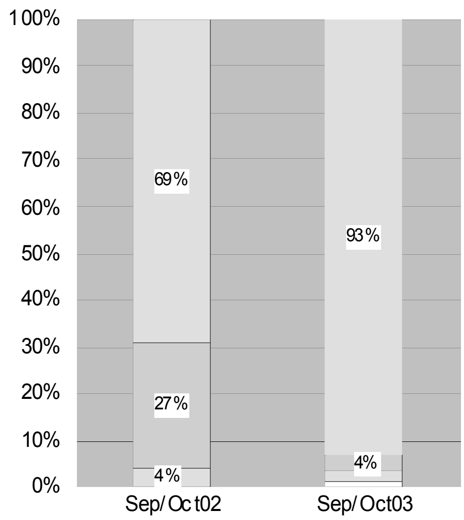
If the deposit is extended to other drinks categories, as now proposed, the glass industry anticipates a significant shift away from glass to beverage cartons, considered "environmentally favourable". This could result in a decrease in demand of 700,000 tonnes of glass each year.

For beer, the market share of cans has fallen from 27% in Sept/Oct 2002 to just 4% in the same period the following year. Similarly, the market share of cans in the CSD category has fallen from 13% to just 1%. In CSD, use of non-refillable PET also decreased significantly, from 33% to 10%

For beer, the main winner has been refillable glass, whose market share increased from 69% in Sept/Oct 2002 to 93% the following year.

Development of Packaging Mix - Beer

Fig 4 – Development of container type for beer, Sept/Oct 2002 versus Sept/Oct 2003

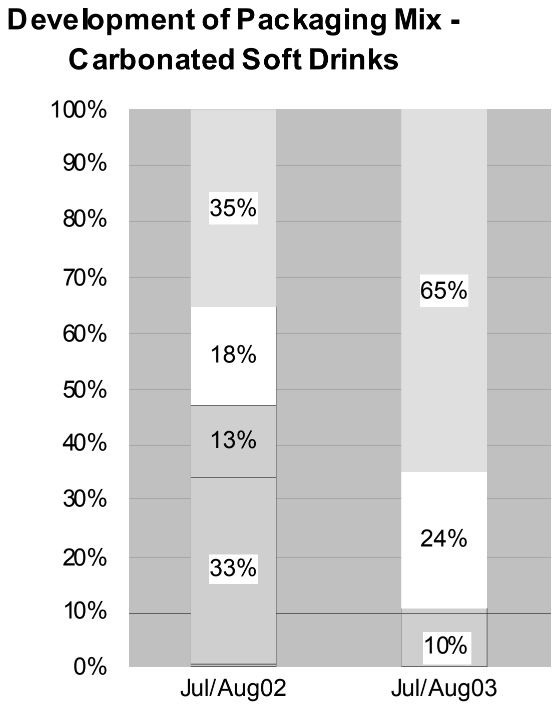


	Sep/Oct02	Sep/Oct03
Ref Glass	69%	93%
Cans	27%	4%
Non ref Glass	4%	2%
Non ref PET		1%

Source GfK

[6] Source: Bundesverband Glasindustrie eV, Fachvereinigung Behälterglass

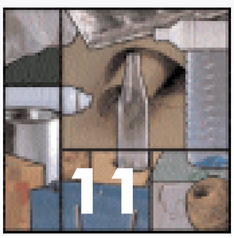
For CSD, refillable PET is the main winner, increasing its market share from 35% to 65%. However, non-refillable PET decreased from 33% to 10%.



	Jul/Aug02	Jul/Aug03
Ref Plastics	35%	65%
Ref Glass	18%	24%
Cans	13%	1%
Non ref Plastics	33%	10%
Non ref Glass	1%	0%

Source GfK

Fig 5 – Development of container type for CSD, Sept/Oct 2002 versus Sept/Oct 2003



For waters the main trend is a shift from non-refillable PET (22% in Sept/Oct 2002 down to 12% the following year) to refillable PET (up from 22% to 35%). The large market share of refillable glass has remained stable at 52%, while non-refillable glass, only 2% of the market in 2002, has disappeared. Cartons have also lost market share although they have been exempted from the mandatory deposit (2% to 1%). Because the exemption for cartons is not provided for in the current Ordinance, there remains a threat that they will be subject to the deposit.

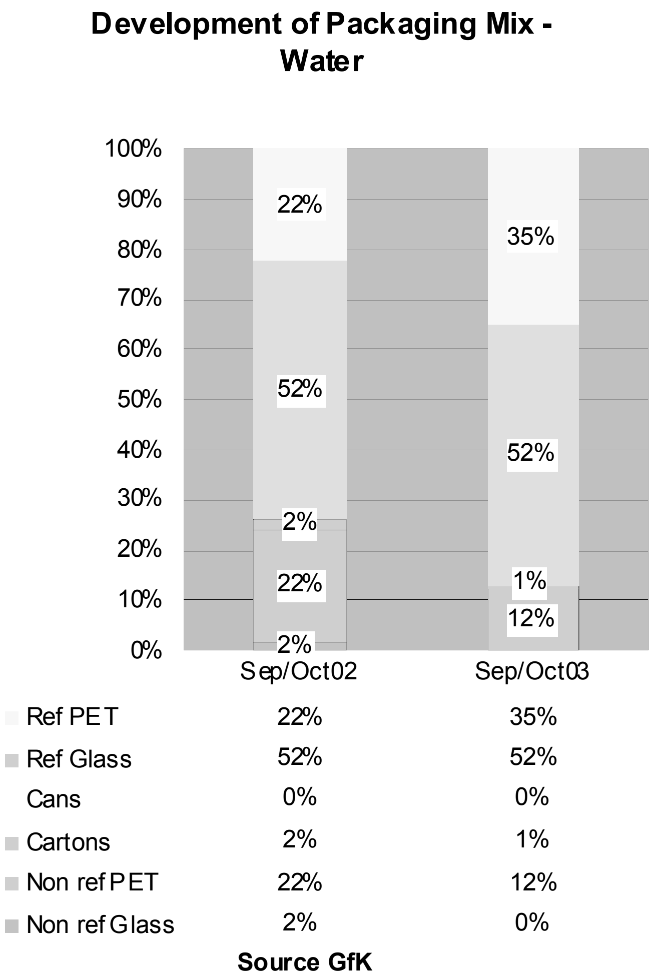


Fig 6 – Development of container type for waters, Sept/Oct 2002 versus Sept/Oct 2003

The fall in demand for cans has itself affected the development of deposit systems. The decreasing number of containers has made it hard to justify the investments needed to develop a return system[7].

1.5. Impact on economic operators

All the players affected throughout the supply chain have had to cope with significant market disruption. There have been winners (such as companies selling refillables) and losers (particularly can makers and importers).

The prolonged uncertain operating conditions have economic costs, even for companies that have gained from the situation. Companies

[7] Beverage Can Makers Europe

cannot make sensible business projections and investment decisions in this climate. The continuing reliance on manual handling by retailers is an obvious example of this. Other operators are also likely to be making do with existing infrastructure and thus operating inefficiently.

The proposed amendment to the Ordinance, presented by the Minister as a simplification to the system, will create more confusion. If it is adopted during 2004, it would change the rules again before economic operators and consumers have really adjusted to the current situation. According to GVM, the change would mean that an additional 2.3 billion containers would become deposit-bearing, affecting an estimated 1.3 billion litres of drinks[8].

The Prognos study estimated the overall cost of deposits to the German economy compared with 2002. It concluded that

2003 - deposits would cost the German economy 850 million euro
2004 - assuming 75% return rate – the cost would be 1,215 million euro
2004 – assuming 80% return rate – the cost would be 1,203 million euro
2004 – assuming 90% return rate – the cost would be 578 million euro.

The study assumed that the transitional arrangements would remain in force throughout 2003. It then assumed that the amendment to the Ordinance would take effect in 2004. The 75% return rate is the rate being achieved when the Prognos report was prepared. It considers that 90% is the maximum achievable return rate, although it looks highly unlikely that such a high rate could be achieved in 2004, given the return options currently available.

Prognos concluded that there were the following economic gains and losses:

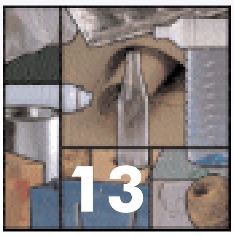
* The largest turnover losses are in the beverage production and container production sectors, of up to 740 million euro. Prognos stresses that these losses are not solely the result of the deposits – there are other factors that cannot be separated out.

* Prognos assumes that costs for manual handling will be passed on to consumers (indicated by an average 1.5 cent increase in the price of drinks).

* Gain for retailers from unredeemed deposits is ignored, because these must be kept as reserves for 3 years (consumers have the right to get the deposit refunded within this period). Prognos estimates the gain in 2003 at 376 million euro. Even if a 90% return rate were achieved, the gain would be 332 million euro. AGVU reports that retailers had built deposit reserves of around 80 million euro by July 2003.

* Gain from installation of RVMs in 2004 of 156 million euro (average of the three return scenarios) plus associated sectors. Prognos assumed (correctly) that no RVMs would be installed in 2003.

* Loss for DSD from reduced fee income, depleted reserves set aside by DSD to cover the reduced income, and reduced payments to contractors. DSD reported to Prognos that the reduction in fee income from drinks containers now subject to the deposit was 165 million euro for the first half of 2003, or 16% of its fee income[9]. DSD indicated to Prognos that adoption of the revised deposit would result in a further 60 to 70 million euro reduction in fee income.



8 AGVU, 23 February 2004
9 See 1.5.4. for DSD's updated assessment

* Loss from reduced expenditure by local authorities on street cleaning. Prognos assumes that littering will decrease following the deposit[10].

* Shift in private consumption patterns. This assessment is based on savings made by households on certain drinks counterbalanced by costs of take-back systems and loss of liquidity from unredeemed deposits. Prognos estimated this to be a significant gain in 2003 because of savings outweighing cost, but a loss in 2004 in all scenarios.

Prognos also assessed the impact on employment by considering where the deposit might give rise to job losses and job creation. It concludes that there will be an overall net job loss both for 2003 and 2004:

2003 – overall net loss of 2,775 jobs
2004 – 75% return rate – overall net loss of 9,530 jobs
2004 – 80% return rate – overall net loss of 9,735 jobs
2004 – 90% return rate – overall net loss of 4,855 jobs.

The Prognos study was based on certain assumptions about how the deposit legislation and operation would develop. These were appropriate at the time, but by 2004 they are looking optimistic. For example, Prognos assumed that a fully-functioning deposit system would be in place during 2004 and that investment in RVMs would be made this year.

We would therefore argue that economic operators will continue to face higher costs than those anticipated by Prognos.

1.5.1. Converters

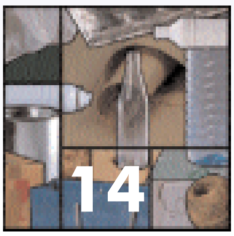
Converters are having to cope with unpredictable demand for various types of pack – each retail chain has responded differently to the deposit rules. Can-makers in particular have lost market share.

The impact of the deposit on converters prompted works councils from major converters to stage a demonstration at the German Green Party's annual conference. The companies, including Rexam, Heye Glass and Ball Packaging, operate 17 production plants in Germany. The focus of their action was on threatened job losses: plants have ceased production and workers have had their working hours reduced to zero for extended periods, typically of 12 months. The companies say that up to 25,000 people could lose their jobs completely during 2004 as a result of the deposit.

At a later demonstration in Berlin, demonstrators called on the Chancellor, Gerhard Schröder, not to allow the planned reform to go through, extending the scope of the deposit.

The loss of business for converters also has a knock-on effect for their suppliers and sub-contractors, often small local businesses. These include haulage companies, who use special trucks to transport cans, that are designed for high volume but low weight. The trucks cannot therefore be used for

10 Prognos' assumption that deposits reduce litter is based on the premise that if fewer non-refillable containers are sold, the proportion of non-refillable containers in total litter also decreases. However, this ignores the reality that other items continue to be dropped as litter. A large proportion of local authority anti-litter budget is taken up with collection. Cost savings are made only if the collection frequency is reduced.



other, heavier products (unless they are not fully loaded, which is inefficient and increases their environmental impact). Tasks such as maintenance, previously sub-contracted, are now being undertaken by production employees.

1.5.2. Fillers and importers

As Prognos anticipated, fillers are facing turnover losses as a result of the deposit. Companies producing beer and "classic carbonated soft drinks" have lost both turnover and volume while even companies in some sectors experiencing an increase in volume (waters and "new" soft drinks) have seen their profit margins squeezed (Fig 1).

Companies that mainly supplied drinks in non-refillables, including importers, have been particularly badly affected. Below are three examples that provide evidence of this.

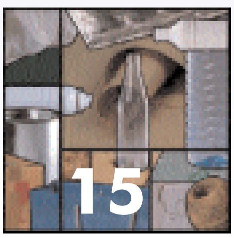
* The Austrian drinks industry (waters and soft drinks) experienced a 30% fall in turnover in its sales to Germany over the period January/September 2003 compared with the equivalent period the previous year. The effect would have been more marked if sales of waters had not increased by 10% during the summer heat wave. Austrian exporters cannot easily switch to refillables. Nor would it make environmental sense for them to do so because of the environmental impact of transporting empty containers long distances for refilling.

* Austrian beverage producer Radlberger (which brought the court action now referred to the European Court) says that Germany represented around 40% of its total turnover in 2003. It has lost nearly all of it, worth around 17 million euro. This excludes the value of its brands and the cost of developing them over the years. The products have not been on German retail shelves for a year, and would take a long time to recover if Radlberger could start selling them again. Radlberger currently only sells still soft drinks.

* Brewer Holsten faced a decrease of 10 percent in volume and of 9.8 percent in turnover. According to the company, the deposit had affected sales. Sales of beer in non-refillables had decreased by 73.3%, with the private label products sold to discount chains particularly hard hit. Branded beers also decreased by 4.3%.

Another unforeseen trend is that branded goods producers have been particularly badly affected. Before the deposit took effect, the discount chains sold both branded and private label products, except Aldi, which has always only sold private label products. Since they developed their "island solutions", many of the other discount chains have stopped selling branded goods in favour of private labels.

There has also been a knock-on effect on convenience products, sales of which have also suffered, particularly at petrol stations[11]. Consumers who no longer find their preferred drink on the shelves are no longer buying the sweets or snacks, either, that they would previously have bought at the same time. The deposit is therefore adversely affecting producers of other products not targeted by the deposit.



As with converters, these effects are also felt by these companies' sub-contractors and suppliers.

Fillers and importers face increased costs in other ways:

[11] BVE, press release 15.1.2004

* By having to use several different pack types - refillables, non-refillable packs with special logos for different deposit systems, non-refillable packs without logos for export, and special packs if they supply to discounters operating "island solutions";

* In the form of handling fees to use deposit systems that are higher than the fees they paid previously to DSD; and

* In the form of higher administrative costs, as a result of having to provide data and pay fees to several deposit systems, as well as to DSD for non-deposit-bearing containers.

Fillers operating refill systems are facing increased costs because the use of generic bottles and crates has been abandoned. Fillers have switched to branded crates and bottles, using different shapes and colours to improve brand recognition. The abandonment of standardised containers has greatly added to the cost of operating a refill system, requiring more sorting and cross-transport.

In addition, many refillables are now sold loose or as six-packs rather than in crates. The handling of loose bottles has also give rise to increased cost.

1.5.3. Retailers

Retailers are currently handling returned beverage containers in-store and getting them recycled. The prospect of handling packaging waste in-store was firmly rejected by retailers when the Packaging Ordinance was first adopted, and ensured their enthusiastic support for DSD.

Refunding deposits and transporting empty containers to be recycled is expensive for retailers. Manual handling in particular has high costs – the arrangement slows down throughput at the tills and requires staff to shift containers from the till area for storage at regular intervals.

The discount chains, who have been criticised for their decision to save themselves costs by opting for "island solutions", have lost market share as a result. Their decision to stop selling branded goods in favour of private label products has no doubt improved their profit margins, but some consumers have clearly preferred to stay with their preferred brand. Discounters' market shares have decreased in particular for carbonated soft drinks (down from 24% of the market in Sept/Oct 2002 to just 11% in the equivalent period in 2003), lost mainly to specialist drinks retailers and the large supermarkets.

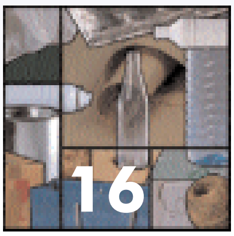
1.5.4. DSD

DSD now estimates that it is losing 310 million euro from drinks containers of beer, waters and soft drinks, or 20% of its turnover[12]. DSD had anticipated that deposits would take effect, so it put aside provisions of 816 million euro to deal with the cost/revenue implications.

However DSD expects to make savings on its waste collection contracts, now being put out to tender. As a result of its provisions and cost savings, licence fees for 2004 remain at 2003 rates.

It should not be forgotten that DSD has steadily reduced its fees each year since 1999 by offering a discount on its 1998 fee scale. If DSD had not lost income from beverage containers, the cost

12 For the Prognos study, DSD reported reduced income of 165 m euro for the first half of 2003, see 1.5 above.



savings on its waste management contracts would certainly have enabled it to reduce fees further this year.

2. ENVIRONMENTAL EFFECTS

As indicated above, the deposit has achieved the Environment Minister's objective of increasing use of refillable containers and of forcing many non-refillables off the market.

The Federal Government justifies its categorisation of some containers as "environmentally favourable" on the basis of LCA evidence. In October 2002 the Federal Environment Agency (UBA) published the second phase of its study, and said that its findings supported the government's policy of promoting refillables. The study, which continues and expands the work done in 2000, indicates that, although the environmental performance of one-way containers has been improved, "refillable containers remain the better choice for the environment".

However, the difference between the best and the worse packaging options in the study is only 5%. And since packaging represents only a small proportion of the overall environmental impact of a product, the difference in terms of a product's overall environmental impact is therefore just 0.5%. This is too small to justify the deposits.

A new LCA on PET bottles is currently being undertaken by IFEU. This has been commissioned by Petcore, an industry body that promotes and develops PET recycling, with the support of some German fillers, and Forum PET.

The LCA will be the largest ever undertaken on PET and will consider PET in a broader context than in previous studies. Key differences from previous studies are:

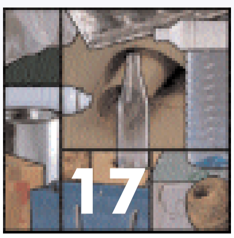
* The system boundaries have been expanded to include secondary uses of PET recyclate. Previous studies have credited the environmental benefit of recycled PET to the users of the recyclate. The environmental benefit of bottle-to-bottle recycling is "credited" to PET, but this represents only 50% of the benefits. Previous LCAs have credited any environmental benefit from PET recycled into other products, such as fibre, to the fibre producers. The system boundaries of this LCA have been expanded to take account of this.

* Full production data from the producers of PET resins is available for the first time.

* The study is calculating the significance of statistical variation. LCAs have to make assumptions about variations affecting the factors assessed that are not static. For example, energy use on a filling line is not stable but is subject to significant variation. IFEU will calculate the significance of these variations.

The provisional results of the study, started in summer 2003, are now being peer reviewed. Expectations are that differences in environmental impact between a recyclable PET bottle and a refillable glass bottle are insignificant.

Petcore hopes that the findings can be used to challenge Germany's classification of "environmentally favourable" and "environmentally unfavourable" packaging products. However, the results of the report, once published, are also likely to be felt outside Germany. Petcore reports that there has already been interest in the LCA from industry and policy-makers in several existing and future EU Member States.



However the deposit has also given rise to significant adverse environmental impacts.

2.1. Idle production plants squander resources:

Following the imposition of deposits, the production plants and associated supply infrastructure (trucks, etc) for non-refillable packaging and drinks that have lost market share now operate below their capacity, while some are just ticking over. There is little reduction in energy consumption when a production or filling line is operated at reduced capacity, and the buildings still need to be lit and temperature-controlled. The energy consumption per unit produced is thus far higher. Spare capacity cannot be diverted to other uses while the deposits remain subject to legal challenge.

Equipment used for distribution, such as special trucks designed for high-volume, low-weight products like cans, is also being under-used. These light-weight trucks, when fully loaded with cans, are energy efficient. However, they are not robust enough to cope with a full load of heavier products. If the haulage companies, typically located near the can converters, cannot find other light-weight products to transport close to their base, the trucks will either remain unused, or will circulate half-full, or will drive long distances empty to find alternative business. All these options have an increased environmental impact.

In addition, fillers have had to invest in new refillable containers and crates, which may quickly become obsolete and will become waste if the deposit is repealed.

The spare capacity in recycling plants in Germany (see 2.4 below) represents a similar waste of resources.

It is hard to understand how an Environment Minister can have permitted such an immense squandering of resources, which must far exceed the environmental benefit he claims for the shift from non-refillables to refillables.

2.2. Impact on refill systems

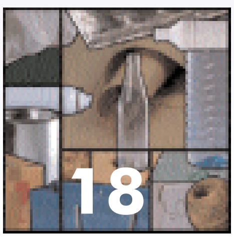
The imposition of the deposit has had unintended impacts on refill systems.

The return rate for refillables has fallen significantly. For example, the return rate for refillable 0.33 litre Coca-Cola bottles has fallen from 95% in 2002 to 70% now[13]. According to AGVU, return rates for some categories have now fallen below 50%.

The high deposit on non-refillables compared with that on refillables means that, for consumers, non-refillables look expensive on the store shelf compared with refillables of the same size. This has encouraged consumers to switch to refillables, as the Minister hoped. However, it appears that some consumers have been buying refillables because they are cheaper but then not returning them. Refillable bottles are traditionally bought in a crate, but some retailers have responded to the shift in demand and are now selling individual bottles.

As refillable glass bottles are heavier than non-refillable ones, in order to withstand the rigours of repeated refilling, this increases the environmental impact of these bottles. AGVU is now calling on the Minister to undertake new LCAs. The original LCAs, which concluded that refillables had a lower environmental impact than

[13] Capital, 2/2004



non-refillables, assumed that high return rates would be achieved for refillables. The decrease in return rate calls these assumptions into question. If return rate for refillables decreases, so does the environmental advantage of refillables.

Low return rates for refillable bottles look set to continue. The Ordinance does not specify a minimum trippage rate for refillables, so bottles intended for refilling and for which refilling facilities exist can benefit from the lower deposit, even if only half of them are actually refilled.

The sudden increase in use of refillables has also prompted the abandonment of the well-established pool arrangement using standardised bottles and crates. As indicated in 1.5.2. above, fillers have switched to branded refillable containers. This increases the environment impact of using refillables, because returned empty containers need to be sorted and then transported back to a specific filler. Previously, bottles could be transported to any participating filler where they would be cleaned and reused.

2.3. Duplication of effort with DSD

Beverage containers are now collected and recycled separately from other packaging. This results in duplication of effort. DSD still has to operate the same collection as before, as this is a legal requirement. Its contractors simply collect less packaging waste. DSD reports that it collected 650,000 tonnes less glass, PET and cans in 2003. Facilities designed for a larger tonnage of material are now operating below capacity. This is inefficient and increases the cost per tonne of collecting and recycling material.

The impact on DSD of reduced tonnage of material is exacerbated because the quality of material collected has also decreased. Cans, glass bottles and plastic bottles are often the easiest types of packaging to recycle. DSD must still meet the same recycling targets as before, but using material that is harder and more expensive to recycle.

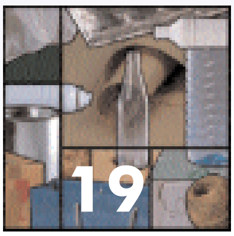
Meanwhile, a separate set of trucks transport beverage containers for recycling. This also reduces economies of scale. For example, the bring system for glass is now under threat as it has become expensive to operate without drinks containers.

2.4. Increase in recycling in third countries

There has been an increase in the quantity of PET being shipped to China for recycling during 2003[14]. EuPR, the Association of European Plastics Recyclers, estimates that exports have almost doubled to between 80,000 and 100,000 tonnes. This is in part due to the unforeseen development of island solutions. Chinese recyclers have been offering up to 260 euro per tonne for PET, far more than German recyclers. The discount chains operating island solutions have therefore been shipping material to China, leaving recycling capacity in Germany under-used.

DSD had invested in developing recycling facilities within Germany, particularly for plastics, to secure capacity in the long term. It also wanted to reduce the quantity of material exported to the other side of the world for recycling, to reduce environmental impact.

Questions have also been raised as to the environmental performance of the Chinese plants that often have lower environmental standards than those in Europe. This could have



[14] waste industry association BVSE

legal implications since the adoption of the revised Directive on Packaging and Packaging Waste. The new Directive[15] says that recycling undertaken abroad can count towards recycling targets only if "there is sound evidence that the recovery and/or recycling operations took place under conditions that are broadly equivalent to those prescribed by the Community legislation on the matter". In Germany the Federal States would need to see a "certificate of suitability"[16] for the foreign recycling plant. However it is often difficult for these authorities to authenticate such certificates, not least because they are often written in Chinese.

The increase in exports to the Far East also has economic implications for the European plastics recyclers, who have invested heavily in developing capacities that meet tough environmental standards.

3. SOCIAL EFFECTS

3.1. Increase in the quantity and hazardousness of litter

One of the justifications used by the Environment Minister to impose the deposit was to reduce litter, particularly from cans, implying that litter has an environment impact. He has also cited litter reduction to justify his proposed reform of the deposit provisions. However, the impact of litter is an aesthetic one; it relates more to "quality of life" than to the environment. Litter is unsightly and is frequently cited by the public as a cause of concern. If the objective of the proposed new deposit were litter reduction, then it should apply to all non-refillable containers, not only to those that are "environmentally unfavourable".

There is evidence that the deposit has in fact increased the amount of litter, not reduced it. The shift in demand to glass bottles away from cans means that the proportion of glass dropped as litter has increased. Broken glass lying on the street and around the countryside is obviously more dangerous than discarded cans.

After the traditional pre-Lent carnival in Düsseldorf in 2003, there were press reports[17] of a 150% increased injury rate compared with the previous year. According to the emergency services, this was mainly due to cuts from broken glass bottles. A similar increase in littered broken glass has also been reported following pre-Lent festivities in 2004.

The rounds made by vehicles used to pick up litter of course have an environmental impact. The environmental impact of litter would be reduced only if the frequency of litter collection could also be reduced. Packaging represents too small a proportion of total litter to make it possible to reduce collection frequency.

3.2. Localised impact

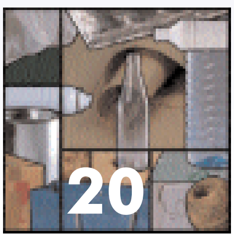
The job losses and short-time working in plants manufacturing packaging, particularly cans, may have a significant effect on whole areas. These plants are often major local employers and are frequently located in traditional metal-working areas already suffering high unemployment.

The economic effect is magnified if a large number of people concentrated in a single area are unemployed. The unemployed cannot

15 2004/12/EC of 11 February 2004

16 "Eignungsnachweis"

17 DWZ, 1.3.2003



afford to buy so many products and services, so there is a knock-on effect on other local businesses. The municipalities also suffer reduced income from lower tax revenues.

3.3. Impact on consumers

Consumers are bearing the cost of unredeemed deposits because it is difficult to get the deposit refunded. An unredeemed 25 cent deposit makes a drink very expensive.

Consumers have also lost out because the convenient packs they have become used to are no longer available. Cans and plastic are more appropriate than glass for travellers and for consumption outside the home. Imagine a mother taking the train or driving with her small child to visit her family during last summer's heatwave. If the child gets thirsty, she will probably find that cans of soft drink or small PET bottles of water are not available at the railway station or petrol station. If they are available, she will have to pay an additional 25 cent deposit, which she may not be able to get refunded at her destination.

It is not surprising that support for the deposit is falling among German consumers, who have traditionally expressed strong support for refillables and have a high level of environmental awareness. In a recent survey, half of all consumers said they now want the deposit scrapped, while 75% said that they wanted to return to having drinks containers collected from home, ie through DSD[18]. Over 60% felt that environmental pollution is as bad as it was since the deposit took effect.

IV. LESSONS FROM THE SITUATION IN GERMANY

1. Complex deposit regulations cannot be implemented without stakeholder consensus

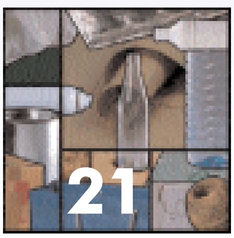
There is strong evidence that Jürgen Trittin, the Federal Environment Minister, did not have wide-ranging stakeholder support when he implemented the deposit provisions of the Ordinance. On the contrary, there is evidence of opposition to the deposit from:

* Many sectors of industry – who brought a large number of court cases to challenge the imposition of deposits, and protested to the European Commission.

* Retailers – who stopped developing the deposit system when the competition authority failed to approve clearing house arrangements, and instead made their own individual arrangements. This contrasts with the early days of the DSD, when retailers worked with packer/fillers to ensure the success of DSD, and provided additional funding when DSD got into financial difficulties.

* *Länder* – the Bundesrat, which represents the Federal States, has twice failed to support[19] the Federal Government's proposed reform of the deposits. The Bundesrat has been working on an alternative reform, which does not involve mandatory deposits on non-refillables[20].

* Other Federal Ministries – the Economics Ministry, which commissioned the Prognos report summarised above, has expressed concern over the impact of the deposit on the economy and on jobs.



[18] Valid Research

[19] The Bundesrat rejected the first proposal, but has not voted on the second proposal.

[20] See 2. of Annex I for an review of the proposal, put forward by Hessen.

* Consumers – who have undermined the system by buying refillable bottles, because the deposit is lower, but not returning them. A majority of consumers now want drinks containers to be handled by DSD again.

The lesson from this is that deposit requirements are complex and require the full support of key stakeholders. They are unlikely to work effectively without this support.

2. *Political objectives should be clear*

The deposit took effect in Germany not as a clearly thought-out government initiative to achieve agreed objectives, but by default. It was the penalty for failing to meet legal targets set 10 years previously. The original legislators did not in fact intend the deposit to take effect – it was left in the legislation as an incentive to fillers and retailers to continue to supply drinks in refillables. The main focus of the legislation however was to achieve high recycling rates for non-refillable packaging of all products.

The current Minister's main objective is undoubtedly to protect refillables, but he is attempting to achieve this using inherited legislation whose main objective is to achieve high recycling targets. As a result, pack types such as cans that are fully in line with the legislation by achieving high recycling rates are being penalised, and as a result have been forced off the market.

The inappropriateness of the existing legislation for the objectives sought by the Minister is also illustrated by the potential yo-yo effect of the quotas. Drink categories that once again meet the refill quotas in the Ordinance would no longer be subject to the deposit and could again be handled through DSD.

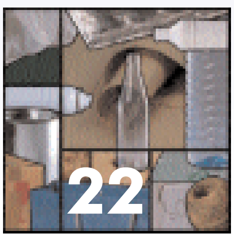
Further, the clumsy encouragement of refillables has given rise to adverse effects on existing refill systems (falling return rates and abandonment of standardised containers), increasing operating costs. The low return rates for refillables indicate that consumers' long-established habits have been disrupted. These factors call into question the future of refill systems once the beverage container provisions of the Ordinance have been reformed. If the refill quotas are repealed, the market share of refillables may decrease rapidly. By using an inappropriate set of legal provisions, the Minister may achieve the opposite of what he intended.

This illustrates the importance of first establishing clear political objectives and then selecting an appropriate instrument to achieve them, having first ensured consensus support for both.

3. *Internal market implications*

It would be easy to conclude that the confused situation in Germany is the result of a unique set of circumstances – incomplete legal provisions, political processes specific to Germany, behaviour and personalities of the key players in both government and industry. The circumstances have resulted, via a roundabout route and at disproportionately high cost, in the Minister achieving his objective of increasing the use of refillable beverage containers – from 56% in 2002 to an estimated 69% in 2003.

However, legislative requirements to use refillable beverage containers are inappropriate for importers, so they are considered by other Member States and by the Commission as a barrier to trade. If the European Court of Justice agrees, Germany will be forced to amend or repeal the beverage container provisions of the Packaging Ordinance.



All deposit systems require containers to be marked with special bar codes because they make use of RVMs or similar machine reading facilities to refund deposits. This is essential to avoid fraudulent redemption of foreign containers, because the deposit rates are different in each system, or non-existent in many countries. But such special marking requirements are also a barrier to trade within the internal market.

There have been reports of increased purchases of drinks by German consumers in neighbouring countries. This was to be expected, given the high deposit and difficulty of getting it refunded. But, in any event, open borders within the EU, the single currency and increased car ownership make cross-border shopping a reality. Cross-border shopping makes it difficult to operate a deposit system, particularly in small countries with land borders.

The internal market gives companies access to a large European market but it means that they need to be able to compete with operators from throughout that market. Refill systems are suited to local distribution, but non-refillable containers bring the cost efficiency needed to be able to compete internationally.

4. You can't beat the market!

Any attempt to trigger a significant shift in market trends through legislation will almost certainly have unintended consequences – market forces determine market trends more strongly than legislation can.

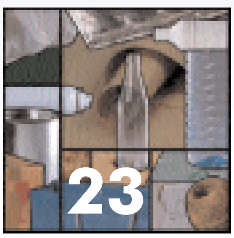
The Minister blamed fillers and retailers for not meeting the refill quotas. However, suppliers cannot force consumers to buy refillables. The reverse is closer to reality – suppliers respond to consumer demand. It is true that suppliers can influence consumers' choices through pricing policies. However industry's ability to adjust prices is limited by the cost of producing and distributing the products.

Imposing the deposit has given rise to several unintended consequences. The legislation did not ban beverage cans, which would be illegal under EU law. However cans have almost disappeared from the market because of a quirk in the Ordinance – cans are unsuitable for "island solutions". The rules on "island solutions" say that containers must be of a unique shape. While it is easy to produce PET bottles with a unique shape it is impossible to change the shape of a beverage can.

The legislation did intend to encourage consumers to switch to refillables by setting the deposit on non-refillables higher than deposits on refillables. But consumers wanting the convenience of non-refillables have responded by buying the cheaper refillables, but not returning them.

When designing legislation, it is essential to consider the financial interests of the different types of economic operators, including consumers. Each of these operators will respond to legislation to protect their economic interests, which may not be as legislators expect.

5. EU adopted Germany's model for all packaging, but not for beverage containers



It would be easy to dismiss the current problems of the German deposit arrangements as inevitable teething troubles, similar to those that occurred after the German Packaging Ordinance was first introduced. DSD suffered many problems in the early years and was the subject of complaints to the European Commission.

When Germany introduced take-back obligations for packaging and established a collective recovery system funded by industry, these were new ideas, never tried before. It was inevitable that there would be some unforeseen problems initially. This is not the case with mandatory deposits – deposit legislation and systems are nothing new, and deposit systems involve fewer operators than generalised systems like DSD. In theory therefore they should not give rise to many teething troubles.

Neighbouring countries soon copied Germany's Packaging Ordinance. They also adopted legislation that required industry to ensure the recovery and recycling of all packaging, and offered companies the option of complying by joining a private sector packaging recovery organisation. Systems modelled on the DSD now operate in nearly every Member State. The EU has also enshrined similar producer responsibility requirements for all packaging in the Directive on Packaging and Packaging Waste.

However, none of the EU-15 Member States copied the idea of German-style refill quotas for beverage containers[21]. None of the EU-15 Member States has introduced mandatory deposits for beverage containers since they transposed the Directive and established a packaging recovery organisation[22]. The only reference in the Packaging Directive to beverage containers is an article repealing the earlier Beverage Containers Directive. Some Member States have retained special provisions for beverage containers that predate the Packaging Directive, but in most Member States, beverage containers are handled together with other packaging by DSD-type packaging recovery systems.

Other Member States opted to follow Germany's model for all packaging but not for beverage containers, because they saw rules just for beverage containers as unnecessary and problematic. This suggests that the current problems in Germany are not just transitional, but that the refill quotas and mandatory deposits are inherently flawed. Thus, the German government's amendment, which retains deposits but alters their scope, will also be unacceptable.

The alternative proposal, put forward by Hessen, is for a combined refill/recycling quota. The penalty for not meeting the quota would not be a deposit but a tax. Although this proposal is more acceptable than the Government's, it nonetheless singles out beverage containers for special treatment. It also contains a refill quota.

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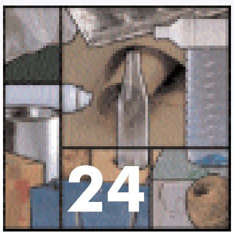
30 April 2004

21 Portugal has refill quotas but these apply only to HORECA outlets and there is an exemption provided outlets participate in an approved recovery organisation.

22 Denmark introduced a deposit system in 2002, but this replaced its ban on all beverage cans that was the subject of legal action in the European Court. Denmark has no packaging recovery organisation.



ANNEX I – THE LEGAL FRAMEWORK

1. *Current legislation*

1.1. The current German Packaging Ordinance

The Packaging Ordinance, originally adopted in 1991 and amended in 1998 and again in 2002, was the pioneering legislation that for the first time anywhere in the world required industry to ensure the recovery or recycling of all types of packaging waste. Among its provisions was a requirement that, under certain circumstances, fillers charge a deposit on non-refillable beverage containers, and on containers of detergents and cleaning agents and of emulsion paints[23].

For sales packaging, the Ordinance says that retailers must take back packaging and ensure it is recycled, but provides an exemption from this requirement provided that a Dual System operates that collects used packaging from households and meets the recycling targets specified in the Ordinance. The Ordinance as amended also provides an exemption from the obligation to charge deposits on beverage containers provided that:

* The containers participate in a Dual System that meets the specified recycling targets; and

* the market share of beer, waters, carbonated soft drinks, fruit juices and wine in refillable containers remains at 72% (the level in 1991) and that market share of refillables are maintained at 1991 levels in the individual beverage categories (beers, waters, etc). For pasteurised milk, the market share of refillable containers and PE pouches together must remain above 20%. If the overall quota is not met for two consecutive calendar years, mandatory deposits would be imposed on any beverage sectors below the 1991 level or in the case of milk, below 20%. The deposits would take effect six months after the formal publication of the data. The Federal Government would publish data on these market shares each year[24].

The Ordinance also says that:

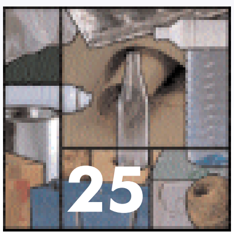
* Fillers must charge a deposit on non-refillable beverage containers and pass it on to each subsequent stage of distribution to the final consumer. For imported drinks, importers are responsible for charging the deposit.

* When the empty container is returned, the deposit must be refunded under the same conditions as those applying to all sales packaging. These include that the retailers are obliged to take back only packaging of the "type, form and size" that they sell. Small retailers (sales area of less than 200 m^2) are required only to take back packaging of the brands they sell. Retailers must display in-store signs indicating to shoppers the availability of take-back facilities. Used containers that are taken back must be passed on for recovery.

The penalty for failing to charge a deposit, or to take back deposit-bearing containers is up to 50,000 euros.

23 Containers of detergents, cleaning agents and emulsion paints continue to be handled through DSD, and they are not discussed further.

24 The 2002 Amendment of the Ordinance refers to publication of market shares of "environmentally favourable" packaging, although this term is not defined nor used anywhere else in the Ordinance. The term must refer to reusable containers plus PE pouches.



The structure of the obligations – with a basic obligation to charge a deposit and/or to take back used packaging in-store, from which companies are exempt if a Dual System operates and if the refill quotas are met - suggests that the government intended the deposit system to operate. This had indeed been the government's original idea in early drafts of the legislation. However the government then agreed that industry's idea of collecting used sales packaging and beverage containers for recycling through a collective system made more sense. It added exemption clauses to the text along these lines, and these were adopted as law in the Ordinance.

However the then Federal Environment Minister, Klaus Töpfer, wanted to protect refillable beverage containers from the one-way packs – cans and plastic bottles – that were gaining in popularity. The refill quotas were added to the Ordinance to achieve this. The deposit provisions also remained in the text, both to provide an incentive to retailers and fillers to continue to use refillables and as a sanction if the refill quotas were not met.

The fact that the deposits would only take effect by default may explain why the Ordinance does not specify any precise rules for how a deposit system would work. There are no specific requirements for refunding deposits and handling the returned containers, only the general take-back requirements applicable to all sales packaging. In contrast, the Ordinance establishes precise rules for the operation of Dual Systems.

1.2. Application of the Ordinance

One condition for exemption from the deposit requirement has certainly been met: the Dual System (DSD) was duly set up. It has consistently met all its recycling targets for sales packaging every year.

However, the market share of refillables continued to decrease gradually after the Ordinance came into effect, despite the refill quotas. In 1997 the market share of refillables fell below the 1991 level and in September 2001 the Government released new data showing that the overall market share was still below 72%, and that beer and mineral water were below their respective 1991 levels.

Fig 7 - *Market share of refillables by beverage sector, 1991 – April 2001*

	1991 %	*1994 %*	*1997 %*	*1999 %*	*1999 %*	*2000 %*	*May 2000-April 2001 %*
Mineral waters	91.333	89.533	88.311	87.444	84.944	80.966	78.46
Still soft drinks & juices	34.566	38.766	36.811	35.666	34.844	33.355	33.18
Carbonated soft drinks	73.722	76.666	77.766	77.022	74.811	68.455	64.76
Beer	82.166	81.033	77.888	76.144	74.900	73.077	72.34
Wine	28.633	28.544	28.100	26.200	26.755	25.766	26.09
ALL BEVERAGES (except milk)	*71.69*	*72.87*	*71.33*	*70.13*	*68.68*	*65.46*	*63.81*
Milk (refillable)	24.17	24.69	17.99	15.20	13.20	n/a	n/a
Milk (pouches)	2.10	2.25	12.22	9.70	8.70	n/a	n/a
ALL MILK	*26.27*	*26.94*	*30.21*	*24.90*	*21.90*	*n/a*	*n/a*

Source: German Federal Environment Ministry

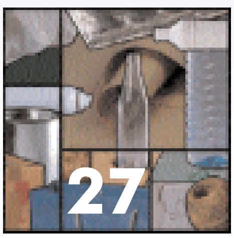
Jürgen Trittin, a member of the Green party and a keen advocate of refillables, took over as Environment Minister in 1998, as part of a new SPD/Green coalition government. Trittin made clear his intention to apply the law by imposing deposits on non-refillables. However, the implications of applying the law that Trittin had inherited from the CDU government, were that deposits would be imposed on certain beverage categories but not on others. Trittin acknowledged that this would be confusing for consumers and messy for operators. He proposed an alternative arrangement - to impose deposits instead on "environmentally unfavourable" containers.

2. Proposed reform of the Ordinance

The government published a proposal to amend the Packaging Ordinance in February 2001, which would impose deposits on beverage containers shown by LCA evidence to be "environmentally unfavourable", but no deposit would be charged on "environmentally favourable" containers. Thus, beverage cans, non-refillable glass and non-refillable PET would be subject to a deposit, but not beverage cartons, PE pouches or refillable containers. However the Bundesrat (upper chamber), which represents the Länder (Federal States), rejected the proposal in summer 2001.

Various other options for reforming the refill quotas were put forward but none of these was accepted. The data showing that the quotas had not been met for the second year were published in the form of a press release, which enabled Trittin to maintain pressure on all parties to find an alternative solution without starting the six-month countdown to deposits. However, no acceptable solution could be found and on 2 July 2002 Trittin formally published the data as specified by the Ordinance, triggering deposits with effect from 1 January 2003.

Since the deposit took effect, Trittin has continued to seek an alternative arrangement. Because the Bundesrat had rejected the previous proposal in 2001, he sought the views of key Länder, to



ensure their support in the Bundesrat this time. At a meeting on 16 February 2003, broad agreement was reached on the new proposal. However the opposition Länder represented (Baden-Württemberg and Bavaria) both called for an "innovation clause" to be inserted - a clear procedure for re-classifying packaging as "environmentally favourable".

In June 2003, the Minister published a new legislative proposal that would impose deposits only on "environmentally unfavourable" beverage containers along similar lines to the 2001 text.

The proposal would apply a mandatory deposit (at the same rates as the current legislation) to all non-refillable beverage containers except:

* "Environmentally favourable" non-refillable beverage containers: beverage cartons, PE pouches and alu pouches;

* Wines, spirits and mixed drinks based on wine containing at least 50% wine and mixed drinks based on spirits containing at least 15% spirits;

* Milk and mixed drinks containing at least 50% milk;

* "Dietetic beverages", as defined (food for special dietary uses, such as baby foods, weaning foods, slimming foods), although sports drinks would be covered by the deposit requirements; and

* The current provisions, under which deposits are triggered by failure to meet refill quotas, would be repealed. The new text indicates a general objective that 80% of beverages would be in either refillables or "environmentally favourable" containers.

* The government was to undertake market surveys annually to assess the market share of beverages in "environmentally favourable" containers and publish the results.

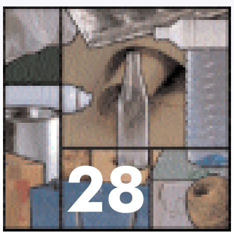
The term "environmentally favourable" is not defined in the text. The packs that currently qualify are simply listed in it. According to the explanatory memorandum, packs are categorised based on an LCA assessment. The government indicated in the memorandum that it would continue to test packaging for its environmental performance and may remove or add packaging types to/from the "environmentally favourable" list.

The text was adopted by the Bundestag (lower chamber) in July 2003, but the Bundesrat has not adopted it, as of April 2004. Indeed, it is far from the certain that the Bundesrat, where the Opposition has a majority, will adopt it at all. Despite the Minister’s efforts to secure support, it is not certain that enough Länder support the proposal to ensure adoption by the Bundesrat.

Key Opposition Länder have been developing alternative proposals for beverage containers. Hessen recently put forward an alternative arrangement, discussed by the Bundesrat on 12 March 2004:

* A combined refill and recycling target of 90% (refilling plus recycling of non-refillable containers), with a refill quota of 60%. The sanction for not meeting the quotas would be a tax on non-refillables.

* The tax would be paid through the Dual System(s). The tax would apply only to non-refillables for beer, waters and carbonated soft drinks, which together represent 78% of the drinks market.



The proposal was referred to the Bundesrat's Environment Committee for further consideration. Even if the proposal secures majority support in the Bundesrat, it is not certain that the Minister will support these ideas. He vehemently opposed the idea of a packaging tax when it was proposed earlier in 2003 by the retailers. He called it "poison for the economy". The Minister is also unlikely to accept the lower refill quota.

Meanwhile, the existing Ordinance remains in force.

3. Legal challenges to the refill quotas and deposits

The Commission focussed mainly on the current transitional arrangements when it opened infringement proceedings in October 2003. However, as set out below, the refill quotas in the existing Ordinance and the proposed reform are both subject to various legal challenges.

These legal challenges call into question whether the legal reform now under consideration will provide a way of the current mess, or indeed whether it will ever be adopted.

The European Commission has been receiving complaints about the refill quotas ever since they first took effect. Submitted by other Member States and various industry groups, these complaints argued that the quotas were a barrier to intra-Community trade and discriminated against imported products. The arguments can be summarised as follows:

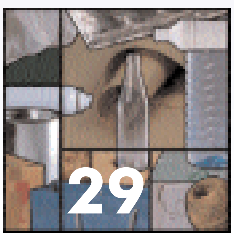
* National rules that require a proportion of all beverages to be in refillables favour local producers, distort competition and are a barrier to trade. Refilling makes environmental and economic sense only where transport distances are short. The environmental impact of transporting empty containers over long distances for refilling outweighs any benefits in terms of reduced waste. A preference for refillables is therefore not justified on environmental grounds.

* Singling out beverage containers for special rules is discriminatory. The European Directive on Packaging and Packaging Waste requires that a proportion of all packaging, including beverage containers, is recycled or recovered. From the environmental point of view, it makes no difference whether for example a can contained a drink or other food product. Now that systems are in place to collect and recycle all packaging, it is unnecessary, and a waste of resources, to operate a separate system just for beverage containers.

3.1. Commission case against the refill quotas

In March 2001 the European Commission initiated action in the European Court of Justice against the refill quotas as they affect bottled mineral water. The Commission had considered various aspects of the Ordinance but decided to limit its case to bottled mineral water, which under EU rules must be bottled at source.

When it announced that it was referring the case to the ECJ, the Commission explained that the action related only to mineral water because the refill requirement "imposes an unfair burden on producers of natural mineral waters that import their products over long distances.... The German rules do not take proper account of the environmental costs of sending containers of natural mineral waters over long distances for reuse." The Commission also referred to the LCA being used by the German government to justify its proposals, saying that it was too limited in scope (it did not consider PET bottles nor take account of the distance factor for natural mineral waters).



The ECJ has not yet ruled on this case. However, a preliminary hearing took place on 2 March 2004, at which the case referred by the Baden Württemberg court (see below) was also discussed.

During the hearing the Advocate General asked three questions:

a) what is the current market share of refillables in Germany?
b) Have some non-refillable containers suffered more than others from the deposits?
c) Does the higher deposit on non-refillables than on refillables create an imbalance?

Following the hearing, the Advocate General indicated that he would issue his opinion on 6 May, earlier than expected. A final ruling should be available before the end of the year.

3.2. Case referred by German court challenging the current deposit

On 21 August 2001, the Baden Württemberg Verwaltungsgericht (in Stuttgart) referred a case involving Radlberger Getränke to the ECJ for a ruling[25]. Radlberger, an Austrian company that imported soft drinks into Germany, argued that it participates in DSD, which guarantees regular collection and recycling of their containers. The new deposit would force it to switch either to refillables or to charge a deposit, which would be more expensive. The Court has sought the ECJ's ruling on four questions:

* Is there equivalence between recycling and reuse in Art 1(2) of the Packaging Directive?
* Is the mandatory deposit contrary to the freedom to place on the market?
* Is the deposit contrary to the right to participate in DSD?
* Is the refill quota/mandatory deposit contrary to the free movement of goods, as it affects importers more than domestic producers?

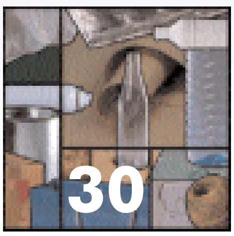
3.3 Commission concern about the proposed amended deposit provisions.

The Commission received a number of complaints about the proposed revision of the Ordinance during the notification process. In its detailed opinion accompanying notification that the standstill period was being extended, the Commission argued:

i. The proposed deposit system must comply with the requirements for return systems in the Packaging Directive, namely it must be open to all operators under non-discriminatory conditions including importers. Systems must be designed so as to avoid barriers to trade or distortions of competition.

The Directive does not foresee a particular type of return system, so "there is nothing that stands against the use of a deposit system". However, experience since January 2003 indicates that additional provisions need to be added to the Ordinance regulating the deposit system, and applied in practice.

Not discriminating against importers means that "technical requirements must be limited to a minimum necessary to operate the systems". The Commission challenges the insistence by retailers operating "island solutions" that suppliers use specific pack types. The Court says that national provisions requiring traders to adjust the presentation of their products for a particular market is a barrier to trade.



25 Case C-309/02

A return system as referred to in the Packaging Directive implies a national system. The Commission questions whether in future there will be sufficient facilities in Germany to take back the deposit.

ii. The rate of the deposit - 25 eurocents for all sizes up to 1.5 litres - is too high. Consumers may be deterred from purchase when the deposit is as high or higher than the price of the product.

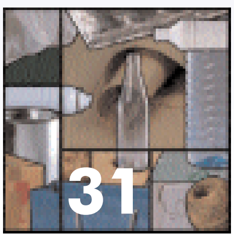
iii. In some instances there is discrimination between products that are exempted and those that are not. Where there are two products that are in direct competition, exempting one but not the other may severely distort competition between them.

iv. The Commission also recommends adding a procedure for amending the list of environmentally favourable products, because of the extreme difficulties encountered in the past in amending the German Packaging Ordinance.

3.4. Start of infringement proceedings by the Commission

In October 2003 the Commission opened infringement proceedings against Germany in relation to the deposit arrangements. The Commission had received 50 complaints from 10 Member States about the German situation.

The Commission cites the lack of a national deposit system, and the "island solutions" operated by individual retailers. Some of these retailers require suppliers to modify their packaging, which of itself is considered by the European Court of Justice to be a barrier to trade, says the Commission. The Commission blamed the structure of the legal obligations in the Packaging Ordinance for the development of these island solutions, because small retailers are required only to take back containers of the brands that they sell. The Commission also expressed concern that some retailers had simply delisted non-refillable beverage containers. Commissioner Frits Bolkestein remarked in the European Parliament that "importers are particularly affected by this, as they sell their drinks almost exclusively in one-way packaging for reasons mainly related to long-distance deliveries"[26].



[26] Comment made during Oral Question with Debate in the European Parliament on 21 October.

ANNEX II – REVIEW OF DEPOSIT SYSTEMS IN OPERATION

1.Systems in operation

The "open systems" are:

* P-Pfand (merged with Vfw system in April 2004) – operated by Lekkerland/Tobaccoland, a wholesaler specialising in supply to kiosks, filling stations and other convenience outlets. According to P-Pfand, around 70,000 mainly small outlets participate (but other sources say that only 20,000 participate), and around 200 products from 60 suppliers. However, they represent less than 10% of the beverages market.

* Vfw (now merged with P-Pfand) – works with Spar and some wholesalers. These retailers have a total of 80,000-90,000 outlets, a small proportion of which participate in Vfw. The system originally used special coupons issued by wholesalers and passed on to consumers. The coupon system was subject to legal challenge by other systems and was granted operating clearance until the end of September 2004. Coupons are being discontinued since the merger with P-Pfand.

* Westpfand – works with waste management operator Interseroh. The system focuses on specialist drinks retailers and is still small. Westpfand says that it works with 400 outlets (mainly around Cologne), handling mainly beer cans from six brewers.

"Island solutions":

* Discount chains such as Aldi, Lidl etc sell only private label drinks in containers of a unique design that they specify. Because their containers are of a unique design, the Ordinance (as interpreted by the Ministry) permits them to refuse to take back containers sold by other retailers. Containers purchased at one store can therefore be returned only at a store of the same chain.

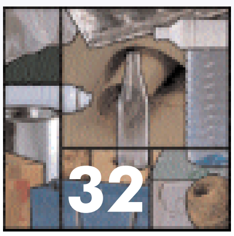
* PET-Cycle. Legally, this closed-loop bottle-to-bottle recycling system is an "island solution" because the bottles are of a unique design. However the system is used by a variety of fillers, mainly soft drinks and mineral water, and different retailers. Consumers purchase drinks by the crate. The empty bottles and crates are returned to the filler, and who sends them to the producer of pre-forms. Users of the system aim to recycle at least 50% into new bottles. The bottles are considered non-refillable, so they are subject to the higher deposit, although to consumers the system operates just like a refill system.

* Red Bull – uses special cans in Germany, with a larger opening and a blue tab. However, the Red Bull system has recently been challenged in the courts by a company importing standard Red Bull cans from Austria. Early in 2004 the Mannheim Landgericht ruled that the Red Bull cans were not sufficiently different from standard cans and only an observant consumer could tell the difference.

Deposit systems for refillables:

* Long-established refill systems, particularly in specialist drinks outlets. These outlets sell refillables and PET-cycle, although a few also sell cans (see Westpfand above).

* Supermarket chains Edeka, Rewe, Metro and Tengelmann, which have switched to refillables – they cover ca. 17,000 outlets.



2. Clearing house

Retailers participating in the open systems accept containers from the other open systems. Participants in these systems mainly sell drinks from major brands in standard containers so they are legally required to accept each other's containers. The small outlets[27] participating in the Lekkerland system are required to refund the deposit only on containers of the brands they sell. As they sell the major brands, they must accept such containers even if they bear the Westpfand logo.

In the Lekkerland and Westpfand systems, containers are collected from retailers in sealed bags, or backloaded and taken to a sorting centre where they are sorted and the logo mechanically cancelled. Retailers are then refunded any deposit monies owing. Westpfand has made a financial clearing house a separate part of its system. It claims to be the only system that operates a full clearing house to balance deposits paid and received by the drinks outlets and also with other systems.

The different open systems arrange between each other to refund each other any imbalance in deposits.

The island solutions have no need of a clearing house as they do not accept any containers sold by other retailers participating in other systems.

3. On-pack marking

Both Lekkerland and Westpfand require containers to be marked with a special logo and the systems are developing security marking. However, Lekkerland does allow fillers selling only small quantities to mark the P-Pfand logo with adhesive labels.

Each operator of an island solution (discount chains and Red Bull) requires fillers to use a unique design of pack.

4. System costs

The deposit systems charge a fee to cover logistics and administration, which are separate from the deposit. These fees are significantly higher than the fees charged by DSD for these items[28]. Both are shown in Fig 8 overleaf for comparison:

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[27] The Ordinance says that shops of less than 200 m_ must accept only containers of the brands that they sell.
[28] Weight and unit fee 2003/4

Fig 8 – Fees charged by deposit systems compared with DSD fees

System	*Fee charged per unit (cent)*	*Paid by*	*Comment*
P-Pfand/ Lekkerland	ca 4	Wholesaler	
Vfw	Ca 0.5 – 1	Wholesaler	Fee depends on quantity collected, etc. Operators may fund RVMs
Westpfand	< 5 litre 6 >5 litre 30	Filler	Fillers also make loans to fund infrastructure
DSD	Tinplate: 0.99 Alu: 1.14 PET 0.50 l: av 3.97 PET 1 l: av 4.60	Filler