

# Report U.K.

<b>1. Description of status quo on reuse packaging .....</b>	<b>2</b>
1.1 Beverages & drinks.....	2
1.2 Non Food packaging.....	5
<b>2. Distribution / redistribution of reuse packaging .....</b>	<b>5</b>
2.1 Typical ways for distribution of reuse packaging to the consumer.....	6
2.2 Changes in retail distribution.....	7
<b>3. Legal basis concerning reuse packaging .....</b>	<b>9</b>
3.1 Producer Responsibility for Packaging .....	9
3.2 Packaging (Essential Requirements) Regulations.....	10
3.3 Landfill Tax .....	10
3.4 Other economic instruments.....	11

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## 1. Description of status quo on reuse packaging

### 1.1 Beverages & drinks

Milk – fresh & sterilised in returnable glass bottles  
 Soft drinks in returnable glass packaging e.g. lemonade, colas, fruit juice and bottled Water in returnable glass bottles  
 Water coolers for use in offices etc (returnable plastic)  
 Beer bottles  
 Cider bottles

#### 1.1.1 Milk

The UK is one of the last countries in the world to use the returnable bottle on a widespread basis for milk. Formerly, the sole container was glass packaging. The rapid appearance of the milk carton, followed by the plastic polybottle, have swiftly displaced glass packaging sales. Plastic pouches only have a minor market share of under 1%. UK consumers do not accept pouches for milk. The following table presents information on milk purchasing patterns.

**Table UK-1: Packaging mix for drink milk primary packaging in U.K.**

Year	Glass reuse bottles	Beverage Cartons	Plastic bottles/pouches
1975	94	6	-
1980	88	12	-
1985	80	20	-
1988	72	25	3
1991	65	19	16
1994	32	23	45

Sources: Various. Quoted in Goddard 1995 p. 61 (1)

The drink milk business in the UK is highly fragmented with as many as 300 small and medium sized processors, although only 50 are significant producers. There are 22 businesses processing more than 100 million litres of milk a year. 27 filling plants run reuse bottle lines.

This regional distribution is „almost entirely the result of the traditional doorstep milk delivery system which enabled small companies to survive. Doorstep milk delivery accounted for nearly 75% of all the milk sales 10 years ago, but today it is down to under 35% and is expected to fall to little more than 25% in the next 2-3 years as supermarkets continue to increase their milk sales. This will inevitably mean there'll be a concentration of business, as the big dairy companies are overwhelmingly the major supermarket suppliers.“  
 (4).

At present, Northern Foods (Express) has a 23% market share of the total UK liquid milk business, Unigate 13%, MD Foods just over 12%, Avonmore/Waterford about 11%, Dairy Crest and Robert Wiseman about 9% and ACC about 6%. Thus, between them, the top 7 have 83% of the total market share and this proportion is growing (up from 60% in 1996). It is expected that a number of medium-sized dairies will be bought out by the major players or go out of business in the next few years (4).

The decline of doorstep milk sales has been one reason for the growth in plastic containers. The dairy company, Unigate forecast that doorstep deliveries will account for only 25% of the market by 1998. The convenience of the lightweight plastic bottle means that more than three quarters of all fresh milk is now sold in plastic bottles.

**Table UK-2: Forms of packaging used in retail milk sales ( percentage of total sold in year)**

Pack type	1984	1989	1993	1994
Beverage carton	61	60	38	34
Glass Bottle	27	12	4	2
Plastic Bottle	12	28	58	12

Source: Leatherhead Food Research Association 1995 in Goddard 1997, p.113 (3)

Doorstep delivery can no longer compete with the prices of supermarkets or local stores. In 1996, the average UK supermarket price was £0.26 per pint compared with £0.42 per pint for doorstep delivery (3). These prices remained true in 1998.

Retail outlets in Britain held nearly 60% of the 6 billion litre fresh milk market in 1997 and thus retailers have been able to strongly influence the processor as far as customer preference is concerned. Research undertaken for Tesco, a large UK supermarket chain, in 1995 showed that consumers preferred plastic bottles to cartons for fresh milk. This led the company to switch containers leaving only some niche products e.g. organic milk in cartons. This move has not been followed by other retailers who still retain cartons for 1 litre sizes or less, and plastic bottles for the large sizes, because this is the most economic packaging mix. (2). The one pint polybottle has proven to be extremely successful due to factors such as convenience of packaging size, easy opening, resealability, easy pouring and the practicality of fitting well in the refrigerator.

**Table UK-3: Increase of retailer milk sales**

Year	Doorstep delivery	Retailers
1987	80	20
1990	72	28
1993	53	47
1996	30	70

Source: (3)

### 1.1.2 Soft Drinks

Overall, total consumption was over 10 billion litres in 1997. Average soft drinks consumption is around 118 litres (see Table 1.2 of main report).

Soft drink consumption has increased 50% over the last 10 years and is now close to 0.5-litre/person/day. Fruit juices and nectars is at 20 litres per head. 94% of juices and nectars are sold for home consumption while only 6 % are sold via HoReCa.

Carbonated beverages with colas and other fizzy drinks dominate the market with over 50% of the market share, but the major growth area has been bottled water which has been increasing from 2% consumption in 1988 to 9% of the total in 1997. (5). As volumes increase, larger pack sizes (2-3 litre) become usual. However, considering increased consumer mobility, there has been a move away from a family size PET container to a single serve, 50cl re-sealable contoured bottle, which then competes with can then threaten cans. Glass packaging (non-returnable) has been used for the upsized 33cl contour glass bottle from Coca Cola and a black sculptured bottle for the pub trade.

In just 10 years, from 1977 to 1987 reusable soft drink containers declined from 60% to 3% of the UK market (see Table 4 in Annex). Today, only the pubs are delivered with reusable bottles.

The top five companies are Coca-Cola Schweppes (26.5%), Britvic (14.1%), Princes (9.8%), Cott (9.3%) and Gerber (5%) (6).

### 1.1.3 Bottled Water

Currently only 36% of households buy bottled water. Bottled water, with approximately 626 million litres in the UK, is the fastest growing sector in the entire soft drinks market. Zenith International (6) reports consumption at just under 900 million litres in 1998. The two types of waters, flat and carbonated, have different markets, and it is the non-carbonated type which is perceived as having the greatest growth potential. Carbonated waters are seen as beverages and are consumed at the table or during social drinking. Still waters are purchased for more general uses, often by consumers who are unhappy with the perceived quality of tap water. (3)

Most packaging is in one way PET, although Perrier and a few UK brands use one way glass. Reuse glass bottles are restricted to one regional source in North England where they hold a minor market share (detailed figures are not available).

Much of the growth in this sector has been attributed to the installation of water coolers in offices and institutions – these now account for 14% of all bottled water volume. They are packed in reuse containers (polycarbonate) and served mainly in one way plastic cups.

#### **1.1.4 Beer**

Typical for beer consumption in United Kingdom is the big market share of draught beer consumed in public houses, pubs and restaurants. Packaged beer accounted for 35% of the beer market in 1996, up from 28% in 1989. This mainly reflects the trend towards the take-home trade and away from public house drinking, but the changes in packaging are no longer straightforward (see Table 5 in Annex).

In the UK brewing industry there was a significant shift away from the use of refillable bottles to non-returnable bottles in the late 1970's. Refillable bottles are now predominantly used in bars and restaurants. Currently cans are the dominating primary packaging for beer. Over 2,8 Billion beer cans were sold and discarded in 1997 in the United Kingdom. One way glass increased rapidly from 12% or 214 Million litres to 27,8 % or 600 Million litres in 1997.

Even though there are more than 150 brewing companies operating, 4 companies have 93% of the market share in the UK beer market: Bass (38%), Scottish Newcastle (33%), Witbread (16%) and Guinness 6%. In addition, about 90 pubs brew their own beer. (7). In recent years, there has been considerable growth in the number of small regional breweries supplying mainly traditional draught beer to their own associated outlets and/or to the free trade.

### **1.2 Non Food packaging**

- Washing and cleaning detergents
- Gas cylinders

Unofficial re-use practices: Reusability – unofficial refilling already exists through bulk buying units, wholefood and green store outlets run refill schemes for customers e.g. liquid detergents such as Ecover. However, such schemes are not widespread. In-store refill on a small scale still exists but the practice is not widespread.

## **2. Distribution / redistribution of reuse packaging**

According to a trade survey (8), over two thirds of distribution companies believe that a take back liability has implications for their businesses; still part of this work to the advantage of the sector by creating new business opportunities.

As far as can be determined from data which is available, the geographical spread of re-use packaging is broad, but patchy. There is a considerable state of flux in all aspects of the

drinks industry. Consolidation, mergers, acquisitions and retailer influence on the supply chain all work against returnable systems.

### **2.1 Typical ways for distribution of reuse packaging to the consumer.**

„It is however in the environmental area that most pressure has been exerted on retailers, especially as they effectively control the crucial decisions about returnable containers. Overall the collective view of UK retailers on this has remained unchanged for decades. They see no compatibility between their traditional role of facilitating the movement of clean foods in one direction (from manufacturer to customer) and any reverse operation involving dirty, contaminated materials which have to be handled, stored, segregated, sorted and returned to many different companies of origin., (1) Goddard 1995 p54)

One of the biggest changes in UK retailing has been the concentration of distribution to fewer and bigger stores. Combined with production concentration changes, this has led to increased distances between the producer and the retailer and the consumer. In turn, this has affected refilling systems.

Other changes in retailing include: transnational retailing stores, discount stores, convenience stores, add-on retailing, cash & carry discount stores, vending systems, loose/self serve, factory outlets.

#### **2.1.1 Doorstep delivery**

Major dairies such as Dairy Crest Ltd, Express Dairies, Unigate and M&D Foods still distribute fresh milk in the individual 0.568-litre clear glass reuse bottle with a standard disposable aluminium foil closure. Deliveries are made to households, cafes, restaurants, companies, institutions, and schools as well as small food retailers using the dairies' own reusable milk crates and electric milk floats. Sterilised milk and flavoured milks are also available.

Refilling tends to be more important for the smaller companies in the fresh milk market even though some of these are owned by the major dairies dominating the market.

According to the National Dairy Council, doorstep delivery was once the mainstay of the reuse milk bottle in the UK, but this is now in sharp decline with sales being lost to the multiple supermarket chains (see chapter 1.1.1). Bottled milk sales through the multiples declined by over 50% between 1987 – 1992 (see Table UK-3). According to Unigate, in 1995 their doorstep sales were falling at a rate of 12,2% a year. As a result, the company reduced its glass bottling capacity which results in plant closures.

Doorstep deliveries have declined as multiple grocers and supermarket chains (who can buy fresh and sterilised milk in larger quantities and thus benefit from economies of scale) sell milk at lower prices than the dairies. They do this by using milk as a 'loss leader'. Smaller dairies cannot compete economically. The deregulation of the milk market in 1994, following the dissolution of the Milk Marketing Board, also had a destabilising influence on the dairies - higher prices, redundancies, factory closures and eroded margins being some of the effects.

Other reasons for the decline in doorstep delivery and successful returnable systems include: complacency by dairies when they had a bigger share of the market; less than acceptable standards of service; late deliveries; poor receipts and record-keeping and a restricted range of products. Overall, the result has been a large drop in the use of a returnable glass bottle and a huge increase in the use of alternative materials such as one-trip paperboard cartons and HDPE plastic 'jugs' and bottles.

There are some signs that the decline in doorstep delivery is slowing down. In addition, a National Opinion Poll conducted in 1994 found that 72% of 'doorstep' customers still prefer glass bottles for their milk deliveries. There are opportunities for the delivery of other food products. For example, cream used to be widely distributed in refillable glass pots.

Now that soft drinks have become a recognised product for sale on the remaining milk rounds, companies such as Barrs Soft Drinks believe one of the most appropriate packs is the returnable glass bottle. As a leading producer of this type of packaging, Barrs Soft Drinks aims to help increase the profitability for the dairies & delivery staff as well as help to retain household deliveries. Some top favourites are Irn Bru, Tizer and Origina joined by Pepsi, all of which is sold in a returnable 750 ml glass bottle. Barrs also has a range of dilutable squash drinks and with their strong growth in the packaged water sector have added Finley's Natural Mineral Water to their range (packaged in 500 ml PET or 1.5 Litre non-returnable PET.)

Abbey Well brand (Northumberland based) is an example of a brand offering to the dairy industry a full range of returnable and non-returnable mineral water and soft drinks. The company does not supply supermarkets therefore in addition to supplying 'on-trade' (licensed premises for the sale/consumption of alcohol) it also offers a premium brand to the dairy industry. The packaging is a distinctively shaped 1-litre clear glass returnable bottle for both still and sparkling water, bottled exclusively for the dairy trade.

Purity Soft Drinks (based in the West Midlands) has a license to manufacture and distribute Virgin Cola in returnable bottles thereby giving the dairy trade an opportunity to develop incremental volume sales by offering customers their high profile brand. The company is over 100 years old.

The distribution of reuse packaging also occurs through the growing trend of doorstep delivery of organic vegetable boxes which can also contain products from whole food stores e.g. fruit juice, drinks, Ecover detergents etc. There are no official statistics available.

### **2.1.2 Small stores**

Many small retailers such as corner shops and grocers still sell some fresh and sterilised milk in refillable bottles, often alongside milk in cartons and plastic supplied by the same dairy. This variety probably exists because smaller stores are not fixed into achieving the highest turnover figures per square metre of floor space as are the multiples. They can also accept deliveries by milk float more easily, who serve a local clientele who can return the no-deposit empty bottles more easily.

## **2.2 Changes in retail distribution**

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The volume of food and drink and non-food products distributed through large supermarkets is increasing. Therefore these companies have a tremendous influence on the packaging market, including its material usage, its pricing and its designs. The growth of the major multiples show the top 12 companies increasing their combined share of the grocery market from 55.3% in 1987 to 64.9% in 1994. (The concentration of power is even greater than these figures indicate, as the top five multiples accounted for 43.5% of the grocery market in 1994).

### **2.2.1 Supermarket influence through brand ownership**

The key factor that has driven the UK food retail industry over the last 20 or more years – and that differentiates it from the progress in other countries – has been the strong development in their own labels. The extent to which having their own label has progressed varies from one company to another, ranging from a 100% share for M&S, to about 60% for Sainsbury and Tesco, to about 40% for Asda. Within the "own label" market this means that the retailer, rather than the packer/filler, is the brand owner and is automatically the specifier of the supplier, the product, its packaging and design, and sometimes even its production process.

With brand ownership comes more influence on packaging development, quality, price and sourcing of packaging. The change in brand ownership away from the exclusive privilege of the manufacturer (packer/filler) to a state which includes the retailer is not restricted to food; and a similar situation is developing in some other industries (DIY is one example). Retailer brand ownership is part of this power shift.

Own label products now account for 36% of total sales in multiple supermarket chains. Own label brands from the top 12 companies alone now account for over 23% of the total grocery market.

### **2.2.2 Distribution / Redistribution**

Retail ownership or control of the distribution chain is the other prime factor affecting the retailer's influence on primary packaging. The retailer's requirements include: lowest packaging cost; lowest goods production cost; minimising impact on distribution chain costs; cost effective display space utilisation and the minimisation of retail labour costs in handling and display.

The collection of returnable packaging is on a relatively smallscale due to the fragmented and declining state of the returnable bottle. Systems tend to be based on local company collection, either at the point of sale or from wholesalers. There is no organised pattern or formal pool structure.

Whilst the number of trips made by a returnable container (number of circulations) is a crucial factor in determining the resource requirements for this type of container, it is extremely difficult to determine number of circulations with any precision given wide variations in practices. The average figures used in 1989 were milk bottles – 20 trips; beer & cider-15 trips ; soft drinks 200 ml; carbonated soft drinks (1 litre size)-10 trips and other carbonated soft drinks 3 trips. The dairy industry is credited as holding the most

comprehensive information on number of circulations rates. Most dairies record number of circulations rates of over 15 per year and note distances travelled.

### 3. Legal basis concerning reuse packaging

Environmental factors are becoming increasingly important in terms of their impact on the bottom line. Cost factors and regulatory pressures remain the primary reasons why reuse/reclamation/recycling proposals will become increasingly attractive in the future. The key forces for change include:

- Rising waste disposal charges and landfill tax
- Increased raw material costs
- Tightening regulatory framework
- Producer Responsibility Obligations & EC Packaging Directive
- Enhanced consumer pressure

The two pieces of legislation are the **Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (S.I. 1997/648)** (9) which came into effect in 1997; and the **Packaging (Essential Requirements) Regulations 1998 (S.I. 1998/1165)** (10) – the full impact of which may be felt when deliberations on European standards for recyclable, recoverable and reusable packaging are complete.

#### 3.1 Producer Responsibility for Packaging

The UK chose the legislative rather than the voluntary route to ensure that there were no ‘free riders’ gaining a competitive advantage by opting out of voluntary schemes and because of the uncertainty as to whether a voluntary scheme would raise the level of recovery and recycling significantly.

Reductions in packaging waste are forecast to be one of the key trends in the market over the period 1997-2001 as the UK implements legislation to meet the EU Packaging and Packaging Waste Directive. Under the UK’s shared producer responsibility obligations, the responsibility for recovery and recycling is allocated to different sectors of the supply chain as follows: retailers (47%); packers/fillers (36%), converters (11%) and raw material producers (6%).

To meet the targets: in 1998 and 1999, the overall packaging waste recovery rate is 38%, rising to 43% in 2001 and to 52% in 2001. In 1996 about 30% of packaging materials were recovered. An estimated further 2 million tons will have to be recovered to meet the final target (12). (Environmental Technology Best Practice Programme, 1998)

In 1999, a business is obligated to comply if it handled more than 50 tons of packaging (excluding exports) in the previous year and had a turnover of more than £5 million in the last financial year for which audited accounts are available. Obligated businesses must register no later than April 1, 1999 and subsequently prove material recovery and recycling.

The **Packaging Regulations (the Producer Responsibility Obligations (Packaging Waste) Regulations 1997)** are designed to implement the recovery and recycling targets in

the **EC Directive on Packaging and Packaging Waste (94/62/EC)**; and to make UK waste management more sustainable. They will ensure that there will be a measurable increase in the level of packaging waste that is recycled in the UK. The regulations also provide a cost incentive for producers of packaging to reduce the amount of packaging. They require businesses to recover and recycle specified tonnages of packaging waste based on the amount of packaging they handle. If a business reduces the amount of packaging it handles, it reduces the obligation and therefore the cost of compliance.

The regulations encourage businesses to reuse packaging by allowing them to omit the tonnage of packaging that they are reusing from the calculation of their tonnage obligation, keeping the costs of compliance down (D.E.T.R. Consultation Paper 1998) (11)

For the purposes of the regulations, reuse does not constitute recycling. Reusable packaging is designed to accomplish within its lifecycle a minimum number of trips. It is worth noting that after its first rotation, the packaging in question does not attract any further obligation. Recycling is the reprocessing of waste materials for the same purpose or for new purposes. An example given by Valpak, the largest compliance scheme, is that of a business which washes out milk bottles in order to refill them. These bottles would therefore not bear any further obligation after their initial trip. A business whose bottles are subsequently melted down to become new glass is deemed to be engaging in recycling.

### **3.2 Packaging (Essential Requirements) Regulations**

The **Packaging (Essential Requirements) Regulations**, issued by the Department of Trade and Industry, is the translation of Annex I of the EU-Packaging Directive (94/62/EC) which gives no further incentive for reuse.

### **3.3 Landfill Tax**

Landfill is the most widely-used method of waste management in the UK. 70% of controlled waste goes to the landfill and according to evidence given by the Environment Minister, Michael Meacher to the House of Commons Environment Committee (1998) (13), landfills account for 85% of household waste disposal. Approximately 27 million tons of household waste are produced each year; about 1 ton for every household.

The landfill tax (introduced on October 1, 1996) applies to waste disposed of in landfill sites licensed under environmental law. There are two rates of tax, a standard rate of 8,6 ECU per ton for active wastes, and a lower rate of 2,5 ECU per ton for inactive wastes listed in a Treasury Order, for example, rocks, uncontaminated soil, glass and concrete. Four categories of waste are exempt from the tax and there are tax credits available for landfill site operators who support approved environmental projects.

During its first year in operation, the landfill tax was expected to raise 550 Million ECU. Revenue from the tax is used to cut the employer's national insurance contributions. The 8,6 ECU per ton tax rate rose to £12,3 ECU per tonne in April 1999, whereas the 2,5 ECU per ton figure remains the same. A progressive rise in the tax in subsequent years is expected.

The tax is administered through HM Customs & Excise and a review of the operation and the level of the tax was undertaken in 1997, with a final report completed in March 1998.

The rise in the standard tax to £10 per ton beginning on April 1, 1999 was one of the outcomes.

The landfill tax, coupled with rising waste disposal charges has focused industry attention on measures to reduce and divert recyclable materials away from disposal. The Environmental Bodies scheme which allows site operators to claim tax credits for contributions they make to approved bodies for specific projects has also spurred research and development into sustainable waste practices, including re-use and recycling. Site operators are not allowed to benefit directly from projects but the application of funds for purposes which benefit landfill operators in general are permitted.

However, the landfill tax has no direct effect on primary packaging waste, because councils do not base their waste collection charges for a household and small businesses on the amount of waste that the household produces. There is no real incentive for householders to reduce their waste or rethink their purchasing patterns.

### **3.4 Other economic instruments**

There is currently no tax on incineration (unlike landfill), and this is a situation that people who have a stake in it feel ought to be rectified to encourage waste reduction and recycling. The House of Commons Committee (1998) recommended that „the government should consult on the likely effectiveness and impact of an incineration tax with a view to introducing the tax before the end of this parliament.“

There is continued debate on the subject of green taxation. The use of economic instruments to change behaviour is likely as the government formulates its revised national waste strategy. The Environment Minister, Michael Meacher, is keen on their use to encourage „innovation“ and make the polluter pay, but stresses that „they must be viewed as part of a package of measures including regulation, voluntary action and tradable permits.“(Industrial Environmental Management 1998). A tax on the use of virgin materials and an aggregated tax have been hinted at previously but significant design and implementation problems would have to be overcome. Some issues include competitiveness, imports and GATT, and barriers to trade.

A Private Member's Bill (Drink Container Bill) calling for a 0.5pence deposit to be paid by all consumers on bottles and cans was launched in June 1998 by Christopher Leslie MP to coincide with final the stage of the EU packaging regulations. The move was welcomed by environmental campaigners as a means of raising awareness on the issues. Christopher Shipley MP believed that returning to a system of deposits would give people a financial incentive to take action. Leslie also maintains that the amount of litter and landfill generated by this waste is putting enormous strain on council budgets, arguing that the „ deposit system has been going in Denmark for some time now and has had tremendous results. There is a small expense involved in setting up the system, but once it's in place, it becomes self financing.,,

The government has no plans to back the bill. The Department of the Environment, Transport and the Regions (DETR) states that there are no plans to introduce a mandatory deposit system for beverage containers in the UK, and it would need to look carefully at

whether such a measure would contravene European law (Official Record, written answer Col.346, 16 November 1998).

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