



United Kingdom: Packaging in the UK Food & Drink Industry

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Summary

The UK market for food and drink packaging was worth nearly \$12 billion in 2006 and has been growing steadily at 2.3% per year since 2002. There is particularly strong demand for niche products as the industry responds to legislative changes, consumer demand, increasing material and energy costs, and a greater move towards the use of packaging as a marketing tool.

Approximately 66% of the total UK packaging industry is food and drink packaging, segmented into paper and board, plastic, metal and glass. In the past five years, plastic has been taking market share from all other segments through the introduction of innovative packaging such as shelf-stable pouches.

In 2005, about 10% of empty packaging was imported and this will continue to increase due to high raw material and energy costs in the UK. The value of imported metal and plastic was 32% of net supply in 2005, representing almost \$3 billion of the total UK plastic and metal packaging segments.

Trends in the UK food and drink packaging market are largely consumer-driven with influence from legislation. Some key consumer trends are an ageing population, an increase in the number of single households, environmental and food wastage concerns, and the saturation of the packaged food market.

Because the market for conventional packaging is growing so slowly, the best prospects for U.S. exporters exist in niche products, listed below.

- Biodegradable polylactic acid (PLA) packaging
- Radio frequency identification (RFID) technology
- Time and temperature indicators (TTI)
- Age-friendly packaging
- Single portion packs

Market Snapshot

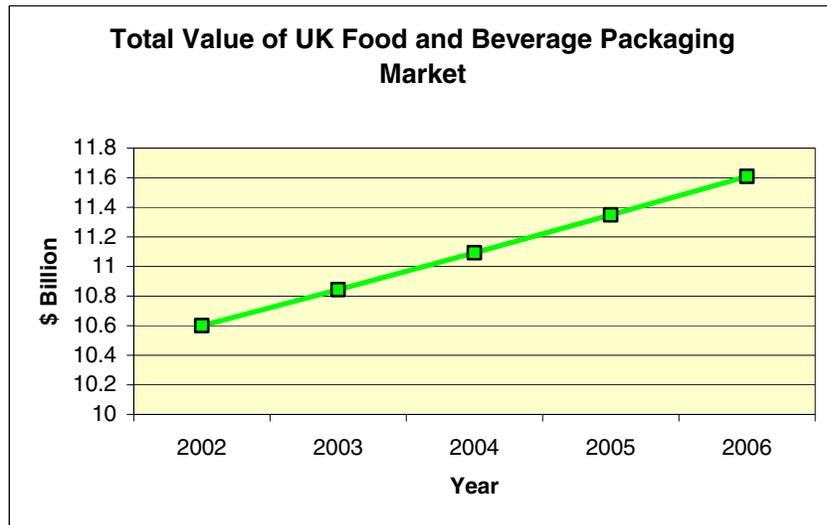
- Total market value: \$11.6 billion
- Biodegradable packaging expected to grow by 20% per year
- RFID will be the biggest market trend over the next 10 years

According to industry experts, U.S. companies have the lead on UK firms in these segments. However, there are some barriers that U.S. exporters should keep in mind. In the sustainable materials segment, there is intense competition as to which material will become the industry standard. Also, U.S. manufacturers of PLA may face an entry barrier if their product is made with genetically modified (GM) crops, such as GM corn, because they are viewed negatively in the UK.

Market Demand

The UK market for food and drink packaging was estimated to be \$11.6 billion in 2006, and has been steadily growing at about 2.3% annually since 2002 (See Chart 1).

Chart 1



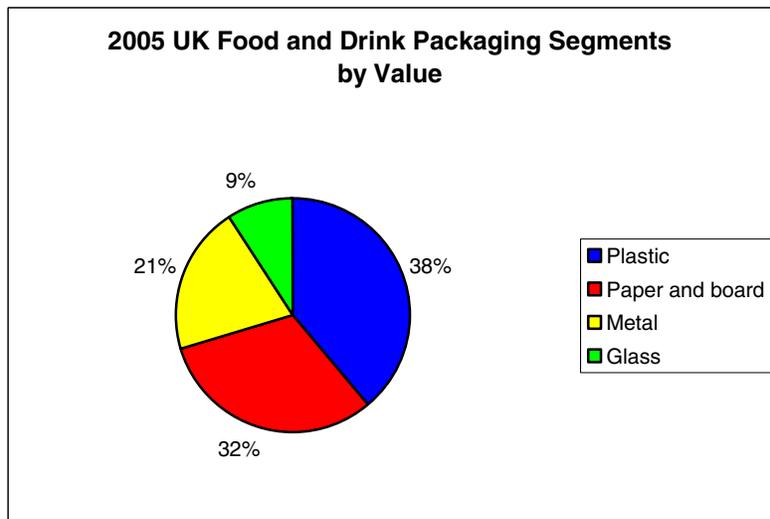
Source: The Packaging Federation, 2006

As the core market matures, strong demand for niche packaging products continues to drive growth. The factors driving these changes include increasing raw material and energy costs, new consumer demands, environmental concerns and changing legislation.

Market Data

Approximately 66% of the total UK packaging industry is food and drink packaging, segmented into plastic, paper and board, metal and glass. In the past five years, plastic has taken market share from all other segments with the introduction of innovative packaging, such as shelf-stable pouches, replacing cartons, cans and jars. Chart 2 shows that plastic currently has the largest market share, 38% or \$4.3 billion, by value.

Chart 2

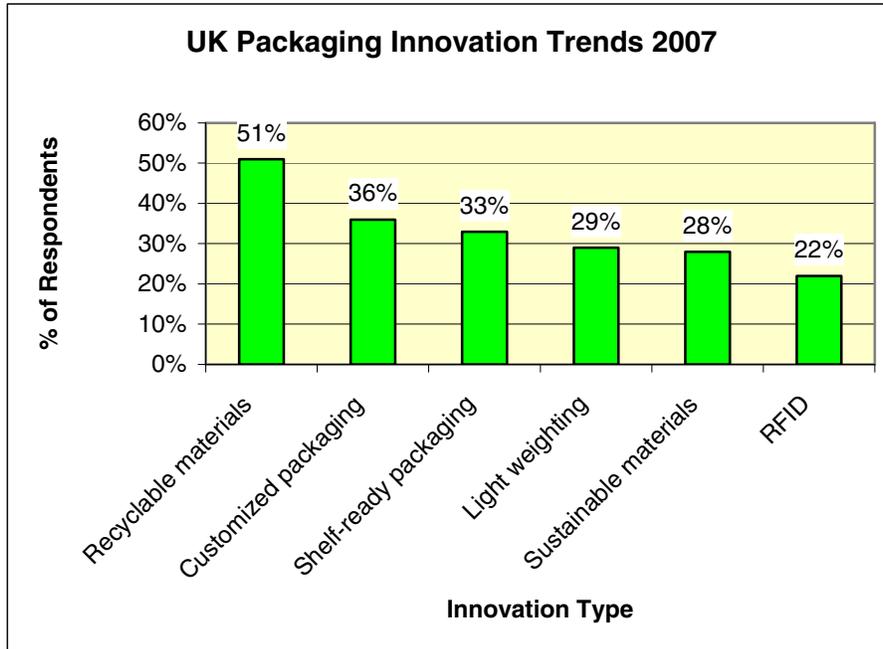


Source: U.S. Commercial Service estimates

Because of high material and labor costs, there is an increasing tendency in the UK market to import plastics, metal and carton-based packaging. In 2005, about 10% of empty packaging was imported and imports will continue to increase. The value of imported metal and plastic was 32% of net supply in 2005, an increase of 6% since 2000. This figure represents almost \$3 billion of the total UK plastic and metal packaging markets.

While growth in conventional forms of packaging is slowing, there are significant growth prospects in niche packaging that leverage consumer, legislative and industry trends. The chart below illustrates the results of a 2007 survey of UK food and drink packaging executives' predictions of upcoming trends.

Chart 3



Source: *easyfairs Packaging Innovations*

These new trends are driven by both legislation and consumer demand. An ageing population, an increase in the number of single households, concerns about the environment and food wastage, and the saturation of the packaged food market are driving the growth of niche segments. Other significant trends not mentioned in the survey are time and temperature indicators (TTI), portioned packs and age-friendly packaging.

Recyclable Materials

There is a market in the UK for recyclable and recycled packaging as retailers are under pressure from the European Landfill Directive. Briefly, the directive imposes taxes on retailers that send waste to landfills. The objective of this legislation is to reduce municipal waste to 35% of 1995 levels by 2020. Therefore, there is a strong demand for materials such as plastics, mainly polyethylene terephthalate (PET) and high-density polyethylene (HDPE,) that are sent to be recycled rather than to landfill.

In 2007, Marks & Spencer's and Boots, two major UK retailers, began using recycled PET (rPET) packaging for their private label food and beverage lines. Marks & Spencer has taken the additional step of introducing a closed-loop recycling system in its in-store cafes. Additionally, Tesco and Sainsbury's, two of the UK's largest and most prominent supermarket chains, have implemented front-of-store collection points for consumers to deposit recyclable packaging.

Customized Packaging

The market for packaged food and drinks is reaching saturation in the UK, so manufacturers use packaging as a means of product differentiation and positioning. This involves using differently shaped bottles, cans and other packaging to create what is known as “premiumization.” Chart 3 shows that customized packaging is the number two trend prediction among packaging executives.

Furthermore, 69% of the packaging executives agreed that packaging customization is an integral part of product development with glass proving to be a key factor. Although it may lose market share to plastic, glass will maintain a strong foothold as a packaging material for premium products such as alcohol and specialty foods like sauces and preserves.

Shelf-ready Packaging

Shelf-ready packaging allows retailers and manufacturers to bring products from the warehouse to the shelf more efficiently. This is currently the top solution to on-shelf availability in supermarkets; it is opened by a perforated flap and the package itself is put on the shelf rather than items being stocked individually. Also, inventory damage is significantly reduced because there is no need to use a knife to open boxes of product.

Field Group plc, a paperboard packaging market leader in Europe, has developed a range of shelf-ready packaging that is not only easy to stock but is customized to enhance product presentation and is fully recyclable. As this company has discovered, shelf-ready packaging reduces the total amount of packaging needed as products are shipped in the packaging that will be put on the shelf rather than in an outer boxes or cartons. With pressure put on retailers to reduce landfilled waste, demand for this type of packaging will continue to grow.

Light weighting

Another piece of EU legislation, the Directive on Packaging and Packaging Waste, has put pressure on retailers to reduce packaging waste by weight. The result is an increase in demand for lightweight packaging across all segments, a trend confirmed by its number four ranking among packaging executives. The Waste Resources Action Program (WRAP), a non-profit organization created by the UK government, has sponsored a number of successful lightweight packaging development projects.

Demand in this category is manifest through the number of lightweight packages that can be found on retailers' shelves. Heinz is currently converting its entire range of canned goods to lightweight cans that will reduce metal food packaging waste by 1,540 tons annually. Grolsch and Coors have both adopted lightweight 330 milliliter glass bottles and major UK bottle manufacturers Allied Glass and Rockware have developed lightweight glass spirits bottles.

Lightweight packaging is not limited to glass, however. ASDA has introduced lightweight plastic salad bags and Duchy Originals, a high-end UK organic food producer, has adopted lightweight paperboard biscuit cartons.

Sustainable Materials

Sustainable packaging is a global mega-trend. While sustainable materials account for about 1% of the UK food and drink packaging market now, this segment will grow by 20% per year according to industry experts. Moreover, the UK has the highest demand for sustainable materials in Europe. Currently, this type of packaging consists of biodegradable, degradable and compostable materials. The one with the best prospects is polylactic acid (PLA), a biodegradable plastic. Major retailers Tesco, ASDA, Marks & Spencer's and Sainsbury's have already adopted biodegradable packaging on certain lines of private label food.

While consumer preference for sustainable packaging is strong, legislative pressure is also strengthening demand. Defra, the Department for the Environment, Food and Rural Affairs, has advised retailers that “preference should be given to fully degradable plastics with no fossil fuels in their make-up.” This has prompted packaging innovations such as Rockwell Solutions’ “Bio-Steam” pack, which is a biodegradable microwaveable steamer pouch made from PLA. U.S. firm Natureworks, a key worldwide supplier of PLA, has developed a monolayer PLA bottle, as has RPC Bebo, a UK rival.

In addition to other types of sustainable packaging, Tesco recently introduced oxydegradable packaging for its line of frozen vegetables, while Morrison’s, a competitor, is using compostable packaging for its organic range. This highlights a key facet of the sustainable packaging segment: There is intense competition as to which sustainable packaging material will become the industry standard.

RFID (Radio Frequency Identification)

RFID tags, currently growing by 60% globally, are expected to be the largest worldwide change in packaging in the next ten years according to market analysts. The UK is the second largest market for RFID, which will be worth \$1 billion by 2009, with prominent retailers such as Sainsbury’s and Marks & Spencer already implementing the technology. In total, 89% of European retailers planned to implement RFID in 2006.

RFID tags on individual items allow retailers to know where any individual product is located in the supply chain at any time. This technology can reduce food wastage because it will ensure that perishable items are put on the shelves before their sell-by date rather than being lost in the warehouse. In addition, RFID tags can store information about individual products such as where and when they were processed, thus making product recalls more efficient and precise.

Key developments in RFID are the recent invention of a RFID bottle cap by NEC Corporation and a polystyrene meat tray embedded with an RFID tag by UK packaging firm Linpac.

TTI (Time and Temperature Indicators)

There is an increasing trend to use indicators on packaging to inform the consumer whether foods such as fresh fruits and vegetables are ripe and whether other packaged foods are fresh. While UK food and drink manufacturers have been slow to adopt this technology, it has positive growth prospects because of its benefits to both the consumer and retailer.

TTIs change color through chemical reactions inside the package. Ripeness indicators show the best time to eat fresh produce and other indicators show when food is no longer edible. This can reduce food wastage because it is a fast and convenient way of giving the consumer or the shelf stocker real-time analysis of the food’s condition. For example, the Traceo freshness indicator is a TTI that sits on top of the package’s bar code. If the food is past its use-by date, it will be impossible to scan at the checkout.

Rexam, a market leader in beverage cans, developed a re-sealable beverage can with TTI ink that changes color with temperature and can show how much liquid is left in the can. This package not only incorporates TTI but also has a re-sealable feature that helps to reduce food wastage and is recyclable.

Portioned Packs

The portioned pack will experience significant growth as single person households become the most common household type in the UK by 2010. This indicates good prospects for easy to use, microwaveable, single portion packages. Portioned and single-serve packaging, such as shelf-stable plastic pouches, also help to reduce food wastage and increase shelf-life because only a single portion is used at a time.

Demand for special types of portioned packs, such as “100 calorie packs,” is also growing because of consumer health concerns. This packaging is convenient for “on-the-go” consumers that snack while outside of the home, but are also concerned about health.

Age-friendly Packaging

The rapidly ageing UK population means that packaging is becoming more “age-friendly” with innovations in easy-grip and easy open lids, easy-peel cans and even plastic tubs with peel-back lids replacing smaller cans. A particular innovation is the easy-peel can that features a thin but strong aluminum lid that does not require a can-opener. This can is not only age-friendly and recyclable, it is also lightweight.

Best Prospects

The best prospects for U.S. exporters exist in niche products like sustainable packaging, TTI, customized branded packaging, age-friendly packaging and RFID.

Sustainable Packaging

There is a strong market for biodegradable packaging in the organic foods segment. Already, the suppliers of major retailers Tesco, ASDA, Marks & Spencer’s and Sainsbury’s have begun to use it, particularly with fresh organic produce. The UK is an especially dynamic market, as it has the highest demand for PLA in Europe.

There is currently a supply shortage of sustainable materials in the UK, especially PLA, indicating good prospects for U.S. exporters. In fact, one of the market leaders in the UK PLA market is NatureWorks, a U.S. company. There are also gaps in the sustainable packaging market that could be filled by U.S. exporters for “bio-extras” such as bio-adhesives and bio-inks for packaging.

TTI

While UK retailers have been slow to adopt this technology, it is widespread in the U.S. and Europe. Use of TTIs in the UK will show significant growth as concerns about food wastage grow stronger. TTIs help to reduce food waste by showing consumers when food is fresh and when it is ready to be discarded.

Innovations in this segment represent good opportunities for U.S. exporters because the technology is developed in the U.S. but is still new in the UK.

Customized Packaging

As the UK packaged food and drink market becomes even more saturated, manufacturers differentiate products through innovative packaging design. Opportunities for specially shaped glass, plastic and metal containers exist for U.S. exporters, especially as manufacturing costs in the UK continue to increase. This has influenced the growing proportion of imported plastic and metal packaging.

Age-Friendly Packaging

As the UK population ages, the need for age-friendly packaging grows. In the U.S., there are already good examples of age friendly packaging, from plastic easy grip coffee cans to plastic easy-peel tuna cups as an alternative to metal cans. Innovations to make packaging more age-friendly have good prospects in the UK.

RFID

RFID tags are currently experiencing 60% growth globally. This is expected to be the most significant change in industry-standard packaging for the next ten years. All major retailers will use RFID, particularly in the food

and drink sector, because it benefits the supply chain by getting food onto the shelves sooner and making recalls more efficient.

As the EU has recently developed RFID guideline legislation to protect consumer privacy, U.S. companies have begun to enter the market. A good example is Impini, which has launched its Gen 2 RFID reader in Europe. Because the UK is the second largest market for RFID in the world, U.S. exporters of RFID tags or packaging with integrated RFID tags have strong prospects.

Key Suppliers

The UK market structure is quickly consolidating as packaging manufacture becomes only marginally profitable for smaller firms. The market is dominated by multinationals; the major players are listed below.

- *Amcor*: major manufacturer of metal, plastic and paper packaging
- *Ardagh Glass*: UK market leader in glass packaging
- *BASF*: market leader in biodegradable plastics
- *Crown Holdings*: specialist in metal customized branded packaging
- *NatureWorks*: U.S.-based market leader in PLA
- *Rexam*: major manufacturer of a wide range of food plastics, beverage cans and beverage plastics
- *RPC*: leading European manufacturer of rigid plastic containers
- *Stanelco*: UK market leader in biodegradable plastics
- *Tetra Pak*: world market leader in paper-based carton packaging

Prospective Buyers

Prospective UK buyers of U.S. packaging products are the food and drink suppliers to UK food retailers as well as the retailers themselves. In the UK, if a retailer requests certain types of packaging, PLA for example, suppliers are heavily influenced to provide them. Recently, the thirteen major UK food retailers signed up to the Courtauld Commitment in which they have pledged to “design out” packaging waste growth by 2008, deliver a reduction in packaging waste by 2010, and play a significant role in reducing food wastage. This means that retailers are influencing suppliers to use packaging technologies such as those mentioned in the Best Prospects section.

Because many of the niche packaging innovations, such as biodegradable packaging, are happening in the organic foods segment, many of the best prospects for U.S. packaging firms exist with UK organic food and drink suppliers.

Food and Drink Suppliers

- Premier Foods: UK’s leading food producer and supplier of 45 of the top UK food brands (www.premierfoods.co.uk)
- Associated British Foods: International food and ingredients manufacturer for private labels (www.abf.co.uk)
- AG Barr Plc: Major UK soft drinks manufacturer (www.agbarr.co.uk)
- Duchy Originals: Producer of premium organic products endorsed by the Prince of Wales (www.duchyoriginals.com)
- Cauldron Foods: Leading UK producer of chilled and frozen organic vegetarian foods (www.cauldronfoods.co.uk)

- Whole Earth Foods: UK producer of a range of organic drinks, snacks and sauces (www.wholeearthfoods.com)
- Belvoir Fruit Farms: UK producer of premium organic drinks and cordials (www.belvoirfruitfarms.co.uk)
- Aspoll: Manufacturer of organic juice and vinegar (www.aspoll.co.uk)

Retailers

- Tesco (www.tesco.com)
- ASDA (www.asda.co.uk)
- Sainsbury's (www.sainsburys.co.uk)
- Waitrose (www.waitrose.com)
- Marks & Spencer (www.marksandspencer.com)
- Morrison's (www.morrison.co.uk)
- Boots (www.boots.co.uk)
- Co-op (www.co-op.co.uk/foodretail)

Market Entry

In order to export packaging materials or products to the United Kingdom, they must meet certain regulatory criteria akin to FDA requirements in the United States. Known as the Essential Requirements, their major elements are as follows.

- Packaging weight and volume must be minimized subject to safety, hygiene and consumer acceptance of the package and its contents.
- Packaging must be recoverable or reusable. Recovery of packaging can be by any of the following methods: material recycling, energy recovery, composting or biodegradation.
- The material must have minimal levels of hazardous substances.
- Cadmium, mercury, lead and hexavalent chromium, or any other heavy metals, must be limited to 100 ppm (parts per million) by weight.
- Evidence that the packaging meets the Essential Requirements must be kept for four years from the date that the packaging goes to market.

Because of the complexities of packaging regulations, U.S. businesses are advised to partner with a UK distributor that is familiar with regulatory procedures and that can guide the exporter through these processes. (For more information on the detailed requirements contact the Department for Trade and Industry, www.dti.gov.uk.)

Market Issues & Obstacles

In the sustainable materials segment, there is intense competition over which sustainable material will become the industry standard. There are degradable, biodegradable, compostable and recyclable materials that cannot necessarily be recycled together nor disposed of in the same way. In addition, there is currently very little UK waste management infrastructure for these different types of packaging, meaning that they end up going to landfill together rather than being recycled or composted.

This presents a problem for retailers and has a knock-on effect on packaging manufacturers because, according to the European Landfill Directive, they are taxed for waste that goes to landfill even if it is sustainable. Under this EU legislation, municipal waste is to be reduced to 75% of 1995 levels by 2010, to 50% by 2013 and to 35% by 2020. There is currently no tax relief for sustainable packaging.

While this does not present a direct barrier to U.S. exporters, in the long run it could hinder those manufacturers of packaging types that do not come out on the “winning” side of the sustainable packaging material debate.

U.S. manufacturers of PLA may also face an entry barrier if their product is made with GM crops such as GM corn. There is a negative attitude toward GM crops in the UK, and some PLA packaging is even labeled as “non-GM.” Certain retailers, however, will accept products manufactured using a mix of GM and non-GM crops, known as a “GM offset.”

Trade Events

Total Processing and Packaging
May 15th – 18th 2007
Birmingham
www.totalexhibition.com

The Packaging Innovation Show
May 15th – 18th 2007
Birmingham
www.packaginginnovationshow.com

BrandPack
October 17th – 18th 2007
Esher
www.easyfairs.com

Resources & Key Contacts

TRADE ASSOCIATIONS

The Packaging Federation
www.packagingfedn.co.uk

The Institute of Packaging
www.pi2.org.uk

Packaging and Industrial Films Association (PIFA)
www.pifa.co.uk

Processing and Packaging Machinery Association (PPMA)
www.ppma.co.uk

Metal Packaging Manufacturers Association (MPMA)
www.mpma.org.uk

INDUSTRY NEWSLETTERS AND JOURNALS

Pack Wire

www.packwire.com

Food Production Daily

www.foodproductiondaily.com/news/packaging

The Grocer

www.thegrocer.co.uk

GOVERNMENT AND REGULATORY BODIES

Department for Environment, Food and Rural Affairs (Defra)

www.defra.gov.uk

Department for Trade and Industry (DTI)

www.dti.gov.uk

European Union Environmental Legislation

http://ec.europa.eu/environment/index_en.htm

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