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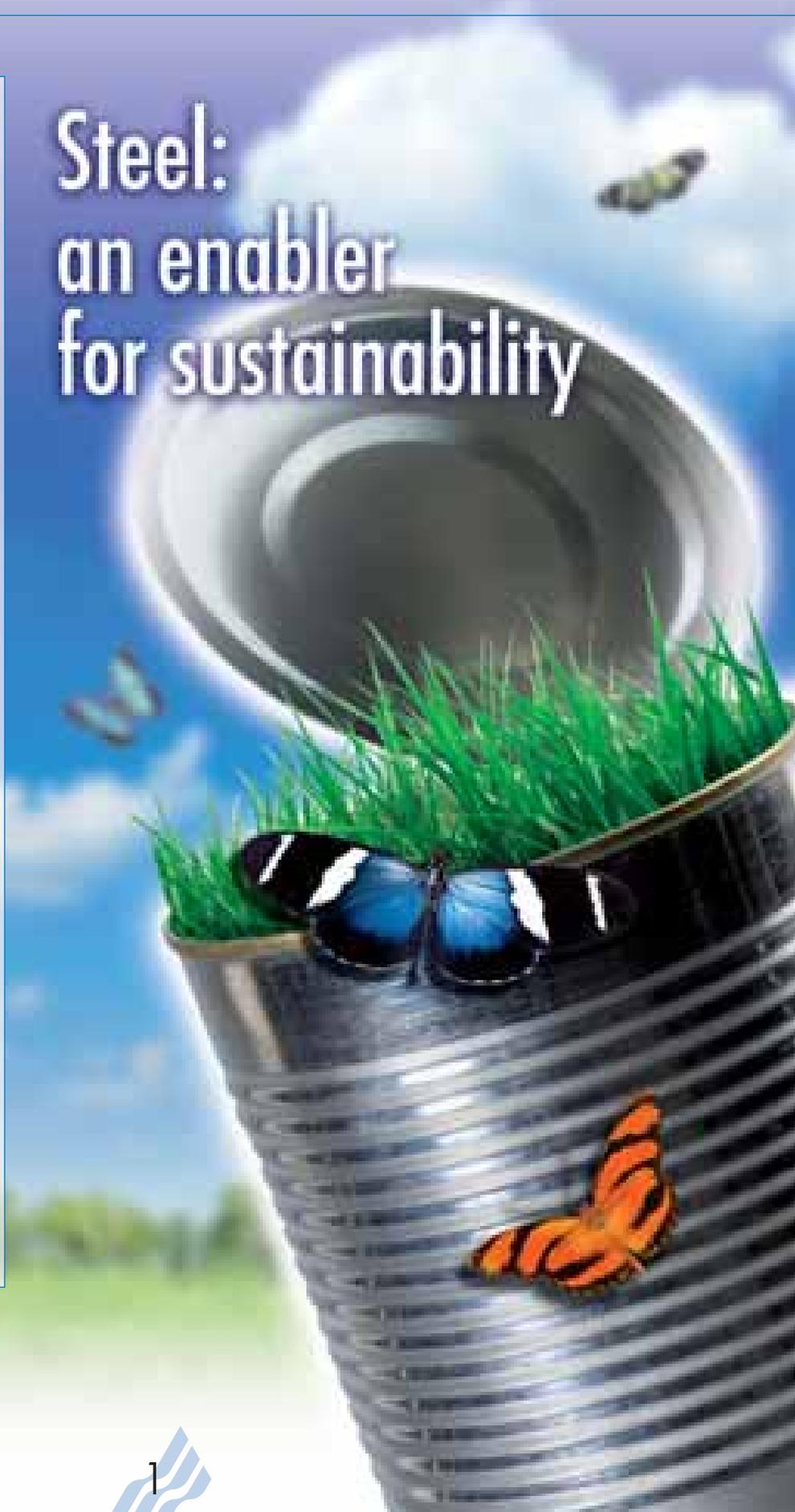
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Shaping

Shaped Cans - a proven impact on brand awareness and sales

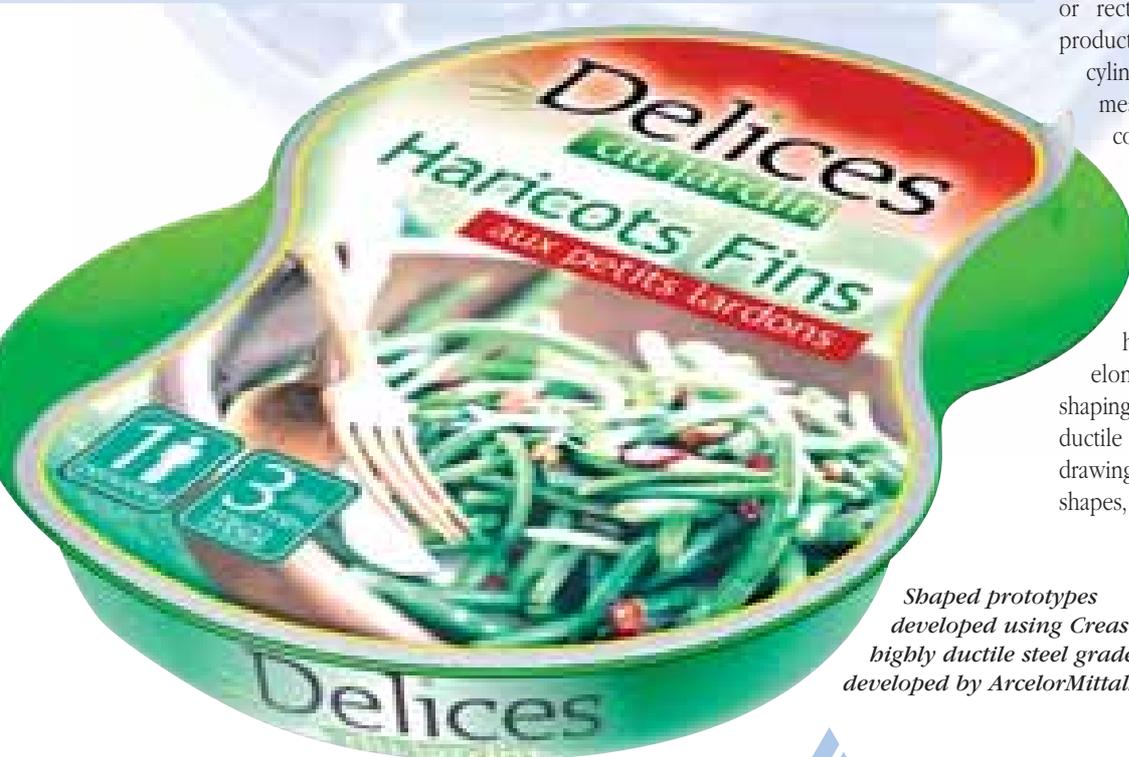
THE INCREASING IMPORTANCE OF PACKAGING FOR SHELF DIFFERENTIATION

In addition to protecting its contents, packaging's role in differentiating the brand on the retail shelves, improving brand awareness and boosting sales has become increasingly important. Indeed, research shows that today 70% of consumer purchasing decisions are made at the retail shelf. Striking packaging can make a product stand out from the competition.

More striking shapes

Metal cans have always been produced in a variety of shapes, though the dominant image in the mind of the average consumer of a can is a cylindrical shape. In particular, speciality cans for coffee, tea, chocolate powder, confectionary products etc. are often square or rectangular. However, cans for food products like meat are also often non-cylindrical, like the rectangular luncheon meat cans and the trapezium-shape corned-beef cans.

Significant improvements in shaping technology are allowing canmakers and suppliers of canmaking machinery to offer more striking shapes. Highly ductile tinplate with higher tensile strength and better elongation characteristics increase the shaping potential of steel packages. New very ductile steels enable the expansion and drawing of complex and traditionally difficult shapes, whilst the surface of the can remains



Shaped prototypes developed using Creasteel, a highly ductile steel grade developed by ArcelorMittal.

smooth and without wrinkles. The application of embossing to accentuate a certain part of a decoration by means of contour-positive and contour-negative tools (e.g. the brand logo) increases the possibilities of differentiating the product from the competition.

In the last few years there is a clear renaissance of shaped cans now that brand owner marketing experts are becoming well aware of the importance of packaging shapes as a tool to attract maximum consumer attention at the point of sale.

APEAL investigated the success of the shaped can and asked packaging designers and well-known brand owners about the potential and impact of shaped cans in the market place. In this article we highlight a few of these packaging solutions which have been successful in the long and medium term.



KARVAN CÉVITAM SHAPED SYRUP CAN: A SUCCESSFUL RE-LAUNCH BY HEINZ



The view of the brand owner: Heinz Battle for market share

Femke van Doorn, Brand Manager Drinks for Heinz explains: 'In Holland there is an important market for fruit syrups. Our Karvan Cévitam brand is traditionally a strong A-brand in this market and the clear market leader. The consumer considered Karvan Cévitam as the best quality syrup in the market, but this needed to be reconfirmed by our brand. However, our main competitors, the private label brands, have increasingly been taking away market share over the last few years.'

In 2005 we decided to re-launch and re-position our Karvan Cévitam brand by introducing a striking can shape on the shelf, and by improving the recipes to offer 70% fruit content. And all this had to be efficiently communicated. We presented this set of measures to our management as a necessary investment to maintain our lead in the market. We selected Impress as partner for the shaped syrup can project. They had to overcome some serious technical hiccups in the beginning like dents and leaks and the difficult distortion printing.'

Joris Veger, Junior Brand Manager Drinks for Heinz: 'We wanted to offer our customers a completely new product proposition, a new can filled with a considerably better product. Our claim is: '70% pure fruit'. It took a lot of reflection and testing on the part of our food technologists to obtain the optimum recipes. For some fruit types it is a real challenge to get a tasty drink with 70% fruit content. But we managed well and results of the consumer research on our improved, tastier products in attractively shaped cans was very positive.'

A phenomenal boost in sales

Joris Veger: 'The success was beyond our imagination. We can demonstrate that from the very beginning of the re-launch of our Karvan Cévitam range we saw an enormous boost in sales. The growth from 2006 to 2007 is phenomenal: it is double-digit and our market share in this category went up from 23% to approximately 27%. Growth was driven by the unique shape, the improved recipe, the new decoration and supporting communication'.

Femke van Doorn: 'This success clearly demonstrates what the introduction of a totally new formula, namely a new shaped can in combination with improved products and adapted communication, can do for a brand. We do not believe that the change of one isolated element, in this case the can, would have brought the same success. It is a matter of the right combination of the total marketing mix.'

The view of the can maker: Impress

Colin Storey, Technical Account Manager for Impress for the Heinz account:

'We knew we would have to apply blowmoulding techniques, which was a challenge. After first trying out a pilot machine successfully, we had a new machine built. We worked very closely together with our French machine supplier, to find out for example whether the can body could withstand the 40 bar pressure we needed to shape the can. Another major challenge for us was to master the effects of the metal distortion that occurs during the shaping process. This distortion is considerable, around the embossed logo and at the lower part of the can where the barcode is printed, for example.'

Common developments like this can only work when you cooperate very closely with your suppliers and in particular with your customer. We were very happy this all worked well for us during this project.'



Shaping

Shaped Cans - a proven impact on brand awareness and sales

KARVAN CÉVITAM SHAPED SYRUP CAN: A SUCCESSFUL RE-LAUNCH BY HEINZ

The view of the packaging designers



Two design agencies were involved in the new design of the Karvan Cévitam cans: BR-ND Mountain Design in The Hague and WAACS Design & Consultancy in Rotterdam. APEAL went to see them to find out more about the design aspects of the project.

BR-ND Mountain Design is a branding agency that advises brand owners about branding strategy and brand creation, focusing on the development of visual and verbal elements of brands. Rik Keessen: 'We work regularly on designs for metal packages, often for paint cans and beer cans. In the case of the Karvan Cévitam brand for Heinz, we got a briefing that reflected high ambitions for the brand. An important element in our design is the

fresh blue thirst-quenching font on the cans that makes a solid block on the shelf. The shape of the can causes so-called 'stand-out' effect and consumer convenience. Moreover the embossing of the logo provides more brand authority.'

WAACS Design & Consultancy in Rotterdam is a design agency that advises brand owners about branding strategy and specialises in new product concepts and 3D design in a wide sense. Packaging is an important part of their portfolio. Marcel Jansen, General Manager of the company WAACS, remarks that his design agency would prefer to do more packaging projects in metal. 'Metal is a packaging material with a unique user-experience that nowadays too often is exchanged for some generic and expressionless plastic packaging. The briefing of Heinz for the re-design of the Karvan Cévitam cans gave us the opportunity to demonstrate the design possibilities of metal packages. The package would have to communicate the product quality. We strongly believe in an integral product perception where product, packaging design and communication reinforce each other. Everything in the new Karvan Cévitam package radiates quality and fruitiness and that matches with the content: the fruit syrup with the highest fruit content in the market'.

Huge design potential in metal

How does metal packaging compare with other materials when it comes to freedom of design? Marcel Jansen: 'The design potential in metal is huge. The possibilities in practice however are



often limited by restrictions in filling lines or other external factors, like the price pressure on branded products by the price battle in the retail business etc. With some regret and incomprehension we observe that it is not very trendy now to design new metal packages. In contrast to this, we see an increasing use of metal in all kinds of consumer products. Metal has a quality 'look-and-feel' that no plastic can compete with. Besides, metal is the material that could fit cradle-to-cradle packaging concepts. We must start working with the unique user-experience of metal packaging.'

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HIGH MARKET ACCEPTANCE OF SHAPED JUMEX BEVERAGE CAN

The Jumex Group based in Mexico City has been a renowned producer of fruit and juice products since 1961 and absolute market leader. The Jumex Group was founded by Eugenio Lopez Rodea who also owns Colección Jumex, the largest contemporary art collection in Latin America. For decades Jumex has produced its own metal cans in the subsidiary Botemex, also located in Mexico City. They have their own coating and printing facilities for these cans in-house. Already years ago Jumex started to use shaped cans for its juices.

Launch of the Latabotella can

In August 2007 the Jumex Group introduced a new type of shaped can on the market. We asked José Luis Bush, Operations Manager of Botemex, about the background of the new shaped cans.



José Luis Bush: 'For our top quality nectar juices we wanted to have a very distinctive package. We designed therefore ourselves, with the CAD-CAM facilities we have, a new shaped can, made from tinplate. As we found amongst our consumers that re-closability is an important feature for fruit juice packages, we designed on top of the can a tinplate closure that fits to the can finish and that can be re-closed once opened.'

José Luis Bush: 'The acceptance in the market of our products in the new shaped cans is very good in Mexico where it has a high distribution rate. We will launch the new product range in the Latabotella packages in Central America and the United States.'

Our new can concept and its success in the market prove how packaging affects the consumer's choice. We are convinced that there is a lot more potential in shaped steel cans.'



NESTLÉ BELIEVES IN CAN SHAPING

Nestlé is a firm believer in the potential of shaping to differentiate the brand has certainly exploited the use of shaped containers over recent years. Recent examples include the Moça can which was introduced in Brazil and the Nescau shaped can, launched to celebrate the 75th anniversary of the brand.

Juerg Luck, Assistant Vice President Packaging at Nestlé until end of 2007, said recently: 'Because of its robustness, efficiency and safety, metal packaging is often our preferred packaging choice. However, more shaping technology should be made available for cans. We ourselves have introduced some new can shapes recently, some in Brazil and one in Russia. I find it logical to use well-designed cans for the high added-value products that we and other brand owners put onto the market. Shape is important for shelf impact.'



“

The most famous shaped package is no doubt the Coca-Cola bottle. Although the product, for price and other reasons, has over the years been offered in many various shapes (and materials) what makes the Coca-Cola brand unique is the shaped bottle. Why? Because a shaped package, be it steel, glass, aluminum or plastic, has the most important feature of package design...a unique shape! As progress in technology makes possible today what was not possible yesterday shaped steel containers have, as I see it, a great future in the years to come.

Lars Wallentin

”



Shaping

Shaped Cans - a proven impact on brand awareness and sales

WERA TOOLS: A REMARKABLE AND INDIVIDUAL FACE THROUGH SHAPE



Wera Tools is the global hand tool specialist. The company produces excellent quality tools with the highest ergonomics and the longest service life which make their products stand out. Moreover the company is highly innovative; it is one of the five most innovative medium-sized companies in Germany. In 2007 the company received a prestigious award for its performance. In order to offer complete solutions to consumers the company recently developed a range of lubricants and protectants that help consumers with difficult jobs when good tools are not sufficient.

Marketing Director Detlef Seyfarth of Wera Tools explains:

'Even the best tools are useless when it comes to a corroded or unmovable screw. In addition to the loss of valuable time, there is the risk of broken screwdriver blades, torn-off screw heads, damaged work pieces and even injuries. We determined there was a real need in the market for lubricants that could ease these problems. In response to that market demand we developed our Kraftform Fluid product line, which is specifically formulated to release screws that are too tight and protect screw joints from corrosion and extreme temperatures'.

As Wera realises that design is an increasingly important criterion in the future to differentiate from competition, Wera wanted to give an individual and remarkable face to its new products. The famous Kraftform® handle for its tools inspired the designers and that led to a typical Wera design and a special Wera shape for the aerosol cans that are used for the new Kraftform® Fluid product line.



'It was essential that the Kraftform Fluid range would have an individual and remarkable face to entice consumers and offer a level of convenience', continues Detlef Seyfarth.

'Crown was the partner with whom we collaborated to achieve our goals, thanks to the company's approach to innovation, design and technical expertise'.

Lee Bradley, Business Development Manager of Crown Aerosols Europe Group comments:

'We manufacture this high-impact package using our proprietary blowforming process which maximises can integrity and product protection. The process begins by placing preforms into precision-engineered moulds. High-pressure air causes the steel to expand and take the shape of the mould. No tooling or liquid is used inside the container, preventing damage to internal coatings'.

Stainless Steel / INOX
Protector de acero inoxidable

SHAPING TECHNOLOGIES: AN OVERVIEW

Mechanical shaping

Different shaping technologies are available for the shaping of steel cans. **Mechanical shaping** is the oldest and most widely used shaping technology for steel packs. A tool that goes inside the can body opens and it expands and shapes the can body according to the tool geometry.

Didier Torrelli of the company Sabatier in Vitrolles (France), long-time pioneer of mechanical shaping: 'We use segments in our can tools and therefore our customer, the can maker, and his customer, the can filler, must accept the visible segment marks after the expansion of the body. On the other hand there are advantages compared with other techniques, such as lower investment costs and higher production speeds'.

Blowmoulding

Blowmoulding is an alternative shaping technology. The so-called pre-form is placed in precision-engineered tools to create the desired shape. Pressurized air presses and expands the pre-form into the shape of the tool. During this blowmoulding process, no tooling is required inside the can. In the case that pressurized air is used, it is only air that touches the inner surface of the can, so that the integrity of the internal coatings of the can is fully kept intact.

Hydroforming

Hydroforming is an alternative process which uses water instead of air to force the steel tube into the required shape. To produce a shaped container, a standard 3-piece pack is placed into a mould into which pressurized water is injected to push the steel into the walls of the mould.

The shapes that can be achieved differ widely, convex or concave, symmetrical or asymmetrical.



CONCLUSION

In the last few years, we have seen a boost in shaped cans on the market, as brand owner marketing experts become increasingly aware of the importance of packaging shapes as a tool to attract maximum consumer attention at the point of sale. This growth in shaped cans has been facilitated by significant improvements in shaping technology which allow canmakers to offer more striking shapes, together with the development of highly ductile tinplate, which opens up new possibilities for shaping. As testified by the packaging designers and brand owners in this article, shaped cans have a proven impact on brand awareness and sales, therefore we will certainly see many more successful shaped steel solutions on the market in the future.





Recycling

Two thirds of Europe's steel packaging gets recycled

A significant contribution to reducing energy consumption and carbon footprint

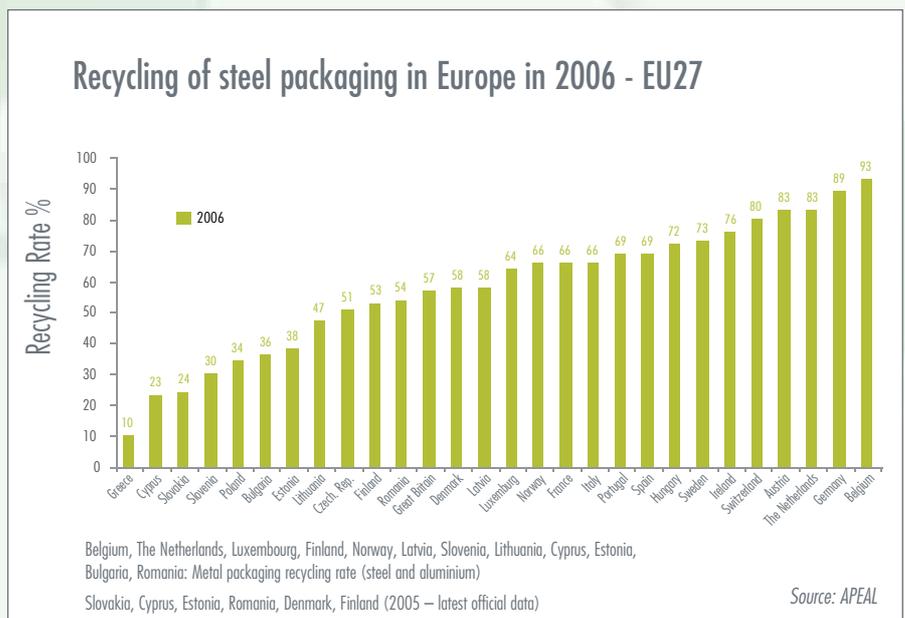
Recycling is second nature for steel. The latest figures from APEAL show that 66% of steel packaging is recycled in Europe with strong growth recorded across the continent. That amounts to over 2.5 million tonnes of food and drinks cans and other steel containers being recycled in 2006. This prevented 4.7 million tonnes of carbon dioxide from being released into the environment - the equivalent to taking 2 million cars off the road.

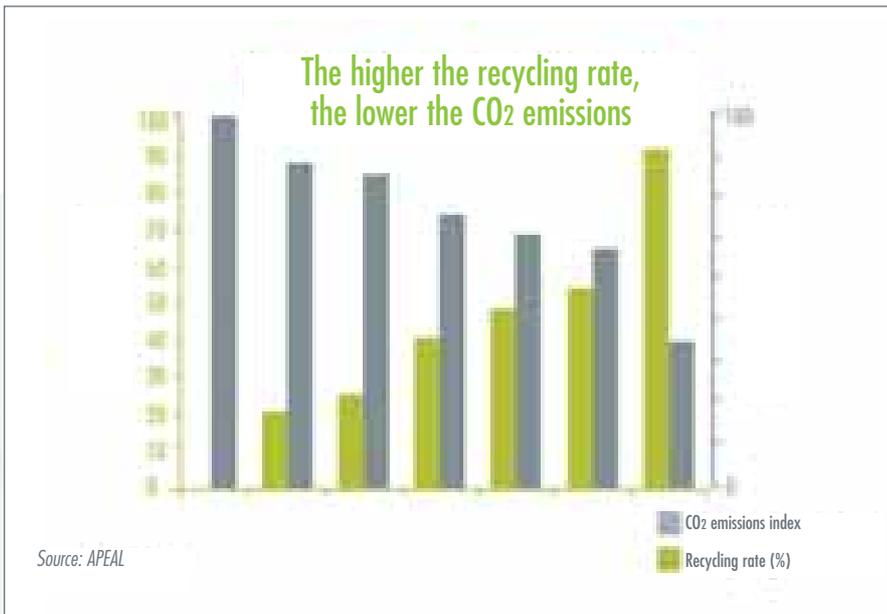


In 2006, recycling continued to grow throughout Europe rising by 5% from the 2005 total. In 2006 the top performers were Belgium and Germany with 93% and 89% of steel packaging recycled respectively. Switzerland, Austria and the Netherlands follow closely behind, recycling over 80% of their steel containers.

The trend towards increased recycling for steel packaging is confirmed in Central and Eastern Europe: Latvia, Poland and the Czech Republic have all boosted their recycling performance by between 34% and 50%.

The UK and Denmark improved upon their recycled tonnage of the previous year by between 10% and 15%. Meanwhile, Spain and Portugal recorded encouraging growth of 5% and 10% respectively.





Steel - made to be recycled

There are a number of reasons for steel's excellent recycling performance. Firstly, steel can be easily collected through a variety of systems. Secondly, its magnetic properties make steel packaging the easiest type of packaging to sort and recover for recycling. In addition, there has been a rising demand for steel scrap with abundant recycling outlets to cope with this demand. "Steel offers what a number of other materials cannot in terms of reusability. The overall increase in growth rates of steel packaging recycling across Europe is excellent news for all. As resources become increasingly stretched the need to recycle will become ever more important in the future", commented Mr. John Peters, President of APEAL.

Increasing steel packaging recycling - lowering carbon footprints

Steel is unique as it loses none of its strength and inherent properties, no matter how many times it is recycled. Hence, reusing steel packaging and recycling it into new steel is a never ending process.

This unlimited lifespan and the potential for unlimited recyclability gives steel a huge advantage in terms of sustainability. It means that natural resources are saved for future generations and that energy use and CO2 emissions are significantly reduced.

In 2006 alone, recycling of steel packaging in Europe prevented as much as 4.7 million tonnes of CO2 emissions from being released into the environment - approximately the equivalent to 2 million cars, driving 15,000 km per year.

"Given the concern about climate change, the smarter use of resources should be at the forefront of all our minds. Indeed, using scrap as part of the steelmaking process reduces the amount of raw materials needed and requires much less energy. This will further drive growth in recycling rates across Europe", added Mr. John Peters.

Besides steel packaging's excellent recycling performance, its unmatched attributes of safety, protection and conservation, make it a top performer in terms of sustainability.

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Innovation

Easylift™ Easy-open ends: a new standard for convenience

APEAL contacted Ana Ces Agraso, Marketing Director of Crown's Food Europe business unit, to find out about Crown's latest development in easy open ends for steel cans, the Easylift™.



Next engineering challenge

'Historically the gap between the end panel and the ring pull has been very small making it difficult for consumers and especially the less abled ones to put their finger under the ringpull. This is the first impression that a consumer has about how easy a product is to get into. Our challenge was to therefore improve this access without causing major change or disruption to fillers.'

Easylift™ ends achieve this goal by giving consumers a sufficiently generous gap below the ring for them to put their finger under, while still being compatible with fillers' filling and can retorting processes.'

How was the final design developed?

Crown researched several ideas before arriving at the final design. The Easylift™ end now allows consumers to access the ring more easily. The research shows that consumers are now more inclined to push the ring fully to the end thus actually opening the end in the way they should. The ease of access that the Easylift™ design brings combined with the smooth opening characteristics of Eole make for a much improved consumer experience.

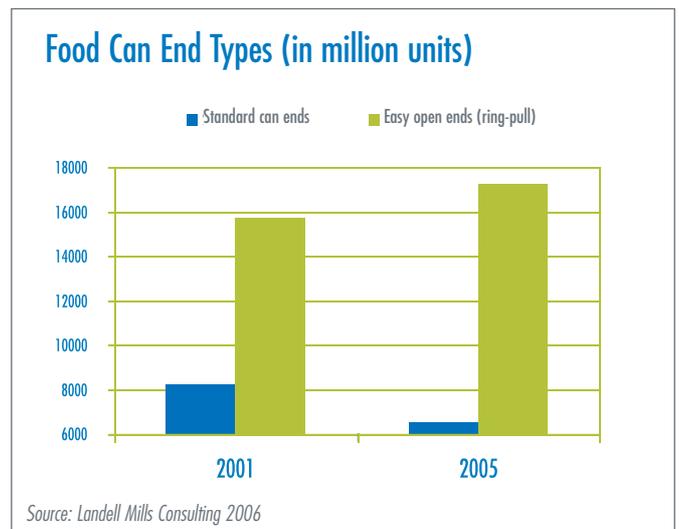
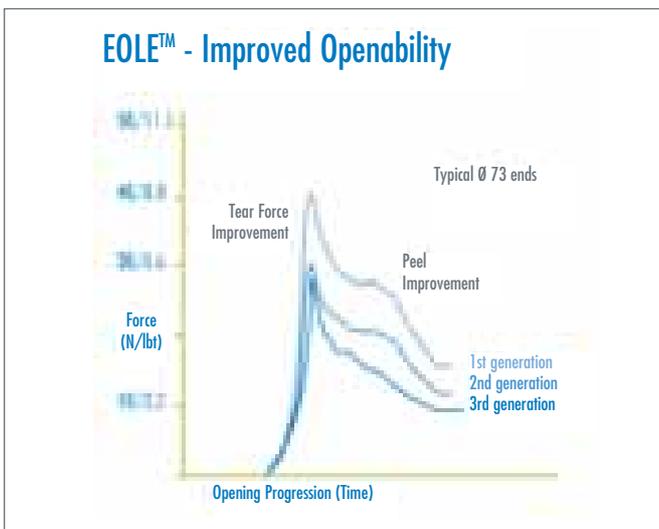
Easylift™ easy-open ends, the latest Crown development

Ana Ces Agraso, Marketing Director of Crown's Food Europe business unit talks about Crown's latest development, the Easylift™ easy open end. 'Over the years we have steadily improved the opening characteristics of our market-leading Eole™ technology. Consumer research has taught us that as a whole, easy-open ends are acceptable. But if you dig a bit deeper you realise that one area still remained largely unresolved – getting your finger easily under the ring pull in order to initiate opening of the can.'



THE EVOLUTION OF EASY-OPEN ENDS

- Steel easy-open ends (EOE) for food cans were developed to simplify the opening process and do away with the need for consumers to use tools to open a food can.
- In 1988 Crown made a decisive breakthrough by launching its EOLE™ steel EOE. This end was reliable for fillers and brand owners during can filling and processing and for the consumer it offered consistent ease of opening.
- Since then, the opening characteristics of steel EOE have continuously been improved, thanks to the development of more precise manufacturing equipment. The score depth, the most critical feature for real easy opening, could be kept constant. Combined with harder tinplate, this improved production process also allowed for considerable down gauging of easy-open ends. All these factors have led to a smaller price gap between an easy-open and standard end, which in turn has given another boost to their use. Cans with easy-open ends are becoming the standard.



No complications for the canner

The point of departure for the development of Easylift™ easy-open ends was to avoid complications for the filler and therefore costly downtime. Although the improved access has been created by a combination of lid panel and ring-pull re-design, Easylift™ has been designed to be compatible with existing canning line equipment. Only one-off adjustments are necessary thus minimising any production downtime.

Greater consumer convenience

The first customer to use Easylift™ easy-open ends is the Purina Petcare Division of Nestlé in its pet food plant in IJmuiden (The Netherlands). Following this successful trial, Nestlé Purina intends to roll out the 73 diameter format across all its brands in Europe. Currently Crown are producing Easylift™ ends in France, but other plants are due to come on stream by mid 2008. Crown have also already started developing other diameters for the human food market sector.

Tom Buday, Marketing Director of Nestlé Purina Petcare Europe comments: 'Easylift™ easy-open ends offer a simple and important benefit: greater consumer convenience. Crown's innovation features a generous gap between the can lid and tab for easier access to the product inside. With these new ends, we can better meet increasing consumer demands for more convenient packaging.'

Crown foresees that Easylift™ ends will become common in many canned food markets like pet food, fish, fruit, dairy

products, ready meals etc. Easylift™ easy-open ends are setting a new standard for the industry.

Closing the loop

Independent research conducted has confirmed that nearly 70% of consumers prefer Easylift™ ends to other easy-open ends in the market. This long awaited improvement now makes it easier and safer for all consumers. Easylift™ ends have really 'closed the loop' in easy-open comfort.



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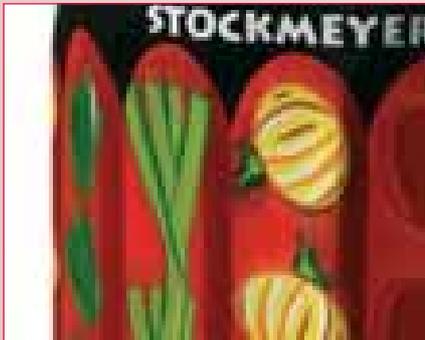
Steel Packaging Gallery



Inspiring Steel Packaging Solutions



www.steelforpackaging.org



STOCKMEYER "FLUTED" CAN FOR PREMIUM SOUP LAUNCH



The German soup manufacturer Stockmeyer (heristo AG) has introduced a new range of premium soups for the U.K. market in steel fluted cans manufactured by CROWN Food Europe. This new 400g decorated can size creates an original "retro" look, providing an alternative to the typical metal soup containers found on retail shelves today. The food cans, which are equipped with EOLE III™ easy-open ends, also feature attractive lithographic decoration cleverly using the design to optimize the vertical fluting for a distinctive effect.



BOSCH POWER TOOL



This Robert Bosch power tool is the first garden power tool to be launched in a metal container. The launch of the Bosch garden power tool in a vibrant and premium packaging designed by Hussler & Hussler & CROWN Speciality Packaging reinforces Bosch's market leadership in the power-tool industry and positions the company as an industry innovator.



INNOVATIVE 330 ML CAN FOR COLOGNE BEER BRAND



The privately-owned Gaffel brewery is changing the focus in the beverage retail sector with a unique design launched in December 2007. Golden shimmering Kölsch beer with a refreshing head: the appearance of the new customised Gaffel can is almost identical to the slim glass used to serve the traditional beer brewed in Cologne. The innovative 330 ml steel can for Gaffel Kölsch is a "Sleek Can", a slim can format which is produced by the beverage can maker Ball Packaging Europe.

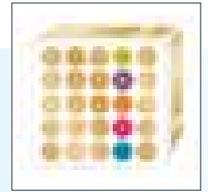




CALÈCHE



The 2007 festive season saw the launch of a special edition decorative packaging series for Lu, one of Danone's biscuit brands, for their Calèche range. The packaging was designed by French-based Hotshop and produced by Crown Speciality Packaging. There are 5 different designs decorated in a festive theme. Cédric Liéven, head of the group, hoped that the new designs would boost sales in the order of 30,000 to 50,000 units per retail outlet.



TUNDRA FIRE EXTINGUISHING SPRAY



The First Alert 'Tundra' Fire Extinguishing spray package by BKR brands was developed for consumers intimidated by traditional fire extinguishers. This product utilizes the more familiar easy to use spray package. There are no pins to unlock or pull, and no levers to squeeze. The bag on valve system is designed to expel the contents of the can, but the propellant stays inside so as not to agitate the fire. The unique, patent-pending designed Tundra Fire extinguishing Spray manufactured by DS Containers is as easy to use as any other familiar aerosol product and covers a wider surface area – up to three times greater than a typical actuator. This packaging makes it possible to put a lifesaving product into every home.



'RINGLESS' PAINT CAN



2.5 litre and 6 litre conical pail without extra ring. Top profile is folded to simulate a ring, and give comparable performance & stability properties as a traditional paint can with improved drainage properties.

Benefits include:

- No tension clamping ring necessary.
- Total drainage due to flat internal surface.
- External surface flat without large body beads for stability.
- Very high transport stability.
- Brilliant printing area which can be labelled fully or partly.
- Stackable and nestable – empty and when filled.
- Perfect for DIY & professionals as it enables the user to work directly from the can.

Inspiring Steel Packaging Solutions

MORE INFO

Would you like to know more about all these steel packaging solutions?

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www.steelforpackaging.org



Sustainability

New study reveals: Objectives of mandatory deposits in Germany not reached

APEAL, Ball Packaging Europe, a major metal drinks packaging manufacturer in Europe and SKB (Stichting Kringloop Blik), the Dutch Association promoting metal packaging recycling, jointly commissioned a study with Prognos, a well-known German/Swiss consultant in strategic & environmental consultancy. The study assessed the environmental and macro-economic impact of the mandatory deposit on one-way drinks packaging in Germany.

The results of the study show:

- The prime objective of a stabilisation or (even) an increase of the overall market share of refillable drinks packaging has not been achieved.
- The mandatory deposit in Germany led to a reduction of purchasing power for the end consumer.
- The political objective of curbing litter has not been reached through the deposit.

The study ranks the deposit scheme as one of the most expensive measures for CO₂ reduction.

Another study commissioned by the AGVU to Roland Berger (June 2007) on the impact of the German deposit draws the following conclusions:

Compulsory deposits...

1. cost around three times as much per container as household based collection. Marginal cost of 22 cents/container for additional quantities.
2. diminishes the efficiency of household-based collection. Compulsory deposits mean that two collection systems must always operate in parallel.
3. alone are not the right tool with which to meet the requirements of the Packaging Ordinance. In Germany, disposable drinks packaging makes only a marginal contribution to the national recycling rate.
4. are not suitable as a tool to increase the use of reusable packaging.
5. do reduce litter caused by drinks packaging to some extent, but do not really help keep public spaces properly clean.

Regulatory background

Since 1 January 2003, a mandatory deposit on one-way drinks packaging has been implemented in Germany with amendments brought in 2005. Since 28 May 2005, a uniform deposit of 0,25 Euro per unit has been compulsory for beer, water and soft drinks sold in one-way glass, plastic or metal packaging (from 10cl to 3 litres). This enactment is based upon the implementation of the German Packaging Ordinance of 1991 which foresees mandatory (punitive) deposits on one-way drinks containers if the market share of refillable/re-usable containers was to sink below 72%.

The present study examines the question whether or not the main political objectives sought have been reached, by looking at the impact of mandatory deposits on:

- the market share of refillable drinks packaging (the objective was a stabilisation or increase);
- street litter and litter in public areas (the objective was a reduction of litter);
- the environmental impact related to drinks packaging.



Market effects

a) Significant reduction of the overall market share of refillable drinks packaging

In 2002, a year prior to the introduction of the deposit on one-way drinks packaging, refillable packaging had a market share of 58% of the German drinks packaging market. The implementation of the deposit system in 2003 led to a temporary rise of the refillable market to 65%, followed by a consistent decrease [-12% in only 3 years] to reach 53% in 2006. Only in the beer segment was there an increase of the refillable market but which could not compensate the -23% drop in the waters and -7% drop in soft drinks markets.

Hence, the prime objective of a stabilisation or (even) an increase of the overall market share of refillable drinks packaging has not been achieved.

b) Strong changes in the packaging mix

Introduction of compulsory deposits in 2003 triggered disruptions – some of them very pronounced – throughout the packaging market. Between 2002 and 2006, a surge of one-way plastic packaging (+12%) and a significant loss of market share for refillable glass (-10%) and one-way beverage cans (-7%) were observed, leading almost to the disappearance of metal cans in the domestic drinks market.

As a consequence, the mechanical engineering sector (producers of reverse vending equipment) benefited most from the regulatory measure whilst in the packaging market, beverage can and glass bottle producers were negatively affected.

Sustainability

New study reveals: Objectives of mandatory deposits in Germany not reached



Economic effects

The introduction of mandatory deposits resulted in direct monetary effects amounting to 640 million Euros per year due to setting-up and operating the new return system (amortisation of investment in reverse vending machines, setting up clearing centres, staff expenditures). To those costs, an estimated 340 million Euros of upstream & downstream effects has to be added. All in all, the total economic effects amount to about 1 billion Euros. Since those costs will be finally passed on to the end consumer, the implementation of the mandatory deposit in Germany led to a reduction of purchasing power for the end consumer.

Impact on street litter and litter in public areas

Contrary to popular belief that the introduction of deposits on one-way drinks cans would lead to a reduction of street litter cost wise & quantity wise, the study comes to the conclusion that this is not the case. To illustrate that, the waste quantities alongside motorways, highways & motorway stations in the Land of Nordrhein-Westphalen even increased between 2003 and 2005 and the associated cleaning costs are quite stable. In spite of the mandatory deposit, the city of Frankfurt has, in comparison with other European cities, the highest amount of beverage packaging in litter. Hence, the political objective of curbing litter has not been reached through the deposit system.

Reduction in terms of Environmental impacts

Since refillable drinks packaging have been assessed with a lower environmental impact compared to one-way drinks packaging (UBA studies), a logical consequence of the introduction of deposits would be a substantial improvement in

terms of environmental impact at national level due to the potential rise of the market share of refillable drinks packaging.

The significance of CO₂ emissions related to beverage packaging is rather low (0.4% of the total CO₂ emissions for Germany). In terms of impact on CO₂ emissions, the effect of the deposit is a minute 0.05% reduction of the national CO₂ balance between 2002 & 2006, which represents 0.5 million tonnes of CO₂. In terms of cost-efficiency, this measure represents a specific abatement cost of 1300 Euros per tonne. This ranks the deposit scheme as one of the most expensive measures for CO₂ reduction (average abatement cost recommended by UBA being 70 Euros/tonne).

Conclusion

The Germany case demonstrates the uselessness of the introduction of the deposit system : huge costs for retail, reduction of consumer purchasing power, as well as a disproportionate burden for the national economy, with no, or nearly no environmental improvement.



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Sustainability

Eco-trip to ArcelorMittal in Ghent: Opening dialogue between industry and policymakers

On Friday 30th November 2007, APEAL invited assistants and advisors of European Parliamentarians involved in environmental issues for an eco-trip to the ArcelorMittal steel manufacturing plant in Ghent. The visit offered a firsthand experience of the manufacturing and recycling process of steel.

Facing important legal challenges in a mostly perception-steered debate, APEAL found it more than useful to invite some key contacts to experience the material to material recycling process in practice and to discuss the sustainability of steel as a packaging material with environmental and legal experts from all over Europe.

With almost 30 assistants/advisors and Mrs. Hatz-Hull from the European Commission attending, this event was a big success. It was a unique opportunity for a dialogue between the political world and industry representatives. An opportunity everybody seems to have fully appreciated as debates concerning recycling and sustainability ran throughout the whole day.

After a welcoming word by Joris Nachtergaele (Public Affairs Manager, APEAL) and presentations by Jan Cornelis (Communication Manager, ArcelorMittal Ghent) and Ronald Mortier (Head Environment, ArcelorMittal Ghent), APEAL's Managing Director, Philippe Wolper took the floor to talk about "steel for packaging as an enabler for sustainability". Philippe highlighted in a clear and simple way the sustainable and environmental credentials of steel for packaging, making the - often difficult and forgotten - link between theory and reality.

You may download the presentation 'Steel for packaging : an enabler for sustainability' from www.apeal.org





Sustainability

Steel: an enabler for sustainability

Sustainability has risen swiftly up the world agenda in recent years. Consumers, governments and industry recognise that we must look to reduce our global footprint in every area of our lives. As the world demands solutions for a sustainable future, the sustainability performance of steel for packaging can provide an answer. Steel packaging offers brand owners, retailers and consumers a strong performing product they can trust, while also enabling them to demonstrate their active role in building a sustainable society.



1. The steel industry has a long standing tradition in sustainability, having been committed for many years to reducing its use of natural resources and its impact on the environment with significant results. The industry has also made significant efforts in reducing CO₂ emissions, limiting its use of fossil fuels, boosting recycling levels and promoting the conservation and eco-efficiency of steel packaging.

2. Moreover, steel is the world's most recycled material and this is made possible in a particularly easy and cost-effective manner. On Page 8/9 of the newsletter we bring you the latest recycling figures from APEAL, showing that 66% of steel packaging is recycled in Europe with strong growth recorded across the continent.

3. Finally, in a context of constant search for increased environmental and economic efficiency, canned food has demonstrated that it stands out as an optimal packaging solution, being an energy efficient means of food delivery, while upholding safety, conservation and nutritional value.

In this article, we bring you extracts from the 'Sustainability Pack', part of a sequenced information programme 'Steel for Packaging: Trusted Experience, Value for the Future' developed by the European steel for packaging industry. We will see why, thanks to the efforts of the industry and the intrinsic qualities of the material, steel's sustainability performance ticks all of the boxes for an optimal packaging solution...

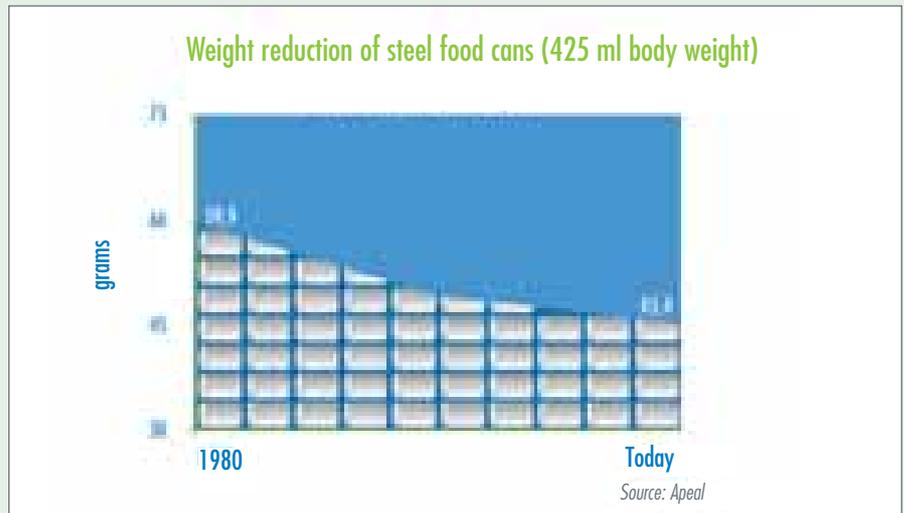
1. THE STEEL INDUSTRY: A LONG STANDING TRADITION IN SUSTAINABILITY

Throughout the years, the steel industry has been concerned about its use of natural resources and its impact on the environment. The industry has made significant efforts in reducing CO2 emissions and limiting its use of fossil fuels, boosting recycling levels and promoting the eco-efficiency of steel packaging. Its sustained recycling continues to reduce the consumption of raw materials and energy.

The industry has achieved a dramatic reduction in CO2 emissions per tonne of crude steel output that are now 50% lower than 40 years ago. It is investing considerable effort to be able to further reduce its environmental footprint.

At the same time, the industry has been continuously optimizing the end product - steel packaging - allowing it to become ever lighter. The weight of steel food cans has been reduced by 25% over the past 30 years thanks to the development of new steel grades. This means steel cans use less raw material and are lighter to transport - all of which have a positive impact on the environment.

The steel industry's commitment to research and innovation means that steel packaging enjoys a sustainability performance that meets the needs of brand owners, retailers and consumers alike.



Steel production, an energy efficient process

The steel industry has focused on reducing its use of energy and resources for many years, and with significant results.

In the past 50 years the fossil fuels needed to produce one tonne of steel have been reduced by 40%. To optimise use of energy, steel producers use the most sophisticated energy and gas management systems in their processes.

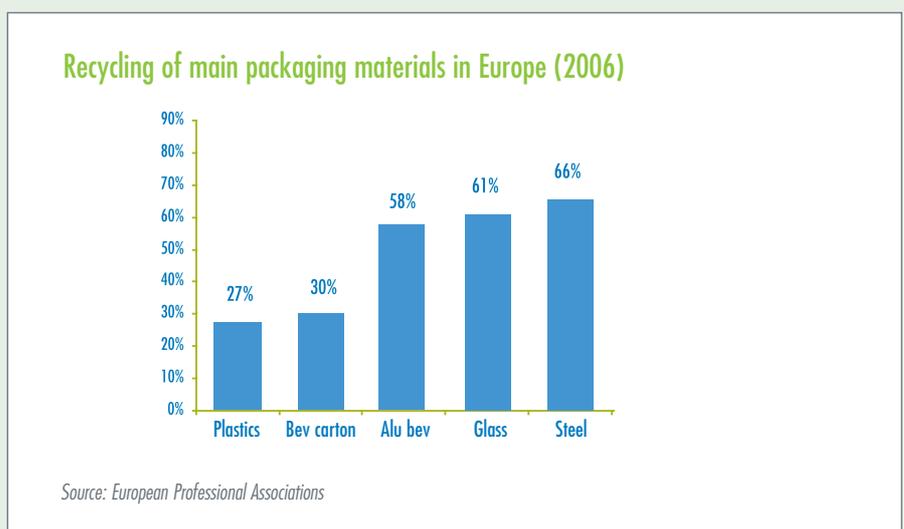
In today's steel production, gaseous by-products are used as fuel, replacing primary energy; and a high percentage of thermal energy in cooling water, exhausted gases and residual products are recovered for use elsewhere.



2. STEEL, THE MOST RECYCLED MATERIAL

Steel is the world's most recycled material for food packaging. In Europe, some 66% of steel packaging is recycled and this figure has doubled over the past 10 years (see Page 8/9 for detailed article on the latest European recycling figures).

According to data gathered by the International Iron and Steel Institute (IISI), the overall packaging recycling rate was 67% in 2006, an increase from 64.9% in 2005. In 2006, 6.6 million tonnes of steel cans were recycled, across the 35 countries represented in the data collection. This prevented approximately 11.9 million tonnes of carbon dioxide from being released into the environment.



Steel: an enabler for sustainability

3. CANNED FOOD: A TOP PERFORMER IN ECO-EFFICIENCY



“
In today's open market where the supply of foods is secured throughout the year, amongst the systems studied, canned food is a top performer in terms of eco-efficiency
 ”

Toon Ansems, Project Leader,
 TNO - Environment,
 Energy & Process Innovation

Eco-efficiency describes the combined environmental and economic performance of a product. It enables more efficient production processes and the creation of better products and services while reducing resource use, waste and pollution along the entire value chain.

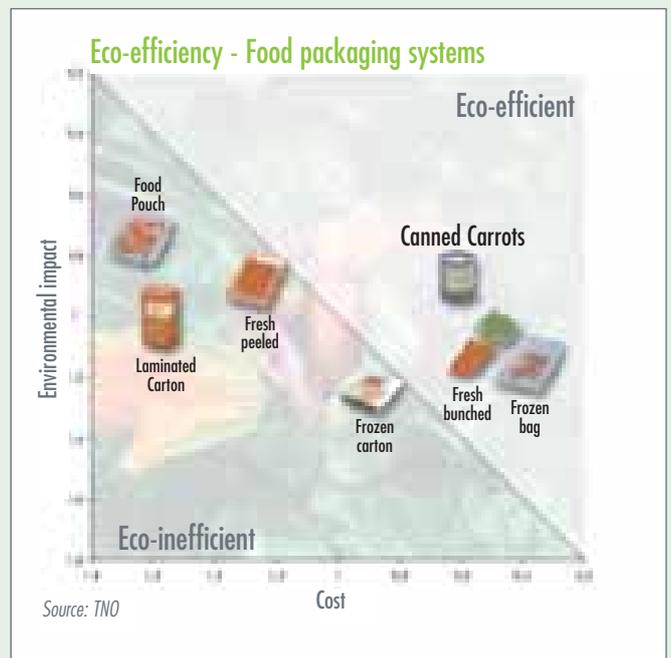
Two major studies illustrate the eco-efficiency of canned food. One analyses the environmental impact and economic costs of preparing a meal with different packaging systems. The other illustrates the energy efficiency of supplying food in cans from harvest to the end consumer.

Together, they demonstrate that canned food stands out as one of the best performing packaging solutions offering consumers a good product that they can trust, while also offering society the optimum solution in terms of sustainability.

Eco-Efficiency of canned foods: best performance combining environmental profile & cost benefits

A study undertaken in 2005 by LCA and food research institute TNO looked at the sustainability of the packaging system from a holistic perspective. It measured the global impact of both the packaging and the product at each stage of their lifecycle. The Dutch market was taken as the basis for the study. Carrots were chosen as the example as they are available in a wide range of processing and packaging combinations.

Seven food packaging/processing combinations were compared amongst which fresh, bunched carrots, frozen and canned. Each step of the product lifecycle was considered separately (from farm to fork, and including recycling).





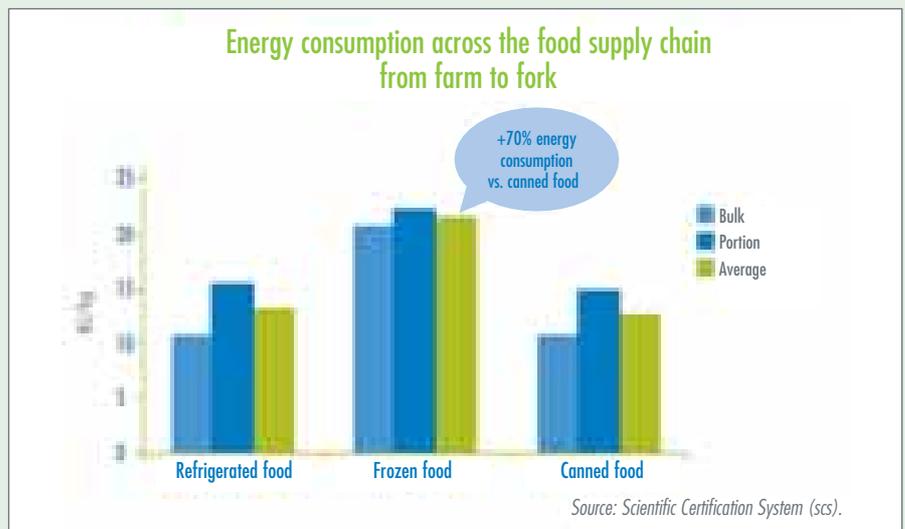
In a situation of an open economy (including imports and exports), canned carrots are, amongst the alternative packaging systems analysed, the best performing product in terms of eco-efficiency, considering the combined environmental impact and cost.

A responsible choice in today's challenge of energy efficiency

A study conducted by Scientific Certification Systems (SCS) in California, comparatively assessed the energy consumption of fresh, frozen and canned food delivery systems, quantifying the energy requirements at each stage from farm to fork.

Two delivery formats - bulk and portion servings - were compared across a series of packaging/processing combinations including bulk refrigerated product (e.g. green beans, broccoli, asparagus) in coated cardboard; frozen products in different packaging formats; canned ready meals and canned products.

The various stages included growing/harvesting, food processing, production of sales & transport packaging, transporting from field to end consumer, storing for wholesale and retail distribution, as well as home storage and food preparation at home.



Canned meals: the most energy effective method for delivery

Taking the full process - from farm to fork - into account, the study clearly reveals that canned foods offer the most energy effective method for product delivery. The most energy intensive methods, frozen bagged and boxed product, require over 100% more energy from farm to fork than bulk and canned meals.

Why is canned food such an energy efficient method of food delivery?

Firstly, in terms of food processing, the energy inputs for canning are significantly less than those reported for frozen goods. Secondly, due to its compact and stackable container designs, it enables more food to be transported in limited volume with less transport packaging. Thirdly, being stored at ambient temperature, canned food is totally independent of refrigeration.

Steel: an enabler for sustainability



SUMMING IT UP

As the world demands solutions for a sustainable future, the sustainability performance of steel for packaging can provide an answer. Steel packaging offers brand owners, retailers and consumers a strong performing product they can trust, while also enabling them to demonstrate their active role in building a sustainable society.

Thanks to the efforts of the industry and the intrinsic qualities of the material, steel's sustainability performance ticks all of the boxes for an optimal packaging solution...

- Steel has demonstrated important improvement in production efficiencies in recent years - reducing the use of natural resources, lowering CO₂ emissions and developing new grades of steel making lighter cans possible to produce without losing any of their inherent strength;
- Steel is a renewable product that is endlessly recyclable and hence saves energy and resources for future generations;
- Steel packs offer an energy efficient means of food delivery while upholding safety, conservation and nutritional value. They offer excellent performance in terms of:
 - Transport: steel packs are compact, stackable and need little packaging;
 - Storage: steel packs can be stored at ambient temperatures and don't need refrigeration;
 - Eco-efficiency: steel food packs retain essential vitamins and nutrients, and independent studies have attested - in comparison to alternative packaging systems - their top performance in terms of eco-efficiency and reduced energy consumption.



MORE INFO

This article is an extract from an Information Pack on 'Sustainability', part of a sequenced information programme 'Steel for Packaging: Trusted Experience, Value for the Future' developed by the European steel for packaging industry for brand owners, retailers and designers to highlight the values of steel packaging in the Food segment.

For the full document on the attributes of steel for packaging in terms of sustainability, please download from www.apeal.org.

A printed copy can be obtained by contacting APEAL

Event

5th International Steel Packaging Congress

24th April 2008 – Rheinterrasse, Düsseldorf, 1st day of Interpack

APEAL's International Steel Packaging Congress has become one of the key events in the packaging industry calendar. The 5th edition of the Congress will focus on the most effective strategies to meet the challenges being faced by the industry today.



TRUSTED EXPERIENCE - VALUE FOR THE FUTURE

Strategies to meet new challenges



In one day, with the help of key note speakers, the Congress will explore:

1. how innovative packaging developments are opening up a wealth of new opportunities to increase brand value & consumer convenience.
2. how to exploit market opportunities in terms of geographical areas and market segments.
3. the global industry challenge of sustainable development, and how packaging can be an enabler to sustainability.

For the first time, an interactive voting system will be in place, allowing each delegate to participate in the debate and give immediate response to a range of topical issues raised throughout the Congress.

Product Development

Dr. Paul Butler, a materials science specialist from Packaging & Materials & Technologies Ltd, will focus on specific areas of innovative packaging development which respond to evolving consumer and brand requirements in terms of convenience, and how these are opening up exciting challenges and opportunities for steel for packaging. Packaging enthusiast **Vincent Ferry**, Packaging Development Manager at Danone, will reveal the brand owner's perspective on packaging optimization and innovation. He will share key lessons from his own wealth of experience, having been at the origin of 2 major 'breakthrough' packaging innovations and being author of 'How to create soul packaging', a guide to the secrets of successful packaging. With a dynamic audio-visual presentation, **Hugo Loudon**, Managing Director, Corus Packaging Plus, will give an overview of the most recent developments in steel for packaging and the numerous opportunities they open up for innovative packaging developments. Video case stories from around the world will round up the session, pin-pointing concrete examples of steel packaging solutions differentiating at point of sale and offering specific convenience features.

Market Development

Session 2 will explore market opportunities in terms of geographical areas and market segments. **Thor Hendrickson**, Analyst at internationally renowned research company Euromonitor, will present the unedited results of exploratory research amongst major brands in Europe, on packaging as a brand driver, and which values steel packaging represents within their brand portfolios. **Dr. Rainer Opferkuch**, CEO, Huber Packaging Group, representing the European can making industry, will present a strategic vision of the European steel packaging industry on the evolution of the business and on how to stay relevant in mature markets.

Sustainable Development

In a society increasingly concerned about environmental issues, such as global warming and depletion of resources, **Julian Carroll**, Managing Director of EUROPEAN (The European Organization for Packaging and the Environment) will address the global industry challenge of sustainable development, demonstrating how packaging can be an enabler to sustainability, and showing how brands & retailers view the contribution of the



Event

5th International Steel Packaging Congress

packaging industry to increased sustainability. **Ian Christmas**, Secretary General of the International Iron & Steel Institute (IISI) will present the steel industry's long term commitment to sustainability. **Martin Reynolds**, VP Public Affairs, CROWN EUROPE will unveil the European steel packaging industry's answer to the environmental packaging requirements of retailers (carbon footprints...). Finally, **Philippe Wolper**, Managing Director of APEAL will unveil the factual and emotional positioning of steel for packaging and its industry regarding sustainability.



3rd International Steel Packaging Effectiveness Awards Ceremony!



Delegates are invited to join the Awards Ceremony of the 3rd International Steel Packaging Effectiveness Awards, directly after the Congress. The Award Ceremony, one of the highlights of the day, will be accompanied by an original artistic entertainment and will be followed by a stand-up buffet dinner, giving ample opportunity to exchange with key contacts and industry colleagues.

MORE INFO
www.apealcongress.org



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