

The Power of Less[®]

Where packaging's role in a circular economy becomes clear



About

A leading provider of corrugated & plastics packaging, supported by paper & recycling operations.

We want to be perceived not only as an excellent packaging manufacturer, but much more. As true Supply Cycle Strategists, we offer a unique holistic approach: Supply Cycle Thinking.

With this commitment to our customers we reduce their complexity by:

- > Increasing their sales
- > Reducing their costs
- > Managing their risks

Through our joined-up thinking, from design to manufacturing, delivery to recycling, we will take a look at the entire Supply Cycle of our customers ensuring their products perform at their moments of truth.

That's what we're about - less complexity at every point in that Supply Cycle to make our customers successful.

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Miles Roberts
CEO, DS Smith

Welcome

In principle, the business case for the circular economy in the packaging industry is easy to make – just follow the figures.

Global packaging sales are forecast to reach \$975 billion by 2018. Yet, the Waste and Opportunity 2015 report from As You Sow and the Natural Resources Defense Council shows that recyclable post-consumer packaging with an estimated market value of \$11.4 billion gets wasted in the US every year.

Numbers are big on the other side of the equation, too. Estimates published by the World Economic Forum suggest that \$1 trillion could be saved by organisations adopting circular business models, while continued uptake could create more



\$1 trillion could be saved by organisations adopting circular business models



than 200,000 jobs in the UK alone, according to WRAP and the Green Alliance.

The commercial imperative is clear. However, we are barely even at the start of the journey towards the circular economy, let alone at the end. Hearing the call to action is not enough, if no plan of action follows in response. So, what is the problem we need to overcome?

The problem of complexity

Long, convoluted supply chains are traditional in a multi-channel retail environment that seems to be getting bigger, faster and more competitive by the minute. Globalisation, fuelled by digital and mobile technology, coupled with fierce customer demands for quality of service, is placing product manufacturers, suppliers and retailers under intense market pressure to deliver the goods – literally.

In this environment, packaging has never been more relevant, and the benefits of a strategic and sustainable packaging solution that can lighten the load never more attractive.

The Power of Less

This is where the 'Power of Less' comes into play, helping to turn good CSR intentions into better and best practice. The Power of Less is about reducing complexity and cost, managing risk and supporting growth. This focus on optimising performance underpins the shift in mindset from thinking linear to circular, from supply chain to supply cycle. In our experience, unless viewed through the lens of the Power

of Less, the circular-economy picture can easily appear too big to frame.

In supply chains, there are many potential waste leakage points, but tackling them in isolation can sometimes be worse than failing to identify them in the first place. To avoid falling foul of the law of unintended consequences, any successful approach needs to be strategic and systemic.

Supply-cycle strategy

As a supply-cycle strategist, DS Smith is committed to helping clients shed the constraints of linear models and drive multiple efficiencies. 'Closing the loop' requires all the arcs in the supply cycle to be focused on achieving the right balance of product performance and environmental responsibility. The key concerns of design, logistics, business models and waste are tackled in the round, transforming sustainable packaging via supply-cycle management into a positive enabler in the circular economy.

As befits a circular endeavour, our approach is collaborative and joined-up. Communication is key and our aim with this report is to help share information and opinion in support of sector-wide debate, in print, online and in person at Resource 2015, for which we are again Lead Partner.

Put simply, bad packaging is bad for the circular economy, just as good packaging is good for it. If you can tell the difference, then supply-cycle management can make it count. ●



Telling the supply-cycle story

Most of us have just one job; doing two jobs is unusual, while three or more elicits a mixture of admiration and sympathy. Spare a thought then for the working life of the humble packaging unit, tasked with a multitude of jobs.

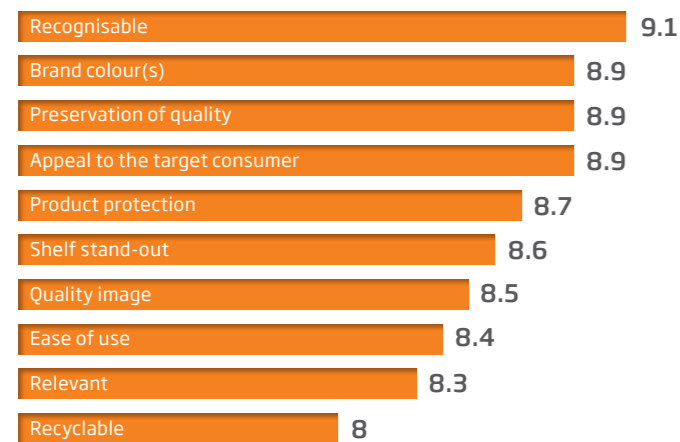
Words Jim McClelland

Packaging first has to be compatible with the production machinery of the product it contains. It must meet the needs of wholesalers, allowing for convenient cherry-picking and shelf-stacking. In logistics, it should protect goods in transit, meeting criteria of hauliers and shippers, proving resistant to the effects of temperature and vibration. It should allow for efficient bulk loading, yet be able to be readily broken down into individual units. In the retail environment, it must satisfy requirements for branding and marketing, and act as one of the key 'buy me' incentives for custom-

ers as they browse. It also has to provide a wide range of consumer information, from point-of-sale to directions for use and, if appropriate, health and safety advice. It must also allow brand owners to manage risk against damage to both physical product and reputation, for example through the use of appropriate materials. Finally, packaging should be easy to recycle, allowing the whole process to begin all over again.

Such complexity represents a major supply-chain headache. Yet, with design drivers and efficiency programmes geared to reducing resource-use, carbon, cost and,

Top 10 packaging performance attributes



Source: Pira International Ltd



Left
Packaging must facilitate safe and efficient transportation and storage

Top Left
QR codes can link to data tracking a product's end-to-end passage through the supply cycle

Top Right
Attractive, distinctive and informative packaging is critical for retailers

Ultimately, waste, the sector has been responding positively to the demands of the sustainability agenda while ensuring it still meets customer needs, asserts Tony Foster, sales and marketing director, Packaging UK, at DS Smith: "The industry has undergone a quiet revolution in recent years and it is now one of the most innovative manufacturing sectors in the country. Packaging weights of plastic bottles, metal cans, cartons and boxes have all steadily fallen whilst the product protection they offer has improved."

Connectivity and consequences
Transitioning from 'greening' a linear supply chain to achieving a fully circular supply cycle, however, calls for a systemic shift. Initially, the law of unintended consequences can often prove a strategic challenge, says Liz Goodwin, CEO of WRAP: "I think one of the issues is that

actions in one part of the loop can have knock-on implications that were not anticipated. We need thinking around the system to ensure we reap the best possible outcomes. Businesses and individuals need to work together to understand those interconnectivities," she explains.

"The answers are already out there – but there is still a lack of awareness and a knowledge about what individual businesses can do, as well as not appreciating the full potential of the business case. Closing the loop on the packaging sector requires a collective effort."

Achieving a truly sustainable supply cycle, therefore, requires effort from all participants – from packaging suppliers and retailers, through to the waste and recycling industry. It also involves reshaping the habits and expectations of consumers.

"This isn't a simple binary question, it is far more complex



Transitioning from 'greening' a linear supply chain to a fully circular supply cycle calls for a systemic shift

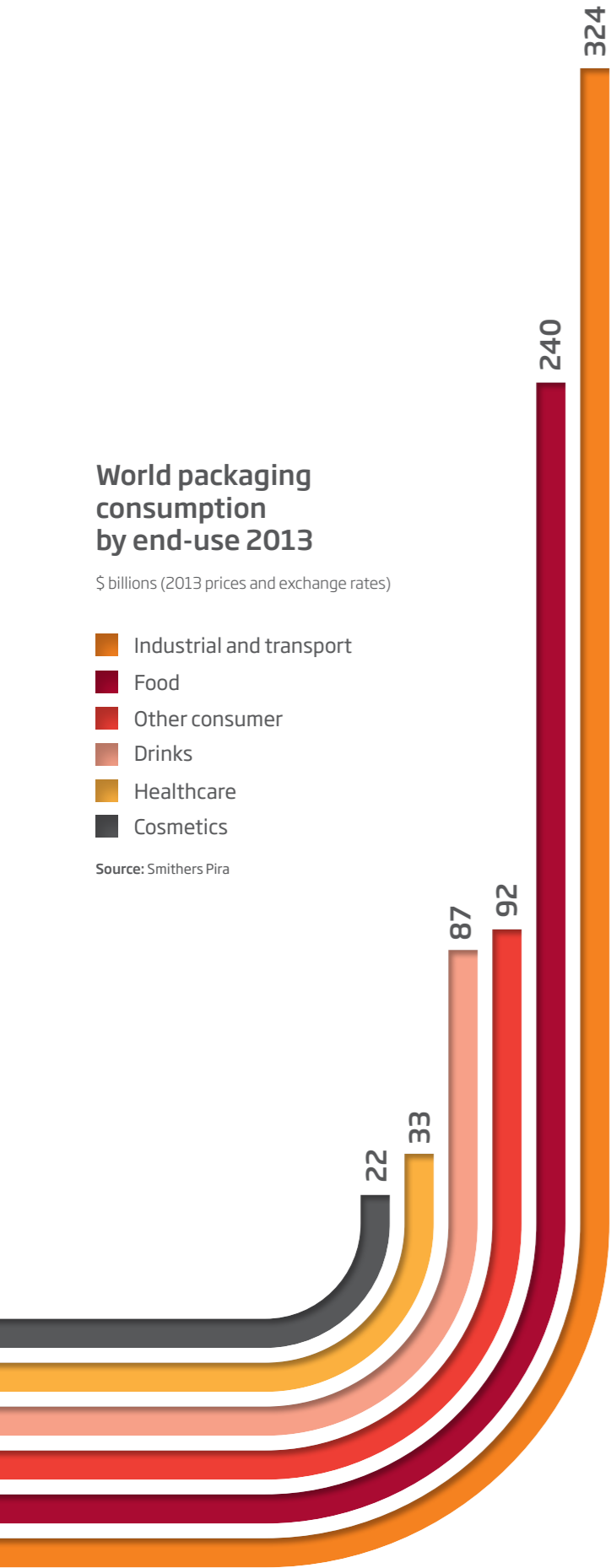


World packaging consumption by end-use 2013

\$ billions (2013 prices and exchange rates)

- Industrial and transport
- Food
- Other consumer
- Drinks
- Healthcare
- Cosmetics

Source: Smithers Pira



than that," argues Dr Adam Read, practice director, Resource Efficiency & Waste Management, at Ricardo-AEA. "Yes, much more must be done downstream from retailers to consumers, plus the waste and recycling sector to segregate more, retain quality and thus help close the loop. However, the packaging industry must also work both upstream with manufacturers and downstream with consumers to promote better design - not just light-weighting, but material substitution and simplification to make disassembly and recycling easier."

Sometimes, therefore, the greatest benefits can be achieved in an arc that is outside the control of a single organisation or sector. Making recyclability an integral product specification is one way that the performance of the downstream circular economy can be improved, thereby enhancing the overall sustainability of the product-packaging-retail-consumer nexus.

Symbiosis and sourcing

Recycling twice as much packaging as it makes, DS Smith is in an ideal position to appreciate the business case for a material resource mix, explains sustainability director, Mark Greenwood: "The recycled industry provides the route for multiple re-uses of fibres, thereby amortising the considerable environmental impact of commercial forestry and pulp operations over a number of cycles. However, that same recycled sector also needs a steady injection of fresh fibres to maintain the quality and performance of the papers and boards," he says.

"Our relationship is symbiotic, and we need our customers to recognise this and use the right material for the packaging purpose, rather than sticking to a dogma that sees one source of fibre as greener than the other."

The most sophisticated packaging buyers are already recognising the value of end-of-life recovery and recycling as a material sourcing solution rather than a waste management problem.

Sophisticated packaging buyers recognise the value of end-of-life recovery and recycling as a material sourcing solution rather than a problem

Tracking and technology

Reputational risk and reward are also at stake, with supply-chain traceability and transparency coming under increased scrutiny in a data-driven digital economy. Responsible sourcing of materials, plus verifying performance against waste and recycling criteria, are vital to successful brand management.

Such public visibility actually offers the opportunity for brands to make packaging part of the full product experience, according to Foster: "Technology such as QR codes can link consumers to websites giving the story behind the product, miles travelled, source information, even recipes. There is a lot a brand can do using the pack to bring its back-story to life and focus on the provenance of each product."

Looking ahead, this tech-propelled narrative also carries the potential to rewrite the commercial script along circular-economy lines, suggests Greenwood: "Tracking and tracing technology will increasingly be applied not only to the contents of the box but also to the box itself. This opens up enormous potential, from instant and precise fibre-sourcing information to meet consumer demand on provenance, to entire business models built around leasing the fibre and providing a packaging service, rather than a disposable good."

As an enabler of the circular economy, maybe there is another important job for packaging to do: tell its own story. ●

Case Study

M&S: less is more in retail

If retailers and packaging suppliers work well together, waste can be minimised throughout the supply cycle. What's more, there is a natural incentive - it reduces overall costs.

Words **Jim McClelland**

Simple logic demonstrating the 'Power of Less' is manifest in key approaches to packaging, as sales and marketing director, Packaging UK, at DS Smith, Tony Foster explains: "Retailers can benefit in three ways: by looking to use just the right amount of packaging; avoiding materials that can't easily be recycled; and by sticking to single-material packs where possible. Reduced waste, reduced costs and increased efficiency mean sustainable packaging is a financial no-brainer."

The importance of choosing the right packaging for the job is endorsed by Roger Wright, head of technical packaging, General Merchandise, at Marks & Spencer, who also points the finger at poor specification: "Retailers can tend to demonstrate a 'herd instinct' in terms of favoured pack formats, which inhibit a circular economy. For example, I'm seeing a lot of food-packaging formats creeping into general merchandise which perform no function on soft lines over and above their perceived aesthetic benefit."

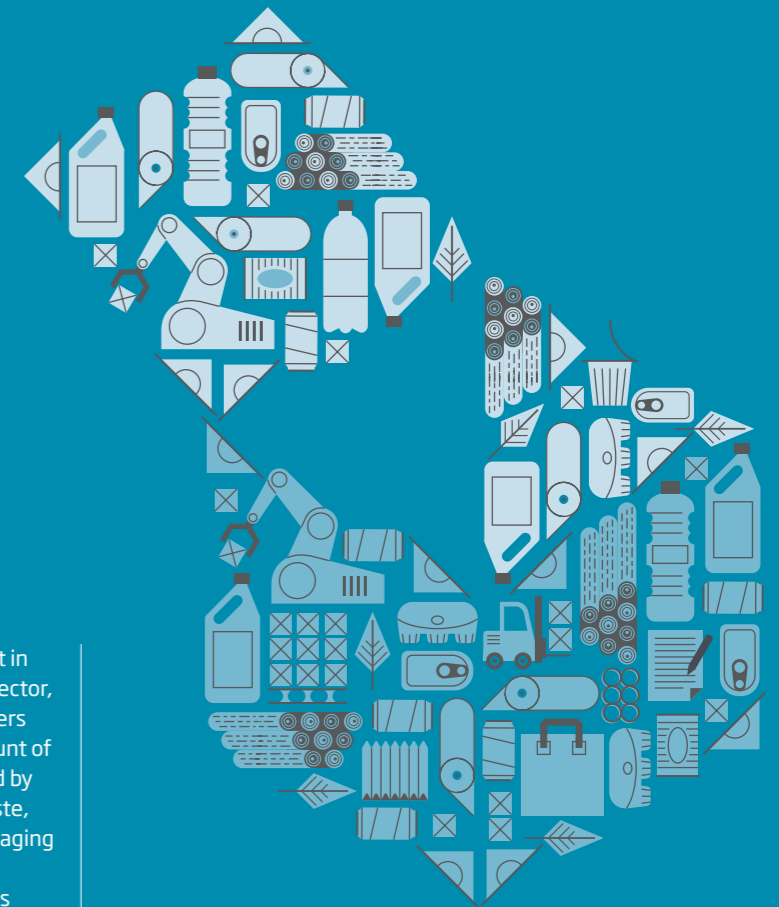
For M&S, marrying together the sustainable-business and circular-economy principles enshrined in its Plan A commitments with cost-effective and practical delivery revolves around three key packaging parameters:

- 1 **Quality** - to ensure packaging is fit for purpose;
- 2 **Integrity** - including fully auditable source data; and
- 3 **Innovation** - both for differentiation and sustainability.

For Wright, innovation is just a good idea scaled-up: "The most important thing we retailers need to do is collaborate with our end-to-end supply chain. This includes specifying the most appropriate materials at one end, designing for the way they are handled in the middle and ensuring they can be responsibly disposed of or reused at the other end," he explains.

"If we focus on only one of these elements, we will inevitably waste more resources than we protect. However, if we do the above brilliantly, innovation just becomes a by-product of an end-to-end way of working."

Identifying key leakage points in the packaging supply cycle has seen M&S roll out targeted innovations with significant success. For the Christmas shopping period, M&S became the first general-



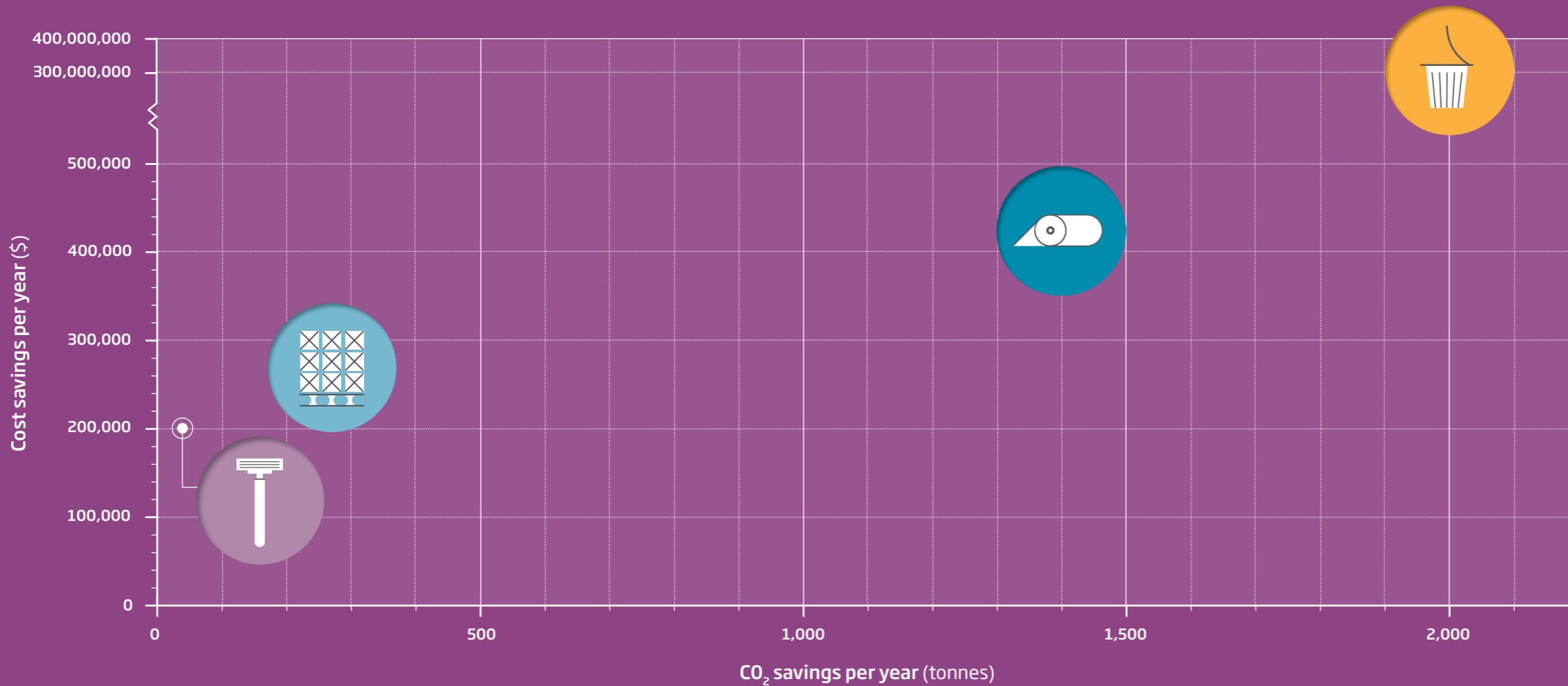
merchandise retailer to introduce a new range of recyclable paper ties for securing toys to packaging, in place of the traditional wire versions. Invented at Sheffield Hallam University, the ties are made of paper strong enough in one direction to hold the product in transit, but weak enough in the other to tear with fingers.

Switching focus to operations backstage and working with specialist 'pre-cycling' consultancy The Less Packaging Company, part of DS Smith, M&S is also running a large programme to optimise all transit cartons coming into the UK. Ensuring incoming packaging is a better fit for the company's distribution network and delivery lorries has potential to generate a massive cost saving of around £1.5 million a year.

These two breakthrough epitomise the value that supply-cycle thinking can bring to retail business models. ●

Reduced waste, reduced costs and increased efficiency mean sustainable packaging is a financial no-brainer

Case Studies: Save money and cut carbon emissions with strategic packaging



Increasing the weight of packaging can create huge environmental benefits

Returnable beer bottles

Increasing the weight of a glass beer bottle by 30 per cent means it is less likely to break and can be returned to be refilled again



84%

reduction in greenhouse gases if a returnable bottle is used effectively

Source: SAB Miller

Microwaveable chips vs. oven chips

Microwaveable chips use 16x more packaging than frozen oven chips but this microwave ready packaging can enable a 90% reduction in CO₂ emissions during the cooking process



10x

more CO₂ is produced by cooking the frozen oven chips in a regular oven

Source: INCPEN

CO₂ emissions from cooking



Source: INCPEN

Razors
Energizer Holdings
Source: Chainalytics

CO₂ savings per year (tonnes) **28**
Cost savings per year (\$) **200,000**

'Cut excess packaging around products to improve packing density'

Over time, consumers will have noticed that certain products have been rearranged inside their packaging. A small change makes a large difference to the pockets of companies, and also benefits the environment.

Packs and pallets
Unilever
Source: WEF

CO₂ savings per year (tonnes) **277**
Cost savings per year (\$) **275,000**

'Optimise logistics by designing packaging to fit your transportation'

Through a more rigorous examination of the loads their trucks were delivering on a daily basis in Turkey, and adapting their schedule accordingly, Unilever were able to identify inefficiencies in their packaging supply chain and help reduce their carbon footprint and overheads.

Cling film
Glad Wrap
Source: Chainalytics

CO₂ savings per year (tonnes) **1,400**
Cost savings per year (\$) **415,000**

'Adjust packaging dimensions to save on material costs'

This is a subtle difference that has been made to a number of household products, including cling film and toilet paper recently. If you slightly reduce the diameter of the cardboard roll from 1.625" to 1.25", you can make substantial savings.

Yoghurt pots
Walmart
Source: Chainalytics

CO₂ savings per year (tonnes) **2,000**
Cost savings per year (\$) **300,000,000**

'Bring product and packaging manufacture under one roof'

The packaging used to be made in a different factory to the yogurt, creating an unnecessary journey in the chain. Walmart moved yogurt pot manufacture to the same location as yogurt production, as well as making small changes to the design, which generated massive savings.

The challenge of end-to-end management in the supply cycle

Achieving a circular economy takes more than cutting waste or increasing recycling. It means an innovative, joined-up approach at all points in the product loop - from smarter raw materials to efficient disassembly.

Words Felicia Jackson

Packaging has an important and complex role to play within the supply chain. As well as its physical purposes of product protection, preservation, transportation and containment, it plays a key role in increasing a product's attractiveness and, ultimately, its sales. At the same time, packaging has a vital function in helping businesses meet various reputational, regulatory and bottom-line challenges, particularly on environmental impact and sustainability.

Within the brand-dominant retail sector, reduced costs are a primary goal. Greg Lawson, managing director of The Less Packaging Company, part of DS Smith, suggests that while the drive on cost-cutting has never been so prominent, it's critical that companies understand the wider impact of strategic decisions. For example, changes in one part of the supply chain can impact in different areas. Supply-chain professionals are therefore better placed to manage all aspects of packaging, as they receive information from the raw material until 'end of life'.

"End-to-end packaging is a holistic process, so it is an integrated management for all steps of the packaging chain," explains Jocelyne Ehret, director, Packaging Technology Integrated Solutions at HAVI Global Solutions. She says it enables companies to better understand the risks they face throughout the supply chain, and warns that "failing to collaborate and communicate in an efficient way along the supply chain will result in potential road-blocks and information leakages.

Multiple competencies will be required as the competencies in distribution will not be the same as in packaging development or sourcing." She also notes that a holistic approach provides an opportunity to stimulate creativity in design and process.

While increasing levels of packaging recycling is clearly a desirable aim, in its current form it can never achieve a truly circular supply cycle on its own as there is always some amount of waste generated. And the process of converting recycled end-products into new raw materials takes considerable amounts of energy. A more effective strategy is to reduce the amount of packaging materials that are used in the first place, and ensure those materials are designed to be reused.

"Packaging has been seen as diametrically opposed to the goals of the circular economy; it has been designed to be disposed of," explains Mark Greenwood, sustainability director at DS Smith. "But recycling recycled packaging is a gear set within a larger loop and we need to design and create packaging within a system that makes it beneficial to send that material around the loop."

This challenge is highlighted by the discontinuity that often exists today between regulation and packaging design and development. As Claire Shrewsbury, packaging programme manager at WRAP UK puts it: "There is a disconnect between procurement and understanding the impact on regulatory compliance." In the UK, manufacturers will buy Packaging Recov-

ery Notes (PRNs) to match their materials discharge, either directly or through a compliance scheme, but these have different values. A change in materials can change the compliance procedure - a PRN for a ton of plastic is around £15 while for aluminium it's more like £10.

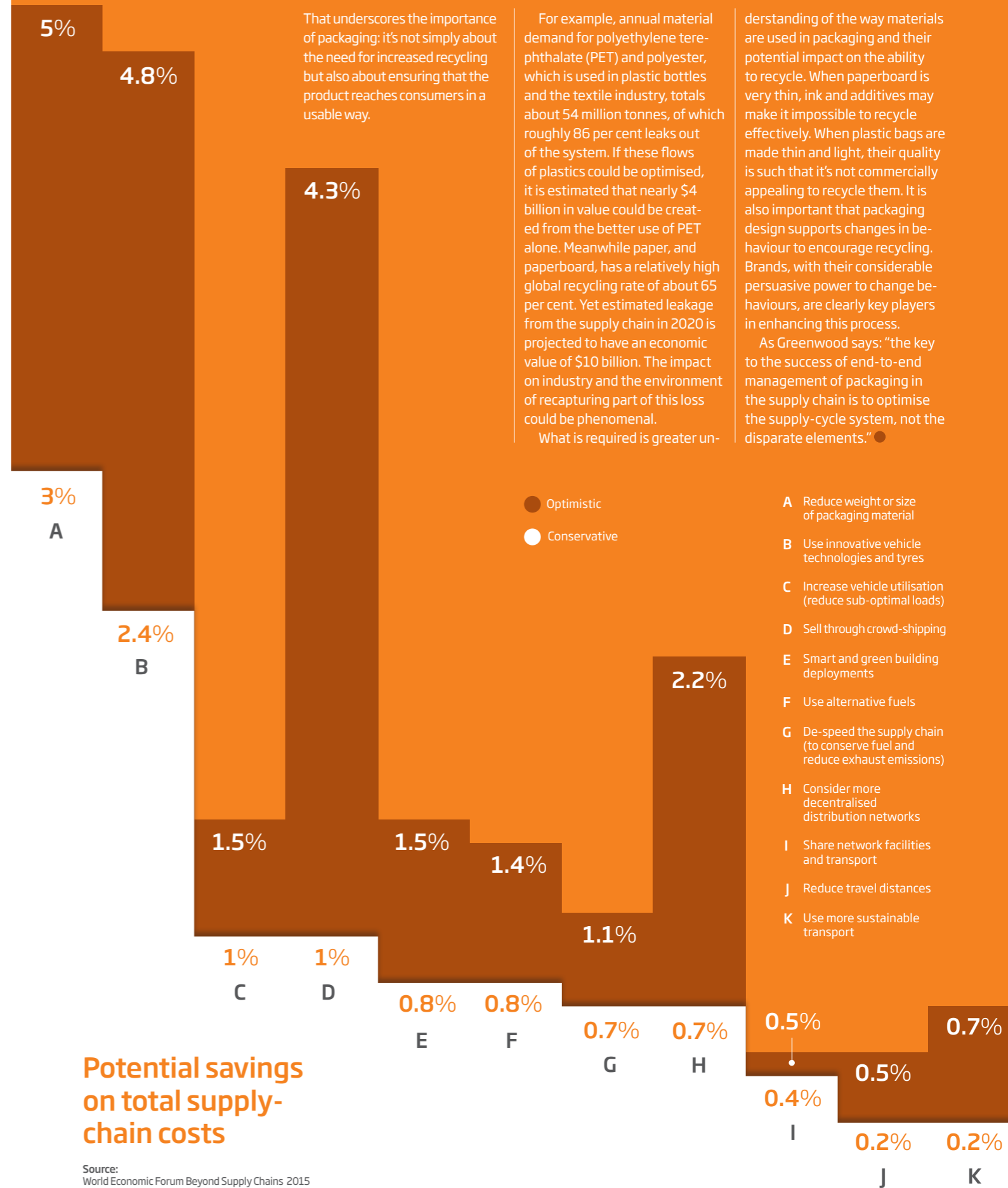
"If you do the best that you can do at the front end", Shrewsbury says, "you could reduce compliance costs and potentially provide greater access to higher quantities and quality of recycle."

Lawson points out that total applied cost is key and that properly managed systems need smart thinking across the supply chain to balance brand needs against stripping out as much cost as possible. The challenge is tradition, as management of a disparate and disconnected supply chain doesn't fit the requirements of the modern age.

Cradle to cradle

One way to address this is to look at packaging beyond product end of life and the opportunities it provides. Given that around \$390 billion worth of consumer electronics and household appliances reach end of life every year, this is a huge potential opportunity. "People can see packaging as a waste, but we see it as a raw material," Greenwood says. The opportunity in recycling packaging is undeniable, in terms of plastic and paper/paperboard alone. The latest research from the World Economic Forum reports that 80 per cent of the \$3.2 trillion value of the consumer goods sector is lost to product waste every year.

We need to design and create packaging within a system that makes it beneficial to send that material around the loop



Potential savings on total supply-chain costs

Source: World Economic Forum Beyond Supply Chains 2015

That underscores the importance of packaging: it's not simply about the need for increased recycling but also about ensuring that the product reaches consumers in a usable way.

For example, annual material demand for polyethylene terephthalate (PET) and polyester, which is used in plastic bottles and the textile industry, totals about 54 million tonnes, of which roughly 86 per cent leaks out of the system. If these flows of plastics could be optimised, it is estimated that nearly \$4 billion in value could be created from the better use of PET alone. Meanwhile paper, and paperboard, has a relatively high global recycling rate of about 65 per cent. Yet estimated leakage from the supply chain in 2020 is projected to have an economic value of \$10 billion. The impact on industry and the environment of recapturing part of this loss could be phenomenal. What is required is greater un-

derstanding of the way materials are used in packaging and their potential impact on the ability to recycle. When paperboard is very thin, ink and additives may make it impossible to recycle effectively. When plastic bags are made thin and light, their quality is such that it's not commercially appealing to recycle them. It is also important that packaging design supports changes in behaviour to encourage recycling. Brands, with their considerable persuasive power to change behaviours, are clearly key players in enhancing this process.

As Greenwood says: "the key to the success of end-to-end management of packaging in the supply chain is to optimise the supply-cycle system, not the disparate elements."

- A Reduce weight or size of packaging material
- B Use innovative vehicle technologies and tyres
- C Increase vehicle utilisation (reduce sub-optimal loads)
- D Sell through crowd-shipping
- E Smart and green building deployments
- F Use alternative fuels
- G De-speed the supply chain (to conserve fuel and reduce exhaust emissions)
- H Consider more decentralised distribution networks
- I Share network facilities and transport
- J Reduce travel distances
- K Use more sustainable transport



“
Material choice and composition is key, as both determine the ability to recycle a packaging product
 ”

Design is a key enabler in making packaging materials more circular so they can flow through existing recovery mechanisms better. The Great Recovery report, Investigating the role of design in the circular economy, highlights a pressing need for design briefs to take account of end-of-life considerations. It argues that increased recycled materials use should be ‘normalised’ so that packaging can be captured more easily for re-entry into supply channels.

Wim Wouters, creative director at Blue Lab - DS Smith, says optimising materials is a key consideration, but emphasises the primary purpose of packaging must be upheld. “While

it is important to have as little packaging as possible, it is critical to avoid the product inside becoming waste,” he reflects.

“Packaging designers need to be experts in finding the balance in creating packaging that does the job with the least amount of material, energy and space utilisation. Once it has done its job, it should be fully recyclable and become the base material for the next supply cycle,” he says.

Material choice and composition is key, as both determine the ability to recycle a packaging product further down the cycle. Mark Shayler, director at Ape, says there is a case for streamlining certain packaging

materials such as plastics, as some polymer types cannot be readily recycled.

“It’s about choosing materials where there’s a recycling infrastructure and going for single-material packs where possible,” he maintains. “Packaging needs to be designed so it can be easily segregated, otherwise it won’t be cost-effective to do so.”

The best solution from a closed-loop perspective may be the use of more resilient, traditional materials that can be endlessly recycled or reused for multiple life cycles. Having a buoyant secondary market for such materials is also important to ensure the economics stack up.

Working together

If designers are to become more aware of the implication of their design choices, they also need to engage in co-creation. “Designers need to work with stakeholders throughout the supply chain... from producers, distributors and retailers to consumers to facilitate greater circularity,” says Dr Chris Thorpe, director at Intelligent Design Associates.

He points out that designers are in a unique position and “able to take a vantage point where they have a much richer and broader view of supply chains - challenging and offering alternative and more creative scenarios of how the system can work.”

Rob Maslin, director at We All Design, believes greater understanding of the packaging ‘user journey’ could help unblock system bottlenecks. He sees a need for product design to be considered in tandem with service design.

“Product designers don’t often deal enough with business models and how the value is flowing throughout the business and the process - this is something that service designers deal a lot with,” he explains. “If you’re missing that value, then you’re missing a big opportunity to be more circular.” ●

Better by design

Generating value by reusing or repurposing packaging materials over several life cycles starts with elegant and smart design.

Words Maxine Perella

Smarter recycling

Recycling is key to cutting waste, but only by baking-in reusability at the design stage and being smarter on materials recovery can it truly help to close the loop.

Words Maxine Perella

Businesses looking to close the loop on packaging materials need to ensure that there are effective takeback mechanisms in place. A recycling solution that enables materials to flow in a circular fashion, by placing an emphasis on retaining quality and value, is instrumental to this.

Mathew Prosser, European commercial director at DS Smith’s recycling division, says: “To keep material quality as high as possible we need to have a good understanding of what can and can’t be recycled, and to maximise opportunities to collect materials separately, either at the curbside or direct from businesses.”

By adhering to waste hierarchy principles in this manner, a business can start to design for materials recovery, and its business model becomes a natural fit with the circular economy. Prosser advises companies with a

zero-waste drive to look beyond landfill diversion. “Incineration should be viewed as a last resort, for residual waste only and not for co-mingled streams that could be recycled. Once it’s burnt, you can’t get that material back.”

Source-segregation and backhauling of materials will become increasingly critical to deliver on closed-loop ambitions, particularly given the wider legislative landscape. New waste regulations now place a greater duty of care on businesses to separate out key materials for recovery. There is also the prospect of higher packaging recycling targets - last year the European Commission proposed material-specific targets that could increase to 90 per cent for paper/card (by 2025), 90 per cent for ferrous metal, aluminium and glass, and 60 per cent for plastics (by 2030).

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Incineration should be for residual waste only and not for co-mingled streams...once it’s burnt, you can’t get that material back
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Reverse logistics

According to Dr Adam Read, practice director, Resource Efficiency & Waste Management at Ricardo-AEA, businesses need to start working more closely with their supply chains to deliver added value. This may necessitate the need for streamlining. “There are real benefits for organisations in dealing with one company that provides an integrated supply-cycle service allowing optimised logistics systems, forward and reverse, that can reduce overall costs for all involved,” he says.

“Ask your suppliers what their intentions are with regards to reverse logistics, takeback systems and future target material plans. How can you work with your contractor to get the target materials out early, in a clean way, ready for recovery, reprocessing or, better, reuse?”

DS Smith has helped a major UK supermarket benefit from smarter reverse logistics, working together to backhaul packaging materials including card, plastics and metals to a central network of recycling hubs. This has not only reduced waste collection and disposal costs for the retailer, but generated increased revenue from recyclates.

Dr Read adds that integrated service providers have a great opportunity, given their size and reach, to work with packaging suppliers to refine designs to allow for a more circular process. For example, changes could be specified to a packaging product’s material, size or shape to ensure easier disassembly, segregation, storage and transport during the recovery stage. ●



Incineration should be a last resort, and only for non-recyclables

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Packaging the future


Transitioning towards a circular economy presents both challenges and opportunities for business, consumers and regulators, with smarter packaging having a key role to play.





Jane Bickerstaffe
Director, INCPEN


Over the next 10 years, the rate of change in the way we live is likely to keep accelerating. The products and services we buy will change too and that means their packaging will have to evolve to match. Just think of a few of the likely challenges:

 Unpredictable weather will affect harvests. Food scarcity will become an issue for more people. Packaging will have an increasingly critical role to play in extending food storage.

 Internet shopping and multi-channel delivery systems will offer huge opportunities for designing improved packaging – provided manufacturers know which delivery route a product will use. For example, if a pack does not need to fit on a supermarket shelf, it could be taller, thinner, spherical or any shape a designer can dream up.

 Researchers are already using agricultural crops like sugar cane to make polymers. Will this trend continue or might a by-product of sugar cane production – bagasse – be made into a useful material?

 In ageing societies, 'openability' and legibility will become even more important.

 Portion control can help tackle obesity. This may mean smaller portions and therefore more packaging but could be worthwhile in helping prevent a global health problem.

The opportunities are endless. However, business also relies on policymakers to stimulate innovation, rather than just impose restrictions based on considerations of one aspect of a packed product's environmental impact.

In theory, the circular economy may help make more efficient use of energy, materials and water but current proposals focus only on the waste phase of a product's life and are typically about recycling and reuse.

There is much debate on whether the European Commission should have withdrawn the previous Commission's circular economy proposal to start again or whether the proposal should be put back on the table and amended.

On 16 December 2014, European First Vice-President Timmermans said: "What we want to do is approach the circular economy in a circular way and not just a half circle, which means that we will withdraw the present waste proposal and come back with a more ambitious proposal that will cover the whole of the circular economy".

We must build on and optimise current recycling systems, increase the quality of recycle and encourage greater participation

He has a point. The withdrawn proposal was more about how to recover waste than how to make supply systems operate as resource-efficiently as possible.

Recycling is not the only way to achieve resource-efficiency. Manufacturers and retailers need to be able to choose from the widest possible types of packaging and materials to tailor the packaging to the needs of the product, the supply chain and end user. Some will be worth recycling, some not:

➤ Recyclable packaging needs to be recycled. We must build on and optimise current recycling systems, increase the quality of recycle and encourage greater participation.

➤ Source-reduced, lighter-weight, less resource-intensive packaging types such as laminates and blown materials also need to be encouraged. Although they seldom contain sufficient material to be worth recycling they reduce transport costs and often generate reduced residual waste from which energy can be recovered.

The UK has caught up with many of its neighbours' recycling rates but still lags behind on energy-from-waste, although this is improving with over 20 per cent of municipal waste now treated. Germany, Switzerland, Belgium, Denmark and the Netherlands recover energy from 30–40 per cent of their unrecyclable waste.

Provided they are used appropriately, all types of packaging are eco-friendly because they protect far more resources than they use and prevent far more waste than they generate. In 10 years' time there are likely to be exciting new packs that will make an even more positive contribution to sustainable development. ●

To find out more about the Supply Cycle visit www.dssmith.com/supply-cycle

If you would like to speak to us about your Supply Cycle challenges email recycling@dssmith.com

Checklist for achieving a circular approach

The circular economy is real and continues to play a critical role for markets on the front line of sustainable resource-use, such as the packaging industry. Yet for organisations keen to align their business models, the issue most likely to delay or deter them is not knowing where to start.

This checklist helps you break the challenge down into bite-size pieces, and turn aspirations into actions.

Today

- Create a 'CE library' of key online resources, drawing on material from organisations like The Ellen MacArthur Foundation, WRAP, Zero Waste Scotland and The Great Recovery (RSA). Sector research, certification and trade bodies such as INCPEN and FSC are also relevant.
- Create 'Team CE' – a working group of in-house champions, as well as client, customer, consultant and supplier reps with whom to collaborate on circular economy policy, practice and performance.
- Share access to the CE library with Team CE and encourage them to add materials, contacts and case studies.

3 weeks

- With the help of Team CE, identify a 'CE hitlist' of key wastage points in your supply chain that require intervention. Through collaboration, Team CE will deconstruct the project into smaller, manageable projects, completing each in stages, helping you transition to a supply-cycle model.
- Arrange a meeting schedule for Team CE to discuss an action strategy for the hitlist.
- Look for the 'quick wins'. It is easy to get overwhelmed at this stage but often small changes made now can lead to big results.

3 months

- Present a formal 'CE plan of action' to Team CE, complete with targets, metrics and monitoring.
- Make sure you include targets for gaining internal buy-in, and also that you schedule regular calls or stand ups to keep the team motivated and updated.
- Start the plan!

6 months

- Report back to Team CE, review performance expectations and revisit objectives. Afterwards, discuss future strategy and identify additions or changes to the CE hitlist, as appropriate.
- Celebrate your success!

