

FUTURE OF PACKAGING

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LEGISLATION

Bending with the winds of policy change

The UK is in need of improved recycling systems, laws and infrastructure, and while change may be slow, companies must be prepared

Nick Easen

The winds of change are blowing more than just a bit of plastic in the breeze; they're now whistling through the halls of Westminster. The government has just wrapped up an ambitious consultation, the first in ten years, on reforming how we deal with waste packaging. Industry and consumers can expect a radical shake-up.

In a bid to breathe new life into a creaking system, significant intervention is expected in the form of policy and fiscal drivers, amid great expectations within the industry. Some are calling it a once-in-a-generation opportunity to revitalise recycling and use of resources, counter littering and give a significant push towards a circular economy.

"This comes after the UK parliament declared a climate emergency and the Committee on Climate Change recommended that the country aims for net zero carbon emissions by 2050," explains Ben Stansfield, partner at law firm Gowling WLG. "There is phenomenal momentum here. I think a lot of what's being proposed by the government will be adopted."

And there's a need for change. Recycling rates have plateaued in the UK. We still have a system that favours exporting 50 per cent of our waste with limited incentives for domestic reprocessing. The system of collection is complicated, localised and fails to provide local authorities with enough financial support. At the same time, a lot of useable packaging and materials still end up in landfill. A lack of accountability and transparency is also apparent.

"The government feels the existing regulations do not deliver what we want them to do in the future and to help the UK meet more challenging targets for recycling, as well as increase the revenue that comes from the system," says David Honcoop, managing director of Clarity Environmental.

The *Resources and Waste Strategy* is the 124-page blueprint from the Department for Environment, Food and Rural Affairs, which will evolve into new laws soon. In the process, everybody will be impacted in some way.

At its core is the "polluter pays" principle. Businesses can expect so-called extended producer responsibilities for the packaging they



churn out. UK companies currently experience lower costs for compliance compared with producers in many other European countries.

It means that only 10 per cent of the costs for recycling schemes come from producers themselves through compliance systems, such as packaging recovery notes, or PRNs, which provide evidence waste packaging material has been recycled into a new product; the rest is funded by local authorities and central government.

"We have been calling for waste producers to pay for their recycling for many years now. What this should do is force manufacturers and retailers to ensure the packaging they put

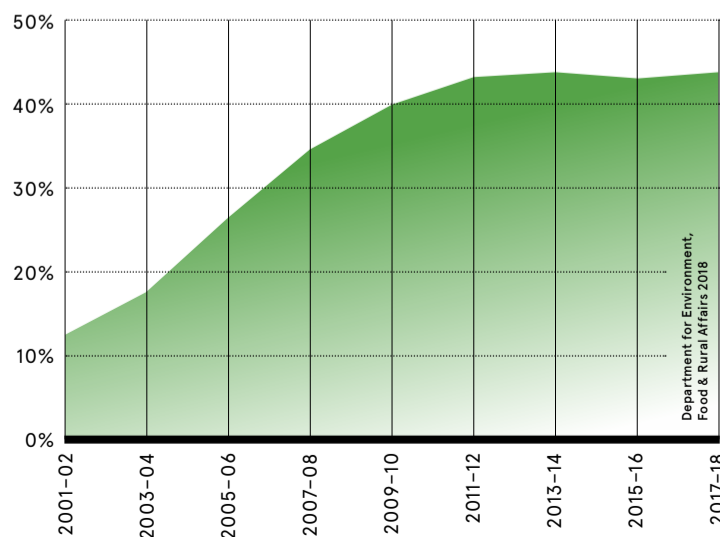
on the market is easily recyclable," says Simon Ellin, chief executive of the Recycling Association.

"If we get the system right, consumers will have easy labelling that tells them the packaging is recyclable, what bin to put it in and then we will get much higher-quality recycled material to be used in new products."

At present there are many variables involving a mind-boggling array of local authority collections and packaging with highly variable recycling qualities. Complexity hinders the system, but this could change. "A well-designed scheme needs to be simple for everyone to understand," says Mr Ellin.

RECYCLING RATES HAVE PLATEAUED

Household waste recycling rates in England



"The principle that local authorities will collect core packaging, such as plastic bottles and containers, paper and card, glass and cans, is a good one. Packaging manufacturers and retailers will need to match this list with the products they put on the market or face additional charges."

The shake-up is likely to be rolled out within four years, with a revamped and simplified labelling system; none of the "check locally" labelling, which has been deemed a barrier to better recycling. A deposit return scheme for single-use drinks containers and a tax on plastic packaging with less than 30 per cent recycled content is also in the strategy.

UK reproducers have long been lobbying for changes to the current PRN system, which they believe incentivises materials being sent abroad.

"One of the biggest risks in the redesign is that we see an increase in costs for producers and ultimately consumers, but a failure to improve our existing recycling system," says Robbie Staniforth, head of policy at Ecosurety.

"A well-designed scheme will recognise the true costs of packaging, as well as the costs of a transparent, effective recycling system. We must create a level playing field for all involved, as well as provide extra funding to local authorities, which are a critical cog in the recycling machine."

All this is likely to require complicated manoeuvres in industry, including mechanisms that transfer the cost of recycling to those who produce packaging in the first place. Agreement from each link in the supply chain and co-ordination will be crucial to make a new, consistent system work.

"It is vital businesses start preparing now," says Mr Honcoop. "We've already seen an increase in the cost of complying with packaging regulations over the last 12 months and, without changes in behaviour of how businesses view their packaging obligations, the new proposals could have huge implications."

A year after BBC TV's *Blue Planet II* and the subsequent backlash against plastic, consumers are already aligning themselves with brands that take this issue seriously. "By embracing change, producers will be protecting the future of their business as well as the environment," Mr Staniforth concludes. ●

Nick Easen

DIRECT TO CONSUMER

Breathing new life into packaging

With packaging now a vital part of the product proposition, innovative brands in the online direct-to-consumer (D2C) market are giving customers more than just a product, they're using packaging to deliver an experience

There are many strange internet phenomena, but unboxing videos tops them all. They've skyrocketed in popularity on YouTube; 129 million web-page references isn't to be sniffed at nor is a growing movement on social media. Unwrapping a subscription box, smartphone, make-up, even vegetables: that so-called moment of truth brings supposed rapturous joy to some.

Online shopping brands are injecting fresh vitality into packaging. Take Lifebox, which supplies healthy snacks and wellness products each month to a fanbase in the UK. Their smart cardboard box, with specially folded tissue paper, is carefully curated. You don't want too much space, it might feel a bit empty; too small a box and subscribers feel hard done by, and it has to be "Instagramable".

"The box and wrapping are integral to the experience," says Lifebox managing director Howard Rawlings. "The doorstep opening must feel valuable, as well as surprise and delight every time; subscribers must believe they are getting value for money. We add a ribbon round the box if it's gifted to make it feel even more special."

They aren't the only ones. Apple

and Amazon set the scene years ago. Now it could be Revolution Beauty, BrewDog, HelloFresh or Graze. What can seem like ordinary consumer products, from simple ingredients to razors, are being presented as extraordinary through one important medium: their packaging.

"It is the store front, experience, service and product for direct-to-consumer or D2C brands. It replaces the store as the place where an emotional relationship is made and reinforced every time with the customer," says Michelle Du Prât, executive strategy director at Household.

It comes at a time when online retail is red hot. Almost nine out of ten UK consumers are on Amazon, while more than £12 billion was spent on online groceries in 2018; it's one of the fastest-growing channels, according to Mintel. In Germany, online shopping is almost universal. It means packaging is no longer shackled by in-store shelf space or constraints along the supply chain.

"D2C packaging doesn't need to say 'buy me' like it does in a supermarket aisle either, so the opportunities to innovate and take a competitive advantage are there to be exploited," says Paul Jenkins, managing director of ThePackHub. "Packaging is now an integrated part of the product proposition. The aim is to engage people in meaningful ways."

The biggest challenge for online brands is to resist homogenisation, as well as push for intelligent design, one that speaks of brand personality and tells a story. After all, the bar has been set high by some companies and we now live in an era of great consumer expectation. There are many reports of packaging being so good that it doesn't even get thrown away.

"The issue is that D2C brands can often lose significant parts of their profitability in packaging. It is a higher proportional cost of goods sold compared to shipping a pallet of items out to retail stores," explains Paul Smith, SAP's customer experience global industry principal for consumer products.

What it does mean is that direct-to-consumer, digital brands invest more time, money and effort in how a product is housed. They're also able to innovate quicker than many traditional players since

they control the relationship with the customer, beta-testing new packaging rapidly.

"It used to take 15 days to engage with a buyer who was expressing negativity after experiencing issues; that's down to 48 hours with the advanced statistical analysis, which helps identify any need in a haystack of responses," says Mr Smith.

Packaging by direct-to-consumer brands has been innovative on the sustainability front too. Riverford Organic Farmers supplies weekly vegetable and meat boxes to people's doorsteps. It's one of the first companies in the UK to use compostable nets made from forestry waste and collects all the boxes it delivers.

"We're able to invest in packaging that can be reused, up to ten times for some of our boxes. Reuse is far more sustainable than recycling after a single use," says Greg Penn, Riverford's recipe box commercial manager.

"As we're in control of the product from field to doorstep, we can ensure the packaging is fit for purpose. We also don't add superfluous packaging to help sell products as it's not sat on a shelf and a customer has already made the decision to purchase it."

D2C brands that use so-called conversational commerce can also help educate people about sustainability issues. At Riverford they've introduced leaflets highlighting this in their boxes. "These explain not only what the packaging is made from and what to do with it when it's finished, but also why we have to use it," says Mr Penn.

Splosh, which sells laundry products via a subscription box online, claims to cut plastic packaging waste by 90 per cent when you return their containers. This is another D2C, digital brand looking to meet consumers' growing needs for environmentally responsible packaging. Smol, maker of laundry detergents, has similar aims.

In the future, innovation observed in direct-to-consumer and online brands could spur on change elsewhere. "As we become the early adopters, a better way of packing should trickle through to the traditional retail environment," says Mr Penn. "But this is largely driven by consumer demand. If the traditional retailers believe there's a commercial benefit to reducing their environmental impact based on customer opinion, then they'll do it." ●



“

[Packaging] is the store front, experience, service and product for direct-to-consumer or D2C brands. It replaces the store as the place where an emotional relationship is made and reinforced every time with the customer

Illuminating a problem: most packaging isn't light protected

Protecting packaged food and drink products from damaging light is now a measurable science

Crying over spilt milk is one thing, but you're more likely to shed a tear over the packaging when you hear that most of what we use doesn't stop milk degrading rapidly; the same is true of olive oil or plant-based drinks. Light penetrates most packaging; in milk it can affect the taste and smell within 15 minutes, while some vitamins degrade in half an hour.

Although people know of sunlight damage, a minimum number of consumers understand the damaging effect of indoor light on taste, quality and nutrients. At the same time, 90 per cent of UK dairy farmers polled

are aware of this problem. This information gap needs to be addressed.

"The issue isn't well understood by consumers, but the industry has known for years that light damages milk and other organic liquids," explains Divya Chopra, chief executive of Noluma International, a state-of-the-art light protection technical services and certification startup. "When the public is aware of the issue, they want to do something about it. It's of grave concern and we need to do something."

Indoor lighting in supermarkets and even fridge lights degrade nutrients in milk, penetrating many types of packaging. Some nutrients, in particular vitamin B2 (riboflavin) and proteins, can decrease by 28 per cent after just 20 minutes of being exposed, according to scientific research from Cornell University in the United States.

After two hours, fresh milk exposed to LED lighting, the type now common in supermarkets, begins to lose vitamin A and after 16 hours, milk found in a conventional bottle will have half the vitamin A it started with. In fact, damage to nutrition comes from all types of light, natural as well as fluorescent tubes, and occurs before the expiry date of the product. It often means consumers aren't getting the nutrients the product supposedly contains.

"Light damages packaged goods a lot faster than we realise. The vast majority of materials we use to contain our food does little to protect it fully. These days most packaging has been created as a low-cost solution. If consumers value fresh food and the preservation of nutrients in dairy and other drinks, as well as olive oil, things need to change," says Dr Chopra, whose company has a new certification for light-protection in packaging.

"What's happening now is that the technology to measure light protection is accessible. We can now benchmark packaging designs and materials with an affordable test that gives a reading within hours."

Launched last year, Noluma is the only company to develop a patented, state-of-the-art technology that calibrates the light protection capacity of packaging in relation to content change. The company is unique in that it assigns a light protection factor (LPF), a bit like the SPF rating you see used in sun creams. This factor is not only dependent on the packaging, but the product it contains.

The test is objective, quantitative, reliable and more accurate than conducting a costly evaluation with a panel



of expert taste testers and time-consuming lab analysis.

Noluma uses a photosensitive marker ingredient inside a test solution and exposes the package to intense light. The test replicates two weeks of light exposure in less than two hours. Scientists then measure the degree to which the marker is broken down. In the case of dairy, the marker is riboflavin, vitamin B2; for olive oil, chlorophyll is used.

"We calculate an LPF for companies that is dependent on the light properties of the product being sold. We can then advise them on whether their containers are suitable and guide them efficiently to a better design. People are surprised. Not all opaque material is light protected. Rays pass through a polystyrene cup for instance, while damaging ultra-violet and infra-red

light can easily penetrate other materials," says Dr Chopra.

The US-based company gives its certification to packaging that achieves an LPF high enough to block damaging light, whether it's yoghurt, milk, cheese, olive oil, coffee, cosmetics or plant-based drinks that degrade with light.

A Noluma marquee is then displayed on the container; it means that a product's freshness, nutrition, efficacy and sensory qualities will be fully protected from light damage.

"Our certification is an assurance to both end-consumers and industry that the product is fully protected against light damage. We hope that customers will begin to value the marquee over time and demand its use on packaging as a mark of trust. A lot of current packaging isn't protecting food and drink items adequately, and the materials used are inconsistent," says Dr Chopra.

"There is also not an abundance of light-protected packaging out there. This will change. We're on a mission to engage consumers across the globe about this issue. We're hoping consumer packaged goods companies worldwide will also step up, get tested and then deploy effective light-protected packaging, as well as use the certification to differentiate themselves in the marketplace."

Noluma has been working with a number of key dairy players in North America and China, and is also in talks

with companies in Europe and the UK to test and develop new packaging. A US campaign with Jersey Girls Dairy in Vermont saw sales triple in a month, after the launch of its light-protected packaging, when consumers saw measurable improvements in milk quality.

As the company doesn't sell packaging, it can objectively collaborate with consumer goods companies or their converters to find the best way to enhance the light protection of packaging while meeting other goals, such as environmental sustainability.

"Food waste is a massive issue globally. In the UK, it's a £20-billion a year problem, with 490 million pints of milk or eighteen and a half pints per household lost per annum," says Dr Chopra.

"Exposure to light degrades milk's quality and freshness before its expiration date, in some cases up to 20 times faster than if it were in light-protected and certified bottles. Noluma's testing can definitely make a difference to our growing mountain of waste. It's time for a change."

“
Light damages packaged goods a lot faster than we realise

Protein levels in milk can drop by up to...

28%

after just 20 minutes of light exposure

Cornell University report

90%

of farmers know that light damages milk

Once educated about the damaging effects of indoor light on dairy milk...

55%

of consumers say supermarkets should proactively look to package milk produce in 'light protected' packaging

CensusWide survey

“
Just because a bottle looks white and says light-protected does not mean it is; like an SPF of 10, contents can still get damaged. Trust certification

For more information please go to www.lightdamageisreal.co.uk



MATERIALS

Public attitudes to non-plastics still need work

Backlash against unrecyclables is pressing companies and consumers to search for alternatives. While card, glass and cotton packaging may be greener options, experts say a change in consumer understanding is still needed in order to be truly sustainable

Oliver Balch

Cardboard should be the dream packaging product. And in many ways it is. It's light while strong, easy to recycle and dependent on those great climate regulators: trees.

It's what happens before your boxed-up Amazon purchase lands on your doorstep that's the problem. At the crux of the issue are commercial timber plantations, many of which are now located in the global south.

Plantations might be good for the climate, "carbon sinks" the scientists like to call them, but they aren't nearly as great for the local habitat or, very often, for local communities.

"Plantations are constantly expanding into new territories, where biodiversity is replaced with monocultures of trees," says Maria Ehrnström-Fuentes, a forestry specialist at the Hanken School of Economics in Finland.

The fast-growth tree species that go into pulp production, the base for cardboard, are very thirsty, resulting in water shortages, she adds. Smallholder farmers can also find themselves displaced by large-scale commercial forestation.

In response, the pulp and forestry industries have developed a variety of sustainability certification schemes to demonstrate their efforts to mitigate such negative impacts.

The best-known certification is run by the Forest Stewardship Council. Certified producers are required to show they meet ten core rules, which cover everything from avoiding environmental damage to respect for indigenous lands.

Conservation charity WWF has gone one step further, developing a set of good management principles specifically for the pulp and paper industry. The New Generation Plantations (NGP) initiative pushes participating companies to learn from one another about how best to address challenging issues.

As a basic starting point, plantations should never replace natural forests, according to NGP. Ideally, they would also be established on degraded areas with low conservation value and would make a positive contribution to local people's lives.

An illustrative example is the Brazilian pulp and paper firm Fibria, which works with local charities in the south of Brazil to help establish community-owned tree nurseries. Another is Finland's Stora Enso, which has set aside more than 100,000 hectares of its concession in Brazil's Atlantic rainforest for conservation.

One of the beneficiaries of the backlash against plastic packaging is glass. This time-honoured alternative is seeing a steady demand growth in a range of sectors, from food and beverage to cosmetics, perfumery and pharmacy, according to the European Container Glass Federation (Feve).

As with cardboard, glass has the benefit of being highly recyclable. Furthermore, using existing glass in the manufacturing process allows for a lower melting temperature, which in turn leads to lower energy-related emissions.

Yet the carbon intensity of glass production still remains high. The container and flat glass industries, which account for 80 per cent of all glass, emit more than 60 million tonnes of carbon emissions a year, according to Global Efficiency Intelligence.

Energy efficiency measures are slowly helping bring this down over recent years. In Europe, for instance, almost all glass factories are now equipped with natural gas as opposed to more polluting fossil fuels such as diesel.

The European glass industry annually invests €610 million in waste heat recovery systems and other decarbonising measures, says Feve spokesperson Michael Delle Selve. The result has been a 5 per cent reduction in carbon emissions over the last decade.

For ethical water brand Belu, which gives 100 per cent of its profits to WaterAid, the focus should be on avoiding single-use packaging wherever possible, be it glass or plastic; Belu uses both.

In a frank admission, Belu's chief executive Karen Lynch says the best option for eco-conscious consumers is to drink tap or filtered water from a refillable, non-plastic bottle.

"You may give yourself a big high five for being plastic free, but you could triple or even quadruple the carbon emissions created if you opt for a switch to single-use glass," she says.

Meanwhile, if there's one single item that earns the universal ire of environmentalists, it is the single-use plastic bag. For many, cotton tote bags are seen as a more sustainable alternative. But are they?

Not if a recent study commissioned by the Danish government is to be believed. Cotton bags need to be used around seven thousands times to become a greener option than plastic, according to the study.

Why? Because cotton is a thirsty, land-hungry crop that typically requires large volumes of polluting fertilisers and pesticides. Infrastructure for recycling cotton is also scarce.

Leading the charge in making cotton more sustainable is the Better

“**Less than 20 per cent of cotton is currently grown in a way that actively protects people and the planet**

3 CONCERNS WITH NON-PLASTIC ALTERNATIVES

40%

of all industrial wood traded globally is used in the pulp and paper industries

WWF 2019

60m tonnes

annual level of carbon emissions created by the container and flat glass industries

Global Efficiency Intelligence 2018

7k

number of times a cotton tote bag needs to be used for it to become a greener option than plastic

Ministry for Environment and Food of Denmark 2018



A cotton plantation

Bloomberg / Getty Images

Cotton Initiative (BCI). This industry-backed group works with almost two million farmers around the world, encouraging them to adopt more sustainable practices, such as using less water and fewer chemicals.

Even so, less than 20 per cent of cotton is currently grown in a way that actively protects people and the planet, says BCI chief operating officer Lena Staafgard. "BCI seeks to change this and is striving to transform cotton production from the ground up," she says.

For now, however, even purveyors of tote bags are wary of overly endorsing them. Few companies are more eco-aware than Rotterdam-based Bio Futerra, a wholesale provider of plant-based packaging products. On its product list are Fairtrade-certified cotton bags made from at least 70 per cent organic cotton.

"Under no circumstances do we want to mitigate consumer concerns about the environmental footprint of cotton in general; we rather encourage our customers to ask critical questions about our products and their impact," says Ekaterina Smid-Gankin, sustainability consultant for Bio Futerra.

Ms Smid-Gankin says finding zero-impact packaging solutions is, as yet, not possible. That's as true for cardboard and glass as it is for cotton. Even so, anything is better than plastic, she maintains. Her core message: "Reuse, reuse, reuse and, where possible, reuse again." ●

COCA-COLA PLASTIC BOTTLES ARE LIGHTER THAN EVER

Light-weighting the 500ml PET bottle...



Coca-Cola uses plastic packaging because it is lighter, can be resealed, has a lower carbon footprint, and a lower impact on the environment if recycled.



World Without Waste - Coca-Cola has a goal to collect and recycle the equivalent of every bottle or can it sells globally by 2030.

ALL COCA-COLA BOTTLES AND CANS IN GREAT BRITAIN ARE 100% RECYCLABLE

100% recyclable plastic

50% recycled content in PET bottles by 2020

25% recycled content in PET bottles in 2018



Recycled content use in all packaging (plastic, aluminium and glass)



2018 39%



Is this our chance to stop plastic becoming waste?

Combating packaging waste through a circular economy of reusing and recycling plastic must be a top priority for government and industry

Man kind has a big challenge with plastic packaging. On the one hand, too much ends up as litter, in landfills and in our oceans. Yet, on the other, plastic can be a highly sustainable and durable packaging material that's easy to recycle and reuse. It also has a significantly lower carbon footprint than glass or aluminium.

The impact plastic waste is having on the environment and wildlife is now the hottest of topics, headlining the consumer and business agenda worldwide. Its effects can be damaging, at the same time it's a lost resource. The challenge is how we move to a circular economy where every piece of packaging is designed to be reused and actually gets recycled.

It's a challenge Coca-Cola isn't shying away from. "We've made good progress, but a lot more needs to be done. Making packaging as sustainable as possible is now a crucial goal for many businesses. Innovation is essential," says Nick Brown, head of sustainability at Coca-Cola European Partners, the manufacturer of Coca-Cola drinks in Britain and western Europe.

Globally, The Coca-Cola Company's World Without Waste initiative includes an ambitious goal to recover and recycle a bottle for every one it

sells by 2030. In Great Britain the packaging it uses is 100 per cent recyclable and its bottles contain up to 25 per cent recycled plastic or plant-based material, making it the largest user of recycled plastic in the food and drink industry. It has committed to get that to 50 per cent recycled plastic in all its plastic bottles by 2020.

"Ultimately, we don't want any of our packaging to end up in hedgerows as litter, in our seas as plastic pollution or in landfill as a wasted resource. It's unacceptable. It's time we rethink plastics and packaging within society," says Mr Brown.

According to the United Nations Environment Programme, global materials use is three times more than it was in 1970 and is expected to double by 2050. Therefore, there's a growing need to keep plastic that's currently in circulation in a closed-loop system, where recyclable products are used, collected, and used again and again. This is necessary to reduce the amount of new materials being used.

"A world without waste is possible. Having some of the most widely distributed and visible brands in the world means we have a responsibility to aim for this goal," says Mr Brown. "A major opportunity is in better

collection. Over the last 20 years, UK local authorities have done a fantastic job collecting recyclable materials from our households, but there's a patchwork of systems, it's not cohesive and we need to move it to the next level."

In Britain, the company offers consumers more than 80 drinks across 20 different brands. "We use our brands to encourage more people to recycle with messages on bottles and through our adverts that encourage and incentivise people to do the right thing after they've enjoyed their drink. The next big challenge is to increase recovery rates, which is currently less than 60 per cent for plastic bottles," says Mr Brown. "There's a real opportunity here, especially beyond household

collections, including those in our towns, cities, offices, transport hubs and in the community."

One of the issues that Coca-Cola faces in the UK is sourcing more food-grade recycled plastic so it can increase the amount of recycled plastic in its bottles. "Moving towards a circular economy is the goal and we applaud the fact that the UK government is now reviewing its current strategy," says Mr Brown.

Mid-May saw the end of the first consultation round for the Department for Environment, Food and Rural Affairs, and its resources and waste strategy. New interventions could come in three key areas: consistency of household recycling; extended producer responsibility; and a deposit return scheme for drinks containers. At the same time, a tax on single-use plastics packaging, with less than 30 per cent recycled content, is being considered.

"Any new schemes will need to be carefully thought through. We understand that packaging producers and industry will need to contribute more. We also want to see a step-change in the quality and quantity of recycled packaging material available to manufacturers like us," says Mr Brown. Ideally Coca-Cola wants to see this material reprocessed here in Britain too.

"There is a lot of interest in a well-designed deposit return scheme for bottles where consumers pay a surcharge at the point of sale, which is then returned when the can or bottle is recovered," he adds.

Around the world, Coca-Cola participates in more than 40 different deposit return schemes and has extensive experience in their set-up and operation, working with government and others in industry to recover more containers for recycling.

"The best schemes are in northern Europe, including Norway and Sweden, where they make it easy

for consumers to recycle. There are plenty of return points in supermarkets, offices and transport hubs," says Mr Brown.

"Any new scheme should be consistent across Britain and well communicated to the public. Retailers and supermarkets must be paid to run efficient collection points. The whole scheme should be well financed and managed by a not-for-profit organisation and owned and operated by industry. It should also be set clear collection targets by government to deliver the best possible environmental outcomes."

There is certainly industry consensus for a more standardised and effective collection system across Britain. This will require a new model for local authorities to run kerbside recycling schemes. It will also mean significant change for businesses, retailers and the public.

"We're very optimistic about the potential changes and welcome this once-in-a-generation opportunity to reform the current packaging recovery and recycling system," Mr Brown concludes. "We want to work with others to achieve a thriving circular economy so we can make the most of our valuable resources. Policy changes will also drive investment in recycling infrastructure. The future looks bright."

For more details please go to www.coca-cola.co.uk/sustainability



We welcome this once-in-a-generation opportunity to reform the current packaging recovery and recycling system





SUSTAINABILITY

The race to sustainability starts in the supply chain

01

From wine through the post to sports drinks in seaweed, packaging is visibly going green. However, there is a secondary sustainability story behind your sugarcane insect spray or bamboo toothbrush that too often goes untold

Jim McClelland

Sustainable packaging talk tends to focus on the in-store retail experience and its impact on the more or less eco-conscious consumer. However, trade and wholesale supply chains also generate volumes of secondary packaging waste and recycling.

What happens upstream is vital and the significant percentage of UK packaging waste involved offers real business prospects, says David Wilson, UK managing director of Vanden Recycling.

“Back-of-store recycles form a large part of packaging material collected and reprocessed, with advantages over post-consumer waste,” he says. “These include concentrated tonnage in known locations, the opportunity to capture

as a single stream, plus an interested party incentivised by rebate or reduced cost.”

Furthermore, warehousing, storage, shipping and logistics can influence and even dictate the formats finding their way into consumer bags and hands or business offices and shops.

This supply chain hinterland also feeds the booming omnichannel retail and home-delivery markets, where consumers are receiving, sometimes returning, but not always reusing or recycling, industrial-grade packaging.

A seemingly simple solution to reduce both the amount of secondary packaging and number of associated vehicle movements is to maximise the load potential, by weight

or volume. However, the biggest obstacle is the lack of a sector standard, says Stuart Milligan, doctoral researcher at the University of Bath School of Management.

“Smaller pallet loads tend to be produced as manufacturers and retailers are not joined up with regards to handling and storage,” he says. “A standardised approach would result in greater synergies.”

Green strategies may also reap economic benefits. “There will be low-hanging fruit which will yield both a reduction in packaging and financial savings. The challenge will come when the quick wins have been realised and retailers then have to invest to redesign their processes,” he adds.

While cost bumps might be a commercial reality, sadly good communication is not, notes Robert Lockyer, chief executive and founder of Delta Global, innovators in luxury packaging. “Retailers must be more open to options that may cost a little more, while prepared for consumer reaction to rising prices. If we accept a general rule that it will cost more to go green initially, but less in the long term, those who drive change will benefit from customer loyalty,” he says. “Ultimately, for change to happen, the retail industry must get better at informing customers.”

In the meantime, costs head upstream, says Seb Gauthier,

“

The average consumer still has little awareness of the early stages of the supply chain

01 Lucozade Ribena Suntory distributed 36,000 Lucozade Sport gels encased in Ooho’s edible seaweed packaging to runners at the London Marathon

02 Ten full-sized, flat wine bottles from Garçon Wines take up the same space as four regular, round bottles

founder and director of bamboo toothbrush subscription company BlueRock. “The average consumer still has little awareness of the early stages of the supply chain, so positive consumer behaviour cannot be relied on to absorb the cost. The initiation of greening early-door secondary supply chains will therefore likely come in the form of tax breaks and other incentives,” he says.

The good news, though, is that innovation also flows upstream. Not content with pioneering an award-winning 100 per cent recycled PET (polyethylene terephthalate), letterbox-friendly flat wine bottle, Garçon Wines is turning its attention to secondary packaging and logistics too.

Designed in collaboration with DS Smith, the Garçon Wines 10 Flat Bottles Case will significantly cut carbon emissions and costs. Fitting

ten full-sized, flat wine bottles in a compact case, rather than just about four regular, round glass ones, means a loaded pallet could carry 1,040 bottles of wine, not just 456.

Sustainable packaging is simply the future, says Santiago Navarro, chief executive and co-founder of Garçon Wines. “The round wine bottles, we know and like, have been around since the 19th century, but are no longer fit for purpose. We offer a 21st-century wine bottle which is spatially efficient, lightweight, durable and sustainable,” he says.

“The strength and low weight of the bottle also mean the bottles need considerably less secondary packaging to move safely through the supply chain.”

Awarded the Waitrose Way Treading Lightly Award for green supply chain, anti-mosquito business incognito is another consumer-facing champion of upstream sustainability.

As well as researching renewable sugarcane alternatives to traditional plastic, the company ensures all back-end packaging is from sustainable cardboard, uses green bubble wrap and shreds its own paper for reuse as recyclable fill.

“We put in requests to fulfilment houses for green packaging and delivery,” explains managing director Howard Carter. “We also put pressure on third-party manufacturers.”

Greening can be about where, as well as what, though, Mr Carter adds. “Some companies may have a delivery that goes to the warehouse first and then to the fulfilment house. What we’ve done is to locate the warehouse in the fulfilment house. This closed loop means fewer journeys,” he says.

In 2010, Lucozade Ribena Suntory invested some £70 million to bring bottle production onsite with Logoplaste, at its Gloucestershire factory. This also completely removed the need for transportation, so reducing supply chain emissions.

So, as well as high-profile initiatives such as distributing 30,000 Lucozade Sport Ooho seaweed capsules at the London Marathon, much of the greening still goes on behind the scenes.

Lightweighting, for example, is a key part of the global brand’s journey towards ensuring 100 per cent of its plastic packaging is reusable, recyclable or compostable by 2025, says Michelle Norman, director of external affairs and sustainability.

“In January, we lightweighted the best-selling 500ml Ribena bottle, which removed 325 tonnes of plastic from production every year. Now the bottle is also undergoing a redesign to ensure it is fully compatible with bottle-to-bottle recycling,” she says.

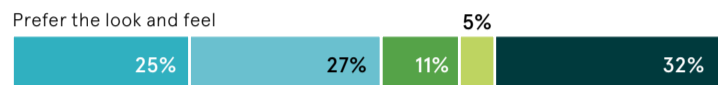
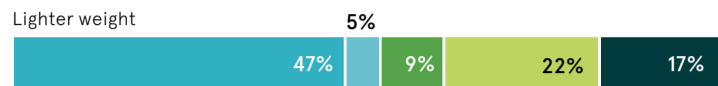
Innovation comes in many shapes and sizes, literally, and even the smallest change can have a big impact, explains Patrick Browne, director of global sustainability at UPS.

“We encourage customers to focus on right-sizing, using the minimum amount of packaging to achieve maximum protection,” he says. “There’s less cardboard, obviously, also less packing material, which helps reduce waste. Right-sizing enables us to better optimise space in our trucks and deliver more each trip.”

PACKAGING INDUSTRY HAS TO CONTENT WITH A MULTITUDE OF CONSUMER PREFERENCES

Which materials consumers prefer based on the following factors (%)

● Paper/cardboard ● Glass ● Metal ● Plastic ● No preference



Percentages may not equal 100 due to rounding

Two Sides/Toluna 2018

Switching to reusable transport packaging is an eco-friendly alternative to shipping with single-use cardboard boxes.

Last year, for instance, TerraCycle worked with UPS to test a customised, durable and reusable tote for their groundbreaking Loop initiative, designed to reduce single-use packaging of everyday items, such as shampoo, detergent, even ice cream.

Shipping with reusables is already practised by several European hospitals and healthcare companies. It lowers costs over time, reduces waste and saves on recycling, so multiple benefits are possible, says Ester Van den Bossche, UPS temperature true packaging solutions manager, Europe.

“Large-volume shippers within a closed-loop or managed open-loop system might consider using reusable transport packaging such as pallets and crates,

totes or bins,” she says. “These items can be used for shipping or for storage and transportation.”

Reusability sometimes trumps even reduction because, if we reduce packaging to the point where products are being damaged, we score an own goal, says Debbie Hitchen, director and circular economy lead at consultancy Anthesis.

“Some stores have started transporting fruit and veg in stackable plastic crates that go straight onto the shelf. You might think old cardboard boxes were better because they are easier to recycle, but it turns out that the plastic crates protect well and are returned to be reused over and over,” she points out.

The secondary success story is not always obvious, but it is essential for delivery on sustainability goals, in every sense. ●



Natural choice for sustainable packaging

As consumers demand greater sustainability in packaging, a major beverage carton manufacturer is going “Way Beyond Good” with a bold ambition to put more into the environment and society than it takes out

Sustainability of packaging is an increasingly hot topic with Sir David Attenborough’s *The Blue Planet* TV series sharpening the focus on pressing environmental challenges such as plastic waste in our oceans.

Three quarters of consumers now say the environmental impact of a product’s packaging affects their purchasing decisions and 90 per cent want packaging to be easily recyclable, according to latest figures from the 2018 *European Consumer Packaging Perceptions Survey* of 7,000 shoppers.

Food and drink are the products people purchase most frequently and packaging options here range from metal cans and glass bottles to pouches, plastic bottles and more. Thanks to their main ingredient – renewable paper board made from wood – cartons are the natural choice when it comes to reducing environmental impact.

Independent assessments of the life cycle of beverage cartons show they have lower environmental impact than many other types of packaging for a range of products, including long-life food, UHT milk and non-carbonated soft drinks. In fact, the life-cycle carbon footprint of a carton is between 28 per cent and 70 per cent lower than the alternatives, and cartons use 41 per cent to 68 per cent fewer fossil-fuel resources.

But one leading systems and solutions provider for aseptic carton packaging is going further. SIG has set a bold ambition to go “Way Beyond Good”.

“Sustainability has been increasing in leaps and bounds in recent years, but we want to take it further,” says Martin Herrenbrück, the company’s president and general manager for Europe. “Our ambition is to work with our partners to create a net-positive food supply system



that will nourish a growing global population while contributing more to society and the environment than we take out.

“We set out to become a net-positive company three years ago and we’ve already achieved some significant milestones on this journey in the way we source our raw materials, make our products and run our business.”

SIG now offers its customers a menu of features that they can use to improve the credentials of its packaging in the eyes of consumers. These range from the option to put the FSC®¹ (Forest Stewardship Council®) label on any SIG pack to using polymers linked to 100 per cent forest-based materials.

“More and more of our customers are taking up solutions like combibloc EcoPlus and SIGNATURE PACK,” says Mr Herrenbrück. SIG’s combibloc EcoPlus is 82 per cent renewable and requires 28 per cent less CO₂ to produce than conventional cartons in the same format. Its innovative design eliminates the aluminium layer by using an ultra-thin polyamide layer to protect the flavour of the food or drinks that the packaging contains.

SIGNATURE PACK 100 is the world’s first aseptic carton linked to 100 per cent renewable plant-based materials, via an innovative mass-balance approach that supports the use of renewable feedstock in mainstream polymer production. It has up to 66 per cent² lower life-cycle carbon footprint than the company’s standard packs. Meanwhile, combiblocRS, the new standard structure for SIG’s cartons, has saved more than 4,850 tonnes of polymer since it was introduced in 2016.

¹FSC® C020428
²SIGNATURE PACK ISO LCA CB-100732 from March 2018. Available at www.sig.biz

“Consumers increasingly want to feel good about the food and drink they buy, and that includes the way it’s packaged”

SIG is also helping to tackle concerns about plastic straws with the world’s first market-ready alternative for use with aseptic carton packs. “Our paper straw solution is helping customers meet the urgent demand from stakeholders to cut out plastic straws amid growing concerns about their impact on the environment and particularly on the world’s oceans,” says Mr Herrenbrück.

“Consumers increasingly want to feel good about the food and drink they buy, and that includes the way it’s packaged. We’re helping our customers meet this demand with more sustainable product innovations as part of our ambition to go ‘Way Beyond Good’ for the environment and society.”

To find out more please visit www.sig.biz



3/4
of consumers say packaging environmental impacts affects purchasing decisions

Cartons have up to **70%** lower carbon footprint than alternatives

SIGNATURE PACK from SIG is linked to **100%** renewable plant-based materials

RECYCLING REFORM

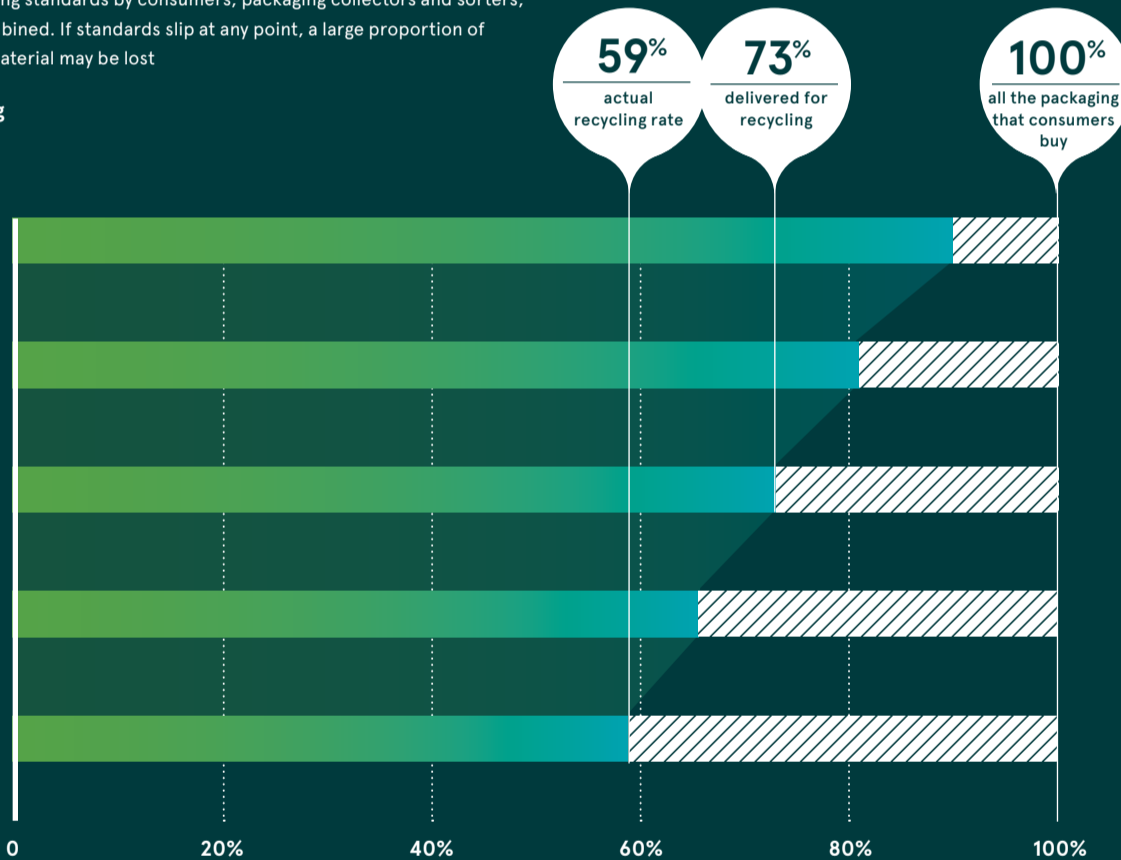
Brands are rushing to adapt their supply chains, packaging processes and materials to shifting consumer sentiment. But what progress is being made, and whose responsibility is it to drive change?

SUPPORT NEEDED AT EACH STAGE OF THE RECYCLING JOURNEY

A large portion of packaging can be lost at each stage of the recycling journey. The following diagram shows that in order to achieve a recycling rate of just 60 per cent, it requires high recycling standards by consumers, packaging collectors and sorters, and reprocessors combined. If standards slip at any point, a large proportion of potential recyclable material may be lost

Amount of packaging that gets recycled

- ∨ ...If 90 per cent of people recycle their packaging
- ∨ ...and recycle 90 per cent correctly
- ∨ ...for 90 per cent of the time
- ∨ ...and collection and sorting losses are only 10 per cent
- ∨ ...and reprocessing losses are only 10 per cent



Britain Thinks/Suez 2018



91%

of consumers say they try to recycle and dispose of items in the correct way as much as they can



83%

say they feel confident that they recycle and dispose of their household waste in the correct way



56%

say the environmental credentials of a product are important in their purchasing decision

Britain Thinks/Suez 2018

WHO HAS THE MOST RESPONSIBILITY FOR MAKING SUSTAINABILITY IMPROVEMENTS TO PRODUCTS/PACKAGING?

Percentage of the public who chose the following



17%

12%

9%



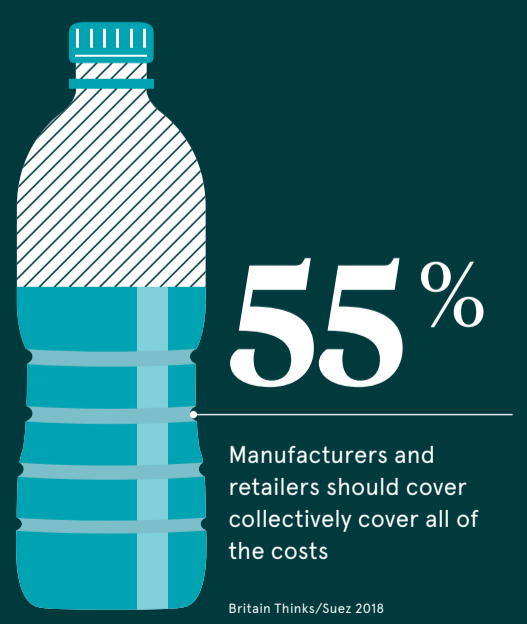
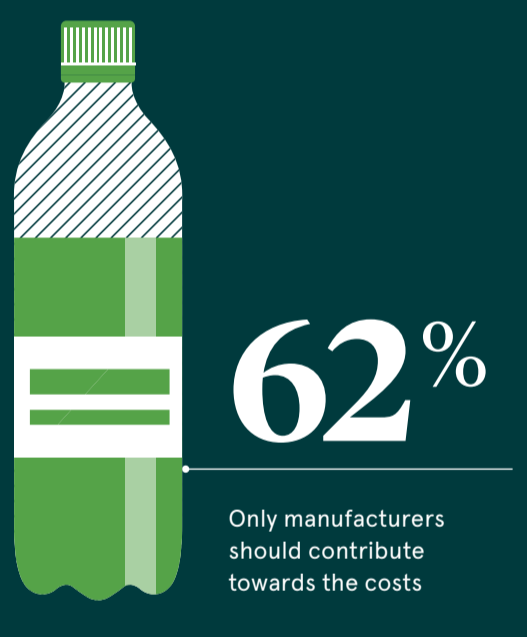
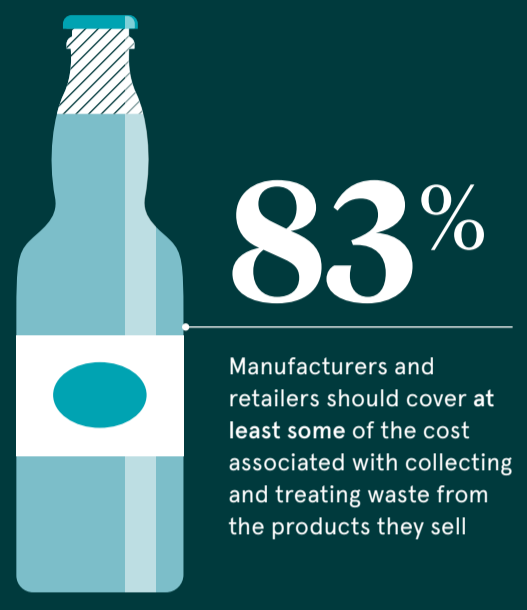
SUPERMARKET PLASTIC PACKAGING RECYCLING RATES IN THE UK

Share of widely recyclable plastic packaging



WHO SHOULD BEAR THE COST?

Percentage who strongly agree or tend to agree



Emotive and transformative: why brands are rapidly choosing glass

Glass has been used for centuries as a high-quality, robust packaging material, but it is becoming increasingly relevant in shaping how brands make memorable moments and establish an environmentally friendly image

Consumers constantly demand more from packaging. They want products to be environmentally friendly, and most are more likely to buy goods in packaging that represents them and their lifestyle. Glass gives brands endlessly recyclable and customisable packaging that empowers them to stand out even in the most fiercely competitive markets. It also allows them to preserve the subtle taste and texture of their products.

While glass, as with all packaging, had for some been viewed as a cost, the material is now increasingly viewed as a powerful brand asset. Euromonitor data shows a steady increase in glass usage since 2016. High glass-share segments, such as premium alcoholic beverages, are continually growing, and there is now increasing use of glass for packaging food and non-alcoholic drinks.

This shift has occurred because glass offers brands a powerful response to consumer demand for greater personalisation and "premiumisation". "Changing preferences and desires from consumers are forcing food and drinks brands to think creatively how they can generate deep engagement, driving diversification and a redefined role for packaging," explains Arnaud Aujouannet, chief sales and marketing officer at Owens Illinois (O-I), the world's largest manufacturer of glass packaging products.

"Glass has a unique ability to bring real emotions to consumers by capturing a brand's essence. With more than 70 per cent of purchasing decisions made in-store, packaging needs to tell a differentiated brand story at one glance, and glass delivers on that."

High-end spirits makers often look to premiumise the experience with ultra-pure glass and intricate design.

"Then there are beer companies that develop a few global brands, which they launch in new markets with a more premium positioning, leveraging glass to support the more sophisticated image," says Mr Aujouannet.

Meanwhile, food manufacturers seeking to switch a product into glass containers might go for a simple design, with the view that simply the switch from plastic to glass is already creating the premium feel. This was recently exemplified by General Mills' decision to house its Oui yoghurt product in the United States in glass, which is unusual in the market and gives it a premium edge.

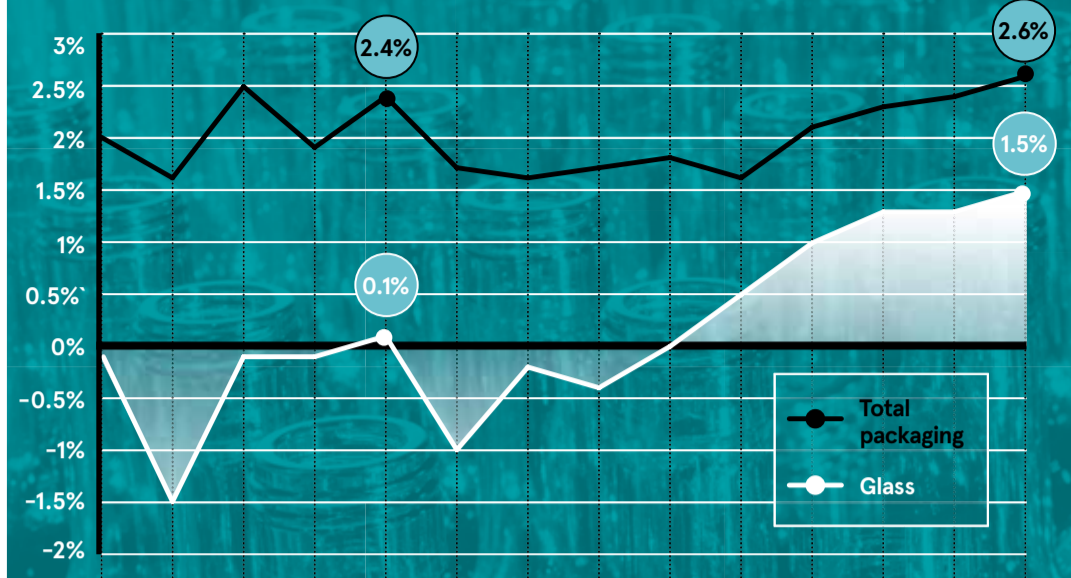
Food and drinks brands find that consumers like the many shapes, colours, embossings and designs on offer, and this is visible in their purchasing. These options make a memorable consumption experience, with many people even collecting and displaying bottles.

Customisation is now well understood to be a driver of consumer behaviour and purchasing decisions, which is why brands are urgently seeking ways of tapping into the trend. A report by Packaging Innovations and ThePackHub recently found that 66 per cent of packaging professionals are implementing personalisation into their offerings. Indeed, Coca-Cola's recent Share a

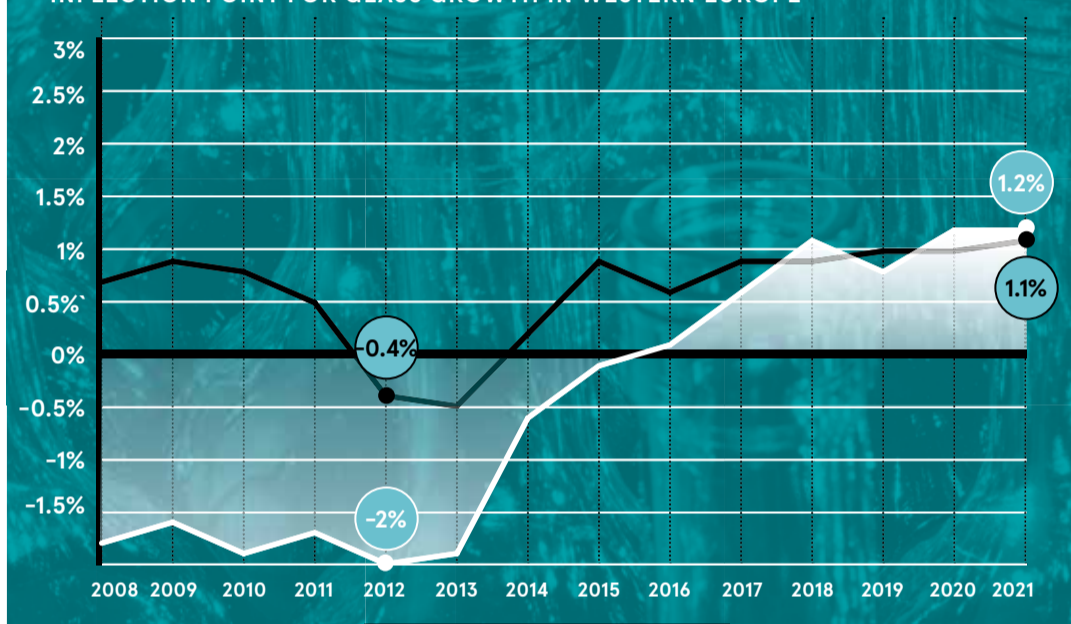
70%+

of purchasing decisions are made in-store, so packaging needs to tell a differentiated brand story at one glance, and glass delivers on that

INFLECTION POINT FOR GLASS GROWTH WORLDWIDE



INFLECTION POINT FOR GLASS GROWTH IN WESTERN EUROPE



Coke campaign saw names added to millions of bottle labels, resulting in a 5 per cent annual sales increase.

"We see more companies wanting premium products, which are also customised in line with promotions or key events," says Mr Aujouannet. "Thanks to recent innovations, such as our customisation service O-I: EXPRESSIONS, glass enables brands to be more responsive to what their customers want and to deliver new products quickly."

Consumers are also driving a shift towards sustainable packaging and glass clearly has a great deal to offer given it is typically made from an average of 50 per cent recycled glass, and up to 90 per cent for green bottles. Glass bottles can be reused up to 30 times. Some 78 per cent of European consumers told a 2018 Friends of Glass survey that their buying behaviour has changed as a direct result of environmental packaging desires.

"Even though the glass industry has focused on sustainability for many years, the big change is that the work is really driven by consumer desire now," says Mr Aujouannet. "Consumers are influencing brands and governments, and with glass being so recyclable and reusable, it's the obvious choice for better packaging."

Drinks and food companies are acting quickly to make the best use of sustainable glass. As of last year, the Glass is Good programme for collecting used

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Consumers are influencing brands and governments, and with glass being so recyclable and reusable, it's the obvious choice for better packaging

bottles, led by drinks firm Diageo, had collected 43 million one-litre bottles. O-I partners with many such schemes and has invested more than \$6 million in glass recycling facilities around the world. The company has also committed to half its glass being post-consumer recycled content by 2025.

For O-I, part of the way forward is to help brands understand more about their consumers and shoppers, and to give them more of what they want, quickly and in ways that can be sustainably successful. This has been the motivation behind the company's launch of O-I: EXPRESSIONS, which enables brands to combine the

benefits of using glass bottles with the promotional potential of easily and almost instantly customisable design.

In addition, O-I's in-house design services team helps food and beverage companies create innovative and impactful new containers or bottles that make emotional connections between products and consumers.

"There has been a major shift in the last few years around the usage of glass," says Mr Aujouannet. "Glass is once again viewed as an asset rather than a cost, with all the evidence pointing to strong and growing demand among consumers for premium, personalised and more environmentally friendly packaging."

"Considering the original quality of glass is as a premium product that generates real emotion, we're glad to see brands extensively using it to catch consumers' interest on a big scale. They use glass to bring unique, brand-based or tailor-made products to market quickly, with unprecedented flexibility."

To find out more about using glass packaging as a premium, sustainable brand asset please visit o-i.com



BRANDS

When packaging reflects brand ethos

Three food entrepreneurs share their packaging stories on their journey to becoming more sustainable and the challenges along the way

Rich McEachran

When it comes to food, packaging needs to be fit for purpose. It has to be robust so it doesn't split or burst and spoil the contents. It needs to look good, attract consumers' attention and, in some cases, appear upmarket. It must have the correct allergen labelling so consumers can buy with confidence. Perhaps just as important, it should

be made from eco-friendly materials. According to a 2018 Nielsen report, *Sustainable shoppers buy the change they wish to see in the world*, 49 per cent of global respondents surveyed indicated they would be willing to open their wallet and pay more for products with high-quality standards, which they associate with good

sustainability practices. Some 38 per cent said they would be inclined to pay more for products that use sustainable materials.

Realising there's a growing appetite among consumers for eco-friendly packaging, food businesses are embracing sustainability to boost brand perception and enhance the customer experience.



Hannah Carter, OGGS

Hitting the shelves of Sainsbury's and Waitrose from June will be OGGS' (previously Alternative Foods) egg-free cake range, with flavours including chocolate fudge, salted caramel and lemon drizzle. The company has also created the world's first liquid egg substitute, which will launch in September, made from the cooking liquid from chickpeas, aquafaba.

As a socially conscious, plant-based food manufacturer, one of OGGS' fundamental aims is to help bring about the change required for a sustainable future. Developing egg-free cakes is only a small part of this; another is using

environmentally friendly plastic packaging that is 100 per cent recycled, recyclable and biodegradable, founder Hannah Carter explains.

"Eco-friendly packaging is becoming a ticket to the game, rather than just being a game-changer," she says.

“Eco-friendly packaging is becoming a ticket to the game, rather than just being a game-changer”

While it isn't immediately obvious to anyone browsing supermarket aisles that a product is packaged in eco-friendly materials, consumers are increasingly buying products with a message behind the brand. They'll often take their time to research products at home before making a purchase in-store.

"A brand, today, goes beyond the physical product. Consumers are interested in all aspects of the manufacturing process, and the ingredients and materials used. This includes how they're sourced, the ethics in the supply chain and how it's all packaged," says Ms Carter.

"With this in mind, we attract and retain brand loyalty through adding value to our customer experience, not just in our end-product, but at every stage of the supply chain."



Marieke Syed, Snackzilla

When Marieke Syed conducted market research for her new premium health snack for children's brand Snackzilla, the first thing the majority of parents asked her about was the packaging.

"Education on, and public perception of, single-use plastics has moved at such a pace over the last couple of years. Even kids are talking about plastic pollution," says Ms Syed.

Snackzilla has developed a range of oat cookies that are high in fibre and contain 45 per cent less sugar than most sweet biscuits; comparisons were made with more than 100 other biscuits. But while the products, which will be made in a nut-free factory, have been ready for over a year, Ms Syed has been on a long journey to get the wrapper right.

"Sustainability is one of the key drivers for us and we want to demonstrate to our customers that we are a purpose-led brand: a better snack option for their kids' health and a better packaging option for the planet and their kids' future," she says.

Being committed to eco-friendly packaging isn't without its problems, especially in terms of shelf life and price point.

"I'm going against what many of my competitors are doing and what makes sense financially, so it does feel like I'm taking a massive risk," adds Ms Syed.

Final trials of the packaging are taking place and Snackzilla is currently in talks with national retailers.

Helenor Rogers, TrooFoods

Last year saw the launch of the UK's first cereal brand to be packaged in plastic-free pouches. Troo is a range of granola that comes in paper bags developed by Sirane, the firm behind the compostable food packaging innovation Earthpouch.

"Going plastic free was a very deliberate move aimed at visibly demonstrating our brand values and living up to our brand name," says gut health company TrooFoods' co-founder Helenor Rogers. "It's been well received by consumers. For some, it's a reason to purchase and for others, it's the icing on the cake."

Troo's biggest customer is currently the doorstep milk service Milk & More; its plastic-free granola fits perfectly with their milk in glass bottles and yogurt in glass jars. Troo is also stocked by Waitrose and was featured in the

March edition of SuliBox, a sustainable subscription box. And while this has driven consumers to buy directly from Troo's website in the weeks since, feedback received is helping to shape future customer experience.

"A customer got in touch the other weekend asking we consider replacing the tape we use for packing orders with paper tape. This is something we'd been looking at, but hadn't implemented. The customer's request was enough to push us to make a move on it straightaway," says Ms Rogers.

Being plastic free is a crucial differentiator, she adds. From a consumer perspective, Troo is appealing to those who are actively doing something to reduce their carbon footprint. From the trade perspective, Troo is an example of consumers being happy to support brands that have made a choice to be more sustainable.

"It's a definite win-win," says Ms Rogers. "As a company aiming to leave a positive legacy, doing anything less just doesn't feel right." ●



INCLUSIVE DESIGN

Is ignorance to blame for non-accessible packaging?

Designing packaging that is easier to read, open and use for blind and disabled people ultimately improves everyone's user experience

Sarah Dawood

For a non-disabled person, opening a tightly wrapped cardboard box might require effort. For those with reduced dexterity, it's more than a nuisance, it's impossible.

Those who are fully sighted also take for granted the ability to distinguish between two identically shaped bottles that feature different labels, while those who are visually impaired will struggle.

Scope estimates that a fifth of the UK population, 13.9 million people, are disabled, while the World Bank reports that one billion worldwide have a disability.

But despite the number of people requiring accessible packaging, most products rely on consumers having full sight and both hands. So why is this demographic being ignored?

Sean Thomas, executive creative director at design consultancy Jones Knowles Ritchie, thinks that marketing still caters for the masses, because it is so money driven. "Depressingly, people design for the majority because they want to reach scale and sell as much as possible," he says.

01 A whole host of traditional packaging designs still fail to cater for disabled people or those with reduced dexterity

02 Vision 20/20, by design studio Jones Knowles Ritchie and Revolt Communications, is a set of packets that feature large font and bold shapes that are easy to spot on the shelf or in a dark cupboard

03 The Microsoft Xbox Adaptive Controller is aimed at disabled gamers with reduced fine motor skills and comes in easy-to-open packaging with hinges so it pops open

Sam Latif, company accessibility leader at P&G, who is blind herself, adds that there is "ignorance and a lack of awareness" in companies as often decision-makers do not experience the effects of disability first-hand.

Considerations such as sustainability receive more attention as they feel like universal issues, says industrial designer Solveiga Pakstaite. "Not everyone is disabled, whereas people feel sustainability is something they can relate to, so there are more people shouting about it," she says. But those championing inclusive design believe it should be treated with the same importance.

Its ethos is that products, systems and environments should be designed to be used by as many people as possible, regardless of disability, age, gender or other demographic. The idea is, if you make things accessible for disabled people, you automatically make things easier for everyone.

Some projects have sprung up that include, rather than exclude, the disabled community. Microsoft's Xbox Adaptive Controller, launched last year, is a handset aimed at disabled gamers and those with reduced fine motor skills. The controller is customisable, so assistive aids can be attached to let people play video games without using the standard buttons. Its packaging was also designed to be intuitive and easy to open, while providing a delightful unravelling experience, according to Kevin Marshall, creative director of design at Microsoft.

"It was about empowering gamers with limited mobility and creating an unboxing experience they can navigate, so they can kick off into gaming confidently," he says.

The box, which was tested with disabled gamers, features many mechanisms, including loops that can be pulled with one hand causing it to pop open, hinges and a slide-out controller tray. It has no plastic wrapping or twist ties holding the controller in.

"There are four different ways to remove the product from its tray, including shaking it out," says Mr Marshall. "With accessible packaging, you want to give the customer options and design as many routes as possible. Users should interact with the product on their own terms."

To protect the product, cardboard air cells were fitted, which pop out when the box is opened, avoiding the need for non-recyclable, plastic bubble wrap.

Projects like this show how inclusive design and sustainability often go together. Another example is Mimica Touch, a tactile expiry date made of a biodegradable gel, which feels smooth to touch when food is fresh and bumpy when it is bad. The company has two purposes: to enable visually impaired people to know when food is out of date and limit food waste for everyone by providing more accurate predictions.

The gel is kept in a little pouch on packaging and is calibrated to go off at the same speed as different



foods, such as meat, milk or cheese. It reacts to temperature, so mimics food's degradation, and is made from a waste product, making it sustainable.

Company founder Ms Pakstaite, who is currently taking Mimica Touch to market, says the tactile marker would be used alongside existing use-by dates, which tend to "err on the side of caution". The Waste Resource Action Programme (WRAP) predicts that 60 per cent of the UK's food waste could be avoided.

"If someone is visually impaired, then printed dates are of no use," she says. "My research found that they were less likely to buy fresh food, as processed foods do not carry the same risks of food poisoning, so this impacts their health."

Ms Pakstaite says that gathering diverse testers with a range of disabilities is key to inclusive design. "We call these 'expert' or 'extreme' interviews," she says. "You learn much more from these people. If you make it easier for them, you've taken care of other people too."

P&G's Ms Latif also follows the principle of designing for everyone. Last year, she relaunched Herbal Essences' bottles featuring tactile marks that help blind people distinguish them by touch, stripes on shampoo and circles on conditioner. A simple code like this is better than using braille, she says, which can take years to learn and is not used by all blind people, while shapes are accessible to everyone.

The marks also help anyone who wears glasses or contact lenses and has blurry vision in the shower. "Until now, packaging has been dependant on vision," she says. "We need to think about how to bring in other senses to enhance user experience."

To do this, brands need to build empathy internally and emulate experience, she says. At P&G, she asks staff to wear glasses that mimic sight loss then interact with products, to help them understand their accessibility. Simple tests are also conducted, such as whether something can be opened with one hand or identified by touch with both eyes closed.

Some designers are still focusing on how to make packaging as visually clear as possible, given that

**“
Depressingly, people design for the majority because they want to reach scale and sell as much as possible**

many sight impaired people are not fully blind. Certain graphic design features can increase legibility, says Mr Thomas at Jones Knowles Ritchie, such as high-contrast colours, sans-serif typefaces in large font sizes, and shapes.

This idea formed a food packaging concept, which the design studio has developed alongside Revolt Communications. Vision 20/20 is a set of packets, which are black and yellow, feature large Helvetica font and use shapes, such as circles and triangles, to indicate different foods. The shapes are easier to spot on the shelf or in a dark cupboard, says Mr Thomas, and could be used as "giant QR codes", so they would be scanned into an app that would read out information.

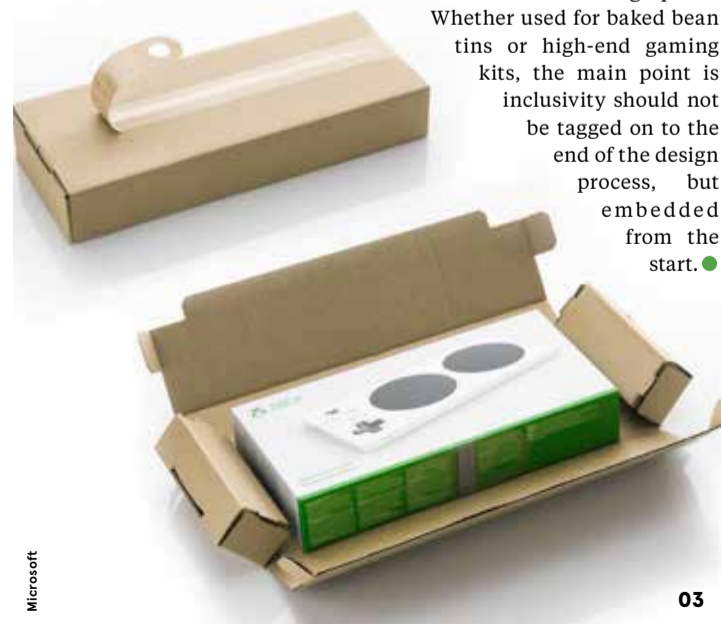
Ms Pakstaite believes packaging will become more inclusive as it becomes more sustainable. "When it's not seen as disposable, it will become more valued," she says.

Microsoft's Mr Marshall thinks there will be better use of visual recognition software that uses artificial intelligence to narrate the world around us. While Ms Latif hopes to see simple changes made to physical packaging that could make a big difference to many people, including non-glossy packets, the ability to open things with very little force and using more images, which would help those with learning disabilities.

"A small picture of a shower could feature on a shampoo bottle," she says. "We're an emoji culture now and we can use them to help people understand how to interact with products."

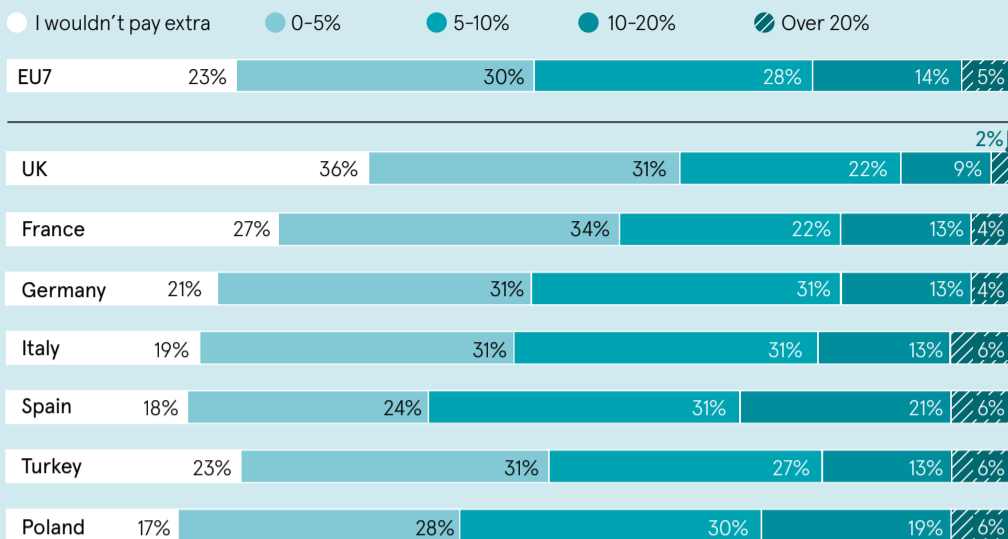
While there are seldom examples of inclusive packaging, these projects show there is potential in making everyday items accessible to different demographics.

Whether used for baked bean tins or high-end gaming kits, the main point is inclusivity should not be tagged on to the end of the design process, but embedded from the start. ●



Microsoft

77% OF EUROPEAN CONSUMERS WOULD PAY MORE FOR A PRODUCT IF IT MEANS THAT THE PACKAGING HAS LESS IMPACT ON THE ENVIRONMENT



The blunt truth: what consumers want brands to do

A new survey reveals the strength of feeling over sustainability

In the wake of Swedish activist Greta Thunberg's dramatic visit to the UK, mass protests by schoolchildren and Sir David Attenborough's new hard-hitting documentary on climate change, in which he talks of "a man-made disaster of a global scale", many brands are wondering how to react. Should they switch to sustainable materials? And if so, to what?

New research by Pro Carton, the European Association of Carton and Cartonboard Manufacturers, sets out the facts on consumer attitudes to eco-friendly packaging. It polled 7,000 citizens across seven countries to discover the best course of action.

The headline is that consumers really are demanding a change. More than two thirds of consumers say environmental issues are now "more important" than five years ago. And they are translating this concern into buying decisions. Three-quarters factor in the environmental qualities of packaging when making a purchase. Half of European consumers have switched brands over packaging.

Environmental sentiment is so strong that European consumers are willing to pay more for sustainable packaging, with nearly four out of five saying they are prepared to pay a premium. How much more? These are some of the strongest findings of all: 30 per cent would pay up to 5 per cent more, an additional 28 per cent would pay up to 10 per cent more and 5 per cent are willing pay more than 20 per cent more if the packaging is eco-friendly.

More than half of consumers support the use of taxation to force brands and retailers to switch to eco-packaging, with only 7 per cent objecting. Once radical views are now mainstream.

And what do consumers consider the ideal material for packaging? The survey shows the preferred choice is cartonboard or cardboard. In Germany, 87 per cent of consumers would choose these materials over plastic and 85 per cent in the UK.

"Our survey shows the strength of consumer feeling," says Tony Hitchin, general manager of Pro Carton. "Consumers care deeply about the impact of packaging on the goods they buy and are prepared to pay more for goods with sustainable packaging."

Jon Clark, general manager of BPIF Cartons, agrees and says it should be a wake-up call for brands. "We see consumers are making buying decisions based on packaging. Using plastic could be costing you revenue," he says.

"For example, Easter eggs used to come packed in a plastic shell. Now the plastic has largely gone. In that example, being more environmentally friendly probably saved brands money and made the product more appealing. Similarly, the fast food market has moved more into cartonboard and we're seeing drinks manufacturers replacing the plastic multi-pack rings with cartons which add to the product's presentation."

Mr Hitchin adds that it is encouraging to see consumers understand the merits of cartonboard. "Our members' products mainly come from European forests. These are highly sustainable, since the annual growth of new wood vastly exceeds the amount harvested. Cartonboard is recyclable and biodegradable. It's fantastic that European consumers are well informed and see cartonboard as the best option," he says.

More work can be done. The Pro Carton survey shows 90 per cent of consumers want more information on packaging to

help buyers make informed choices. This view is so strong that 71 per cent of consumers want the government to impose regulation effecting this.

Brands that take the lead can enjoy a halo effect. "Moving from plastic to cartons can help reposition a brand towards the premium end of the market," says Mr Clark. "Luxury goods, such as perfumes, fine champagnes and whiskies, use cartons to communicate prestige; more everyday brands will also benefit from the positive image that cartons have. We've seen brands that move to sustainable packaging materials improve consumer perceptions."

Sir David Attenborough observed: "Every one of us has the power to make changes and to make them now." The Pro Carton survey shows consumers will support brands that make the right choices.

The environmental case for cardboard and cartonboard has always existed. Now the commercial case is clear too.

To find out more please visit www.procarton.com www.bpifcartons.org.uk



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BPIF cartons

Beauty brands pioneering sustainability

In a bid to reduce single-use plastics, there's a growing trend for beauty brands to move towards recyclable and refillable packaging

Giselle La Pompe-Moore

With extravagant packaging designed to draw in consumers, the beauty industry has long been reliant on the concept of conspicuous consumption. But times have changed, and brands are now being pressured to create innovative packaging solutions that are both luxurious and good for the environment.

According to a report by *Zero Waste Week*, 120 billion units of packaging are produced globally by the cosmetics industry each year. With engaged 25 to 34-year-old consumers pushing for beauty to become a circular economy,



companies can no longer shy away from such statistics.

In the age of call-out culture, beauty brands that are not seen to be actively tackling the problem are at risk of damaging both their reputation and customer base. Aesthetically pleasing packaging is now a must if you want to ensure user-generated content online,

but a major predicament continues to lie in the balance between sustainability and design.

"Brands are embracing the natural discolouration that comes with using PCR [post-consumer recycled] materials, by either using it as a marketing tool to show off their sustainable credentials or simply incorporating the discolouration into the design of the packaging," says Simon Chidgey, sales and marketing director at RPC 4&H Plastics.

At the luxury end of the market, refillable products are bridging this gap for brands that place greater emphasis on experiential packaging. Make-up brands such as Hourglass Cosmetics

“

The uptake of refillable beauty products requires a shift in consumer behaviour

and Surratt Beauty offer refills at lower prices, with packaging that's designed to be a keepsake. This model is commonly seen with liquid products, such as shampoo and shower gel, that have a higher repurchase rate. For example, natural beauty brand L'Occitane's 500ml hair and body care refill pouches boast up to 90 per cent less packaging weight.

The uptake of refillable beauty products, however, requires a shift in consumer behaviour, which brands are taking into consideration before implementing these changes.

"In-store refillable stations for liquid goods can often be quite messy, so many consumers won't be prepared to go that extra step, especially

if there's extra waste created at the taps," says Rachele Strauss, founder of *Zero Waste Week*. As a result, there are brands creating alternative refill experiences for the consumer, such as By Kilian, the Estée Lauder Companies-owned fragrance brand, which offers four-piece refill kits including a dropper and funnel.

Set to launch later this year, circular shopping platform Loop, created by TerraCycle in coalition with consumer goods companies including Unilever and Procter & Gamble, shows where refillable beauty products are headed. It also exemplifies the importance of experience for the end-user.

"Loop addresses one of the major reasons for disposability: convenience. Consumers can opt to receive auto-replenishments based on their rate of consumption, further improving the user experience," explains Stephen Clarke, head of communications at TerraCycle Europe.

He says the beauty and personal care sector has an important role to play in building momentum towards a more circular economy for plastics. "Consumers connect with products that use recycled

01
Love Beauty and Planet's reusable containers are sold through circular shopping platform Loop

02
L'Occitane's refill pouches are a tenth of the weight of its standard packaging

73%

of brand senior decision-makers see sustainability as an opportunity for their brand

51%

have created packaging with sustainable features in the past 12 months

52%

had little to no knowledge of legislations and packaging regulations affecting the packaging industry

API Group 2018

material or commit to being recyclable, reporting a willingness to pay more or switch brands for ones that do. This is important to note because brands stand to benefit from making these commitments," says Mr Clarke.

As such, brands are challenging disposability and moving to PCR plastics. One such company is Aveda, with more than 85 per cent of its skincare and hair styling PET (polyethylene terephthalate) bottles and jars containing 100 per cent PCR materials.

"To fully eliminate the use of virgin plastic, we are exploring using other materials, including bioplastic made primarily from sugarcane, which we currently use in

L'Occitane



02

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combination with PCR in some of our packaging, seaweed and cow waste, which will very soon provide viable alternatives to virgin petro-based plastics,” says Edmond Irizarry, executive director of packaging development at Aveda.

Championing recyclable materials has become an integral part of brand DNA in almost every sector, not least cosmetics. Soaper Duper uses recyclable plastic for their entire range of naturally derived bath and body products, and has recently included the use of 100 per cent recyclable metal-free pumps. While natural and organic make-up brand Anonym use sustainable bamboo for its compacts and boxes printed on Forest Stewardship Council-certified paper.

These materials are leading the charge for a more sustainable future, as Georgia Barnes, business development manager for beauty and wellbeing at the Soil Association, attests. “Innovation in the industry is working, and more and more brands are making the switch to non-plastic options, such as bioplastics, sugar-cane derivatives, aluminium and glass,” she says.

The keyword is innovation. Mr Chidgey at RPC M&H Plastics explains the importance of the new packaging initiatives that enable more materials to be used. “Take, for instance, near-infrared black colourants, which allow sorting facilities to sort black coloured plastic instead of them previously passing by the sorting machines and ending up in a landfill,” he says.

Alongside reusable, refillable and recyclable packaging, efforts are also being made to reduce the amount of excess waste in online and in-store beauty purchases.

“Beauty product packaging is often composed of a variety of types of material. For example, mirrored glass, cardboard sleeves, paper inserts, expanded plastic foam, and more, have been known to be used in cosmetics packaging,” says TerraCycle’s Mr Clarke. This makes it difficult to be adequately separated and recycled, so many brands are cutting down.

Sustainability stalwarts Lush have had notable success with their minimal-to-zero packaging options and others are following suit. Dior have removed cellophane and excessive product leaflets, as well as printing with naturally sourced ink. Direct-to-consumer brand Glossier recently pledged to introduce a limited packaging option for online orders as a result of customer backlash.

The future of sustainable packaging in beauty looks bright as it becomes a larger conversation in the industry, but brands must play their part in educating consumers alongside their packaging innovation.

“Statistics show that while people recycle really well in the kitchen, they don’t think to do that in the bathroom. The key thing to remember is that plastic beauty packaging is recyclable, it’s just that most consumers aren’t aware that they can,” Ms Strauss of Zero Waste Week concludes. ●



Kjaer Weis

Kjaer Weis

Minimal beauty brand Kjaer Weis has managed to find the synergy between sustainability and design with their sleek and refillable metal packaging. Founder Kirsten Kjaer Weis explains that her goal was to have a luxury product, both inside and out, that was still ecologically sound.

“That proved to be a difficult mix, so I joined forces with [designer] Marc Atlan who came up with the metal packaging we currently have today. The metal isn’t recyclable, so we made it refillable. My goal was to have something that was like a

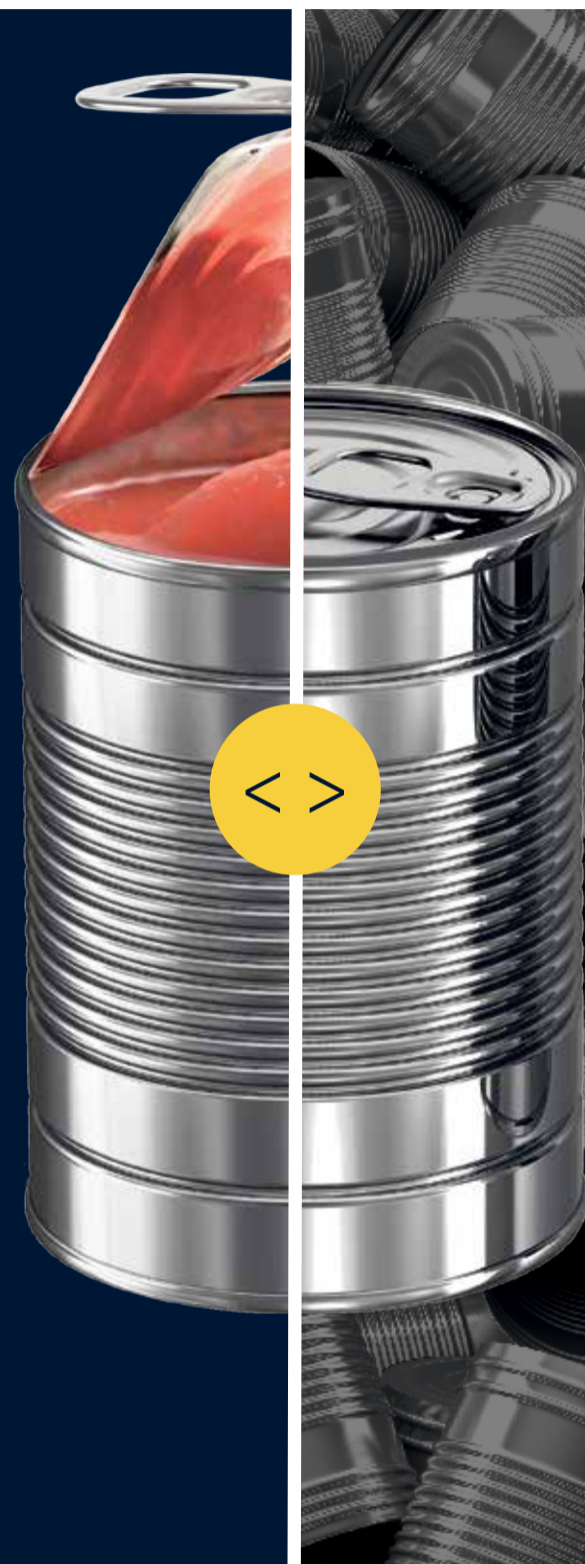
piece of jewellery which you would cherish forever,” she says.

With a lower price for refills at around 30 per cent, consumers are incentivised for their inclusion in the brand’s sustainability efforts. This also follows through across the supply chain with their use of organic farmers to supply their certified natural or certified organic raw materials, reducing the company’s carbon footprint by only flying in products for emergencies, and minimising and using recycled packing materials.

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INNOVATION

Five trends shaping packaging innovation

From elegant designs for cannabidiol oil cosmetics to compostable materials and plastic-free deliveries, innovation in packaging is almost as important as the products themselves

Sharon Thiruchelvam



Bloomberg via Getty Image

Elegant CBD oil packaging

The cannabidiol or CBD oil trend is spreading like a tidal wave through lifestyle and beauty markets. The cannabis by-product, which is legal in the UK if derived from EU-approved industrial hemp strains containing no more than 2 per cent THC, the psychotropic component that gets people high, has attracted 300,000 users. The CBD oil global market is expected to exceed \$2.1 billion by the end of the decade. Still, brands have had to work hard to counter

misnomers around the cannabis by-product and wrestle with whether to include the cannabis leaf on packaging or not. Luxury beauty brand Cannabliss features a marijuana leaf, albeit moonlighting as an elegant fan, while Vertly has camouflaged the iconic weed among other botanicals. US skincare brand Kiehl's, on the other hand, has taken an understated approach, giving its classic American apothecary packaging a vibrant chlorophyll makeover for its Sativa oil.

Plastic-free household deliveries

Launching in London, Paris, New York and Toronto this year, Loop is a plastic-free refill service for everyday household products from companies such as Häagen Dazs, Crest, Ariel, Pantene and Dove. Taking inspiration from traditional milk bottle deliveries, Loop delivers essentials such as washing detergent, toothpaste and food stuffs in reusable custom-made stainless containers carrying their company's branding. When a customer's supply runs low they can simply arrange delivery of a refreshed container and collection of the empties, which are then cleaned and reused for the next delivery. The service addresses disposable culture at its source by dispensing with single-use plastic packaging entirely, some 90 per cent of which has either been incinerated, sent to landfill or discarded in the natural environment.



Loop

Compostable water bottles

The genesis of the bottled water brand Choose could be read as evidence of consumers' desire for non-plastic packaging. Successfully crowd-funded in May 2018, Choose Water is the only fully compostable bottled water brand that is entirely sourced, produced and sold in the UK. The bottles, which are 100 per cent plastic free, take just a couple of months to degrade, compared with plastic that can take up to 450 years. Filled with Scottish water from the Cairngorms mountain range and made from sustainably sourced non-toxic natural materials, the bottles require no fossil fuels to produce. Even their outer materials, from the paper casing, which is made of 100 per cent recycled materials and natural dyes, to



Choose

the alloy cap that rusts down into metal oxides, are entirely biodegradable and designed to have minimal environmental impact. According to a study by EcoFocus Trends, plant-based food and drink packaging is a concern for more than three quarters of consumers and over three fifths want to learn more.



Low-impact packaging

Returnity helps companies minimise waste packaging from e-commerce through the use of reusable and returnable delivery envelopes. Made from a durable, washable fabric, Returnity bags replace the

excess layers of cardboard packaging that now accompany most deliveries. Some 30 per cent of products are returned, which can lead to double the amount of packaging waste from one purchase. Overall, the online retail sector uses \$20-billion worth of corrugated materials a year and packaging is set to increase at an annual rate of 14.3 per cent through 2022, dwarfing a 2.9 per cent growth rate for the packaging industry as a whole. To date, companies have transferred responsibility to consumers to dispose of packaging, but Returnity helps brands close the loop. Its bags can be used for multiple deliveries. With an impressive roster of backers, including Starbucks and Walmart, Returnity is set to sign more partnerships in America this year.

Waste tailored to local recycling

Global coffee chain Starbucks is tailoring its procurement of takeaway cups to ensure they can be recycled by local facilities. A trial beginning this year in New York, San Francisco, Seattle, Vancouver and London will test a variety of recyclable and compostable cups made from materials and using technologies drawn from winners of Starbucks' NextGen Cup Challenge. An estimated 2.5 billion cups are discarded every year, of which only 99.75 per cent can be recycled, owing to the expense associated with recycling plastic lined paper cups and the lack of such facilities in most countries. With 30,000 outlets worldwide, small tweaks to



Sombat Muyscheen/Shutterstock

Starbucks' immense supply chain could have a significant impact. The company has already committed to double the recycled content, recyclability and reusability of its cups by 2022. ●

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OPINION

'It requires the whole supply chain to work together and focus on delivering solutions for the right reasons'

Plastic pollution has been in the spotlight since Sir David Attenborough's shocking revelations in the final episode of his *Blue Planet II* series, aired in December 2017. It was impossible not to be moved by the images showing the damage plastic is doing to nature. Around the same time China, where the UK sent an estimated 55 per cent of paper and more than 25 per cent of plastic waste, banned the import of "foreign garbage".

Humans produced an estimated 320 million tonnes of plastic in 2016, according to Surfers Against Sewage, and WWF says eight million tonnes of it is dumped into the oceans each year. With the prospect of mountains of plastic gathering in the UK and the emotive evidence of the terrible impact on the natural world that plastic has been having, it was unsurprising a strong movement to drive down the use of plastics developed. This prompted prime minister Theresa May to announce a "war on plastic" in her 25-year environmental plan, pledging to abolish waste such as carrier bags, food packaging and disposable plastic straws.

Eighteen months on from the *Blue Planet* effect and we are in the middle of government consultations on four key areas: extended producer responsibility, essentially focused on passing the cost of waste management of packaging to the producers of it; deposit return schemes for drinks containers; improving the consistency of recycling for households and businesses; and a plastic packaging tax. Change is afoot.

But policymaking does not always follow logic and its tendency towards fashionable issues, headlines and seemingly swift, decisive action has been known to result in unintentionally negative consequences. Think back to the government's incentives to move towards diesel as a way to reduce CO₂ emissions, inadvertently resulting in an increase in nitrogen oxide emissions.

So, is change happening for the right reasons? Not according to some. Plastic, it turns out, is not evil. In fact, it has many positive social and environmental impacts on our lives. It extends the shelf life of food. It keeps transport costs down. David Bucknall, head of materials chemistry at Heriot-Watt University, warns

that banning plastic would lead to much higher carbon emissions, the driver of climate change. And if there's one issue that is hotter and more contentious than plastic, it's climate change.

Take the humble plastic shopping bag. The UK has reportedly seen an 80 per cent reduction in single-use carrier bags since the introduction of the 5p charge. It's a great figure. But an environmental impact study by the Environment Agency, published in 2015, concluded that a cotton shopping bag would have to be used 173 times before its carbon emissions were lower than using new shopping bags. That level of reuse was described as ambitious by the report. And it highlights just one example where less plastic could mean higher carbon emissions.

So this is not a simple problem with a simple solution. Deciding which sustainability measure to use in policymaking is extremely difficult. Plastic use is top of the agenda at the moment and is currently a bigger consideration than carbon footprint. But there are other measures and, if we only consider food products, we could just as easily focus on food waste, food miles and water usage, to name just three. Focus too much on cutting any one of these measures and the others could shoot up.

It's complicated. It's challenging. It requires the whole supply chain, both for packaging and the product inside, to work together and focus on delivering solutions for the right reasons. Here's hoping the current consultations will do just that. ●



James Drake-Brockman
Divisional director, packaging
Easyfairs

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