
The plastic problem



Plastic pollution is rising to the top of the global agenda, but what's the alternative? Alison Coleman explores how companies are adapting to survive

Plastic has permeated virtually every aspect of modern life. Everything from clothing to the bags you use to carry shopping home incorporates this strong, lightweight and mouldable material.

However, when David Attenborough's *Blue Planet II* documentary series brought the shocking impact of plastic waste to light - exposing the floating mass of abandoned bottles, packaging, flotsam and jetsam in the Pacific Ocean, and the ingestion of plastic fragments by ocean wildlife - it sparked a huge public response.

This, coupled with mainstream media attention and legislative actions by governments, is already influencing consumer behaviours.

According to Paymentsense, 54% of small retailers have seen sales of plastic packaged goods fall over the past six months. From the medical profession to fast moving consumer goods (FMCG), there isn't a business that isn't touched by the heightened focus on plastic, its sustainability or its end-of-life waste management options.

VIABLE ALTERNATIVES

Some businesses, including many supermarkets, have responded by committing to the reduction or removal of single-use items such as plastic bags, coffee cups, bottles and straws over a fixed time period. Robin Abrams, finance director of Trade Finance Global, explains that this has led to a rise in demand for two types of alternative

goods, each with their own trade-offs. The first type is biodegradable alternatives, typically composed of various plant fibres, including paper and cardboard, which also have an environmental impact. The second is long-life, more expensive alternatives including aluminium and glass.

"Purchasing departments are now searching for products that will adequately replace single-use plastics, while being acceptable to their clientele in terms of quality and not driving up costs," says Abrams. "Due to these multiple constraints, purchasers are more willing to trial new products from new sources. For example, we have seen a rise in the number and size of traders that supply plastic alternatives such as biodegradable straws.

"Businesses that were niche suppliers only a couple of years ago are now securing contracts with large chain stores and restaurants. In order to fulfil these contracts, small traders are heavily reliant on securing trade finance facilities, which allow them to scale up volumes quickly and drive down unit prices."

WORTHWHILE INVESTMENT

The costs of sustainable replacements for plastic can vary enormously, depending on the product type, material substitution options, contracts and other factors that have an impact on economics in any normal business change model. Where the costs are higher, businesses face the dilemma of absorbing those costs without alienating their customers.

However, Debbie Hitchen, associate director and plastics sustainability lead at consultancy Anthesis Group, explains that the alternatives can often be financially more expensive, but only if considered at face value. For many businesses the risks of not making changes need to be quantified.

"If a client asks for an alternative that cannot be provided, the risk of the loss of that client's business may have a more substantial impact than the higher cost of

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COMPANY CASE STUDY CRU KAFE

Many businesses rely heavily on plastic products, and in recognising a tide of change in public opinion towards their products, some have responded accordingly.

Last year, London coffee company CRU Kafe made the transition from plastic. It launched the first 100% recyclable organic coffee capsules made from aluminium in response to growing negative feedback from consumers, which risked its survival if it did not change.

Initially it looked for alternative suppliers for a compostable pod, but discovered that the coffee doesn't stay fresh within the compostable materials and compatibility with Nespresso machines was not 100%.

"The move from plastic to aluminium required a complete overhaul of our supply chain, moving from a family-run roaster in Italy that couldn't do aluminium, to the UK," says Rory Scallan, CRU's chief financial officer. "We then had to completely redevelop our blends to try to match the old flavours in the new format."

The outcome was a higher cost per unit and a relatively low customer price expectation, effectively creating a price ceiling that has squeezed their margins. However, this was offset by several benefits, which included improved product quality, freshness and flavour and improved packaging that reinforces the premium quality coffee and messaging.

The switch also facilitated a move into retail. CRU also now supplies hotels around the world with its new aluminium capsule as many are moving away from plastic. An added benefit is that aluminium is more valuable and easier to recycle than a plastic pod with a foil topper.

provision of goods,” she explains. “Similarly, if there are to be taxes and fiscal mechanisms introduced in law under producer responsibility regulations, the cost of compliance for plastic items may make the cost of switching to an alternative raw material more cost comparable.”

KNOCK-ON EFFECT

Even companies that are not plastic manufacturers themselves have to deal with the problem of plastics in the supply chain and the challenge of finding new suppliers, using sustainable non-polluting replacements for plastics. For some manufacturers this could mean not only changing suppliers, but also their machinery facilities and processes to accommodate the properties of alternative materials, which can affect other stages of the supply chain and lead to delays in the delivery of some products.

However, it all depends on the product, says Duncan Hall, sales and marketing manager at Automated Packaging Systems. He says: “For some products it’s quite easy, but for others - for example, plastic bags - it’s a little more difficult as alternatives don’t offer the same properties, such as waterproofing and durability. The other issue is that replacements can be up to six times the cost, which will then ultimately have a

knock-on effect on consumers. “The best way of controlling cost is by examining all packaging options. Your existing packaging may already be recyclable, but may not be labelled as such.

“It is also important to communicate the sustainable and non-polluting message to consumers, as even the most sustainable packaging may be disposed of incorrectly and still end up polluting the environment.”

FORCE FOR CHANGE

Hitchen says there are signs of significant innovation in some supply chains and sectors motivated by concern about the environmental impact of plastic products, for example in the packaging sector, especially for grocery and FMCG.

“New business models can represent interesting opportunities for businesses to think differently about the products and services that they provide,” she says. “Cost is about more than just revenue and capital, and the wider impacts of environmental and social costs should be factored into decision-making to make truly sustainable choices.”

In the beverages industry, some companies are switching to aluminium cans for new product launches. As a raw product, aluminium is more expensive but infinitely recyclable, unlike plastic,

which may be a cheaper material, but is very expensive to recycle.

Ramon Arratia, sustainability director at Ball Beverage Packaging Europe, says: “The water in cans market is growing three times faster than in other pack types, and between 2007 and 2017 flavoured water in cans grew over 17% compared with just under 2% in all other packaging, including plastic bottles.

“One reason for that is that aluminium retains its value during the recycling process and can be made into new cans or other aluminium products. Nearly 75% of all aluminium ever produced is still in use today. In contrast, plastics often have to be down-cycled into lower value products, or even incinerated.”

TRULY BIODEGRADABLE?

Bioplastics is another emerging area of alternative sustainable materials. According to bioeconomy consultants NNFCC, the UK has the potential to be the world leader in the production of bioplastics, given the right circumstances, including government policy creating conditions conducive to investment.

Both brands and consumers are considering changing to bioplastic at an increasing rate. However, complete industry change isn’t going to happen overnight. One concern is that suppliers

“Recycling isn’t always the answer. We should take a step back and ask if we really need these things in the first place”

70%

The target for the amount of plastic packaging to be recycled or composted by 2025

9%

The amount of plastic packaging that is currently recycled or composted

of these new materials may not meet the inevitable rising demand from brands that are dispensing with non-sustainable plastics.

In its report *Bio-based & Biodegradable Plastic in the UK*, the NNFCC estimates that domestic production could reach 120,000 tonnes during the next decade, creating more than 5,000 manufacturing jobs while supporting a further 34,000 jobs and contributing £1.92bn to the wider UK economy.

And, according to Paul Mines, CEO of Biome Technologies, parent company of leading UK bioplastics manufacturer Biome Bioplastics, manufacturers are ready to significantly scale up their operations. Biome Technologies' revenues for the first half of 2018 showed an increase of 40% for its bioplastics division compared with the previous year.

ENCOURAGING CONVERSATION

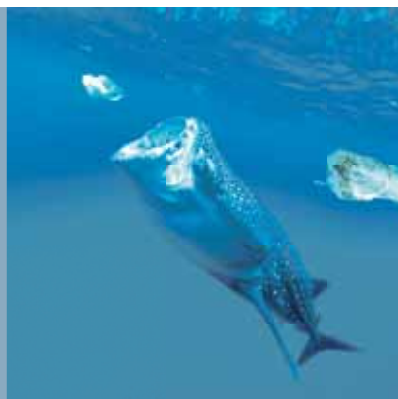
While moves to tackle the plastic crisis are welcome, and the volumes of plastic waste produced globally are unforgivable, a complete ban on plastic use would not be in the best interest of all businesses.

"The degree to which we use plastics will make finding alternative materials difficult," says Kerry Beeby, director at Midlands-based tool manufacturer Pro Moulds. "Instead of banning plastics in their entirety, we should be looking to prioritise uses, making sure they are being used in the right way for the necessities. Deciding what we use plastics for will take time and spark a number of debates, but it will be worth the effort."

The UK Plastics Pact, launched last April by sustainability experts WRAP, is the world's first programme to tackle the issue of plastic waste through collaboration across the entire supply chain. It has set a target for 70% of plastic packaging to be effectively recycled or composted by 2025. Currently that figure is only 9%.

Mines believes this target can still be met, though not without serious commitment and action on the part of brands. He says: "The UK presently uses approximately 10,000 tonnes of compostable plastics, which will need to increase to something like 200,000 tonnes to meet the 2025 targets. That's the job of manufacturers.

"What brands need to do is to commit to converting products to compostable materials as quickly as possible, particularly in food-based applications where contamination makes recycling uneconomical." ●



THE TIP OF THE ICEBERG UNDERSTANDING THAT PLASTICS ARE ONLY PART OF THE PROBLEM

In 2015, global leaders agreed a new set of 17 Sustainable Development Goals, a replacement for the Millennium Development Goals. A blueprint for eradicating extreme poverty and tackling climate change that will put the world on a more sustainable pathway by 2030, these are supported by ICAEW. Some of the goals are particularly relevant to the plastics debate. As more organisations commit to tackling the plastics issue, ICAEW head of sustainability Richard Spencer explains why businesses need to do the same:

"It was fascinating to see a TV programme like *Blue Planet* galvanise public opinion so quickly. But it also highlighted the need for a tempered approach. The ocean plastics problem is costing huge amounts of money to solve, but at the expense of other things. For example, while we are thinking about plastic waste, we are not thinking about collapsing fish populations or pollutants getting into the water. While doing something about plastics is good, we must ensure that other important issues aren't eclipsed.

"We recycle a fraction of the plastic we produce. According to the Royal Statistical Society only about 9% of all plastic ever made has likely been recycled. But the current debate raises a point that recycling isn't always the answer and that we should take a step back and ask if we really need

these things in the first place.

"The debate has also illustrated just how difficult it is to live without plastic, and right now that is a big driver of the innovation that will deliver alternatives. Many argue that business should be leading the way, but it is people taking responsibility that creates the need for innovation. Last year we saw Morrisons trial the removal of plastic packaging from fruit and vegetables and the introduction of reusable own-brand plastic packaging. Reverse vending machines are on the rise. These initiatives are driven by public opinion and demand.

"Most of the global food supply is linked in some way to 10 major companies such as Coca-Cola, which makes a huge number of plastic bottles every year. A change towards more sustainable practices by these companies would filter down very quickly. Companies just need the will to do it. Change will cause disruption to businesses, particularly SMEs, and many will struggle to adapt. The fact is that disruption around the use of plastics is increasing and businesses have to be more nimble in the planning of their strategy.

"In December, all the UN nations signed up to the UN plan to stop plastic waste entering the ocean. Around 50 countries have banned single-use plastic bags. In the UK, plastic reduction is part of the new 25-year plan for nature developed by Defra. This should be sending a clear signal to businesses that they should also be thinking about it. Public opinion coupled with government regulation is already having a tangible impact on business. In the first year of the 5p charge for plastic bags, use fell by 85%. If you have countries and governments signing up to plans, businesses should be thinking about them, both in terms of the risks and the opportunities."



Richard Spencer,
head of
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