Executive Insights

Roundtable Sustainability Series: The Packaging Industry

We recently held an in-depth conversation about sustainability's impact on packaging with three leaders in L.E.K. Consulting's Paper & Packaging practice: **Thilo Henkes**, Managing Director and practice head; **Jeff Cloetingh**, Managing Director; and **Rory Murphy**, Principal. Excerpts from our wide-ranging discussion can be found below.

How do you define sustainability in packaging?

Thilo Henkes: Sustainability is a pressing topic in packaging; it's a growing segment of the packaging sector that is experiencing a lot of innovation as consumers increasingly focus on how sustainable the packaging is for the products they purchase. Brands and what they stand for are embodied in their packaging, and a lot of packaging gets discarded, so brands are increasingly giving the sustainability of their packaging attention as some consumer segments are making brand selection decisions based on it.

What is defined as "sustainable" packaging? In the market today there are three types of substrates that fall under the definition of sustainable: biodegradable (including renewable/bio-based), recycled (recyclable or made with recycled content) and reusable.

Biodegradable packaging can be a bio-based plastic resin or a wood chip-based product or a renewable plant-based product that decomposes much faster than other plastic-based packaging material.

Recycled packaging can involve different substrates, or materials, such as tin, recycled plastics, recycled paperboard and wood chips. Recycled packaging is the most prevalent sustainable packaging product. Over the years, the quality of recycled packaging products has improved so much that some recycled packaging can be used in contact with food. However, we have yet to see a recycled or biodegradable packaging product that can be used in medical applications that require sterility.

Reusable packaging has been coming into vogue over the past few years. It involves a reusable container — for example, a metal container that you can bring back to the store and get refilled. You see it mostly with food — Nestle is using it for ice cream — and some personal care applications such as shampoos and body creams.

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How rapidly is the packaging industry moving toward sustainability?

Jeff Cloetingh: The shifts in the past three years have been significant. We believe there will be more significant shifts in the next five to 10 years. Brand owners have considerable goals to shift to sustainable packaging by 2025-30, which is expected to be a major catalyst for mix shifts toward sustainable packaging.

Roundtable Sustainability Series: The Packaging Industry was based on a conversation with **Thilo Henkes** and **Jeff Cloetingh**, Managing Directors, and **Rory Murphy**, Principal, in L.E.K. Consulting's Paper & Packaging practice. Thilo, Jeff and Rory are based in Boston.

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Are brand owners embracing sustainable packaging in a major way?

Rory Murphy: Changing the packaging is a massive adjustment for brand owners — and it's often a risky one. What if the consumer doesn't like it? The impact could be fateful for the brand owner. Therefore, brand owners usually take a conservative approach to any changes they make to their product packaging. That said, they recognize the importance of environmental considerations and regulatory changes. That is prompting them to set bold sustainability goals with the Ellen MacArthur Foundation, some of which involve packaging. So changes in packaging will definitely pick up.

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Jeff: Despite the caution with which they're proceeding, sustainability is one of the top things that keep the consumer packaged goods brand owners up at night. Sustainability gets board-level attention. It's a significant opportunity, or threat, depending on how well each brand owner is positioned to benefit from or pivot toward market mix shifts. A lot of brand owners have made big and bold public statements about plans to reach ambitious sustainability goals by 2025. These are not just packaging focused, but encompass the overall environmental impact of the brand owner's production and distribution supply chain.

Why 2025?

Jeff: For many, it syncs with the commitment they've made to the Ellen MacArthur Foundation — specifically to meet a set of 2025 U.N. targets to sharply reduce the use of plastic. The pledge is influential even for companies that haven't signed up.

Is plastic packaging the main sustainability challenge?

Thilo: Sustainability in packaging has largely been driven by the "war on plastics." And plastics have been the poster child for bad environmental consciousness — specifically single-use, disposable plastics. Think about plastic straws, plastic grocery bags, polystyrene coffee cups, etc. The attention has driven a bigger industry shift toward considering the overall impact packaging has on the environment.

Some plastics do have bad environmental profiles. The coffee cup I'm looking at from Dunkin' (formerly known as Dunkin' Donuts) is made out of polystyrene, which is neither biodegradable nor commonly recycled, and it sits in a landfill for hundreds of years. That's why Dunkin' has recently said they will stop offering polystyrene cups. And that's why many high-end coffee stores have gone to a fiber-based product and why you don't get a straw any longer when you go to Starbucks.

What about perception? Isn't the focus on sustainable packaging mainly a response to consumer demand?

Rory: Consumer demand — that is, demand primarily from younger consumers — is a major factor. What's pushing more and more mass brands toward sustainability is the realization that the rising generation of consumers is, on average, more environmentally minded than generations that have come before.

Thilo: There is an important customer segmentation when it comes to interest in and willingness to pay for sustainable packaging, and that segmentation usually relates to age or generation. Older consumers are generally less willing to pay for sustainable packaging if given the option. For example, Omaha Steaks sends its steaks in a polystyrene container. Why? Because polystyrene, despite its environmental impact, is cheap and the best insulator out there. That's why it's used for coffee cups or shipping Omaha Steaks where you've got to keep the temperature tightly controlled. The average consumer for Omaha Steaks is older and more likely to be willing to trade environmental sustainability for price. So Omaha Steaks has made a decision to go with packaging that provides needed performance characteristics over sustainability.

On the other hand, other foodservice companies, such as Uber Eats or Blue Apron, are primarily targeting a different consumer than is Omaha Steaks. Their consumer is a 20- or 30-something who generally wants less packaging and packaging that is sustainable.

Packaging is a big part of branding. How does sustainable packaging affect that?

Rory: Packaging plays a big role in supporting how a brand is positioned in the market. The brand name is written all over the packaging, and the packaging conveys the overall image of the brand. This is why you usually see expensive sustainable materials used in premium products, because the consumers of those products are more likely to support the increased price point.

The question of branding and sustainable packaging is a major topic in the context of ecommerce: whether you can reduce the overall amount of packaging, including the extra packaging that makes up the shipping container, since the product doesn't need to "sell itself" on the shelf. But the look of the packaging in your pantry can help stimulate additional sales. So that packaging, which is often secondary — for example, the printed cardboard box outside the shampoo bottle — may stick around.

Are there subsectors or industries that are leading the way in sustainable packaging?

Thilo: We see sustainable packaging having the highest penetration in foodservice. A lot of colleges and universities have moved to sustainable packaging for plates and cups. Museums have moved to sustainable food packaging. You now see more sustainable packaging at sports stadiums. A number of quick-serve restaurants are also turning to sustainable packaging. For example, Sweetgreen and QDOBA, as part of their image centered on a healthy lunch, give you your salad in a bowl that is degradable molded fiber.

Even McDonald's has moved toward a sustainable packaging product. They used to give you your hamburger in a polystyrene clamshell. They've moved to a fiber-based clamshell or just a paper wrapper.

Every change creates opportunities as well as challenges. What are the opportunities in sustainable packaging?

Jeff: For consumer companies, the opportunity is to connect with certain consumer segments and enhance their brands' reputations. For the packaging industry, the opportunity is that you have all these big brands signing up for these massive sustainability initiatives, but many may not yet know how they're actually going to deliver. That will create opportunity for the raw materials producers and for the converters who turn those substrate materials into innovative packaging to meet brand owner demands as a means to differentiate and win share.

How will this play out in terms of the growth of sustainable packaging? Is cost a big factor?

Thilo: In sustainable packaging, we see compound annual growth rates in the high single-digit range, compared with low single digits for conventional packaging. While sustainable packaging might still be a relatively small segment, it is demonstrating outsized growth rates and generally attractive margins. In short, the market opportunity for sustainable packaging is growing faster than the broader packaging market. As a general statement, sustainable packaging is often more expensive than the nonsustainable equivalent.

Other than price, what are the limitations on expanded use of sustainable packaging?

Rory: You can't use sustainable packaging in all applications at this point. Not all sustainable packaging can withstand high heat or be put in the microwave. Not all sustainable packaging can be in contact with food. Not all sustainable packaging can be used in the medical or pharmaceutical applications, given sterility requirements.

Jeff: In addition, there are some significant supply chain challenges with accessing a supply of some sustainable packaging substrates. For example, most plastics have low recovery rates, and many existing streams of recycled content are very difficult to economically convert to food-contact-grade materials.

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Does that mean that plastics aren't going away?

Rory: One shouldn't overestimate the shift away from plastic to sustainable. Sustainable substrates are growing faster than virgin plastics, but there is a place in the world for plastics. There is a reason why Omaha Steaks uses polystyrene and virgin plastic. There's a reason why medical device manufacturers need to use virgin plastics.

When it comes to recycling, is the infrastructure up to the challenge?

Thilo: There is a tremendous infrastructure gap in both recycling and composting.

The U.S. recycling infrastructure is nowhere near where it needs to be to handle all the post-consumer plastic waste that is now the responsibility of the domestic infrastructure. The recovery rate of plastics today is extremely low, with percentages in the high single digits to 20s, especially in comparison with countries like Germany. In the U.S., most of the plastic that's currently used in packaging is being landfilled, or it's being incinerated or discarded in some other way.

Jeff: Europe has far better infrastructure, though there are some significant variations by country, with Germany most frequently leading other countries in Europe. And it has the infrastructure to segregate biodegradable from recyclable materials. Sadly, everything you throw into the blue bins in the U.S. goes to the same place as the stuff in the black bins. Recycling is even more complicated or not economical for more complex packaging, such as multipolymer packaging structures.

Until just a few years ago, about 55% of U.S. plastic scrap went to China. But in 2017, China enacted the "National Sword" policy, which banned imports of plastic scrap and other material, most of which was plastic packaging. The percentage of U.S. plastic scrap going to China dropped to less than 1%. We now need to handle that scrap domestically, and the U.S. recycling infrastructure was not positioned to absorb double the amount of scrap. Consequently, the U.S. plastics recovery rate dropped by a third to a half to a single-digit percentage of total volume.

Rory: There's a Catch-22 in terms of supply and demand. The processors of recycled plastic are not going to invest in their infrastructure until they can find an end market. Brand owners and packaging companies are not willing to make significant strides in recycled substrates or recycled content until they can have a good-quality supply that can actually be food-contact grade or utilized in some other part of the package.

What's the answer, or what kind of progress can we expect?

Jeff: On the recycling processing side, it's a local density scale game, meaning it's very expensive to ship plastic waste hundreds and hundreds of miles away. But if you are able to create pockets of high-density, high-quality recycled plastics that can be easily separated and sorted and sold in high-quality grades to converters, then you can start to generate stability of supply that helps bring down pricing. So, we see an opportunity for infrastructure to play a significant role in the shift toward sustainable packaging.

On Sept. 24, 2020, California approved a bill to require post-consumer resin in select beverage containers. Under this regulation, bottles covered under California's bottle deposit program are mandated to have 15%+ post-consumer resin by 2022, 25%+ post-consumer resin by 2025 and 50%+ by 2030. There are several implications for the packaging sector. First, this elevates the importance of sustainability as a means of differentiation. Second, this elevates the importance of access to a high-quality supply of post-consumer resin pellets and flake, particularly for PET, where current U.S. recycling rates are below 30%.

Rory: In addition, there are converters that are focused on integrating recycled content into their packaging. Utilizing recycled content is a way in which some converters are able to differentiate and add value to brand owners who care about that.

Who's making the biggest strides in sustainable packaging? Where is innovation happening?

Thilo: Innovation is a fundamental component of the packaging sector. The pressure to innovate comes from consumers and goes to brand owners to converters to upstream raw materials suppliers. Innovation is being enabled across the ecosystem.

Technology has improved dramatically. It used to be that if you had a plate made from a biodegradable molded fiber or plant-based product and you put dressed salad on it, you'd be wearing that salad dressing because it seeped right through the plate. The technology is now at a point where converters can get the biodegradable molded fiber to such a compressed state that the plate doesn't topple over when you put some mashed potatoes on it and it also provides a grease barrier.

Rory: Bioresins is another area — resins that act like plastic but can, for example, degrade when exposed to water or chemicals to promote degradation. Nike, Adidas and Allbirds are using biodegradable substrate materials in some of their shoes.

It's not only up to converters to innovate. Raw materials producers and recycling equipment makers are innovating. There are investors behind the scenes funding good ideas.

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What other kinds of innovation are happening?

Jeff: There's some movement toward "closed loop" systems where a brand or institution takes over full control of the cycle — a foodservice company, for example, that collects trash for recycling or composting. There are companies that take away the delivery packaging when you buy an appliance. Loop TerraCycle has a trial program in Paris and New York where they are selling products like Häagen-Dazs ice cream by subscription — it comes in a metal container that you then drop off in a receptacle for reuse.

Rory: There have been initiatives with edible packaging, plantable packaging, organics and other compostable options. There's a company called Notpla that makes edible, biodegradable ketchup packets out of seaweed. We're also seeing smaller pack sizes.

Biodegradable plastics may be the answer to straws. Many consumers believe paper-based straws don't currently perform well when wet for short periods of time. The straw is really difficult to work with because it's so thin.

How will sustainable packaging be different in the rest of the world?

Thilo: The response is different by geography. Europe has taken a strong regulatory approach. France has outright banned certain plastics, primarily focusing on the single-use category of packaging, like the coffee cup. You have whole-country bans on particular types of substrates or packaging. You can't get a straw in France; you can't get a plastic shopping bag in France. In other instances, there are levies to discourage use of particular packaging products, such as in the U.K. where a 5 pence levy on plastic grocery bags drove a 95% reduction in plastic carrier bag sales over a five-year span.

Here in the U.S., we do not see a regulatory approach at the federal level in the near term. There are some states that have narrow legislation around specific plastics categories, such as plastic grocery bags. More of the regulatory bans are at a local level; so in other words, when I go to a Dunkin' in Brookline, Massachusetts, I don't get a polystyrene cup. But if I go to the Dunkin' in downtown Boston, I do for the time being. We believe brand owner actions, rather than legislation, are going to be a bigger driver in the shift toward sustainable packaging solutions.

What you see here in the U.S. is that brand owners and converters have recognized the reaction from consumers and are voluntarily moving toward more sustainable packaging. It's consumer sentiment that is the main driver here. And it's definitely moving the needle.

What impact has COVID-19 had on packaging sustainability momentum?

Jeff: There is no doubt in our minds that packaging sustainability has taken a back seat due to the pandemic. The consumer mindset has reverted to more foundational needs of safety and security in packaging products in the near term. Municipalities and states are reversing grocery bag bans temporarily and discouraging consumers from bringing reusable grocery totes to the grocery store because of concern about sliding a potentially contaminated bag across the checkout counter. Major coffee shops no longer allow patrons to bring in their reusable mug to be refilled by the barista behind the counter and are opting for 100% disposable cups. However, in our view, the sustainability momentum will return in the medium term, so the pullback on sustainability is temporary.

About the Authors

Thilo Henkes is a Managing Director and Partner in L.E.K. Consulting's Boston office and leads the firm's Paper & Packaging practice. Thilo is also active in the firm's Building & Construction, Industrial Equipment and Private Equity practices. He joined L.E.K. in 2000 and has nearly 20 years of consulting experience specializing in transaction support and developing post-acquisition, value-enhancing strategies for portfolio companies.

Jeff Cloetingh is a Managing Director and Partner in L.E.K. Consulting's Boston office. As a member of the firm's Paper & Packaging and Industrials practices, he has worked with clients on the development of global growth strategy, go-to-market commercial strategy, roll-up strategy, and digital packaging and printing strategy, as well as on M&A transaction support.

Rory Murphy is a Principal in L.E.K. Consulting's Boston office. He joined the firm in 2007 and has significant experience in L.E.K.'s Industrials and Private Equity practices. He advises clients on a range of critical issues, including strategy development, acquisition screens, global market assessments, and both buy- and sell-side commercial due diligence.

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