

Paper, Forest Products and Packaging Practice

Sustainability in packaging: Investable themes

Mapping five industry-shaping trends uncovers specific investable themes for participating in sustainable packaging.

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Five key trends are emerging that will shape sustainable packaging and related investable themes over the next few years. First, consumers are highly aware of sustainability issues, with their concerns accelerating, but they remain confused. Second, in response to public outcry, sustainability regulation for packaging is now both global and increasingly ambitious, but it has become a complex landscape for corporations to navigate (with accelerating consumer sentiment also making it harder for companies to plan reliably). Third, across regions there are critical gaps around waste collection, recycling systems, and technology, limiting significant changes in the packaging value chain over the near term. Fourth, leading fast-moving consumer goods (FMCG) companies and retailers remain committed to transforming their portfolios, but large-scale market adoption of innovations is slow. Lastly, until further notice, plastics are here to stay, with an emerging green premium on the recycled raw material. Additionally, sustainability in packaging needs to be managed to reflect regional differences and in conjunction with megatrends.¹ In response to this emerging outlook, specific investable themes across the full packaging value chain can be seen. In order to avoid missing out on any of these themes, we suggest starting with a few questions regarding materials and processes.

Five key industry-shaping trends in sustainability

What is in store for the packaging industry over the next three to five years in terms of sustainability? What are some emerging theses for institutions looking to invest in the space (or for current players in the packaging value chain looking to diversify beyond their current portfolios)? To find answers, we conducted extensive interviews and discussions with FMCG companies, retailers, and packaging industry executives and experts in major end-user markets across regions. We also applied the findings from our ten-country survey to

capture consumer attitudes around sustainability in packaging. Our analysis has identified five major industry-shaping sustainability trends (exhibit).

1. Consumers are highly concerned, yet they are confused

Global consumers are increasingly worried about the environment and the impact of packaging leakage. While buyers claim to have high willingness to pay for more sustainable packaging,² purchasing choices are still largely driven by other factors (such as brand, quality of products, and economics). For example, US consumers rank overall sustainability relatively low as a buying criterion among end-use factors; they regard price, quality, brand, and convenience as more important.³ We see a similar pattern for global consumers. Moreover, consumer attitudes are not always scientifically consistent: for example, our global survey finds that consumers rank plastic packaging that is either made from compostable materials or is recyclable as quite sustainable, yet they simultaneously rank plastic containers and bottles made from such recycled materials as among the least sustainable. Going forward, given the current situation, we expect consumers to remain concerned while various stakeholders such as FMCG manufacturers, retailers, and packaging companies ramp up their educational campaigns. In the coming years, we would also expect that brand owners will address the carbon intensity footprint of the product as well as its packaging in a more transparent way by implementing “carbon intensity labels.” First movers of such labels are already present in areas such as consumer electronics.

2. Increasing and accelerating complexity of the regulatory environment hinders planning

New regulation is expanding on multiple fronts and is becoming ever stricter. At the same time, regulatory focuses and approaches vary considerably by region⁴ and diverge even further when looking at country, county, and city-level regulations. Understanding this variation will require a granular approach. Meanwhile, the number of

¹ David Feber, Oskar Lingqvist, and Daniel Nordigården, “Shaping the next normal of packaging beyond COVID-19,” May 26, 2020, McKinsey.com.

² Daniel Eriksson, David Feber, Anna Granskog, Oskar Lingqvist, and Daniel Nordigården, “Sustainability in packaging: Inside the minds of global consumers,” December 16, 2020, McKinsey.com.

³ David Feber, Anna Granskog, Oskar Lingqvist, and Daniel Nordigården, “Sustainability in packaging: Inside the minds of US consumers,” October 21, 2020, McKinsey.com.

⁴ Peter Berg, David Feber, Anna Granskog, Daniel Nordigården, and Suku Ponkshe, “The drive toward sustainability in packaging—beyond the quick wins,” January 30, 2020, McKinsey.com.

Exhibit

Five key sustainability trends have emerged and will shape the industry in the years to come.



Consumers are highly concerned, yet they are confused



Critical gaps in the value chain, limiting significant near-term changes



Until further notice, plastics are here to stay, with an emerging green premium on recycled raw materials¹



Increasing and accelerating regulation and regulation complexity



FMCGs and retailers remain committed, but market adoption of innovation is slow

¹Expected in selected plastics.

new sustainability regulations is accelerating and becoming more ambitious. Beyond plastic bans, plastic taxes have started to be introduced in Europe, with recovery schemes to be developed on a national level.⁵ Taken together, these trends limit companies' ability to plan reliably and make navigating the landscape even more complex, especially for multinationals.

3. Critical gaps in the value chain exist, limiting near-term major change

With demand for packaging showing strong, global growth, leakage or unmanaged dumps of packaging have increased. In particular, plastics have low overall recycling rates: globally, only about 16 percent of all plastic waste is reprocessed to make new plastics, and the majority is either incinerated or sent to landfill.⁶ In the United States, for example, key drivers of the low recycling rate of plastics are several critical gaps in the value chain around recycling system capabilities and economics. For example, current sorting technology cannot

effectively handle approximately 30 percent of plastic packaging. In addition, coordination across the value chain is complex to scale, with recycling operations fragmented across geographies.⁷

4. FMCG companies and retailers remain committed, but market adoption of innovation is slow

With consumers increasingly aware of and more vocal about their sustainability concerns, and with growing regulatory pressure, leading FMCG companies and retailers have made strong commitments to sustainability.⁸ However, transforming the packaging portfolio has proved to be challenging, with the need to manage complex trade-offs encompassing multiple implications for sustainability—for example, achieving high recyclability versus a low carbon footprint. Meanwhile, options can be restricted because of often slim margins and important branding implications.⁹ In addition, what is technically and economically feasible to realize will vary by

⁵ Hélène Laporte, "Question for written answer E-004514/2020 to the Commission: Rule 138," European Parliament, August 20, 2020, europarl.europa.eu.

⁶ Thomas Hundertmark, Chris McNally, Theo Jan Simons, and Helga Vanthourout, "No time to waste: What plastics recycling could offer," September 21, 2018, McKinsey.com.

⁷ Thomas Hundertmark, Manuel Prieto, Andrew Ryba, Theo Jan Simons, and Jeremy Wallach, "Accelerating plastic recovery in the United States," December 20, 2019, McKinsey.com.

⁸ Peter Berg, David Feber, Anna Granskog, Daniel Nordigården, and Suku Ponskhe, "The drive toward sustainability in packaging—beyond the quick wins."

⁹ David Feber, Lea Kobeli, Oskar Lingqvist, and Daniel Nordigården, "Beyond COVID-19: The next normal for packaging design," July 15, 2020, McKinsey.com.

geographic region. Nevertheless, despite these challenges, FMCG manufacturers and retailers continue to deliver innovations in a bid to achieve their own sustainability commitments for packaging in two specific areas:

- **Recyclable or alternative materials.** Recent years have seen a steady introduction of new materials, technologies, and coatings to help address the sustainability challenge.¹⁰
- **Markets for reusables or returnables.** Circular systems of packaging are not new; several countries still have a national system for managing returnable packages such as beverage bottles. However, extensions of this concept are now emerging whereby consumers also return packaging and refill on the go (examples include food service and in-store dispensing systems), and there also are new options for return and refill at home (for example, e-commerce packaging or refill pouches).¹¹

While these innovations are moving us in the right direction, broad market implementation has yet to break through. Instead, implementation has mainly been seen among a limited range of SKUs and within country-specific pilots. One challenge is that the majority of innovations to date are typically far less cost effective, efficient, or convenient than incumbent packaging.

5. Until further notice, plastics are here to stay, with an emerging green premium on the recycled raw material

With current infrastructure gaps and technical challenges in transforming packaging portfolios, leading brand owners seem not to be making big shifts away from plastic packaging—for now. Instead, they are working on improving the use of plastics by consolidating the types of plastic used (with a focus on improving recyclability), decreasing new plastic resin usage, and accelerating the use of

other recycled materials. Globally, there is increased demand for recycled plastic materials in not only packaging but also textiles and other applications. With low global recycling rates of plastics, gaps in infrastructure, and continued expansion in demand, there is a growing green premium for access to high-quality volumes of recycled plastics. This is likely to remain as long as there is a supply–demand gap, but it will differ according to region.

Impact of other megatrends and regional differences

Not surprisingly, sustainability is not the only trend affecting the packaging industry. Trends such as the shift to e-commerce, rapidly changing consumer preferences with high price sensitivity, consumers focused on health and wellness, and digitalization are here to stay. In particular, we have seen food safety and hygiene grow as a key concern for consumers in the COVID-19 pandemic alongside an increased share of packages sold via e-commerce channels. Additionally, reasonable cost and convenience continue to be “must-haves” for packaging. At the same time, the strength and pace of these trends can differ significantly by region: our research has revealed common global themes, but also sizable differences in perception.¹² Similarly, the regulation strength differs by country and region, just as much as recycling infrastructure does.

Investable themes and how to start to address them

Against this backdrop of increased pressure from regulations and consumers, we see several specific investable themes relevant to the sustainable-packaging agenda.

Improve packaging recyclability. This concerns packaging and raw materials that are more conducive to recycling or enabling technologies that improve recyclability. For example, we have seen numerous R&D efforts to develop recyclable, high-

¹⁰ Peter Berg, David Feber, Anna Granskog, Daniel Nordigården, and Suku Ponkshe, “The drive toward sustainability in packaging—beyond the quick wins.”

¹¹ *Reuse: Rethinking packaging*, Ellen MacArthur Foundation, June 2019, ellenmacarthurfoundation.org.

¹² Daniel Eriksson, David Feber, Anna Granskog, Oskar Lingqvist, and Daniel Nordigården, “Sustainability in packaging: Inside the minds of global consumers.”

barrier mono-materials (such as all-polyethylene materials or components). It could also include nonpolymer substrates; several paper and board producers have developed fiber-based materials such as molded pulp or functional papers to replace polymers. Finally, improved packaging recyclability also encompasses technology that enables improved sorting and subsequent recycling of the packaging (such as digital bar codes).

Increase usage of recycled content in packaging. An investable theme could include either supporting infrastructure system development¹³ or expanding current recycling capacity beyond polyester (PET) to cover emerging recycled polymers such as polypropylene (PP) and polyethylene (PE). Similar to the theme of recyclability, enacting digital technology changes could also enable increased usage of recycled materials (for instance, to improve sorting).

Scale up usage of compostable packaging. This theme includes implementing raw materials or packaging that can be composted, often based on using renewable resources such as fiber- or starch-based raw materials. It could be interesting to look at opportunities that would enable at-home or community composting schemes given the few industrial composting facilities that exist globally. One challenge is the limited barrier properties of some compostable packaging that inhibit large application areas. Another area to consider could be innovating new coatings or adhesives that would enable the composting of the material and support scaling this application to other end-use areas.

Introduce reusable and returnable packaging. An investable theme could center around systems for using returnable or refillable containers and packaging. However, scalability is yet to be proved for many of these models, and refill-and-reuse approaches are still in their infancy (even though they are a proven concept historically). The rise of e-commerce specifically can lead to an increase in

reusable and returnable packaging, pivoting from the mostly one-way flow of packaging currently in use.

Develop next-generation lightweighting. One of the evergreen packaging trends, lightweighting is expected to accelerate further based on two factors: first, it will allow for less material usage and, second, it may lead to lower transport-related emissions. Investments could be centered on technology to enable this approach or on innovations in materials to replace current packaging with lighter materials. Moreover, while previous lightweighting trends have spurred the rise of multilayer materials, we would expect increased focus on high-barrier mono-materials to allow for both lightweighting and high recyclability.

Lower overall CO₂ footprint and make the carbon intensity of materials, packaging, and products more transparent. Previous research has shown that packaging material can account for more CO₂ than the actual product contained.¹⁴ In light of this and their sustainability commitments, FMCG manufacturers and retailers are exploring switching toward lower-emission substrates—and players operating in substrates with typically higher emissions are exploring more carbon-neutral packaging via shifts to green-energy usage or even carbon-offset or storage options. Thus, technologies or packaging products that offer a relatively lower carbon footprint now or in the future compared with incumbent packaging stand to benefit from the global trend to reduce greenhouse gas emissions and can become differentiators. This can be fueled by ambitions from some FMCG players to increase emissions transparency by printing the carbon footprint on the packaging. Such carbon-intensity labels that create transparency for customers could have a large impact on the packaging value chain and result in a need for packaging redesign and further shift substrate usage to lower-carbon-footprint materials (which may not necessarily be recyclable).

¹³ Wenting Gao, Thomas Hundertmark, Theo Jan Simons, Jeremy Wallach, and Christof Witte, "Plastics recycling: Using an economic-feasibility lens to select the next moves," March 20, 2020, McKinsey.com; Thomas Hundertmark, Mirjam Mayer, Chris McNally, Theo Jan Simons, and Christof Witte, "How plastics waste recycling could transform the chemical industry," December 12, 2018, McKinsey.com; Mikhail Kirilyuk, Mirjam Mayer, Theo Jan Simons, and Christof Witte, "The European recycling landscape—the quiet before the storm?" August 13, 2020, McKinsey.com.

¹⁴ Stephan Fuchs, Ruth Heuss, Stephan Mohr, and Jan Rys, "Design cost-effective, carbon-abated products with resource cleansheets," September 28, 2020, McKinsey.com.

Opportunities arising from these themes can be applied across the packaging value chain—but investors will need to be aware of regional and product differences because these might drastically change the outlook for potential investments. Given different regulatory regimes and consumer behaviors, regional differences might indeed change the business outlook, with packaging solutions facing significant variation in terms of consumers' willingness to pay for sustainable solutions. This complexity cannot be overestimated and requires in-depth analysis. To get started with addressing investable theme opportunities, we suggest a few material questions:

- ***What granular sustainable-packaging opportunities are available?*** We suggest conducting a rapid but broad scan of companies offering the most promising sustainable solutions for the regions and applications in focus (without forgetting to address regulatory developments).
- ***What are the big bets on future materials and packaging?*** Based on the sustainability scan, categorize what are the most feasible and actionable opportunities to capture a premium from sustainability innovation over the short

term versus the long term. It will be important to understand the actionability: that is, how rapidly companies' innovations can be scaled, as well as their potential cost competitiveness and barrier performance versus incumbent materials.

- ***What are the opportunities beyond innovations in packaging and materials?*** This would include opportunities to facilitate the circular business case around infrastructure and other technology to advance the recovery, reuse, or recycling of previously used materials (for instance, chemical recycling). It could also include scanning and understanding solutions to minimize leakage into the environment (such as digitally enabled technologies in sorting and recycling).

Sustainable packaging is a rapidly evolving area. Multiple attractive investment themes are available to achieve large-scale improvements toward more environmentally friendly packaging with an attractive growth profile. However, it will require a granular approach and deep understanding of actionable solutions to identify attractive themes that are truly scalable.

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The authors wish to thank Peter Berg, Daniel Eriksson, Abhinav Goel, Anne Grimmelt, Martyna Kulesa, Tapio Melgin, Emily Roeper, Matt Rogers, and Jeremy Wallach for their contributions to this article.

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