McKinsey & Company

McKinsey on Packaging in the next normal

Navigating in the post-pandemic reality

April 2021

Table of contents

Introduction

In our 2019 report *No ordinary disruption: Winning with new models in packaging 2030*, we outlined five major trends that we expect to "change the game" in the $900 billion packaging industry, thereby raising the bar for performance over the next five to ten years:

— *Sustainability requirements increasing* at every step of the value chain, along with rising activist scrutiny

— *E-commerce everywhere* with intense focus on increased packaging requirements, including for new products, along with last-mile delivery innovations

— *Changing consumer preferences* with demand for much more personalization, convenience, health, and affordability, driving stock keeping unit (SKU) proliferation to new heights

— *Margin compression* for fast-moving consumer goods (FMCG) manufacturers and retailers, with pressure passed back up the line to converters

— *Digitization/Internet of Things (IoT)* to drive down costs and, increasingly through the decade, gain a competitive edge with consumers

As a consequence of the COVID-19 pandemic, we have seen the strong emergence of food safety and hygiene concerns as a new sixth key industry-shaping trend. We have also seen how this great public-health and economic crisis has further reshaped our original five megatrends with the biggest changes being a dramatic shift to online shopping and acceleration of consumers' sustainability concerns.

To navigate these choppy waters and stay ahead of the competition, packaging companies must rethink how to move to their next normal. We believe this will require companies to think in new ways about their focus, design, and market approach ("intuition resets"). To prepare for the upcoming changes and faster-than-ever changing industry landscape, we have published this compendium to share a comprehensive view on the future of the packaging industry and discuss how industry leaders can navigate the key challenges:

— *Strategic planning for the next normal.* In this chapter, we address the impact from the pandemic on sustainability and other key megatrends. Here, we expand our view around how companies can manage their strategic planning by readjusting their focus and raising their game in the "next normal" for packaging beyond COVID-19.

— *Drive toward sustainability in packaging—beyond the quick wins.* Sustainability remains a key industry-shaping trend. In our latest 2021 publication we give a detailed overview of five key industry-shaping sustainability trends we have observed and their related investable themes. To understand the voice of the consumer, we have also included our latest article on how today's consumers around the world see and prioritize sustainability.

— *Beyond COVID-19—understanding the next normal for packaging design.* Focusing on innovation, we explore how the coronavirus pandemic will have major short- and long-term implications for the next normal of packaging design.

We hope that you find this helpful as you refocus your strategy and approach in order to preserve value and growth in the next normal.

David Feber
Partner, Detroit

Oskar Lingqvist
Senior Partner, Stockholm

Daniel Nordigården
Partner, Detroit

Beyond COVID-19: The next normal for packaging design

The coronavirus pandemic has reshaped industry megatrends in ways that will have major short- and long-term implications for packaging design.

by David Feber, Lea Kobeli, Oskar Lingqvist, and Daniel Nordigården

The COVID-19 pandemic has reshaped the megatrends buffeting the $900 billion-a-year packaging industry. As the world manages through—and begins to emerge from—the great public-health and economic crisis, we expect these megatrend shifts to change packaging design in fundamental ways.

To prepare for these changes and the move to the next normal, packaging companies must rethink packaging design beyond "must-haves," such as reasonable costs, convenience, and performance. Three major requirements must be addressed: first, a good sustainability narrative; second, design with hygiene in mind, given recent heightened consumer-safety concerns; and third, design for e-commerce, ship-ready design, and direct-to-consumer models.

With the right focus and innovation capabilities, these megatrend shifts and the resulting design challenges could help packaging converters[1] grow by enabling customers to revise their packaging portfolios with improved design. To help companies navigate through the future and stay ahead of the competition, we propose five critical moves they can make to jump-start their packaging-design change journey.

Progressing megatrends: The next normal of packaging

The COVID-19 pandemic has changed key megatrends[2] already reshaping the packaging industry before the crisis:

Sustainability reemphasized and redefined, with hygiene concerns addressed. Although sustainability has recently taken a back seat, it remains a key industry-shaping trend. Packaging-sustainability goals have not been abandoned by leading fast-moving consumer goods (FMCG) companies and retailers, which remain committed to achieving high recyclability across their packaging portfolio over the long term. However, given the strong emergence of the new hygiene megatrend—one likely to become a key element of the next normal in packaging—companies will have to rethink the materials and design requirements of sustainable packaging.

E-commerce everywhere. As a result of the stay-at-home orders in many countries, consumers have dramatically increased their digital engagement—in particular, for online grocery shopping.[3] In the United States, online penetration in this segment has increased hugely. Some industry forecasts predict that penetration will reach 10 percent in 2020, compared with 2 to 3 percent before the crisis.[4] This will have significant implications for packaging design. Understandably, most of today's packaging has been optimized for traditional brick-and-mortar requirements, not online shipments.

Rapidly changing consumer preferences. The pandemic has brought about major channel and category shifts.[5] In packaging's next normal, we expect consumers to go on being price sensitive, to further accelerate their online shopping across all categories, and to focus even more on health and hygiene. These changing consumer preferences will make it necessary to rethink the product mix at FMCG and retail customers. Inevitably, there will be implications for packaging design.

Quickly changing cost pressures and more regional supply needs. Before the COVID-19 crisis, FMCG companies and retailers facing significant margin compression passed these pressures up the line to converters.[6] This issue has already affected packaging design in multiple ways: for example, the substitution of different packaging materials, "light-weighting," redesigned formats to increase filling efficiency and volume density, smaller pack sizes, and shelf-ready packaging. Given the crisis,

[1] A converter is a packaging producer that transforms raw materials, such as plastic resins and paper, into packaging products.
[2] David Feber, Oskar Lingqvist, and Daniel Nordigården, "Shaping the next normal of packaging beyond COVID-19," May 26, 2020, McKinsey.com.
[3] Bill Aull, Dymfke Kuijers, Alex Sawaya, and Rickard Vallöf, "What food retailers should do during the coronavirus crisis," March 2020, McKinsey.com.
[4] Steve Hornyak, "The future is now for online grocery due to COVID-19," Total Retail, April 20, 2020, mytotalretail.com; Nizla Naizer and Tiffany Kanaga, "What are you having for dinner?" Deutsche Bank, July 4, 2019, dbresearch.com.
[5] Raphael Buck, Tracy Francis, Eldon Little, Jessica Moulton, and Samantha Phillips, "How consumer-goods companies can prepare for the next normal," April 2020, McKinsey.com.
[6] David Feber, Daniel Nordigården, and Shekhar Varanasi, "Winning with new models in packaging," May 2019, McKinsey.com.

Although sustainability has recently taken a back seat, it remains a key industry-shaping trend.

we expect such cost pressures to continue, and this could amplify the existing need to use packaging design to reduce costs.

Speedier digitalization of the value chain. Another expected outcome of the pandemic is increased digitalization of the value chain through automation and the more widespread use of AI—not only for cost efficiency and productivity, but also to make supply more resilient and transparent through real-time tracking. The result could be a greater need to integrate technology—radio-frequency identification (RFID) tags and near-field communications (NFC)—into packaging. Innovative packaging designs will play an important enabling role. Packaging companies will need to reassess their strategies in light of these evolving megatrends.

The next normal's impact on packaging design

Packaging design already plays a critical role in several dimensions:

- *Supporting the consumer decision journey.* The consumer's perceptions of both the actual product and brand value depend highly on packaging—both its tactile feel and its look. It is therefore a key component in promoting products and helps to differentiate the introduction of new ones—particularly in today's world, with rampant SKU proliferation and robust competition on shelves for the consumer's attention. Primary packaging is also an information carrier that educates consumers about the product inside and ways to use it.
- *Ensuring that products have a cost-efficient delivery system.* Packaging plays a basic role in containing and protecting the product—for example, helping to preserve food, to extend its shelf life, and to minimize waste.
- *Facilitating the consumer's need for convenience.* The consumer's changing behavior and lifestyles have imposed new demands on packaged goods—for example, reducing the preparation time of food, packaging ready-to-eat fresh meals, and enabling "portionability," portability, and smaller individual packs. Packaging design has played an important role in fulfilling these requirements by incorporating, for example, easy-to-open and resealable closures.

As we move to the next normal, packaging companies should further rethink packaging design, beyond these existing must-have factors. Any packaging launched during the pandemic or in the near future should take into account three other important requirements.

1. Design with a strong sustainability narrative

The broad spectrum of design opportunities to improve the sustainability narrative can be split into two major groups,[7] which can be addressed in two stages:

- *Step one: Low-hanging fruit.* The design improvements here are no-regrets moves, carried out with only a minimal impact on operating costs and capital expenditures for customers and packaging converters alike.

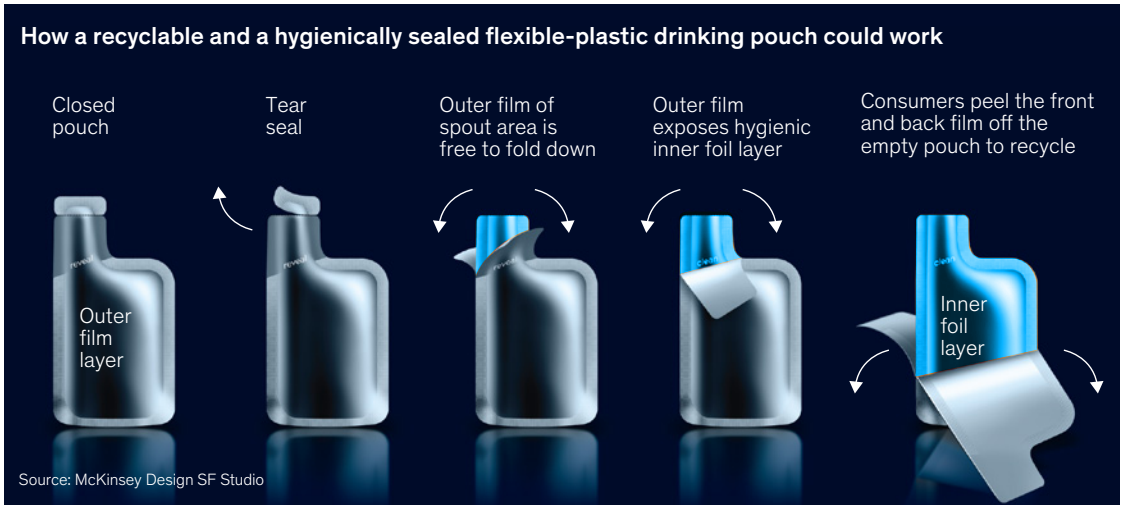
[7] Peter Berg, David Feber, Anna Granskog, Daniel Nordigården, and Suku Ponkshe, "The drive toward sustainability in packaging—beyond the quick wins," January 30, 2020, McKinsey.com.

These moves include eliminating unnecessary packaging, increasing the use of recycled content in the packaging material when this would be easy to do (for instance, in less sensitive applications, such as nonfood items), and helping to communicate sustainability narratives more effectively (for instance, by showing consumers how to recycle packaging).

— *Step two: Harder but doable.* Actions here include packaging-design enhancements that can promote more extensive improvements than those in step one by taking into account the full circular economy and the direct environmental impact of producing packaging materials. This effort could involve packaging design to take advantage of recent innovations in materials and to use more mono-materials.[8] It could also involve introducing packaging designs in new shapes and forms for easy recycling, with new substrates. If several layers of packaging are needed (for instance, for barrier requirements), delaminated packaging could be developed, so that the consumer can easily separate multisubstrate packaging (Exhibit 1). It will be necessary to ensure that these design choices do not have undesirable indirect consequences—such as increasing food waste, which could have a larger environmental impact than the packaging itself. The packaging-design moves mentioned here will typically require close collaboration (or even partnering) with customers and upstream suppliers for implementation in cost- and resource-efficient ways. Packaging converters must therefore proactively ensure that they have the right partners (for instance, raw-material suppliers) to give them access to innovative ideas for sustainability.

Exhibit 1

Designing enhancements such as delamination functionality for multilayer packaging would enable safe consumption and ease recycling for consumers.



[8] Mono-materials are those incorporating only one resin, such as polyethylene (PE) or polypropylene (PP), to create plastic films with high recyclability, given the single raw material used. This is in contrast to multilayer packaging, which uses a combination of different plastic types to create a barrier with high "sealabilty" as well as "printability."

2. Design with hygiene in mind

The consumer's awareness of hygiene and safety concerns has increased dramatically and will probably persist long after the pandemic subsides. A recent survey showed that more than two-thirds of US consumers worry about contracting COVID-19 from food packaging and that more than 40 percent use household disinfectants to clean the products they buy.[9] In the short term, during the crisis, the consequences seem to be an increase in single-use packaging—for example, take-out food typically requires more packaging than food at quick-serve restaurants. Retailers are applying new safety and hygiene approaches to protect consumers—among other things, banning reusable bags, requiring face masks to be worn, and limiting the number of shoppers in stores.[10]

Given heightened concerns around this issue, it will have a profound long-term impact on packaging designs and functionality. Several aspects must be addressed through new, improved packaging designs, particularly for foods and beverages, as well as other uses that require consumers to engage directly with packaging (for example, personal-care and healthcare products):

— *Ensure that the virus is minimally viable on the packaging surface.* The choice of substrate can affect the viability of the novel coronavirus, so there could be plenty of room for enhanced packaging designs. For example, a study published during the pandemic indicates that coronavirus-survival rates vary from 24 to 72 hours, depending on the packaging-material substrate.[11]

— *Develop new delivery mechanisms for packaging.* The consumer's demand for convenience has sparked developments such as advanced closures and delivery systems that promote on-the-go consumption, as well as easy opening and closing of small single-use packs (examples include stand-up pouches for baby food and energy-gel pouches). Such systems typically require consumers to touch the surface of the packaging with their hands and to put it in their mouths to consume the contents. These exposed surfaces are prompting hygiene concerns that must be addressed. One way forward could be to further explore the internal delamination of different packaging materials; in other words, consumers could "peel off" a film to reveal a clean inner surface that can safely be put in contact with their mouths. This type of peel-off-film technology, which already exists for food-packaging applications, is often used in easy-open and easy-seal containers. It could also be applied in new ways with revised packaging designs.

— *Ensure tamper-proof packaging and communicate it to consumers.* Another issue is how to enhance consumer confidence by further improving tamper-proof packaging. The goals are to ensure protection against contamination, particularly for food and beverages, but not creating more packaging waste by adding materials and protective closures. Packaging design and printed information should be used to explain that products are safe and therefore to build trust with consumers.

3. Design for the e-commerce, ship-ready, and direct-to-consumer models

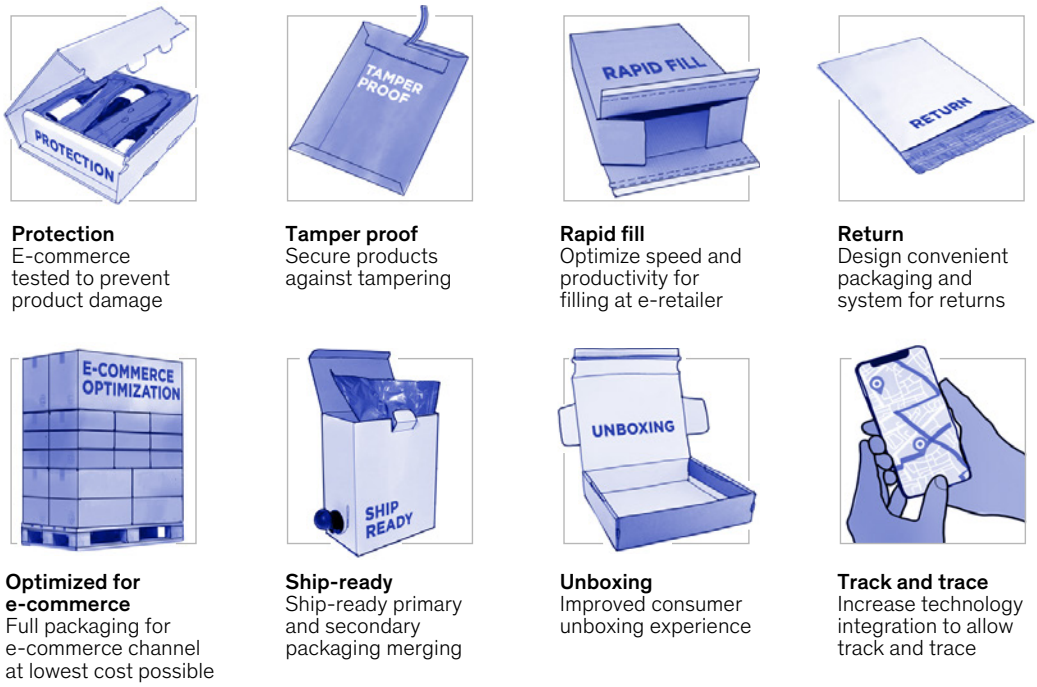
The number of products passing through the online channel is vastly expanding. Many packaging designs will therefore need a major update, especially if they were originally intended for traditional retail channels. Packaging designs can optimize products for e-commerce in many ways, such as preventing product damage, boosting productivity, and improving the consumer experience (Exhibit 2).

[9] Rick Lingle, "COVID-19 Raises Consumers' Packaged Food Concerns," Packaging Digest, May 18, 2020, www.packagingdigest.com.
[10] David Feber, Oskar Lingqvist, and Daniel Nordigården, "Shaping the next normal of packaging beyond COVID-19," May 2020, McKinsey.com.
[11] "New coronavirus stable for hours on surfaces," National Institutes of Health, March 17, 2020, nih.gov.

Exhibit 2

Packaging designs can optimize products for e-commerce by preventing damage, boosting productivity, and improving the consumer experience.

E-commerce-adopted packaging that could be ship-ready[1] with minimal added transport and protective packaging



Protection
E-commerce tested to prevent product damage

Tamper proof
Secure products against tampering

Rapid fill
Optimize speed and productivity for filling at e-retailer

Return
Design convenient packaging and system for returns

Optimized for e-commerce
Full packaging for e-commerce channel at lowest cost possible

Ship-ready
Ship-ready primary and secondary packaging merging

Unboxing
Improved consumer unboxing experience

Track and trace
Increase technology integration to allow track and trace

[1]A combination of primary and secondary packaging offering minimal added transport and protective packaging.
Source: Expert interviews; McKinsey analysis

Although several of these e-commerce packaging trends are not new, they will intensify as more products go through the online channel. One emerging trend is the merger of primary and secondary packaging, a combination that is intended to use minimal added transport and protective packaging and can be shipped in its own container—a direct-to-consumer model. We also expect to see more packaging converters partnering directly with e-retailers to adapt packaging designs to the needs of the online channel. These designs will be approved by e-retailers (which is necessary to ensure that brand owners feel comfortable using the new packaging, such as leak-free, e-commerce–approved spray pumps and closures).

Five critical elements for starting on new designs

Clearly, the bar for good packaging design will rise in response to the next normal's imperatives. Converters that do nothing risk falling behind their more proactive, fast-moving peers. Packaging converters should start their change journey with the following five moves to help customers align their packaging designs with the three emerging design requirements:

1. *Develop a clear view of how the megatrends will affect your end-use areas.* Packaging companies must understand the full range of implications and possibilities. Establish clear strategic priorities and create road maps to

The bar for good packaging design will rise in response to the next normal's imperatives.

determine proactively which customers will probably need immediate help to redesign and develop packaging.

2. *Embed a consumer-safety-first mentality when you introduce new packaging.* In many end-use segments, concerns about food safety and hygiene will be a critical new packaging megatrend. Any new packaging to be launched during the pandemic or in the near future will have to address it. Consider how you can use existing or new materials and solutions to develop a winning approach.

3. *Assume that everything must be ready for e-commerce.* Develop a deep understanding of what e-commerce means for your packaging designs. The requirements will range from more robust, cost-efficient packaging to designs that build consumer engagement and excitement around brands.

4. *Ensure that you have a strong sustainability narrative.* Harness the latest innovations and smart-packaging designs to prevent waste and incorporate more recycled content. It's important to compare the pros and cons of different packaging substrates along the full length of the value chain. Look at the environmental footprint of producing and converting the packaging material itself and at the whole life cycle, from raw materials to consumers to recycling and disposal. Consider trade-offs: for example, compare lightweight, multilayer pouches with higher fill rates for truck shipments serving online channels with packaging made from alternative materials that could be more recyclable. Assume that customers will increasingly ask for comprehensive environmental-footprint assessments of all packaging solutions.

5. *Do not take into account only one megatrend.* Address the full range of packaging megatrends by taking a holistic approach.

The next normal will put packaging designs in the spotlight as the evolving megatrends reshape the business. Winning designs will have to address the needs of the online channel, sustainability, and hygiene, as well as the basics: cost, performance, and convenience. With the right focus, these design challenges could power significant growth. Conversely, converters that do nothing will fall behind their faster-moving peers.

David Feber is a partner in McKinsey's Detroit office, where **Daniel Nordigården** is an associate partner. **Lea Kobeli** is a design expert at McKinsey's Design SF Studio, based in San Francisco. **Oskar Lingqvist** is a senior partner in the Stockholm office.

The authors wish to thank Matt Banholzer, Stephan Görner, Thomas Hundertmark, Dickon Pinner, Oliver Ramsbottom, Erik Roth, and Jeremy Wallach for their contributions to this article.

Sustainability in packaging: Inside the minds of global consumers

In the wake of the COVID-19 pandemic, some global themes regarding consumer sentiment are evident. But perceptions and priorities regarding packaging differ by country and require a granular response.

by Daniel Eriksson, David Feber, Anna Granskog, Oskar Lingqvist, and Daniel Nordigården

Sustainability remains a key topic for the packaging value chain, but there are few (if any) insights into consumer perceptions globally—especially now that the COVID-19 pandemic is also influencing consumer sentiment and behavior. To better understand this influence, we launched a survey across ten countries to explore consumers' attitudes toward sustainable packaging, building on our earlier work focusing on consumer sentiment in the United States.[1]

Responses from the approximately 10,000 consumers who took part in the survey have uncovered three main findings. First, as a result of the COVID-19 pandemic, consumers now place significantly more value on food safety and hygiene. This is a key element of the next normal in packaging, whereby packaging suppliers will have to rethink materials and design requirements.[2]

Second, consumers see sustainability as being increasingly important as we emerge from COVID-19: marine litter is top of mind in Europe and Japan, while pollution is more of a concern in other Asian countries and the Americas. Across the globe, a vast majority of consumers claim to be willing to pay more for sustainable packaging.

Third, consumers around the world disagree on what packaging type is most sustainable; however, they do agree on what are the least sustainable options. Thus, to respond effectively to these evolving consumer sentiments, a granular view will be needed. In this article, we suggest three critical questions that packaging players need to answer to get started on creating an actionable fact base on which to build their future strategy.

COVID-19's impact on sustainability in packaging

Ahead of the COVID-19 crisis, sustainability was top of mind across the whole packaging value chain.[3] Consumers were becoming acutely aware of the packaging sector's environmental footprint,[4] and, in turn, rising public awareness sparked responses from legislators around the world. With sustainability increasingly part of their value proposition, fast-moving-consumer-goods (FMCG) and retail companies promised swift action and made bold commitments to improving the recycling potential of their packaging. This combination of downstream pull from consumers along with FMCG companies responding to the regulatory

[1] David Feber, Anna Granskog, Oskar Lingqvist, and Daniel Nordigården, "Sustainability in packaging: Inside the minds of US consumers," October 21, 2020, McKinsey.com.
[2] David Feber, Lea Kobeli, Oskar Lingqvist, and Daniel Nordigården, "Beyond COVID-19: The next normal for packaging design," July 15, 2020, McKinsey.com.
[3] 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.
[4] David Feber, Daniel Nordigården, and Shekhar Varanasi, *No ordinary disruption: Winning with new models in packaging 2030*, May 9, 2019, McKinsey.com.

To better understand this influence, we launched a survey across ten countries to explore consumers' attitudes toward sustainable packaging, building on our earlier work focusing on consumer sentiment in the United States.

push had a profound impact on upstream players in the packaging industry: they were expected to help meet commitments. However, during the early stages of the pandemic, hygiene concerns took priority over the drive to eradicate single-use packaging in several jurisdictions.[5] This evolution in consumer sentiment is also reflected in our survey, which indicates that the pandemic has heightened concerns around food safety, especially in the hardest-hit countries (Exhibit 1).

The next normal of sustainability in packaging

As we enter the next normal, pressure on sustainability is building once again. FMCG manufacturers and retailers continue to innovate with new packaging formats designed to improve recyclability—notably with the use of recycled content such as post-consumer resin (PCR)—as they approach their own sustainability commitments and also respond to consumer expectations, critical nongovernmental organization voices, and regulatory pressure.

New regulation is currently expanding on multiple fronts: no longer is it confined to just a few countries or regions. Today, sustainability regulation has become much more of a global phenomenon, even if the level of regulation varies. At the same time, consumer concerns remain: when we asked consumers about their perceptions of packaging sustainability compared with pre-COVID-19 times, only 4 to 11 percent of consumers globally said

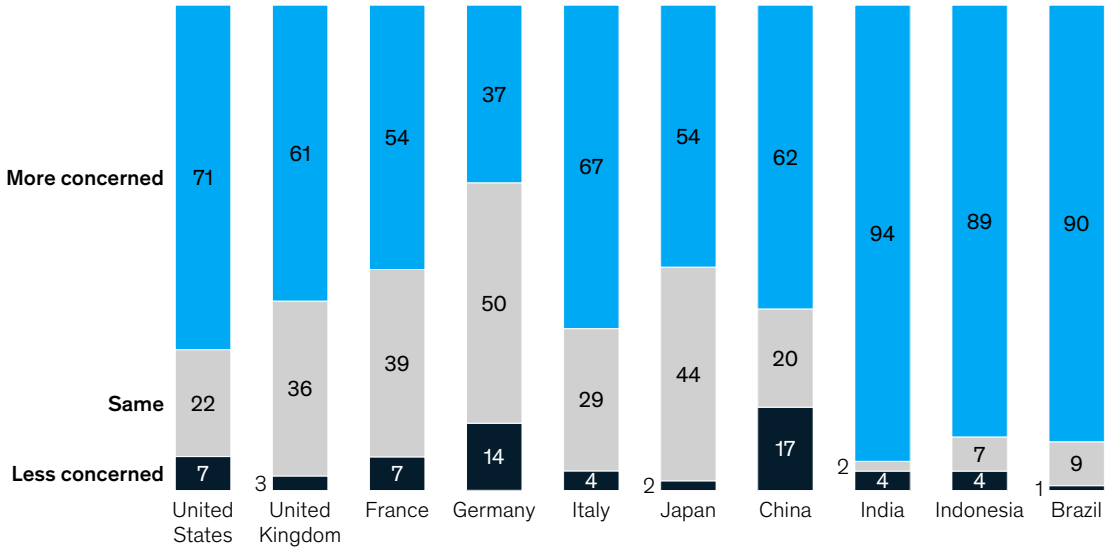
[5] For full details see David Feber, Oskar Lingqvist, and Daniel Nordigården, "Shaping the next normal of packaging beyond COVID-19," May 26, 2020, McKinsey.com.

Exhibit 1

COVID-19 has increased awareness of the hygiene and food safety of packaging.

When thinking about packaging, how do you currently perceive the importance of hygiene and food safety compared to the time before COVID-19?

% of respondents[1]



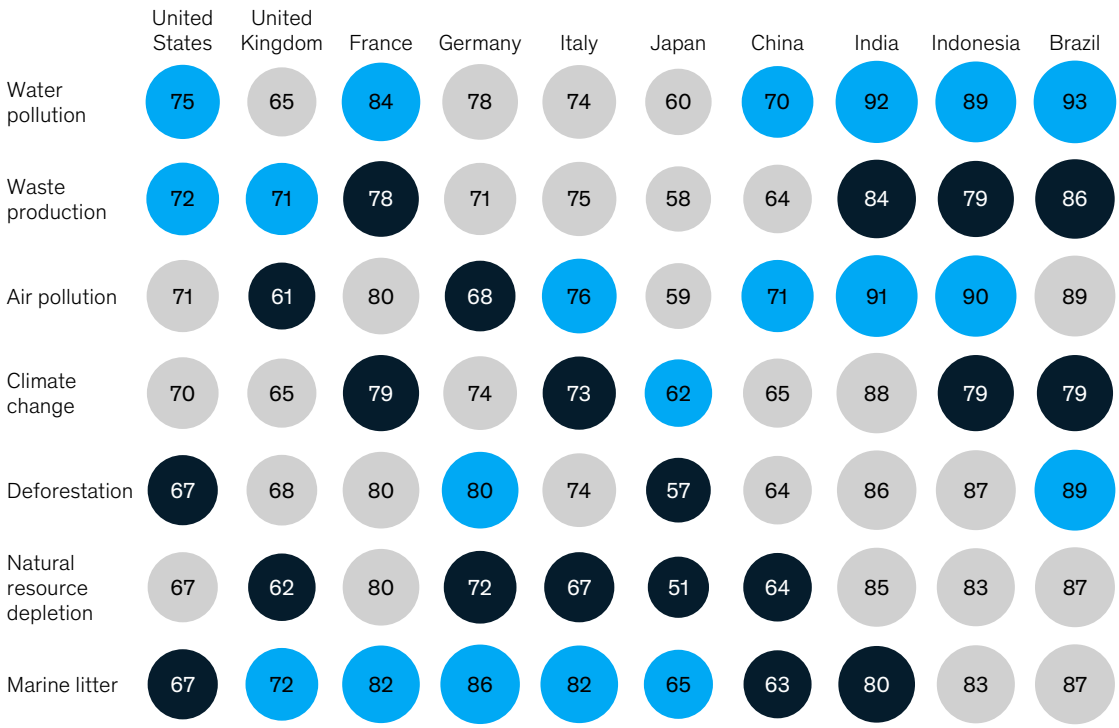
[1] Figures may not sum to 100%, because of rounding.
Source: McKinsey Packaging Survey (2020)

Exhibit 2

Marine litter is the cause of most concern in Europe and Japan, while pollution is more of a concern in other Asian countries.

How concerned are you about product packaging and its impact on the following environmental issues?

% of respondents who indicated "extremely" or "very" concerned



Source: McKinsey Packaging Survey (2020)

that they are now less concerned. Consumers are generally more concerned in developing economies such as India (87 percent of consumers are more concerned), Indonesia (80 percent), and Brazil (65 percent). Nevertheless, consumers in more developed economies are also showing higher awareness around sustainability issues: for example, 48 percent of US consumers are more concerned. However, what consumers are concerned about differs depending on region (Exhibit 2).

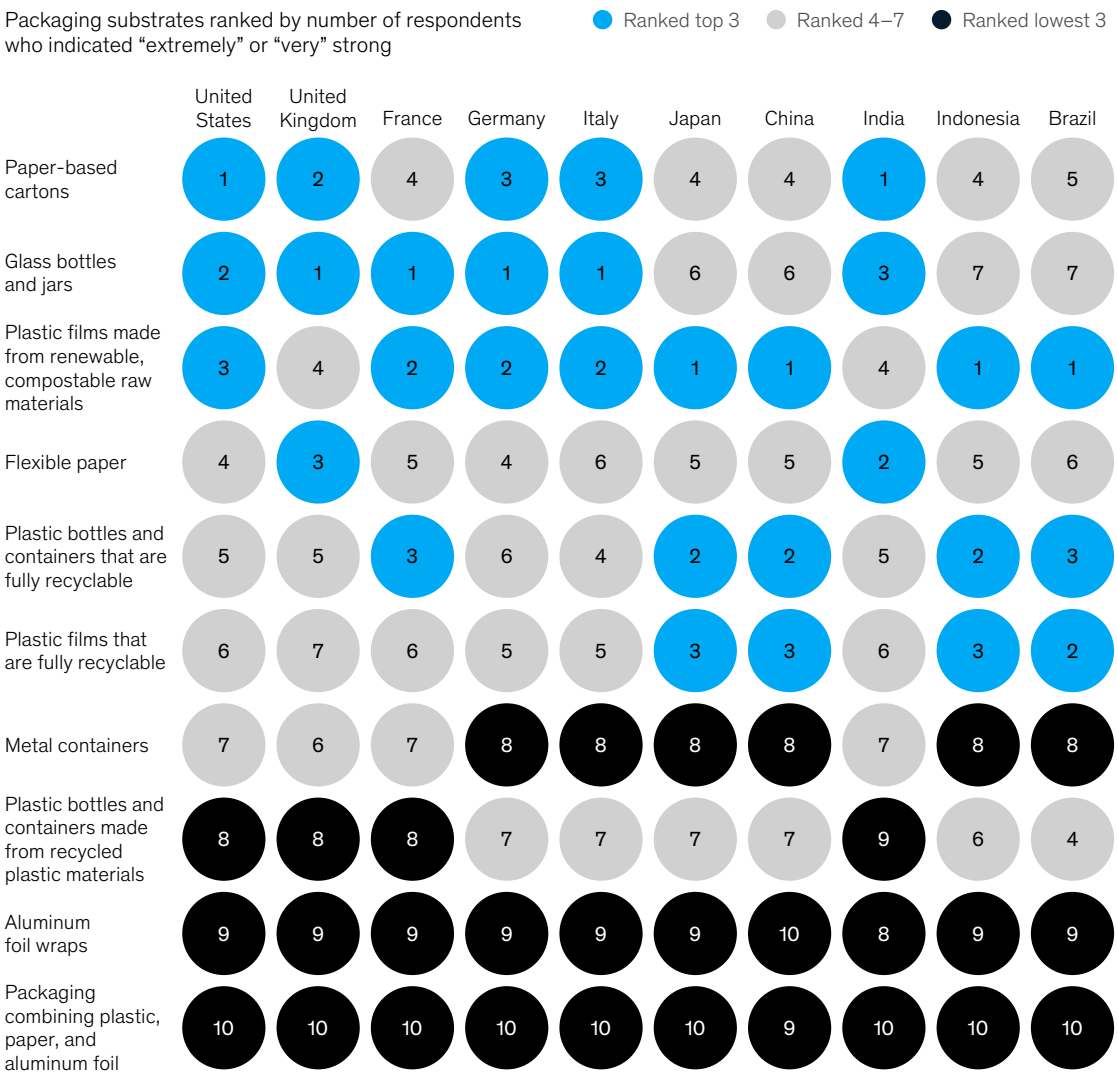
In all countries surveyed, the overwhelming majority of respondents claim to be willing to pay more for sustainable packaging across end-use areas. In food service, for example, highest willingness to pay is in China, where 86 percent of consumers say they are willing to pay "a lot" or "a bit more" for sustainable packaging, followed by Indonesia, the United States, and Brazil (75 percent, 68 percent, and 66 percent, respectively). In Germany, Italy, India, and the United Kingdom, around 56 to 59 percent say they are willing to pay "a lot" or "a bit more" for sustainable food-service packaging. Willingness to pay more for green in food service appears lowest in Japan and France, where 48 percent of consumers are willing to pay more for sustainable packaging. At the same time, better labeling on the packaging (explaining its sustainable attributes) and increased availability would encourage 23 to 61 percent of the surveyed consumers to buy more green packaging.[6] Taken together, these facts plainly suggest that a clearly communicated sustainability benefit is a strong value proposition for packaging suppliers.

[6]The wide percentage range reflects variation among individual countries surveyed.

Exhibit 3

Consumer perception around the world is less aligned on what packaging substrates are most sustainable but more aligned on the least sustainable options.

How sustainable do you think each of these packaging types is?



Source: McKinsey Packaging Survey (2020)

Substrate view: What does the global consumer prefer?

It is often wondered what packaging substrate is seen as the most sustainable by consumers. Our survey indicates that consumers around the world disagree about what they view as the most sustainable packaging materials, but their perception is quite aligned on what they regard as the most unsustainable materials (Exhibit 3).

Paper-based cartons rank quite high for sustainability in the United States and among surveyed countries in Europe, as does glass. However, this is not the case in Brazil, China, and Indonesia where both types of packaging are ranked much lower. Compostable plastic films have a strong global recognition as being sustainable.

Packaging combining plastic, paper, and aluminum

foil (for example, flexible packaging) ranks lowest from a consumer perspective across all surveyed countries. Additionally, aluminum foils, plastic bottles (even with recycled content), and metal containers rank on the lower part of the spectrum.

Three critical questions to consider

Packaging suppliers should take a strategic look at their portfolios and assess them with three key questions in mind:

1. What are the substrate shifts you can foresee in your focus markets based on anticipated consumer perception and regulatory changes?

2. What is the resulting value at stake (that is, where are you most exposed given this and your market position)?

3. What are the potential growth opportunities for which you would be uniquely positioned to provide winning solutions?

Answering these three questions will help to create an actionable fact base. Based on this, packaging suppliers should update and enhance their product- and technology-strategy road map with relevant sustainability narratives. Doing so will help to identify growth opportunities and the partners needed to deliver them and provide insight into areas of risk in instances where volumes might move to alternative substrates if no solution can be developed.

Consumer sentiments seem to be shifting continuously, most recently with heightening focus on food safety and hygiene. Understanding consumers' sentiments and preferences around sustainability at a granular level will be a key early indicator for the value chain as to future regulatory pressure and instances where large packaging-substrate shifts could occur. Proactively identifying these sentiments and potential shifts could allow packaging suppliers to stay on top of trends as they develop and to become a thought partner by supporting customers in revamping their packaging portfolio—ultimately creating significant growth opportunities.

Daniel Eriksson is a senior analyst in McKinsey's Stockholm office, where **Oskar Lingqvist** is a senior partner. **David Feber** is a partner in the Detroit office, where **Daniel Nordigården** is an associate partner. **Anna Granskog** is a partner in the Helsinki office.

The authors wish to thank Maimouna Diakhaby, Maximilian Fischer, Anne Grimmelt, Matt Rogers, and Jeremy Wallach for their contributions to this article.

Sustainability in packaging: Investable themes

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

This article was a collaborative effort by David Feber, Anna Granskog, Felix Grünewald, Oskar Lingqvist, and Daniel Nordigården, representing views from McKinsey's Paper, Forest Products & Packaging Practice

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.

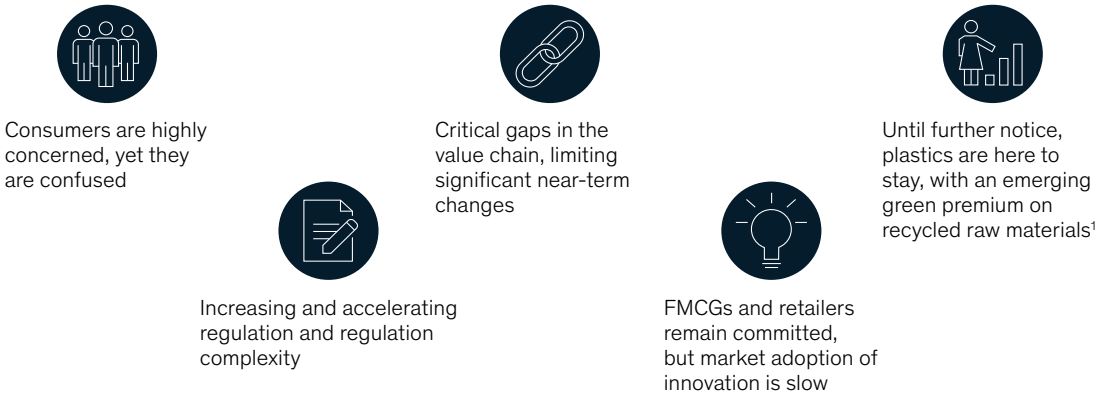
2. Increasing and accelerating complexity of the regulatory environment hinders planning

New regulation is expanding on multiple fronts and is becoming ever stricter. At the same time, regulatory focuses and approaches vary considerably by region[4] 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.



[1]Expected 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 Vanthournout, "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 Ponkshe, "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 concerns 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 development[13] 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 CO_2 footprint and make the carbon intensity of materials, packaging, and products more transparent. Previous research has shown that packaging material can account for more CO_2 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.

David Feber and **Daniel Nordigården** are partners in McKinsey's Detroit office; **Anna Granskog** is a partner in the Helsinki office; **Felix Grünewald** is a consultant in the Zurich office; and **Oskar Lingqvist** is a senior partner in the Stockholm office.

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

Shaping the next normal of packaging beyond COVID-19

As packaging companies emerge from the COVID-19 crisis, they need to readjust their focus and raise their game—while negotiating ongoing shifts in the industry.

by David Feber, Oskar Lingqvist, and Daniel Nordigården

While people were adjusting their lives in response to the coronavirus pandemic, the crisis was triggering multiple market disruptions. These disruptions will have both short- and long-term ramifications for the global packaging industry, which generates $900 billion a year. The biggest changes include dramatic shifts in consumer channels, new or heightened hygiene and consumer-safety concerns, highly volatile raw-materials prices, lifted single-use packaging bans, and the disruption of several end markets (such as hospitality and restaurants) by stay-at-home orders. What's more, we expect the current crisis to reshape existing megatrends in the packaging industry.

When the world emerges from the COVID-19 pandemic—most likely a minimum of a year from now—packaging companies will need to raise their performance in multiple ways: balance sustainability goals with stringent hygiene requirements, step up their e-commerce games, and compete in a novel customer landscape while facing strong cost pressures. To navigate these choppy waters and stay ahead of the competition, packaging converters[1] and other packaging companies must rethink how to move to their next normal. And, while doing so, they must not lose sight of five imperatives that will position them for success.

Progressing megatrends in packaging

Packaging companies will need to rethink their focus and market approach. We expect the impact of the pandemic to alter important megatrends that were already reshaping the packaging industry before the crisis[2] and raising the bar for performance (Exhibit 1).

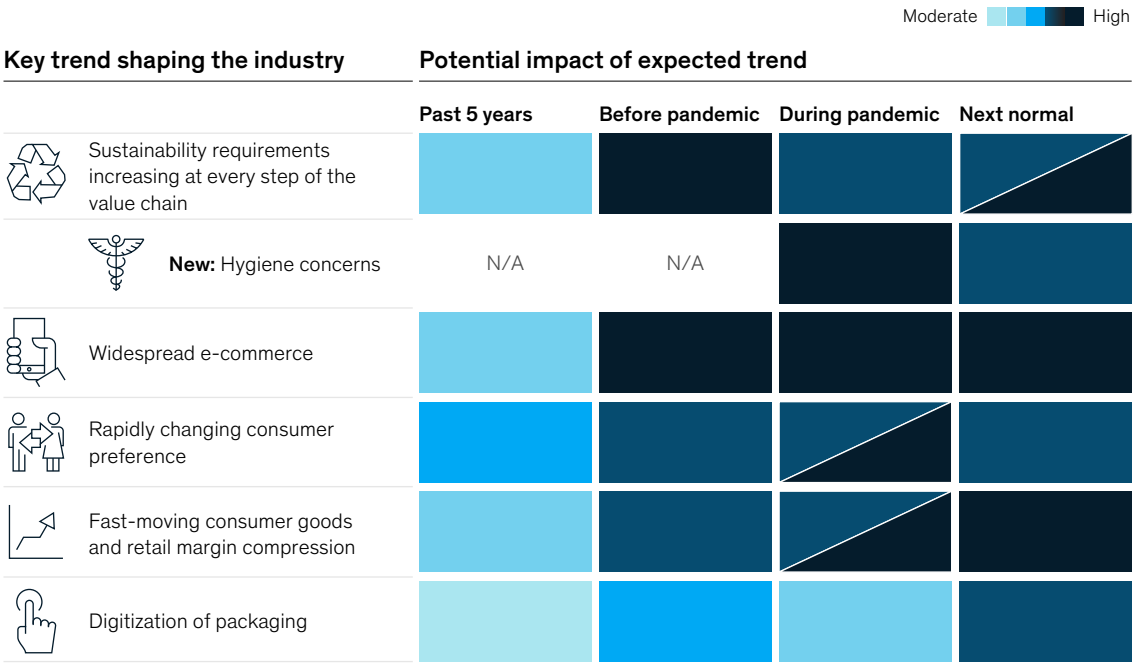
Redefined sustainability

Before the COVID-19 crisis, sustainability was top of mind for the packaging value chain, particularly in relation to regulatory and public concerns regarding single-use packaging waste. Regulators in many

[1] A converter is a packaging producer that transforms raw materials, such as plastic resins and paper, into packaging products.
[2] See David Feber, Daniel Nordigården, and Shekhar Varanasi, "Winning with new models in packaging," May 9, 2019, McKinsey.com.

Exhibit 1

Packaging megatrends are expected to evolve in response to the COVID-19 crisis.



countries were moving rapidly on the issue, and fast-moving consumer goods (FMCG) companies and retailers were making bold commitments to both improve the sustainability of packaging and rethink their packaging systems.

With the onset of the COVID-19 crisis, however, sustainability has taken a back seat to concerns about hygiene and food-safety issues, which have become higher priorities[3] (see sidebar, "Balancing sustainability and hygiene").

With this in mind, how will the sustainability agenda, which had become an important consideration for the packaging industry, shape the aftermath of the COVID-19 crisis? We believe that sustainability will remain a key industry-shaping trend, offering strong competitive advantages for a resourceful packaging converter. However, sustainability should be redefined alongside hygiene and consumer safety concerns. In fact, the present enhanced focus on hygiene and food safety is likely to become an element of the next normal and a high priority for both consumers and packaging customers (FMCG companies and retailers)—indeed, across the entire value chain.

For example, some retailers are applying new approaches to safety and hygiene, many of which are likely to persist after the pandemic subsides. Consumers increasingly demand hygiene-assured items and single-use wrapped items. Packaging

[3] See also David Feber, Oskar Lingqvist, and Daniel Nordigården, "How the packaging industry can navigate the coronavirus pandemic," April 2020, McKinsey.com.

Balancing sustainability and hygiene

To help manage hygiene concerns during the current state of emergency, single-use packaging has spiked while reusable packaging has faltered.

As a result of concerns about virus-contaminated surfaces,[1] several countries and US states have rolled back or delayed plans to ban plastic bags, and some have even banned reusable bags temporarily. Several coffeehouse chains have temporarily banned reusable cups amid the outbreak. Some recycling contractors have suspended services due to inadequate staffing. Concurrently, there is an increase in single-use packaging and wrapping for groceries as well as parcels shipped by e-commerce suppliers. For example, the amount of plastic waste generated in Thailand has surged by 15 percent with COVID-19, despite the country's ban on plastic bags that was introduced in January 2020.[2]

Sustainability goals have not been abandoned, however, and fast-moving consumer goods (FMCG) companies and retailers are committed to long-term decarbonization.

A recent survey of German and UK consumer purchasers of apparel and footwear showed a strong engagement with sustainability that has deepened since the onset of the pandemic: more than 60 percent of the respondents said that they had started to take more actions to recycle as well as to purchase products in environmentally friendly packaging than they had in the past.[3]

Many major FMCG companies and retailers have also made bold commitments related to packaging sustainability[4]—often with 2025 deadlines, though they are not yet close to fulfilling these commitments. Moreover, countries such as Germany are planning their COVID-19 economic stimulus to align with an acceleration of the decarbonization agenda.[5]

[1] "New coronavirus stable for hours on surfaces," National Institutes of Health, March 17, 2020, nih.gov.
[2] Apinya Wipatayotin, "Covid-19 pushes plastic waste rise," April 24, 2020, Bangkok Post, bangkokpost.com.
[3] "Consumer sentiment on sustainability and fashion in the COVID-19 crisis," McKinsey survey conducted April 14–22, 2020, of 2,004 German and UK consumers, aged 18 or over, who have bought apparel or footwear in the past six months.
[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.
[5] Michael Nienaber and Markus Wacket, "Germany's Merkel wants green recovery from coronavirus crisis," Reuters, April 28, 2020, reuters.com.

design, the choice of substrates,[4] or specific functionality to ensure the minimal viability of the virus could significantly influence packaging-material preferences.

From this perspective, packaging companies will have to address both sustainability and hygiene concerns alongside cost, performance, and convenience requirements. Moreover, volatile raw-materials prices and interruptions to recycling services could further disrupt markets. In response, companies could test new avenues for promoting the sustainability agenda—for example, by introducing truly biodegradable (compostable at home) packaging materials to reduce the leakage of packaging materials into the environment.

E-commerce demands

The coronavirus pandemic is spurring drastic changes in consumer habits. During the crisis, consumer spending on groceries—particularly food—has dramatically increased, and shoppers are buying their goods online, fueling a strong acceleration of e-commerce shipments and other home-delivery services.[5]

We expect demand for grocery e-commerce to remain high post-COVID-19. This pattern is already playing out in Asia—particularly in China—the first country to confront the pandemic.[6] Some industry forecasts predict that US online grocery sales will settle at or above 10 percent already this year,[7] compared with 2 to 3 percent before the crisis.[8] If, in the long term, the majority of products across all categories go through the online channel, e-commerce as the next normal will have significant implications for the packaging industry—particularly for primary and secondary packaging, given that most packaging has yet to be optimized for the e-commerce channel.

Indeed, e-commerce-approved packaging will need to be tested to prevent product damage, optimized for e-channels, and tech-enabled for filling speed and productivity. E-commerce packaging is currently required to be three to four times more robust than traditional on-the-shelf packaging. As a result, many manufacturers will seek packaging that facilitates e-commerce shipping. E-retailers are increasingly using artificial intelligence and automation to fill orders and stock warehouse products. Taking full advantage of these technologies to enhance speed and productivity will require novel approaches to packaging and redesign; for example, primary and secondary packaging are more and more likely to merge.

Shifting consumer preferences

During the Great Recession, consumers cut back spending on nonessentials, traded down, and shifted channels. The latter two consumer behaviors were sustained after the recession. During the COVID-19 crisis, we have again seen noteworthy shifts in consumer behavior, both by category and by channel:

Category. There is a stronger consumer focus on essentials, both up- and down-trades, and a strong pull-back of discretionary spending. There are also signs of consumers returning to larger, more well-known brands.

Channel. Consumers have rapidly adopted and tested new channels, with a significant shift to online shopping. In addition, lockdown measures around the world have led to so-called nesting behavior, with staying at home replacing visits to coffee shops, spas, restaurants, and other activities. In the future, many consumers may conclude that their home is a more convenient and less expensive option to meet their social needs.[9]

We expect consumers to continue to be price sensitive, oriented toward price and value brands; to maintain, even accelerate, engagement with online shopping; and to focus even more on health

[4] Substrates are types of packaging materials, such as paper, cardboard, rigid plastics, flexible packaging, metal, and glass.
[5] Bill Aull, Dymfke Kuijers, Alex Sawaya, and Rickard Vallöf, "What food retailers should do during the coronavirus crisis," March 2020, McKinsey.com.
[6] Dymfke Kuijpers, Simon Wintels, and Naomi Yamakawa, "Reimagining food retail in Asia after COVID-19," April 2020, McKinsey.com.
[7] Steve Hornyak, "The future is now for online grocery due to COVID-19," Total Retail, April 20, 2020, mytotalretail.com.
[8] Nizla Naizer and Tiffany Kanaga, "What are you having for dinner?" Deutsche Bank, July 4, 2019, dbresearch.com.
[9] Raphael Buck, Tracy Francis, Eldon Little, Jessica Moulton, and Samantha Phillips, "How consumer-goods companies can prepare for the next normal," April 2020, McKinsey.com.

and hygiene. Changing consumer preferences will result in further product-mix changes at FMCG and retail customers.

If these behaviors are sustained after COVID-19, the implications for packaging companies, including shifting profit pools, will be widespread. Operational processes must become more flexible and agile if the companies are to speedily develop products that will meet new and existing consumer demands, including a demand for convenience.

Fast-moving cost pressures and more regional supply needs

Consumers are pessimistic or unsure about the pandemic's lasting effects: for example, about half of US consumers are being very careful about spending their income.[10] In addition, cost pressures in the packaging industry are expected to increase across regions as customers decrease their packaging budgets. In a recent global B2B survey, some 27 percent of respondents expected to reduce their packaging budgets by 4 to 10 percent in the short term; about 12 percent, by 11 to 25 percent; and 12 percent by as much as 25 percent.[11] As a result, to keep their plants cost competitive, packaging converters must further assess and take advantage of cost-reduction opportunities.

Packaging customers are also revisiting and adapting their supply chains in the COVID-19 crisis. In particular, customers that currently rely on global supply are now considering making their footprints more regional, by either adding regional suppliers or replacing current cross-regional ones. Packaging converters with global sales and, more important, raw-materials suppliers must explore how they can develop a regional supply chain (possibly through co-location with customers) as well as greater vertical integration. Their aim will be to increase the flexibility and resilience of packaging production, and, among other goals, to create transparency for customers regarding stock levels and backup plans for supply. These shifts could also present opportunities for working together with customers, for example, through joint packaging research and development and production planning.

Speedier digitization of the value chain

A further consequence of the pandemic is an expectation that all parts of the value chain will become more digitized, to reduce supply-chain and production risk. We also expect more automation, AI, and remote support to drive productivity and result in greater resilience.

With real-time reporting and analytics, customers will aim to track supply chains far more closely than before, perhaps shifting from annual or quarterly to weekly monitoring. Increased transparency is not only a matter of cost efficiency, but also a way to help build a more resilient supply chain and assure the health and safety of products. For packaging converters, this move could offer opportunities to support customers by increasing the integration of technology in the packaging itself—for example, through radio-frequency identification.

Five imperatives for the next normal in packaging

To be able to navigate the crisis and position themselves for success, packaging companies should consider taking the 12 actions, or a subset of those actions, that are outlined in Exhibit 2. The actions fall under five overarching imperatives for packaging companies: assure revenue growth, conduct M&A scans, manage cost pressures, stay abreast of regulations and policies, and deleverage where possible.

Which of the 12 actions an individual packaging company selects—from embracing and adapting to the online shift, to considering new acquisitions, to managing the price volatility of raw materials—and how the company prioritizes them will depend very

[10] "Survey: US consumer sentiment during the coronavirus crisis," May 15, 2020, McKinsey.com.

[11] Global surveys: "B2B decision-maker response to COVID-19 crisis," April 15, 2020, McKinsey.com; responses to the question "How has the COVID-19 situation affected your company's budget (next two weeks)?" by respondents in the packaging category (containers for end products, shipping materials, and corrugated). Brazil, n = 400; China, n = 400; France, n = 200; Germany, n = 400; India, n = 400; Italy, n = 400; Japan, n = 200; South Korea, n = 201; Spain, n = 200; United Kingdom, n = 199; United States, n = 618.

Exhibit 2

In the current crisis, packaging companies need to pay extra attention to five imperatives.

Assure revenue growth

Reset where to play and identify end-use categories that are likely to return to strong levels of demand, and assess impact from more regional supply strategies of customers

Embrace and adapt to the rapid shift to online to assure offering in place by ensuring your product portfolio is ready and e-commerce approves

Address to see how to integrate sustainability and hygiene and safety requirements in a combined offering

Update product and technology strategy road map with related narratives in the light of new requirements and growth categories

Conduct M&A scans

(Re)assess potential greater value chain integration (both upstream and downstream)

Scan new markets based on next normal expectations with focus on additional product and technology requirements

Manage cost pressure

Optimize for resilience: build resilient supply chains to assure high cost competitiveness and availability

Pull forward digital, advanced analytics, and automation to manage cost but also to support higher supply-chain transparency and enabling remote operations

Manage price volatility of raw material and other input closely. Prepare for more multiregional (not global) strategies and supply chains

Regulation and policies

Stay abreast of regulatory changes (eg, single-use packaging waste directives, extended producer responsibilities and policies, etc)

Deleverage where possible

Conduct zero-based productivity review for packaging converting plants and their planned or expected capital expenditure

Potentially consider divesting underperforming or less strategic packaging assets

much on the company's starting point upon emerging from the COVID-19 crisis: particularly, its portfolio mix and exposure to different regions, the end uses of its products, and the substrates of its packaging.

We urge packaging companies to assess the ability of their strategy to address these five market imperatives in light of the changing megatrends, and to revamp their approaches to the market and strategic focus accordingly. By doing so sooner rather than later, they will position themselves for success in what will become the next normal for packaging.

David Feber is a partner in McKinsey's Detroit office, where **Daniel Nordigården** is an associate partner. **Oskar Lingqvist** is a senior partner in the Stockholm office.

The authors wish to thank Anne Grimmelt, Liz Harrison, Maximilian Fischer, and Juan Marroquin for their contributions to this article.

McKinsey.com