Kemira

Future of food packaging

FOUR SCENARIOS FOR 2030

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Foreword

What will food and the materials used to package it look like in 2030? Will consumers be driven by convenience or are they looking for experiences – or will they want to make a statement with their consumption choices? Will the need for packaging dramatically decrease as consumers are drawn to package-free shops?

Envisioning the future is interesting and difficult in equal measure, especially in a time of rapid change. Currently, several global megatrends are impacting the ways we consume and package food, meaning change is on the horizon. The drive for sustainability is increasingly impacting packaging. Concerns about single-use plastics and packaging waste ending up in landfill or, worse still, in nature continue to drive both public discussion and regulatory action.

Consumers are more aware and keener to act to reduce packaging waste in general, and plastic waste in particular. At the same time, the rate of urbanization continues to increase and related phenomena, such as the convenient take-out and ready-meal culture and e-commerce, translate into increased demand for packaged consumer goods.

The packaging value chain has an important role to play in finding future-proof solutions to these sustainability and resource-efficiency challenges. As part of the fiber-based value chain, we at Kemira wanted to investigate the possible futures indicated by the trends we see in the market today. To paint a picture of what food and its packaging could look like in ten years' time, we reached out to industry experts, researchers, and key stakeholders: paper and board manufacturers, packaging converters, brand owners, and regulatory experts.

We neither want nor are able to predict the future; as such, the scenarios presented in this report are not forecasts, and none of them is more likely to come true than another. Rather, they are a way to explore the possible outcomes of developments that are already impacting consumer behavior. First and foremost, we hope that these scenarios act as discussion starters and thought provokers.

The increasing demand for sustainable solutions represents a golden opportunity for the fiber-based packaging industry because paper and board are renewable and recyclable by nature. As a global chemicals supplier to the pulp and paper industry, we are an essential part of the value chain. Chemistry is the invisible enabler for functional fiber-based packaging. Without it, paper and board could not be turned into fit-for-purpose packaging: it would not have the required stiffness, strength, convertibility, or hydrophobicity; it would neither protect the product nor be hygienic and safe to use.

The industry has recently seen a wave of innovations and new solutions, but this is just the beginning. We work with industry-leading companies to address the evolving market. Now it is time for the entire fiber-based value chain to pool its efforts and make a tangible and lasting impact on the packaging industry and the broader circular economy.

This report is an invitation to participate in open, transparent collaboration with all stakeholders across the fiber-based packaging value chain. We hope the "What if?" stories presented here give food for thought for strategic discussions, inspire cooperation, and encourage new and innovative ways of thinking. The future of food packaging a decade down the line remains unwritten, and it will be a story that the entire industry creates together.

Let's work together for a bright future for sustainable packaging.

ANTTI MATULA
Senior Vice President,
Global Product Lines and Business Development
Kemira

This report is an invitation to participate in open, transparent collaboration with all stakeholders across the fiber-based packaging value chain.

Expert panel

In order to identify trends and drivers that will affect how food and food packaging will look like in the future, a group of experts was consulted. They represent different parts of the food packaging value chain and related fields of research.

NATHALIE AHLSTRÖM
EVP
Fazer Confectionery

MAIJA AHO
Global Sustainability Manager
Huhtamaki

JANNE ASIKAINEN
CEO
Koepala

JAY L. GOULIARD
Vice President of Global Packaging
Mondelēz International

LINDA GRIEDER
Founder & CEO
RethinkResource

ALI HARLIN
Research Professor
VTT

ANNA ILOMÄKI
Key Account Director
Tetra Pak

KIM NORDSTRÖM
Manager Marketing & Product Management
Tetra Pak

KIRSI KATAJA
Project Manager
VTT Package Heroes

ARI KIVIRANTA
SVP Development
Metsä Board

MARK RUSHTON
Senior Editor
Paper 360

LAURA VARPASUO
Sustainability Manager
Alko

PIOTR WNUKOWSKI
CTO
NapiFeryn BioTech

HENRI SATULI
Partner
Aula

DENNIS ULLNER
Future Analyst
SEE MORE - the Institute for Future Research and Development

Executive summary

Faced with the climate challenge and the role human consumption habits play in it, we live in an interesting and defining era of choices. Different choices, conscious or accidental, lead to different outcomes. What role will different, already existing, drivers play in the mix is subject to debate.

As a participant in the fiber-based packaging value chain, Kemira commissioned a future scenario assessment focusing on the possible futures of food consumption and packaging. We consulted a panel of experts, utilizing the Delphi forecasting method.

Some future developments created consensus among the panelists – like the advancement of digitalization, the growth of ready meals, and the focus on convenience. Other possible trends raised more debate – like the role of climate change in the future of the food industry, the role of food as a means of individual expression, and the quest for experiences over practicality, or vice versa.

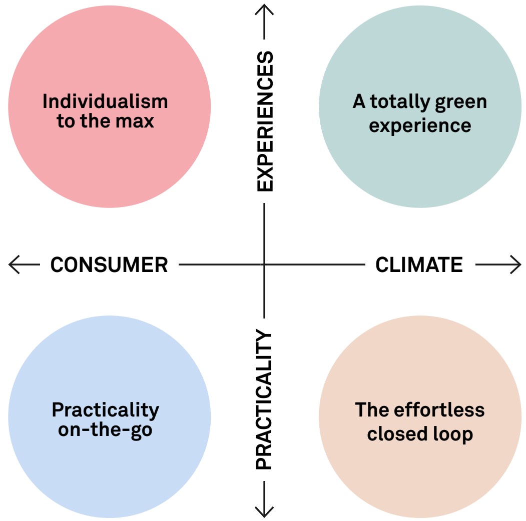
Based on these insights, we were able to define four possible scenarios, each painting a different picture of what the future might hold:

- Individualism to the max
- A totally green experience
- Practicality on-the-go
- The effortless closed loop

While no one can predict what will happen, the goal of this report is to offer food for thought and help facilitate discussions between stakeholders across the value chain.

Dividing trends:

- The food industry is primarily focused either on fighting climate change or on serving a diverse variety of consumer tastes.
- Consumer behavior is shaped by extreme individualism and experience-seeking or by effortless practicality.



Trends

LIKELY TRENDS

DIVIDING TRENDS

Likely trends

Likely trends are developments on which all or a clear majority of the experts on our panel agreed with and are important underlying drivers that influence all four scenarios.

Digitalization will keep changing the fast-moving consumer goods and packaging landscape

Digitalization is one of the most impactful megatrends currently shaping societies. Widespread access to high-speed wireless internet, the proliferation of smartphones, alternative and virtual realities, machine learning, and automation are sure to create opportunities for brands and raise consumer expectations.

Digitalization will not only shape the shopping experience, but also the ways in which food is packaged, transported, and delivered. It will allow packaging to contain more information and provide more efficient opportunities to implement a circular economy. By reading QR codes or RFID tags with a smartphone or an in-store device, consumers can gather much more information about food and its packaging, such as information about a product's origin and a detailed breakdown of its carbon footprint. This information can be collected under loyalty programs – and even third-party platforms that merge data from different programs – to give the consumer a holistic view of the carbon footprint of their consumption habits.

Cooking at home will be challenged on a variety of different fronts

Home cooking will increasingly be displaced by eating out, take-outs, and pre-made meals delivered to the door. Digitalization and urbanization will enable new ways to purchase food that can be consumed quickly and easily. Big-data-optimized last-mile delivery services will become quicker, hyperlocal delivery centers for groceries will become more common, and pre-ordering restaurant food via apps will grow in popularity.

With a reduced need to bulk-buy goods for home cooking, package sizes will become smaller and there will be less of an emphasis on maximizing expiry dates. Packaging will also need to be more user-friendly – things such as ease of opening and closing, the need for compartments for the different components of a ready-made meal, and the possibility to consume food without utensils will inform packaging design.

Convenience will still be king

Consumers will still be making purchase decisions – and indeed eating – in a rush, between home and work, while on the phone, and so on; food purchasing and consumption will therefore still need to be convenient. Complex retail layouts, overly detailed product and packaging information, and rapidly changing product offerings will all alienate consumers.

Brands, NGOs, regulators, and other stakeholders must all provide clear information and well-planned services if they want to influence the consumer. Consumer groups that are willing to put in the time to understand the climate and health impacts of their food choices will still favor providers that communicate this information in an easily digestible format.

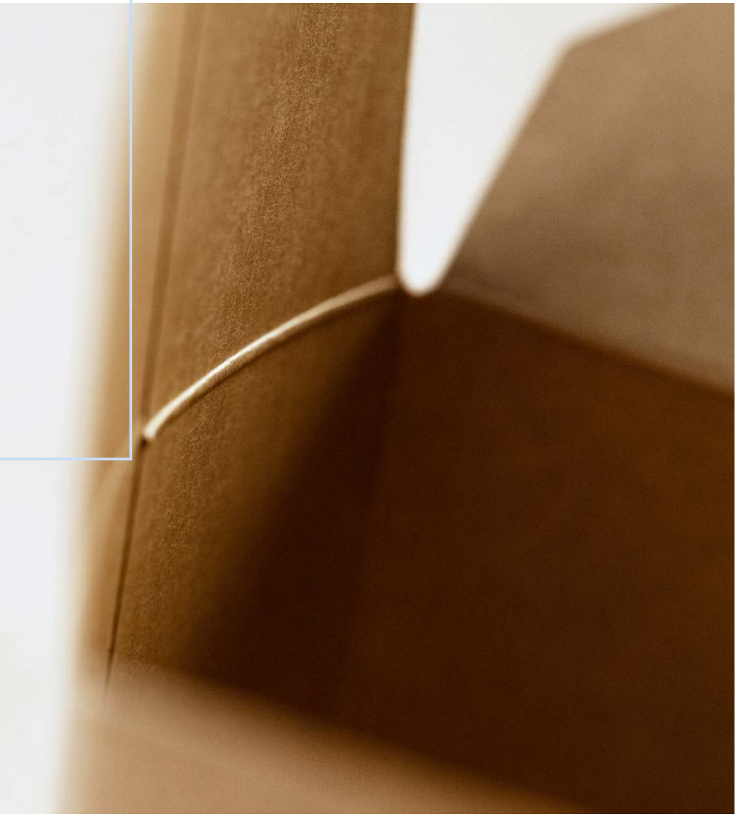
The most important role of food packaging will (still) be to protect

Another trend that will not change is food packaging being first and foremost a tool for food safety. Requirements for, and consumer expectations toward, food safety have not weakened, even if most consumers don't actively think about the safety aspects of food packaging.

GOOD TO REMEMBER

There is no such thing as an archetypical consumer

The panel of experts agreed that the consumer base varies hugely in terms of things like geographical location, income level, age, and life status; it is important to remember this when reading the scenario descriptions that follow.



Dividing trends

When talking to the panel of experts, we identified also trends and drivers that they did not see eye to eye on. Here are the issues that divided opinions.

The food industry will either unite to focus on tackling climate change or fragment to serve a diverse variety of consumer interests and tastes

Some experts see most consumers as adhering to the same definition of what makes food and its packaging "good" – products which are good from the climate point of view. Public opinion and regulation will drive food and packaging brands to focus on tackling climate change by providing products with a lower environmental footprint.

Others feel that consumer expectations vary greatly, ranging from healthy to cruelty-free to optimizing human performance to food being manufactured using domestic resources and labor. All experts agree that those with very low income levels won't have the luxury of being able to make purchasing decisions based on sustainability.

Consumer behavior will be influenced either by the desire for experiences or the need for practicality

In food retail and among food brands, some of the experts see experience and even playfulness assuming a much bigger role in shaping consumer choices, while others feel that the practicality of the purchasing process itself is what matters most. Both of these are influenced by convenience, but in different ways. For experiences, convenience is created by familiarity, while for practicality it's created by efficiency.

Combining these two sets of alternatives leads us to the four different future scenarios described in the next section.

Four future scenarios

SCENARIO 1:
Individualism to the max

SCENARIO 2:
A totally green experience

SCENARIO 3:
Practicality on-the-go

SCENARIO 4:
The effortless closed loop

	Individualism to the max	**A totally green experience**	**Practicality on-the-go**	**The effortless closed loop**
What led us here?	The growing fragmentation of consumer types. Focus on identity-building in all consumer choices.	The drive from consumers for the industry to act in a climate-friendly manner. Focus on reassuring the consumer that they are making the right choices.	Practicality and convenience in all consumption is most important for consumers. The rapidly growing digital Fast-Moving Consumer Goods (FMCG) landscape.	Strong regulation with the goal of climate friendliness. Consumers trust that brands and regulators are doing their job to fight climate change.
What drives consumers in their food choices?	Food choices are an important part of one's identity and a way to express oneself. People make food choices based on a huge variety of factors, including fitness, patriotism, carbon footprint, animal-free produce, and luxuriousness.	For most consumers, it's important to experience and to be able to say that they are doing their part to fight climate change. Most consumers build their identity based on making climate-friendly choices, and food consumption is an important part of this.	Being busy, really busy. Food must be easy and functional, requiring minimal thought and effort.	Consumption habits are a balance of convenience and climate friendliness. Most accept that food and packaging options are slightly more limited now than they were in 2020 due to the worst "climate crimes" of the food industry no longer committed.
What role does packaging have?	Essential to brand and self-expression.	Essential in conveying the feeling of climate friendliness.	Essential to ensure ease of delivery and ease of use.	It is essential that packaging is as climate friendly as possible, mainly due to regulation.
What features are important for packaging?	Customizability: materials are used in high volumes and in varying combinations in order to help products stand out on the shelf.	Plastic packaging is frowned upon. Paper, board, metal, and glass are the materials of choice. Packaging is expected to have little features.	Packaging that is lightweight and easy-to-carry is essential for last-mile deliveries. Packaging must have features that fit busy lifestyles; foods are often eaten on-the-go.	Packaging will not need to be particularly appealing but must comply with strict climate and recycling-related regulations.
What does recycling look like?	Challenging because of the varied packaging mix and lack of strict regulation. A minority of consumers bothers to put in the effort.	Recycling is an essential part of the climate-friendly identity building. Limited material choices in packaging make recycling fairly simple for the end user.	Recycling policies vary and can be confusing for the busy consumer. People have become doubtful that it's worth the effort.	Recycling is highly regulated. Reusable packaging is gradually becoming the new normal.

Individualism to the max

SCENARIO 1

DEFINING TRENDS:
The food industry fragments to serve a diverse variety of different consumer interests and tastes.

Consumers are driven mostly by experiences.

"You are what you eat" is the mantra that people live by. The food we choose defines who we are, and we make choices driven by a burning desire for experiences. According to an article[1] published in Harvard Business Review in 2017, the prevalence of the experience economy implies that even material products are positioned as ever more experiential. What is considered ecologically sustainable varies from person to person. Eating out and shopping for food deliver all things to all people – whatever kind of experience they are seeking, there is a restaurant or store that is happy to cater to it.

Brands are highly attuned to the desires of every niche imaginable, with experience taking precedence over all other things – even the credibility of the information brands provide about the food we eat. Food packaging is king in terms of brand differentiation and storytelling and plays a huge role in helping consumers form a meaningful bond with their preferred brands.

There will still be a large group of sustainability-conscious consumers, but also large groups of consumers guided by different values such as health, luxury, the desire to live a sparing and prudent lifestyle, or even patriotism. For example, as Deloitte's 2019 study[2], underlines, the fresh food consumer segment is not homogenous even if the industry and media tends to view it as such. The consumer will be bombarded with vast amounts of information on what food is good for them and what they should buy. There will be contradictory messages, messages that focus on one specific aspect of a product at the expense of others, and even misinformation.

In the hard-fought race to capture consumers' imaginations, brands rely on unique and innovative packaging materials that help food products stand out from the crowd. The demand for personalization and a multitude of package options has led to the number of stock-keeping units skyrocketing, as shown by a McKinsey study[3] from 2019. With such a huge variety of materials out there, recycling is more challenging and

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The food we choose defines who we are, and we make choices driven by a burning desire for experiences.

[1] Harvard Business Review: *Selling Experiences to Connect With Consumers: Experiential Advertising*, 2017.
[2] Deloitte: *The future of fresh: Strategies to realize value in the fresh food category*, 2019.
[3] McKinsey: *No ordinary disruption – Winning with new models in packaging 2030*, 2019.

the consumers who are looking to make their mark from a sustainability perspective take the lead in this regard.

Buy, eat, repeat – how food gets to consumers

Physical stores will dominate over online outlets thanks to the experiences they're able to offer. They will be mostly smaller, niche grocery stores specializing in specific types of products. A McKinsey 2019 trends study[4)] suggests that Millennials are 3.7 times more likely to try to avoid buying products from "the big food companies". Hypermarkets will invest in special product ranges, taste samples, and – most importantly – in service and experience designers to remain relevant and competitive. Due to their size, their capability to invest in things like augmented reality and other digital experiences is significant. Many restaurants and fast-food companies will establish unique and easily recognizable identities and concepts that cater to niche consumer groups such as the carbon-footprint conscious, those who value things like zero-waste or domestic products, and those with special dietary requirements.

Packaged food

Packaging will play a central role in a brand's ability to serve different niches. Consumers will be driven by the need to have a strong bond with a brand, so brands will differentiate themselves through storytelling and powerful, perhaps often excessive, experiences. Brands will adopt new packaging materials in order to cater to specific niches with distinctive packaging solutions. "Bad" material choices can be made in the name of brand differentiation.

Recycling

There will be no shared recycling policies and the growing variety of materials will create challenges for the system. Recycling services will be a central point of differentiation for chain stores and individual outlets alike, and stores will take on more responsibility in terms of guiding consumers and rewarding their recycling efforts. Consumers will play an important role in recycling, with only some ready to maximize their efforts in order to reinforce their identity as responsible consumers.

Regulation

The level of regulatory guidance will be the same as it is today; the operating environment for brands and retailers will be defined more by the demanding and increasingly fragmented consumer base.

Packaging will play a central role in a brand's ability to serve different niches.

4) McKinsey: *No ordinary disruption – Winning with new models in packaging 2030*, 2019.

A totally green experience

SCENARIO 2

DEFINING TRENDS:
The food industry is focused on tackling climate change.

Consumers are driven mostly by experiences.

Commitment to and actions that focus on responsible production and consumption from the climate change perspective are everything. In terms of sustainability, businesses and consumers alike walk the walk and talk the talk. According to a 2019 Harvard Business Review article[5], half of the growth in the consumer packaged goods is already stemming from products marketed as sustainable – importantly, their speed of growth is over five times faster than that of products not backed by sustainability claims.

Instead of being loyal to brands, consumers seek out experiences for climate friendliness and also want to make others aware of their climate awareness through their purchasing choices. Indeed, as claimed in a 2018 Harvard Business Review article[6], being relevant in consumers' current realities is overtaking brand loyalty. Stores will go to significant lengths in order to provide these experiences. One such example could be the "dollar store" version of a grocery store: a store which promises that all of its products will be below a specific climate footprint value. Excessive, complex packaging and plastic use are a thing of the past, and the little waste that is left behind is recycled under well-organized and tightly coordinated efforts. Even food packing itself is in some cases edible.

Regulations are laser-focused on minimizing energy consumption throughout the entire food value chain. Food businesses must be able to convince consumers that a small climate footprint is what their products are all about – without greenwashing.

> **Instead of being loyal to brands, consumers seek out experiences for climate friendliness.**

Demonstrating their commitment with hard facts and transparency will be a must, and laws and standards will set the constraints for the experiences available.

Buy, eat, repeat – how food gets to consumers
Physical outlets will be streets ahead of online retailers in terms of their ability to offer high-quality, well-thought-out services, and specialized shops and restaurants will spring up. Products and services will increasingly be created based on strict climate-friendly policies such as minimizing carbon footprint, zero energy, and zero waste. Food that doesn't require cold storage or mechanical cooking will become more attractive in the drive to reduce energy consumption in

[5] Harvard Business Review: *Research: Actually, Consumers Do Buy Sustainable Products*, 2019.
[6] Harvard Business Review: *Marketers Need to Stop Focusing on Loyalty and Start Thinking About Relevance,* 2018.

stores and at home. On the other hand, as suggested in Deloitte's 2019 study[7], as store operations are augmented by digital workflows, consumer demand can be better predicted to manage inventories and keep the right stock on the shelves.

Packaged food

People will buy more food from packaging-free stores and it will become the norm to bring your own containers when shopping. Many stores will ban plastic, not only in their bags but also in food packaging. Consumers, stores, and tightening regulations will clearly define both the type and amount of materials used to package food.

The few remaining food brands that still retain a strong identity will showcase their climate commitment via their packaging and draw consumers' attention to how small their material and packaging climate footprint is. Emotionally, the packaging will evoke feelings of climate friendliness.

Recycling

Strictly regulated and supervised recycling will put pressure on food brands and the packaging industry. Packaging will have to be simple and easily recyclable, and there will be a movement spearheaded by NGOs, food brands, and the public sector to create unified recycling models for larger regions. In addition to being entirely recyclable, as a 2019 McKinsey study[8] affirms, packaging materials will be largely made of recycled content.

Regulation

Food safety will go hand in hand with the tightening demands of fighting climate change. Some experts will be worried that the growing pressure to use less material in packaging – both through regulation as well as consumer preference – will have an impact on food safety. Regulations will focus on limiting the energy consumption of manufacturing, transporting, and recycling products. On the other hand, regulators will create several new R&D programs and incentives aimed at encouraging the development of new food packaging material options.

> **People will buy more food from packaging-free stores and it will become the norm to bring your own containers when shopping.**

[7] Deloitte: *The future of fresh: Strategies to realize value in the fresh food category*, 2019.
[8] McKinsey: *No ordinary disruption – Winning with new models in packaging 2030,* 2019.

Practicality on-the-go

SCENARIO 3

DEFINING TRENDS:
A fragmented food industry serves a diverse variety of different consumer demands.

Consumers are driven mostly by practicality.

As people's everyday lives become increasingly busy and fragmented, practicality and convenience are kings when it comes to food, with everything else – including sustainability – being secondary. Welcome to the digitally driven world of food purchasing, logistics, and consumption, where a few taps of a screen is all it takes for consumers to have a huge variety of food-related goods and services delivered to their door. Visiting a physical location is perceived as a hassle by most consumers. Indeed, a 2017 Accenture study[9)] suggests that the level of convenience is unforeseen, and in order to succeed companies should completely eliminate consumer pain points on physical and digital platforms.

In terms of storytelling and building brand relationships with consumers, packaging is yesterday's news, with videos, influencer collaborations, and social media campaigns being the order of the day. Every retailer has an app, and every restaurant is a part of a food delivery platform. In this world, packaging has been stripped down to the bare practicalities: it is light, fit for purpose, and has no complicated frills. A 2014 Boston Consulting Group article[10)] reminds us that while brands use their own online channels for communications, they must at the same time pay careful attention to consumer-created information and acknowledge that brand building is done in a dialogue.

Instead of being a normal part of people's everyday lives, recycling has become a minefield of confusing, splintered processes that people are increasingly struggling to see the value in. Driven by increasing suspicion on the part of consumers, the fight to tackle climate change is now more like poorly organized guerilla warfare than coordinated, committed action.

The climate talks originating in the late 2010s resulted in sustainability swelling before finally stagnating. Consumers are exhausted and confused by contradictory messages and guidelines, while authorities are unable to form a shared agenda for tackling climate change and regulations are fragmented.

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In this world, packaging has been stripped down to the bare practicalities: it is light, fit for purpose, and has no complicated frills.

9) Accenture: *The Future of Food: New Realities for the Industry*, 2017.
10) Boston Consulting Group: *The Digital Future: A Game Plan for Consumer Packaged Goods,* 2014.

Buy, eat, repeat – how food gets to consumers

Online grocery shopping will be as normal as online banking was in the 2010s, with a multitude of online stores catering to different consumer needs. Indeed, as a response to the fragmentation of consumer preferences, offerings will be more diverse and personalized. This view is supported by a 2016 Harvard Business Review article[11]. Food will typically be delivered hassle free to the home and many of the challenges of last-mile logistics will have been solved. Highly personalized catering businesses will boom for those who can afford their services. People will be able to order tailored meal solutions with protein, gluten, and sugar levels to suit their specific needs.

Packaged food

Take-out packaging in particular will have features that fit our busy lifestyles; food will often be eaten on the go, so things like resealable packaging and portability are essential features. Above all, the role of packaging will be to protect products during delivery while being as light as possible. Packaging must be compatible with a multitude of different delivery solutions, from bicycle bags to drones, and because every gram of weight adds to the delivery fuel cost there will be no room for complex shapes or unnecessary materials. This view aligns with a study[12] conducted by McKinsey in 2019 which notes that packaging innovations which better respond to the demands of booming e-commerce are the ones that will boost the future growth of the packaging-solutions sector.

The lack of common policies will result in a multitude of different packaging materials, each with its committed supporters.

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Food will typically be delivered hassle free to the home and many of the challenges of last-mile logistics will have been solved.

Recycling

Recycling policies will vary from city to city and from country to country. With no recycling standard and a lot of packaging with no clear recycling guidance, many people will become frustrated with the system.

Regulation

Regulation will be fragmented and there will be no common approach to fighting climate change, which will have become a highly politized and polarizing issue. Authorities will be met with resistance, and trust in politicians, researchers, companies, and NGOs will have weakened.

[11] Harvard Business Review: *The Transformative Business Model*, 2016.
[12] McKinsey: *Packaging Solutions – Poised to take off?,* 2019.

The effortless closed loop

SCENARIO 4

DEFINING TRENDS:
The food industry is focused on tackling climate change.

Consumers are driven mostly by practicality.

The climate is king and must be protected at all costs. Societies and governments are invested in doing what's best for the future of the planet; making ecologically sustainable choices is the rule rather than an exception.

Making climate-friendly choices is so easy most people barely even notice that they're doing it, and this includes how they buy, what they buy, and how it's delivered. This is a world where – thanks to digital solutions and credible, digestible information on the impact of our consumption habits – we can make smarter choices for a healthier and more sustainable future. According to a study[13] conducted in 2011 by Boston Consulting Group and The World Economic Forum when the habitual model of economic growth is no longer valid, companies should follow the example of forerunners operating in emerging markets who advocate for sustainability and shape their operating environments.

Players throughout the entire food value chain are pulling in the same direction and achieving great things as a result of collaborative, coordinated efforts. Instead of being a fancy branding exercise, food packaging is now focused on practicality and functionality, with elaborate constructions consigned to the history books. As well as offering improved functionalities that help to preserve food longer, food packaging must also meet the demand for reduced material use, as proposed in Deloitte Sustainability's 2016 study[14].

> **Making climate-friendly choices is so easy most people barely even notice that they're doing it.**

At end of life, recycling is a well-oiled machine of coordinated efforts and closed-loop thinking that has made trash a thing of the past and thinking and acting responsibly as easy as possible for consumers.

Buy, eat, repeat – how food gets to consumers
Online shopping will be convenient and provide the best price-quality ratio; physical grocery stores will be used for the bare necessities only. Since regulation is tight, only a handful of retail companies are able to provide a compliant service due to the resources required. Many consumers will have automated their grocery shopping and may have food delivered regularly based on data provided by smart packages and hyperconnected fridges.

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[13] Boston Consulting Group: *Redefining the Future of Growth: The New Sustainability Champions*, 2011.
[14] Deloitte: *Circular economy potential for climate change mitigation*, 2016.

A 2018 Harvard Business Review article[15] states that in this kind of frictionless commerce, real-time data will initiate purchases automatically. The article goes on to point out that as algorithms occupy space in consumers' emotions in making purchase decisions, people could abandon their habitual brand choices in favor of the convenience provided by digitally empowered businesses. In order to minimize waste, consumers will also be able to purchase leftover food from wholesalers and restaurants. Home delivery will only be used if it's the most climate-friendly option; otherwise, consumers will be able to collect deliveries from nearby urban delivery centers.

Online providers will follow shared policies and certain information will be required at the purchasing stage. Shipping costs will not only be expressed in monetary terms but also in terms of CO_2 emissions and energy and water consumption.

Packaged food

Food packaging suppliers will put a lot of effort into gathering data related to the climate footprint of their materials. Driven by regulatory pressures rather than consumer preferences, food brands will innovate together with their packaging suppliers and work closely across the whole value chain to achieve common sustainability goals. Shared knowledge will be essential for making the right choices.

Smart packaging will be crucial in providing climate-related information about both the packaging and the food inside. Packaging will not need to be particularly appealing; a plain box marked with the brand name will suffice. It will contain less material and fewer material combinations, and plastic use will have decreased significantly. Some older food hygiene requirements will have come under new scrutiny, the overpackaging of food will be history, and single-packaged products will simply not exist.

Reusable, durable packaging that the consumer can store and return to the agent next time will have become commonplace in food delivery: the milkman model with a 2030 makeover.

Recycling

Recycling will be highly regulated and there will be attempts to create a unified model.
There will be new service-design thinking in recycling, which will be made easy for consumers. Package-specific recycling instructions will be required to make it clear which package belongs in which bin, there will be no such thing as trash, and recycling points will be strategically located. Recycling rates will be very high, and closed-loop thinking will exist in industry too.

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Food brands will work closely across the whole value chain to achieve common sustainability goals.

[15] Harvard Business Review: *How Do Consumers Choose in a World of Automated Ordering?*, 2018.

Regulation

Both the food industry and food packaging materials are highly regulated. Data on things like the greenhouse gas emissions, energy usage, water consumption, and climate impact of ingredients and packaging will need to be reported and readily available. A 2019 Deloitte study[16] emphasizes the role of the chemical industry in finding new solutions in response to permanent bans on the production and use of single-use plastics. Increased demand for more sustainable alternatives provides business opportunities.

16) Deloitte: *The Changing Plastics Landscape*, 2019.

Methodology

Our scenarios have been created using a qualitative foresight method called Delphi. The core idea of this method is to elicit and refine views from a panel of experts by collecting their views on the future.

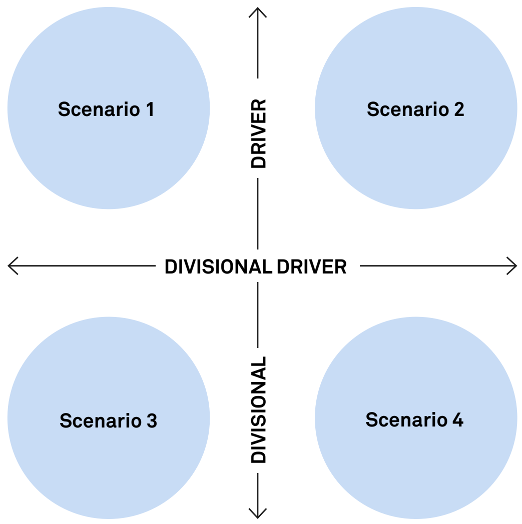
Our research team conducted in-depth one-on-one interviews with each panelist, touching on a variety of topics related to how food and its packaging will look in 2030. We then analyzed the content from these interviews to identify a variety of trends. There were some trends on which every interviewee agreed, some which were a source of great disagreement, and others that were mentioned by only a handful of panelists.

We then conducted an anonymous survey among the experts where the identified trends were introduced to each participant in the same format, providing them with an opportunity to take a stance on each other's opinions and developments.

Based on this, we were able to categorize the trends into two sets: the "likely trends", or those that most or all experts agree on, and "dividing trends", or matters on which our panel of experts did not agree.

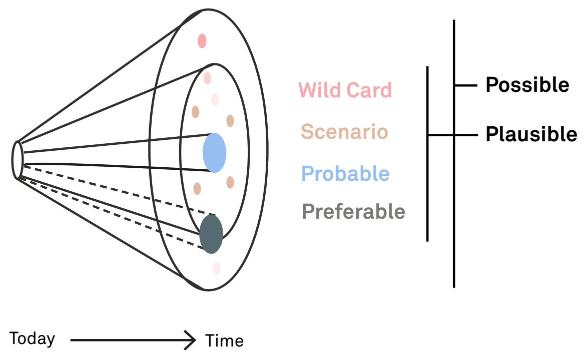
The likely trends are the base, the ingredients that are common to all four scenarios. We then identified the two biggest sources of contention among our experts. When these two lines of contention are placed in a matrix, four scenarios can be defined. Each scenario takes place at the extreme end of the two lines, with the likely trends occurring in all four scenarios.

▾ Based on surveys, trends are categorized into two sets – likely trends and dividing trends. The likely trends constitute the base and warrant the highest level of confidence. The two points on which there is most disagreement are used to divide the matrix and so define four scenarios. Thus, likely trends appear in every scenario, and each scenario takes place at the extreme end of two lines.



Foresight strategists often describe the future as a cone. Right now, we are the tip of the cone; the further forward we forecast in time, the wider the cone becomes. At the edges are the wildcard scenarios – the less probable futures that may yet become reality as a result of some large, unforeseen change. Closer to the center are the more plausible futures, where our scenarios lie. The point of scenarios is to ask, "What if?" to broaden our views, feed creativity, and prepare us for what the future may bring.

▼ In qualitative foresight methodology, foresight strategists often use the analogy of a cone to illustrate possible outcomes in the future. The tip of the cone is the current moment in time, and the cone becomes wider the further forward in time one measures. Closest to the centre of the cross-section of the cone are the more plausible futures, whereas the less probable scenarios are found nearer the edges.



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