Futures of Food Consumption in 2035 in Europe

On Sustainability, Health and Technology

Briefing paper

August, 2025

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1 Introduction

Supported by the European Union (EU), EIT Food is the world's largest food innovation community. Its mission is threefold: to promote healthier lives through food, achieve a net zero food system, and reduce risk to ensure a fair and resilient food system. Its Consumer Observatory[1] is Europe's central hub for current and future consumer insights on agrifood topics. It has identified general and consumer-specific trends, along with other driving forces, which served as a starting point for this scenario work (Annex I). During the summer and autumn of 2024, a series of online workshops were held to develop four alternative future scenarios and assess their implications for stakeholders.

Scenarios are not predictions of the likely future, but rather illustrations of possible futures. Exploring alternative scenarios broadens one's perspective, extending it further into the future and revealing potential threats and opportunities that might otherwise be overlooked or dismissed as improbable. While scenarios often include both a future end-state and the pathway leading there, in this case, the narratives (written in the present tense, as if already set in the future) each portray a different day in the year 2035.

This work explores the future of food consumption and the agrifood ecosystem in Europe in 2035, with a particular focus on emerging technological opportunities – both in terms of new products and retail experiences – and on the spectrum of (un)sustainable and (un)healthy consumer choices. These dimensions served as a framework to ensure that each of the four scenarios was meaningfully distinct:

- Scenario A: Green and me – A day in the European high-tech food ecosystem in 2035

- Scenario B: Frugal and local – A day in a European localised food sector driven by community values in 2035

- Scenario C: Cost and control – A day in a European decayed food ecosystem focused on industrial efficiency in 2035

- Scenario D: Highs and lows – A day in a European unequal high-tech food ecosystem in 2035

The subsequent sections describe each of these scenarios. Following the expert workshops, the scenario narratives were written, and images were generated using AI DALL·E as artistic impressions intended to visualise and bring to life the scenarios. We conclude the paper by reflecting on the scenarios and their implications for decision-makers today.

2 Scenario A: Green and me - A day in a European high-tech food ecosystem in 2035

Main characteristics

- Personalised nutrition and health – centred food choices
- Sustainable and ethical food preferences
- Technology – enhanced transparency and traceability
- Circular economy
- Lack of attention to inequality and social aspects

Introduction

By 2035, countries across Europe have developed high-tech food ecosystems in which consumers prioritise health, sustainability, and innovation. Through the collaborative efforts of consumers, retailers, producers, and policymakers, the region has made significant progress in addressing the challenges of climate change and food insecurity. However, the strong emphasis on individual choices and technological solutions has overlooked important social dimensions. As a result, the journey towards a truly fair and sustainable food system for all remains incomplete.

Morning: smart diets in aging Europe

Maria, a 70-year-old resident of Berlin, begins her day by checking her personalised nutrition app. A few months ago, her son convinced her to wear a wristband that tracks her blood glucose, lipid levels, and other metabolic markers. She also uses a microbiome monitor that analyses her gut health and suggests dietary adjustments to promote a balanced microbiome.

All this data is integrated into a single AI-powered app, which provides a personalised breakfast recommendation based on Maria's health needs, environmental concerns, and ethical preferences. Today, the app suggests a smoothie made from climate-resilient fruits and a slice of bread made with alternative proteins, such as insect flour, which is rich in nutrients and has a low environmental impact.

As Maria prepares her breakfast, she uses her smart kitchen assistant, which offers immersive cooking guidance through augmented reality (AR). The assistant ensures she follows the recipe accurately and suggests sustainable cooking practices to minimise waste.

Midday: smart retail and packaging

Later in the day, Maria visits her local grocery store, now transformed into a high-tech hub. The store uses Industry 4.0 technologies, such as the Internet of Things (IoT) and artificial intelligence (AI), to manage logistics and inventory, ensuring that only fresh and sustainable products are available.
A holographic assistant named NutriGuide greets her at the entrance. NutriGuide analyses her health data, sourced from her wearables and medical records, to offer personalised food recommendations. It considers her medication, dietary preferences, allergies, and fitness goals.

Maria wears AR glasses to navigate the aisles, which provide real-time information on the environmental impact, nutritional content, and origin of each product. Smart packaging embedded with nanosensors and QR codes allows her to trace the journey of her food from farm to table, ensuring transparency and trust.

For dinner with family and neighbours, Maria has placed a special order for lab-grown meat from an ethical brand recommended by her neighbour. While it is a costly treat, Maria values its low environmental footprint compared to traditional livestock farming.

Across Europe, grocery chains like Benesus are leading the way in shaping consumer food choices. Products deemed unhealthy or environmentally harmful are priced higher, while healthier and more sustainable options are made more affordable. Ultra-processed foods have been phased out entirely, and the store exclusively stocks items that are sustainable for both people and the planet.

Online shopping tools further support this shift by nudging consumers towards healthier, more eco-friendly diets.

In Madrid, Enrique places his grocery order at Mordisco Verde, a store committed to the green movement. Prices are dynamically adjusted based on each customer's environmental footprint, with data updated in real time. For example, individuals who drive to the store or have taken flights that year may pay higher prices. The store has also partnered with an insurance company that offers reduced premiums to customers who share their food purchasing and dietary data.

Afternoon: global production and value chains

In the Netherlands, Johan, a farmer, uses precision agriculture techniques such as drones and satellite imagery to monitor his crops, optimise water use, and reduce chemical inputs. His farm grows climate-resilient crops designed to withstand extreme weather – an increasingly vital capability in the face of worsening climate change. Johan's farm participates in a carbon farming initiative that sequesters carbon in the soil through practices such as cover cropping and reduced tillage. He recently joined a traceability system that allows consumers to trace their food back to his farm. Johan values the fact that he is paid in real time as his products are sold directly to consumers, eliminating the need for intermediaries.

Globally, producers have increasingly adopted sustainable practices. In Morocco, one farm grows vegetables year-round using advanced hydroponic systems, desalination plants, and renewable solar energy – entirely independent of external weather conditions. The produce is shipped to Europe via low-carbon cargo sailing vessels, while blockchain technology ensures full transparency, allowing consumers like Maria to verify the sustainability of their food.

Across Europe, urban farming is booming. Rising real estate prices have prompted building owners to lease rooftops, gardens, and parking spaces for smart, autonomous food production units. Many of these units are fully operated by robots, enabling food to be produced close to where it will be consumed.

Meanwhile, at sea, offshore shellfish aquaculture is expanding. Species such as oysters, mussels, and clams naturally filter and clean the water, helping to restore marine ecosystems. Moving farms further out to sea has reduced competition for coastal space and minimised environmental impacts. AI and IoT technologies now monitor water quality and shellfish health in real time.

Evening: policy-making and empowering the food ecosystem

Johan's farm in the Netherlands is part of a broader EU initiative aimed at building resilient and sustainable food systems. The Common Agricultural Policy (CAP) provides substantial support for farmers adopting innovative, climate-smart practices. In addition, Member States have established regional innovation hubs that bring together farmers, researchers, and policymakers to collaboratively advance agricultural methods.

Across Europe, significant progress has been made:

- Comprehensive labelling systems now offer clear, accessible information on the nutritional and environmental impact of food products.

- EU-wide subsidies for fruits, vegetables, and plant-based proteins have improved affordability and expanded access to healthier food options.

- Companies are required to ensure that their supply chains meet environmental and social standards, minimising harm to ecosystems and communities.

- Policies mandate the reduction of food waste at every stage of the supply chain – from production to consumption – with incentives for businesses that donate surplus food to charities.

- Retailers that adopt sustainable practices – such as reducing plastic use and increasing biodegradable packaging – are eligible for tax breaks and grants.

Today, representatives from the European Commission and national policymakers are holding a virtual meeting to align existing strategies and develop new ones aimed at tackling food scarcity and ensuring long-term food security. One of the key topics under discussion is the implementation of a global ledger-based traceability system to track food from farm to fork. This system is designed to enhance transparency, reduce fraud, and improve food safety. Policymakers are working closely with national governments and local communities to ensure that these policies are both effective and inclusive.

Night: reflecting on progress

As the day comes to an end, Maria reflects on how much the food sector has evolved. She recognises that every meal she consumes not only supports her health but also contributes to efforts to mitigate climate change and protect the environment. However, she is also aware that these options are not accessible to everyone. While technological advances have brought significant progress, they have not yet fully curbed climate change, biodiversity loss, or social inequality. Despite the widespread call for a "One Health" approach, many solutions continue to benefit the affluent and tech-savvy more than society as a whole.

3 Scenario B: Frugal and local - A day in a European low-tech one-health food ecosystem in 2035
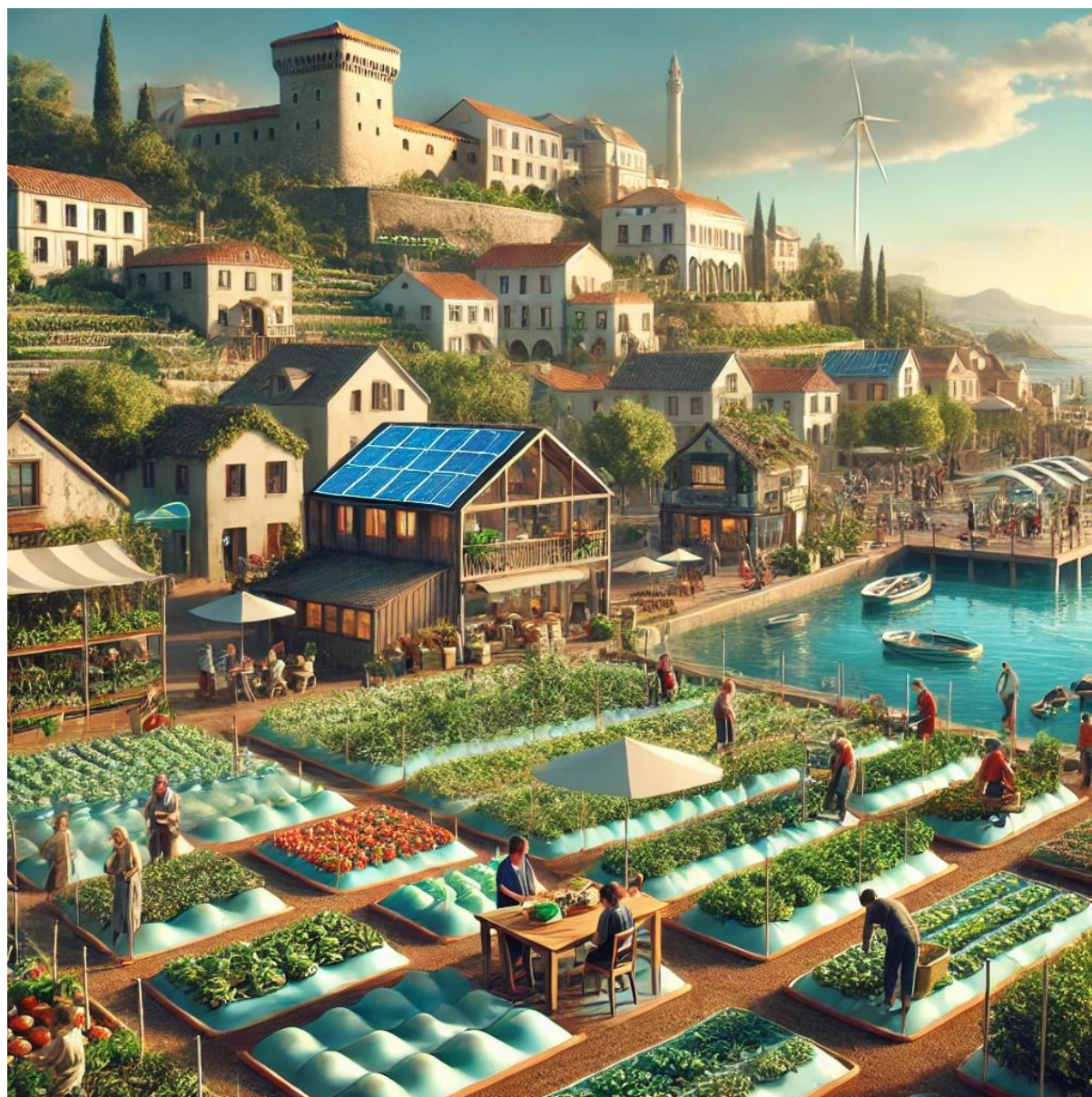
Main characteristics

- Shift towards localised and trusted food sources
- Emphasis on sustainability and regenerative farming
- Community-based food experiences and social cohesion
- Increased focus on climate-resilient crops
- Food consumption and climate change solutions

Introduction

The pandemic years and successive food crises have led to widespread mistrust in international organisations and corporations, ultimately contributing to the collapse of global trade. By 2035, Europe's food sector has become largely localised in response to the fragility of global value chains and growing public distrust of food industry conglomerates. This transformation has also been driven by the rise of the sustainable agriculture movement. Local production, sharing economy models, and circular economy principles have become the norm in both rural and urban communities.

While cities remain, rural areas are thriving as more people choose to leave urban centres in search of a better quality of life in close-knit communities and nature-rich environments. Marine permaculture, alongside organic and regenerative farming practices, is no longer seen as a trend, but as a necessity for survival and long-term sustainability. This new era is defined by a deep connection to the land and sea, a strong sense of community, and a collective effort to build a resilient and sustainable future.
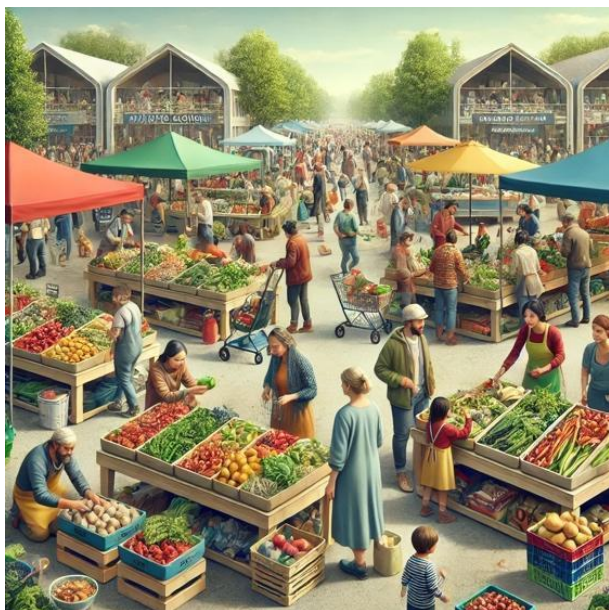

Morning: community values and culinary experiences

In the picturesque town of Sant Joan d'Alacant, Sofia begins her day on her organic and regenerative farm. Years ago, widespread misinformation about food safety, nutrition, and agricultural practices led to growing public distrust in global food production. Today, the once-globalised food system has given way to localised production, driven by a shift towards anti-materialism and a deep appreciation for community values and holistic well-being. Consumers now depend on local, trusted sources for healthier, less processed food. In this environment, Sofia's farm stands as a model of sustainable and trustworthy food production. She employs practices such as crop rotation, composting, and natural pest control to maintain soil health and support biodiversity.

Later, Sofia joins her neighbours for a community lunch – a regular gathering that reflects their commitment to work-life balance and collective well-being. The meal is a celebration of local produce, featuring dishes made from fresh ingredients grown and harvested within the community. Conversations naturally centre on shared values, environmental stewardship, and the collective effort to build a sustainable future. These lunches also serve as an opportunity to discuss local climate change mitigation and adaptation measures. The community has implemented a range of initiatives – including rainwater harvesting systems, solar energy projects, and green infrastructure – to address the impacts of climate change. The cultivation of climate-resilient grains has become a particular area of focus.

Midday: retail and the circular economy

The town's bustling community market is alive with activity. Regional and seasonal foods have become the norm, as globally sourced products are now considered socially unacceptable by many. Shoppers – including families and local chefs – seek out fresh, locally grown produce, valuing the transparency of its origins and the absence of additives. The market operates on a sharing economy model, where surplus produce is shared and bartering is common, fostering a strong sense of community and mutual support.

Across Europe, school farms are cultivated and harvested by students to provide free lunches, while foraging for wild plants, mushrooms, berries, and nuts has become increasingly widespread. Foragers not only reconnect with nature but also benefit from access to a diverse range of nutrients.

Co-living and co-working arrangements are now widespread, driven by rising living costs, an ageing population, and smaller family sizes. These arrangements promote shared cooking and collective purchasing directly from producers, helping to reduce costs and ensure access to high-quality food. Co-cooking has become an important way to exchange recipes and ideas for making the most of regional and seasonal ingredients. Many people buy fresh produce directly from local farmers or their own community farms – not only for immediate consumption, but also for preservation through techniques such as fermentation.

In the town's main square, a cooperative grocery store offers a wide range of locally produced goods. The store operates on a circular economy model, aiming to minimise waste and promote the reuse and recycling of materials. Packaging is biodegradable, and customers are encouraged to bring their own containers. The store also includes a section for upcycled products, where artisans transform waste materials into new, useful items. Retailers have adapted to this new economic landscape by prioritising local supply chains and community engagement. The store reinvests its profits into local initiatives – such as urban gardens and educational programmes on sustainable living – supporting the local economy and fostering a strong sense of shared responsibility and resilience.

Afternoon: policy making and workforce crisis

As the European Union becomes more fragmented, regional and national governance have gained prominence. Local policymakers in municipalities have taken a proactive role in supporting local food production initiatives and addressing climate change mitigation and adaptation. At the town hall, a meeting is underway to discuss new regulations aimed at scaling up food production through organic and regenerative farming, as well as marine permaculture. Policies referred to as "incentivised action paths" are designed to promote sustainable practices, provide grants for community-led projects, and ensure food security, particularly through regional and seasonal foods.

The Spanish government has also established a national voluntary agricultural service to address an agricultural workforce crisis driven by an ageing population and the long-term impacts of past pandemics. With growing concerns about the region's ability to manage this crisis, there are increasing calls for a stronger role for the European Union, particularly in ensuring preparedness for pandemics and climate-related challenges.

Night: marine permaculture

In the harbour, Carlos, a marine permaculture farmer, is working late to prepare new floating lines for his underwater 3D farm, which he plans to install tomorrow. His farm grows seaweed at the surface, shellfish in suspended nets below, and fish in enclosures at the seabed. Aquaculture has become a cornerstone of local food production, providing both a sustainable source of nutrition and a supply of biofuel. Seaweed farming, in particular, plays a vital role in tackling climate change by sequestering carbon and supporting marine biodiversity.

4 Scenario C: Cost and control - A day in a decayed European food ecosystem in 2035

Main characteristics

- Industrial efficiency over nutritional quality
- Monoculture farming and resource strain
- Food supply chains shaped by geopolitical instability
- Top-down policymaking focused on economic stability
- Price-conscious consumer behaviour

Introduction

Years of geopolitical tension, social unrest, and populist policies have forced European governments to capitulate to industrial conglomerates in order to meet the population's basic needs. By 2035, the European food sector has evolved into a complex system driven by industrial efficiency and economic necessity, heavily shaped by ongoing geopolitical pressures. Policymaking has been co-opted by corporate interests, with daily operations focused on producing and distributing food as cheaply as possible – with little regard for environmental sustainability or public health. This approach has resulted in depleted resources, frequent natural disasters, and a deteriorating quality of life. Despite these challenges, the focus remains on short-term survival, leaving the long-term future increasingly uncertain.

Morning: the industrial food producer

At 6:00 a.m., the massive flagship factory of EuroDeal – a leading industry conglomerate – hums to life on the outskirts of Bratislava. This facility produces thousands of pre-packaged meals every hour. Workers move efficiently between heavy machinery, overseeing everything from ingredient mixing to final packaging. The focus is on producing cheap, calorie-dense food sold at rock-bottom prices. This consolidation across the food value chain has resulted in widespread contract farming, with EuroDeal and other major processors pressuring producers to adopt industrial monocultures and input-intensive farming methods. Smaller producers, unable to compete, are left with a stark choice: conform or exit the sector entirely.

Klaus, the factory manager, oversees operations from the control room. His primary focus is maintaining production targets while minimising costs. Environmental impact and nutritional quality are secondary considerations – if they are considered at all. Klaus receives daily updates on resource availability, particularly as water and energy shortages become more frequent due to ongoing droughts and the worsening energy crisis. Efficiency improvements are a point of pride for Klaus. EuroDeal's emphasis on high-yield, genetically modified crops maximises output per hectare. These crops require less land and can be harvested more frequently, but they depend heavily on synthetic fertilisers and pesticides to promote growth and protect against pests and disease – despite mounting concerns about soil degradation.

The company has invested heavily in advanced tractors, harvesters, and irrigation systems, reducing labour costs and increasing productivity. EuroDeal specialises in large-scale monoculture farming, concentrating on single crop types over vast areas to streamline planting, maintenance, and harvesting processes. This large-scale approach allows for bulk purchasing of seeds, fertilizers, and machinery, driving down per-unit costs.

Fish farming is also booming, with recirculating aquaculture systems (RAS) set up in repurposed mining caves and industrial plants. These closed-loop systems recycle water and reduce environmental impact. Advances in genetic engineering have also produced fish strains that grow faster, are more disease-resistant, and have improved feed conversion ratios.

EuroDeal is also the largest producer of offshore high-density fish farming, using selective breeding to produce fast-growing, disease-resistant fish – and, more recently, jellyfish. While this approach maximises output, concerns about water quality and fish health persist. Cost-effective, high-protein feeds accelerate growth, but they continue to face criticism for their potential environmental impacts. In his previous role at EuroDeal,

Klaus managed supplier relationships, negotiating favourable prices for seeds, fertilisers, feeds, and machinery. He was also responsible for optimising transportation and distribution networks to reduce the costs associated with moving high-demand products from farms and aquaculture facilities to markets. The work was stressful – particularly due to the company's heavy reliance on overseas shipments of beef and poultry from Mercosur, and salmon from Chile – further complicating logistical challenges.

Mid-day: the online retail giant

By 11:00 a.m., E-Grocer – Europe's largest online food retailer – is buzzing with activity. Its warehouses, located in strategic hubs across the continent, are stocked with products from industrial food producers such as EuroDeal. Workers synchronise their tasks in shifts along the conveyor belts, picking and packing orders for delivery. Silvia, a logistics coordinator, oversees the flow of goods, ensuring that customer demands are met and delivery routes are optimised for efficiency. The goal is to deliver food as quickly and cheaply as possible. However, much of the fresh produce has become ultra-processed, as economically driven consumers prioritise price over quality, favouring affordability over nutritional value.

Afternoon: the co-opted policy maker

At 3:00 p.m. in Brussels, the European Food Policy Council convenes – dominated by industry representatives and government officials, many of whom are no strangers to the revolving door between public service and private sector roles. The agenda focuses on new regulations to maintain food availability and affordability, with discussions driven by growing concerns over severe soil degradation and collapsing fish stocks. The primary objective is to stabilise prices in order to protect economic stability and prevent social unrest – rather than to address deeper systemic issues such as environmental sustainability, public health, or diet-related diseases

Following an EU directive, governments work closely with industrial conglomerates to prescribe low-cost, "healthy" nutrition, ensuring a steady food supply. What is deemed "good" for consumers is determined from the top down, shaped largely by corporate interests. With Europe facing significant budgetary deficits, the council's primary concern is how to sustain existing subsidies and grants that support large-scale agricultural and aquacultural production. Elena, a policy adviser, presents data on the latest economic indicators. The ongoing recession and high levels of national debt leave little room for broader considerations beyond keeping food prices low. The council debates increasing subsidies for industrial food producers and offering tax breaks to online retailers to maintain affordability – but little attention is given to the

long-term consequences of these policies, particularly in relation to environmental impact and public health.

Evening: the price-aware consumer

By 8:00 p.m., across Europe, families like Javier's in Madrid are preparing dinner. In his small apartment, Javier and his family sit down to a meal of pre-packaged pasta and meatballs. The food is cheap, filling, and far from nutritious – but for Javier, the priority is stretching his paycheque as far as possible. Like many others, he has little choice but to focus on getting the most calories for his money, even as diet-related diseases and malnutrition become increasingly common. Years of economic hardship and rising living costs have made Javier an expert in navigating online platforms, meticulously comparing prices and searching for deals that offer the best value on his limited budget. Whatever small savings he manages to achieve at the end of the month go directly into the family's savings account. As they watch the evening news, reports of yet another extreme weather event – a severe storm in the Mediterranean – flash across the screen. These events have become part of everyday life, yet little attention is paid to climate change or its long-term consequences. The focus remains fixed on immediate survival and economic recovery, with scant space for environmental concerns.

Night: the geopolitical analyst

In a Parisian think tank, analysts work late into the night, reviewing the latest reports on geopolitical instability. Regional conflicts and wars have fractured global supply chains, sending shockwaves through European markets. Prices are soaring, goods are becoming scarce, and consumer confidence is rapidly deteriorating. The slowdown of the North Atlantic Current has further exacerbated food shortages, triggering widespread crop failures and driving prices even higher. Competition for dwindling resources is intensifying, and market power struggles are becoming increasingly aggressive.

Sophie, a senior analyst, prepares a briefing for French government officials, emphasising the urgent need for international cooperation to address growing concerns over food security and the rise of diet-related diseases. However, she knows all too well that such calls are often ignored – lost in the prevailing mindset of short-term thinking. Governments remain focused on the immediate crisis, with little regard for long-term strategies that could help secure a sustainable future.

5 Scenario D: Highs and lows - A day in a European inequal high-tech food ecosystem in 2035

Main characteristics

- Personalised, hedonistic AI-driven consumption for the wealthy
- Bioengineered foods for health and fertility
- Ultra-processed, GMO-based diets for the poor
- Influencer-driven and trend-based consumption
- Risky and unregulated food choices for survival

Introduction

By 2035, the European Union has become a complex tapestry of controversy and innovation, fuelled by venture capital-backed start-ups and big tech firms operating with minimal regulation in the food sector. The industry mirrors the broader societal landscape – marked by deep social divisions, income inequality, climate crises, and escalating public health challenges. For many, survival is precarious, with people willing to take extreme risks to meet their basic needs. Ecosystem collapse and declining fertility rates underscore the gravity of the crisis.

Amid these challenges, food has transcended its role as mere sustenance. It has become a reflection of society's triumphs, struggles, and resilience – and a testament to human ingenuity.

Morning: the wealthy seek pleasure and fertility

In Amsterdam's affluent districts, mornings begin with the hum of AI-powered smart kitchens. Integrated with the Internet of Things (IoT), these systems prepare bespoke breakfasts tailored to each individual's health metrics and mood analytics. The wealthy indulge in AI-crafted aesthetic foods designed not only for nutritional value, but also to enhance mental well-being – with meals curated for visual appeal and social media perfection. Breakfast has become an immersive experience, augmented by AR and VR technologies, transforming everyday meals into sensory-rich, exotic adventures.

Lleke and Niels, like many others, enjoy their customised *FertiBoost* drinks – a bioengineered product designed for couples experiencing fertility challenges, an increasingly widespread issue in society due to high levels of environmental toxicity. *FertiBoost*, developed by BioDeck Inc., combines precision nutrition with biotechnology, leveraging marine bioactives from fish, crustaceans, seaweeds, and microorganisms to deliver antioxidant and antibacterial benefits. These functional ingredients are encapsulated in nano-carriers to enhance bioavailability, ensuring they are efficiently absorbed and utilised by the body. Niels also uses their 3D food printer to create a synthetic breakfast of predesigned smoothies and cereals, refilling the cartridge and pressing start, showcasing the seamless integration of technology into daily food preparation.

Midday: the struggle of the poor and paralysis of policymakers

In stark contrast, the outskirts of Warsaw present a very different reality. Bazyli and his family rely on heavily discounted – and often untested – genetically modified (GMO) foods for lunch in order to stretch their limited budget. They also take part in risky biotech trials, selling their health data for a few extra euros, enticed by promises of miraculous health benefits or, at the very least, temporary relief from their daily hardships.

The dominance of free markets has left policymakers in Brussels paralysed, struggling to manage the consequences of minimal regulation and weak enforcement in the food sector. They grapple with the immense challenges posed by escalating health crises, biodiversity loss, and ecosystem collapse. Venture capital-backed start-ups and big tech companies, primarily from Asia and the United States, now dominate the food industry, with their technologies increasingly shaping policy direction across Europe.

Afternoon: hyper-connected marketplaces, production lines, and start-up takeovers

In Barcelona, hyper-connected marketplaces reflect the era's technological advancements. These markets, like many across Europe, have partnered with *Foodily Inc*., an Indian venture capital-backed start-up that offers everything from the latest genetically modified (GMO) food products to rapid logistics enabled by sleek user interfaces. Drones buzz overhead, delivering groceries ordered through cognitive technology platforms. Wealthier consumers navigate these spaces using AR glasses that provide real-time information on food products. Brand loyalty is a thing of the past; consumers are easily influenced by shifting trends, social media influencers, and AI-customised diets.

On the city's outskirts, *Foodily Inc.'s* sprawling food production facilities hum with activity. Here, highly skilled employees work alongside advanced robotics to ensure hyper-efficiency. The 6G network keeps everything connected, and the priority is clear: ensuring that customised ultra-processed foods are delivered to customers via drones, right on time.

Evening: the wealthy and immersive dining

As evening falls, the wealthy gather in exclusive dining clubs across Milan, where food transcends sustenance to become a social and immersive experience. These venues offer AI-curated, multi-sensory dining adventures, with each bite enhanced by virtual reality landscapes. Guests seek instant gratification, indulging in psychedelic foods that merge nutrition with sensory escapism. These curated culinary experiences are meticulously documented and shared on social media, creating a digital narrative of high-end, immersive food journeys.
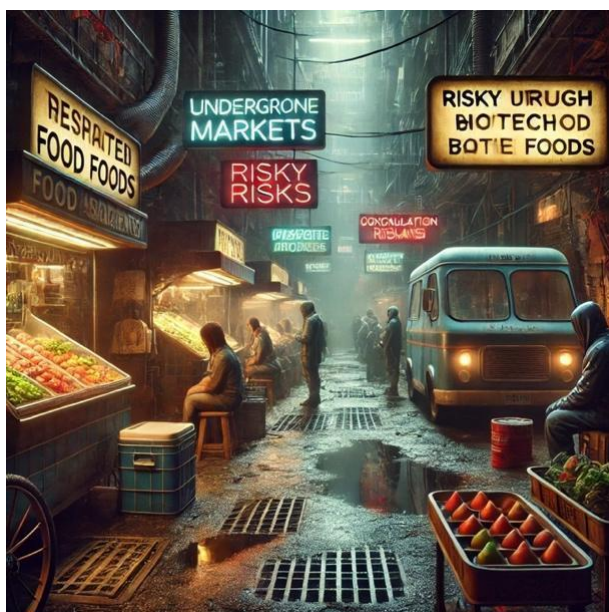
Night: the escape of the poor

For those living in poverty, nighttime offers a very different kind of escape. In the shadowy back alleys of Athens, underground food markets thrive. With scarcity driving increasingly desperate choices, consumers are forced to make difficult compromises. Prices are displayed alongside warnings about contamination risks, pathogen presence, and potential health hazards. In response, some communities have organised collective purchasing schemes, using data to monitor market activity and weather trends in order to determine the best times to buy or trade food for improved quality and pricing.

For the most desperate, unregulated experimental foods offer promises ranging from cognitive enhancement to euphoric highs. These biotech by-products are highly risky, but for many they represent a final hope: a means of escaping poverty, both physically and mentally. The atmosphere of desperation is unmistakable, yet so too is the resilience of those struggling to survive in a world defined by inequality and crisis.

6   Implications

Further reflection on the implications of the four scenarios for food consumption and the wider ecosystem led us to identify a number of issues that may be relevant for today's decision-makers. These implications are not presented as priorities, nor are they ranked in any particular order. Rather, they are intended as possible entry points for deeper consideration of future developments in the sector.

1.   Guiding consumers towards one-health choices

The food sector plays a critical role in guiding consumers towards well-informed One-Health choices that benefit human health, animal welfare, and environmental sustainability. To achieve this, the sector must strengthen information sharing across the value chain, providing greater transparency about how food is produced, processed, and distributed. Implementing Life Cycle Assessments (LCAs) for emerging production methods, such as urban farming, indoor aquaculture, and cellular meat, is essential for assessing their true environmental impacts and determining whether they can be scaled sustainably to help feed the global population.

Public research and coordinated action are vital to prevent greenwashing and corporate monopolisation, ensuring that innovation serves sustainability goals rather than simply advancing private interests. The sector must also confront the rising costs associated with diet-related diseases and address the complex regulation of addictive substances in food, whose misuse can contribute to serious health issues.

Three out of four scenarios depict unequal societies, highlighting that techno-economic innovation alone is insufficient to achieve One-Health. Social innovation, along with secure, safe, and equitable food choices for all citizens, must form a core part of the transition. By proactively addressing these challenges, the food sector can foster a more transparent, inclusive, and sustainable system that empowers consumers to make choices aligned with One-Health principles.

2.   Embracing innovative (new and ancient) mood-related food ingredients

As consumer preferences shift towards wellness and unique experiences, demand is rising for novel food ingredients, including both technological innovations and ancient ingredients with mood-enhancing properties. As the intersection of nutrition and mental well-being gains prominence, mood-related foods are poised to become a significant segment of the food industry. These products aim to support emotional health, reduce stress, and improve cognitive function through the use of natural compounds.

The future of this sector may lie in a fusion of cutting-edge technologies and a revival of ancient ingredients known for their psychotropic or adaptogenic effects. Mood-related foods have the potential to transform how we approach mental well-being through diet, offering a more integrated and preventative model of health.

To enable this transformation, it is essential to address regulatory challenges and foster collaboration among policymakers, businesses, and researchers. Such efforts can help ensure that innovative products are introduced responsibly, while also meeting growing consumer demand. By integrating physical and emotional wellness into a holistic food strategy, this emerging sector could play a key role in advancing public health.

3. Prioritising animal welfare

Animal welfare is an increasingly important aspect of sustainability – and one that consumers expect the food sector to address with seriousness and integrity. Integrating a One-Health approach, which recognises the interconnectedness of human, animal, and environmental health, requires balancing animal welfare with broader conservation efforts.

For instance, sustainable aquaculture systems, such as closed-cycle operations, are designed to minimise environmental impact and support resource conservation. However, they may inadvertently overlook the welfare of farmed aquatic animals. High stocking densities, poor water quality, and inadequate health management can lead to stress, disease, and suffering among fish and other species. Such issues not only raise ethical concerns but can also compromise product quality and erode consumer trust.

To meet growing expectations and avoid reputational risks, the food sector must ensure that sustainability initiatives include robust animal welfare standards. Doing so will enable businesses to uphold ethical practices and contribute to a holistic vision of sustainability that benefits people, animals, and the environment alike.

4. Mainstreaming precision nutrition

The mainstreaming of precision nutrition, which customises dietary recommendations based on individual genetic, microbiome, and metabolic profiles, presents significant implications for the food sector. Advancements in omics and microbiome-related technologies require further research to establish effective links with nutrition, necessitating integrated development across the entire value chain – from new ingredient production to personalised data management within appropriate regulatory frameworks.

Scaling up personalised nutrition will demand robust partnerships with technology providers, creating win-win scenarios that foster both innovation and efficiency. However, there is a real risk of deepening inequalities, as vulnerable populations, such as low-income individuals or those without access to land, may struggle to engage with these advanced systems, with potential consequences for food security.

Furthermore, localised production methods often remain costly under current technologies, which could exacerbate disparities unless technological advances help make these solutions more affordable and accessible to all.

5. Scaling up localised food systems

Local food systems play a pivotal role in enhancing the diversity and resilience of the food supply while delivering substantial benefits to both consumers and communities. By prioritising locally sourced production and distribution, these systems strengthen the relationship between people and their food, promote sustainable practices, and support robust local economies. Scaling up emerging solutions to improve diversity and resilience requires coordinated action across policy, business, and research sectors.

Policymakers can support the development of local producer networks by introducing favourable regulations and offering incentives for localised value chains. This might include promoting the use of organic fertilisers to advance circular economy principles and encouraging short supply chains that are less vulnerable to global disruptions. Policies could also enable the integration of digital tools to support local bartering and distribution systems, enhancing community-based economies without displacing low-tech practices. In addition, strategic planning is essential to help local food systems adapt to extreme weather events and resource shortages – particularly as global support structures become more fragile.

Businesses have an important role to play in investing in and collaborating with local producers to enhance economic viability and sustainability. Digital platforms can be leveraged to improve coordination and distribution within local markets. However, challenges remain – particularly in urban centres, where land scarcity and high costs make fully localised systems difficult to implement. Innovative approaches such as vertical farming and rooftop gardens offer potential solutions to maximise spatial efficiency in dense urban environments.

Researchers can contribute by developing strategies that strengthen the resilience of localised food systems in the face of environmental and resource-related pressures. This includes assessing the impact of extreme weather on local agriculture and identifying sustainable practices that can be adopted by small-scale producers. Further research is also needed to optimise digital tools for local coordination without undermining traditional, low-tech methods. Economic studies will be vital in evaluating the feasibility and scalability of localised food systems, especially in densely populated or resource-constrained areas.

6. Embracing soilless agriculture

Soilless production methods, including hydroponics, vertical farming, and urban agriculture using indoor LED lighting, are reshaping the food sector by providing viable alternatives to traditional soil-based farming. These technologies support efficient food production in urban settings, reducing reliance on arable land and helping to mitigate the impacts of soil degradation and water scarcity. By lowering dependence on precipitation and enabling controlled growing conditions, soilless systems can strengthen food security and offer consistent, year-round yields.

However, the transition to soilless production is not without challenges. These include high upfront investment costs, significant energy consumption for lighting and climate control, and the requirement for technical expertise. To successfully integrate these systems, the food sector must weigh sustainability

benefits against economic viability, ensuring that soilless production contributes meaningfully to meeting the demands of a growing global population.

7. Empowering farmers and prosumer communities

Empowering farmers and prosumer communities holds significant potential for the food sector by making farming more attractive and accessible. Rather than focusing solely on high-tech solutions, introducing technologies that reduce the physical demands of agricultural work can encourage broader participation in farming. Providing education enables individuals to make informed decisions about their involvement in food production. This approach is particularly important in regions with low fertility rates, such as the European Union, where demographic shifts are difficult to reverse and reliance on immigration policies remains uncertain. By educating consumers and training communities in sustainable practices – including regenerative farming, foraging, and marine permaculture – the food sector can inspire greater public engagement and adoption of environmentally responsible behaviours. This not only strengthens food security but also fosters resilient communities that actively contribute to the food system.

8. High-tech risks

The growing reliance on high-tech solutions in the food sector – including AI-driven production systems, biotech foods, and drone deliveries – introduces significant vulnerabilities that could disrupt the entire food ecosystem. Failures in AI-controlled agricultural systems could bring production to a halt, resulting in supply shortages and economic losses. Food safety breaches in biotechnology-derived products may pose health risks and erode public trust in food innovation. Similarly, breakdowns in drone delivery networks could disrupt food distribution, particularly in areas that depend heavily on such technologies.

These scenarios highlight the risks of over-dependence on high-tech infrastructure. The food sector must therefore adopt robust risk management strategies – including redundancies, fail-safes, and hybrid systems – to mitigate potential disruptions. Striking a balance between technological innovation and traditional practices can help build a more resilient and adaptable food system, better equipped to withstand technological failures.

9. Balancing global vs. local dynamics

The interplay between global and local food systems carries significant implications for the food sector, particularly in relation to sustainable competition policy. Balancing these dynamics is essential for maintaining international stability, especially in scenarios where global trade may decline. Without equitable trade frameworks, disparities between developed and developing countries risk deepening, as the latter may lack access to advanced technologies while continuing to supply raw materials. This imbalance could exacerbate economic inequalities and hinder collective efforts to achieve global food security. Limiting the market power of large corporations is therefore crucial to preventing monopolistic practices and the formation of cartels that could distort pricing and undermine both

global and local markets. Implementing policies that foster fair competition and encourage technology sharing can help mitigate these risks, ensuring that the benefits of the food sector are distributed more equitably and sustainably across Europe and beyond.

Annex I – Methodology

The EIT Food Consumer Observatory has identified both general and consumer-specific trends that served as the basis for envisioning possible alternative futures for 2035. This work focuses on the *Futures of Food Consumption and the Agrifood Ecosystem in 2035* in Europe, with particular attention to emerging technological opportunities for new products and retail experiences, as well as to (un)sustainable and (un)healthy consumer choices.

Scenario structure

These dimensions differentiate the scenarios:

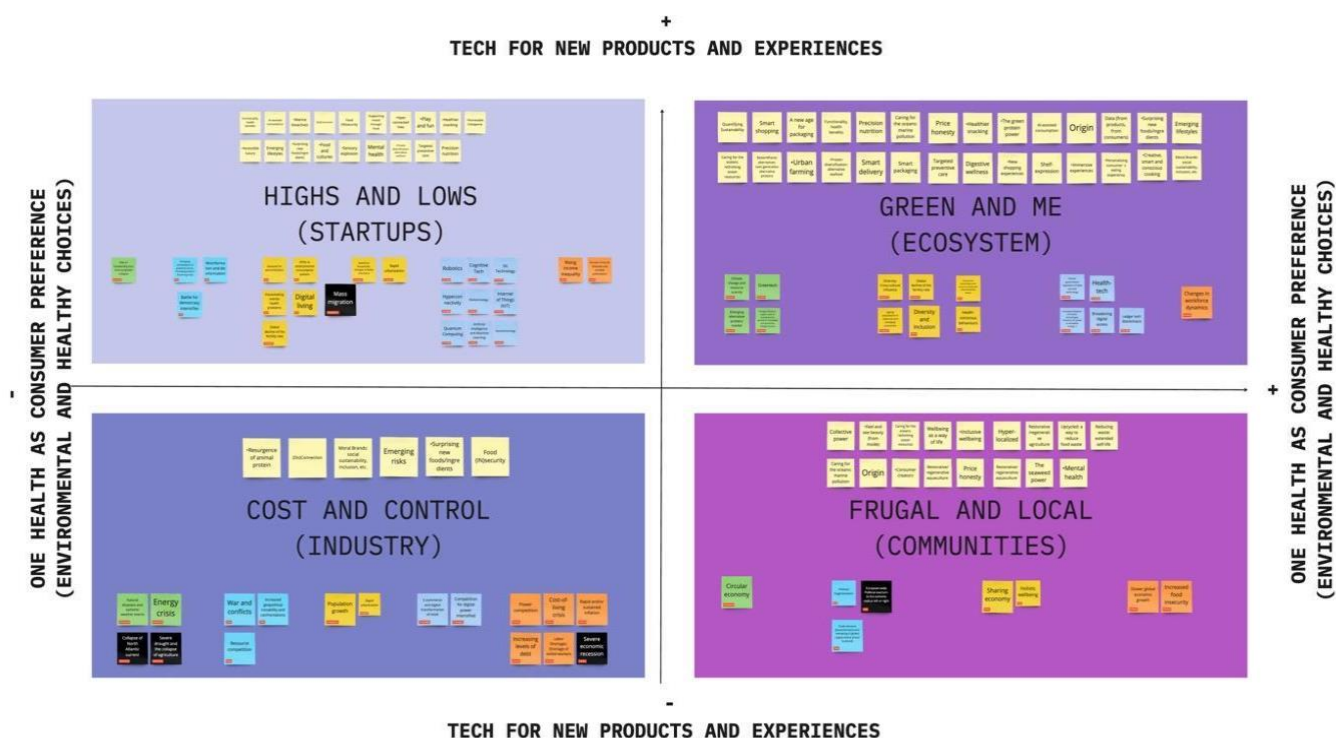| Key dimensions for the scenarios |
| --- |
| **DIMENSION 1: TECHNOLOGIES FOR NEW PRODUCTS AND EXPERIENCES**

+TECH FOR NEW PRODUCTS AND EXPERIENCES
This dimension refers to significant advances in technological developments for new products and consumer experiences. A diverse range of technologies – including digital, biotech, and energy – is considered likely to transform what and how we consume in Europe by 2035. This includes shifts in the types of products available, the information provided to consumers, and the nature of purchasing and consumption experiences.

–TECH FOR NEW PRODUCTS AND EXPERIENCES
This refers to very limited advances in technological developments for new products and consumer experiences. |
| **DIMENSION 2. ONE-HEALTH AS CONSUMER PREFERENCE (ENVIRONMENTAL AND HEALTHY CHOICES)**

+ONE-HEALTH AS CONSUMER PREFERENCE (ENVIRONMENTAL AND HEALTHY CHOICES)
Consumers place a high value on ecological, social, and economic sustainability, as well as on their own health, in their consumption decisions. This aligns with the One-Health approach, which recognises that the health of humans, animals (both domestic and wild), plants, and the broader environment – including ecosystems – is deeply interconnected and mutually dependent.

-ONE-HEALTH AS CONSUMER PREFERENCE (ENVIRONMENTAL AND HEALTHY CHOICES)
Consumers place limited importance on ecological, social, and economic sustainability or their own health when making consumption choices. Other factors, such as personal gratification, convenience, or low price, tend to take precedence. |

These dimensions served as the framework for ensuring that each scenario was meaningfully distinct. During the workshops, participants engaged in rich discussions about four alternative futures, which helped inform the subsequent allocation of various megatrends and consumer trends to each scenario.

We present below the draft narratives for each scenario:

- **Scenario A: Green and me** – A day in a European high-tech, One-Health food ecosystem in 2035

- **Scenario B: Frugal and local** – A day in a European localised food sector driven by community values in 2035

- **Scenario C: Cost and control** – A day in a European degraded food ecosystem focused on industrial efficiency in 2035

- **Scenario D: Highs and lows** – A day in a European unequal, high-tech food ecosystem in 2035

While the main scenario dimensions provided the structural foundation for the scenario work, the identified driving forces offered inspiration for exploring potential future developments and critical issues to be reflected in the scenarios. During the workshops, participants generated ideas about food consumption and the agrifood ecosystem in 2035, guided by the scenario dimensions and informed by the influence of these driving forces across different future contexts. We identified a range of interrelated elements – including general megatrends, consumer-specific trends, and wild cards (low-probability, high-impact events) – and explored how these might shape possible futures. Based on the selected trends, participants developed descriptive visions of life in 2035. Following the workshops, the scenario narratives were written, and illustrative images were generated using AI DALL·E.

General trends
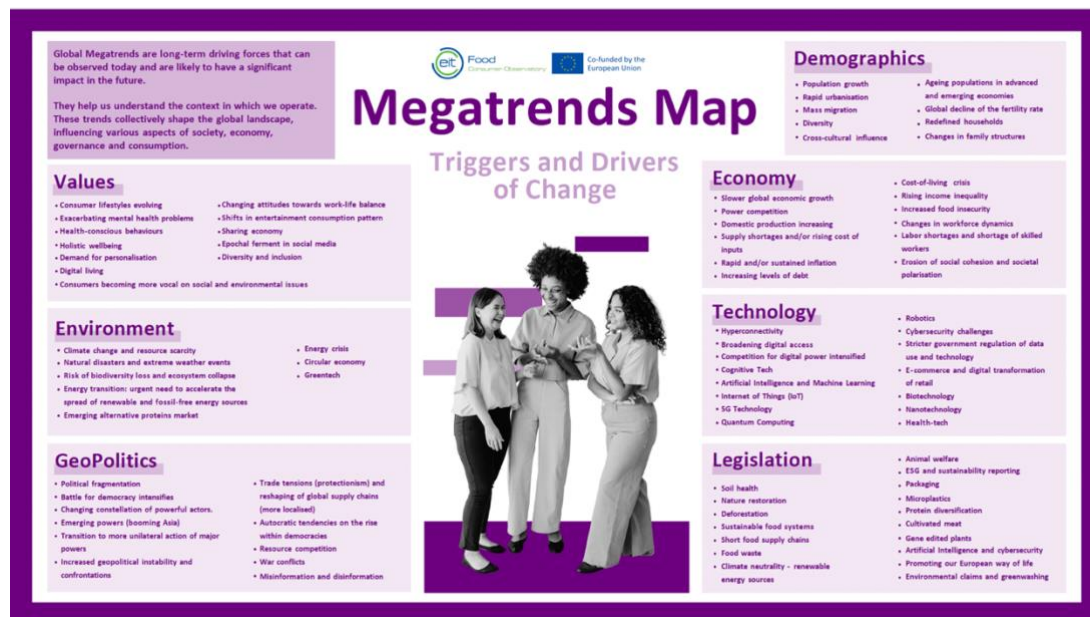
Related wild cards

Collapse of internet

Severe economic recession

Severe drought and the collapse of agriculture

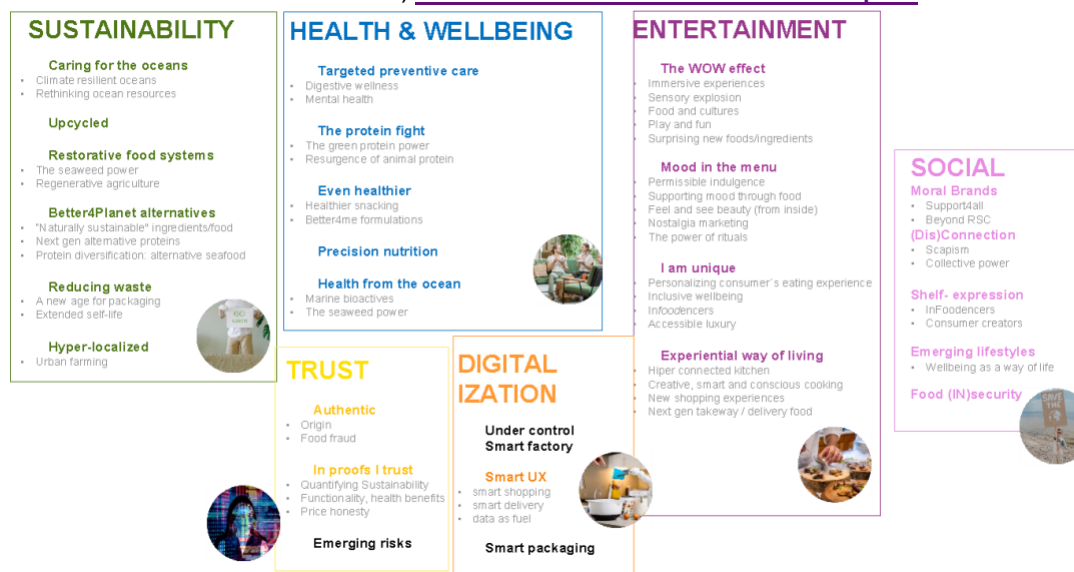Collapse of the North Atlantic current

Mass migration

Radical shift to anti-materialism

European-wide political overturn to the extreme radical left or right

Consumer trends

For more detail on the below trends, **access the EIT Food Consumer Trends Report.**

Annex II: Contributors

We are grateful to the following experts, who participated in the scenario workshops.

Alix La Cotte

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Annex III: About the EIT Food Consumer Observatory

Powered by EIT Food, the Consumer Observatory brings together experts and consumer insight organisations from across the food system to curate and produce consumer insights, trend analysis and research tools.

By combining research expertise, sector knowledge and the green transition behaviour change perspective, the Consumer Observatory aims to maximise the availability of consumer insights on agrifood topics, delivering greater knowledge, strategy and guidance to agrifood stakeholders – helping to bring about positive change in the food system.

This platform puts consumer knowledge and behaviour at the heart of the conversation on food sector trends, driving forward innovative solutions that will help to achieve EIT Food's three missions:

- A Net Zero Food System
- Healthier Lives Through Food
- Reducing Risk for a Fair and Resilient Food System

To access the latest insights or to discuss your specific insight needs, visit **eitfood.eu/projects/consumerobservatory** or get in touch via **co@eitfood.eu**
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