IFOAM ORGANICS EUROPE
MAKING EUROPE MORE ORGANIC

TRANSFORMING FOOD AND FARMING

AN ORGANIC VISION FOR EUROPE IN 2030

To save you ink, paper and energy the background images, videos, etc. will not be printed. To read the full publication, go to https://read.organicseurope.bio/publication/transforming-food-and-farming/ or scan the QR-code.

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FOREWORD

I'm proud to be part of the organic community. Proud because it continues to drive change in food and farming systems in Europe and worldwide, because it is committed to actively shape these systems in the future and because it is ready to build on its successes that have seen organic food and farming develop from a niche to become a real alternative.

But the European organic movement needs to take stock of what organic has become. In a rapidly changing world we have to be able to cope with new political, environmental and societal challenges.

The future role of organic food and farming for us, for farmers, for food production and for society has indeed been a focus of thought and action for many of our members. This is one of the reasons why IFOAM EU launched its participatory vision exercise to try to define where the organic movement may be in 2030 and to help us prepare proactively to face the future. The next step will be to agree the strategies and actions needed to get there. Fifteen years is long enough to plausibly consider changes in technology, society and environment, while at the same time, sufficiently short to prepare a viable strategy.

It's been an insightful process, full of intense debates rooted in common values and aspirations. I'd like to say thank you to everyone who participated, however you took part – via the online surveys, visioning sessions and workshops, though personal interviews or comments during the preparation of this publication.

The shared vision is not a prediction of the future; rather, it provides a common direction, a clear and vivid picture of where we want to be in 2030. It is in our power to select the best strategies and tools that will help us stay focused and make our vision a reality.

We want to start a conversation about practical ways of moving in the direction that we have identified together: a small selection of real-world examples is included, but there are many thousands of initiatives already up and running throughout Europe. We hope that this vision will inspire and motivate our stakeholders and encourage us all to look together towards future opportunities.

Christopher Stopes,
IFOAM EU President

INTRODUCTION

Where does the organic sector aim to be in 2030? What are the critical future framework conditions that could limit or speed up the development of the organic movement?

This publication provides an answer to these questions, which were at the heart of strategic conversations initiated by IFOAM EU to foster the further development of the organic movement. One result of these conversations is a shared vision of the European organic movement to 2030 and beyond, described in Part I, outlining who we want to be by that time.

Part II of this publication provides a strategic analysis of the future, and sets out the possible framework conditions in which our vision might have to fit in order to become reality, as well as what strategies would have to be developed to achieve it. It starts with an overview of the organic movement and its achievements until now, reflected both in terms of market growth and societal recognition. It continues with a selection of relevant future trends & uncertainties that explore some of the opportunities and threats that might face the organic movement. The same set of trends and uncertainties, ranked by their potential impact on the organic sector, form the basis of four scenarios that represent multiple but equally plausible futures that set the context in which the organic movement might have to exist. While they are not intended as predictions of the future, the scenarios serve as a framework for the shared vision and a test-bed for future strategies – concrete paths that we need to develop in order to achieve our desired vision. These strategies should take into account both the vision of the organic movement and possible objective developments in the outside world.

In facilitating this process we have put considerable effort into a participatory approach, capturing multiple viewpoints, ideas, insights and intuitions from individuals involved in the organic movement and sector in Europe. Through five workshops and two Europe-wide consultations, more than 300 contributors shaped this vision process. The pages that follow bring all these voices and ideas together.

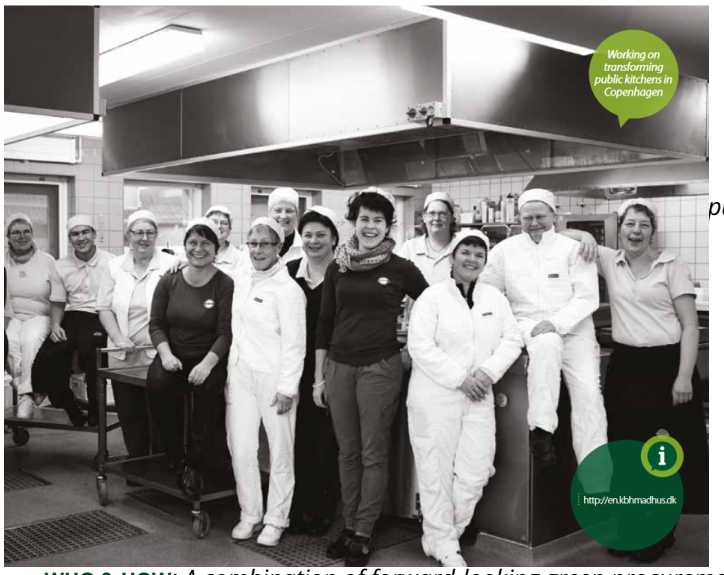
The publication ends with a reflection on the way forward, i.e. the next steps the organic movement should take to define a clear pathway for achieving its vision.

A number of examples of innovative practices spread throughout the publication give a taste of the initiatives that are already working towards achieving our shared vision and addressing future challenges for Europe and the organic sector in particular.

What is common to all the examples is the intention to go beyond a one-dimensional understanding of sustainability. Instead of focusing solely on sustainable production methods, ingredients, products or processes, they strive to have an impact on multiple fronts, targeting the connections between all actors in the value chain, our communities and our environment.

Consult the initiatives on euorganic2030.bio and consider submitting your own.

Inspiration from the public sector: eating better, organically



public kitchens

- **WHO & HOW**: *A combination of forward-looking green procurement policy and a determination to transform food culture are the recipe for success when it comes to increasing organic in public institutions. As of early 2015, the share of organic ingredients in meals in public canteens in Copenhagen has reached 83%. Behind this success is a national effort from Organic Denmark, which achieved a national government goal of 60% organic in all public canteens, as well as winning public financing for conversion and education in public kitchens, and an intensive collaboration among organic farmers, food companies and wholesalers in Organic Denmark to expand organic supply to public canteens.*

In Copenhagen a close partnership between the Copenhagen City Council and a non-commercial foundation, the Copenhagen House of Food, developed an innovative approach for reaching the ambitious target of 90% organic food in public canteens by the end of 2015. Instead of merely replacing conventional ingredients with organic ones, the Copenhagen House of Food placed an emphasis on creating balanced diet plans using less meat, more vegetables, purchasing in-season and reducing waste by 50%. The result: healthier, organic, climate-friendly meals, and enormous pride among the 1,700 kitchen staff. Quality criteria include not only the sensory and nutritional qualities of meals but also the physical surroundings, ways of presenting and sharing meals and staff's joy in working for a common purpose. Such a comprehensive approach ensures a lasting change in the way public meals are sourced and prepared and, most importantly, a transformation in the perceptions of what a meal is.

Inspired by this initiative? Read more about it online and/or share it!

VISION 2030

A vision for the future is a shared dream of the world that we want to live in. Making Europe more organic has always been the mission of the movement, the ultimate reason for our existence. Through a strategic conversation in this visioning process, IFOAM EU established what we want to achieve by 2030 in broad terms as a movement and as a sector. The vision that we have arrived at grew out of our aspirations and dreams of a desired future, regardless of current challenges or potential difficulties.

"Vision is the art of seeing the invisible."

Jonathan Swift

"In 2030, (organic) farmers and processors take agroecology as the scientific and practical basis for the delivery of food and environmental services to society as a whole."

Víctor Gonzálvez, Spanish Society for Organic Farming (SEAE)

"For me the vision process of the organic movement is about our "why" and who is in power there. Although daily reality demands that we spend our time supplying the organic mainstream, I still believe that bringing our four principles into business reality is the

biggest challenge. Daring to be a frontrunner, daring to speak out for societal change, without denying our responsibility to supply the ongoing growing markets."

Ronald Van Marlen, Member of the Board of the Dutch Organic Processors Association

"My vision for the organic sector in 2030 is to see everybody following the organic way of thinking, having sustainable agriculture means that environmental, social and economic issues are included in the system, ensuring wellbeing for us and for our children."

Charikleia Minotou, IFOAM AgribioMediterraneo

OUR VISION 2030 – TRANSFORMING FOOD AND FARMING

Our vision for food and farming is of a fair, environmentally conscious, healthy and caring system widely adopted in Europe. The European organic movement continues to lead change, believes in holistic approaches and thrives on interactions with other like-minded initiatives, including fair trade, agroecology and urban agriculture.

Driven by the support of citizens and by building bridges with other stakeholders in the food and farming system, we are committed to achieving more than half of Europe's agricultural land managed according to organic principles of health, fairness, ecology and care, providing fresh, seasonal, fairly priced as well as minimally and carefully processed organic food to every European home, workplace and institution.

The European organic movement stimulates and rewards the further development of organic systems, improving the resilience and environmental performance of organic production systems, while innovative tools for upholding the integrity of the supply chain promote trust. Policy makers and citizens widely recognise and value the contribution of organic farming to the delivery and support of vital ecosystem services to society.

As we move forward towards our goal of being a model for sustainable farming and food systems, we support a culture of innovation based on holistic principles leading to more resilient and productive farming systems, greater biodiversity, better food quality, more appropriate processing and fairer supply chains. New and indigenous, locally adapted varieties and breeds suited to organic farming practices and local conditions are encouraged and preserved. Farm animals are healthy, live in stress-free conditions and contribute to the sustainability of organic farms.

European farmers and all workers in the organic supply chain are fairly remunerated for their contribution to the health of the environment, communities, local and rural economies, and for providing flavourful and abundant food to contribute to the welfare of our planet and the quality of life of all people.

The organic movement works towards a paradigm shift in education and learning to strengthen the connection between environmentally and socially responsible food choices. People reconnect to food production by actively engaging with short supply chains.

WHAT WAS THE VISION PROCESS LIKE?

Participatory, explorative and insightful – these were the central aspects that we considered at every stage of our vision process, which was launched in November 2013.

Online and offline conversations in the form of surveys, workshops and meetings with over 300 contributors helped us tap into the vast collective knowledge and experience of the organic movement in Europe. Opening up parts of this process to a broader range of stakeholders ensured that we also captured ideas and perspectives of brilliant minds beyond the organic sector.

To explore crucial issues and future challenges that the movement will face, we created spaces for deeper, small-group discussions in multiple locations throughout Europe – Brussels, Bari, Rome, Villena and Nuremberg.

Figure1: Developing a vision for the European organic movement

With the help of an extensive review of current foresight studies and contributions from experts, it was possible to build scenarios of plausible futures and ground our visions in reality.

In the final phase of distilling a shared vision, we worked through over 300 visionary elements collected from multiple sources at the various stages of the process. We then further reduced them into a set of 48 elements covering diverse aspects from value chain interactions to production methods and certification. A number of stakeholders of varied backgrounds sorted through and discussed the final set of visionary elements at the BioFach vision workshop. Statistical analysis revealed which of the elements the workshop participants agreed upon, forming two distinct – though not too diverging – viewpoints on how the future of the organic movement should be. These two vision statements were then opened up to a Europe-wide consultation in the final phase of the vision process. The public consultation helped sharpen the final vision and highlight our priority areas for the future.

The resulting vision statement represents the ambition of the organic movement to lead the change in the European food and farming sector. The very essence of this statement is that, no matter how challenging the circumstances prove to be, the underlying values of the organic movement will play a pivotal role in shaping the future of Europe's most innovative food and farming sector.

Figure2: Developing a vision for the European organic movement

STRATEGIC ANALYSIS: GROUNDING OUR VISION

In this chapter we present the results of the desk analyses, interviews and workshops addressing the internal and external environment of the organic movement.

While the internal issues will be addressed in future steps when exploring strategic options, the driving forces in the external environment are an essential part of setting the context in which the vision can be achieved by following carefully planned strategies.

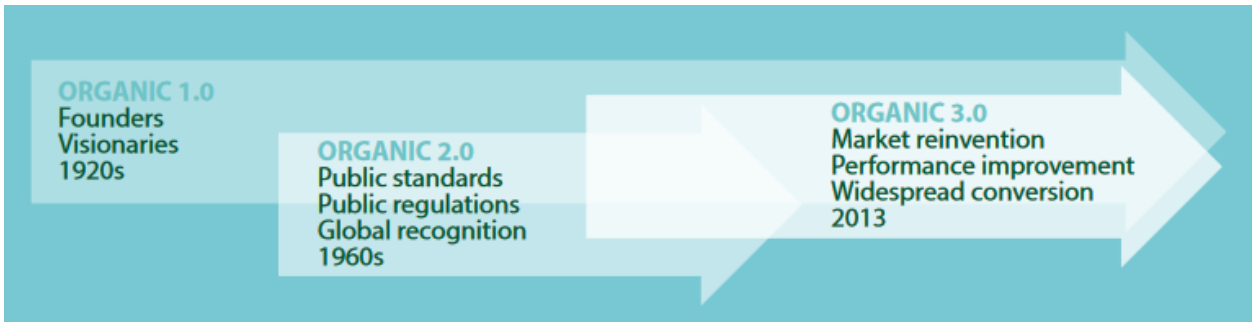
ORGANIC FOOD & FARMING IN EUROPE TODAY – AN OVERVIEW

The story of the organic movement started with the determination of farmers and consumers who wanted a different way to farm and consume than that offered by the "new modern agriculture". Inspired by visionary thinkers such as Rudolf Steiner, Sir Albert Howard, Masanobu Fukuoka, Lady Eve Balfour, Bhaskar Save and many others, they pioneered alternative solutions to the industrialisation of agriculture. In modern terms, this part of the story is Organic 1.0, the foundation that provided the guiding tenets and practices of farming organically. The emergence of private standards, public regulations and millions of followers around the world from the late 60s onwards marked the beginning of the second chapter of the story, Organic 2.0.

The success of Organic 2.0 is marked by ever-growing consumer support and public recognition – the steady growth of organically farmed land and sales of organic food is backed by dedicated operators and consumers all over the world. Europe has played a key role in the development of organic food and farming; support for the organic sector began to emerge in a number of European countries in the early 1980s and by the 1990s had spread across the whole EU. Recent figures underline this clear development. Since 2005, the area under organic farming in Europe has almost doubled from 6.8 million hectares in 2005 to 11.5 million hectares by 2013. In the same period, the number of producers has grown from 187,780 to 334,870. And as the market has developed, so have the means of support: from support payments through the Common Agriculture Policy (CAP) to other policy areas such as research and innovation, promotional policy and public procurement.

Consumer interest in organic products has resulted in astounding growth of 138% in retail sales since 2004, which makes Europe the second biggest market for organic food after the US.

Figure1: Evolution of the organic movement



The European market was valued at 24.3 billion euro in 2013. Consumers choose organic products because of their contribution to the environment and animal welfare, the minimal chemical residues they contain and the benefits to personal health they can bring. At the same time, as recent consumer surveys in various European countries demonstrate, the origin of products – i.e. trying to support local producers – has also become increasingly important for consumers. Choosing organic food has also been shown to have positive effects on overall food consumption patterns: for example, 41% of French consumers say that buying organic food has led them to eat more seasonal, fresh and unprocessed products and

reduce their food waste. These are the signs that organic agriculture is not only growing in market terms but also driving sociocultural changes.

Organic food and farming in Europe has achieved astounding success, is recognised by policymakers for its benefits and supported by the trust and commitment of consumers. The scientific community continues to reveal the nutritional benefits of organic crops and foods, as in the recent study led by Newcastle University.

The clear success of Organic 2.0 has paved the way for the next chapter, Organic 3.0. The aim of Organic 3.0 is to become the benchmark for sustainability worldwide; building on the principles of organic agriculture – health, ecology, fairness and care – to develop a continuously developing approach to sustainability adaptable to the specific needs of any particular region.

So what should Organic 3.0 look like for Europe? The vision statement at the beginning of this publication tries to provide some answers to this question, while the strategic analysis that follows sets out the developments necessary to set the scene for Organic 3.0 in the near future.

Figure2: Where we stand in Europe

TRENDS & UNCERTAINTIES, RISKS & OPPORTUNITIES

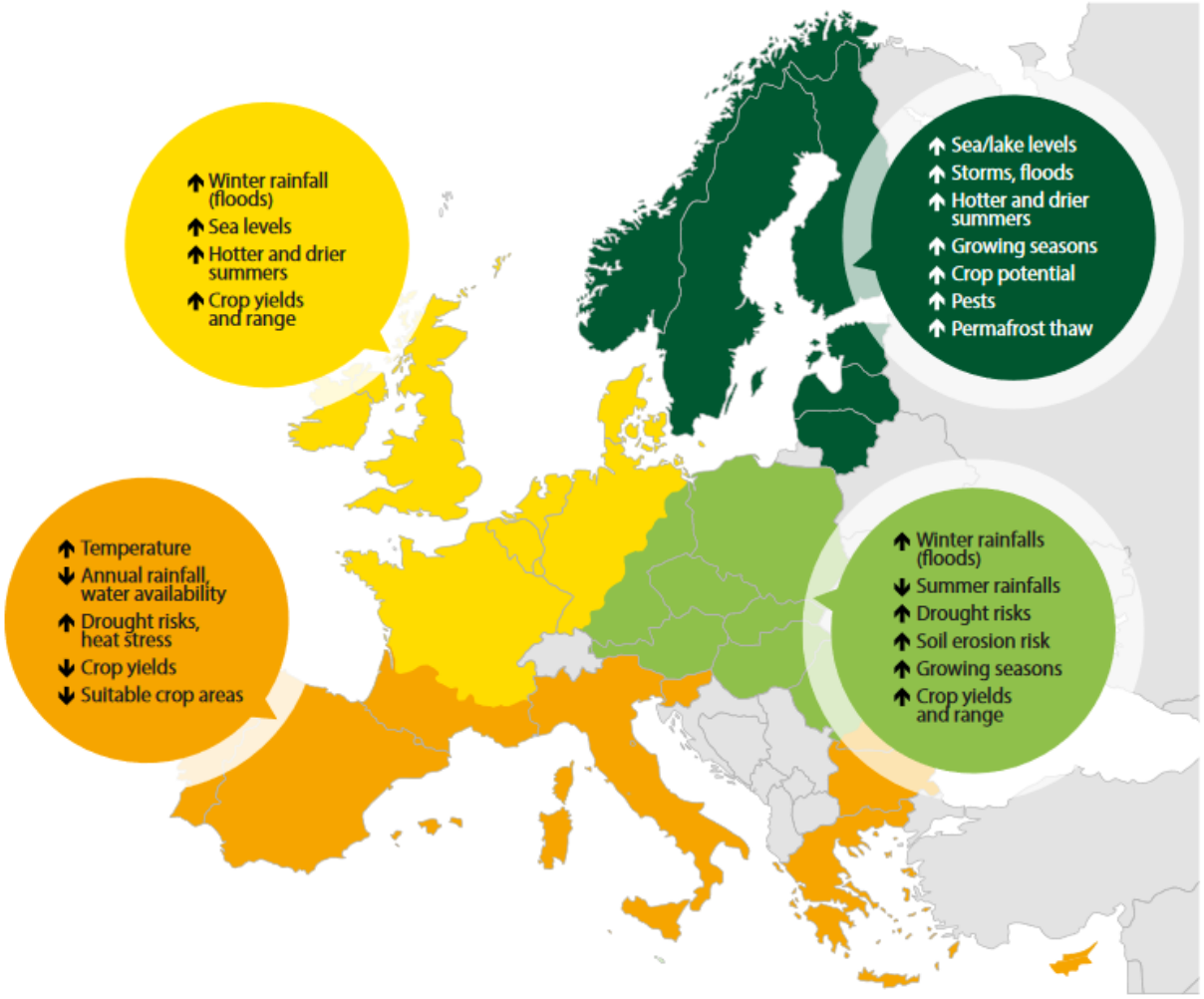
We looked at a number of societal, economic, political, technological & environmental changes that are expected with a high degree of certainty to happen in the coming years and that have a potentially high impact on the organic sector (trends).

We also identified a number of areas where there will certainly be developments which are as yet not possible to predict, and which will have a major impact on the organic food and farming sector (uncertainties).

Some of the trends and uncertainties present a clear threat for the organic sector in the long term but they also offer unique opportunities. By being aware of the relevant trends and uncertainties and of how they might influence the sector, we will be better able to take advantage of these long-lasting changes and capitalise on them rather than react to them.

Together, these trends and uncertainties are the underlying forces that might shape the future context in Europe and that are therefore important for our vision and strategy.

Figure3: Projected impact from climate change in different EU regions until the end of the century



(Source: European Commission n.d.)

Environment

Climate change

In the EU, the impact of climate change on agriculture is likely to vary depending on the regional conditions (see figure on the left). In the short term, by 2020, almost all European countries are projected to experience yield improvements (the total yield gain could be 17%). However, in the long term, by the end of the century, yields will decline in all European regions due to the increasing frequency of unfavourable cropping years, assuming a scenario with increased temperatures of up to 5 degrees.

In the EU, agriculture accounts for 24% of total water use, although there are significant regional differences: in parts of Southern Europe where crop irrigation requires considerable water resources it can account for 80%, while in the northern Member States, where water resources are abundant, the figure varies from zero to 30%. Due to the projected rise in temperatures and intensified extreme weather events, there is a growing concern over water availability in certain parts of Europe in the coming decades. For example, periods of water deficiency might increase by 80% in the Iberian Peninsula, the south of France, Italy and the Balkans by the end of this century.

Ecosystem services

Globally, around 60% of all ecosystem services are being degraded or used unsustainably. The industrial model of agricultural production, as well as other human activities, has put a strain on ecosystem services such as biodiversity, soil health and water resources and has contributed to climate change. Soil degradation and erosion continue at a high pace, with the current loss rates of fertile soils suitable for farming estimated at 10 million hectares per year (Ibid.). In addition, growing evidence of the substantial loss of pollinators in Europe and North America presents a serious challenge for food production.

Energy resources

The EU dependency on energy imports (oil, gas and coal) is projected to increase from 50 to 60% by 2030. Growing energy demand and dwindling fossil fuel reserves might mean increased energy insecurity and conflicts but major breakthroughs in science and technology (e.g. hydrogen), as well as conversion to 100% renewable energy sources could remove these challenges from the European agenda. The development of the first portable nuclear fusion reactor that could be ready in a decade might bring a big change in energy provision. The nuclear fusion reactor is claimed to be the new power source that is safer, cleaner and more efficient than the current reactors based on nuclear fission.

Another possible game-changer in the shortage of energy is the further development of unconventional energy sources which have already sparked a potential energy revolution in the US. Shale gas and oil extracted with the help of hydraulic fracturing, or fracking, are projected to bring energy independence to the USA by 2020, turning it into a major energy exporter. This technological development presents a real danger for agriculture due to the environmental and health impacts that come with the extraction process. These include a loss of valuable farmland and natural habitats, surface and groundwater contamination, excessive water usage and biodiversity loss.

Currently, shale gas exploration is taking place in three EU countries: the UK, Poland and Ireland. In contrast, France, Bulgaria and some parts of Germany and Switzerland have introduced a ban or a moratorium on fracking activities. Given the pressure on the EU to secure access to energy resources through domestic supplies and the political tensions with Russia, it is likely that the EU position on shale gas will change in the coming years.

Precious land

The EU set a 10% target of “renewable fuels” in the transport sector by 2020, and was expected to be the largest producer and user of biodiesel in the world by 2021. Land use requirements from biofuels were expected to increase by 130% by 2020 to meet the policy target for transport.

But several studies showed that the indirect land use change triggered by biofuel production would actually cancel most of the greenhouse gas reductions expected from it, and that in particular biodiesel would cause higher emissions than conventional fuels. The EU therefore decided to cap the production of first-generation biofuels at 7%. While biofuel production is increasingly controversial and its future uncertain because of its direct and indirect effects on land use and environment (e.g. water resources contamination, deforestation, biodiversity loss and land degradation), it is still expected to meet a large share of the EU’s transport fuel needs by 2020. It also competes with food production as fertile soils are converted to biofuel crop production, including using genetically modified crops.

In addition, by 2030 around 3-4% of farmland is expected to be abandoned in the EU due to a number of institutional and physical factors. This development might lead to the rural deprivation and restrict access to land for new entrants. Pressures on land can also have a socio-economic dimension when access, use or right to land is restricted or taken over on a large-scale through so-called land grabbing. Although this phenomenon is assumed to be taking place mostly in the Global South, the problem exists in Europe as well, alongside increasing concentration of land ownership. Land grabbing in Europe involves large-scale and secretive land deals involving both non-European and European investors, including the participation of finance capital from pension funds. Land is taken over for the production of raw materials for the food industry, extractive industries, biofuel production and even for vast solar greenhouses. The region most affected by land grabbing is Eastern Europe.

Inspiration from the fields: Acquiring access to land

WHAT: *Access to land through land trust schemes*

WHERE: *Europe*

WHO & HOW: *In the light of competing land uses, increasing concentration in land ownership, rising land prices, and land abandonment, access to agricultural land is gaining importance in Europe. In many European countries farmer or community led initiatives have been developing to ensure organic farmers have access to land. The European Network for Access to Land uniting several such organizations from Belgium, Spain, Italy, France, UK, Lithuania, Germany and Romania has emerged to share experiences and practical ways of assisting farmers in accessing land and engaging in good land stewardship.*

In their national or local contexts the members of the network focus either on acquiring land through crowdfunding, private investments and other financial tools; engaging with local authorities to bring them to support access to land; or making arrangements with land owners willing to give access to their land with conditions that are favourable to organic growers. Although the scale of operations of organisations vary, they all make a valuable contribution to strengthening links between rural and urban areas and freeing land from the commodity market to be preserved through sustainable agro-ecological management powered by local communities. The Network aims at reconsidering land as a common good where citizens, farmers and public authorities collaborate.

Inspired by this initiative? Read more about it online and/or share it!

Technology: smart farming?

Biotech, nanotechnology & synthetic biology

By 2030 genetically-modified (GM) crop technology will seek to expand types of crops able to be modified and the traits able to be transferred to the crops. Given the current uncertainty over safety and the wider environmental consequences of these crops, it is likely that the pressure from civil society will continue creating barriers to the adoption of GM technology in Europe. Currently, only one crop is allowed for cultivation in the EU: MON810 is a type of maize that produces an insecticide protein against the corn borer. Within the EU, it is mostly grown in Spain.

Nanotechnology – manipulation of matter at a scale from 1 to 100 nanometres – is rapidly developing in terms of market growth and number of patents. In the food sector this technology promises to improve food packaging and bioavailability of certain ingredients, manufacture new tastes, and enhance disease and pest control.

The convergence of nutrigenomics science, biotech and the pharmaceutical industry is likely to continue in the future bringing new or enhanced foods with health-promoting or disease-preventing properties to the ageing and illness-prone population of Europe. Advances in synthetic biology could speed up the adoption of artificial meat produced with tissue-engineering techniques.

Crop sensors, drones & agrorobots

Agrorobots, or farmbots, could take the automation of farming to the next level. Robotics for harvesting, fruit picking, ploughing, soil maintenance, weeding, planting, and irrigation, are expected to become mainstream in 2020 and financially viable on farms starting from 2021.The application of fertilizers and pesticides in conventional agriculture will be more

targeted and timely. The nature of pesticides and insecticides is likely to be altered too through the use of slow-release nanomaterial-based products. Drones will be able to identify crop health across the field while special collars will collect livestock biometrics signalling any irregularities or health concerns.

Digitalisation & ICT

In 2030 the digital revolution will be in full swing resulting in a total convergence of core technologies and tools that will be available without barriers or limits. Further development of ICT (information & communication technologies) will have an important impact on the farm practices and structure as well as potentially on the ways the whole food chain operates. The Internet of Things will generate big data, while the replacement of information system at farms with apps will allow the full-scale tracing and tracking of all products, and contribute to the spread of direct farmer-to-consumer markets. The large amounts of data collected with the help of new tools are expected to be much more integrated at the farm level allowing for a seamless exchange between farmers, their business partners and consumers. Cloud technology is already making data sharing easier and will lead to the development of Facebook-like platforms for the exchange of information between all parts of the agro-food chain actors in a standardised format (Ibid.).

Alternative proteins: insects & microalgae

As an alternative solution to conventional livestock and feed sources, the consumption of insects is gaining ground. The environmental benefits of farming insects for food and feed come from their high feed-conversion efficiency and the possibility for rearing on organic side-streams (human and animal waste). In addition, insect farming generates fewer greenhouse gas and ammonia emissions and requires significantly less land and water. Increasingly, microalgae could potentially be a viable and sustainable source of food ingredients that would replace vegetable oils, provide protein and deliver health benefits to certain food products. The breakthrough in this sector depends on the developments in production technology, research and consumer interest.

Inspiration from the supply chain: Linking growers and consumers across the world

WHAT: *Online transparency system*

WHERE: *Netherlands*

WHO & HOW: *The Nature & More foundation has developed an innovative approach to tracing the origin of its products back to the growers of a specific product and their personal stories and sustainability efforts. Products that are part of the Nature & More Trace and Tell System bear a three-digit code which, when entered on the Nature & More website, provides information on the producer, including a short personal video story. By clicking on the petal of the foundation's "sustainability flower" logo, consumers can learn how the grower delivers on various dimensions such as energy, animal welfare or wellbeing of people. The information provided is either qualitative or quantitative (e.g. Carbon Footprint) and verified by independent institutions, like TÜV (German Technical Control Board).*

Inspired by this initiative? Read more about it online and/or share it!

Society & economy

Global food trade: shifting power balance

In the future we might see emerging economies taking the lead from Europe as exporters of higher added-value products and upsetting the current balance of power in the global food trade. This change might result in European standards becoming less relevant at a global level as the new leaders from Latin America, Africa and Asia have a larger say in food standard-setting. At the same time, further globalisation of the food trade is likely to drive forward the number of regional free-trade agreements, lowering trade barriers, expanding the global trade in food and feed and increasing competition globally. As a result, further consolidation of companies into large transnational corporations could be expected, including the appearance of powerful players from emerging economies.

Population changes

Our world is getting bigger. There will be eight billion of us by 2030 and over nine billion by 2050. A growing population goes hand-in-hand with increasing food demand. By 2030 food demand is expected to rise by 35%. The demand for meat products alone will be boosted by 76% because of economic growth in developing countries and the growth of a global middle class. Yet in Europe the population is projected to decline from 525 million in 2035 to 517 million in 2060.

Due to lower birth rates and increased life expectancy, the EU population is also projected to continue ageing, with the share of the population aged 65 years and over rising from 17% in 2007 to 24.6% in 2030. Numbers of young farmers in the EU are reported to be in decline, and so is the share of agricultural land farmed by young people. At the same time, the rise in chronic disease in Europe is expected to continue to 2030, increasing mortality and disability rates as well as pressure on the social security systems.

As a consequence of the ageing population and other factors there will be more single-person households in the world, and in Europe in particular. In absolute terms, by 2020 the proportion of one-person households is projected to rise to 13% globally (up from 11.8% in 2006). In Europe this figure is even higher: 46% of all households in France, 40% in Germany and Norway. In the future, single-person household consumers might increase in importance due to their rapidly growing numbers and impact on consumer lifestyles, such as demand for convenience and healthy food, for example.

Back to the roots: vertical farming & urban agriculture

Urban agriculture is an integral part of the food supply and income for hundreds of millions of urban dwellers globally. In recent years interest in urban farming has been growing across Europe, with community, rooftop and vertical gardens as well as edible parks popping up in all major European cities. According to recent estimates, around one third of the total global urban area would be needed to meet urban dwellers' vegetable demand. As a response to growing food demand, urbanisation and the need for new productive soils, vertical farming is expected to be mainstream and financially viable in 2027. While traditional farming will continue to prevail, vertical farming could play an important role in contributing to urban food security, allowing year-round production and reducing food miles.

Collborative consumption & reputation economy

Communication technologies, the global recession and environmental concerns are changing the way we consume and behave in economic terms. We are increasingly moving from hyper consumption to collaborative consumption. Practices of collaborative consumption include bartering, lending, peer-to-peer trading, sharing and swapping. Nowadays it is the functionality of a product or access to an experiential service that matters most when a product or service is consumed, not the physical ownership of a product. This model of consumption holds considerable promise for the future in terms of its environmental, social and economic impact as consumers transform into users and active contributors.

The growth of online swapping, lending and trading has direct implications for the nature of the economy as a person's online history, backed up by online and offline behaviour, has the potential to become more important than their credit history. This means that the reputation that we gradually build up through renting apartments, commenting on social media platforms, or through the quality of our products and services (e.g. organic box schemes) could be a reliable reflection of an individual's trustworthiness and in certain cases, even a predictor of future behaviour as well as a stimulus for future activity. Rating systems, present on almost all online commercial or non-commercial platforms, are a good indication of the growing value of reputation.

This trend potentially signals that the economy is being reoriented from a traditional risk-based approach to one relying more on trust and reputation.

While personal reputation has always been important in socioeconomic terms, before the advance of peer-to-peer technologies it was based mostly on face-to-face interactions. Nowadays and in the future, trust and reputation can be built and sustained easily between total strangers regardless of their geographical proximity.

Inspiration from communities: farmer-consumer cooperation

WHAT: *Community-supported agriculture (CSA)*

WHERE: *Finland*

WHO & HOW: *The CSA movement has been growing in Europe in recent years, with around 4,000 farms and 400,000 consumers in 201346. While the CSA schemes vary, the overall principle is to share the risks and benefits of farming between farmers and consumers. In Finland, instead of reaching an agreement with an existing farm as most typical CSA schemes would do, the Herttoniemi food co-operative rents a field and employs professional growers, or 'personal farmers', who produce vegetables for the coop from early summer to late autumn. To be part of the coop, consumers pay a membership fee and a yearly harvest fee. In addition they spend up to 10 hours per year either working in the field, at a distribution point or helping out with administrative tasks.*

Inspired by this initiative? Read more about it online and/or share it!

Potential risks & opportunities for the organic sector

Figure 4: Future trends & uncertainties –
Implications for the organic sector

TRENDS/ UNCERTAINTIES	RISKS	OPPORTUNITIES
Climate change	· Harvest failures · Increased use of external inputs to ensure yield stability	· Proof of resilience and mitigation potential of organic farming practices
Ecosystem services	· Water scarcity · Loss pollinators · Soil degradation	· Better soil and ecosystem services through organic practices
Energy resources	· Contamination of soil, water & crops · Loss of agricultural land (fracking) · Climate change exacerbated · GMO contamination	· Alliances with civil society actors that oppose fossil fuel explorations · Greater use of renewable energy improves sustainability · Higher oil prices increase organic competitiveness
Land pressure	· Limited access to land for new farmers · Rural deprivation	
New technologies	· Loss of consumer interest in fresh, non-modified & natural products	· Consumers look for products & processes free from genetic and excessive technological manipulation
Robotics		· Improved weed, disease & pest management · Reduction in labour
ICT	· Restricted access due to corporate control of new platforms · High cost of new tools	· Transparency in the supply chain · Collaboration & direct contact between producers & consumers · Simplification of certification
Digitalization	· Lack of digital skills can affect senior farmers	· Satisfaction of consumers need for real-time communication · Offline communities and sensory experiences
Corporate consolidation	· Large number of small and medium sizes organic farms turned into large scale, multinational holdings · Dilution of organic principles & weakened standards · Loss of consumer trust	· Better links between rural & urban areas · Stronger farmer-consumer relations & short supply chains
Ageing & health	· Not enough young farmers · Practical knowledge not passed on	· Expanding market for new, health-conscious consumers · Organic seen as contributing to a healthy diet and disease prevention · New marketing concepts for elderly people
Growing global population	· Pressure from governments & industry to increase high input agriculture to cope with growing world population · Difficulty meeting the demand for organic food	· Food waste & eco-functional intensification on the political agenda
Urban agriculture & vertical farming	· Rapid spread of energy-intensive and/or high-input vertical farming	· Alliances with new movements · Urban agriculture follows organic principles · Rural tourism helps diversify income
Collaborative consumption & reputation economy	· Loss of relevance of certification for certain consumers	· Consumers redefined as contributors and more engaged with farmers

WHAT MIGHT THE FUTURE LOOK LIKE? SCENARIOS TO 2030

Our vision 2030 is what we, as an organic movement, are aiming for. However, to what extent we can achieve it, and more importantly with which strategies, depends also on the future framework conditions. The trends and uncertainties reviewed in the previous chapter are the key ingredients of the future. In order to make strategies and plans for the future, any organisation or movement needs to make the assumption that something is predictable. If the future is totally uncertain then planning ahead is a waste of time. A foresight tool, capable of separating what is predictable from what is highly uncertain, is therefore a fundamental element of any strategic process aiming at robust decision-making. Scenario analysis provides such a tool, enabling a number of possible alternative futures to be imagined, described, and eventually evaluated.

A scenario describes a set of events that might reasonably take place. Scenarios can be considered as hypothetical images of the future, which describe the functioning of a system under different conditions with a certain degree of uncertainty. While predetermined trends are reflected in all scenarios in the same predictable way, uncertainties play out differently and shape the scenarios. Uncertainties are, therefore, the key to building useful scenarios of the future.

In an intensive two-day workshop in Rome, participants with expert knowledge and a visionary outlook identified the two fundamental uncertainties with the most impact for the sector:

- Political (in)stability, closely linked to the economic and regulatory environment.
- The (in)compatibility of technologies with the concept of sustainability and organic farming principles.

These two uncertainties play out differently in different scenarios, reflecting potential directions in which future might develop:

Figure5: Key uncertainties for building the scenarios

UNCERTAINTIES	POLITICAL STABILITY	POLITICAL INSTABILITY
Incompatible technologies	i-Food	Phoenix
Compatible technologies	When all goes well	Organic vs Eco-Tech

To write the scenario storylines, the workshop participants considered consumer behaviour and the state of ecosystems as important groupings of predetermined trends that could have a significant impact on the overall context.

The four scenarios – equally plausible futures developed by workshop participants – were an important milestone in the organisational learning process leading to the vision. They are part of the framework conditions for the organic sector in 2030 and will serve the purpose of a test-bed for future strategies and plans.

Scenario 1: i-FOOD

Political, economic & regulatory environment

By 2030 technological breakthroughs and the creation of a digital single market helped the EU to rebalance its economy and take the global lead in digital technologies. As a result, the EU also managed to overcome its political crisis and the threat posed by Euroscepticism. The EU was able to return to growth thanks to structural reforms designed to make decision-making more efficient and to a range of smart investment strategies. The enlarged EU of 32 member states has signed privileged partnership agreements with the US, Russia, Ukraine and Turkey. As a result, these countries can easily access the enlarged EU single market, with none of the trade barriers imposed by the CAP, meaning that cheaper agricultural products can now enter the EU market with relative ease. This has led to a drop in farm-gate prices and made it difficult for small and medium-sized EU farmers to stay afloat, at the same time as the multinational agro-food industries have benefitted considerably, notably from the rise in export opportunities.

Consumer behaviour

Increased corporate power heavily influences public opinion and consumer preferences. As the middle class grows, more consumers are interested in the health attributes of food and are able to afford products that meet these requirements.

To meet the growing consumer demand for “healthy foods” that help prevent and treat illnesses, there is a growing convergence between conventional food producers and the pharmaceutical, biotechnology and ICT industries. As a result, the share of functional foods that claim to solve health problems while offering optimal nutrition increases substantially. The elderly, who now account for 40% of Europe’s population, are particularly interested in these foods that promise to solve their health problems. Some consumers influenced by health arguments buy less fresh fruit and vegetables.

Advances in ICT, together with a change in working patterns and an increased retirement age, result in longer but more flexible working hours, with a possibility of telecommuting for most office workers. As a result, more people move to rural areas, freeing up space for urban agriculture in the cities and reviving the connections with farmers in rural areas.

Energy, technology & ecosystems

With several trade agreements in force, GMOs are spreading rapidly along the food chain in the EU, leading to increased contamination of organic food. Legal battles over crop contamination with GMO seed companies become widespread. Farmers are largely dependent on agricultural corporations, as farm-saved seed is banned through bilateral agreements. The diversity of crops grown in the EU decreases and fuels further loss of biodiversity.

> *"I'd like to see an organic Europe. I'd like to see a Europe that has phased out the use of all pesticides and that has completely prohibited GMOs. I'd like to see that the EU commission and all governments actively support organic agriculture as the mainstream agriculture in Europe."*
>
> **Andre Leu – IFOAM Australia**

Cheap fossil fuel energy from shale gas and oil in Europe, and a preferential price on gas and oil from Russia, keep energy demand high. Synthetic inputs are widely accessible to conventional farmers. Thanks to the use of nanotechnology in food production and processing, residues of pesticides are eliminated almost entirely from the end product. Food systems become almost entirely technology-based to satisfy consumer expectations of pesticide-free and nutrient-enriched food. As a result, production systems focus more on the quality of the final product than on the sustainability of the production process, making process-based approaches such as organic less relevant.

Thanks to increased lobbying from the biotech and fossil fuel industries, most public research funding is invested in new technologies such as nanopesticides, robots, genetically designed food, etc. with the aim of boosting production despite land limitations.

At the same time, increased energy and food demand have accelerated ecosystem degradation and climate change. Crop productivity suffers from sudden natural disasters leading to a reduction in farm incomes and volatile food prices. Ecosystem degradation, together with land pressures from land grabbing, energy extraction through fracking, biofuels production and the cultivation of GMOs, make small farmers' access to land very difficult. Corporate power holds patents and intellectual property rights over new manufacturing and communication technologies and controls most access to land.

Scenario 2: Phoenix

Political, economic & regulatory environment

Decades of economic stagnation, unemployment and the rise of radical political movements all over Europe culminate in some countries leaving the EU. With each exit, conformity within the EU begins to disintegrate. Countries start bypassing EU rules on deficits and economic governance and this brings further economic divergence. As funds run short, policing and enforcement of existing regulations weaken, the EU institutions lose the capacity to enforce the rules and deregulation increases in order to accommodate the few countries that still remain. CAP payments at the EU level are phased out and finances for agricultural research are minimal both at EU and national level. Responsibility for agricultural policy is returned entirely to national governments, leading to huge disparities in agricultural support measures in different parts of EU.

On a global scale, the EU lags behind in the areas of technology, economy and trade compared to the US, China, India and Latin America. The lack of free trade agreements and high export barriers for agricultural products mean that organic production is mostly destined for domestic markets.

Political instability also leads to a less well-functioning internal market, giving room for protectionism, tariffs, duties, border controls and legislative barriers. The EU single market is severely fragmented. Less frequent inspections due to weaker institutions lead to increased cases of fraud in the organic food market, eroding consumers' trust.

> *"I feel that in 2030 people all over Europe at least will be able to choose between organic food and conventional food but that they will be more certainly aware of the fact that conventional food is just too expensive. It is much better for the*

community, for nature, for the whole world to use more organic and less conventional. This is where I think we are heading and we are working hard to get there."

Margus Lille – Estonian Organic Farming Platform (Harju Mahetootjate Uhing)

Consumer behaviour

Social unrest due to failed austerity policies shakes some EU countries. Consumption becomes polarised as fresh fruit, vegetables and meat become increasingly inaccessible for low-income groups, while the share of the population with highest incomes pays premium prices for fresh, non-processed foods. The medium price segment becomes less important. As a result, a two-stream market expands in which value-driven consumption (Fairtrade, organic, etc.) goes side-by-side with a cost-driven consumption offering good quality products for a low price. The two-tier organic market is evident at continental level too: the wealthiest countries have a larger and more regulated market than the poorest ones.Urban agriculture becomes widespread as citizens start reclaiming unused spaces in the cities and managing them in common.

Urban farmers and Community Supported Agriculture initiatives take the lead in local "alternative" food systems, while third-party certification is no longer the core of organic development. These new niches, being taken up in urban and semi-urban areas, are either non-certified or use alternative approaches such as Participatory Guarantee Systems.

Energy, technology & ecosystems

Difficult relations with Russia, on the one hand, and advances in energy production technology in the US, on the other, push the EU to develop shale gas and other fossil fuel energy sources. Driven by developments in the US and the weakness of the EU institutions, technologies such as GMOs, nanotechnologies and biofuels are commonplace in the EU. Some countries with strong anti-GMO movements manage to ban them through national laws while others allow the cultivation of GMO crops on their territories, which leads to the contamination of organic crops and makes it hard to access new land for organic farming.

Technological developments in the areas of automated equipment, sensors and nanotechnology lead to the improvement of final agricultural products: pesticide-free, additive-free food products are now the norm and are licensed to trade. A shift to a "clean label" – an alternative to organic – is based on a "tick-box compliance" approach pushed forward by corporate actors.

Most farmers are locked into new agro-technological production methods because low energy prices and technological developments supported by private and foreign investors make synthetic inputs much more accessible. To stay competitive in the unfavourable political and economic environment, farms have to be at the cutting edge of technology. However, access to and exchange of data is controlled by IT companies or transnational corporations, making it expensive for less well-off farmers to be part of digital networks. Only capital-intensive farms are able to benefit from the big data developments.

As a result of intensive exploration and use of fossil fuels, climate change accelerates, leading to dramatic and unpredictable changes and shocks in some regions, disrupting harvests and causing price spikes for some commodities. Agricultural yields in south and central Europe become even more unpredictable. New pests and diseases also reduce crop yields. However, less industrialised organic farms are better able to support the local availability of food, although unevenly, thanks to the better resilience of agro-ecological practices.

Scenario 3: Organic vs Eco-Tech

Political, economic & regulatory environment

By 2030, the EU managed to avoid the breakup of the Union and the Eurozone but the long-term problems of unemployment, rising government debt, financial instability and low growth remain unresolved. Economic convergence within the EU has not been achieved, leading to scattered and fragmented markets, which in turn lead to severe disparities between the regions.

The CAP has remained in placed although payments have been cut drastically due to the economic crisis. Responsibility for agricultural policy is returned to national governments, leading to huge disparities in agricultural support measures in different parts of the EU. Due to a major food scare in several countries outside the EU, free-trade agreements failed and trade restrictions were imposed on food: GMOs are banned. Organic farming is overregulated and oriented toward industrialised farms making it hard for new entrants and existing small-scale farms. Advances in precision farming and robotics that can help reduce environmental impact mean that policy support shifts to integrated pest management and sustainable intensification.

Consumer behaviour

As the EU population is ageing rapidly, health costs become a major burden for social security in most countries. The need to work longer, combined with improved life expectancy, create a strong incentive to stay healthy in order to increase quality life years. A variety of eco products with health benefit claims is available on the market to cater for growing consumer demand.

Consumers are confused because of the proliferation of eco-labels that compete on the supermarket shelves. Reputation economy influences consumer choices: while providing good publicity for the organic movement, there is still a consumer elite that seeks trusted sources of information to understand what's happening with the organic label.

> *"In 2030 we have a stronger market, we have 15% of the market in Europe. We have a stronger organisation, united politically, and we have a different agricultural policies at the national and European levels, promoting organic farming on the market, in the fields, developing it and enriching it".*
>
> **Paul Holmbeck – Organic Denmark**

Overall, the demand for organic products varies according to the socio-economic situation in Member States: it is on the rise in the economically stable states and stagnates in states hit by economic difficulties and unemployment. The spread of urban agriculture and Community Supported Agriculture initiatives in the cities and peri-urban areas helps promote non-certified or only regionally certified organic production. There is a real threat that the organic sector may lose its identity.

Energy, technology & ecosystems

Following scientific findings revealing the long-term negative environmental impacts of GM plants and their subsequent rejection by consumers, GMO cultivation is abandoned almost entirely, including in the US. Difficult economic and political relations with Russia force the EU to invest more in renewable, decentralised energy and energy efficiency, including solar power installations in Northern Africa, wind farms in the North Sea and the production of biogas.

Fossil fuel prices are steadily rising, leading to increasing synthetic input prices. Conventional farms try to reduce the use of inputs and look more to agro-ecological practices to stay in business. Farmers who converted to organic overcome the administrative obstacles of the EU regulation by means of regional certification. Growing conversion to organic farming increases the pressure to harmonise certification and standards at EU level again, though third-party certification is no longer seen as a viable solution due to the cost and the diversity of standards at a regional level.

The environmental performance of conventional agriculture improves due to the use of green energy sources, combined with lower input use thanks to precision farming and high prices for synthetic inputs. As a result, there are fewer greenhouse gas emissions from farming. Climate change manifests itself in a limited increase of temperature, which improves yields in Northern Europe without causing dramatic disruptions in the southern areas. As climate change drops off the political agenda and conventional agriculture's environmental impact improves, organic farming struggles to keep its separate identity in the face of more sustainable "conventional" agricultural practices.

Green energy is widely available in the EU and many farmers start producing biogas, further decreasing their energy costs. Industrialised, corporate-led farms are the first to start using robots and sensors, while small farms need to find financial

schemes that will allow them to lease the equipment rather than own it to avoid big upfront investment costs. To do so, farmers need to be tech-savvy and connected to various consumer networks.

At the same time, broadband connections reach even the most remote rural areas and family farms benefit from direct farmer-consumer market opportunities via apps and online platforms. Farm data integration leads to the possibility of tracking the full history of a product and allows for the real-time visualisation of products' movements along the whole food chain. The pressure from the global Internet movement keeps ICT tools and data exchange platforms free and accessible to all farmers.

Scenario 4: When all goes well

Political, economic & regulatory environment

By 2030 the EU manages to overcome its financial and political crises through gradual federalisation that results in a centralised EU government and a wide free-trade area with other international partners. The EU organic regulation supports the sector's needs in the form of clear rules and a reformed CAP: payments for ecosystem services that farmers provide totally replace subsidies. This approach pushes conventional farms to take up agro-ecological practices and significantly improves their environmental performance. At the same time, the CAP ensures strong investment in value chain development while public and private research funding helps reduce the yield gap between organic and conventional agriculture.

Trade agreements with neighbouring regions including Russia, and with the USA and China, allow for more products to be sold on EU markets and ample export opportunities for EU producers. Thanks to technological developments and free-trade agreements that eliminated trade barriers, the EU agro-food industry has become highly concentrated, specialised and competitive on the global market. While this development especially benefits big players on the market, thanks to policy innovations in CAP, small and medium-size farms continue to exist. Upper limits on land ownership introduced in most EU countries help discourage land concentration and land grabbing and protect family farms.

> *"My vision for organic in 2030 is that we have many organic businesses in the rural areas that have vibrant and good businesses made out of selling their organic products, providing beautiful landscapes which tourists can enjoy, participating in renewable energy schemes and really very actively contributing to the livelihood of rural areas."*
>
> **Susanne Padel – Organic Research Centre (UK)**

Consumer behaviour

Rising GDP and living standards across the EU, as well as increased mobility between countries around the world, leads to more homogenised food markets and foods. Fast-paced technological development allowing people to travel more and work on the go fuels a demand for ready-made foods. New processing and packaging techniques make fast food fresh, tasty and with no excessive fats or sugars. Europe's increasingly ageing population also benefits from the availability of small-portion processed foods that are conveniently packaged and have all the benefits of unprocessed foods. The EU promotes healthy nutrition and lifestyles, fuelling demand for healthy products, among which organic is still visible.

The variety of organic and other similar "green" labels is confusing for some EU consumers. As a result, they favour long-established brands while others increasingly value locally produced fresh food rather than products shipped from overseas.

Organic products are easily accessible for mainstream consumers in regular supermarkets. However, certain groups of consumers are put off by corporate involvement in organics as well as the long supply chains typical to the conventional food system. These consumers increasingly turn to alternative food movements and production systems. Urban agriculture initiatives, Community Supported Agriculture and different types of box schemes in urban areas are popular among

concerned consumers.

Energy, technology & ecosystems

Strong civil society resistance to GMOs, biofuels and fracking helped introduce bans on these types of energy and gave extra support measures to green renewable energy. Given the developments in precision farming, robotics and sensors, and cheap green energy, as well as a green value-added tax (VAT) introduced across the EU, all agricultural products have become cleaner and impacts on the environment from conventional agriculture have been minimised. The green VAT, based on life-cycle assessment and the availability of reference data across value chains, made true-cost accounting a reality in both the food sector and others. Food waste across the whole value chain has been minimised with the implementation of circular economy principles and sustained education campaigns.

With legislation ensuring minimum standards across the whole agricultural sector, corporate actors lead mainstreaming and scaling up of organics: industrialised farms using the latest technology and integrated in big data exchange platforms dominate in the EU and compete on the global market. Cheap green energy also means that food can continue to be transported over long distances. Thanks to the advance in ICT, the origin of a product can be easily tracked through free downloadable apps.

Innovative support policies attract young people to farming. These ‘digital natives’ are highly IT skilled and entrepreneurial which helps launch new business models based on direct farmer-to-consumer relations and interest in locally produced food. As young farmers set up their farms, rural communities start reviving. However, the land available for agriculture in the EU soon becomes limited; consequently there is a push for innovation in peri-urban and urban agriculture. Young farmers typically use organic practices but do not seek certification due to a sufficient customer base that trusts their production methods.

Reduced GHG emissions mitigate climate change effects and the slight temperature increases result in better farming conditions in the north. Thanks to resource efficiency measures and precision farming technology, water in southern regions is used rationally and no scarcities threaten agriculture in these regions, except those caused by the occasional extreme weather event.

WAY FORWARD: FROM VISION TO STRATEGY

IFOAM EU launched the vision 2030 process with the aim of providing direction and orientation to the organic sector. The results were presented at the 9th European Organic Congress (EOC) in Riga in June 2015. While the presentation in Riga is an important milestone, it is merely the starting point: the conference was the occasion to start the ball rolling on developing the strategies making our vision a reality.

An ambitious vision is a good starting point to make Europe more organic but we also need a clear and dynamic strategy – a roadmap for achieving the vision without compromising our values and principles. The process of strategic planning has already been prepared during the vision process by closely examining the external and internal environments of the organic movement.

The next steps will be:

- Discuss and develop goals and strategic options at the 9th EOC in Riga. Assess which options are successful only in certain circumstances and which ones are robust and future-proof in all the scenarios developed in this document.
- The findings of the Riga congress will be compiled and published after the EOC, providing strategic options for different parts of the organic sector, including concrete actions and activities to achieve our shared vision.
- IFOAM EU will further present the strategic options and actions at various national and sector meetings/events throughout Europe to discuss and encourage practical implementation, uptake and fine-tuning of the strategies.
- The results will be actively integrated into the global process of developing and defining what Organic 3.0 will look like, in close collaboration with IFOAM – Organics International.

The result will be robust strategies to help the organic sector bring our common vision to reality and ensure that organic food and farming will remain a driver of change in decades to come.

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