

Planting the future of sustainable food systems in Europe

June 2023

The global climate emergency – exacerbated by the energy and food crises – requires urgent political action if we are to limit the disastrous effects of current production and consumption patterns. Food systems are currently responsible for a third of global anthropogenic greenhouse gas emissions (GHG). Yet, they offer game-changing opportunities to mitigate and adapt to climate change.

Building on its sustainability ambitions, the European Union (EU) has the vital responsibility and unique chance to lead the global transition towards more sustainable and plant-based food systems, which would bring about environmental, social, and economic benefits to the population. To achieve this the EU needs clear, time-specific targets.

The EAPF calls on the EU to set the target of shifting 40% of current consumption¹ of animal-based products to plant-based foods – including plant-based alternatives – by 2030, as part of the overarching principles of the Sustainable Food System Framework initiative and in line with the EAT Lancet Recommendations on Healthy Diets from Sustainable Food Systems.

EUROPEAN LEADERSHIP TO TACKLE GLOBAL CLIMATE AND FOOD SECURITY CHALLENGES

Our current food systems are a major driver of climate change and environmental degradation, one of the main reasons being the high consumption of animal-based products such as meat and dairy. For example, food production is responsible for 70% of freshwater use², a third of which is related to the production of animal-based products, namely to grow crops for feed and to raise livestock. That leads to biodiversity loss³ and excessive land use: in the EU alone, at least 71% of farmland is devoted to feed livestock⁴.

In addition, the aftermath of the COVID-19 pandemic and the ongoing war in Ukraine have caused energy and food crises that further expose the vulnerability of global and European agri-food supply chains. In this context, accelerating the transition towards more sustainable, plant-centric food systems is crucial if Europe is to strengthen the resilience of its agri-food sector, ensure food security, and meet its climate neutrality goals.

¹ Baseline: 2021 data from the [OECD/FAO Agricultural Outlook 2022-2031](#)

² Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

³ [Food system impacts on biodiversity loss: Three levers for food system transformation in support of nature](#), Chatham House, 2021

⁴ Greenpeace. (2019). [Feeding the Problem: the dangerous intensification of animal farming in Europe](#).



Fostering more plant-based diets⁵ is an essential part of a successful transition, in line with the ambition of the EU Farm to Fork Strategy to make food systems more sustainable^{6,7,8}. Yet, despite more and more people opting for plant-based foods –out of medical, health, environmental or ethical concerns⁹–, the European population still overconsumes animal-sourced foods¹⁰. This imbalance has adverse effects on both human health and the environment, and needs to be adjusted by producing and consuming **more plant-based foods – foods made from vegetables, grains, pulses, nuts, fungi, algae, including alternatives to animal-derived foods – and giving them a more central role in our diets.**

The current EU agri-food policy lacks proper incentives to support this transition. Through the Sustainable Food System Framework, the European Commission has the opportunity to make its commitment concrete by **setting clear goals for sustainable diets.**

EAPF therefore calls on the EU to set the target of shifting 40% of current consumption of animal-based foods¹¹ to plant-based foods and plant-based alternatives by 2030, as part of the overarching principles of the Sustainable Food System Framework initiative and in line with the EAT Lancet Recommendations on Healthy Diets from Sustainable Food Systems¹².

Establishing such a target would translate the ambition of the Farm to Fork Strategy for a shift towards more plant-based diets into a concrete objective, contributing to:

- Cementing the Strategy's **formal recognition** of the role of plant-based foods in the transition towards more sustainable diets and in strengthening food security¹³;
- Establishing the basis for introducing **supportive and inclusive policies**, and incentivising all stakeholders from the different segments of the value chain – including innovative actors in the plant-based food sector as well as political institutions at different levels of governance – to contribute to the development of a more plant-centric food system that is healthier, more resilient, and more sustainable.

WHAT IS A SUSTAINABLE FOOD SYSTEM?

Food systems encompass the entire range of interdependent actors that compose the agri-food value chain, starting with land farming and manufacturing, through to consumption and food waste management. Against this background, a **sustainable food system** is defined by the FAO as “a food system that delivers food security and nutrition for all in such a way that the economic, social, and

⁵ “Diets composed of foods made from vegetables, grains, pulses, nuts, fungi, algae, including alternatives to animal-derived foods”

⁶ IPCC Sixth Assessment Report, [Climate Change 2022: Mitigation of Climate Change](#), April 2022

⁷ European Commission: [A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system](#), 20 May 2020

⁸ NewForesight, “[A pathway to plant our future](#)”, December 2022.

⁹ SMART PROTEIN: [Europe’s plant-based food industry shows record-level growth](#), March 2021

¹⁰ Searchinger, T., Waite, R., Hanson, C., Ranganathan, J., Dumas, P., Matthews, E., & Klirs, C. (2019). [Creating a sustainable food future: A menu of solutions to feed nearly 10 billion people by 2050](#). Final report.

¹¹ Baseline: 2021 data from the [OECD/FAO Agricultural Outlook 2022-2031](#)

¹² Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

¹³ European Commission: [Drivers of Food Security](#), January 2023



environmental bases to generate food security and nutrition for future generations are not compromised. This means that:

- It is profitable throughout (**economic sustainability**);
- It has broad-based benefits for society (**social sustainability**); and
- It has a positive or neutral impact on the natural environment (**environmental sustainability**)¹⁴.”

Our current food systems are a major driver of anthropogenic global GHG^{15,16}. At least 15% of net GHG emissions in the EU are related to food production¹⁷ (CO₂, methane, nitrogen, etc.) and predominantly to animal-based products¹⁸. At the same time, we have seen more alarming climate events and supply-chain disruptions over the past few years, at a scale and frequency never recorded before. Food systems will increasingly need to be able to handle both unpredictable events and radical long-term environmental and social changes.

We therefore need to move from a *modus operandi* predominantly pursuing short-term economic considerations¹⁹ (i.e., quick market valorisation) to a paradigm where the economic, environmental, and social impacts of food value chains are properly balanced out. A shift towards **more plant-centric food systems** is a prerequisite for the sustainable food transition to take place.

In this regard, modern consumption habits are deeply rooted into cultural values and norms. That is why supportive policies are needed to enable the dietary shift²⁰. **The EU is a key political actor setting the framework and goals of agri-food policies across Member States**, which shape market conditions for food businesses and value chains. **The EU thus plays a vital role in accelerating the transition – with clear, timebound targets**. Some Member States have already recognised the importance of targets as a mechanism to trigger action, and have set inspiring examples for a common European vision (see Annex).

RECOMMENDATIONS FOR RESILIENT AND SUSTAINABLE FOOD SYSTEMS

Food system transition requires changes to both production and consumption patterns. The European Commission’s Joint Research Centre recognises that “to shift towards more plant-based diets, not only does production need to make sure that the relevant foods are available and appealing, but the consumers also have to be willing, able and knowledgeable about how to prepare attractive meals with these foods, in a way that is compatible with the necessary cultural and social parameters corresponding

¹⁴ SAPEA: [A sustainable food system for the European Union](#), March 2020

¹⁵ [Methane reduction potential in the EU between 2020 and 2030](#), CE Delft, June 2022

¹⁶ Crippa, M., Solazzo, E., Guizzardi, D., Monforti-Ferrario, F., Tubiello, F. N., & Leip, A. J. N. F. (2021). [Food systems are responsible for a third of global anthropogenic GHG emissions](#). *Nature Food*, 2(3), 198-209.

¹⁷ EEB: [Cutting Emission from Farming](#).

¹⁸ Clark, M. A., Domingo, N. G., Colgan, K., Thakrar, S. K., Tilman, D., Lynch, J., ... & Hill, J. D. (2020). Global food system emissions could preclude achieving the 1.5 and 2 C climate change targets. *Science*, 370(6517), 705-708. Clark et al..

¹⁹ [Concepts for a sustainable EU food system](#), Joint Research Centre, February 2022

²⁰ International Panel on Climate Change. (2022). [Sixth Assessment Report - Climate Change 2022: Impacts, Adaptation and Vulnerability](#).

to their circumstances²¹. Thus, stakeholders from all segments of the value chain will need to play a pivotal role in the transition.

Consumption

In order to rebalance the composition of diets, the EU needs to create a regulatory framework that is conducive to dietary changes. This requires improving consumer access to plant-based foods through the following:

- **Improving the affordability of sustainable foods**, including plant-based foods. This can be achieved through remodelling the taxation of food products. Many plant-based foods are currently subjected to several levies, including value-added tax (VAT) and consumption taxes²², both of which vary across Member States. In order to make sustainable plant-based foods more affordable, we encourage the European Commission to:
 - 1) Monitor and develop an EU overview of the various costs weighing on all foods and of existing national levies that may disrupt the single market;
 - 2) Engage with Member States on coherent solutions to reduce the cost of plant-based foods for consumers, e.g., by analysing the impact of the Common Agricultural Policy (CAP) interventions on food prices;
 - 3) Adopt EU-wide measures to reduce the cost of healthy and sustainable foods. Possible examples include rebalancing EU farming subsidies. Those currently create market distortions as they incentivise the production of emission-intensive products such as meat and dairy²³, instead of supporting more sustainable products and processes, including plant-based foods. Reshaping national taxation instruments would help integrate those sustainability costs in the final price of products. VAT could be a prime example where good practices would involve a 0% VAT rate for fruit and vegetables and an equal VAT rate for both animal-based foods and their plant-based counterparts. Such measures have been endorsed by the European Parliament²⁴ and are gaining increasing support among consumers.²⁵
- **Making plant-based foods more accessible via clear labelling and proper identification** at points of sales (e.g. supermarkets) and in direct-serving environments (e.g. canteens, restaurants). Several actions that can facilitate the accessibility of plant-based foods, from having a recognisable location in supermarkets alongside animal-based alternatives to implementing adequate consumer communication via food labelling. With regards to the latter, it is essential to ensure that plant-based foods can use the same terms as those used on meat and dairy products – in combination with a plant-based qualifier – so as to provide clear and transparent

²¹ Bock, A., Bontoux, L., Rudkin, & J. (2022). Concepts for a sustainable EU food system.

²² As of 1 January 2024, the NL will increase the consumption tax for non-alcoholic beverages to € 26.13 per 100 liters. The scope of the tax includes all non-alcoholic beverages (incl. the majority of plant-based drinks) except mineral water, milk and soy milk.

²³ [A Multi-billion dollar opportunity: Repurposing agricultural support to transform food systems](#), FAO/UNEP, September 2021

²⁴ [EP own-initiative report on the Farm to Fork Strategy](#), October 2021

²⁵ [57% West-Europeans support a meat tax - if healthy food will be cheaper](#), TAPP Coalition, March 2023

information about a product's usage and its composition, as well as information about its environmental impact.

- **Promoting plant-based foods as the default option.** Criteria for sustainable public procurement need to be strengthened in order to improve consumer access to plant-based diets. Exposure to foods offered in public sector catering (e.g., schools, universities, public hospitals, and other public institutions) is recognised as an effective way to educate children and adults about sustainable and nutritious diets, creating healthy habits and empowering long-term behavioural change. In this context, plant-based products alternatives to animal-based foods (e.g. plant-based meat, plant-based drinks) have an important role to play in boosting the transition to more plant-based diets, as they are highly compatible with existing food habits and can be easily integrated in consumers' daily consumption patterns²⁶. While this is a competence of Member States, the EU can contribute to converging national policies by defining a common mandatory threshold for plant-based foods and alternatives to animal-based products in public procurement across EU countries.
- **Making plant-based foods more central in national diets.** The EU can play a crucial role in fostering the uptake of more plant-based foods and plant-based alternatives in national diets by, for example, coordinating with and guiding Member States in revising their national dietary guidelines in terms of both sustainability and nutrition aspects, thus building on the work of EU countries such as Denmark²⁷ and Sweden²⁸, which have already taken such an approach and promoted more plant-rich diets.

Production

Food producers have a direct role to play, as the transition to sustainable food systems is dependent on production and processing. Achieving the above-mentioned target calls for enhancing stewardship at all stages of the supply chain. This means:

- **Fostering research and development (R&D) in the food sector.** The EU and its Member States need to foster sound R&D funding framework that effectively enables the plant-based food and protein sectors to develop and contribute to tackling climate change, improving the well-being of European citizens, and securing sufficient food for a growing world population. To do this, the Commission and Member States need to:
 - 1) Increase the budget and funding allocated to research in the field of plant-based alternatives to meat and dairy. Although recognised as one of the pillars to properly enable the food transition²⁹, research and innovation (R&I) in plant-based alternatives remain largely underfunded compared to their animal-based counterparts. For example, within the Horizon Work Programme 2023-2024³⁰, several calls for proposals were fully dedicated to

²⁶ Carmichael, R. (2019). [Behaviour change, public engagement and Net Zero. A report for the Committee on Climate Change](#)

²⁷ [The Official Dietary Guidelines - Good for Health and the Planet](#)

²⁸ [Swedish Dietary Guidelines](#)

²⁹ Systemiq: ["The Breakthrough Effect: How to trigger a cascade of tipping points to accelerate the net zero transition"](#), January 2023

³⁰ [Work programme 2023-2024 Food, Bioeconomy, Natural Resources, Agriculture and Environment](#)

the animal-based supply chain³¹, while plant-based food products only partially fit the scope of some broader calls³². Yet, the EU has thus far significantly supported the development and deployment of sustainable solutions in areas considered key for the net-zero transition. Electric mobility is a telling example thereof: under the 7th Framework Programme for Research (FP7) and the Horizon 2020 Framework Programme for Research and Innovation (H2020) about €3.07 billion were dedicated to such research projects³³. Those investments are part of a broader spectrum of measures aimed at achieving clear, timebound GHG reduction targets in transport. A similar approach should be applied to promote the shift towards more plant-based diets, with tailored EU funding for R&I at all stages of the value chain, from farming to consumption (e.g. focusing on developing new high-quality crops, promoting sustainable agricultural practices such as regenerative agriculture, further improving the sustainability of plant-based proteins, refining the organoleptic and nutritional properties of processed products and reducing their costs, investigating the health effects of plant-based products alternatives to animal-based foods);

- 2) Develop robust data on plant-based product consumption. Current data do not truly reflect the consumption status of plant-based alternatives to animal-based foods (e.g., plant-based meat, plant-based drinks). As a result, drawing firm conclusions the nutrient intake and health impact of plant-based products can be challenging. Future epidemiological research needs to include data on different categories of plant-based products in both its dietary surveys and its data analysis. For this to be possible, global food composition databases should be updated to reflect the evolving offer in the different plant-based food segments.
 - 3) Widen the scope of plant-based foods by including products created through innovative technologies (e.g., ingredient extraction, 3D printing, crop optimisation, ingredients obtained through precision fermentation, microbial ingredients, etc.), which is critical to the food transition and to supporting European businesses in scaling up those solutions.
- **Fostering food crop production.** The EU should rebalance the attention to food crops in its overall agriculture policy. Ensuring consumer access to nutritious and sustainable foods requires better production capacity and more crops and plant-based raw materials directly going into food production. Two key measures would foster this shift:
 - 1) The Common Agricultural Policy (CAP) should be consistent with the EU Sustainable Food Systems Framework (SFSF) and contribute to its objectives. In particular, the criteria within the CAP EcoScheme should align with the sustainability criteria to be developed within the SFSF, which should account for economic, environmental and social elements, including externalities such as GHG emissions from the production chain of commodities sold in the

³¹ Some of the calls for proposal include: “Towards sustainable livestock systems: European platform for evidence building and transitioning policy”; “Agro pastoral/outdoor livestock systems and wildlife management”; “Animal nutritional requirements and nutritional value of feed under different production management conditions”.

³² Some of the calls for proposal include: “New healthy and sustainable food products and processes”; “New detection methods on products derived from new genomic techniques for traceability, transparency and innovation in the food system”; “Microbiome for flavour and texture in the organoleptic dietary shift”; “Impact of the development of novel foods based on alternative sources of proteins”.

³³ [Research and innovation in transport electrification in Europe](#), JRC, 2020

EU market (and produced both inside and outside the EU). This is to ensure that the CAP subsidies are directed towards sustainable agricultural practices.

- 2) The EU should rebalance crop use in order to clearly and significantly support the development of high-quality crops for human consumption. The upcoming EU Protein Strategy should encompass such a commitment and take due account of the importance of protein crops for direct human consumption, including both protein (e.g. soya) and non-protein crops (e.g. grains) when considering both food and feed security³⁴.
- **Supporting the resilience and competitiveness of the EU agri-food sector in a global context.** The impact of global events, including the war in Ukraine, on the EU economy calls for stronger financial support to ensure that the block remains on track with its sustainability ambitions while retaining competitiveness with the rest of the world. In this regard, the EU recently announced its Net Zero Industry Act (NZIA)³⁵ which pays little attention to the agri-food sector, despite its crucial role in the EU economy and its potential to contribute to the objectives of the European Green Deal. In particular, as the world steps up action against climate change, the plant-based food sector will increasingly become of strategic importance for the sustainability and economic development EU agri-food chain: the industry is forecasted to grow to €7.5 billion by 2025³⁶, having reached a retail market value of €5.8 billion in 2022³⁷, driven by growing consumer demand³⁸. The EU has therefore the unique opportunity of supporting the development of the sector, in line with its ambition to become a global sustainability leader.
 - **Promoting agricultural products in line with sustainable food systems.** Alongside the CAP subsidies, other financial support measures should also prioritise sustainable food products, including plant-based foods. For example, between 2014-2020, the EU agricultural promotion policy has about 20% (€ 45 million) of the amount allocated to meat and dairy products (€223 million)³⁹. The EU and its Member States therefore need to revise the rules of agricultural promotion policy and focus the related budget on sustainable foods based on sustainability criteria to be developed within the EU Sustainable Food Systems Framework (SFSF).

CONCLUSION

EAPF and its partners welcome the European Commission's ambition to build sustainable food systems. It is now time for the EU to create a supportive environment and become a leader in the global transition. The huge scope of this transition calls for a clear vision and a time-specific target of 40% shift of current consumption⁴⁰ of animal-based products to plant-based foods and plant-based alternatives by 2030. Only with its sights set on a specific point on the horizon, can the EU and its Member States move forward in the right direction.

³⁴ European Parliament [Question for a written answer](#) by MEP Vandenkendelaere, February 2023

³⁵ [Net-Zero Industry Act](#), March 2023

³⁶ [Growth of meat and dairy alternatives is stirring up the European food industry](#), ING Report, October 2020

³⁷ [Europe's plant-based food retail market insight](#), GFI Europe, April 2023

³⁸ [Plant-based foods in Europe: What do consumers want?](#), SmartProtein project, November 2021

³⁹ ["Marketing Meat: How EU promotional funds favour meat and dairy"](#), Greenpeace, April 2021.

⁴⁰ Baseline: 2021 data from the [OECD/FAO Agricultural Outlook 2022-2031](#)

ANNEX: Examples of best practices from EU countries

The transition towards more plant-based diets is a complex process that requires deep socio-economic and technical changes, implemented by a broad range of actors –from consumers to producers, from farmers to governments. To accelerate this shift and create synergies, transitions can be steered by defining a clear goal and target. The report “[A Pathway to Plant our Future](#)” developed by NewForesight and commissioned by EAPF, Healthy Food Healthy Planet and the Transitie Coalitie Voedsel, provides a blueprint to understand the dynamics and processes needed to advance the transition towards more plant-based diets, highlighting the need for an EU-wide vision. Some Member States have already initiated such process. A few best practices are presented below:

The Netherlands

The Netherlands is among the most advanced EU countries when it comes to initiatives and policies on sustainable food systems. In 2016, industry and NGOs across the country joined forces to establish a shared goal for the ratio of plant-based to animal-sourced proteins. Subsequently, in 2020, the government adopted a national protein strategy, which, unfortunately, mostly focused on feed rather than food and failed to sufficiently link consumption to production. In 2021, the Food Transition Coalition started a campaign and organised an event – ‘Plant-based: the new normal’ – during which a ten-point plan⁴¹ was established. The event gathered over 250 stakeholders, including farmers, NGOs, and representatives from industry and regional and national governments. As a result of united efforts, in 2022, the Netherlands government incorporated this vision into its national food policy, making the political commitment to moving the country’s animal-to-plant-based food- consumption ratio from 60:40 to 50:50 by 2030.

Denmark

Together with NGOs and the industry, the Danish government has defined a national action plan⁴² to invest 1.25 billion kroner (€168 million) in order to advance plant-protein crop farming and plant-based food production, as part of an unprecedented climate agreement for food and agriculture.

Sweden

Sweden adopted its dietary guidelines looking at both the nutrition and environmental aspects of diets. Recommendations view the overall pillars of healthy and sustainable diets as being plant-centric, with more fruit and vegetables and less but better animal-based products. Plant-based alternatives to meat and dairy are recommended as an equally adequate option to replace animal-based products (e.g. fortified plant-based drinks to replace dairy milk; meat alternatives to support reduction of meat consumption).

⁴¹ [Ten-point Plan](#), March 2022

⁴² [Danish National Action Plan](#), October 2021