

Horizon4Proteins Policy Brief

Alternative Proteins: towards a more resilient food system

[Horizon4Proteins](#) represents a rolling collaboration between projects funded under the theme of 'alternative proteins' within the EC's Horizon 2020 and Horizon Europe research programmes. The project consortia represent universities, research institutes, industries and NGOs. The alternative proteins being explored on the projects include plant proteins, insects, microalgae, bacterial single cell proteins, and more.



Successful development of the alternative proteins sector in the EU will require changes to the current regulatory frameworks, to accommodate with evolving market innovations while continuously ensuring that food safety and sustainability standards remain the core concern of policy-makers. **In this policy brief, a number of the Horizon4Proteins projects - [NextGenProteins](#), [Smart Protein](#), [ProFuture](#), [SUSINCHAIN](#) and [LIKE-A-PRO](#) - outline five actions that should be implemented to ensure meaningful development of the EU alternative proteins sector in this regard.** This is an overview document, and representatives of the project may be contacted for further detail on any of the points discussed hereunder.

A challenging context

The EU's food system is currently facing a number of challenges:

- Around 10% of total GHG emissions in the EU come from the agri-food sector, of which **nearly 70% is linked to animal agriculture** (not counting the impact of imported food products). **The European livestock sector contributes 53% of the EU's total anthropogenic methane emissions.**
- The world's population has almost tripled in the 63 years from 1959 (3 billion) to 2022 (8 billion). It is estimated that the population will reach 8.5 billion in 2030 and 9.5 billion in 2050 [1]
- Food systems are becoming increasingly **vulnerable to climate change**, which is exacerbating **food security risks**. By 2050, temperature increases could reduce wheat yields by up to 49% in southern Europe.
- **Food insecurity has severely increased after Covid-19**: approximately 2.3 billion people worldwide (29%) were moderately or severely food insecure in 2021, 350 million more than before the pandemic outbreak [2]. It remains to be seen how conflicts will affect food security.
- Around **20% of all food produced** in the EU is lost or wasted.
- Unhealthy diets are one of the main drivers of **non-communicable diseases**. Only 12% of the EU's population consumes the recommended five portions of fruit and vegetables daily.

- **Farmers' average income** is 40% lower than the average EU wage (2017) and generational renewal is increasingly challenging.

Alternative proteins as an effective mitigation and adaptation strategy

A fundamental transformation of the ways we produce and consume food in Europe is urgently needed. Plant-based whole foods, as well as other alternatives to meat, dairy and eggs, have an important role to play in the shift towards healthier, more circular and sustainable food systems. Due to their lower emissions, resource use, and environmental degradation, the IPCC has identified the shift toward plant-based diets as an important climate mitigation and adaptation strategy. The sustainable alternative protein products and ingredients being developed across the Horizon4Proteins projects are key to facilitating this shift.

Alternative proteins face a challenging policy framework in the EU, making their development and launch complicated and laborious. As a result, alternative protein products may be less readily available and accessible for EU citizens wishing to adopt more nutritious and sustainable diets.

A more positive, comprehensive and supportive policy framework is urgently needed to facilitate the development and scaling of alternative protein production in the EU.

Available policy and regulatory tools


Existing tools can be used to create an improved policy framework for the development of alternative proteins, and more generally, the transition towards more sustainable, resilient and healthy food systems. In this policy brief, we have identified **five main policy and regulatory areas** that could be leveraged to effectively support the development of alternative proteins as an addition to our current protein sources.

Labelling and marketing standards

Create a genuine level playing field by providing improved food marketing and labelling standards for plant-based products and alternative proteins, making them more readily available and accessible to European consumers.

- **Allow conventional denominations for plant-based products**

Currently, the Food Information to Consumers (FIC) Regulation and the Common Organisation of Markets (COM) Regulation prohibit the use of dairy terms like **milk**, **cheese** and **yoghurt** for non-dairy products. Using traditional names and concepts helps consumers understand what taste and texture to expect from a product, and is supported by a majority of European consumers. In practical terms, banning Food Business Operators (FBOs) from



using dairy denominations for plant-based products prohibits the provision of essential health and allergen information (such as “lactose-free alternative to dairy milk”), upon which consumers rely to make food choices that meet their dietary requirements; or hinders a more comprehensive information to consumers about the climate impact of foods, formulated for instance by including a comparison of the carbon footprint of plant-based and conventional dairy products.

- **Introduce EU-wide definitions of vegetarian and vegan food products**

Vegetarian and **vegan** are commonly understood terms used to designate partially or fully plant-based products. However, **there currently exists no common European definition of these terms, and therefore for food products suitable to these categories of consumers. Clear and consistent EU-wide definitions on what constitutes a vegan or vegetarian food product** are needed to enable EU citizens to make informed choices around plant-based food consumption.

- **Establish an EU Front-of-Pack Sustainability Labelling scheme**

Front-of-pack (FOP) labelling has been identified as an effective way to empower citizens to make more informed food choices. A comprehensive **EU front-of-pack sustainability scheme** with a mandatory sustainability label, or **common rules for food sustainability labelling**, alongside a clear and easily understandable nutrition labelling scheme, should be implemented to complement the EC’s Sustainable Food Systems Framework. Additional information could potentially be provided through electronic means (e.g. a QR code linking to detailed information on carbon footprint etc.)

- **Functional natural ingredients**

Simplify the assessment and the marketing of functional natural ingredients with technological properties (**e.g. natural preservatives, colourings**) from plants and microalgae, reducing the burden required for the authorisation of conventional *food additives* (especially for SMEs) or *novel foods*, where applicable. “Natural ingredients” should at least be GMO-free, synthetic substances-free and biodegradable, as well as comply with the highest consumer protection in food safety and environmental sustainability standards.

Public food procurement

Tap into the potential of public procurement processes to facilitate the shift toward more plant-based and sustainable diets, as recommended by WHO and the FAO.

- **Include plant-based foods and other alternative proteins in EU minimum criteria for sustainable public procurement**

Since plant-based foods and other alternative proteins tend to have a lower environmental footprint, include a **mandatory minimum proportion of these foods** in public food procurement, thus effectively implementing already-existing national dietary guidelines (if available)

- **Consider whether fortified plant-based products comply with sustainability standards to be eligible for future organic certifications**
The current regulation on the production and labelling of organic foods ((EC) No 834/2007) does not allow the use of fortification in organic products. This means that many plant-based foods and alternative protein products **are not eligible for organic certification** and therefore **cannot be included in any organic targets for sustainable food procurement**.
- **Establish European sustainable dietary guidelines**
Dietary guidelines inform the development of official food and public-health policies, and significantly influence public food procurement. **Guidelines should promote not only healthy diets, but also sustainable ones.** Establishing **EU-wide Sustainable Dietary Guidelines** could be a cost-effective tool to help European citizens make the shift towards more plant-rich diets.

Equal tax system

When compared with animal-sourced products, **many plant-based alternatives with a lower ecological footprint still face higher VAT rates in several EU member states.** This tax discrimination hinders consumers uptake of more sustainable options. To facilitate access to more sustainable plant-based products, it is vital to establish **EU-wide equal VAT rates for plant-based and animal-sourced products.**

Member states could be further encouraged to introduce **0% VAT rates for fruit, vegetables and legumes, and eventually extend it to plant-based whole foods.** Changes to the EU's VAT rules from April 2022 now allow Member States to introduce 0% rates on certain necessities (including food), but so far very few countries have taken up this possibility.

Support measures, including for research

Use EU public funding tools to accelerate the transition towards plant-rich food systems.

Revise the EU's agriculture promotion policy

The EU's agriculture promotion programme should be revised to **extend the scope of products eligible for promotion**, as listed in Article 5 of Regulation 1114/2013, to include sustainable and healthy plant- and alternative protein-based food innovations, like some of those being developed on the Horizon4Proteins projects.

Integrate agri-environmental measures under the current Common Agricultural Policy (CAP) in the framework of national rural development **programmes to support farmers who decide to diversify their activities** by developing alternative protein production, or who want to transition from other livestock production systems to alternative proteins, and include specific measures to support this transition in the CAP post 2027.



Increase R&D funding for plant-based and alternative protein innovation

The EC's Horizon Europe research programme allocated €32 million to sustainable protein during its first two years, out of a €95.5 billion budget. This low amount is despite the recognition of alternative proteins as an R&I priority in the [Food 2030 Pathways for Action](#) and the [Farm to Fork Strategy](#). **Increased R&D funding for plant-based and alternative protein innovation is critical**, as there are still significant research needs in this space. The EU should upscale its investments in relevant research, innovation and development, using the money saved from reducing climate-harming subsidies.

Revise the Novel Foods Regulation

Alternative proteins can face significant limitations to entering the EU market due to regulatory aspects, particularly, **the application of novel food regulations to their marketing as foods** (or food supplements). The definition of a novel food (provided by Reg. EU 2015/2283) – which, compared with the previous Reg. (EC) No 258/97, has remained unchanged regarding temporal and spatial reference – and the difficulties in proving the “history of safe use” result in significant obstacles to the marketing of novel foods. This restriction - where it is not justified by the need to ensure food safety and consumer protection, in accordance with the standards set out in Articles 114 and 169 of the TFEU - is potentially in conflict with the principle of proportionality, which requires limitations not to be stricter than necessary to achieve the desired result.

In addition, the duration of the process for approving alternative proteins as novel foods should be shortened without compromising on the quality of the assessment, by reconsidering the need for toxicological and genotoxicological testing (according to OECD guidelines 408, 471 and 487) and reviewing the requirements for allergenicity risk assessments and protein quality and digestibility. The current length and complexity of the procedure harms the competitiveness of European companies in the global market, discouraging the search for innovative and sustainable food sources.



References

- [1] See United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: the 2022 Revision, New York, 2022
- [2] See FAO, IFAD, UNICEF, WFP, WHO, The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable, Rome, 2022; and global network against food crises, food security information network, Global report on food crises. Joint analysis for better decisions, 2022



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