

SEIZING THE ECONOMIC OPPORTUNITY OF ALTERNATIVE PROTEINS IN EUROPE

Delivering prosperity from farm to factory

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SOURCES USED FOR THIS ANALYSIS

The analysis is based on a range of assumptions, gathered from:

A review of scientific studies and industry reports – A comprehensive list of key sources is provided in the Technical Annex, while specific uses are listed in the end notes

Interviews with 50 experts from various stakeholder groups in the food and alternative protein sector. A full list is provided to the end of this report.

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SEIZING THE ECONOMIC OPPORTUNITY OF ALTERNATIVE PROTEINS IN EUROPE

Delivering prosperity from farm to factory

We are on the cusp of a new era in how food is produced, and the EU has the opportunity to lead the way. Building a robust domestic alternative protein industry would enable the EU to unlock major economic opportunities while strengthening its strategic autonomy. Over the next 15 years, this emerging sector could deliver substantial industrial and rural growth, high-quality employment, and greater economic resilience.

ALTERNATIVE PROTEINS AS AN INDUSTRIAL PRIORITY

Alternative proteins involve using plant-based, cultivated, precision fermentation and biomass fermentation technologies to recreate the experience of meat, dairy, eggs and seafood. This approach could deliver foods that are as delicious as the meat and dairy people enjoy today, at a fraction of the environmental impact.¹

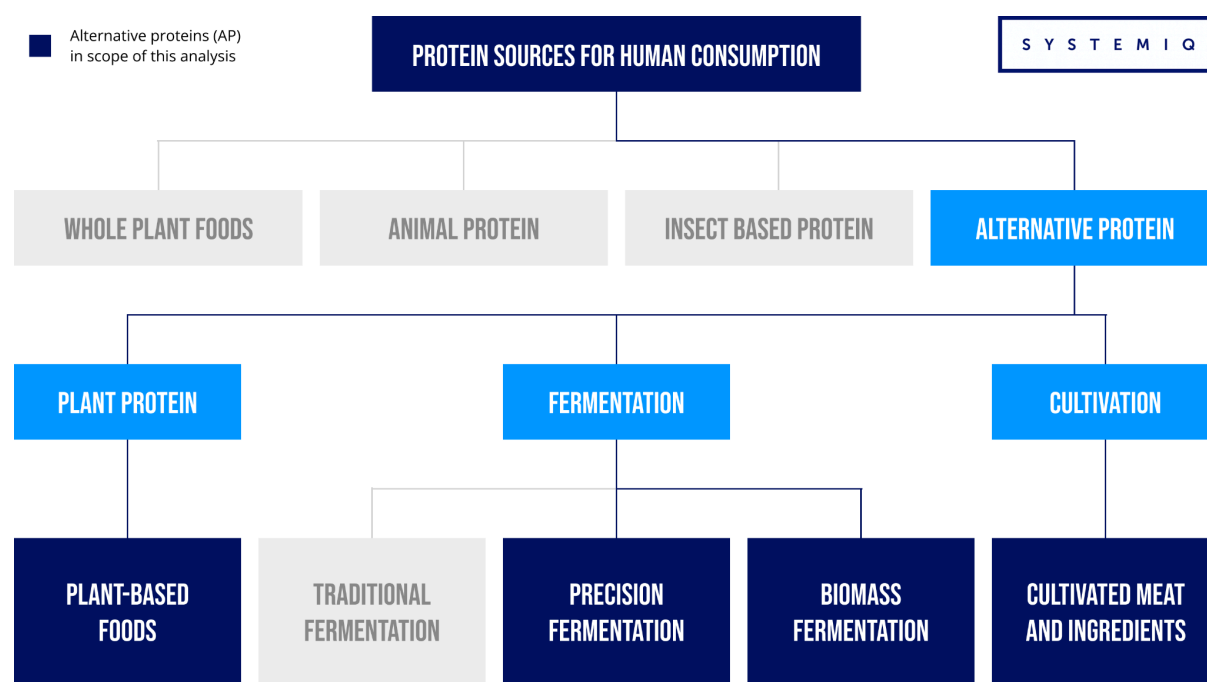
If they were to reach price parity with conventional animal protein, these more sustainable options would also become widely accessible. This would help to strengthen the resilience of Europe's arable agriculture sector, reduce reliance on industrial animal agriculture and associated feed imports, whilst delivering significant environmental and planetary health benefits.



The development of the EU's alternative protein sector is also a strategic industrial opportunity: their production draws on capabilities deeply interconnected with the EU's existing industrial base, from biotechnology and other innovative industries to its manufacturing sectors. These existing industrial capabilities, combined with the EU's cutting-edge scientific ecosystem, give the EU an advantage in scaling production and driving innovation.

¹ See the academic publications cited in GFI "Environmental benefits of alternative proteins"

Figure 1: The four main types of alternative proteins covered in this analysis



Source: adapted from: FAIRR, 2024: Protein Diversification: A Tool to Address Climate, Nature, and Public Health Risks

THREE PATHWAYS FOR GROWTH

The trajectory of alternative proteins in the EU will depend on the choices policymakers make today. **We have constructed three possible scenarios for the coming 15 years with different levels of policy support.**² While the High Ambition scenario illustrates the full potential of the sector, this report focuses on the Moderate Policy Support scenario as a robust, within-reach route for the EU to realise the economic opportunities of alternative proteins.

1. BUSINESS AS USUAL

In a **Business as Usual** scenario, regulatory processes stay slow and unpredictable, and fragmented public investment leaves large gaps in technical progress and commercial scale-up, which prevent products from reaching taste and price parity in a timely manner, restricting consumer interest. In this scenario, the EU falls behind global competitors.

2. MODERATE POLICY SUPPORT

In a **Moderate Policy Support** pathway, consumer appetite grows steadily as products improve in taste and reduce in price. Regulatory processes become more predictable and inefficiencies are reduced, while targeted public R&D investment maintains the EU's position as a global innovation hub. Pilot infrastructure expands in leading countries, attracting more private capital.

3. HIGH AMBITION

In a **High Ambition** scenario, strong R&D activity, regulatory support, and robust public-private investment quickly propel alternative proteins to taste and price parity, leading to widespread consumer adoption. The EU emerges as a global leader in innovation, exports, and jobs.

² For further detail on the exact assumptions made in each scenario, please refer to our technical appendix.

Figure 2: Overview of alternative protein types

| | | | |
|--|--|-------------------------------|--|
| PLANT-BASED FOODS | Foods derived from crops such as soy, peas, or beans, processed to mimic texture, flavor, and nutritional profile of animal-based products | PRECISION FERMENTATION | Uses microbes such as yeasts as “cell factories” for producing specific functional ingredients, such as rennet and egg white |
| CULTIVATED MEAT AND INGREDIENTS | Made from animal cells which are cultivated in fermentors (similar to those used for brewing beer), and mixed with plant ingredients | BIOMASS FERMENTATION | Leverages the fast growth and high protein content of many microorganisms to efficiently produce large quantities of protein |

THE BENEFITS FOR DOMESTIC MARKETS AND TRADE

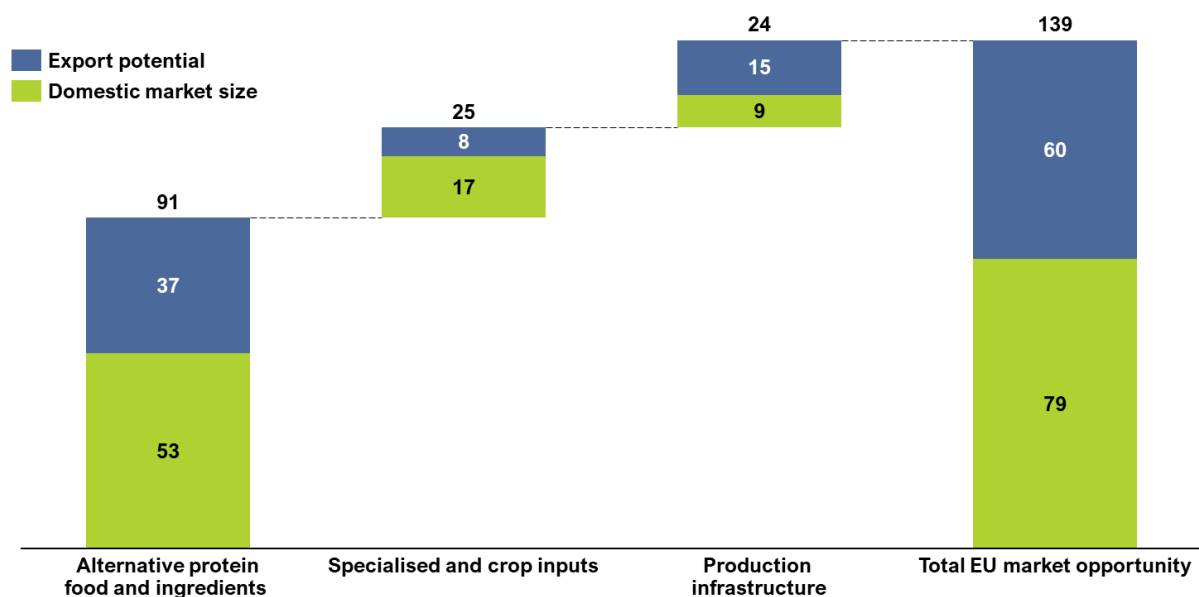
With supportive policies, alternative proteins could meet **10% of the EU's meat and 25% of its dairy demand by 2040**. In our scenario, demand for alternative protein food and ingredients in the EU could be worth **€53 billion by 2040, bigger than the European chocolate market (€47.3 billion)**.³ Beyond food end products, the sector would drive value chains in crops, feedstocks, bioreactors, and processing equipment – areas where the EU already has strong industrial capabilities. When the full value chain is accounted for, the total market opportunity could reach **€79 billion, comparable to Lithuania's GDP in 2024**. **Export potential would also reach €60 billion by 2040**, positioning the EU as a global biomanufacturing hub.



Credit: Planted

³ Mordor Intelligence Europe Chocolate Market

Figure 3: Yearly domestic market size and export potential of alternative proteins by 2040 in € billions, Moderate Policy Support scenario

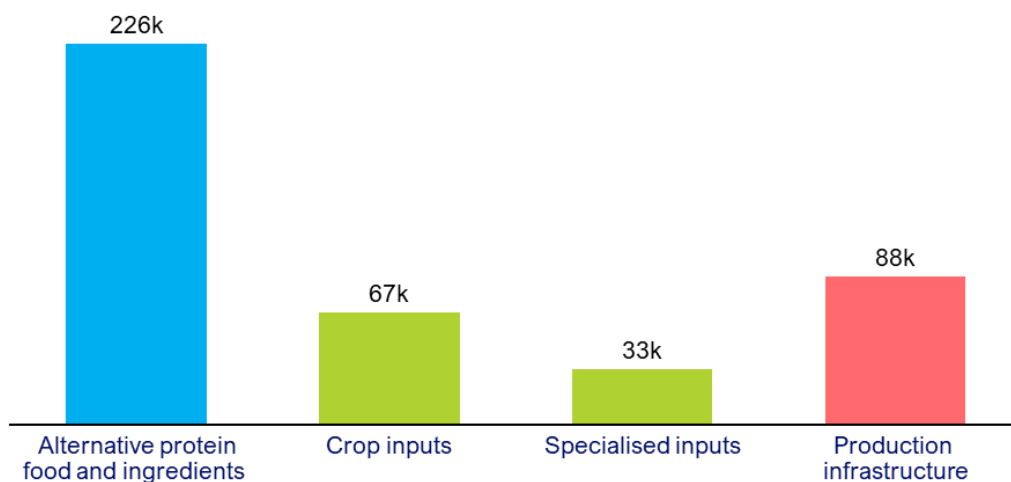


EMPLOYMENT POTENTIAL & GVA

By 2040, alternative proteins could contribute **€111 billion** to the EU's economy each year by creating demand along the entire supply chain. Within 15 years, the

sector could also support almost **half a million jobs**, spanning arable agriculture, R&D, manufacturing, logistics, and marketing, boosting both industrial competitiveness and local livelihoods.

Figure 4: Number of jobs supported by alternative proteins, Moderate Policy Support scenario, 2040



Our modelling suggests that the potential economic benefits of alternative proteins could be even more substantial in the high ambition scenario. In this scenario, by 2040 the domestic market could grow to €205 billion, or €333 billion when accounting for the full value chain. Likewise, the sector could support 1 million jobs, create €128 billion in export value and contribute €260 billion annually to the EU economy. Achieving this, however, would require significantly higher levels of annual investment in public R&D and CAPEX (€2.7 billion each).

Figure 5: Type of jobs supported by alternative proteins, Moderate Policy Support scenario, 2040⁴

| Job category | Description | Examples | Average wages |
|---------------------------------------|---|--|---------------|
| Alternative protein production | Employees in alt. protein companies, across roles | Production as well as business roles , incl., strategy & sales; supply chain managers | 45 – 55k |
| Crop inputs | Farmers to supply agricultural produce at scale | Farmers supplying crops and feedstock for media (e.g., sugars); agronomists | 30 – 45k |
| Specialised inputs | Scientists for sophisticated technical processes | Microbiologists and food technologists , general lab technicians | 75 – 80k |
| Food processing equipment | General processing machinery manufacturers | Operators scaling outputs & increasing automation, ongoing quality assurers | 60 – 70k |
| Specialised equipment | Highly specialized machinery manufacturers | Bioprocess engineers and specialists | 65 – 75k |

⁴ Average wage levels use Germany as a proxy for EU countries with significant alternative protein industries. Source: Systemiq (2025) "A Taste of Tomorrow: How protein diversification can strengthen Germany's economy"

STRENGTHENING EU ARABLE AGRICULTURE

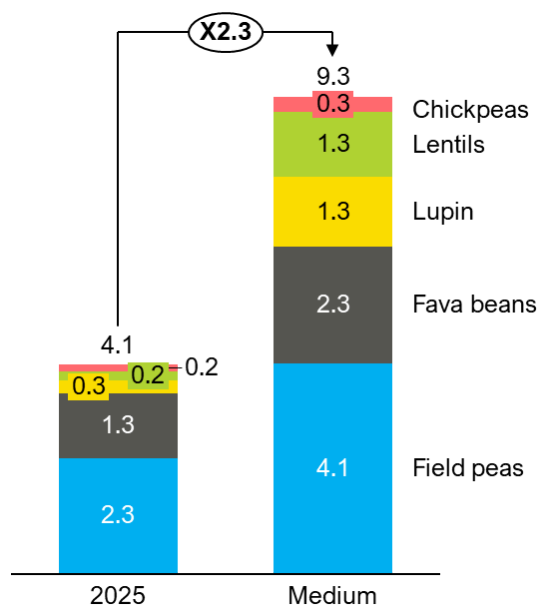
With regards to the impact of alternative proteins on European agriculture, this report's analysis focuses exclusively on how the growth of alternative proteins might affect arable farming. It finds that alternative proteins could create three enabling factors for strengthening the resilience of the EU's arable agricultural sector over the long term:

ENABLING FACTOR 1: GROWING THE MARKET FOR LEGUMES AND PULSES.

A strong domestic plant-based meat and dairy sector would boost demand for

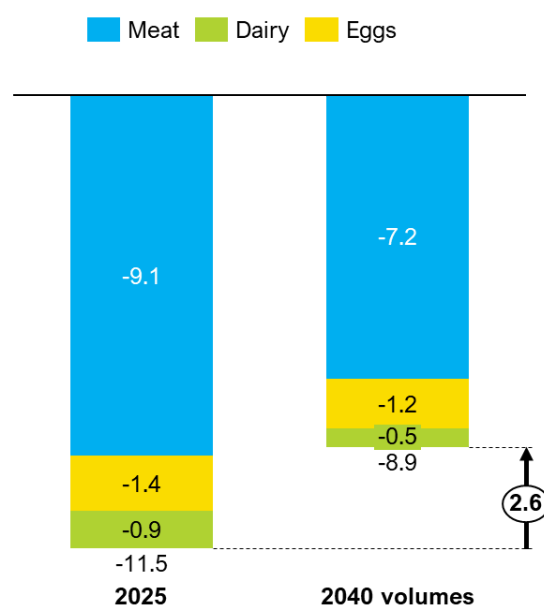
food-grade legumes and pulses. In our Moderate Policy Support scenario, higher consumption of plant-based meat and dairy leads to a significant increase in demand for pulses, approximately doubling demand for field peas, fava beans and chickpeas, and a seven-fold increase in demand for lentils. This increased demand could serve as a key enabling condition for farmers interested in shifting to these crops. Such shifts could, over the long term, reduce critical import dependencies and enrich soils through nitrogen fixation, while diversifying farm incomes.

Figure 6: Growth in EU pulse and legume production in MMT, 2040 levels, Moderate Policy Support scenario.⁵



⁵ Systemiq analysis, based on Eurostat "Crop production in EU standard humidity" dataset. Conversion rates from plant-based products to crop volumes based on GFI, "Comparative life cycle assessment of plant-based meats and conventional animal meats".

Figure 7: Future soybean meal import volumes under a Moderate Policy Support scenario (2040, MMT)⁶



⁶ See Technical Appendix for methodology

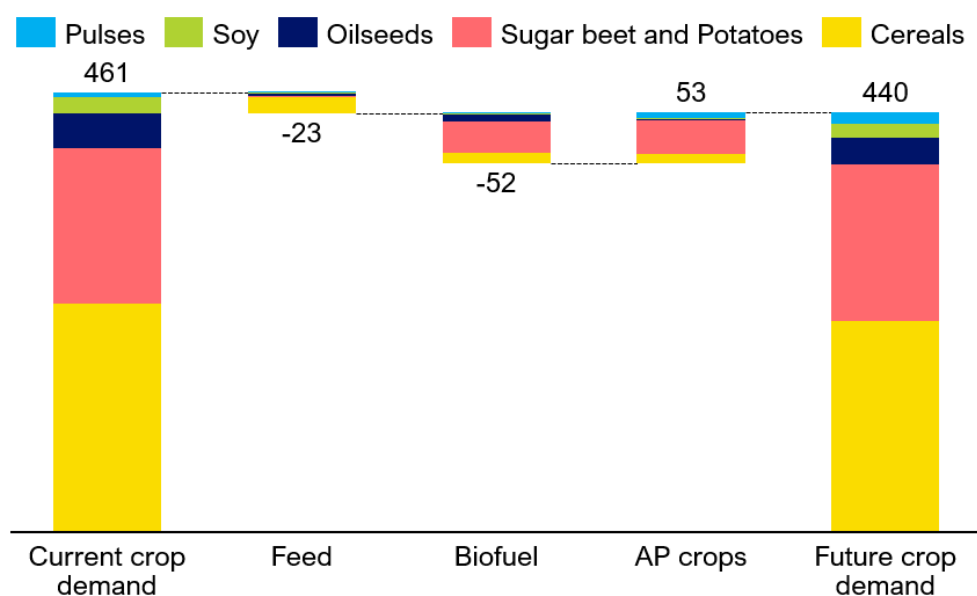
ENABLING FACTOR 2: INCREASING SELF-SUFFICIENCY IN HIGH-PROTEIN CROPS.

A shift towards alternative proteins could help shrink the EU's protein deficit in two ways: as described above, by supporting an expansion of domestic protein crop supply, and by reducing demand for high-protein feed imports in the first place. In our model, the need to import soy for high-protein animal feed would fall by around 2.6 MMT, significantly lowering the EU's deficit in this category (see Figure 7). When including all types of feed (eg. domestically grown grains), overall demand for feed would reduce by 23 MMT (see Figure 8).

ENABLING FACTOR 3: MOVING FROM FEED- TO FOOD-GRADE CROPS.

A scaled alternative protein sector in Europe could create demand for cereals, sugar crops, pulses, soy, and oilseeds as feedstock, offsetting the expected decline in demand for biofuel and feed crops. With the right market conditions and support in place, this shift could offer farmers future-proof market opportunities and potential economic benefits.

Figure 8: Crop demand for alternative protein production, MMT, 2040



UNLOCKING THE OPPORTUNITY

1. POLICY AND REGULATION

A more predictable, harmonized, and transparent regulatory framework is needed to spur innovation and increase investor confidence, in order to bring innovative products to market more efficiently.

2. INFRASTRUCTURE

The current production base needs to scale up through greenfield development and retrofitting. Fortunately, the EU has proven, through sectors like renewable energy, that

rapid scale-up is possible when industry and policy move in sync.

3. INVESTMENT

Public investment will be essential to unlock private finance. Targeted annual public support for both R&D (€690 million) and CAPEX scale-up (€720 million) can bring alternative proteins closer to taste and price parity, and de-risk scale-up to catalyse private investments, paving the way for an innovative European food industry.



CALL TO ACTION

*The EU has a **unique opportunity** to lead global protein diversification. With coordinated action on **regulation, infrastructure, and investment**, alternative proteins can deliver major benefits for the EU economy by 2040. The question is not whether the EU can afford to invest, but whether it can afford not to. **With the right policies, the EU can deliver prosperity from farm to factory, shaping a sustainable and innovative food future.***
