

## Agri-food System Innovation

**REPORT****Advancing towards long term sustainable agri-food systems**

Following the High Level Group 14th meeting on 4 February 2025

**Summary and main outcome of the HLG meeting**

During its 14<sup>th</sup> meeting, chaired by Phil Hogan, the independent tripartite High Level group on agri-food system innovation continued its role as a laboratory for EU policy innovation in this specific realm.

This role was given to these High Level groups by the Competitiveness Council Presidency in 2011<sup>1</sup>, aiming at inclusive policy innovation by thinking “outside the box”. Members are a diverse group of experts from the public, private, and academic sector, brainstorming together according to the Socratic dialogue method, in order to reach operable ideas.<sup>2</sup>

The group discussed the various reports<sup>3</sup> currently shaping the discussion on EU priorities and a variety of issues to outline its future work and priority areas of work. These have been anonymised and blended into this draft report.

**Key recommendations:**

- **The direct and indirect agricultural sector's contribution to EU GDP should be adequately acknowledged.** This would help restore the role of farmers, secure greater financial support for technology's adoption and other production innovations made possible by regenerative agriculture methods. It must lead to improve farmer incomes, also through rewarding ecosystem services. Incentives to accelerate the transition to sustainable production methods are preferable to over regulation, which should be seen as a supporting tool.

<sup>1</sup> Council of the EU, 5-6 December 2011, Presidency Note.

<sup>2</sup> Members participate in their personal capacity. All recommendations for action and all ideas for further consideration have not always been agreed on by all members, but each advice is based on a very wide consensus. The final version is written under responsibility of the chairperson and the executive director. More information is available at: <https://www.highlevelgroup.eu/>

<sup>3</sup> Enrico Letta, Much more than a market, April 2024. Christian Noyer, Developing European Capital Markets to Finance the Future, April 2024. Independent High Level Groups, Blueprint 'What comes after the Green Deal?', June 2024. Manuel Heitor, Align, Act Accelerate Research, Technology Innovation, September 2024. Peter Strohschneider, Strategic Dialogue on the future of agriculture, September 2024. Mario Draghi, The future of European competitiveness, September 2024.

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- The **promotion of regenerative agriculture** should be an overarching priority. It requires a balanced policy approach with technological and non-technological innovations using natural ecosystems resilience. The latter are less expensive and less energy intensive than precision agricultural technology, allow better carbon capture in the soil and reduce reliance on chemical inputs. Of course it must be aligned with the One Health approach, and respecting the objective of regulatory simplification.
- **Foresight analysis should be conducted to anticipate EU food security and supply security risks**, as well as vulnerabilities and dependencies in the agri-food sector, both in the short and long term. It will also help farmers predict shifts in agriculture production, such as the expected increase in protein crop production over the next decade. This will also contribute to deal with the perceived contradiction between ensuring domestic supply and expand high-value products' exports. Addressing misconceptions in EU policies will be key to underpin EU global market position in agricultural exports.
- **EU public investment should prioritise digitalisation to effectively enhance and scale up the agri-food system**. Together with training, it is essential to ensure that the green transition benefits farmers rather than placing undue burdens on them or further reducing their incomes. Strengthening support through de-risked investments and low-interest loans will also facilitate generational renewal and encourage farmers to embrace innovation.
- **Streamlining regulations for the agricultural sector requires enhanced dialogue and consultation**. Better coordination between policymakers and stakeholders is essential to align legislation with both political objectives and market needs. A long-term vision is also required to achieve this balance effectively.
- **Methodologies for assessing the impact of regulations on EU agri-food systems' innovation should be refined and improved**. The lack of integration of results derived from data based and comprehensive impact assessments, combined with mixed evaluation systems, hinders effective policy analysis. At the same time, the growing number of indicators should be streamlined, as it is unfeasible to provide data for all of them, leading to confusion rather than clarity. Assessments should also integrate social and economic indicators along environmental ones.
- **Healthy and sustainable diets should be promoted** by policies focusing on the demand side, taking into account changing consumers' needs and preferences. EU policies should incorporate the concept of the food environment to guide public awareness of what is truly healthy. Moreover, transparent labelling should be enhanced to provide greater transparency and include sustainability and health information to consumers, while tax incentives for unsustainable and unhealthy products should be eliminated along with benefits from reduced VAT. There should be a shift to focus on diversified crop production for human consumption rather than for feed.

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### 1. Agri food system's contribution to EU competitiveness

The current debate on agri-food system innovation focuses on improving efficiency, sustainability and resilience. However, one critical dimension is often overlooked: its role in enhancing EU competitiveness.

The sector's contribution to EU GDP is significant, with a turnover of €1.2 trillion and €13.3 million jobs<sup>4</sup>. In addition, with €220 billion in exports, primarily high-value-added products, and a €70 billion trade surplus, the agri-food system is a key driver of the EU Trade Balance.

Despite this, both the Bioeconomy Strategy<sup>5</sup> and the Strategic Dialogue<sup>6</sup> fail to fully acknowledge agriculture's broader role, particularly that of farmers. Beyond food production, farmers contribute to environmental sustainability by managing water, soil health and biodiversity, while also support green energy production, e.g. wind farms. Recognising and compensating them for the ecosystem services provided will be functional to rehabilitate their role within societies and in EU debates. In particular, the activities pursued to safeguard environmental, animal and human health, aligned with the One Health approach, remain underestimated in policymaking. Future EU policies, *inter alia* the Common Agricultural Policy (CAP), must integrate these contributions more effectively by focussing on the implementation of regenerative agriculture methods.

Administrative and financial support will be central to empower farmers in accomplishing transition objectives but market incentives are even more important. Policies should support farmer-led consortia for green infrastructure projects, such as renewable energy installations, rather than hindering them. Similarly, allowing and encouraging farmers to deploy upscaling technologies as well as nature based solutions, without excessive bureaucratic hurdles, that can enhance the whole agri-food system and provide additional revenue streams, should be prioritised. For instance, while it has been largely demonstrated that innovative solutions, such as agrivoltaics and solar panels, can coexist with crop cultivation, regulatory barriers endure due to misinformation. Addressing these misconceptions in EU policies is important to unlock sustainable agri-food systems growth and innovation.

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<sup>4</sup> Of which, 8.7 million in agriculture and 4.3 million in food manufacturing, excluding the retail and servicing activities. <https://www.fooddrinkeurope.eu/about-the-industry/>

<sup>5</sup> European Commission, Bioeconomy Strategy, 2020, [https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy\\_en](https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy_en)

<sup>6</sup> Peter Strohschneider, Strategic Dialogue on the Future of EU agriculture, 2024 [https://agriculture.ec.europa.eu/document/download/171329ff-0f50-4fa5-946f-aea11032172e\\_en?filename=strategic-dialogue-report-2024\\_en.pdf](https://agriculture.ec.europa.eu/document/download/171329ff-0f50-4fa5-946f-aea11032172e_en?filename=strategic-dialogue-report-2024_en.pdf)

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A key challenge remains farmers' income. While overall income in Europe is rising, farmers' earnings continue to decline. One major factor is the lack of a level playing field; in comparison with other world regions, regulatory constraints, e.g. prohibition of low-impact pesticides and fertilisers or obstacles to introduction of new cultivating technologies based on the latest bioscientific research, increase costs without necessarily improving sustainability. A more balanced EU approach, shifting the productivity curve without compromising environmental goals, should be implemented. Likewise, support should be strengthened for fully developing the potential of carbon farming policies, the bioeconomy, and biomethane production as sources of additional income for farmers and cooperatives. Meanwhile, current regulations must reconcile sustainability with competitiveness, optimising market conditions rather than imposing additional burdens.

The upcoming CAP reform must evolve to better align income support with sustainable practices. This strategic targeting is lacking from the current direct payment schemes. Future revisions should therefore integrate sustainability with financial support, ensuring eco-schemes contribute meaningfully to farm incomes. Likewise, while flexibility for Member States' eco schemes has allowed tailored approaches, the impact of these frameworks remains limited, requiring further future refinement. Moreover, before introducing additional financial instruments, a comprehensive analysis of the root causes of income decline is necessary. Bureaucratic barriers and untargeted funds are only part of the issue.

### 2. Reducing Agri-food system's vulnerabilities

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Prevailing concerns regarding Europe's agri-food system dependencies and vulnerabilities primarily focus on two dimensions: food security and supply security. While both are essential, the strategic approaches to these objectives often conflict. The global dimension of both needs to be taken into account too. Furthermore, ensuring long-term food security raises pressing concerns about the sustainability and competitiveness of EU agri-food systems. To address these challenges, a comprehensive foresight analysis at the EU level is needed, incorporating geopolitical uncertainties and trade agreements, such as Mercosur, to accurately assess the spectrum of risks and opportunities. A focus on own production of proteins and on nature based production of meat are key parts of strategic autonomy of food systems.

Another significant challenge for the EU agri-food system lies in balancing domestic food security with export competitiveness. In spite of Europe's diverse agricultural regions, which have the potential to meet both objectives<sup>7</sup>, the ongoing debate centres on whether expanding exports of high-value

<sup>7</sup> EC, EU agricultural Outlook, 2024-2035, [https://agriculture.ec.europa.eu/document/download/f7f2ff54-cf54-432f-9e52-b5fca9976d71\\_en?filename=agricultural-outlook-2024-executive-summary\\_en.pdf](https://agriculture.ec.europa.eu/document/download/f7f2ff54-cf54-432f-9e52-b5fca9976d71_en?filename=agricultural-outlook-2024-executive-summary_en.pdf)

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agricultural goods can generate critical income for farmers without undermining domestic supply. This dimension remains politically underestimated, leading to a disconnect between economic realities and policy narratives. EU policies should therefore better communicate the sector's capacity to achieve both goals, reinforcing the global market position of European agricultural products and unlocking new trade opportunities for EU farmers.

Nonetheless, the EU should also consider the impact of EU agricultural exports on other world regions' food security, particularly on Africa. As a matter of fact, the continent faces a severe food deficit, exacerbated by rapid population growth and unfair competition from low-cost EU imports that hinder local agricultural development, are destructive for rural economies and a source of emigration. A more balanced trade approach and a shift of perspective from cooperation and aid to loans and investments, should help EU exports to avoid undermining sustainable food production in African markets and develop a more sustainable trade.

Ultimately, precision agriculture and space technologies will play a significant role by enhancing food security within and beyond Europe. An efficient use of EU's technological capabilities could be useful to identify areas suitable for sustainable agricultural expansion and advise on localised production strategies that reduce reliance on imports. Integrating technical assistance into EU trade agreements will strengthen Europe's role in advancing global food security and sustainable production.

### 3. Refocusing public investment: Education and Digitalisation

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EU Public investment should refocus on two key areas essential for agri-food system's innovation: education and digital technologies. Generational renewal and the long-term sustainability of new agri-food systems will ultimately depend on them.

#### 3.1 Training

Despite the need for specialised knowledge and training to enable the transition to sustainable agriculture, current education frameworks remain inadequate. Green jobs in the sector demand a new skill set, particularly for young farmers, who must learn to balance sustainability with productivity, optimise water and soil management and integrate bioeconomy practices. To address this gap, new EU learning programmes should be developed, as training the present generation is central for the future competitiveness of EU agriculture.

However, investing in education will not only be essential for the EU's agricultural competitiveness but also for modernising its domestic food systems and shaping consumer preferences for balanced healthy diets. While current policies support established farmers in the green transition, the focus should be on the younger generation, as they will be responsible for implementing it. Additionally,

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targeted initiatives should enhance the attractiveness of agri-food careers in the EU while equipping future farmers with the expertise needed to transform the sector.

### 3.2. Digitalisation

The food system, often overlooked in sustainability discussions compared to fossil fuel consumption, is one of the key contributors to GHG emissions' production<sup>8</sup>. Nearly half of global food production currently depends on practices that exceed planetary boundaries. Addressing this challenge requires a dual approach: investing in technology to mitigate environmental impact while ensuring that food production remains viable.

To make this possible, ensuring farmers have easier access to digital technologies and innovation strategies is essential, as high costs and insufficient training often limit their adoption. Small-scale farmers, in particular, have less exposure to AI-driven tools, such as drones and satellite systems, which can significantly improve efficiency and sustainability. To encourage widespread adoption, EU financial support, targeted training and policies that lower entry barriers are needed. Investing in digitalisation is not just about providing access to advanced tools but about enabling farmers to maximise their potential.

In this regard, identifying the specific needs of agricultural businesses, possible breakthrough innovation and tailoring support accordingly will be fundamental. For instance, if protein crop production is expected to become a major industry disruptor within the next decade, farmers must be prepared to adapt their production strategies accordingly. Agronomists will play a central role in this transition by providing expertise based on comprehensive data analysis, from satellite imagery to predictive modelling, helping farmers make informed decisions. Therefore, provide adequate support through EU programmes, such as Horizon Europe, will be critical.

### 3.3 Bridging the Digital Gap and Strengthening Data Governance

While the EU has already made significant investments in breakthrough innovations, as exemplified by the Copernicus programme - a successful EU satellite initiative contributing to soil monitoring - the challenge now lies in effectively managing and utilising the vast amounts of data these technologies generate. A first step towards achieving this would be to establish a unified EU framework that safeguards regional interests against external interference, integrates AI and algorithmic governance, and bridges the technology gap; in this way, the EU could take the lead in agricultural digitalisation. In addition, to safeguard privacy while enhancing traceability and productivity, the EU will need to develop a coherent data policy.

<sup>8</sup> Herbalife, Altermind, Overcoming The Impossible Trinity Of Eu Food Policies : Advancing A New Approach, 2024, p.3.

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Nonetheless, the absence of comprehensive strategies and investments by Member States in digitalising agri-food systems, as well as advancing data-sharing databases, continues to hinder innovation within the EU agri-food sector. To mitigate this issue, the EU might increase funding for common digital goods to ensure that all Member States can fully benefit from these technologies, rather than only a select few.

### *3.4 Generational Renewal and Financial Support*

As already mentioned, despite its contribution to shaping EU competitiveness, agriculture's role in the EU economy is often overlooked. This trend must be reversed. New policies should recognise the sector's importance for EU economic growth and develop strategies to attract young people to the industry, not only through education and digitalisation but also via financial mechanisms that facilitate their entry into the sector.

Public and private banks, including the European Investment Bank (EIB), should properly support young farmers with low-interest loans, easing the start of their activity.

In addition, subsidy distribution must also be reconsidered. Rather than direct state intervention in business decisions, policies should focus on de-risking essential investments, ensuring that funds drive genuine transformation rather than entrenching outdated models.

By aligning education, technology and financial policies, the EU can foster a more resilient, competitive, and sustainable agri-food system, integrating environmental, economic and social objectives.

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## 4. Streamlining EU legislation affecting the agricultural sector

EU regulations governing agri-food systems are extensive, impacting entire value chains within and beyond Europe. Sometimes, multiple legal frameworks corresponding to different law areas, each with its own logic, are applied to farmers leading to misaligned, contradictory and inefficient legislation.

This complexity stems also from the so-called “policy accumulation”<sup>9</sup>, where outdated regulations remain in place due to the absence of a systematic repeal mechanism. As new rules are continuously added, the regulatory landscape becomes increasingly intricate, complicating both policymaking and implementation.

<sup>9</sup> Adam C, Hurka S, Knill C, Steinebach Y. Policy Accumulation: Concept and Measurement. In: *Policy Accumulation and the Democratic Responsiveness Trap*. Cambridge Studies in Comparative Public Policy. Cambridge University Press; 2019:9-20.

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While efforts are underway to streamline regulation and avoid overlaps, more effective cooperation between those drafting regulations and those responsible for their implementation is still needed. Dialogue and consultation are fundamental in aligning political objectives with market needs. Therefore, addressing this issue both at the EU level and at the national level needs to be prioritised.

To efficiently act on this, it is essential to understand the mechanisms driving bureaucratic expansion. Many new regulations stem from political compromises and compensatory measures rather than a coherent, long-term vision. The lack of policy coordination results in regulatory burdens developing in silos. For future regulations, EU policymakers will need to analyse the underlying processes shaping regulatory complexity, including assessment methodologies and policy coherence across sectors.

### 5. Refining methodologies for agri-food system assessment

An integrated, standardised, and harmonised observatory, modelled on the FOOD-EPI framework and adapted to European conditions, would be an ideal tool for assessing the agri-food system as a whole<sup>10</sup>. However, existing methodologies, though imperfect, can still be refined and effectively utilised.

Given also expected financial constraints under the next Multiannual Financial Framework (MFF) and the Common Agricultural Policy (CAP), assessment frameworks should prioritise revising monitoring approaches rather than expanding them.

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Indeed, Impact Assessments (IAs)'s limited role within evaluation frameworks should be rediscussed. The presence of mixed evaluations over the past five years, and the fact that scrutiny boards tasked with oversight are not consistently ensuring that IAs fulfil their function, have contributed to EU assessment methodologies' shortcomings. Thus, a more unified and comprehensive assessment methodologies, fully including IAs to enhance policies' efficiency and accuracy, should be promoted by the EU.

Indeed, to reflect evolving socio-economic conditions, methodologies must be regularly updated to ensure alignment with policy objectives and emerging challenges. Likewise, the indicators underpinning these methodologies should be periodically reviewed to remain consistent with long-term goals and values while adapting to societal and economic changes.

The current overload of indicators within methodologies, often lacking sufficient data to utilize them, is another challenge for EU policymaking. For example, the 2030 pesticide reduction target relies on

<sup>10</sup> See HLG Blueprint "What comes after the EU Green Deal?", p. 83.

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data that Member States will only provide in 2028, making meaningful assessment difficult. Indicators must be proportionate to methodologies' abilities to elaborate this data and gain advantages. Furthermore, a more balanced EU framework should be included, encompassing not only with environmental indicators, but also with economic and social measures, ensuring a comprehensive evaluation of competitiveness and sustainability.

### 6. Healthy and sustainable diets

Providing affordable healthy food is key to public well-being. Recent discussions on the true cost of food have highlighted the system's externalities and financing gaps in the transition, as emphasised also by the Strategic Dialogue on the Future of EU Agriculture. In light of this, future EU policies should focus on rethinking tax incentives, enhancing transparency, and ensuring the long-term affordability of healthy and sustainable diets.

EU policy discussions should begin with a key concept that is currently neglected despite its crucial role in shaping consumer choices: the food environment<sup>11</sup>. This approach highlights that consumers do not make purchasing decisions in isolation; they are influenced by factors such as their surroundings, availability, marketing and pricing structures. Recognising this could help the EU promote and develop healthier diets. Several Horizon-funded projects have already focused on this issue, yet their findings have not been adequately integrated into policymaking. It is essential that EU legislation will start to consider the external stimuli that influence consumer behaviour in order to effectively address current imbalances.

Similarly, VAT policies aimed at encouraging the consumption of healthy and sustainable food should be reconsidered. While reducing VAT on sustainable products is a positive measure and it should be further supported<sup>12</sup>, it is equally important to phase out tax privileges for unsustainable goods. Other factors, such as consumers' purchasing priorities, price, taste and convenience, could be addressed once sustainable, healthy food becomes more affordable. EU intervention will be fundamental to pave the way to these changes and to guide cultural and behavioural shifts - which will remain challenging to achieve.

<sup>11</sup> Hettie C. Schönfeldt, Beulah Pretorius, Advances in Food Security and Sustainability, Agriculture and Food Systems for Improved Nutrition, 2018

<sup>12</sup> Herbalife, Altermind study, Overcoming The Impossible Trinity Of Eu Food Policies : Advancing A New Approach, 2024, p.12-13.

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Finally, measures aimed at labelling, alongside existing ones, should be further developed. Information should be made clearer and transparent, including details regarding the sustainability of products. The development of a cohesive EU labelling policy could significantly contribute to achieve this goal.