Building a Sustainable and Diversified Protein Landscape Beyond Polarization: Opportunities for Farmers, Society, and the Environment

Executive Summary

The food and agriculture sector is at the heart of critical debates within the EU. One key issue—the future of proteins, from production to consumption—has sparked polarized discussions, with various concerns often framed as irreconcilable. We see an opportunity to bridge these divides. As a diverse coalition representing actors across the value chain, we are committed to shift the conversation from polarization to collaboration. With the new EU mandate, the momentum from the Draghi and Letta reports, the crafting of a Food and Agriculture Vision, and the outcomes of the Strategic Dialogue, we believe there is a unique opportunity to position diverse, sustainable¹ protein sources—plant, animal, and novel²—as essential, complementary pillars of Europe's future food system.

Proteins are indispensable to human health and essential to the economic and rural vitality of the EU. However, Europe's protein system faces significant challenges that mirror broader issues in the agrifood landscape, including food security, public health and environmental externalities. This creates an opportunity for Europe to transition to healthy and sustainable protein sources that maximize benefits while minimizing drawbacks. Transforming the value chain towards sustainable protein diversification offers opportunities for European farmers and delivers benefits for our rural areas, competitiveness, food security, public health, and the environment.

This transformation is already underway. Farmers across Europe have started diversifying towards sustainable protein production by, for example, integrating animal and plant proteins, changing to practices that improve biodiversity and soil health, embracing circular systems, improving livestock impacts with data-driven technologies and science-based methods, ensuring the sustainability of animal feed, and cultivating new protein crops. Farmers have demonstrated their willingness to adopt sustainable protein diversification and work with stakeholders across the value chain. Nevertheless, they need targeted policies to support effective production and establish a robust, sustained market that ensure fair remuneration. These measures will expand benefits to more farmers across the EU, particularly young ones, create opportunities across the value chain and expand sustainable and healthy options for all consumers.

As the Commission develops its Food and Agriculture Vision, sustainable protein diversification—both production and consumption— should be positioned as a cornerstone of a resilient, competitive and just food system. Achieving this requires **close collaboration with farmers and stakeholders across the value chain**. Member States (MS) and pioneering farmers can offer valuable best practices, while scaling up European innovation and advancing proposals from the Strategic Dialogue, like the development of an EU Action Plan for Plant-Based Foods, will drive progress. To ensure a coherent and impactful transformation, the EU must establish long-term strategies that align with climate and biodiversity goals and strengthen cross-DG collaboration, creating synergies that deliver impact.

Through our bottom-up approach with farmers and coalition members, we have identified **8 recommendations** to ensure sustainable protein diversification delivers maximum benefits for all:

¹ We define sustainable systems in food and agriculture as those who regenerate agroecosystem health by restoring nature and soil, create broad societal benefits including health and who create economic value for farmers, rural communities and stakeholders across the value chain. Organic, agroecological and regenerative practices with high animal welfare are key components of a sustainable agri-food system.

² Proteins from processed plant products, fungi, algae and those from fermentation technologies

I. Facilitate access to finance for farmers to transition to sustainable practices

Establish an Agri-Food Just Transition Fund (AJTF) with a dedicated pillar on protein diversification. Derisk private finance by increasing the EIB's investments in the agri-food sector, creating predictability for investments through long-term targets beyond seven years and adapting bank lending frameworks for agriculture in line with climate adaptation and Nature-based solutions.

II. Support farmers and workers to benefit from sustainable protein diversification

Incentivise sustainable practices more effectively through result-based CAP payments and support legumes and pulses. Establish a harmonised methodology for on-farm sustainability assessments to establish common sustainability criteria. Strengthen advisory service network to provide targeted training and reskilling for farmers and workers to benefit fully from sustainable protein diversification.

III. Strengthen farmers' position in the market

Prioritise income support under the CAP for those who need it most for the transition, particularly smallholders and young farmers. Align trade policies with protein resilience, sustainability standards and animal welfare. Boost investments in climate adaptation measures at the farm and regional levels.

IV. Increase rural resilience and preserve vibrant landscapes

Require MS to develop region-specific sustainable agriculture plans with targeted subsidies for protein diversification. Enforce existing environmental regulations to safeguard landscapes, ecosystems and forests. Provide targeted support for processing facilities and novel protein hubs in farming regions.

V. Reduce Zoonotic Disease Risks and Antimicrobial Resistance

Promote holistic, high animal welfare livestock systems, crop-livestock integration and lower antibiotic usage. Modernise the outdated EU animal welfare legislation with a science-based approach.

VI. Elevate the agri-food sector's innovation to retain EU's global leadership

Increase R&D investments in agriculture for competitive and sustainable plant and animal production, and for innovative plant-based food and novel proteins. Develop public-private partnerships to bring innovations on the market. Include Agri-food in relevant EU strategies. Strengthen EFSA to allow for innovative foods to reach consumers more rapidly while maintaining high health and safety standards.

VII. Support the development of a strong, diversified protein value chain

Establish a level playing field among proteins in Europe. Develop commodity-specific strategies backed by significant investment across the value chain, in particular for innovative practices and for scaling processing facilities. Promote circular business models by revalorising by-products and waste streams.

VIII. Improve the food environment to make the healthy and sustainable choices the easy ones Embed health and sustainability criteria into public procurement policies, in particular for children, and establish recommendations for healthy food formulations. Develop fiscal tools with MS, encourage them to update their food-based dietary guidelines and support harmonized labelling systems. Promote healthy and sustainable diets through the EU's agri-food promotion budget.

We stand ready to support the Commission in building a sustainable, healthy, thriving, and diverse protein sector that secures a resilient future for Europe.

1. The Case for Protein Diversification in Europe

The food and agriculture sector is at the heart of complex and necessary discussions within the European Union. One critical issue—the future of proteins, from production to consumption—has sparked polarizing discussions, with various concerns often presented as unreconcilable: rural development and fair and decent farmer incomes, economic opportunities, environmental concerns, animal welfare, food security and sovereignty, and the demand for healthy and affordable diets. While these perspectives often appear to be at odds, we see an opportunity to bridge these divides. As a coalition representing stakeholders across the value chain and encompassing all protein types, we are committed to foster an inclusive and nuanced dialogue, shifting discussions from polarization to collaboration. In the context of the new EU mandate, the Draghi and Letta reports calling for greater innovation and competitiveness, the ongoing development of the Vision for Food and Agriculture, and the momentum from the Strategic Dialogue, we believe there is a unique opportunity to advocate for diverse, sustainable³ protein sources—plant, animal & novel⁴—as essential, complementary pillars of Europe's future food system.

Proteins are indispensable to human health and essential to the economic and rural vitality of the EU. Protein-rich foods not only provide one of life's essential building blocks, but are often a source of other critical nutrients, including fibre, unsaturated fats, vitamins, and minerals [1] [2]. Beyond their nutritional value, protein production and processing play a significant role in supporting rural economies. Additionally, protein production is crucial for preserving Europe's diverse landscapes and ecosystems, as both animal and plant protein systems play key roles [3]. Extensive and Nature-positive, livestock provides crucial ecosystem services on biodiversity rich grassland, while leguminous crops like peas and beans improve soil health by naturally fixing nitrogen, reducing reliance on synthetic fertilisers. Finally, the consumption of diverse proteins is deeply embedded in Europe's cultural heritage and culinary traditions, with the types and proportions of proteins evolving significantly over time reflecting changing societal, environmental, and dietary preferences.

Despite its importance, Europe's protein system faces significant challenges, that mirror broader issues in the food and agricultural landscape, including food security, public health and environmental externalities. The EU has a long-standing deficit in plant protein production and is heavily reliant on imports of protein crops. This is due to a sharp decline in European protein production for human food over the past 30 years and the growth of intensive livestock farming, which drives demand for feed. Currently, 66% of high-protein oilseed meals are imported [4], with 85% of soya coming from just two countries [5]. This poses food security risks and creates unfair competition for European farmers, as imported feed is not subject to the same environmental standards. Environmental and social impacts are also significant, with intensive animal farming contributing to greenhouse gas emissions and water pollution. Additionally, monoculture and pesticide-heavy plant protein production lead to biodiversity loss and soil degradation. For public health, unsustainable farming practices increase antimicrobial resistance and the risk of zoonotic diseases whereas the overuse of chemical pesticides causes health risks. [6]. Finally, diets across the EU diverge from nutritional guidelines, with excessive consumption of certain products and insufficient intake of

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legumes, fruits, vegetables, and whole grains. Diets low in legumes, for example, were accountable for a loss of an equivalent of 2 million years of good health and 130 000 avoidable deaths from across the EU [7] [8].

There is a unique opportunity for Europe to move towards healthy, sustainable protein sources that maximise benefits while minimising drawbacks. This opportunity is driven by growing awareness of soil health, advancements in agricultural practices and in technologies, and an increased focus on health and nutrition. To achieve sustainable protein diversification, a holistic approach that addresses both production and consumption is required, as well as collaboration across the value chain. This includes evolving to healthier diets rich in fruits, vegetables and whole foods, and making more crops available for human consumption. It also requires promoting production systems, including livestock, that regenerate agroecosystem health, increasing the domestic cultivation of protein crops for food and feed, and finally supporting the development of innovative food products to complement existing options⁵. Innovations⁶ such as plant-based foods and precision and biomass fermentation technologies for example hold the potential, where appropriate, to complement traditional production methods with systems that use less land and water. These innovations strengthen Europe's protein selfsufficiency, and establish a robust, resilient market for locally grown and produced protein-rich foods. It is finally also key to address challenges resulting from this transformation such as labour, mindsets and stranded assets in order to leave no one behind - in particular farmers whose circumstances make it harder to transition.

The transformation of the entire value chain towards sustainable protein diversification presents significant opportunities for farmers while delivering broad benefits for rural areas, enhancing competitiveness across the value chain, improving public health, and protecting the environment. By rebalancing and diversifying protein production and consumption for both food and feed, this transition will lay the foundation for a resilient, future-proof and sustainable food and agriculture sector in Europe:

- Empowered farmers: Farmers are the cornerstone of the food system, benefiting from diverse income streams and enhanced financial security. Protein diversification opens up valuable opportunities that are vital to ensure generational renewal and safeguard the long-term vitality of the agricultural sector. These opportunities include premium prices for sustainably produced goods (such as organic/regenerative dairy with high animal welfare), reduced input costs through the integration of legumes and pulses into crop rotations, the valorisation of byproducts and waste streams, and the cultivation of new protein crops. Additionally, farmers can diversify their income by processing protein crops on-site or supplying feedstock for novel protein production systems, creating a more resilient and dynamic agricultural economy.
- Revitalised rural areas: Rural regions are vibrant hubs of economic activity, driven by new jobs in diversified protein production and processing. Tailored, region-specific approaches—particularly in livestock management—enable communities to harness their unique agroecological strengths, fostering resilience and sustainable development. Practices such as integrating legumes and adopting agroecological systems have rejuvenated degraded farmland, enhancing the climate resilience of Europe's rural landscapes.

⁵ The current protein available per person per day in the EU is between 70-144g which is above the recommended levels of 0.83g protein/kg body per day. This allows for certain options to propose alternatives with lower protein content [11] [12]

⁶ It is key for these innovations to adhere to the high food and safety EU regulations and to the precautionary principle

- Enhanced agri-food competitiveness: Europe emerges as a global leader in sustainable protein innovation and the bioeconomy, spearheading the development of products that meet growing consumer demand for sustainable and healthy food. EU-funded and invented technologies and practices are commercialised within the continent, delivering widespread economic and social benefits. Innovation enables farmers to produce crops and livestock products in a sustainable and competitive way, whereas plant-based food and fermentation technologies, place Europe at the forefront of advanced food innovation, solidifying its reputation as a global hub for cutting-edge solutions. By reducing reliance on imports, Europe not only enhances self-sufficiency and protein autonomy, but also strengthens its position as a competitive and resilient force in the global food production landscape.
- Robust public health: All Europeans have access to affordable, healthier diets that align with WHO recommendations, significantly reducing health risks such as cardiovascular diseases. Diversified protein systems enhance dietary quality by increasing fibre and healthy fats, contributing to a substantial reduction in the 800,000 annual deaths in the EU attributed to unhealthy diets [9]. Moreover, these systems promote safer farming practices, lowering the risks of antimicrobial resistance and zoonotic diseases, and unintended health hazards from using pesticides thereby safeguarding public health and strengthening the resilience of Europe's food system.
- Thriving environment: Europe's landscapes are vibrant and diverse, rejuvenated by the environmental benefits of sustainable protein production. Greenhouse gas emissions are substantially reduced, biodiversity and grassland flourish, and healthier soils sustain greater agricultural productivity and product quality. Protein diversification is instrumental in achieving the Green Deal's goals by enhancing carbon absorption through land management⁷. Additionally, the shift towards extensive and nature-positive livestock systems significantly enhances animal welfare, setting a higher standard across the continent.

2. New opportunities for farmers at the heart of the diversification

Farmers are a diverse group, whose circumstances are shaped by factors such as farm size, region, production methods, and personal aspirations. Recognising this diversity, we have engaged with a various farmers across Europe who are actively pursuing sustainable protein diversification. These conversations have provided valuable insights into their practices, motivations, challenges, and the opportunities they perceive. Despite their varied drivers, one unifying theme emerges: the necessity of a viable business model. Such a model requires both effective production and a robust, sustained market to ensure fair and stable prices. Profitability is not only crucial for the long-term success of these farmers, but also pivotal in encouraging others to embrace sustainable protein diversification. By addressing key bottlenecks, Europe can support these business models, laying the foundation for a thriving and diversified protein sector that benefits farmers, consumers, and the environment alike.

Below we have collected success stories of farmers active in the sustainable protein diversification across Europe who were happy to share their journey, their challenges and dreams. We are very grateful for their input and believe these stories from the ground are critical to help shape the dialogue around sustainable protein diversification.

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⁷ Supporting farmers and land managers to create carbon sequestering from semi-natural habitats is 4 to 12 cheaper than BECCS [10].



Benedikt Sprenker: Balancing legumes and livestock

Benedikt Sprenker runs his family farm in Nordrhein-Westfalen alongside his father, wife, two employees, and two apprentices. The family's farming legacy spans 700 years, deeply rooted in the region. This heritage provides Benedikt with a long-term perspective to address today's agricultural challenges: "Farmers have always evolved. Just a few generations ago, ploughing

was done with horses—now that is a thing of the past. Today, climate change is driving the need for change, and every farmer is experiencing its impacts. But we must stay optimistic. We can adapt, and together, we must build a more sustainable and resilient world for future generations."

Benedikt and his family exemplify this adaptability through their **journey into protein diversification**. In 2002, they began diversifying by growing fava beans to improve crop rotation and provide feed for pigs. In 2010, they initiated field trials with soybeans, driven by the need for non-GMO feed and a pulse variety suited to changing climate conditions. Over the years, they expanded to include edamame soybeans (2015) and edible/dry beans (integrated into the rotation since 2021). Each year, Benedikt trials new varieties or products, combining traditional knowledge with innovation to optimise his farm's resilience and productivity.

Today, Benedikt's farm **cultivates 20–25 hectares of legumes annually alongside pig farming**. Legumes play a critical role in enhancing soil health, improving resilience, and increasing carbon sequestration. Much of the farm's legume harvest is processed on-site and sold through multiple channels: a small farm shop, an online platform launched in 2023, and partnerships with local supermarkets. Benedikt also uses legumes as a feed source for his pigs, reducing the need for imported soybeans and promoting circular farming practices.

Benedikt believes that plant and animal-based proteins should complement, not compete with, one another. By using low-grade legumes as animal feed, he revalorises waste streams, improves efficiency, and bolsters his farm's incomes. However, he emphasises that for farmers to thrive with legumes, **good and secure prices** are essential to create adequate added value and replace or complement income from livestock farming. "We need a European strategy that ensures better income opportunities for both plant and animal products" he notes. He also argues for a dietary shift towards eating more legumes/pulses, with meat consumed in moderation but of higher quality—much like the diet of his grandparents.

Looking to the future, Benedikt envisions a **well-developed European value chain for legumes and pulses**, with local processing as a cornerstone for rural development. For this to happen, he stresses the need for policy continuity and sustained support, as the transition to new practices is a gradual process. Policymakers must promote the consumption of European pulses, invest in processing facilities to build strong and stable value chains, and ensure farmers achieve fair and secure prices by providing tailored support for growing and by supporting the development of the market. Finally, Benedikt advocates for the creation of **on-farm competence centres** to share knowledge and demonstrate to farmers—both current and especially future generations—that sustainable protein diversification is a viable and rewarding path forward.



Torben Sønderby: Pioneering Sustainable Dairy Torben Sønderby, a third-generation organic dairy farmer from Denmark, is redefining what it means to farm sustainably. Managing 240 cows and cultivating 420 hectares of land, Torben runs the farm alongside his wife, who also is a nurse and four employees. Their operation is almost entirely self-sufficient, producing all the feed required for their livestock, including grains, oats, and protein-rich crops such as fava beans and

lupins (with less than 10% of total intake being bought). For Torben, **farming is not just a livelihood, it is a legacy**. "I want to leave my son, who's currently studying at agricultural school and might take over the farm, a healthier, better farm than the one I inherited," he says with quiet determination.

Torben's journey toward sustainability began nearly two decades ago when his family transitioned to organic farming. Back then, the decision was largely financial, coupled with the excitement of a fresh challenge. But eight years ago Torben took it further, embarking on a holistic transformation driven by the belief that sustainability is about more than emissions—it's about soil health, biodiversity, employee well-being, and animal welfare. "Sustainability is about much more than climate," he explains. "I could drastically reduce emissions in the short term, but if I compromised soil health or treated my employees poorly, it wouldn't work in the long run."

The results speak for themselves. The soil on Torben's farm is healthier, biodiversity is thriving, and his cows produce milk with an **impressively low carbon footprint of just 0.89 kg CO2 per litre—nearly 3 times lower than the industry average** of 2.4kg CO2 per litre. These outcomes are the result of an integrated approach that leverages data and collaboration. Torben meticulously tracks the emissions of every cow, selecting the most climate-efficient animals for breeding and optimising their feed. "I have more data about my cows than about my own health," he jokes.

Torben's cooperative, Arla, has been instrumental in his progress. By sharing best practices, providing access to knowledge centres, and introducing a sustainability point system, Arla incentivises its farmers to adopt innovative practices. For Torben, this means an additional €50,000 annually as a reward for his commitment to sustainability—proof that change is not only possible but also economically viable.

Looking to the future, Torben dreams of expanding his protein crop production to include fava beans for human consumption. However, he emphasises that this requires more than just his efforts; it needs a stable market and a robust value chain. "We need greater demand, supported by incentives and public procurement policies, to make locally grown protein crops a viable choice". Torben advocates for a dietary shift, encouraging people to eat like their grandparents: moderate amounts of high-quality dairy and meat, complemented by legumes and vegetables. For him, it's not about nostalgia—it's about building a healthier, more sustainable future.

Torben's story illustrates the power of combining traditional farming with modern technology and forward-thinking policies. It is a testament to what is possible when farmers, cooperatives, and policymakers work together. His farm is not just a model of sustainable protein production—it is an inspiring example for a resilient and thriving agricultural sector that benefits farmers, consumers, and the environment alike.

Matthias Krön: Building Sustainable Value Chains for Protein Diversification

Matthias Krön's was originally trained in Chinese and lived in Taiwan, where he was first introduced to soy milk during his time there—a product that would later inspire a career dedicated to transforming food systems. Upon returning to Austria in the 1990s, Matthias began working at a small dairy company in Burgenland. It was here that he observed soybeans being fed to cows for milk production which sparked a reflection: why not skip the intermediary and use soybeans to produce plant-based milk directly?

This insight marked the beginning of Matthias's success story. He spearheaded a transformation, convincing colleagues to experiment with soy and other plant-based alternatives. Under his leadership, the dairy company expanded its operations to produce soy, oat, rice, and almond milk. Despite initial resistance, particularly from farmers and employees accustomed to traditional dairy practices, Matthias demonstrated how plant-based production could complement existing systems. Over time, his efforts led to the **creation of Joya, a leading European brand for plant-based milk**. As he was advocating in the time already, this proved to be complementary with the dairy farmers as both have thrived during this time. Today, Matthias continues his mission as president of Donau Soja, a European association with 300 members spanning the value chain and 10,000 farmers. Donau Soja has contributed to doubling European soy cultivation and is actively expanding into other crops such as chickpeas and fava beans.

Matthias believes that the reduction of animal protein consumption in Europe is inevitable, and the focus must shift to increase value by **producing higher-quality, sustainable meat and dairy products while simultaneously expanding plant-based protein production**. "We're already seeing a decline in animal protein consumption," he notes. "The key is to make meat and dairy more sustainable and valuable while creating new opportunities in plant-based proteins. Both systems can complement each other. For example, high-quality soybeans can be used for tofu, while the byproducts can feed animals."

Matthias emphasizes the importance of developing **European plant protein value chains that place farmers at the centre**. Unlike animal production, where farmers capture the value of the secondary production, plant-based protein production often sees this value captured by processors. "Farmers need to be more involved in the value chain, including processing and other value-adding activities," he explains. "This strengthens rural communities and ensures that the benefits of increased plant-based production are shared fairly."

To achieve this vision, Matthias advocates for policies that support farmer-owned cooperatives and on-farm processing, similar to existing models in the dairy sector. He also underscores the need for more research on best practices for cultivating protein crops and developing alternatives for grass-based systems. Applied research on processing methods, as well as growing mushrooms while repurposing otherwise stranded assets, could unlock additional opportunities for farmers.

Matthias remains optimistic about the future. "The solutions are regional—there's no one-size-fits-all for Europe. But by working with farmers and engaging them in honest dialogue, we can create a food system that is both sustainable and profitable." His farm-to-table philosophy, rooted in supporting local communities and ecosystems, serves as a blueprint for how Europe can transition to a resilient and diversified protein landscape.



Marco and Chiara: Farming Ecosystems for Regeneration and Sustainability

On the volcanic high plateau of Acquapendente, Italy, Marco Carbonara and his wife Chiara have spent the last 20 years transforming their 100-hectare farm into a beacon of regenerative agriculture. Their farm is a testament to what agroecology can achieve when biodiversity, ecosystem productivity, and soil health are placed at the heart of farming. Marco passionately

believes that "there is no bad food or good food—it's about how it is produced. We should farm together with nature and not against it. Our choices in matter of food should be driven by what the ecosystems around us can provide. We should be nourished by ecosystems, not destroying them."

Marco and Chiara's farm is an intricate, living ecosystem, home to a diverse array of animals: 250 woodland-raised pigs, 50 goats, 100 sheep, 20 cows and 15,000 birds and even rabbits. These are part of a carefully planned system of multi-species grazing, designed to regenerate soil fertility and organic matter. "Each animal plays its role in the ecosystem," Marco explains, describing how different species graze at different stages of pasture regeneration to maximize land health. By focusing on permanent grasslands, they've eliminated the need for imported soy or corn reducing their carbon footprint, water consumption and avoiding deforestation risks.

Their commitment to sustainability extends beyond their farm. Marco collaborates with local farmers to source organic grace legumes and cereals, ensuring that **feed is sustainable and derived exclusively from waste streams that don't compete with food production for humans**. "A truly regenerative farm is one that maximizes solar energy and water through soil quality, producing as much organic matter as possible without depleting the ecosystem," he says. The farm's regenerative practices have led to remarkable results: **soil fertility has improved, and biodiversity has flourished**. Even meadow mushrooms, once nearly extinct in the region, have made a comeback. Despite these successes, Marco insists that regeneration is a long-term process. "In the beginning, we had to rely more on grains and had fewer cows. It's a gradual journey."

Marco and Chiara's philosophy extends to the community. Their farm is open to visitors every Sunday, offering a unique opportunity to **educate people about sustainable farming**. Their products, sold through direct farm sales, local markets, and a shop in Rome, fetch premium prices from customers who value not only quality but also the ethical and ecological story behind the food. With 11 employees across all activities and €600,000 in income, **their operation proves that regenerative agriculture can create meaningful jobs and income.**

However, Marco acknowledges the challenges. The **consolidation of large-scale farming** in Italy has driven down supermarket prices, making it difficult for sustainable farms to compete. "Industrial farming externalizes its costs—on workers, on the environment, and on animal welfare," he says. **Legal barriers also hinder regenerative farmers**. Policies often favor sterile environments, which clashes with the complex ecosystems required. **Developing rural infrastructure**—schools, internet, and transportation— is also key to attract young farmers. "We also need better knowledge-sharing systems and technical support tailored to our needs" he adds. Marco also advocates for **CAP reforms**: "The CAP should support transition efforts, not artificially sustain unsustainable practices. It's time for outcome-based subsidies that reward environmental regeneration. This is why two years ago, with farmers from across Europe, we founded the European Alliance for Regenerative Agriculture (EARA)."



Ruud and Kipster: A Circular Model for Sustainable Egg Production

Ruud, a third-generation chicken farmer from Limburg, Netherlands, has witnessed the rapid evolution of the egg industry. From his parents and grand-parents small-scale operations as a child, to owning large-scale caged chicken farms as an adult, he saw how efficiency in egg production

led to environmental harm and compromised animal welfare. Recognising the growing unsustainability of these practices, Ruud decided to embrace **circular production methods** to reconcile high efficiency with environmental and animal welfare standards.

Over five years ago, Ruud founded **Kipster**, a revolutionary farm committed to producing eggs in the most sustainable way possible while prioritising animal welfare, grounded in the following principles:

- **Feed from waste streams:** The chickens are fed exclusively on industrial and farm by-products, eliminating competition between human food and animal feed and ensuring sustainable feed.
- **Spacious, enriched environments:** The birds live in large, open spaces, with fewer chickens per square meter than conventional farms. The barns are designed with natural light, (artificial) trees to perch on, and outdoor access, significantly improving the living conditions.
- **Solar-powered farm:** The entire operation runs on energy generated from solar rooftops, making it fully self-sufficient.
- White chickens for sustainability: White chickens are more efficient at converting feed into eggs, making Kipster's system even more sustainable. Only these white chickens results in a 5% lower carbon footprint compared with brown birds.
- **No male chick culling**: Male chicks are not killed at birth; they are raised and sold for meat and as such there is no loss from the production of eggs.

This innovative approach has allowed Kipster to produce the world's first **carbon-neutral egg** while dramatically reducing pollution such as ammonia. Kipster continues to innovate and is now bringing their bread on the market. The bread is produced using cereal grown from their chicken manure, and the chickens are fed with the waste streams from bread production—allowing to fully close the loop.

Kipster's operation is a resounding success, with five chicken barns in the Netherlands and four in the US, each housing around 24,000 chickens. Ruud is also looking to expand Kipster into France, Belgium, and the UK, while continuing to scale the operations in the Netherlands and the US. The success of this model has been made possible through a scalable business plan and early engagement with stakeholders from both animal welfare and environmental groups. Key in its success was also an offtake agreement with Lidl from the onset which enabled the business to secure funding.

Ruud's vision for the future is clear: he hopes to see **circular methods fully embraced for protein production**, However, he acknowledges that such a model would not be able to produce the same volume of animal proteins as current methods, which requires people to eat better meat but in moderation. To facilitate this transition, Ruud calls on policymakers to design supportive policies to facilitate diets with diversified proteins. He also believes it is critical to de-risk financing for farmers looking to adopt more innovative, sustainable business models. He also advocates for support in revalorising waste streams, prioritising their use in feed and food production to close the circular loop.



Monika: Producing organic legumes and pulses on a diversified farm

Monika is originally from Warsaw where she spent the first 30 years of her life. That all changed 12 years ago when she met her husband, who had inherited a 34-hectare farm from his grandparents. The farm, which became organic in 1995—one of the first 100 in Poland—celebrates its 30th

anniversary this year as a pioneer in sustainable agriculture.

Monika sees farming as a responsibility to future generations. "Our task is to care for the land so we can leave our grandchildren a flourishing environment," she says. This includes a **commitment to soil** health and to promoting a shift in diets. She advocates for meals centred around vegetables, legumes, and pulses, complemented by high-quality meat consumed in moderation.

Organic matter is critical for soil health and Monika and her husband have therefore partnered with a nearby horse stable and an organic dairy farm, ensuring the manure they use is free from antibiotics and hormones, reflecting their commitment to sustainability. They have also decided to slowly reintroduce some animals on the farm such as sheep to produce their own manure and have a more closed circular system.

Monika has **embraced high-protein crops** like red kidney beans, lentils, and serabella, as they are both excellent for soil health and play a key role in healthy diversified diets. These crops now cover 25-35% of the farm's land. These nitrogen-fixing plants play a crucial role in maintaining soil fertility alongside crops like spelt, rye, buckwheat, pumpkins, and valeriana. Crop rotation and cover crops are central to their philosophy, helping to improve soil health, prevent erosion, and ensure long-term productivity. "Fertility of the soil is the most important thing," Monika says. "We must think about what we are leaving for future generations—a flourishing land, not one exploited for short-term gains."

To add value and improve income, Monika and her husband began **processing their crops professionally seven years ago**. They now produce flour from grains, and oils from pumpkin and walnut seeds, selling their products directly to clients through a variety of channels. While wholesale to processors once dominated their sales, direct-to-consumer sales and partnerships with organic shops, bakeries, and markets in Poland, Germany, and Belgium have grown significantly. "*More and more people come to the farm to shop directly,*" Monika explains, a sign of increasing consumer interest in organic and sustainable food systems.

Despite their success, Monika voices concerns shared by many farmers. Current policies often fail to align with sustainable farming practices, creating unnecessary bureaucracy and challenges for small-scale farmers. She recalls a time when farmers could raise and slaughter pigs on-site, selling directly to consumers—practices no longer permitted. Meanwhile, industrial-scale food production thrives, often benefiting from fewer regulations. Monika believes strongly in producing locally what can be grown and only importing products that cannot, a principle she feels should guide policy to support sustainable farming.

For Monika, the essence of organic farming lies in its interconnectedness. Every element, from the crops they grow to the manure they use, works together to sustain the health of the soil, the ecosystem, and the community. Her farm stands as a testament to the power of sustainable practices, proving that organic farming can create a resilient future while producing proteins sustainably.



Cristina Micheloni: Reviving Local Protein Crops for Sustainable Food Systems

Cristina Micheloni is an agronomist and president of AIAB FVG, a non-profit organization gathering about 120 organic farmers and more than 200 consumers, processors, advisers, researchers and municipalities in Friuli Venezia Giulia, region of northeastern Italy. Her journey into organic farming began during her university years in the early 1990s, driven by a belief in ethical and sustainable food systems. For Cristina, organic farming presented challenges that

were both intellectually stimulating and morally fulfilling. However, she quickly realized that even organic practices could be improved and that is the spirit of organic, particularly regarding feed production for animal husbandry, which often relies on imported proteins from Asia or Africa.

"It's not about black and white between plant and livestock," Cristina explains. "It's about moving forward together." With this vision, she has spent the last decade innovating and aligning the organic value chain with higher sustainability standards and contributing to protein diversification.

One of Cristina's first initiatives was to **relocate feed production to Europe**. Ten years ago, she led research projects funded by the EU to explore local protein sources for monogastric animals like chickens and pigs. These efforts included experimenting with camelina, a versatile crop that fits seamlessly into crop rotations during otherwise fallow periods. Camelina seeds yield oil for human consumption and a protein-rich cake for animal feed, which was successfully used to feed 14,000 hens. While challenges emerged due to competition from imported camelina oil, the project highlighted the potential of integrating new crops into local agricultural systems.

Cristina's work also extends to **pulses for human consumption**. Chickpeas and lentils, historically grown in the region before being replaced by beans imported from South America in the 17th century, are now making a comeback. These crops, along with newer introductions like azuki beans, are resilient to climate change and well-suited to local conditions. Through intercropping techniques and improved production technologies, these pulses have successfully reintroduced to local markets.

Cristina has focused on direct sales to consumers and partnerships with restaurants. This includes tasting sessions, educational campaigns, and collaborations with school canteens are helping to raise awareness about the benefits of local pulses. Pilot projects are currently underway to **integrate more locally grown pulses into school menus**, accompanied by training for kitchen staff and engagement with parents and teachers. "It takes time, but you need to work with the people and explain, to add nuance," Cristina says.

One of Christina's main challenges is the lack of supporting infrastructure for local protein production. One AIAB FVG member, Biolab, produces organic tofu and tempeh using as many locally sourced soybeans as possible. However, the region faces challenges such as limited storage capacity and a lack of cleaning facilities for pulses. Cristina emphasizes the need for public funding to develop small-scale machinery for intercropping and other applied agricultural innovations.

Despite the increasing resistance to environmental initiatives in recent years, Cristina remains **steadfast in her mission**. "Year after year, we've seen the impact on biodiversity and the environment," she reflects. "What we're doing is positive, and we need to continue this work."



Charlotte: Alternative income streams through agritourism

Charlotte's journey into agriculture began 15 years ago, driven by her deep love for animals and her desire to work in greater harmony with nature. She studied animal osteopathy, a field that perfectly blended her passions. During her studies, she worked as a farmhand on a dairy farm for five years, a period she describes as challenging but deeply fulfilling. Later, she spent three years as a replacement agent, gaining diverse farming experience before taking a bold step to start her own farm in Brittany, France.

When Charlotte took over an organic dairy farm, she was determined to chart her own course. "I wanted my cows to be my colleagues. I didn't want to exploit them but to work with them," she says. Her ethos of farming with compassion and sustainability shaped the way she managed her 40-hectare farm with 30 cows. Charlotte's approach was holistic: she prioritized biodiversity, soil health, and animal welfare. Her cows lived naturally, never separated from their calves, and were milked just once a day. She also didn't send her animals to abattoirs, opting instead to retire them to educational farms or eco-grazing projects, with one exception for a bull that became aggressive.

However, Charlotte faced a hard truth: the financial and physical demands of her ethical farming practices were unsustainable. Despite her dedication, the lack of adequate financial incentives for her approach made it impossible to continue. With support from TransiTerra, an organization **helping farmers transition to alternative income streams**, Charlotte made the tough decision to end her dairy farming and explore new opportunities.

Her transition was marked by creativity and resilience. She expanded her **pear and apple orchards, becoming a farmer-baker** producing bread directly on her farm. Additionally, she embraced **agritourism, transforming part of her farm into a retreat** with beautiful tipis that can host up to 20 visitors. This not only diversified her income but also created a vital connection between her farm and the public, fostering understanding about sustainable farming among children and adults alike.

While Charlotte would have loved to continue dairy farming if fair compensation for her practices were available, she is optimistic about her current path. "We consume too much dairy anyway," she remarks. Today, she focuses on increasing plant-based production, growing crops like buckwheat, hemp, and aromatic herbs. Her aspirations include cultivating pulses and legumes, but she points out a critical challenge: "It's much easier to find information about raising cows or growing wheat than about legumes and pulses. That's a real bottleneck to increasing European-grown legumes."

Charlotte also emphasizes the need for a robust value chain to support farmers transitioning to plant-based proteins. She highlights the importance of processing infrastructure to create stable demand and provide farmers with reliable off-take opportunities. Her story exemplifies the resilience and adaptability of farmers navigating the challenges of sustainability, offering a model for how diverse, nature-aligned practices can redefine farming for a more sustainable future.



Alfred from GRAND FARM: Pioneering a Regenerative and Organic Future in Austrian Farming

Alfred Grand runs a 90-hectare regenerative organic farm 40 kilometres northwest of Vienna with 5 full-time employees. What sets Alfred apart is his dual focus: his farm is not only a hub for food production but is also a research and demonstration site, a space to test and refine future-proof farming systems. These systems aim to regenerate the land, ensuring it is suitable for generations to come. "We grow food, we grow soil, we grow people", summarizing his philosophy.

Alfred's journey began when he took over his parents' farm in 2002. By 2006, he transitioned the farm to organic practices under the stringent Bio Austria certification, prioritizing soil health and environmental stewardship. This transition and his later work stems from his passion for sustainability which began more than 25 years ago when he first delved into vermicomposting and studied the role of earthworms in soil health. His early experiments revealed the **critical importance of healthy soil, sparking his transition to organic farming**. "Healthy soil is the foundation of everything," he says. "It's why I moved away from polluting practices and toward methods that restore the land."

Today, his farm is also one of the first in Europe to earn Regenerative Organic Certification, a U.S.-based standard emphasizing soil health, animal welfare, and social fairness for farmworkers. For Alfred, farming isn't just about production; it's about creating systems that nurture the planet while supporting human communities. He does this with advanced crop rotations including hemp, lentils, oats, buckwheat, rye, and other grains, carefully chosen to balance soil health and biodiversity. Hemp, rich in protein and amino acids, is a promising plant protein and popular among vegan athletes. Additionally, lentils (grown as a carbon negative crop with the organic no-till, roller crimper method) thrive in his region's conditions, improving soil health and sequestering carbon.

Beyond his own farming practices, Alfred has **transformed his farm into a hub for research and knowledge-sharing**. In 2018, he partnered with scientists and policymakers to establish a research and innovation centre focused on developing and disseminating sustainable farming methods. His farm is one of 13 "Lighthouse Farms" globally, showcasing regenerative agriculture to stakeholders. He hosts workshops, interns, and school visits, and engages with politicians and citizens to promote sustainable practices. "We don't just farm—we drive innovation," Alfred notes, emphasizing his dedication to helping other farmers adopt practices that work for their unique circumstances.

Despite his success, Alfred faces **challenges**, **particularly in securing funding for his research**. Much of his innovation has been financed privately, with limited public support so far. He also highlights the **lack of accessible knowledge for farmers looking to adopt regenerative practices**. "Europe's diverse climates and systems mean there's no one-size-fits-all solution," he says. "We need more on-farm research, collaborative partnerships, and open-access databases to share what works and what doesn't." Currently, the risk for many farmers to transition is just too high.

Alfred advocates for **increased funding for practical, farmer-led research** supported by academic institutions and corporations. He believes that every farm could become a small-scale research site, contributing valuable insights to the **collective knowledge base of sustainable agriculture**. This would plant the seed for a more sustainable food system for all.



Josef: Innovating Circular Farming with Alfalfa and Biomass

Josef is an innovative organic farmer in the Czech Republic, managing a 700-hectare farm with 1500 animals, including 800-1,000 pigs and a herd of cows. A graduate of secondary agricultural school, Josef began his journey by acquiring farmland from previous private owners (farmers) after the post-revolution privatization in 1992. Guided by a

deep commitment to animal welfare, sustainability, and innovation, he has transformed his farm into a **leading example of circular farming.**

Josef seamlessly blends traditional agricultural wisdom with cutting-edge technology. In 2010, he installed a biogas station on the farm to process waste and generate electricity. This biogas system uses waste from his own operations and nearby farms, producing electricity for both his farm (10%) and the surrounding regional town Jihlava (90%). The system also generates organic fertilizer, enriching the farm's soil and closing the loop on waste management. Additionally, Josef uses the heat from the processing of biogas for drying and afterwards separation of alfalfa stems and leaves, creating customized feed for both pigs and cows.

Alfalfa, a highly resilient leguminous crop, thrives in challenging conditions by fixing nitrogen and drawing moisture from deep in the soil. While crushed alfalfa is ideal for cows, it is less suitable for pigs. Josef developed an **innovative method to separate the nutrient-rich leaves from the fibrous stems, maximizing alfalfa's potential**. Stems are fed to cows, while the protein-rich leaves are perfect for pigs. This dual-purpose approach not only enhances animal health and nutrition but also reduces dependency on imported soy—a feed crop with significant environmental costs—thereby strengthening the resilience of the food system by making the feed more sustainably.

To bring this groundbreaking system to life, Josef collaborates with Czech universities and European innovation partnerships. "No one else in the Czech Republic is doing this yet," Josef notes, emphasizing the importance of research grants to refine his methods and collect data to drive broader adoption. While his alfalfa separation system is still in its early stages, Josef envisions scaling it across Europe. He is also **exploring the potential for human consumption of alfalfa** as a food supplement, highlighting its versatility and sustainability.

Despite the inherent challenges of organic farming, Josef remains optimistic about the future. He believes that **supporting leguminous crops, investing in research, and raising awareness about sustainable meat production** can drive meaningful and lasting change. "The EU often focuses on big leaps, but it's the small incentives and steady progress over the long run that truly make a difference," he says.

Josef's farm embodies the future of sustainable agriculture: a system where waste becomes energy, local crops feed both animals and maintain ecosystems, and innovative practices enhances resilience. His commitment to connecting every aspect of the farm, supported by robust data, ensures that his work **will inspire others to adopt innovative organic practices**, fostering a more sustainable and resilient food system for Europe.



Isabel González Díaz de Villegas: Reconnecting Nature, Food, and Communities

Isabel González Díaz de Villegas left a 25-year career in technological consulting to pursue her dream of sustainable farming in Cantabria, Spain. In 2016, equipped with a Master's in Organic Agriculture, she began her journey as a farmer and livestock keeper. On her 10-hectare organic farm nestled by the Cantabrian Sea, Isabel has created a symbiotic system where her 10 cows graze on 8 hectares of lush pasture dotted with fruit

trees, while 2 hectares are devoted to organic blueberry cultivation. The cows provide composted manure for the blueberries, which in turn offer shade and nourishment to the livestock, fostering a circular and self-sufficient ecosystem not relying on any feed import.

For Isabel, soil health is the cornerstone of her philosophy: "Healthy soil leads to better food and better nature." **By prioritising biodiversity and agroecology, her farm has become a haven for wildlife**, with bird populations thriving. Reflecting on her work, she says, "I have seen in less than a decade nature improve and an increase in birds. We must be doing it right."

Her vision extends beyond the farm. Isabel is passionate about **reconnecting nature**, **food**, **and communities**. She works tirelessly to produce high-quality, organic food without external inputs, selling directly to consumers, organic shops, and local markets. While making a viable income remains a challenge, Isabel's revenue has been steadily increasing. Approximately 80% of her income comes from her blueberries, 10% from fruit trees, and 10% from her cows. With plans to expand into Southern France—where demand for organic produce is stronger—she is optimistic that this move will secure her farm's long-term financial sustainability.

Isabel's story highlights the challenges many farmers face in sustainable protein diversification, as well as the opportunities. To ensure more farmers can thrive in similar systems, she underscores the **need for targeted EU support**. It is essential to have policies that develop local markets for sustainable produce, coupled with targeted payments for farmers adopting agroecological practices. Moreover, fostering strong regional value chains would provide the stability and fair pricing necessary for farmers like Isabel to succeed.

Her journey is a testament to the **resilience and dedication required to create a more sustainable food system**. Isabel's work is not just about producing food—it is about inspiring change, proving that farming in greater harmony with nature is not only possible but can flourish with the right support.

3. The need for ambitious strategies from the EU to support the diversification

As the Commission develops its Food and Agriculture Vision, there is a unique opportunity to establish sustainable protein diversification—both in production and consumption—as a cornerstone of a sustainable, resilient, competitive, profitable, and just food system. While protein diversification alone cannot resolve all the challenges facing the food and agriculture sector, it serves as a vital pillar for addressing interconnected issues driving meaningful and systemic change across the entire value chain.

We urge the Commission to prioritise protein diversification by actively engaging with farmers and stakeholders across the value chain. This collaboration should focus on fostering innovation, addressing challenges, and ensuring that diverse perspectives are integrated into actionable solutions. It will be essential to draw on best practices from member states as outlined in "CAP Strategic Plans and protein crops," and advancing initiatives such as the EU Action Plan for Plant-Based Foods proposed by the Strategic Dialogue. Supporting the scaling up of essential European technologies and acting promptly to implement these systemic changes is also crucial, given the time-intensive nature of transforming agricultural practices. Additionally, it is imperative for the Commission to emphasise the positive impacts of these policies and effectively communicate them to stakeholders across the value chain and to consumers, fostering widespread understanding and support. Finally, creating food environments where the healthy and sustainable choice is the easiest option will require a coordinated effort across all levels of governance, from the EU and Member States to cities and local authorities, ensuring alignment and collaboration to drive meaningful change.

By prioritising the empowerment of farmers, revitalisation of rural areas, enhancement of agri-food competitiveness, improvement of public health, and protection of the environment, the EU can establish a robust framework with clear targets and milestones to support this transition. A long-term vision and trajectory are essential, recognising that meaningful change is gradual and requires holistic and coordinated policies that support both production and consumption. Furthermore, integrating this approach with EU goals on climate and biodiversity and to EU initiatives, and further strengthening cross-DG collaboration, will ensure alignment, maximise synergies, and drive impactful transformation.

Through our bottom-up approach with farmers and coalition members, we have identified 8 recommendations that the Commission should include in its vision and workplan to ensure sustainable protein diversification delivers maximum benefits for all:

I. Facilitate access to finance for farmers to transition to sustainable practices

A key barrier for farmers transitioning to sustainable practices or adopting new ones is the upfront investment required and the potential temporary drop in income. Establishing an Agri-Food Just Transition Fund (AJTF) with a dedicated pillar on protein diversification can address this challenge for farmers wanting to transition. This fund would require tailored support to regional and context-specific needs to ensure no region or farmer is left behind. To amplify the impact of public investments, it is crucial to de-risk private finance and broaden access to funding, particularly for young farmers. Key measures include: (i) increase the EIB's investments in the agri-food sector with a pillar on sustainable protein diversification, (ii) Enhance predictability of investments and provide clear market signals by setting long-term sustainability and animal welfare targets and trajectories beyond seven years, (iii) adapt bank lending frameworks for agriculture, for example, by applying lower risk weights to loans for sustainable farms in line with climate adaptation and Nature based solutions.

II. Support farmers and workers to benefit from sustainable protein diversification

Farming sustainably presents challenges for farmers, requiring tailored support to ensure success. Result-based CAP payments should more effectively incentivise sustainable practices like organic, agroecological, and regenerative farming, with targeted mechanisms such as coupled support or ecoschemes for cultivating legumes and pulses. Establishing a harmonised methodology for on-farm sustainability assessments is crucial, focusing on principles, context-specific indicators, and measurable outcomes. This approach not only aligns sustainability criteria across the value chain but also enhances farmers' incomes by distributing responsibilities and investment needs for sustainable protein diversification equitably among stakeholders. Additionally, strengthening advisory service networks can provide targeted training and reskilling opportunities for farmers and rural workers to adapt solutions to local circumstances. These trainings should emphasize new business opportunities, resulting from protein diversification, to farmers and foster farmer-to-farmer knowledge exchange, creating additional revenue streams for pioneering farmers.

III. Strengthen farmers' position in the market

Many farmers in Europe struggle to achieve fair and sustainable incomes for their important work. To address this, the next CAP must prioritise **payments for those who need them most**, particularly smallholders and young farmers. **Trade policies** should align with food sovereignty principles, especially for proteins, and harmonize with EU sustainability standards and its citizens ethical concern for animal welfare. Finally, it is essential to **boost investments in climate adaptation measures** at the farm and regional levels to safeguard against the adverse impacts of climate change

IV. Increase rural resilience and preserve vibrant landscapes

Europe's rural landscapes are diverse, critical for biodiversity, and integral to food production. Recognizing this diversity, the CAP reform should require Member States to develop **region-specific sustainable agriculture plans backed by subsidies**, with protein diversification as a key component. The plans should align food and feed production with long-term food security and resilience as well as with environmental goals while accounting for climate change. The plans should include a strategy on how to use land beyond agricultural production, unlocking nature and biodiversity benefits as well as. **Enforcement of existing environmental regulations** is crucial to safeguard landscapes, forests and ecosystems across the EU. Finally, providing targeted support for processing facilities and novel protein hubs **located within farming regions** will drive economic growth, revitalising rural areas.

V. Reduce Zoonotic Disease Risks and Antimicrobial Resistance

Zoonotic diseases and antimicrobial resistance pose significant threats to public health and the economy, as evidenced by the Covid-19 pandemic. Promoting holistic, high animal welfare livestock systems, crop-livestock integration and lower antibiotic usage can reduce these risks. Finally a science-based modernisation of the outdated EU animal welfare legislation is needed.

VI. Elevate the agri-food sector's innovation to retain EU's global leadership

Innovation is fundamental for advancing protein diversification and enhancing Europe's competitiveness in the global agri-food sector. To achieve this, increased R&D investments in agriculture should focus on new nature friendly protein crops (including perennials), efficient and sustainable production methods including equipment, technologies to improve the impact of animal farming, data tools for farmers and solutions to reduce waste. R&D in food should focus on innovation for plant-based food and novel proteins, and on consumer behaviour research to drive adoption. Developing fully-fledged framework for public-private partnerships for sustainable agri-food and engagement with the value chain will ensure to bring innovations on the EU market. Agri-food should also be considered in all relevant EU strategies and acts, such as the Bioeconomy Strategy and the Biotech Act, to create opportunities for farmers (by, for example, providing feedstock), as well as for the broader agri-food sector, while ensuring nature-positive outcomes. Strengthening EFSA based on its evaluation is essential to accelerate time-to-market for innovative products while maintaining the EU's high safety standards and the precautionary principle.

VII. Support the development of a strong, diversified protein value chain

A resilient and efficient value chain is fundamental to achieving sustainable protein diversification in Europe. Establishing a **level playing field** among proteins in Europe is crucial to develop a competitive and innovative sector. **Commodity-specific strategies** should be developed together with stakeholders across the value chain to resolve bottlenecks through public-private partnerships and increase investments in key infrastructure such as processing facilities. This is key to efficiently connect suppliers with new industries and provide scalable alternatives to current systems. Finally, promoting **circular business models** by revalorising by-products and waste streams, coupled with support for innovative agricultural practices, will further enhance the strength and sustainability of the diversified protein value chain.

VIII. Improve the food environment to make the healthy and sustainable choices the easy ones Dietary patterns like the Planetary Health Diet combine health and sustainability, offering a roadmap for improved nutrition and environmental impact. The EU should champion consumption of these diets by supporting all levels of government in the EU to create a food environment that enhances the availability, affordability, and accessibility of healthy, sustainable options. On availability, the EU should embed binding health and sustainability criteria into public procurement policies, in particular for children such as through healthy and sustainable school meals and establish recommendations for healthy food formulations. On affordability, collaboration with Member States is needed to develop fiscal tools, such as tax incentives and subsidies for healthier, sustainable choices. Regarding accessibility, the EU should encourage Member States to update their food-based dietary guidelines to reflect sustainability principles, and support the harmonization of labelling systems on health, sustainability and animal welfare to empower consumer decisions. Furthermore, the EU's agri-food promotion budget should actively promote the benefits of healthy diets to all.

Finally, we express our readiness to support the Commission on this journey and offer any additional input that may prove helpful, including further reflections on the recommendations, farms visits and engagement with stakeholders across the value chain. Sincerely:













































































































































































Bibliography

- [1] F. Leroy, N. Smith, A. Adesogan, T. Beal, L. Iannotti, P. Moughan and N. Mann, "The role of meat in the human diet: evolutionary aspects and nutritional value," Anim Front, 2023.
- [2] S. Hertzler, J. Lieblein-Boff, M. Weiler and C. Allgeier, "Plant Proteins: Assessing Their Nutritional Quality and Effects on Health and Physical Function," Nutrients, 2020.
- [3] J.-L. Peyraud and M. MacLeod, "Future of EU livestock: How to contribute to a sustainable agriculture sector?," Publications Office of the European Union, 2020.
- [4] H. Jordan, T. Gianmaria, H. Mihaly, B. Caetano, B. A. Luisa, I. Ancuta, K. Ana, K. Dimitrios, T. Pascal and F. Thomas, "Closing the EU protein gap drivers, synergies and trade-offs," Publications Office of the European Union, 2024.
- [5] E. commission, "Protein supply and demand (September 2024)," 2024.
- [6] E. E. Agency, "How pesticides impact human health and ecosystems in Europe," 2023.
- [7] E. Commission, "COMMISSION STAFF WORKING DOCUMENT: Drivers of food security," 2023.
- [8] "Knowledge for policy: Health Promotion and Disease Prevention Knowledge Gateway," January 2024. [Online]. Available: https://knowledge4policy.ec.europa.eu/health-promotion-knowledgegateway/legumes-pulses_en.
- [9] "EU burden from non-communicable diseases and key risk factors," 2024.
- [10] M. MacDowell and N. Fajardy, "Can BECCS deliver sustainable and resource efficient negative emissions?," *Energy & environmental science*, vol. 10, no. 6, pp. 1,389-1,426, 2017.
- [11] "FAO Statistics Division, Food Balance Sheets," 2019.
- [12] EFSA, "Scientific Opinion on Dietary Reference Values for protein," European Food Safety Authority, 2011.