

Joint Master in EU Trade and Climate Diplomacy

*Optimising policy instruments for the
transition to plant-based agriculture:
navigating farmers' protests and the
Farm to Fork strategy*

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Statutory Declaration

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Acknowledgments

One year ago, I was in a different library, different country, but doing the same thing: writing my thesis acknowledgments and reflecting on the past year.

This adventure of participating in a Joint Master in EU Trade and Climate Diplomacy has come to an end and I want to take this opportunity to express my gratitude to those who have supported me through this year and the process of writing this thesis.

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Thank you to everyone that contributed to making this possible.

Ad maiora!

Abstract

This thesis explores the optimization of policy instruments to facilitate the transition to plant-based agriculture within the European Union (EU), addressing critical challenges such as farmer protests and the limitations of the Farm to Fork (F2F) Strategy. The research analyses the current agricultural policy landscape, focusing on the Common Agricultural Policy (CAP) and the F2F Strategy, and their alignment with the EU's climate goals. Through extensive literature review, policy analysis, and focused expert interviews, the study identifies key barriers and proposes actionable solutions.

The research highlights several critical considerations and solutions. Financial mechanisms, such as subsidies and tax incentives, are vital for encouraging the adoption of sustainable practices. The thesis suggests reallocating subsidies from environmentally harmful practices to eco-schemes and alternative protein sources like plant-based crops and fermentation products. Educational policies and awareness programs are essential to align consumer demand with sustainable agricultural practices, addressing the gap between farmer perceptions and consumer preferences.

The findings contribute to the discourse on sustainable food systems by offering policy recommendations that balance environmental sustainability with socio-economic considerations, creating the foundation for future research to launch a practical time-bound strategy.

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1. Introduction

1.1 Background

The closing months of 2023 and the initial quarter of 2024 have certainly been tumultuous and have posed interesting questions for the next legislative session due to start in June after the recent European elections. Some of the most critical events are the full-scale invasion of Russia in Ukraine, the new developments of the Israel-Palestine conflict, and European-wide farmers' protests, together with the related food and energy crises.

The impact of these events can already be seen in the discussions happening in Brussels for the next legislative period. Although the Strategic Agenda 2024-2029 is scheduled for adoption in June, deliberations among heads of state and government have already revealed future priorities, markedly divergent from those of the preceding 2019-2024 period (European Council, 2019). Whereas the current Agenda underscores the pursuit of a greener, climate-neutral, and fairer Europe, indications suggest that the upcoming Agenda will place heightened emphasis on security and defence concerns, including migration and enlargement issues (European Council, 2024).

The shift away from environmental commitments has been described in the news as the "age of the greenlash" (Taylor, 2024), as farmers' protests and the rise of populism, have contributed to weakening EU green objectives and raising demands for a revision of the European Green Deal (Henley et al., 2024). The agricultural sector has appeared as the most conservative and resistant to change, even regarding terminology and lighter reforms, as revealed for instance by the AGRI Commissioner Janusz Wojciechowski, wanting to have the expression "diversified protein intake" removed from the Commission proposal for 2040 (Schiphorst, 2024).

To address these concerns and appeals, President von der Leyen launched the Strategic Dialogue on the Future of Agriculture in January 2024, stating the need for agriculture and environmental protection to develop simultaneously as both are crucial to address the current challenges (Mamer & Podesta, 2024). In the same speech, von der Leyen addressed the necessity of implementing a long-term perspective in the agri-food sector in Europe, that will help face the critical challenges of external competition, domestic overregulation, climate change and biodiversity loss.

However, when looking at what European political parties are saying in their Manifestos in view of the 2024 European Elections, it is evident how policy reforms and the focus on

subsidies for critical sectors are on the agenda of most. The European Vegetarian Union (Pinto, 2024) created a voter's guide to check the stance of the different parties on the plant-based transition, which provides a good overview of the perceived priorities of each political group. Firstly, most groups have included the reform of the CAP in their agenda, given the widespread unrest from farmers that has been observed. Yet, the most common priority is to strengthen the economic pillar of the CAP and reduce bureaucracy to decrease the administrative burden on farmers, as expressed by the European People's Party (EPP) and the Alliance of Liberals and Democrats for Europe Party (ALDE). Most groups are also looking to drift the focus from exclusively looking at economic goals, to including environmental and health targets. Additionally, parties that have historically been more progressive on the matter, like the European Greens/European Free Alliance (EFA) Group and Volt Europa, are also explicitly advocating for shifting subsidies as well as Research and Innovation (R&I) investments away from harmful practices in favour of the production of plant-based alternatives. So far, only three parties have mentioned the creation of an EU-wide Plant Based Action Plan and are proposing more targeted solutions, but almost everyone is advocating for the inclusion of the 'polluter pays' principle to the agricultural sector, which is a promising sign showing that encompassing agriculture in green regulations is still considered essential. What is certain, as a recent article from POLITICO from May 29th 2024 points out, is that the creation of a more conservative and far-right Parliament, as predicted by current polls, will most likely complicate and slow down the Commission's efforts to implement ambitious legislation in the field of agriculture and climate targets (Wax et al., 2024).

1.2 Research gap

When it comes to finding ways to enact these reforms and embarking on this transition, it might be useful to turn to crisis studies, as crises can be seen as opportunities for change to move towards a more resilient and sustainable system (Schneider et al., 2010; Ulmer et al., 2010). For this reason, researchers have the responsibility to investigate the unexplored potential of different kinds of agriculture systems, not yet exploited that could act as the solution and the missing piece of this intricate puzzle. Nonetheless, institutional reforms for the sector were mentioned as part of the solution in the event called "Taking Stock of the Farm to Fork Strategy: Reflecting, Rethinking, Rebuilding", organised by Europe Jacques Delors and the European Food Forum (Mabille, 2024).

One of the identified solutions to the food crisis and to the declining state of the environment is the deployment of an agricultural system with reduced livestock and the absence of chemical fertilisers (Billen et al., 2024). The current Farm to Fork scenario does not meet the recommended objectives of emissions reductions while keeping production levels to the right amount to feed the population. Instead, as argued in the Climate Risk Assessment report, reducing animal production and meat and dairy consumption in Europe and worldwide, increases food availability, particularly cereal, for human consumption, enhancing food security whilst meeting environmental targets (EEA, 2023). Moreover, the same report highlights that ignoring these scientific recommendations could be detrimental for agriculture, which is set to experience extreme weather events that will hurt production and reach 'catastrophic levels' in the next 100 years (EEA, 2023). Significant reductions in environmental impacts can only occur through a global shift away from animal-based diets (UNEP, 2010). However, despite the substantial evidence on the matter, the belief that both farming and diets have to change (Weise, 2024), as well as the linked support from consumers, there are no significant studies on the policy instruments that will be needed to facilitate such transition, especially in the turbulent current environment.

1.3 Aim and Objectives

This research focuses on crafting policy instruments to facilitate the shift to plant-based agriculture, given the benefits and the enabling factors that are discussed in the literature review section. The aim of this study is to investigate policy instruments to be implemented in the Common Agricultural Policy (CAP) to advance the transition to plant-based agriculture in the EU at this critical point in history.

Objectives are as follows:

1. Assessing the current environment in the aftermath of farmers' protests and the failure of the Farm to Fork Strategy
2. Exploring the opportunity for the transition to plant-based agriculture in the next CAP reform
3. Identifying new policy instruments to aid the transition in collaboration with key stakeholders from different backgrounds.

A detailed overview of the research strategy and design can be seen in the methodology.

2. Literature review

2.1 Assessing the EU's policy mix – CAP and Farm to Fork

To better locate the need for a reform in the agri-food policy sector, it is useful to look at the April 2023 Report from the European Environment Agency which explores the opportunity to transform Europe's food systems. In the current state, almost one-third of GHG emissions are attributed to food systems, which are also responsible for biodiversity loss and harmful health impacts (EEA, 2023).

This research considers 'food systems' the mix between actors, processes, infrastructure, institutions, and the environment relating to the entire supply chain of food. This can be seen in Figure 1 below, which shows the complex and full range of EU policies and strategies influencing Europe's food systems, including environmental, climate and resource policies and the broader climate-neutrality visions for 2050.

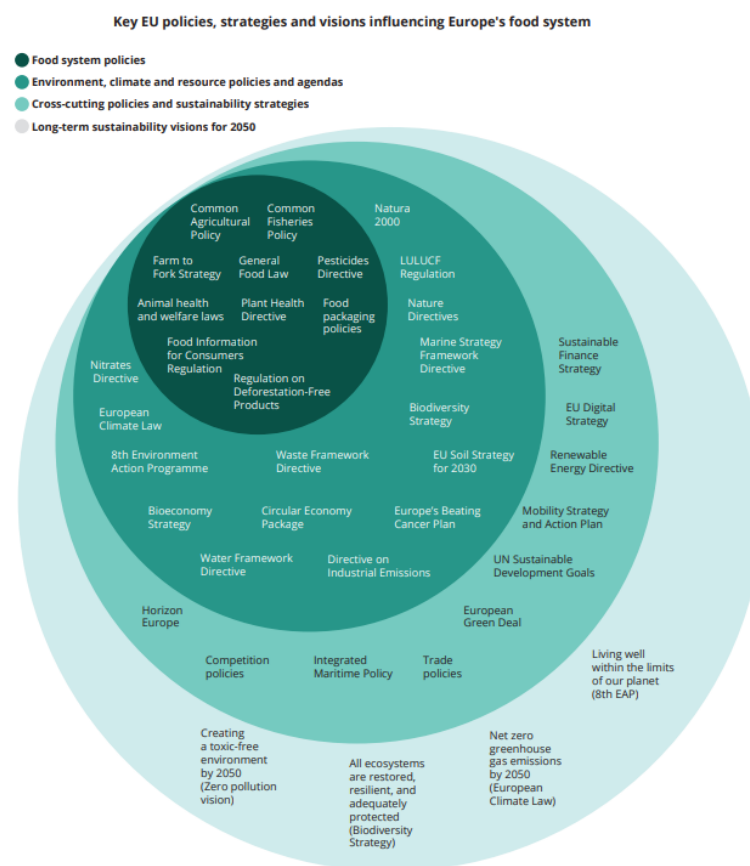


Figure 1: EU food system policies. Source: EEA (2023)

Before delving into the Common Agricultural Policy (CAP) and the Farm to Fork (F2F) Strategy, it is beneficial to examine the broader spectrum of EU policies related to food systems, as depicted in Figure 1. Two particularly significant regulations that affect plant-based food systems are the Sustainable Use of Pesticides Directive and the Biodiversity Strategy.

The Sustainable Use of Pesticides Directive (Directive 2009/128/EC, 2009) was in the process of being revised into the Regulation on the Sustainable Use of Plant Protection Products, which would be uniformly and immediately applicable across all EU Member States (European Commission, 2024). However, on March 27th, 2024, the Commission included this proposed regulation in a list of withdrawn proposals (Withdrawal of Commission Proposals, 2024). The proposal was retracted due to a lack of discussions in the Council and a high likelihood of rejection by the European Parliament, having become a major emblem of division (Gyapong, 2024). Without this regulation, the environmental and health benefits associated with plant-based agriculture are compromised due to increased exposure to harmful chemicals present in pesticides, which affect those consuming plant-rich diets (Kesse-Guyot et al., 2023).

Another significant yet unsuccessful regulation is the Nature Restoration Law, part of the EU Biodiversity Strategy. Italy, Hungary, and five other countries opposed its adoption in the Council (Bompan, 2024). The EU's current trajectory appears to prioritize short-term and security-focused concerns, including food security, over sustainability (Manzanaro, 2024). Neglecting issues such as biodiversity loss and environmental pollution can negatively impact not only the environment but also the economic activities and financial stability of farmers and others involved in food systems, as highlighted by the EEA European Climate Risk Assessment (European Environment Agency, 2024).

This study will now focus specifically on the Common Agricultural Policy and the Farm to Fork (F2F) Strategy, which are directly related to agriculture and food production. It will be argued that these policies require reform to meet existing climate goals.

To systematically analyse the current situation, the report draws theories and lessons from transition research and the associated policy action. Complex societal changes can be more impactful when radical innovations become established and widespread. However, since there are critical barriers to the implementation of innovations, as the status quo is well entrenched in people's lifestyles, some peculiar circumstances need to be met, which will then inform the right policy instruments to adopt at a certain stage. The two main enabling conditions are the availability of spaces protected from usual

market forces, like demo projects and research and development labs (Hausknot & Haas, 2019; Kemp et al., 2007), and the need to develop disruptions in the dominant sector. These are reflected in the theoretical scheme taken as the backbone of the report, which is also incredibly relevant for this study, and is about six intervention points identified by Kanger et al, to enable disruptions and innovations (Kanger et al., 2020), and shown in Table 1 below.

Intervention point	Policy rationale	Instruments
Niche stimulation	Stimulate innovation	<ul style="list-style-type: none"> • R&D funding schemes • Demonstration projects • Tax exemptions • Educational policies and training programmes
Niche acceleration	Advance and institutionalise niche practices	<ul style="list-style-type: none"> • Incubators • Standards and labels • Entrepreneurial support • Advisory services • Subsidies • Public procurement
Regime destabilisation	Phase out unsustainable practices	<ul style="list-style-type: none"> • Subsidy removals and reforms • Technology bans • Carbon pricing
Repercussions of regime destabilisation	Predict and oversee disruptions	<ul style="list-style-type: none"> • Creative labour adjustment programmes • Compensation schemes for losers

		<ul style="list-style-type: none"> • Reskilling and unemployment support
Coordination of multi-regime integration	Coordinate input-output relations	<ul style="list-style-type: none"> • Integrating policy areas • Impact assessments
Landscape tilt	Direct innovations and changes	<ul style="list-style-type: none"> • Broader strategic frameworks and visions

Table 1: Intervention Points. Adapted from: Kanger et al, 2020

Starting off with CAP, 30 out of 32 instruments relate to production and they focus on niche stimulation, niche acceleration and very little on regime destabilisation, providing an insufficient mix to assist any kind of transition or innovation. To get a brief overview of the current CAP scenario it is useful to note that 25% of the budget of direct payments is currently allocated to eco-schemes, whilst 75% of them are still directed towards more environmentally harmful practices (EEA, 2023). In spite of the imputed alignment with F2F, CAP policy instruments remain unaltered (Galli et al., 2020). In addition, despite the proposal by the Greens to put a limit on the subsidies offered through CAP, the Council of the EU rejected it, keeping the status quo (Rubino, 2021). Even the #VoteThisCAPDown movement, endorsed by the Greens/EFA Group in 2021, due to the misalignment of the policy with the Green Deal and Biodiversity Strategy, failed to achieve concrete results (Greens/EFA Group, 2021).

The F2F Strategy instead covers all points of intervention except from the repercussion of regime destabilisation, which is potentially the most significant as reforming agriculture comes with considerable political challenges and resistance.

Overall, the main shortcomings of the EU policy mix are the limited use of measures to promote sustainable consumption, the narrow use of pricing instruments, and impactful mechanisms to influence key actors. In the CAP, only 2 instruments focus on the demand side, tackling solely information and policy campaigns, whereas in the F2F Strategy 14 instruments are targeting consumption and waste, focusing on labelling, certification, date marking, origin indication and dietary guidelines.

However, as price is still one of the most influential factors in driving consumption (Nicolau et al., 2021), food prices need to be shaped to portray the right messages, reflecting for instance the true costs of production and consumption (Fesenfeld et al.,

2020). This has been proposed in New Zealand taxing harmful emissions from agriculture and especially from livestock farming, as there are seven times more livestock than people in the country (Katanich, 2023) but has caused outrage and has been pushed back to the end of 2025 (Craymer, 2023). Other strategies could be taxing inputs like fertilisers or high-impact foods like meat and dairy, based on the lifecycle assessment of environmental impacts, or on the contrary, a VAT reduction for healthy and sustainable foods. However, taxing production is politically difficult and extremely risky in the current climate as it causes domestic producers to have a disadvantage in comparison with third-country producers and causes concerns that have contributed to the farmers protests, and to the stagnation of the Mercosur trade deal. Currently, at the EU level there is also no scheme in place to account for emissions from agriculture, although they are set to be included in the Emissions Trading Scheme (ETS) 3, which is still a hot topic of discussion in Brussels (Krukowska, 2024). Finally, the EU's reliance on voluntary schemes and self-regulation does not pose enough pressure to food system actors to make sufficient changes. Instead, binding measures like regulations and fiscal instruments tend to have a higher effectiveness rate (SAPEA, 2020). The feasibility of these measures is explored in the analysis section of this research, according to expert's feedback and perspectives.

2.2 Towards a transformative policy mix

The EEA report concludes that policy interventions need to be aligned to psychological realities, addressing, and shaping affordability, availability, and societal norms, engaging consumers as innovators. Table 2 below shows the specific actions that are recommended for the different points of intervention previously analysed in the document.

Intervention point	Policy actions
Niche stimulation	<ul style="list-style-type: none"> • Improve multi-actor engagement (Sibbing et al., 2019) • Develop missions to accelerate experimentation (Klerkx & Begemann, 2020) • Encourage transdisciplinary approaches
Niche acceleration	<ul style="list-style-type: none"> • Create a market for sustainable products

	<ul style="list-style-type: none"> • Address financial barriers to upscaling • Promoting changes in behaviours and norms
Regime destabilisation	<ul style="list-style-type: none"> • Re-orient EU subsidies and support for farming and fishing away from unsustainable practices • Improve accountability of food actors • Navigate resistance from powerful interest groups and provide compensation, incentives and engagement • Signal long-term phase-out
Repercussions of regime destabilisation	<ul style="list-style-type: none"> • Create distributional mechanisms like the Just Transition Fund for food systems • Support a just transition for consumers • Encourage long-term planning for reconversion
Coordination of multi-regime integration	<ul style="list-style-type: none"> • Create a strong legislative framework to guide policies • Promote the development of national systems considering vertical and horizontal coherence • Enable support from community-led initiatives
Landscape tilt	<ul style="list-style-type: none"> • Develop concrete food system visions • Develop mission maps for direction

Table 2: Policy actions at each stage. Adapted from: EEA, 2023

For a truly transformative policy mix, the focus should be on the stages of regime destabilisation and its repercussions. Particularly, reorienting subsidies and creating a Just Mechanism as an instrument to minimise negative externalities, can be considered the most popular solutions, as shown in the following section. Generally, although the model focuses on reorienting subsidies to promote a more sustainable food system, it is crucial to emphasise that incentives do not come solely from fiscal instruments like taxes or subsidies. Instruments that are mandatory, like restrictions and bans, and market-based, like trading schemes and voluntary certifications, have the potential to enable the transition through different routes (Ruggeri Laderchi et al., 2024). Public food procurement can also be regarded as a pivotal strategy for transforming food systems, as it significantly influences demand and shapes consumption patterns (Swensson et al., 2021). This includes school meal programmes and purchasing for public institutions, which will be explored in more detail in the analysis section.

Moving to the Just Mechanism proposal, even though the agri-food sector could be comparable to heat and electricity production for the contribution to GHG emissions, it has enjoyed considerable exemption from laws and regulations (Blattner, 2020). Whilst the EU has a Just Transition Mechanism in place for the decarbonisation journey, it still lacks a structured framework and action plan to tackle the issue like it has been doing in the energy sector. As the sector employs several workers that fall under a vulnerable group categorisation, being minorities, low-income people, and migrant workers, ignoring agriculture in the decarbonisation journey means leaving these workers to carry the burden of the transition all by themselves (Gilbert et al., 2018). It is instead the public's responsibility to ensure justice as whilst the transition is unavoidable, justice can be deliberate (Movement Generation, 2024). The move towards "less and better meat" (Anderson, 2019, p.19) is mainly based on meticulous socio-economic impact assessment and adaptation strategies to protect workers' income, jobs and health. From the economic side, the impact assessments will have to map existing jobs and skills to also understand potential changes in each sector and generate competency frameworks (EFFAT, 2023). From a social perspective, the impact assessment will have to map and understand farmers' concerns and their options for the future.

Adaptation strategies in turn, space from technical solutions based on infrastructure and early warning systems, and training and skills development programmes also targeted at young people and women, who are currently a minority in the field (Anderson, 2019).

So far there have been more positive examples and best practices overseas, especially in the US and Europe is lagging. For instance, the 'Transformation project' is a compelling and effective example of how to create alternative economic opportunities, solidarity schemes and shifting the narrative away from considering the benefits of factory farming for rural communities, to shedding light on the need to change the current systems (Transformation, 2024). The Project has gained recognition from Forbes, the New York Times, and the Atlantic and has even been featured in the Netflix documentary *You Are What You Eat* aired in 2024.

2.3 Calls for more sustainable agri-food system

The new transformative policy mix mentioned in the previous section will need to account for the agricultural sector's transformation as it has been proven to have significant effects on pollution and the environment and it has also been stagnant at reducing its emissions (EEA, 2024). Agriculture, covering 47% of the EU land area, accounts for 11% of domestic annual GHG emissions and 94% of EU ammonia emissions due to fertilisers. Different stakeholders coming from academia, industry, and civil society, have been sharing their concerns and calling for a shift in European food systems. The opportunity for dietary shifts will also be explored in this section and throughout the research, as they have been remarked by EU strategies, like F2F, 2030 Biodiversity, Drivers of Food Security, and Beating Cancer, as effective solutions. This section explores different calls for the transformation of current agri-food systems, including civil society, agri-food actors and research on health benefits.

Civil society

The WWF has published their five demands for the 2024 EU Elections stating the need for urgent action as the status quo is detrimental to people's health and is damaging the environment beyond sustainable limits (Martinez-Buathier et al., 2024). Firstly, they are advocating for the adoption of new legislation to transition to a more sustainable food system, bridging the gap between the green transition and food policies, and promoting coherence across the European policy sector. The current F2F Strategy would then be transformed into an extensive common food policy with an assigned VP, and agricultural funds would be repurposed to support farmers in the transition with a just mechanism to be implemented.

The opportunity for the creation of an EU Common Food Policy has been discussed by several civil society members, especially think tanks, like the International Panel of Experts on Sustainable Food Systems (IPES-Food) and experts in the field. Firstly, the

need for an integrated European-wide framework on food systems is generated from the inaptness of the current way of thinking and doing, built on short-termism and path dependencies, which leaves stakeholders out of the conversation (De Schutter et al., 2020). Instead, the IPES-Food embarked on a 3-year process to investigate policy reform and its associated governance, gathering hundreds of key actors both at an EU and national level, to overcome issues related to governance and participation. The final report outlines 80 reform proposals, including key propositions to integrate food policies in EU policymaking and governance (De Schutter, 2019). Firstly, it argues the need for a VP for sustainable food systems in the European Commission (EC), as proposed by the WWF, and the inclusion of a Head of Food in every Directorate General to ensure policy coordination. A Sustainable Food Taskforce from the European Political Strategy Centre would be able to appoint the long-term vision for the EC whilst a formal interim group on Food in the European Parliament would ensure cross-sectoral and cross-party involvement. Moreover, to optimise stakeholders' engagement, an EU Food Policy Council should be established to act as the bridge between public participation and EU policymaking. Given the current euroscepticism generated from far-right populism (McEvoy, 2024), it is key to specify that having a common food policy does not immediately indicate the transfer of competencies to the EU, but rather the adoption of a strategic framework that includes and is coherent across different policy sectors, incorporating food at the centre of EU policy.

Another member of the civil society worth mentioning is the European Vegetarian Union, which is one of the most active organisations on issues regarding food systems and dietary shifts. They published a full Manifesto directed at the newly elected officials from the June Elections, in order to guide them to create policies and regulations to safeguard people, animals and nature (European Vegetarian Union, 2024). The document takes a very targeted and scientific approach by setting five core policy actions based on scientific evidence and touching on several elements of the transition. Most importantly, they call for the allocation of targets to increase the share of plant protein in the EU to 60%, 70% and 80% respectively by 2030, 2040, and 2050, following a study done by Greenpeace advocating for an 80% reduction in meat consumption, to a maximum weekly amount of 300g (Stuart-Leach, 2020). Selecting clear quantitative and time-bound objectives, using the so-called SMART goals, provides a clear framework for policymakers and gives the opportunity for effective and transparent tracking and

monitoring (Ogbeiwi, 2017). Moreover, the inclusion of health considerations into CAP has been identified as another core point, together with the development of a carbon pricing mechanism for agriculture and a Just Mechanism to support farmers in the transition.

Agri-food actors

The sector is already mobilising for this transformation, discussing the strategic direction of the F2F Strategy and the priorities for the upcoming legislative period. To streamline collaboration and discussion on the topic, Europe Jacques Delors and the European Food Forum have organised the event titled 'Taking Stock of the Farm to Fork Strategy: Reflecting, Rethinking, Rebuilding' held on the 31st of January 2024 (Mabille, 2024). Key takeaways from the event are summarised in the infographic in Figure 2 on the next page.

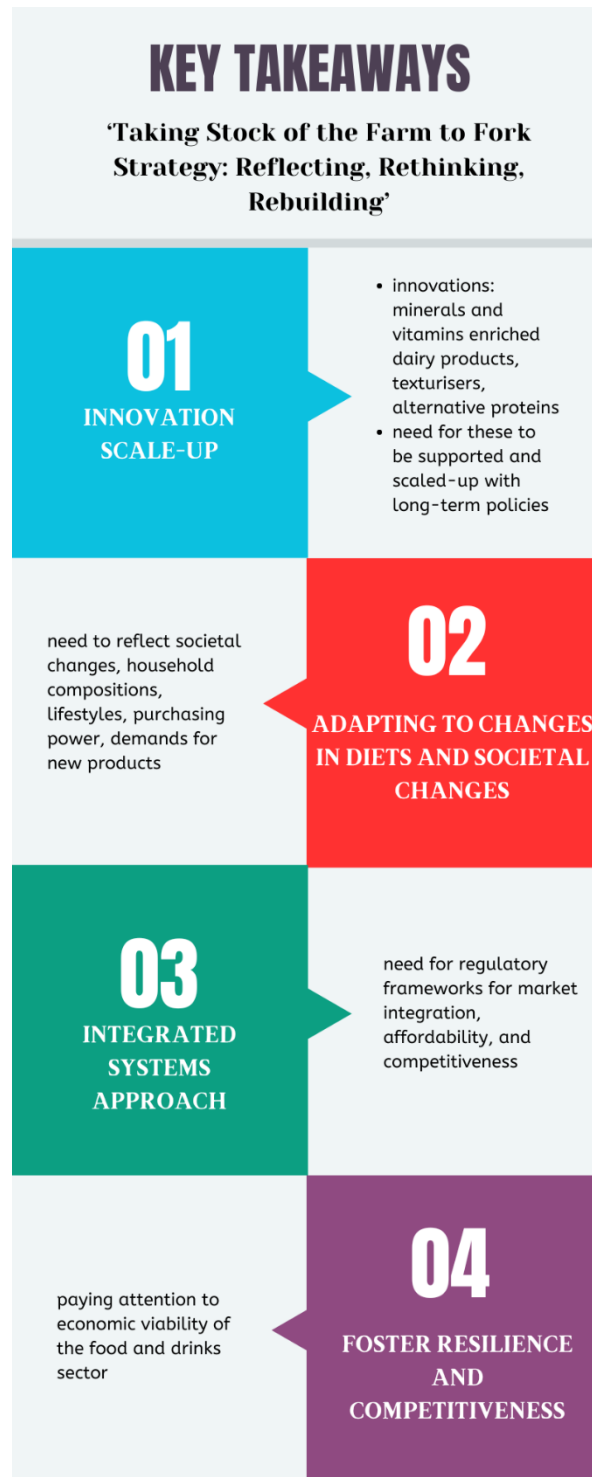


Figure 2: Key Takeaways from the F2F event. Source: Author's own. Adapted from: (Mabille, 2024)

Overall, dialogue and cooperation, integrating the demand and supply side, and affordability were identified as the most urgent issues to prioritise in institutional reforms over the next legislative term, seen as a solution to the current state (Council of the European Union, 2024). Some key changes would be to integrate remuneration systems for farmers, follow a goal-oriented approach instead of a measure-based one, helping to reconcile multiple aspects of sustainability (Eliasson et al., 2022), and to engage all stakeholders in a constructive dialogue.

Health calls

The current food systems in Europe have been criticised by research also from a health perspective. If worldwide, plant-based proteins cover 57% of total protein intake, in Europe the same percentage is associated with animal-protein consumption (European Parliament. Directorate General for Parliamentary Research Services., 2024). Contrary to common belief, Europeans eat 80% more than the global average of meat and 4 times more than the recommended amounts for red meat (Willett et al., 2019), with an average of 800kcal per day coming from animal-based foods (FAO, 2020). However, they do not seem to be aware of it, as the majority of Europeans actually underestimate their meat consumption (Guadarrama et al., 2023). Numerous researchers have stated the need for reducing levels of consumption and production of meat to ensure the achievement of the Paris Agreement (Ivanovich et al., 2023) as meat and dairy production is the biggest source of methane emissions in the EU (Changing Markets Foundation & Institute for Agriculture & Trade Policy, 2022). However, the solution is around the corner and is extremely easy to implement. Studies have shown that replacing just 30% of meat with plant protein could have drastic effects, like saving 81 million tonnes of CO₂, removing the equivalent of 65 million cars from the road in the EU and UK, freeing up a carbon sink the size of India, and saving enough water equivalent to 7.5 million swimming pools a year (Muzi, 2023). In practical terms, it means removing meat from the weekly diet for only two days a week, which still lets Europeans eat more than the recommended intake, whilst offering incredible positive effects on the environment.

2.4 Calls for innovation: protein diversification

Protein diversification has also been identified as an opportunity for prosperity and progress, and a European-wide protein strategy is currently being discussed (Albaladejo Román, 2023). However, at Member States' level, there is a significant divergence in the attitude towards this innovation. The Netherlands, France, and Germany have already

invested considerable research and innovation funds, while countries like Italy have expressed their scepticism on the matter.

Firstly, it is important to clarify what is meant by protein diversification. Generally, it refers to shifting consumption and production away from animal and resource-intensive proteins, in favour of plant protein sources like protein crops, fermented-, algae-, and insect-based sources, and cell-cultured proteins (Albaladejo Román, 2023). This research will mainly focus on crops and fermentation as they demonstrate more acceptance and interest from consumers (ProVeg International, 2024a).

In terms of market share, current predictions estimate an exponential expansion of the alternative protein market, set to reach \$30 billion by 2030, offering substantial opportunities for farmers to innovate and access new markets (IndustryARC, 2024), and destined to account for 10-45% of the global protein market by 2035, growing to 25.50% by 2050 (Vegconomist, 2022). Some of these include collaborations between farmers and tech cooperatives, and undoubtedly research and innovation. However, since the greatest hindering factor is lack of or inadequate financing (GFI, 2021), European-wide mechanisms to enable a long-term strategy should be deployed (GFI Europe, 2023). In fact, despite programmes like Horizon Europe would be the perfect means to finance the transition, focusing on scientific and technological development, the instrument committed only 5.5% of the annual budget to alternative food proteins, deploying as little as €12 million, causing a gap of €38 million, according to the recent Position Paper and research from the Good Food Institute Europe. The use of Horizon Europe to finance the transition has been theorised taking the cases of Israel (Baker, 2023) and Canada (RealAgriculture, 2023) as success stories for crafting joint and coordinated strategies encompassing all policy sectors.

The topic of climate finance for the protein revolution deserves to be explored further as the agrifood sector is experiencing a major shortcoming of financial resources to be able to meet the predicted needs for the climate transition (The Food and Land Use Coalition, 2019). In 2019-2020, the sector received only 4.3% of climate finance worldwide, and, more importantly, the majority of subsidies and support that were deployed, were directed towards harmful practices (Damania et al., 2023) instead of incentivising nature-based solutions (Ding et al., 2021). When it comes to the type of sources, public entities were responsible for 85% of the financing, whilst private bodies accounted for only 12% of the total, being \$3.29 billion (Chiriac et al., 2023). Development Finance Institutions were the biggest contributors from the public sector, while Commercial Financial

Institutions and multinationals intervened in the private sector but focused almost exclusively on energy and renewables.

Key recommendations for regulations and policies revolve around prioritising agrifood systems on international agendas and fora, shifting subsidies to the adoption of climate-positive farming practices and implementing rewards, and mobilising domestic resources through National Action Plans and National Determined Contributions. Several researchers have focused on the need to shift subsidies towards more sustainable food systems as they are quite powerful instruments in the current CAP, as one-third of the entire budget is dedicated to subsidies (Kortleve et al., 2024). Such an action could finally cause positive outcomes for consumers and push prices for more sustainable and plant-based products down, as subsidies are the main reason why animal products and derivatives are currently cheaper than vegan or vegetarian alternatives. The EU has artificially lowered the cost of environmentally harmful diets by allocating four times more funding to animal farming than to plant cultivation (Niranjan, 2024).

2.5 Evidence of sustainability impact of plant-based diets

The impact of plant-based diets on the environment has been introduced in the previous section through the study conducted by Nico Muzi (Muzi, 2023) that presented the very practical and straightforward solution of reducing meat by 30% in a week, meaning two days per week, to have incredible effects on the environment in terms of water savings and emissions reduction (Kuepper, 2023). Other researchers have studied the effects of a partial reduction in animal proteins on the environment and findings suggest that a global shift to a flexitarian diet, meaning an omnivore diet that increases the intake of plant-based meals and proteins, has significant results in GHG emissions reduction, helping to keep global warming levels to 1.5 degrees (Humpeñöder et al., 2024). The same study found that by lowering emissions like methane and nitrous oxide due to the lower levels of animal protein intake, flexitarian diets reduce the economic cost of dealing with ecosystem degradation and human health issues by 43% by 2050. The latter has been backed up by another research that found that these diets can reduce premature mortality by 19%, reaching 22% for a fully vegan diet (Springmann et al., 2018).

Simultaneously, this dietary model allows to stay below 1.5 degrees by 2045 needing less carbon removal than compared to the current system in place, as it shows a reduction of GHG emissions by 54-87% (Humpeñöder et al., 2024; Springmann et al., 2018).

The impact of meat reduction is not exclusively related to health and sustainability but is also economic. In a world with a fast-growing population, the current food systems are under increasing pressure to provide enough food. In addition, the Agricultural Outlook for 2023-2032 by the Organisation for Economic Co-operation and Development and the UN's Food and Agriculture Organisation (OECD & FAO, 2023), forecasts an increase in poultry, pork and beef consumption globally of 15%, 11% and 10% respectively, and the demand for ruminant meat is expected to grow by 90% by 2050 (Ivanovich et al., 2023). However, in developed countries, demand for meat is expected to plateau, leaving space for alternative and plant-based proteins to become mainstream. Switching to plant alternatives can optimise land use, increasing protein production by 14 times, testifying to the inefficiency of meat in feeding the world population, with beef satisfying the protein needs of only 2% of the world population, in contrast with the opportunity to reduce global hunger levels and increase production of food destined to humans (Kuepper, 2023). In fact, despite the ongoing issues of hunger and malnutrition in many regions, the current global production of plant protein would already be sufficient to feed the world's population if it were not used instead as animal feed (Pyett, 2022). The latter has a very inefficient conversion rate, as it requires large amounts of plant protein to generate a significantly smaller amount of animal-based calories (Swartz, 2021), with beef being the most inefficient cattle in terms of conversion rate (Mekonnen & Hoekstra, 2012).

Thus, reducing meat consumption and shifting towards plant-based proteins is not only crucial for health and sustainability but also represents a strategic economic move to optimize food production and address global hunger more effectively.

2.5 Consumer support

Agriculture, like every other economic sector, needs to follow basic market rules of supply and demand and therefore consumers' preferences and habits are crucial in dictating production levels. Despite limited funding, as shown in previous sections, the EU has been monitoring and studying the plant-based market through initiatives like Horizon Europe and its predecessor Horizon 2020, which funded the so-called Smart Protein Project through a €10 million investment. The study reports an impressive growth of 49% in the consumption of plant-based foods in the span of just two years, from 2018 to 2020 (Smart Protein Project, 2021), set to keep growing at a compound annual growth rate of 12.3% from 2024, reaching \$113.1 billion by 2031 (Meticulous Research, 2022). At first glance, these numbers might seem inflated and reflecting of a trend, but the plant-based markets are here to stay. Despite vegans and vegetarians comprising less than 5% of

the population, the flexitarian diet has surged in popularity. In countries like Italy and France, 23% and 25% of people respectively now follow a flexitarian diet, while in Germany, the number is as high as 40% (ProVeg International & Smart Protein Project, 2024). The European average then stands at 27%, with flexitarians being the second most prominent consumer group (Guadarrama et al., 2023). They are in fact the real target customer of plant-based products as they account for the majority of the purchases and are increasing in number in every European country (ProVeg International, 2024b).

According to a consumer survey run by Smart Protein in 2023 in the EU, involving around 750 respondents per country, the main driver for reducing meat consumption is health, selected by 47% of participants, mainly from Romania and Italy (Guadarrama et al., 2023). Environmental concerns and animal welfare follow respectively at 29% and 26%, with some differences between Member States. Generally, trust levels in plant-based alternatives are increasing, with trust in cultivated proteins gaining the highest growth from 2021 to 2023. Italy is leading the way, showing strong reliance on plant-based products and their safety and a 58% growth of trust amongst its consumers. However, policies and government initiatives in the country seem to be rowing in the opposite direction, as in 2023 the government passed a controversial law to ban cultivated meat (Smid & Zwinkels, 2024). Things could still change soon as in February 2024, the Italian Agriculture Minister shared his concern with the Parliament on the ban on using meaty terms for plant-based foods actually hurting Italian companies, leaving the whole investigation pending (GFI Europe, 2024). The topic of cultivated meat is indeed a controversial one and different countries have radically different approaches and beliefs. Austria and Germany took once again a practical approach, arguing that the economic opportunities offered by this new market are far more appealing than ideological wars (Smid & Zwinkels, 2024).

Some key barriers that countries have already agreed on are perceptions around price, taste and health. 38% of Europeans are in fact concerned with affordability as products are still seen as too expensive, and even not tasty enough for 30% of respondents, although this variable changes quite significantly between countries. Finally, health is another barrier, as 24% of consumers would worry about the impact of only eating these products on their health beyond protein and iron levels, with major concerns coming from Austria, Romania, and Germany. This last concern could easily be addressed with increasing information on the reliability and safety of the products, which could instil trust in consumers, especially in countries like France where it is still low. Nonetheless, studies

have shown how misinformation is an increasing phenomenon happening in this field and causing culture wars, acting as a hindering factor to the transition (Changing Markets Foundation, 2023). To dive deeper into the topic, the Changing Markets Foundation has partnered with Ripple Research and performed a social listening analysis to detect and observe narratives around meat and dairy over the span of 14 months. Two major categories of misinformation were identified: those with the objective to disparage vegan diets and scientific evidence, accounting for 78% of the total, and those aimed at enhancing animal products, for the remaining 22%. Within the first group, which sought to discredit plant-based diets, seven narratives were observed. The most used were conspiring, found in 37% of posts, maligning for 24% of posts, and polarising for 9%. The first strategy is probably the most unreasonable as it created conspiracy theories that portray the elites planning a revolution, called 'The Great Reset' (Robinson et al., 2021) wanting to eliminate farmers and leave people eating bugs in a climate-tyranny. The second approach is softer, but because it is more realistic, it might be more readily accepted as the truth. This approach aims to categorize vegan products as unhealthy and ultra-processed, due to the ingredients used which are believed to make them less authentic and genuine. In 2022, in the US, the non-profit Center for Consumer Freedom started attacking the plant-based meat industry mentioning the additives contained in meat alternatives and causing the level of US consumers who considered them healthy to drop from 50 to 38% (Speed, 2023), confirming health to be one of the perceived barriers, as previously discussed.

Finally, posts aimed at creating polarisation focused on identity-driven conversations to cause divisions between users and generate culture wars between two opposite world views. An example that shows how far the polarisation went and targeted identities is the phenomenon of the 'soy-boys' (Dutkiewicz & Rosenberg, 2023) associated with the meat and masculinity narrative, focused on the idea that meat consumption strengthens male dominance while ridiculing people who instead choose to eat plant-based protein for instance like soy and its derivatives. Far-right wing parties have also been shown to feed this narrative, defining vegans as 'extreme cultist disruptors' (Changing Markets Foundation, 2023, p.32) wanting to maintain the status quo and allow large corporations that usually support far-right agendas to continue benefiting from it (Dutkiewicz & Rosenberg, 2023). The situation in Europe is similarly concerning, as highlighted by the recent documentary *Food for Profit*. This documentary is the first to illustrate the connection between the meat industry, lobbying groups, and European politics (*Food for Profit*, 2024), raising discussions and debates on this lobbyocracy that is currently

happening. Notably, the documentary features the findings of an undercover agent who spent five years investigating and reporting on these practices. The investigation identified two Members of the European Parliament (MEPs), Italian Paolo De Castro and Spanish Clara Aguilera. Following the documentary's premiere, and numerous calls from NGOs, both national parties of the MEPs announced they would not nominate them in the upcoming European elections (Animal Equity Italia, 2024).

Going back to the issue of misinformation, another surprising factor is that 50 accounts capture 50% of the total engagement of 3.6 million posts in the dataset, showing a high volume of discussion from the same people, being far-right politicians, media personalities and self-proclaimed medical experts.

However, the majority of Europeans are still interested in sustainable food, as shown by a recent survey that found that 2 in 3 Europeans are more inclined to vote for candidates actively promoting access to sustainable and healthy food (WWF, 2024). Moreover, three out of five citizens think it should be a high priority for the EU to make sustainable and healthy foods more affordable (60%) and more accessible (59%). Specific policy requests from citizens will then be explored in the analysis section of this research showing convergence between proposed solutions and instruments from experts and demands from voters.

3. Methodology

This research aims to explore the opportunity for a transition to plant-based agriculture, including harvesting protein crops and using protein diversification to reduce the quantity of livestock. It focuses on the policy instruments to implement in CAP and in the future F2F to make this transition equitable and just for all stakeholders. After consulting the extensive literature review reported in the previous section, the research convened a pool of experts coming from different fields to investigate successful policy instruments that have already been implemented and those that are suggested for the transition.

3.1 Research philosophy

The study has been designed following subjectivism, specifically the interpretivist approach, as experts are consulted on the basis of their personal and professional experience, which by being in the policy and politics field, influence greatly their view of the world and consequent response (Alvesson & Skoldberg, 2017; Denzin & Lincoln, 2011; Greene, 2010). Consequently, this approach results in the co-creation of knowledge through interactions between the researcher and the participants through the process of inductive reasoning, starting from their specific experiences and moving to a wider application (Braun & Clarke, 2006).

3.2 Research strategy

Primary research has been conducted via 30-minute online interviews through Microsoft Teams, using the University's encrypted access to ensure privacy and safe storage of files. To accommodate their busy schedules, participants were also given the option to fill in a written open-ended questionnaire instead of participating in an interview. However, all participants chose to move forward with the interview as written questionnaires are believed to be more time-consuming than interviews, despite offering more flexibility (Keen et al., 2022). Focus groups were not considered given the conflicting interests from the different groups which could have caused some tensions, and since individual interviews allow the researcher to give undivided attention to the interviewee and gain a deeper exploration of the topic (Schwab, 2016).

Four to five interview questions (see Appendix A) were developed on the topic. The first three to four questions, consistent for all participants, focused on identifying hindering factors, opportunities for transition, and facilitating instruments. The final question was customized for each participant to provide deeper insights into the observations and demands of various interest groups. The use of guiding questions facilitated semi-

structured interviews, offering the researcher flexibility with questions and observations. This approach allowed the conversation to shift towards specific projects identified during the interviews, gaining targeted insights from certain participants. Additionally, anonymized references to previous conversations were incorporated into subsequent interviews to enhance the flow and enable participants to build on each other's contributions.

3.3 Data collection methods

Participants were selected based on their expertise and influence, building on previous work by the International Panel of Experts on Sustainable Food Systems to develop a Common Food Policy at the European level. They identified the need to summon farmers' organisations, civil society, researchers and think tanks, EU policymakers, and representatives from the food sector in Europe (De Schutter, 2019). Following these directions, a sample of 3 participants has been selected.

Purposive and snowball sampling methods were used to recruit individuals actively involved in projects and strategies critical to the selected topic (Gill, 2020) via direct messages and InMails on LinkedIn. This approach facilitated interaction among participants and allowed them to recommend suitable contacts from specific interest groups. Additionally, it helped avoid data saturation (Fusch & Ness, 2015) and ensured the research captured a diverse range of opinions and perspectives, reflecting the varied interests of all stakeholders. In turn, opportunity sampling was rejected as it did not support the research objectives and relied too heavily on voluntary participation, which increased the risk of not recruiting the most suitable individuals and having overrepresentation of some groups and underrepresentation of others (Moss et al., 2024).

More insights can be found in Table 3 below, showing the exact number of participants and their sector of membership.

Sector of Membership	Number
Farmers' cooperative	1
Food and drink industry	1
Plant-based food and drink industry / Plant Based association	1
TOTAL	3

Table 3: Number of participants and sector of origin. Author's own.

3.4 Ethical considerations

This study received approval from the University Board, having met all ethical standards and research regulations. Throughout the data collection phase, no personal information was gathered, and audio recordings from the interviews were securely stored in a OneDrive account. The storage system provided data encryption and two-factor authentication, enhancing security and privacy. Upon completion of this research, all data will be permanently deleted. Participants were fully informed about the process, consented to be recorded, agreed to the storage of recordings, and had their contributions anonymized, as documented by their signatures on the Consent Form (Appendix B).

3.5 Data analysis methods

The chosen method of analysis is thematic analysis as it allows the interpretation of data through identifying, analysing and reporting patterns and leads to the creation of themes (Braun & Clarke, 2006; Nowell et al., 2017). This type of analysis is based on analysing transcripts derived from the interviews directly via Microsoft Teams through the processing of coding, including labelling and organising data to identify different themes and how they relate to one another (M. Williams & Moser, 2019). An example of the coding process can be seen in Appendix # and the final table with codes and themes is reported in Table 4 below.

Codes	Themes
<ul style="list-style-type: none">• Rigid, outdated and unsustainable food system• Existing policies and schemes like CAP and the School Meal Scheme are subsidising the current model	Need for change
<ul style="list-style-type: none">• Price as the number one barrier• Availability of tasty and healthy options• Culture and heritage around food• Ignorance as in not knowing other options	Barriers to adoption
<ul style="list-style-type: none">• Fair treatment policies• Subsidies for plant-based products• Taxes - VAT decrease for plant-based products• Extra money to ensure farmers' income• Drawing in budget from other policy sectors given the scope of the subject	Fiscal or price-based instruments or policy action

<ul style="list-style-type: none"> • Reinvesting money coming from duties collected from imports from third countries • Include quality schemes to protect exports like in the Canada deal 	
<ul style="list-style-type: none"> • School meal scheme to leverage the impact children have on their parents' habits • Educational activities as part of the school meal scheme • School meal scheme to escalate supply and demand of plant-based products • Public procurement for public kitchens • Giving visibility to plant-based diets and easy recipes • Leveraging social media to increase visibility • Educating and training farmers to shorten supply chains and switch their production • Nordic Nutrition Recommendations to include environmental impact • Denmark's and South Korea's national plant-based action plans • Collaboration and partnering with other organisations • Farmers knowledge sharing and collaboration 	Instruments and policy actions focused on education and awareness
<ul style="list-style-type: none"> • Banning the use of meaty terms for plant-based products • Carbon footprint labelling scheme for products • Using names of traditional products like milk, burger, etc, for the plant-based counterparts 	Terminology and labelling
<ul style="list-style-type: none"> • Biotechnologies • NGTs - new genomic techniques • Need for the Parliament to approve biotechnologies 	Biotechnologies

Table 4: Codes and themes. Author's own

The identified themes are analysed and discussed with reference to existing literature and practical initiatives from both the government and private sectors, including projects mentioned in the interviews.

Given that participants came from various sectors, their responses varied significantly and were tied to their respective fields. To contextualize the discussion and ensure anonymity, participants have been assigned codes, as illustrated in Table 5.

Participants' code	Sector of membership
Participant 1	Farmers' representative
Participant 2	Food and drink industry
Participant 3	Plant-based food and drink industry

Table 5: Participants' codes and membership

3.6 Methodological limitations

This study presents some methodological limitations mainly due to time constraints and the chosen recruitment method. Firstly, as the drafting of the study happened extensively between the months of May and June 2024, many MEPs or representatives of both the European Union and local governments were extremely busy with the upcoming European Elections and have sometimes turned down the opportunity to engage in this study due to different commitments.

Moreover, whilst at the beginning of the selection process, contacting potential interviewees on LinkedIn had been successful, towards the end the researcher encountered some issues with recruiting people. The pool of experts is in fact missing private retailers that were initially considered, like Lidl Germany and REWE, contemplated respectively for the price parity initiative between traditional and plant-based products, and the project of opening a fully vegan supermarket in Berlin. Requests for interviews were declined due to excessive workload and commitments and further attempts to negotiate a solution have been disregarded. Another group that has been unresponsive to the invitations are the farmers' representatives. Despite attempts through three different platforms, including their institutional email and the assistance of a mutual contact, there was little progress, and they either declined the interviews or ignored subsequent emails. This challenge will be discussed in the study's limitations, offering insights for future research and suggesting the use of alternative methods.

4. Analysis and Discussion

This section presents and analyses the key findings from the interviews, interpreting and discussing them in relation to existing literature and practical initiatives. To contextualize the interventions, direct quotes will be accompanied by the participant's code and their sector of origin based on Table 5 previously encountered in the methodology.

Before delving into the six themes identified through thematic analysis, as outlined in Table 4 and detailed in the methodology section, it is important to first highlight the overall sentiments and context of the expert conversations. Most respondents concurred that current food systems are in urgent need of change, describing them as “*rigid, outdated, and unsustainable*” (Participant 3, plant-based food and drink industry). They frequently mentioned the environmental impacts of agriculture, including water and land use and greenhouse gas emissions, echoing concerns detailed in the literature review. Additionally, issues with the Common Agricultural Policy (CAP) were promptly recognized. While CAP is seen as a mechanism that heavily subsidizes the status quo, it is also perceived as a potential avenue for reforming and renewing current production systems.

Furthermore, five main elements were identified as the main barriers to increasing consumption and production of plant-based products. These elements provide a foundation for exploring which policy actions or instruments should be implemented. They are price, taste and health, as discussed previously and as shown in the cross-country analysis by Smart Protein (Guadarrama et al., 2023), and also culture and ignorance, as “*people cannot ask for what they don't know*” (Participant 2, food and drink industry), which prevent them from trying new products and ways of eating, as food is closely linked to identity (Sibal, 2018). For the same reason, Participant 3 highlights how it is easier for consumers to switch to electric cars, and change energy providers in favour of renewables, as it is to change dietary habits as it is more personal.

4.1 Fiscal or price-based instruments / policy action

The need for fiscal and price-based instruments comes from the fact that the price of plant-based foods is perceived to be too high both for consumers and producers.

4.1.1 Taxes

Firstly, as price is still the primary factor hindering the purchase of plant-based foods (Nicolau et al., 2021; Pais et al., 2022), tax reduction like in the value-added tax (VAT) should be considered to facilitate the increase in demand of plant-based products (de

Koning et al., 2023). The case of VAT is indeed an interesting one to consider as there is the phenomenon of the so-called 'VAT gap' between Member States, as VAT is a state competence and in some countries, there is a significant difference in the tax associated with plant-based and conventional milk. Whilst Czechia has a VAT of 10% for both types of milk, countries like Italy and Hungary have VATs for plant-based alternatives respectively 450% and 440% higher than those for traditional cow milk (A. Williams, 2023). Moreover, while Germany, having the largest market share for plant-based milks, is currently trying to remove the disparity in VAT (Rzegotta, 2023), in January 2024, the Netherlands announced its plan to increase the tax for plant-based milk going from equality to a 196% increase (Pascoe, 2023). However, thanks to a petition started by NGOs and signed by over 54,000 people, the Dutch Senate approved the exemption of plant-based milk to the 'lemonade tax' imposed for soft drinks (Vakblad Voedings Industrie, 2023). Actions on VAT have been identified as a policy recommendation even in the EIT Protein Diversification Report as they improve accessibility and affordability of sustainable foods (EIT Food Protein Diversification Think Tank, 2023).

4.1.2 Subsidies and support

An interesting insight from the interviews is that major European supermarkets, such as Carrefour, REWE, and Esselunga, maintain very low margins on dairy milk, treating it as a high-traffic category. In contrast, they achieve significantly higher margins on plant-based alternatives. This fact confirms the higher prices found for these products and introduces the concept of subsidies given to animal products and derivatives. The reason why these products can be sold at lower prices is because they are considered essential and therefore are subsidised by policies like the CAP to reduce socio-economic inequalities. Whilst the social argumentation is fair, scientific studies focused on the transition to more sustainable systems have highlighted how the EU is supporting systems that are more polluting and harmful to the environment and are actually hindering the achievement of ambitious environmental and climate goals (Niranjan, 2024). Plant based associations and food and drink retailers that produce alternatives to animal products are therefore asking for *“fair treatment policies, not even favourable, but just fair as they would already be a huge help”* (Participant 2, food and drink industry). Currently, animal products are in fact favoured by the application of subsidies, as argued by Participant 3 coming from the plant-based food and drink industry. CAP is indeed *“providing a locking mechanism, making it profitable to have animal rearing production systems and so on. [...] for example, with milk production, the more animals you have,*

the more feed you produce, the more like better profitability you get, even if like the total profitability is not maybe what it should be, but that's how the system is set up today.”.

A survey by the European Consumer Organisation accentuated the convergence between the desire for stricter environmental regulations and for enhanced support to farmers (BEUC, 2020). More specifically, 53% of European consumers are in favour of giving subsidies to farmers for more sustainable production, with percentages reaching 62.3% and 60.9% respectively in Italy and Portugal. A more targeted proposal includes removing taxes on sustainable goods and those with a lower environmental impact, which has been supported by 68% of Italian and 61% of French participants. The same proposal has been put forward by the European Vegetarian Union, calling for standardised EU VAT rates and lower rates for plant-based foods (European Vegetarian Union, 2024).

Farmers on the other side are also pressing for the need for increased support towards this transition. The first intervention from the farmers' representative that was interviewed was that as farmers, they *“will do any transition that the Consumers ask. Not by imposition of politicians by imposition of Commission or Member States. We believe in the freedom of choice of the consumers. If the consumers want to reduce the consumption of meat, or they want to increase the consumption of protein crops, or protein cereals for instance, we will do it for sure. We love consumers, they are our main client, let's say and we work for them.”* (Participant 1). Therefore, farmers are prepared to start a transition but they want a change in date, as *“anything before 2030 is an imposition, not a transition”*. However, the belief that a transition is not needed is still quite popular in the farmers' world, as the common perception is that *“only 1% of the population is paying for a vegan diet. So you cannot also impose some laws when the reality of the consumers is not this.”* Nevertheless, studies by ProVeg International and the Smart Protein Project, extensively explored in the literature review section, portray a different image of Europe, where 27% of Europeans identify as flexitarians, with the number reaching 40% in Germany, 5% as vegetarians and 3% as vegans (Guadarrama et al., 2023). Therefore, although the number of vegans is usually below 5% of the population, as previously argued in this paper, flexitarians are the biggest target of plant-based products (ProVeg International, 2024b), hence a justification stating the indifference of consumers does not hold.

In any case, the transition cannot happen without farmers getting extra money as the current CAP subsidies do not provide enough resources. This statement might seem

unfounded since the literature review has highlighted the enormous amounts of subsidies and direct payments that are generated from CAP. However, it is important to note that 80% of subsidies go to 20% of recipients, usually the big farms that operate as factories (Dinis, 2024). MEPs from the previous Greens/EFA Group have advocated for a reduction in subsidies for big farms, setting a limit on direct payments to one single entity, to ensure a fairer distribution (Gaita, 2021). Small and medium farms in Italy have also shown to be completely unaware of the Fork to Fork strategy, which also proves how most times the only beneficiaries are large companies that already have substantial funds and that own the majority of the production (Vote for Animals, 2024).

An interesting proposal advanced in the interview is to draw in budget from other policy sectors given the wide scope of sustainability and the impact it has on the wider economy and society. Reinvesting revenue coming from duties imposed on trade with third countries has also been identified as a solution to repurpose existing money streams. The current models of carbon taxing deployed in New Zealand and South Africa might also be useful to influence European policymaking for the creation of an ETS 3 including the agricultural sector (Barbiroglio, 2024). In New Zealand for instance, a farming pricing system was prioritised to allow farmers to be rewarded for emissions reductions and raising money for more sustainable farming.

Finally, another market-based solution has been suggested referring to the existing trade deal between the EU and Canada which includes quality schemes to protect and preserve the quality of European products. This also allows producers to justify the cost of compliance with standards and regulations and ensures that consumers are aware and interested in safeguarding the premium quality of the products.

A practical example that was investigated with Participant 3 in response to the needs and requests expressed by farmers, was the Plant Based Food Grant developed by the Danish government in their national Action Plan for Plant-based Foods in 2023 (Ministry of Food, Agriculture and Fisheries of Denmark, 2023). Based on the Agricultural Agreement, the grant covers the entire value chain, deploying a total of DKK 675 million, being almost €90 million for the period 2023-2030. It is meant to aid cultivation, processing, sales and even promotion, investing in awareness and education. To help first-time farmers and smaller entities, the government has also created the Export and Investment Fund, contributing to lowering financing risks.

These financial instruments also refer to the establishment of a Just Transition Mechanism to fund investments, research and innovation, also found in other channels like Horizon Europe, which were explored in the literature review.

4.2 Instruments / policy action focused on education and awareness

As the field of education and awareness is quite extensive, this discussion focuses on initiatives like the school meal scheme, national plans and dietary recommendations, and education and training opportunities for both producers and consumers.

4.2.1 School meal scheme

Expert interviews confirmed the critical importance of the school meal schemes mentioned in the literature review above as a market-based instrument to redirect subsidies and have positive effects on both supply and demand. This instrument is in fact also mentioned as part of the regime destabilisation phase in the model by Kanger et al previously discussed. Its strength lies in the fact that it incorporates food procurement, nutrition standards, education and literacy work (Whittow et al., 2023) and ensures coherence across governance levels (De Schutter et al., 2020). The European Parliament itself recognised the strong potential of the scheme of linking health, sustainability, food security, animal welfare, and climate change and a lot more in terms of both production and waste (Committee on Agriculture and Rural Development, 2023). Specifically, the Parliament's motion on the implementation of the programme highlighted how educational activities have been the most successful part of the scheme, partly because the programme failed to be implemented in several institutions due to lack of budget allocated to schools, and partly because of the critical role children play in increasing awareness and communicating knowledge. Despite the Parliament's commitment to the scheme, the amendment to include plant-based milks failed during the plenary session (Schiphorst, 2023). However, civil society, including the European Vegetarian Union, NGOs and allied businesses have drafted a position paper pressing on the sustainability, affordability, and availability of these products and continue working for changing the norm as *"the introduction of plant-based alternatives in the school meal scheme is not dead yet"* (Participant 3, plant-based food and drink industry).

4.2.2 Dietary Recommendations and National Action Plans

Even if the EU has not adopted an official position and plan on the matter, the Member States, some third countries, and cross-country organisations are pioneering the way. As pointed out in the interview with Participant 3, the Nordic Council of Ministers has published its 2023 Nordic Nutrition Recommendations, updated as usual every 10 years,

and including for the first time environmental considerations (Blomhoff et al., 2023). The Committee followed the guiding principles from FAO and WHO in terms of sustainability and nutritional recommendations, concluding that animal-based foods are primary contributors to dietary GHG emissions and land use in modern food systems. Nutritional recommendations were based on increased consumption of cereals, potatoes, vegetables and fruit, pulses and nuts, as well as fish from sustainable sourcing, followed by reduced consumption of red meat considering both health and environmental considerations, and moderate consumption of poultry, eggs, milk and dairy for a lower environmental impact. Even though the plan can be considered a significant step forward as it addressed the need to consider the environment in dietary habits, it still considers fully vegan diets as requiring solutions for food fortification and dietary supplementation, instead of complete and well-rounded diets. The same narrative is also being portrayed in countries such as Italy and Spain, very much tied to their culinary tradition and the well-known Mediterranean diet, which still considers white meat, fish, dairy and eggs as good sources of protein and essentials in healthy and well-balanced diets (Blas et al., 2019).

In contrast, the Danish Action Plan for Plant-based Foods takes a step further by emphasizing the strong connection between dietary guidelines for maintaining health and preventing disease, and those for environmental protection (Ministry of Food, Agriculture and Fisheries of Denmark, 2023). The main change would be to reduce meat consumption in favour of pulses and cereal, as previously stated, but in this case, plant-based dietary regimes are considered optimal both for the environment and human health. The plan also provides for facilitating the spread of veggie products in professional public kitchens, as they serve roughly 650,000 meals per day and therefore represent another significant opportunity to spur the consumption of plant-based foods and nudge consumers. The effectiveness of these actions finds evidence in the model by Kanger et al as discussed in this paper. The model demonstrates how these actions facilitate niche acceleration by increasing the frequency and amount of product exposure.

As suggested by Participant 2, another significant case of nudging can be established in public kitchens and restaurants by introducing the requirement for them to have at least one vegan or vegetarian option available. This has been proven to have both short- and long-term effects on dietary habits, as availability is one of the factors influencing purchasing behaviour (Perez-Cueto, 2021). Social media also has a critical role in

increasing the visibility and availability of these products as well as being quite efficacious at shaping and eventually changing the narrative around certain topics. Participant 2 identified these two roles for online social platforms. Firstly, they could play a role in normalising plant-based products. First, they can help normalise plant-based products, as a notable 40% of people said they would consider increasing their consumption of vegan products if their close circle approves of this choice (Guadarrama et al., 2023). Hence, *“if cooks, chefs, writers, film directors, they start also to make alternative proteins visible, they start to make it part of popular culture, and they start to make it about something that doesn't feel like I'm weird, as I'm taking soy milk or oat milk, but really, you really make it visible and part of normal life”*. Additionally, as the culture war between traditional and plant-based products seems to be still an ongoing issue, social media could contribute by not placing *“alternative protein against dairy ones or against animal ones, but just saying Guys, let's all be a be flexitarian we don't need 9 billion of perfect vegans, we need 9 billion people of imperfect flexitarians”* (Participant 2, food and drink industry). This statement is also extremely important as on one side it takes off some of the pressure from consumers, making the diet easier to maintain and more acceptable (Derbyshire, 2017; Moreno et al., 2021), while on the other side, it shows how even the smallest changes can make a considerable difference, reaching the balance between planetary and human health (Moreno et al., 2021). Flexitarianism is already becoming a popular option and, contrary to popular belief, it has been shown to be a cross-generational interest. There is in fact minimal variation across generations, with 26% of Gen Z (1997-2012) being flexitarians vs 29% of Boomers (1946-1964) (Guadarrama et al., 2023). This first statistic might seem unusual as plant-based eating is expected to be a phenomenon typical of the younger generation, but if put into context with the other variables it appears more accurate, as the lower percentage in Gen Z is due to significantly higher percentages in vegetarians (1% for Boomers against 4% for Gen Z), and vegans (3% against 7%). However, in the omnivore Boomers group, a significant percentage of 37% of the sample is in the ‘outsiders’ category, being the ones not involved or exposed to the idea of adopting a plant-based diet. However, the market opportunity is still quite considerable, as 27% of them are in the ‘reachable’ group and could therefore be reached with effective marketing and product development, as well as awareness campaigns.

4.2.3 Education and training

Education and training are therefore a critical element of success in the transition. In addition to educational and awareness campaigns aimed at consumers, it is also

essential to reskill key actors in the value chain by incorporating new skills and information into curricula. Once again, the Danish National Plan proved effective by providing for the inclusion of plants on the syllabus, in higher education, nutritional science, and in farming and agriculture. The Finance Act 2022 assigned the equivalent of €27,0000 for the development of a diploma training module focused on plant-based dietary regimes for nutrition professionals. South Korea was the second country to announce a national plan for plant-based, only 10 days after Denmark. A similar emphasis on the inclusion of plant-based diets in schools and education systems can be observed.

In terms of training for farmers, an analysis conducted by the University of Copenhagen and Aalborg University demonstrates how existing skills owned by farmers can easily be repurposed or even directly used for the production of plant-based products, including drinks, without the need for major retraining (Ministry of Food, Agriculture and Fisheries of Denmark, 2023). One identified area requiring reskilling is the concept of shortening supply chains, which has been proven to have positive impacts on sustainable development goals (Bull, 2022) and decrease costs for both consumers and producers as cultivation of vegetables, legumes and grains requires less complex logistics than the production of meat (Yekkehbash Heidari et al., 2023).

Another field in which farmers would need to be trained is the production of alternative proteins, as it is quite a new territory where research and innovation are continually yielding new discoveries. Both the Danish and South Korean plans include investments in research centres for alternative proteins. In the EU, the European Parliamentary Research Services have reported on a strategy to accelerate protein diversification (EIT Food Protein Diversification Think Tank, 2023) building on civil society calls, like the one from the Plant Based Food Alliance asking for increased investments by programmes like Horizon Europe and such (EAPF, 2024).

4.3 Terminology and labelling

Despite the long history of plant-based diets and products, a major controversy remains over how these products are named. The farmer representative in this research (Participant 1) voiced a common expectation among European farmers for European institutions to *“put a ban to refer to the vegetal proteins using names of their traditional foods, like hamburger, sausage, etc.”*. The main argument in favour is that using *“these fake names [...] you are going to create some problems for the consumer because some*

people don't have the knowledge and other people don't have the time to properly read labels." In spring 2019, the AGRI Committee had already voted to ban the use of these terms of plant-based products building on the fact that they are already prohibited in some Member States, like Italy and France, only until 2024 (Struna, 2024). However, the rationale of avoiding misleading consumers does not hold. A survey conducted by the European Consumer Organisation found that the majority of consumers are not concerned about the use of names like 'burger', 'milk', or 'bacon' next to plant-based products (BEUC, 2020) but they prefer packaging that clearly states the product's origin, such as 'veggie sausage from soy.' (Verbraucherzentrale, 2017). Food and drink companies that sell plant-based products have noticed that consumers are using traditional names like 'milk' and 'yoghurt' to refer to their products independently. Participant 3, coming from a plant-based drink company, has in fact shown how even though the company was calling their products 'drinks', having "*never ever indicated that we (the company) say oat milk, [...], consumers are already doing that. They perceive our products as milk*". Consumers have proven to be able to differentiate between vegetal and traditional products without experiencing confusion. Moreover, 49% of European consumers have actually stated their preference for using conventional terms as it makes the transition easier and achieves clarity (Guadarrama et al., 2023). This concept of clarity in transition has also been advocated by the European Plant Based Food Alliance, calling for the use of a widely recognised terminology (EAPF, 2024). A study by the Good Food Institute and Mindlab also found that using familiar product attributes and descriptors also increases purchase intent for these products (Parry & Szejda, 2019). A company that is doing a great job at acting on their consumers' preferences and taste is Alpro, the European company producing plant-based food and drinks in Europe. Firstly, they have responded to consumers' demands of highlighting the ingredients in the packaging so that products appear more authentic. Additionally, they have focused on the health benefits of their drinks and yoghurts, knowing that 70% of Gen Zers approach veganism for health reasons (Ettinger, 2023). One of their strongest tactic is actually using storytelling and engaging customers with stories of where the oats, almonds and other ingredients come from and how they are grown, as well as the use of humour especially in their new launch 'This is not M*lk', which refers both to the many bans discussed by governments about the terminology used, and the idea that they want to portray their products as primary solutions and not alternatives (Mridul, 2023).

Nonetheless, 57% of European consumers are interested in having compulsory sustainability information on product labels in order to be able to make informed decisions (Guadarrama et al., 2023). Enhanced transparency in product certifications is also a top priority, which assumes slightly different importance between Member States, as it is considered essential by 71% of Italians, but the number decreases to 63% for French consumers and to 57% for Germans (ProVeg International & Smart Protein Project, 2024). An initiative that has been mentioned by Participant 3 is the scheme of carbon footprint labelling. The rationale for wanting a numerical scale and not a colour-coding scheme is that *“consumers are very competent in reading the nutritional facts information, and that is numbers.”* For this reason, companies want a similar system to measure the carbon footprint of products *“just to be able to compare because you are comparing the sugar content, you're comparing the protein content of different foods, why not compare the carbon footprint”*. This initiative has also been included in the recent Call for EU Action published by Oatly, the Swedish company specialising in plant-based dairy products. They are indeed asking for a mandatory carbon footprint labelling scheme in absolute numbers, as well as the introduction of an effective carbon pricing mechanism for agriculture and overall, the development of policies that create a level playing field for plant-based foods (Oatly, 2024), echoing the claim made by Participant 2 on the need for fair treatment.

Clear labelling on its own is not enough and needs to be accompanied by several information and education campaigns to improve public opinion on these products and optimise their expansion, going beyond the limitations of the existing Farm to Fork Strategy.

4.4 Biotechnologies

Finally, an unexplored instrument, which is also a pressing demand from the farmers' side, is the use of biotechnologies and new techniques to improve the quality, taste and nutritional profile of products (Ministry of Food, Agriculture and Fisheries of Denmark, 2023). Participant 1 has also highlighted how approving these technologies has the potential to decrease imports from third countries which are not only using them but also using GMOs, hormones and antibiotics that are banned in the EU, as well as decrease emissions from transport. The NGTs, new genomic techniques, have been identified as extremely important innovations since, by removing the unwanted parts from the plant's DNA, it is possible to increase their resistance and make them less resource-intensive, without having to extract the DNA from an animal entity like it is done instead with GMOs.

The European Union is currently considering the implementation of these innovations due to their proven contribution to sustainable development goals and is drafting a legal framework to ensure high health and environmental standards (Spanish Presidency of the European Council, 2023). Currently, consumer knowledge and awareness of these techniques is still limited and, although they recognise their potential in terms of crop resistance and sustainability (Bearth et al., 2024), the level of information and knowledge varies considerably by geographical area, as shown by this study conducted in Italy in 2023 (Romeo Lironcurti et al., 2024). The main concerns are still around health and safety, and they are amplified by social and public discourse mainly from online sources, which confirms the need for monitoring of misinformation and fake news, as seen in the literature review (Lassoued et al., 2019).

5 Limitations and future research

To ensure a comprehensive view of the topic, this paper encompasses perspectives of different sectors and interest groups. However, as expressed in the methodological limitations, the study missed some groups due to logistical difficulties and time constraints. One major group that is underrepresented in the research is that of the farmers. Despite the numerous efforts being made, some farmer representatives have either declined the opportunity for an interview or stated that they are not prioritising this topic and do not have information on the subject. To better understand the hindering factors and their perceptions behind such statements, future research should focus on conducting qualitative research in the form of field observations and focus groups to develop specific measures to support farmers, tailored to their actual needs. Field observations would be particularly helpful as they allow expert consultation and monitoring on a case-by-case basis, which increases the opportunity for success (McGuinness, 2017). Future research directions highlighted in this thesis include the establishment of a Just Transition Mechanism, a theme underscored in both the literature review and the analysis and discussion sections. It is crucial to engage farmers as key stakeholders to ensure that the fund effectively addresses major issues and is equitably distributed among small, medium, and large farms. Furthermore, there is a pressing need for research on biotechnologies, which, despite being recognized as vital tools, have not yet gained widespread acceptance among governments and consumers. To foster greater consumer trust in these technologies and products, it is essential to enhance scientific communication alongside continued academic and scientific inquiry.

6 Conclusion

This paper assesses the current European policy mix for food and agriculture, highlighting shortcomings revealed by recent crises in energy and food prices, farmers' protests, and backlash against green policies. These challenges raise questions about new legislation and the future of initiatives like the European Green Deal. Despite the unrest and resistance typical of the farming sector, this study found that farmers are willing to follow and implement consumers' demands, as they see them as their primary clients. For this reason, the transition to more sustainable food systems, including the employment of a European protein diversification strategy has proven to be accessible and realistic for different sectors, if conditions and requirements are respected, ensuring an equitable and fair transition. Instruments like the Just Transition Mechanism have been identified by existing literature as critical tools to deploy as agriculture could also benefit immensely from such means. Re-orienting subsidies can also be an effective solution which poses however more questions on the equity of the entire process. What is instead considered to be unrealistic from the farmers' side is the expectation for this transition to happen before 2030.

However, this conviction could be explained considering the fact that farmers are still in the early stages of the proposal of this upheaval and do not currently have the full picture of the phenomenon. The analysis and discussion section of this paper has identified a gap between what farmers think consumers want and what they actually want. Whilst it is true that vegans only represent small percentages of the population, more and more people across generations are adopting a flexitarian diet or simply choosing to reduce their meat intake, favouring plant-based substitutes. This is also true for the issue of terminology and labelling of these products, as consumers have shown to prefer the use of traditional names like 'milk', 'burger' and so on even for the vegan counterparts to make the transition easier and more familiar, whilst farmers want the European Parliament to ban this practice arguing that it confuses people. Having an unclear picture of consumer trends and demands can be solved by organising informational and awareness-building sessions as well as events like the Strategic Dialogue on Agriculture which bring together key actors from different backgrounds, working to align supply and demand.

Expert interviews have in fact identified policy action and instruments directed to education and awareness as being critical for the transition as well as incredibly versatile. The analysis section illustrates all the different initiatives, including public procurement

of plant-based foods and projects like the school meal scheme, as well as programmes focused on including plant-based dietary regimes in higher education curricula for nutritionists and other field experts. Increasing the availability and visibility of these products and diets has also been detected as an effective strategy, using both social media and the reach from celebrities. However, the most effective measures that can also accelerate the transition are to be found in fiscal and price-based mechanisms which are meant to either increase subsidies to the production of sustainable and plant-based products, or lower taxes like VAT associated with it or even do the opposite and increase the price of conventional and more environmentally harmful products. Citizens' support is more set on the first option, as society acknowledges the current difficulties of farmers and wants policies at national and European levels to support farmers and key stakeholders. Expert interviews provided several ideas and new opportunities to achieve this objective, addressing the issue of the lack of finance, discussed in the literature review, and providing practical solutions. Considering different dimensions of sustainability can justify drawing budgets from various policy sectors, given the widespread negative effects of unsustainable food systems. Building on previous trade deals can also be valuable; revenue from trade with third countries could be repurposed for farmers, and conditions focused on product quality and standards, as seen in the Canada deal, could increase consumers' willingness to pay more for higher quality, sustainable products.

To better understand what farmers need to embark on this transition the research suggests the development of field observation studies with a case-by-case approach in which researchers and agricultural experts assess current production systems in farms to detect the most appropriate instruments with higher success rates. This research can serve as a foundation for a comprehensive view of the issue, but more focus on the farmers is needed as they are also underrepresented in this research.

Furthermore, with the new composition of the European Parliament and Commission, alongside the Strategic Agenda set to be adopted by the twenty-seven Member States at the upcoming European Council meeting on June 27th and 28th, future research must focus on integrating and accommodating this transition within the new legislative framework. June 2024 is a pivotal month for European policies, particularly in the context of food and agricultural strategies. A leaked draft of the Agenda, as reported by Euractiv, indicates a commitment by leaders to include food security (Manzanaro, 2024). However, the document's omission of environmental protection and sector sustainability raises

significant concerns, as highlighted by Faustine Bas-Defossez, director for health, nature, and environment at the European Environmental Bureau (Manzanaro, 2024).

The shift in the Union's priorities towards security, a key focus of many newly elected far-right parties, presents a critical trade-off within agriculture. It is essential to balance sustainability pillars by moving beyond a purely economic perspective to also consider the economic and social benefits of a sustainable food system. The private sector and civil society must play a strategic advocacy role, urging governments and European institutions to continue prioritizing green objectives. There is a need to disseminate science-based data and information on the catastrophic consequences of neglecting agri-food sector sustainability, and to offer solutions at a smaller scale by engaging directly with farmers, food industry actors, and researchers. While this paper provides a foundational overview of these challenges, it underscores the necessity of focusing on farmers' perspectives to ensure a balanced and effective transition.

7. List of Acronyms

AGRI – Agriculture

ALDE – Alliance of Liberals and Democrats for Europe Party

CAP – Common Agricultural Policy

EC – European Commission

EEA – European Environment Agency

EFA – European Free Alliance

EPP – European People's Party

ETS – Emissions Trading System

EU – European Union

F2F – Farm to Fork

FAO – Food and Agriculture Organisation

GHG – Greenhouse Gas

GMOs – Genetically Modified Organisms

MEPs – Members of the European Parliament

NGOs – Non-Governmental Organisations

NGTs – New Genomic Techniques

R&I – Research and Innovation

VAT – Value Added Tax

WHO – World Health Organisation

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10. Appendices

Appendix A: Interview Questions

Interview Guide and Questions

Instructions

Thank you for your willingness to participate in this research and for dedicating your valuable time to support the development of my master's thesis.

In this document, you will find details regarding the study, including its overarching aim, specific objectives, and a concise contextual background. Additionally, you will be presented with a choice of two participation formats tailored to accommodate your preferences and schedule.

Option 1 entails a 30-minute online interview conducted via Microsoft Teams, which will be recorded and subsequently transcribed for analysis. Alternatively, **Option 2 offers a written questionnaire featuring open-ended questions**, providing you with the flexibility to respond at your convenience.

Kindly indicate your preferred participation method by completing the attached Consent Form enclosed within this email. Your cooperation is greatly appreciated and instrumental in advancing this academic pursuit.

Research Title

Optimizing Policy Instruments for the Transition to Plant-Based Agriculture: Navigating Farmer Protests and the Farm to Fork Strategy Failures.

Aims and objectives:

Exploring the opportunity for a transition to plant-based agriculture through deploying policy instruments facilitating production and consumption of alternative proteins.

Objectives:

- Assessing current agriculture and food policies in the EU against sustainability goals
- Examining the feasibility of the transition in the current context in the aftermath of farmers' protests and the Farm to Fork failures

- Identifying key policy instruments to facilitate consumption and production, via consultation with experts from both sectors

Background information

The current schemes in CAP are not addressing sustainability challenges and social and environmental concerns, and are failing in terms of climate, soil degradation, biodiversity, and socio-economic challenges. Scientists agree that reducing the production and consumption of industrial meat will drastically reduce emissions and align with the Paris goals. Replacing 30% of meat with plant proteins could offset almost all global aviation emissions, free up an India-sized carbon sink, and save 7.5 million swimming pools worth of water a year. Moreover, producing plant proteins allows for a production 14 times bigger than if animal proteins were to be produced on the same area of land, addressing the issue of food security and the growing population. However, sustainable food systems are being attacked both online and in electoral campaigns. Misinformation on social media is happening to enhance the polarisation of the issue, undermining sustainable diets and applying greenwashing and health-washing to diets involving high amounts of animal protein. Polarisation is occurring at a political level too and green EU policies are being portrayed as the issue, while studies have shown that backtracking on climate ambitions while hurt farmers, making our food systems more vulnerable to climate impacts.

Questions

- 1) From your perspective, what are the hindering factors encountered when trying to make the shift towards plant-based agriculture, increasing the production of plant-based proteins?
- 2) Can you think of any opportunities to be explored in the next legislative term to enable the transition in a just and equitable way?
- 3) Can you discuss potential policy tools that could effectively facilitate the shift taking into account farmers' concerns?
- 4) What kind of work are you planning to prepare the ground for the next legislative term and to enable the transition?

Appendix B: Consent Form

Information Sheet for Interview Partners

Research project Master's thesis: EU Trade and Climate Diplomacy
Researcher Ms. Alessia Trabucco
Institution Luiss Guido Carli, Cife European Institute
Date of interview May 2024

Study description

This study focuses on the exploring the opportunity to design and implement policy instruments to enable the transition to plant-based agriculture, increasing production and consumption of plant-based proteins. It aims to take into account the aftermath of farmers' protests and the Farm to Fork Strategy failures, to ensure a socially, environmentally, and economically sustainable transition for the next legislative period.

Your voluntary participation in the study

You are asked to choose your preferred way of contributing to the study according to your preferences and schedule. Option 1 entails a 30-minute online interview conducted via Microsoft Teams, which will be recorded and subsequently transcribed for analysis. Alternatively, Option 2 offers a written questionnaire featuring open-ended questions, providing you with the flexibility to respond at your convenience.

The participation is voluntary. It is based on Art. 6 (1) (a) GDPR, §17 DSG NRW. You can terminate the interview or ask for a break at any time. You can also withdraw your consent for the usage and storage of your interview answers afterwards. This withdrawal applies to all future data processing and analysis, not to past ones.

Purpose and usage of interview material

The interviews are conducted for the purpose of answering research questions posed in the master's thesis of the programme presented above. The interview material is used only within that thesis and within related scientific presentations or publications (e.g. research papers). In case other usage is envisioned, the interview partner will be contacted and asked for consent.

Recording and anonymization of interview material

With your consent, the interview will be recorded, transcribed as text and the audio file will be deleted. During the transcription process, the interview answers are anonymized so that no identification of the interview partner is possible from the text. In scientific publications, only parts of the interview are cited so that the identity of the interview partner is not disclosed. The interview data is saved in a way that no connection to the interview partner can be established. Upon request, the examination board of the university can get access to the interview material.

Collection and storage of personal data

Your personal data is saved on the personal computer of the interviewer. This digital data is inaccessible to third parties. After the submission of the research results in June 2024,

your personal data is deleted unless you agree to a further storage of the data. You can always withdraw your consent regarding a longer storage of your personal data.

Contact for further information

You are eligible to information, rectification and restriction of processing and deletion of your personal data. For that, you may contact Alessia Trabucco at alessia.trabucco@student-cife-eu.

Informed Consent Form

I, the undersigned, confirm that (please tick box as appropriate):

1.	I have read and understood the information about the study, as provided in the Information Sheet.	<input type="checkbox"/>
2.	The procedures regarding confidentiality and anonymity have been clearly explained to me.	<input type="checkbox"/>
3.	I have been given the opportunity to ask questions about the study and my participation.	<input type="checkbox"/>
4.	I voluntarily agree to participate in the study.	<input type="checkbox"/>
5.	I understand that I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	<input type="checkbox"/>
<u>Participation mode - CHOOSE ONE OF THE FOLLOWING OPTIONS:</u>		
6.	I choose to participate in the study via a 30-minute online interview on Microsoft Teams	<input type="checkbox"/>
7.	I choose to participate in the study and record my answers via a written questionnaire with open-ended questions.	<input type="checkbox"/>

Participant:

Name of Participant

Signature

Date

Appendix C: Example of transcript and analysis

PARTICIPANT 2

Alessia Trabucco 0:02

As I said in the document as well, I just want to talk about the opportunity for a transition to a plant based agriculture, meaning making food systems more sustainable, because I'm sure you know, but there are many studies that prove that the current food system that we have is not sustainable, and that allowing for, for example, protein diversification, is actually a good way forward. I just wanted to maybe start by asking you if you have any comments, or any general thoughts about this idea, and then we can go into the more specific questions.

Participant 2 1:04

So I have thoughts from my perspective and the first one, just as you said, when you look at where the world is going, in terms of sustainability, we need to change habits.

And just looking at CO2, water footprint, soil footprints, we know that we need to change drastically, energy, transport, construction and agriculture. And many times when you look at how just a big institution, corporate institutions and big politicians are also progressing, we hear a lot on transport a lot on isolation in energy, much less so on food systems. And for me, trying to impact the way we eat, to diversify, and to be more respectful of our planet is at least something that drives me and I believe is a necessity.

Alessia Trabucco

Yes, perfect. Well, I definitely agree with everything you said. So yeah, this is a very good starting point. And now because my task with this master thesis is to identify policy instruments that will aid the transition, I wanted to ask you, what are maybe the hindering factors that you have identified when trying to make this shift?

Participant 2

So let's say, having thought and living these on a daily basis, indeed, what at least all at the plant-based and alternative protein sector is seeing, we are just wanting to have what we call fair treatment, and only having a fair treatment policies, not even favourable, but fair treatment policies will be already a huge help. And so when you look at all the, let's say, the policies that can be put in place, in Europe, the biggest market for plant based alternatives, for instance, if we talk about that is Germany. Plant-based milks in Germany, there's a very big distortion of VAT. Probably have mapped that between dairy milk and plant based drinks. This, of course, but it slows down a lot the adoption, the new entry, and also the frequency. So some people probably might use it once a year, but just to use it every single day. It's really a big barrier of let's say, price is a very big barrier. When you look at the consideration of the category in Europe, so many people that yes, are aware that it could help and are considering this category, as a solution or happy to test, its, I'd say about two thirds of the population in Europe. The actual let's say penetration of this category is not 1/3. So the gap between the people that are in the category, and the people that consider the

category is massive. So good news, people are not against that and they are ready to but the biggest barrier is price. So when you look at policies, one it's it's a VAT, so fair treatment, then that's subsidies, subsidies, we'll just it's the other one. So subsidies means all what is the agriculture the Common Agricultural Policy that helps the caterer and so on these are going to be redirected or split evenly and just we are not asking this to some being different than just having the same help and subsidies. So for me, it's really about subsidies and taxes. That's the, I believe fair treatment. To stretch it just a little bit to the max, you can say also not fair treatment, but even just retail more favourable treatment, but honestly, for me, already fair treatment will be massive. So Germany, Italy, are the two markets where there's big, big discrepancy.

Alessia Trabucco 5:30

Yeah, there's actually like, I'm Italian, so I can definitely see it in the Italian market. But I also studied in Germany, like a month ago, and I noticed big discrepancies.

Participant 2 5:47

When you look at VAT, I'm just when we say it's 20%. In Italy, more or less on drinks. So sometimes it's almost 80 cents on one pallet.

Alessia Trabucco 5:58

Yeah, it's basically considered a luxury good when it's not really,

Participant 2 6:05

The second point, which I believe is also critical, when you look at the ecosystem, its customers margin, if you really wanted solutions to try to help accelerate the this category, then we should have at least policies that make and that engage with customers, to have an incentive to have to control the analogy on this category. Like now see that many times customers, I'm talking about Esselunga, Carrefour, Rewe, Edeka, they have very low margin on dairy milk, because they consider it as a high traffic category. So they attract people to shop at this young guy, they go to buy their milk, and they shop all their stuff, and Esselunga gains margin with the other stuff, not on dairy milk. The problem is that on plant based identity, sometimes they consider it not as high traffic, but they consider it as a high margin. So you have probably, let's say 20% VAT, and then you have, let's say 30, between 30 and 50%, what we call Trade Margin. So just say between your Rewe, Esselunga, Carrefour, they take 30% of that. So we are already talking about half of the cost, which is captured either by let's say, the state, or customers went on dairy milk, sometime, it's only 5 to 10% of taxes, and probably 5% of margin. So 10% on one side, 15 on the other side. So that's a massive gap just to talk about price. So just talking about price for me in terms of policies, yes, there could be incentives from, let's say, institutions, so local states or European Union's to give benefits to customer. So here's us talking about retail rebates, on benefits on taxes on benefits, and so on, if you compare your margins, I think that this could be a very interesting tool. So that's about taxes and fair treatment, which is tapping into the number one barrier to entry, which is price. The second barrier, which let's say is awareness, which is not only about price, but it's education. Here, we are tapping into interesting policies that can be just put in place. So one, of course, it's

what we call in the European Union, there is something that's probably you know, which is called a school scheme. So school scheme, it's about let's say, today, it's 200 million euros dedicated to promote the entry of, let's say, a dairy milk at school. I see that we could open that to say, Okay, guys, let's educate to be flexitarian. So we propose both solutions. Or if we want to stretch even further, we propose milk alternatives, protein alternatives. But for me, I really think what we need to do, knowing that there's a high consideration is to empower consumers. So at early stage to show the benefit of diversification, so if we could start in Italian schools, in French schools, in German school to propose all solutions and to make them accessible, I think that we will be great just to educate people, children on recipes, integrating those products. So for me, it's about education, but not only through schools, it's also about chefs, it's about parents. So really just providing this education and these you can look at all stakeholders of education and entertainment. You know, it's about culture. And I think that there is a very nice example that I like. That probably, you know, I don't know if you like comics, comic books but there's a very famous character, which is called Lucky Luke. So if you take the first album, he was smoking cigarettes. And now just after this, because they, let's say the author felt the pressure and he felt it was not accurate, have moved into just having only just the herbs in the mouth. So I'm just saying, for me, it would be great if cooks, chefs, writers, film directors, they start also to make alternative proteins visible, they start to make it part of popular culture, and they start to make it about something that doesn't feel like I'm weird, I'm just taking soy milk or oat milk, but really, you really make it visible and part of normal life. You make it just part of, you know, the normal regular recipes that you can just use just in French gratin, quiche, making them part of what could be an accessible recipes. An option more. So one price, fair treatment. Second, education, just schools. I think that's the big one. The third one for me, it's about accessibility. So accessibility, it's about making sure that it's available. And you can ask by your let's say mandatory in all restaurants, in all places, mandatory one or two options that are alternatives, I think that it's totally feasible. Just to push it in some areas we have made mandatory to propose at least in France and Spain, I'm sure, Italy I don't know, but tapwater, for instance, to be available for sustainability reason, in many places. I don't see any problem to force people to have mandatory options of alternative proteins just in some in some places. So for me, price, education, availability are the three instruments that all policies can religious make sure they put in place and the European Parliament is just now will be renewed in less than one month windows, that's a big opportunity to put that in place.

Alessia Trabucco 12:47

Okay, perfect. I have two follow-up questions on that. One is what's the role that social media would play in this if you can, like, identify this. And maybe you can also answer this first because the other one is a bit longer.

Participant 2 13:06

Of course, social media has just two benefits is one to empower people. So all communities, in isolated places, isolated countries to unite and just make visible course. So of course, social media. And you've seen already some petitions or

movements just to claim how we want this and this. So of course **social media to make things visible**, that's very important. So just to try, for instance, to say, We want VAT to be just fair treatment, we see some movements that are popping up, for instance, especially in Germany, I have in mind. So one is social media just to make awareness. Then just to start also asking directly to European member of parliament to say, Guys, what are you doing to do that? You see how Greta Thornburg is just taking social media? That's a good example. So for me just to make sure we make a cause visible the second part, which probably we don't do well today, many times in those areas, it's let's say, one camp against the other. And for me, social media could really and I believe really, that's it could be the way for one, **just not to put up its alternative protein against dairy ones or against animal wants, but just saying guys, let's all be a be flexitarian we don't need 9 billion of perfect vegans, we need 9 billion people have imperfect flexitarians just to say like that.**

Alessia Trabucco 14:40

Yes, I completely agree.

Participant 2 14:43

And this, I believe social media just to make it accessible, and you say, Guys, I'm normal. I'm a normal person. I've started to use this product from time to time, and I really think that it's making an impact. I think that this really is super helpful?

Alessia Trabucco 15:02

Yes. Okay, perfect. So the other question is actually a follow up on, again, what the farmers representative has said, and it's that they are prepared to implement this transition if it comes from the consumers. So if their consumers demand it, they're not ready to do it, if any institution or politician or people like that at the top demand it. But for me what he said, made sense on one side, but on the other side, I was shocked, because I see a lot of studies that say that consumers want this. And so I was wondering, Am I in a bubble, where I only see the things that I want to see or?

Participant 2 15:55

For me, we need to be, let's say, super sharp with concepts, but essential, you know, the famous quote on people just back in at the end of the 19th century, they wanted faster horse, they didn't want you know, cows, they wanted horses, so **people cannot ask for what they don't know. So let's say, who are the rural part of Italy, that have been raised all their life to do their recipes, with dairy milk, or with meats and so on, of course, if they don't know that there are some alternatives, that are easy, have good taste and are easy to cook. Of course, they cannot ask for that.** It's, I understand their answer. It's a bit, I believe, hypocrite, to say that. So that's an easy answer to say that, for me, what is very true to this point that this **transition cannot be at the expense of the consumer, it cannot be against the consumers will and against, let's say, consumers' habits or just enjoyment. So if you think about 20 or 30 years ago, we were providing just soy-based meats that were not tasting good. Now, of course, if you tell consumers guys, as of tomorrow, you will not no longer have any choice, you will only have this product, which does not taste good, well, of course, this will not work. And if you don't**

provide also a solution to agriculture, that are raising cows that have invested, of course, it will not work. So for me, those consumers and the food system need to be well consider. So we need from the industry to develop products that are tasting amazingly good, that are even functional, let's say the functionality. For instance, you think about plant based cheese. Today, the cheese is a great product because it tastes good, it melts you know, when it's on pizza it melts well, you have all of that and all these experiments need to be delivered. And you need also to bring an added value. So a website that you so if we don't crack that, of course consumers will not follow through, we need to really address the price we discussed, we need to address them certain tastes. And in some categories when you look at alternative proteins, I think that it's super interesting to look at this because the categories are not all developed the same plant based milk they are very well developed. Penetration is high. On cheese. It's much lower. Why? Because products that are being developed so far are not all testing well. They sometimes don't have great, let's say nutritional profile. And also because the cheese category they reward is already providing a great taste experience. On milk, let's face it there is less variety. So we bring new experiences amazing, exciting new experiences. But we need to do on the plant based alternative protein is ready to bring additional experiences and maybe personal experiences. I stopped to eat meat for instance, some years ago. But I don't eat plant based meat either because for me, it's just the same, let's say experience but you don't have any additional benefits. I prefer to eat vegetables, lentils and chickpeas directly. So for me just the transition doesn't mean that we go to plant based alternative It's more that we retain the power on the food and our food habits and we something that really provides value to consumers.

Alessia Trabucco 20:10

no, definitely agree. I do the same. I have like five cans of chickpeas in my cupboard

Participant 2 20:19

This one for me, that's a good example. Because chickpeas, for instance, that's great products. Tasty when you know how to cook it, nutritionally, that's great, but not super available and not always super easy. Because if you buy them dry, you need to soak them and so on. And sometimes you need to learn how to cook it. Parents didn't know really how versatile they can be. So this, that's what we've discussed. Availability. Education price, that's okay.

Alessia Trabucco 20:57

Okay, thank you. And to close off, maybe I would like to ask what kind of work are you planning to, like prepare the ground for the next legislative term and the next, maybe projects that you have?

Participant 2 21:11

Probably what we are doing, at least from our perspective, is to partner with other companies just set up some organisations, European ones. So for instance, in this way,

that's the answer. It's cool just to try also to unite with even competitors, but only what we believe is important. So what I was saying taxes, for instance, by all players in the plant-based beverage industry, we all believe that fair treatment is something that we need to put. So what we are preparing is a manifesto of what we believe the 10 points or 12 points or 15 points that we want to ask to new members. We're following closely also what will be the new face of the Parliament, and trying to see whether some people would be more favourable to transition yes or no. So of course, we sometimes hope and we believe that some are more green parties, but it's the people that have sustainability at heart are elected, but then also that they drive the agenda, because for instance, on just I not blaming them, but in Germany, and the Minister of Agriculture comes from, let's say, the Green Party but still, there is a very big discrepancy of unfair treatment on VAT on plant based milk. So sometimes you need to be pushy. So yes, we are just already planning to engage with them, just to really explain them what we believe needs to be done just to make sure that food is at the heart of the European policy. Yes, so that's it. And of course, to make sure that we are conscious, I believe about what is all the connections. So it's not only about saying Let's go for alternative proteins, but we need also to provide solutions from the for the people that today are doing just traditional proteins, if we all want to go there, we cannot say to farmers, just Guys, goodbye, and we need to help them to reinvent their business to reinvent also the way they are thumbing probably to rebalance or so they do their work. So this that's what we provide, at least from my perspective at Danone, where we have both legs. We believe very much about balancing that and providing something which is probably imperfect but that will have a bigger impact that if we only want to go to the extreme.

Alessia Trabucco 24:01

okay, perfect. It all sounds really good. I'm really happy with our conversation today. So yeah, thank you so much. And do you want to receive a final copy?

Participant 2 24:15

yeah, with pleasure. Yes.

Alessia Trabucco 24:17

Yeah? Okay, perfect. Thank you for the interview, have a nice day!

Transcribed by <https://otter.ai>