Incentivizing farm-level climate action through rewarding mechanisms. A categorization framework

M36/September 2025

Author(s):
Scheid, Aaron, Ecologic Institute
Pazmino Murillo, Julia, Ecologic Institute
McDonald, Hugh, Ecologic Institute
Lebelt, Laurène, Climate KIC
Dritsas, Stelios, Climate KIC
Zimmer, Daniel, Climate KIC
Rosiers, Marc, ELO
Martel, Simon, I4CE

This project has received funding from the Horizon Europe research and innovation programme under Grant Agreement No 101060212.

Funded by the European Union

Project Full Title	**A EUROPEAN-WIDE NETWORK OF PILOT FARMERS IMPLEMENTING AND DEMONSTRATING CLIMATE SMART SOLUTIONS FOR A CARBON NEUTRAL EUROPE**
GA number	**101060212**
Type of Action	**Coordination and Support Action (CSA)**
Project Duration	**84 months**
Project Start Date	**01.10.2022**
Project Website	**climatefarmdemo.eu**
Deliverable Title	**Incentivizing farm-level climate action through rewarding mechanisms. A categorization framework- final deliverable**
Deliverable Submission Date	**30.09.2025**
Status	**Final**
Dissemination Level	**PU – Public**
Deliverable Lead Organisation	**Ecologic Institute**
Authors	**Aaron Scheid, Julia Pazmino Murillo, Hugh McDonald (Ecologic Institute), Lebelt Laurène, Stelios Dritsas, Daniel Zimmer (Climate KIC), Marc Rosiers (ELO), Simon Martel (I4CE).**
Contact	**aaron.scheid@ecologic.eu**
Work Package	**WP6**
Keywords	**Carbon removals, emission reductions, climate adaptation, incentives, rewarding mechanisms, climate-smart, agriculture**

Disclaimer

Acknowledgment

We thank Manuel Lago, Lindsey Hendricks-Franco (Ecologic Institute), Isidora Čolić (BioSense Institute) and Siw Fasting for providing valuable input and support to this deliverable.

List of Abbreviations

AKIS	Agriculture Knowledge and Innovation Systems
AMP	Adaptation and mitigation plans
CAP	Common Agricultural Policy
CFAs	Climate Farm Advisors
CFD	Climate Farm Demo
CRCF	Carbon Removals and Carbon Farming Certification Framework
CSF	Climate Smart Farming
GHG	Greenhouse gas
GAECs	Good Agricultural and Environmental Conditions
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
LULUCF	Land use, land use change and forestry
MRV	Monitoring, reporting and verification
NC	National Coordinator
PES	Payments for Ecosystem Services
PDF	Pilot Farm Demo
R&D	Research and Development
SBTi	Science Based Targets initiative
SOC	Soil organic carbon
VCM	Voluntary Carbon markets
WP	Work Package

Table of Contents

List of Figures Tables and Boxes

Figures

Tables

Boxes

Abstract

The agricultural sector holds significant potential to achieve a range of environmental objectives. Unlocking these benefits requires adequate funding and targeted support. This report presents a framework for categorising rewarding mechanisms at the European level, with a particular focus on climate-smart farming practices linked to carbon removals, emissions reductions, and climate adaptation. The framework is designed to facilitate navigation through the different types of rewarding mechanisms. It has been developed based on literature review, a survey targeted at national coordinators within the CFD network and has been tested through several expert workshops. The findings highlight the existence of a wide range of tailor-made rewarding mechanisms across the EU and its Member States that incentivise climate-smart farming practices. The landscape is dynamic and constantly evolving. In particular, rewarding mechanisms for climate mitigation are well established, while mechanisms that promote climate adaptation are less common. Blended finance approaches remain limited but are gaining more attention and can help bridge the gap between beneficiaries and providers of the rewarding. Supportive mechanisms that encourage long-term behavioural change are often overlooked and not recognised as rewarding mechanisms. Moreover, farmers and farm advisors face challenges in navigating the diversity of rewarding mechanisms, both in terms of administrative requirements and in identifying those most relevant to their needs. Rewarding mechanisms are embedded within a broader policy mix that should be mutually reinforcing. Evaluating both the mechanisms and their possible combinations is essential to ensure the policy mix can be adapted accordingly.

About Climate Farm Demo

Climate Farm Demo (CFD) is a unique pan-European network of Pilot Demo Farmers (PDFs) covering 27countries and all pedo-climatic areas. Its objective is to promote the adoption of climate-smart farming (CSF) practices and solutions among farmers and actors of the climate-smart Agriculture Knowledge and Innovation Systems (AKIS). This project aims to support the adaptation of agricultural production systems to the challenges of climate change and to contribute to achieve a carbon neutral agricultural sector by 2050.

To this end, the project connects 1500 Pilot Demo Farmers and their Climate Farm Advisors (CFAs) at European and national levels to increase knowledge exchange & cross-fertilisation in their respective AKIS. Furthermore, the project seeks to identify, propose, and demonstrate a set of rewarding mechanisms to incentivise the adoption of CSF practices, ensuring the development of sustainable business models that can guide and support farmers in this transition.

Work Package (WP) 6 “Analysing and demonstrating rewarding mechanisms” focuses on analysing and increasing awareness of the available rewarding mechanisms to support the implementation of adaptation and mitigation plans (AMP) at farm level. This WP aims to address the needs of farmers, value chain actors and funders by developing capacity-building tools and providing policy

recommendations for EU and national authorities on how to effectively scale up the use of rewarding mechanisms as levers for transformation.

Task 6.2, “Rewarding mechanisms: state of the art and guidance for implementation,” focused on identifying, describing and categorising rewarding mechanisms that incentivise the adoption of climate-smart farming practices. The main output is the development of an assessment framework (milestone 48) and the development of a categorization framework (Deliverable 6.1). The work of task 6.2. is linked to related tasks on stakeholder needs, capacity building and policy recommendations.

Chapter 1

Introduction

This chapter gives an introduction to the report and the role of rewarding mechanisms as a tool to incentivise on-farm climate action.

1. Introduction

Agriculture plays a vital role in achieving the EU's climate commitments, including climate neutrality by 2050. Agriculture provides not only food and raw materials but also contributes to landscape management, ecosystem shaping, animal welfare, and carbon sequestration, and is essential for supporting livelihoods and generating economic value.

Although the EU's agricultural sector confronts numerous difficulties, the climate-related challenges facing farmers and rural communities are particularly severe, while the sector continues to struggle with its role in combating climate change (ESABCC, 2024). Continuing with business as usual is not viable. Incentivizing farm-level action through rewarding mechanisms is one pathway turning climate action in agriculture into a success story. Agriculture can contribute to GHG emissions reductions, carbon dioxide removals and climate adaptation. The provision of these environmental objectives needs funding and support to create opportunities in the sector and incentivise a transition to greater sustainability. The relevance of rewarding mechanisms, compared to other policy tools, lies primarily in their ability to recognise, incentivise, compensate, and value climate-smart approaches. Rewarding mechanisms alone will be insufficient to effectively and efficiently promote the transition and need to be embedded into a wider policy mix.

Rewarding mechanisms are often viewed as purely economic incentives. This framework explicitly includes supportive and non-financial rewarding mechanisms. Social recognition, knowledge-sharing, and enabling legislative frameworks can also serve as powerful incentives, encouraging farmers to adopt climate-smart farming practices alongside, or in place of, financial rewards.

To facilitate a greater understanding and use of rewarding mechanisms in the agricultural sector, there is a need to systematise and categorise the different types of rewarding mechanisms. This will support administrators, farmers and farm advisors, investors, policy makers, value chain actors and other key stakeholder to understand the opportunities and risks associated with different rewarding mechanisms. In this report, we develop a framework that organises the rewarding mechanisms into tiers with increasing levels of detail. Tier 1 provides a general overview grouping rewarding mechanisms into the three overarching categories (monetary, non-monetary and regulatory), while Tiers 2 and 3 offer increasingly specific descriptions. This hierarchical structure enhances the understanding of the different types of mechanisms and supports stakeholders in their engagement with those mechanisms that support climate-smart farming practices. In addition to developing a structure, we provide detailed explanations of thirteen rewarding mechanisms, matched with practical examples in form of fact sheets that promote agricultural climate emissions reductions, carbon removals, or climate adaptation. The report focuses on a farmer perspective when analysing and describing the rewarding mechanisms.

The report proceeds as follows: Chapter 2 describes the methodology and background for our development of the framework, including desk research, survey to CFD national coordinators, and workshops. Chapter 3 defines rewarding mechanisms and characterises them in terms of their constitutive elements (e.g., source of funding, type of beneficiary, form of reward, etc.). Chapter 4 describes the survey results from CFD national coordinators. Chapter 5 draws on the characterisation

of rewarding mechanisms and survey results to propose the categorization framework of rewarding mechanism, divided into multiple tiers and featuring detailed descriptions and examples. Chapter 6 provides overall conclusions. Annex I highlight the survey questions. Annexes II and III present the fact sheet templates and the fact sheets (explanation of the rewarding mechanisms matched with practical examples). Annex IV lists the workshops and presentations where draft version of the categorization framework were presented and discussed.

Chapter 2

Categorization framework design process

This chapter describes the methodology used to develop the categorisation framework.

2. Categorization framework design process

The analysis of a diverse set of rewarding mechanisms and the development of a categorisation framework is drawn from a combination of desk-based review of rewarding mechanisms, a targeted survey with CFD national coordinators, the development of fact sheets to present practical and existing rewarding mechanisms and a number of expert workshops and presentations within the CFD network and beyond. The following sections provide a description of the methods applied.

2.1. Analysis of existing rewarding mechanisms

2.1.1. Desk-based review

To support the development of the categorisation framework of rewarding mechanisms, a comprehensive desk-based literature review was conducted. The objective was to explore how climate mitigation and adaptation on-farm actions are being rewarded across Europe. The review focused on monetary, non-monetary and regulatory rewarding mechanisms to support farmers in transitioning to climate-smart farming systems.

The review, done through systematic keyword searches using Google and Google Scholar, included a wide range of sources, such as grey literature, peer-reviewed journal articles, and policy reports. Relevant websites were also consulted to gather practical examples of existing rewarding mechanisms. To further expand the scope of the review, the snowball method was applied by examining the reference lists of key articles and reports. This iterative process enabled the development of a more in-depth and comprehensive compilation of relevant literature. All sources reviewed are listed in the references.

Keywords used in the literature search included: incentives, carbon farming, agriculture, subsidies, payments for ecosystem services, carbon markets, Common Agricultural Policy (CAP), agricultural policy, grants, loans, agricultural labels, price premiums, peer knowledge, advisory services, research and development (R&D), public procurement, economic incentives, agricultural payments, financial instruments, climate mitigation, carbon removals, emission reductions and climate adaptation.

As part of the iterative process, preliminary versions of the categorisation framework and the analysis of rewarding mechanisms were presented during CFD knowledge exchange sessions to gather feedback from the CFD network and project members. The insights gained from these sessions were used to further refine and enhance the categorisation framework, ensuring it captured a wider range of perspectives and practical considerations.

The categorization framework draws on findings from the “Ponderful Sustainable Finance Inventory project” and the “AgriPolicyKit Compendium of political instruments for promoting the agri-food sector” (Lago M., 2024; AgriPolicyKit, 2024).

2.1.2. Survey

A survey was conducted targeting national coordinators within the CFD network, with the goal of gaining in-depth knowledge of regional rewarding mechanisms to support the development of the categorisation framework.

The survey consisted of seven questions, two multiple-choice and five open-ended. The questions covered the following topics:

- Participants’ examples of existing rewarding mechanisms, with a brief description and source of information.
- Geographic scope of the mechanisms (global, EU, national, or regional).
- Types of actions rewarded: GHG emission reductions, carbon dioxide removals, climate adaptation.
- Sources of funding for the mechanisms.
- Consideration of non-monetary rewards.

The data collection took place in June 2023 via an online survey tool (LimeSurvey), and the survey was shared by email to national coordinators through the CFD network.

The quantitative data were processed using Microsoft Excel to generate descriptive statistics and visual representations. Qualitative responses to the open-ended questions were analysed by identifying patterns and recurring themes. This enabled a systematic categorisation of the types of climate actions and funding sources linked to the recognised rewarding mechanisms. The survey questions can be found in Annex I.

2.2. Development of fact sheet templates and fact sheets

To substantiate the categorisation framework, two fact sheet templates were developed to capture and present key information of identified rewarding mechanisms and selected examples. The first template focuses on the rewarding mechanisms, providing definitions and outlining the subcategories each mechanism may include. The second template captures the characteristics of rewarding mechanisms, which are defined in chapter 3. The characteristics are split into scope of climate action, source of

rewarding, rewarding method, type of beneficiaries, types of on-farm climate actions and time of rewarding.

The fact sheets were designed to present practical and existing examples that can inform and inspire the members of the CFD Network, its pilot farmers, national coordinators and the climate advisors. The two fact sheet templates are provided in Annex II.

In a second step, the templates were filled in with the respective information gathered through the desk-based research, the survey to CFD national coordinators and the expert workshops. In total, 13 fact sheets of rewarding mechanisms were developed, each with a corresponding fact sheet containing an example. The fact sheets are part of the categorization framework. The fact sheets can be found in Annex III.

2.3. Workshops and presentations

The categorisation framework was fine-tuned through an iterative feedback process. Feedback was collected during a series of internal workshops with CFD national coordinators, pilot farmers and climate advisors, allowing participants to provide comments on the proposed systematic. Annex IV includes a list of the different workshops and their timings. Additionally, WP6 held internal workshops to discuss and revise the categorisation framework as well as for quality control.

Chapter 3

Characteristics of rewarding mechanisms

This chapter defines rewarding mechanisms and characterises them in terms of their constitutive elements

.

3. Characteristics of rewarding mechanisms

Prior to the development of the categorization framework, the different characteristics of rewarding mechanisms were defined, which are presented in the following chapter.

Rewarding mechanisms for agricultural actions are defined as instruments that offer incentives to farmers in return for implementing specific practices or delivering desired outcomes. These mechanisms are characterised by aiming to induce a voluntary behaviour change through the use of positive incentives. They can take multiple forms and can be sourced from public or private entities or a mix of both.

Rewarding mechanisms are often viewed as purely economic incentives. This categorization framework expands the definition including a non-financial and a regulatory dimension. Social recognition, knowledge-sharing, and enabling legislative frameworks can also serve as powerful incentives, encouraging farmers to adopt climate-smart farming practices alongside, or in place, of financial rewards.

3.1. Scope of climate action

A wide range of climate-smart farming practices can be implemented at farm and landscape levels across EU agricultural land. They can be grouped into three overarching categories:

1. **GHG emissions reductions**[1], which are mainly methane (CH_4) from enteric fermentation and N_2O emissions from managed agricultural soils, which together represent over 80% of agricultural emission in the EU (EEA, 2024). Other sources of emissions include CH_4 from manure management, soil carbon emissions from organic and mineral soils.

[1] In scientific literature, the phrases “avoided emissions” and “reduced emissions” are frequently treated as synonymous (see McDonald, 2024). To maintain consistency, this report will use the term “emission reductions” exclusively to describe all forms of mitigation that decrease anthropogenic GHG emissions.

2. **Carbon dioxide removals** (CO_2), which refers to the process of extracting carbon dioxide from the atmosphere and storing it elsewhere, such as in soils or vegetation, has the potential to mitigate climate change from a global perspective by offsetting human-made GHG emissions (Don et al., 2023). For example, this can be achieved by converting between different land cover types or by managing agricultural soils to increase carbon sequestration.
3. **Climate change adaptation** practices aim to enhance the adaptive capacity of the agricultural sector in response to increasing climate pressures. Many of these measures also support mitigation and broader environmental objectives, while remaining economically viable and helping to build resilience within farming systems. According to the European Environment Agency (2019), adaptation actions at national and regional levels include integrating adaptation into farm advisory services, providing risk management and insurance against extreme weather and climate events, improving the efficiency of irrigation infrastructure, and implementing flood prevention and management strategies. At the farm level, adaptation can involve practices such as crop diversification and rotation, use of adapted crops, field margins and Improved animal-rearing conditions.

The scope of the climate action considered as part of the categorization framework is limited to those applied or applicable within the EU, excluding forestry activities as well as activities in the upstream and downstream sectors.

3.2. Sources of rewarding

The sources of incentivizing farm-level climate action can originate from a range of public, private, or mixed sources.

Public rewarding refers to funding or support offered by public institutions, which is typically administered by EU, national, regional or supranational authorities, e.g., through the EU Common Agricultural Policy (CAP), public agencies, public investment banks, or research and development (R&D) initiatives. By contrast, private rewarding involves financing from private-sector actors, including banks, companies, (philanthropic) organisations or consumers, commonly channelled through mechanisms such as carbon markets, price premiums, or labels. While private rewarding is generally commercial in nature and may require financial returns (for example, through commercial loans), public rewarding is commonly offered at lower rates (such as soft loans) or in the form of grants that do not require repayment (McDonald, 2024). Additionally, there are mechanisms that integrate blended finance (public, private) approaches. These include market-based approaches where the government plays a central role in providing or distributing funding (Vanzini M., et al 2024).

Beyond monetary based rewards, rewarding can come from more intrinsic forms of motivation, such as farmer satisfaction, social recognition, or alignment with personal values. This aspect is explored further in Chapter 5, where it is examined in connection with the categorisation of rewarding mechanisms.

3.3. Types of beneficiaries

Different categories of stakeholders can benefit directly or indirectly from specific types of rewarding mechanisms associated with climate-friendly farming practices. These may include:

- **Farmers:** Individuals directly engaged in the day-to-day operations of a farm, including crop production, livestock and soil management. They play a central role in the direct implementation of climate-smart farming practices. A farmer may also be a landowner or a group of farmers.
- **Landowners:** Individuals or entities that hold legal ownership of agricultural land and may lease their land to farmers or allocate it for other purposes. Their involvement in farming activities may vary. Additionally, a landowner may simultaneously act as a farmer.
- **Land managers:** Person or entity responsible for overseeing the day-to-day operational management of agricultural land. This role can only exist if a landowner and/or farmer asks them to manage the land.
- **Farm advisors**: Professionals who provide technical support and guidance to farmers, helping them to make informed decisions and implement climate-smart farming practices.
- **Project developers and monitoring, reporting and verification (MRV) providers:** Professionals and organisations that support the implementation of climate-smart farming practices by providing technical, organisational, or institutional services.

3.4. Rewarding method

There are various options for rewarding farmers and land users for their climate action. Overall, they can be distinguished between the delivery of action-based and result-based outcomes as well as for the hybrid approaches. Table 1 shows the main advantages and challenges of each rewarding method.

- **Action-based** funding provides rewarding to the farmer in compliance with typically very specific farming practices. They receive a payment or reward for implementing defined management actions, independently of the resulting impact of those actions (COWI et al., 2021). Action-based models are commonly used in the EU and Member States as part of the Common Agricultural Policy (CAP) (COWI et al. 2021; Siemons A. et al., 2025).
- **Result-based** funding is tied to a quantified and verified outcome and requires a direct and explicit link between the result delivered (e.g., Emission reduced, carbon sequestered) and the reward that the farmer receives (COWI et al. 2021; Siemons A. et al., 2025).
- **Hybrid approaches** combine action-based and result-based elements on the same parcel of land, where farmers are paid for adopting practices and achieving certain measurable outcomes (COWI et al. 2021; Siemons A., 2025).

Table 1. Advantages and disadvantages of the different rewarding methods

	Action-based	Result-Based	Hybrid approaches
Advantages	• Low uncertainty for farmer, with predictable payments and lower financial risks. • Lower transaction costs, as there is no monitoring of results. • Simple to tailor to specific measures and local conditions.	• Higher credibility, with a strong link to positive environmental outcomes. • More flexibility that fosters innovation, farmers decide how to meet targets. • Potential for higher additionality as payments are tied to measurable mitigation results.	• Farmers benefit from more certain, upfront payments, reducing financial risk. • Combines the straightforward design of action-based methods with the outcome accountability of result-based approaches.
Challenges	• No verified link between reward and outcome. • Limited flexibility and innovation as farmers must follow prescribed measures. • Less attractive to private funders seeking quantifiable results.	• Higher risk for farmer as payments depend on achieved results. • Higher transaction costs due to need for robust MRV systems. • Complexity and risk may discourage participation, especially for smaller farms.	• Hybrid approaches still require some form of MRV which can incur higher transaction costs. • Farmers may face uncertainty over whether they will receive full rewards, if the result-based goals are not achieved.

3.5. Types of on-farm climate actions

On-farm climate action consists of specific management practices or activities implemented at farm level with the aim of reducing GHG emissions, increasing carbon sequestration (Bognar, J. et al., 2023) and enhance the adaptive capacity of the agricultural sector in response to increasing climate pressures. Such actions are considered effective when they have demonstrated potential for climate change mitigation and adaptation. Importantly, they should also provide co-benefits beyond climate mitigation, including improvements in soil health, biodiversity, and the overall sustainability of farming systems.

There is a wide variety of on-farm climate actions, including among others: livestock emission reduction measures, improved manure processing and storage, better timing of fertilisation, crop rotation and diversification, cover crops, low or no tillage, planting hedgerows and agroforestry systems, and peatland rewetting.

3.6. Timing of rewarding

There are various design options on the timing of rewarding, when and how often the rewarding is allocated. *Ex-ante* rewarding refers to rewarding (usually monetary) allocated before the climate action outcome has occurred. Farmers receive funding upfront, based on estimated outcomes. However, first the project needs to be certified or registered and the climate action assessed by an independent

auditor. This payment model can be particularly relevant for long-term projects, which need substantial upfront investments, while the actual climate action outcome can take years (I4CE, 2019). The *Ex-ante* approach carries the risk of under-delivering if the expected outcomes are not fully achieved. It has also risen concerns about potential double counting, especially if the mitigation is later used in a cap-and-trade-scheme (Siemons A., 2025).

Ex-post rewarding is allocated after the climate action has been implemented by the farmer and has been verified. While *ex-post* payments directly links funding to actual outcomes, they may be considered insufficient to incentivise the implementation of mitigation activities that require a high initial investment, posing a barrier to the uptake of new farming practices (I4CE, 2019). The rewarding can be one off or ongoing/multi-year rewarding during the project timeline. Also, combinations of the time of rewarding are possible involving up-front funding, e.g., for the implementation of actions and funding linked to the outcome of the action to fund the maintenance of an action.

Chapter 4

Survey results

This chapter describes the outcomes from the survey with CFD national coordinators

4. Survey results

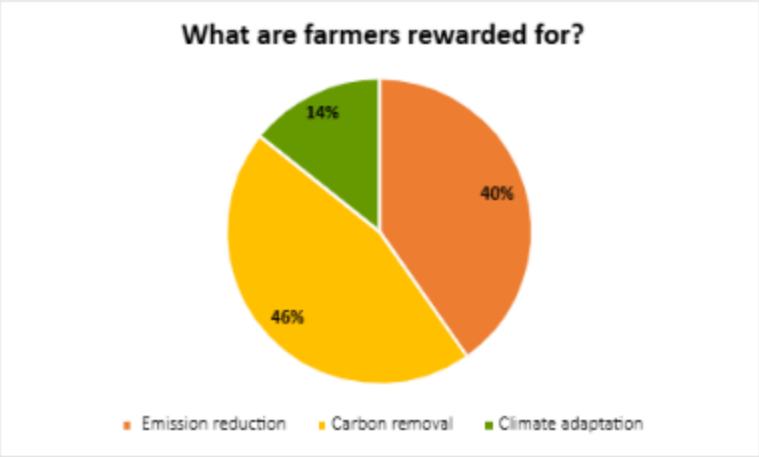
The survey conducted with the CFD national coordinators provided an initial overview and characterisation of existing rewarding mechanisms. This first step helped to identify the different clusters that could shape the categorisation framework. A total of 27 organisations completed the survey. However, for the purpose of data analysis, responses from 20 organisations were considered, as they provided sufficient depth and detail of information to enable further analysis. The remaining seven responses lacked adequate information and were therefore excluded. These 20 organisations identified 49 examples of rewarding mechanisms, varying in scope and characteristics.

An initial analysis provided insights regarding the geographical scope of the identified mechanisms. The majority of them operate at the national level, suggesting that these programmes are often tailored to country-specific contexts. They are followed by mechanisms implemented at the regional and European levels. A smaller number of cases were identified at the global level (Figure 1).

Figure 1. Geographical distribution of the identified rewarding mechanism examples, based on survey responses. The classification reflects whether the mechanisms operate at national, regional, European, or global levels. (source: own data).

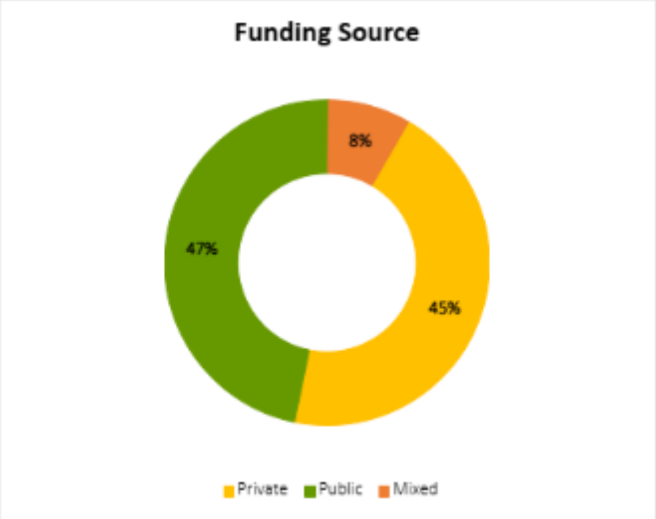
The survey also offered an initial understanding of the types of climate actions being rewarded. Most of them focus on incentivising carbon removals and emissions reduction activities. In contrast, climate adaptation efforts were mentioned less frequently, suggesting that they are not commonly rewarded (Figure 2). Adaptation initiatives were primarily reported at European and national levels, with funding sources dominated by private actors, followed by public funding, and only a minimal presence of blended finance approaches.

Figure 2. Types of climate actions for which farmers are rewarded, based on the examples of rewarding mechanisms reported by national coordinators through the survey (source: own data).



A critical aspect of these mechanisms is their source of funding. The survey indicates a relatively even distribution between public and private funding sources. Only a limited number of mechanisms use blended finance approaches, combining both public and private contributions (Figure 3).

Figure 3. Funding sources of the rewarding mechanism examples reported in the survey, indicating whether the examples are supported by public, private, or mixed finance (source: own data).



The insights of the survey and the characterisation of a diverse set of rewarding mechanisms, enabled a systematic categorisation of the rewarding mechanisms, which resulted in the framework introduced in the next chapter.

Chapter 5

Categorization framework of rewarding mechanisms

This chapter introduces the categorization framework of rewarding mechanism, divided into multiple tiers and featuring detailed descriptions and examples

.

5. Categorization framework of rewarding mechanisms

The analysis of rewarding mechanisms for climate-smart farming practices indicated a wide range of mechanisms with varying scopes and characteristics. To facilitate the understanding and use of these rewarding mechanisms in the agricultural sector, there is a need to systematise the different types of rewarding mechanisms. Hence, we developed a categorisation framework to navigate through the different types of rewarding mechanisms. The framework is organised in tiers with increasing levels of detail. Tier 1 provides a general overview, while tiers 2 and 3 offer increasingly specific descriptions. This hierarchical structure enhances the understanding of the different types of mechanisms and support stakeholders in their engagement with those that support climate-smart agricultural practices.

At tier 1, rewarding mechanisms are grouped into three overarching categories: monetary, non-monetary, and regulatory. These categories capture shared characteristics, allowing for the clustering of similar mechanisms and establishing a foundation for comparison. Tier 2 offers a categorization of the typology of rewarding. The categorization is composed of 13 different rewarding types. At tier 3, the rewarding mechanisms are further differentiated based on the distinctions established in the previous tier. The overview of the categorisation framework is illustrated in table 2.

In the following section, the different tiers are presented with detailed descriptions including examples of current (rewarding) mechanisms.

Table 2. Categorization framework of rewarding mechanisms including tier 1, tier 2 and tier 3 levels.

Tier 1	Tier 2	Tier 3
Monetary	**Subsidies**	Tax reductions
		European Agricultural Guarantee Fund (EAGF)
		Action based subsidies
		Result based subsidies
	Grants	
	Financial instruments	Green loans
		Financial guarantee
		Equity
	Markets	Voluntary carbon markets (VCM)
		Payments for ecosystem services (PES)
	Labels	
	Price premiums	
	Insurances	
	Blended finance	
Supportive	**Advisory services/ upskilling**	
	Social rewards	
	Research and development (R&D)	
Regulatory	**Enabling policies**	
	Public procurement	

5.1. Monetary

"The use of monetary rewards to incentivise the implementation of climate-smart farming practices"

This category refers to the use of monetary rewards to encourage the implementation of climate-smart farming practices. This category includes a wide range of options for different types of rewarding mechanisms. Although climate-smart farming practices can offer significant long-term benefits to farmers, such as improved soil conditions and cost savings (e.g. reduced input costs), the adoption of climate-smart farming practices usually involves costs that must be compensated or mitigated to ensure profitability during the implementation. Monetary rewarding mechanisms are therefore crucial, as they help to redistribute the risks associated with implementing new methods, making the adoption of sustainable farming practices both feasible and economically viable.

5.1.1. Subsidies

Subsidies are a form of financial support provided by the governments to a person, company or organization with the purpose of promoting certain economic, environmental or social actions, or outcomes by lowering the cost of purchases or production (Lago M., 2024). For example, to encourage farmers to implement climate-smart agricultural actions that reduce or avoid emissions, remove carbon from the atmosphere, or adapt to climate change.

5.1.1.1. Tax reductions

Tax reductions are a form of subsidy, by reducing some or all tax obligations for specific groups, entities, products, investments, or activities engaged in agricultural practices that implement climate-smart agricultural actions, usually linked to the achievement of certain environmental targets. These reductions aim to stimulate the supply of specific goods and/or encourage the adoption of particular behaviours or economic activities. Table 3 provides an overview of the advantages and disadvantages of tax reductions.

Table 3. Advantages and disadvantages of tax reductions.

Advantages	Disadvantages
Encourage the adoption of climate-smart farming practices by reducing tax obligations (Eurostat, 2015).	Accessing tax reductions may involve significant administrative burden, with complex eligibility requirements and bureaucratic processes that can discourage participation (Eurostat, 2015; Lago M., 2024).
Farmers' acknowledgment for the implementation of climate-smart farming practices through the granting of	

tax reductions, thereby improving their net income (AgriPolicyKit, 2024).	

Box 1. Example of tax reduction: Tax reduction for organic farming in France

> The organic farming tax credit is a form of public support for agricultural businesses that use 'organic' production methods. To qualify, farm businesses must derive at least 40% of their revenue from activities that have been certified as organic. The tax credit applies to income tax, regardless of the farming system. The tax reduction can be as much as 3500€/year per farmer. Cumulation rules apply if the farm is already receiving organic farming support.

Note: Further information can be found in Annex III.

5.1.1.2. European Agricultural Guarantee Fund (EAGF) (Broad-scale climate subsidy)

The European Agricultural Guarantee Fund (EAGF) is a subsidy providing income support for EU farmers through direct payments and market measures under the Common Agricultural Policy (CAP). It mainly provides direct income support for farmers, coupled income support and eco-schemes promoting environmental practices. Farmers receiving the direct payments have to fulfil certain minimum requirements (GAECs). Additionally, it finances market measures, such as intervention buying to stabilise prices, private storage aid, sector-specific support or exceptional market disturbance measures (European Commission, 2024a). Table 4 provides an overview of the advantages and disadvantages of the European Agricultural Guarantee Fund (EAGF).

Table 4. Advantages and disadvantages of the European Agricultural Guarantee Fund (EAGF).

Advantages	Disadvantages
Direct financial support, providing consistent income support for farmers, avoiding land abandonment especially in marginal regions, which are essential for biodiversity conservation and the maintenance of cultural landscapes (Szerletics, Á., 2020; Žickiene et al., 2022; Brady et al., 201)	This incentive may prioritise short-term income support that might not be sufficient to achieve and reward long term sustainability goals (COWI et al., 2021).
Risk reductions due to the income support, reducing the farmer´s exposure to the market volatility (European Commission, 2024a).	Low effectiveness of these payments and negative impact on farm efficiency (Brady et al., 2017, Žičkienė et al., 2022). The more payments farmers receive, the less incentivised they are to adopt the most effective and efficient strategies for adapting to market and environmental changes. This, in turn, results in lower income and a greater reliance on subsidies making the rewarding less efficient (Žičkienė et al., 2022).

Box 2. Example of the European Agricultural Guarantee Fund (EAGF)

The European Agricultural Guarantee Fund (EAGF) provides financial support to farmers through direct payments and market measures, ensuring stable incomes and balanced agricultural markets. With a budget of approximately €198 billion for the 2021 – 2027 CAP programme, it mainly provides direct income support to farmers (~50%), coupled income support (~12%), and eco-schemes promoting environmental practices (~24%). Managed jointly by the European Commission and Member States, the EAGF focuses on immediate market and farmer support, promoting economic and social sustainability in the EU agricultural sector. A significant portion of the EAGF budget is allocated to area-based and coupled income support, which are flat-rate, annual payments for eligible hectares or livestock units and fully funded by the EU budget leading to their prioritization by member states over potentially more targeted instruments. As a result, these payments are inefficient or even counter-productive in addressing environmental goals which have been criticised in the past.

The beneficiary of the EAGF must comply with the Good Agricultural and Environmental Conditions (GAECs) as minimum requirements.

- Maintenance of permanent grassland (GAEC 1)
- Protection of wetlands and peatlands (GAEC 2)
- Preservation of soil organic matter (GAEC 3)
- Protection of water pollution (GAEC 4)
- Prevention of soil erosion (GAEC 5)
- Minimum soil cover (GAEC 6)
- Crop rotation (GAEC 7)
- Preservation of landscape features (GAEC 8)
- Protection of grasslands in Natura 2000 sites (GAEC 9)

At least 25% of the EAGF budget is allocated to eco-schemes which are voluntary for farmers and provide payments for practices that are beneficial to the environment and/or climate. Eco-schemes can support practices such as organic farming, agro-ecological practices, precision farming, agroforestry or carbon farming, as well as animal welfare improvements.

Note: Further information can be found in Annex III.

5.1.1.3. Action-based subsidies

Action-based subsidies refer to financial support provided to farmers and agricultural businesses that implement specific agricultural actions or practices, rather than on the results they produce, although they are generally expected to deliver positive environmental outcomes (AgriPolicyKit, 2024). These subsidies reduce the uncertainty farmer face when adopting climate-smart farming actions and have low transaction costs. Moreover, they can be customised to consider individual characteristics of the different measures, and local conditions. Most environmental schemes that have been implemented in the EU over the last years have been action-based especially through the Common Agricultural Policy

(CAP) (Siemons et al., 2025; Bleasdale, A., et al., 2020). Table 5 presents the advantages and disadvantages of action-based subsidies.

Table 5. Advantages and disadvantages of action-based subsidies.

Advantages	Disadvantages
Promote specific climate-smart management practices and can be customised to consider individual characteristics of the different measures, and local conditions. They can be targeted to support nature-based solutions that deliver multiple benefits (IPBES, 2019).	Environmental effectiveness may be reduced due to high uncertainty to what extent the action will deliver the desired environmental outcomes (COWI, 2021).
Rewarding can be tied to implementation requirements (AgriPolicyKit, 2024).	Few or no guarantees that environmental outcomes will be maintained after the payment has been disbursed (COWI, 2021).
Lower implementation and transaction cost (compared to result-based rewarding) as farmers follow prescribed climate-smart measures without or limited monitoring and measuring of mitigation results (Siemons et al. 2025).	Can be very prescriptive in what specific measures are eligible for funding, giving farmers less flexibility and thereby less support for transformational change of management practices (European Commission, 2023b).
In principle suitable for private and public funding (Siemons et al. 2025).	Provide less flexibility to farmers to try out different approaches and thus provide fewer incentives for farmers to innovate (European Commission, 2023b).

Box 3. Example of action-based subsidies: European Agricultural Fund for Rural Development EAFRD.

The EAFRD is a financial instrument under the CAP with a budget of around €95.5 billion, providing action-based payments to support the sustainable development of rural areas through three long-term objectives: 1) fostering the competitiveness of agriculture and forestry, 2) ensuring the sustainable management of natural resources and climate action, and 3) achieving balanced territorial development of rural economies and communities. These objectives are realised through interventions co-financed by the EAFRD and the national budgets of EU countries with at least 35% of this funding targeting environmental and climate protection. The EAFRD also serves as a source of loans, microcredit, guarantees, and equity, available to recipients in agriculture, forestry, and rural areas undertaking financially viable projects that align with its priorities.

To receive funding from the EAFRD, farmers must undertake a range of measures, including: reducing greenhouse gas (GHG) emissions from livestock and soils (both mineral and organic), increasing carbon sequestration and storage, and adopting climate adaptation practices. Other eligible activities are switching to more efficient irrigation systems; taking part in training programmes, farm exchanges and demonstration projects; modernising technologies, machinery, tools and equipment; and participating in quality schemes, local markets, short supply chains and producer groups or organisations.

Note: Further information can be found in Annex III

5.1.1.4. Result-based subsidies

Result-based subsidies are financial incentives provided to farmers and agricultural businesses linked to the achievement of a pre-defined environmental outcome (e.g., emission reductions, carbon removals and climate adaptation). Although most of these payments do not rely on the direct quantification of environmental outcomes, they can be based on estimations with varying degrees of accuracy (Bonvillain T. et al, 2020). Result-based payments can involve high transaction costs for MRV of the environmental outcome. Advantages and disadvantages linked to result-based subsidies are summarised in table 6.

Table 6. Advantages and disadvantages of result-based subsidies.

Advantages	Disadvantages
Rewards farmers to enrol land that will deliver higher environmental results, since outcomes are required to be monitored and quantified (Böttcher, H. et al., 2022).	High transaction costs associated with quantification and monitoring, reporting and verification (MRV) of results that limits their efficiency (Siemons A. et al., 2023).
Cost-effective in meeting set targets (COWI, 2021).	Less attractive to farmers if they do not know beforehand if results are sufficient compared to the effort (Siemons et al. 2025).

Cost-efficient by providing incentives for innovations that improve the measurable result while reducing the costs to achieve the intended outcomes over time (Bartkowski et al. 2021).	The focus on one result (e.g., additional mitigation) can come at the expense of other objectives (e.g., biodiversity) (Siemons A. et al., 2023).
Lower informational requirements for the regulator i.e., the regulator does not need to have all the information about the farm, if he can measure and pay for the result only (Bonvillain T. et al, 2020).	Potential environmental risks if the measures do not actually deliver the expected results (Bonvillain T. et al, 2020).
Generally, suitable for private and public funding.	
Since the outcome is rewarded rather than a specific practice, farmers have greater flexibility to achieve the agreed targets and can adapt climate-smart agriculture measures to local conditions (Hagemann N., et al., 2025).	

Box 4. Example of result-based subsidies: French CAP strategic plan agri-environment-climate measures (AECMs) “Transition of practices” specifically the reduction of carbon footprint (70.27).

The agri-environment-climate measures 70.27 is a key component of France's Common Agricultural Policy (CAP) Strategic Plan for 2023–2027. This intervention provides flat-rate payments to farmers and land managers who voluntarily implement practices aimed at reducing their farms' carbon footprints. The program promotes the adoption of locally relevant environmental practices that go beyond the scope of direct payment schemes. Participants must complete an initial assessment to establish a baseline, commit to monitoring their climate actions for 5–7 years, and receive payments based on the results achieved at the end of the period compared to the initial assessment. The methods for achieving emission reductions are not specified in the CAP Strategic Plan, which allows flexibility for participants to choose their approach. However, its effectiveness may be limited by the relatively small, targeted areas and the constrained budget allocations.

Farmers should demonstrate that they have improved or achieved better climate results by summiting two GHG emissions assessments: at the beginning and end of the commitment period. Additionally, they must develop an action plan and record their farming practices. Additionally, the farms are required to achieve a minimum improvement of 15% in the carbon footprint of the farm within a contractual period of 5 to 7 years. Farmers who apply for environmental and climate commitments must complete a specific training, conduct an agro-ecological assessment of their farm, and participate in exchange meetings with other farmers.

Note: Further information can be found in Annex III

5.1.2. Grants

Grants are a direct contribution (money, goods or services) from governments (local, national, or EU) to support practitioners in adopting specific climate-smart practices that align with defined policy

objectives[2]. They are often restricted to a small number of recipients, who are often selected through competitive application processes following a formal “call for proposals”. Grants are generally one-off payments, although they may be paid in instalments, and they are not required to be repaid. However, their provision often depends on the beneficiary demonstrating concrete actions or results, or their participation in evaluation and technical assistance programs (McDonald, H., et al., 2024). Table 7 presents the advantages and disadvantages of grants.

Table 7. Advantages and disadvantages of grants.

Advantages	Disadvantages
Grants reduce the initial cost of transitioning into climate-smart farming practices (Tobin-de la Puente, J., & Mitchell, A. W., 2021).	Applying for and managing grants can be time-consuming and involve complex procedures, affecting especially small farms with limited capacities or resources (McDonald, H., et al., 2024).
Funding can be used for training, technical help, and sharing best practices, creating opportunities for farmers to improve their knowledge and abilities (Baroni, L., et al., 2019).	Grants often require farmers to demonstrate measurable outcomes or participate evaluations and technical support programs. These requirements can be complicated and lead to extra costs (Baroni, L., et al., 2019).
Grants help to reduce the financial and practical risks of shifting from conventional to climate-smart farming (McDonald, H., et al., 2024).	Specific grant programs may not fully reflect local needs or the variety of farming systems, resulting in unequal benefits for different farmers and regions (Tobin-de la Puente, J., & Mitchell, A. W., 2021).

[2]At EU level, grants cover two main categories: financing actions that help to achieve the objectives of an EU policy, and financing the operating expenditure of a body pursuing an objective of general European interest or which is part of an EU policy. https://commission.europa.eu/funding-tenders/how-apply/you-apply-eu-funding-beginners_en

Box 5. Example of grants: LIFE programme.

The Programme for the Environment and Climate Action (LIFE) is an EU initiative that funds projects entirely focused on environmental protection, nature conservation, and climate adaptation and mitigation. By acting as a link between research and practical implementation, this programme provides grants or public contracts to support projects that protect, restore, and enhance the EU's natural environment, halt biodiversity loss, and contribute to the transition to a resource-efficient, renewable energy-based, climate-neutral, and resilient economy. The program focuses on four thematic areas: Nature and Biodiversity, Circular Economy and Quality of Life, Climate Mitigation and Adaptation, and Clean Energy Transition. LIFE encourages collaboration among a diverse range of stakeholders, including NGOs, businesses, public authorities, academia, and community groups, to ensure widespread participation in achieving environmental objectives. The program is implemented based on multi-year work programs with a duration of 3 or 4 years. Despite its significant budget, LIFE is considered a limited grant program relative to the EU's ambitious environmental goals. As a result, it is designed to act as a catalyst, promoting the exchange of knowledge and best practices to maximise its impact. The program also plays a key role in supporting the Natura 2000 network and aligning environmental goals with broader EU policies.

Participants in the LIFE programme should implement on-the-ground initiatives that contribute to reducing agricultural GHG emissions and enhancing carbon removals from the atmosphere using viable nature-based solutions in land management. Key activities include assessments, guidance, capacity-building initiatives, studies, surveys, stakeholder workshops, conferences, meetings, networking, and the development of suitable financial approaches and products.

Note: Further information can be found in annex III

5.1.3. Financial instruments

Financial instruments facilitate access to financial support for farmers and agri-businesses, reducing financial barriers to the adoption of sustainable agricultural practices (McDonald, H., et al., 2024). They commonly take the form of agreements or contracts established between the farmer or agri-business and the provider of funds (e.g., governments or financial institution). These financing instruments encompass favourable lending conditions for borrowers, such as reduced interest rates or extended repayment periods (Green Loans); reduced risk for lenders, making it easier for farmers to access credits (Financial Guarantee); and access to capital from external investors in exchange for ownership stake in the future value generated by sustainable farming practices (Equity Investment).

5.1.3.1. Green loans (including green bonds)

Green loans and bonds can finance the adoption of environmentally friendly practices. Both are financial instruments aimed at funding projects with environmental benefits (World Bank Group, 2021). Green loans are typically smaller private loans, issued by public or private banks, exclusively used to finance projects with environmental benefits, such as carbon climate- friendly farming projects. They are often simpler and less costly than green bonds. In contrast, green bonds are larger instruments, often issued by governments or corporations, that raise funds from multiple investors in the debt capital market and

are tradable on bond markets. These bonds also finance green projects but tend to have higher transaction costs and can be more complex. Table 8 provides an overview of the advantages and disadvantages of green loans.

Table 8. Advantages and disadvantages of green loans.

Advantages	Disadvantages
Green loans often come with lower (concessional) interest rates and longer repayment periods compared to traditional loans (McDonald, H., et al., 2024).	The criteria for green loans can be strict, requiring farmers to meet certain environmental performance standards or thresholds (Baroni, L., et al., 2019).
Green loans often facilitate collaborative partnerships between governments, financial institutions, and farmers (Tobin-de la Puente, J., & Mitchell, A. W., 2021).	Lack of awareness or understanding of green loan options among farmers.
	Although green loans provide access to capital, they are still debt instrument therefore, farmers are taking on debt (which can be used to finance, e.g., equipment or working capital required in their transitions) (McDonald, H., et al., 2024).

Box 6. Example of green loans: InSoil.

InSoil is an online platform with a focus on climate action that operates a marketplace facilitating investments in sustainable agricultural practices by connecting investors with farmers across Europe. The platform provides access to “Green Loans” to farmers, which feature a fixed interest rate of 0%. These loans support farmers in adopting sustainable practices such as renewable energy, reforestation, or regenerative land management (i.e., no-till farming), thereby storing carbon in the soil and generating carbon credits, which are sold and the revenue from these credits are offered to the investors as a return for their investment. To secure loans, farmers typically use heavy machinery as collateral. During the project registration process on the platform, farmers undergo an assessment in which they specify the number of hectares that will be managed under regenerative agricultural practices. Once the project is listed on the InSoil platform, the investor community has 14 days to fully finance the project. InSoil uses a standardised methodology developed by Verra to monitor, report, and verify carbon sequestration outcomes. The monitoring framework integrates satellite imagery, public registries, on-site inspections, and laboratory soil analysis.

Farmers need to complete an online application and participate in an initial interview to discuss loan options and financial arrangements. They are required to implement at least two of the following farming practices: reduced tillage, planting cover crops, increasing crop rotation, and applying organic fertilisers.

Note: Further information can be found in Annex III.

5.1.3.2. Financial guarantee

A financial guarantee is a financial instrument that implies the repayment of a debt to a lender by including a third-party guarantor who agrees to take on the financial responsibility if the borrower fails

to meet the initial financial obligation. This mechanism can facilitate the access to better interest rates for farmers or land users, who will use the money for the implementation of climate-friendly agricultural actions, by providing a guarantee to the lender (fi-compass.,2023a). Table 9 presents the advantages and disadvantages of financial guarantees.

Table 9. Advantages and disadvantages of financial guarantees.

Advantages	Disadvantages
Can be used as collateral or to reduce lending risk, making it easier for farmers and agri-businesses to access finance for implementing climate-smart farming practices with lower interest rates, reduced collateral requirements, and longer repayment terms (fi-compass, 2023a).	Small-scale farmers may face challenges in accessing guarantees due to limited awareness or capacity to handle administrative procedures (fi-compass, 2019).
	Information on available financial guarantees is often difficult to access, poorly communicated, or fragmented across institutions (fi-compass, 2019).

Box 7. Example of financial guarantee: Alter'Na.

Alter'NA is a guarantee fund developed by the Nouvelle Aquitaine Region (France) to facilitate access to bank credits for farmers. Its goal is to contribute to the transition towards sustainable farming practices and to enhance the competitiveness of the agricultural sector by offering significant financial advantages such as reduced personal guarantees, no guarantee charges, and lower interest rates on loans.

To qualify for the guarantee, farmers are required to diversify their production, reduce or eliminate the use of pesticides, transition to cultivation within an eco-greenhouse, and participate in a micro-methanisation project. Applicants must also hold an environmental certification, such as organic farming certification or High Environmental Value certification. Additionally, an assessment will be conducted to evaluate the feasibility of the project's business model.

Note: Further information can be found in Annex III.

5.1.3.3. Equity investment

Equity involves the provision of capital to an agricultural enterprise or project in exchange for partial or full ownership, including rights to a share of profits, losses, and, in certain cases, participation in management decisions (fi-compass, 2023a). The financial return on equity investments is contingent upon the enterprise's growth and overall profitability. Equity does not require fixed repayments but rather that investors assume both the risks and potential rewards associated with the enterprise, with returns typically realised through profit distribution or the eventual sale of ownership stakes. Advantages and disadvantages linked to equity investment are summarised in table 10.

Table 10. Advantages and disadvantages of equity investment.

Advantages	Disadvantages
The alignment of farmer and investor interests fosters shared responsibility and distributes the risks associated with adopting climate-smart agricultural practices (McDonald, H., et al., 2024).	Small-scale farmers, particularly those in marginalised or hard-to-reach areas, may struggle to access this kind of finance (fi-compass, 2015).
Provides adaptable financial support to manage unexpected challenges and encourages diversification, enhancing resilience to market fluctuations (McDonald, H., et al., 2024).	Smaller farms may face barriers to access, resulting in a disproportionate advantage for larger farms.
Allows farmers to maintain a stronger role in decision-making over the land management, rather than simply following external contracts or payment schemes (fi-compass, 2023a).	Involving external investors may lead to reduced ownership or influence over land and operations, limiting farmers' autonomy (McDonald, H., et al., 2024).

5.1.4. Markets

Economic rewards driven by markets for climate-smart action. For example, payments associated with selling claims or rights to ecosystem services (especially climate mitigation) to companies, governments, and individuals (often in the form of “credits”). The buyer may use the credits for their own purposes, for example to meet environmental targets, offset their own emissions, or contribute to environmental protection. A credit price is negotiated between the buyer and seller (e.g., project developer, farmer).

5.1.4.1. Voluntary Carbon Markets (VCM)

Voluntary Carbon Markets (VCM) are a trading system where companies, organizations, and individuals buy carbon credits. This is often motivated by a desire to “offset” their greenhouse gas (GHG) emissions. These credits are generated by projects that reduce or remove emissions, such as farmers implementing climate-smart farming practices. Generally, one carbon credit is equivalent to one tonne of carbon dioxide equivalent (1 t CO_2eq) that has been reduced or removed from the atmosphere. These credits are usually certified by private organizations or sometimes by governments (SDSN, 2023). Farmers who adopt climate-smart farming practices can generate credits and sell them to buyers, creating a new source of income. However, the certification process can be highly complex, and since participation in VCMs is voluntary, no mandatory monitoring, reporting, and verification (MRV) standards exist, but rather a multitude of heterogeneous quality standards, raising concerns about the credibility of some credits. The price of carbon credits can vary widely, creating financial uncertainty for both sellers and buyers. While VCMs have the potential to attract private funding for climate action in the agricultural sector, they also present risks and challenges depending on the design of the market structure and the quality of certification methodologies. Table 11 presents the advantages and disadvantages of Voluntary Carbon Markets (VCM).

Table 11. Advantages and disadvantages of Voluntary Carbon Markets (VCM).

Advantages	Disadvantages
Farmers can earn additional money by selling carbon credits, offering a financial incentive for sustainable practices (COWI et al., 2021).	Carbon credit prices are often volatile, making farmers' income unpredictable and creating financial risks, as credits are not received immediately (McDonald, H., et al., 2021).
Participation is optional and less bureaucratic than compliance markets, allowing more tailored approaches for different farm types and regions (McDonald, H., et al., 2024).	Uncertainty for farmers due to unclear rules for income reporting and taxation.
	Ensuring that carbon reductions are measurable and credible can be costly and complex, particularly for smallholders. The lack of mandatory MRV requirements and heterogeneous quality standards raise concerns over credit quality and pricing (SDSN, 2023).
	Many farmers may find the process of joining and complying with market standards difficult without external support or intermediaries (Barbato, C. T., et al., 2023).
	The VCM for climate-smart farming practices remains low.

Box 8. Example of Voluntary Carbon Markets (VCM): Label Bas-Carbone

The Label Bas-Carbone (Low-carbon standard) is a voluntary climate certification framework for emissions reductions and carbon removals in France, managed by the French Government. The framework provides rules and guidance by establishing a framework for monitoring, reporting and verification of greenhouse gas emission reductions or carbon removals of projects implemented in France. The French Ministry of Ecological Transition is responsible for approving methodologies, validating project applications, and officially awarding the label. Once a project is approved, external audits are conducted to ensure it meets the label's standards. To date, 15 methodologies have been approved by the Ministry across various sectors, including forestry, construction, transport, urban and marine environments, and agriculture. The agricultural sector alone accounts for six of these approved methodologies. The prices for carbon credits under the Label Bas Carbone framework in France vary by project, but the average price per tonne of CO_2eq is approximately €35.

Farmers must adopt low-carbon practices that contribute to either carbon removal or reductions in greenhouse gas (GHG) emissions in order to receive the Label. These practices must fall under one of the six recognised "Label bas Carbone" farming methods and may include, for example:

- Reducing the use of mineral fertilisers for field crops
- Use of cover crops for field crops
- Optimising herd management in livestock farming
- Reducing the use of imported soya in livestock farming
- Planting hedges

Carbon audits are conducted both before the project begins and upon its completion to measure progress in carbon sequestration and emission reductions. In addition, the project design must be submitted and validated by the Ministry of the Environment, with independent auditors responsible for evaluating the outcomes.

Note: Further information can be found in Annex III.

5.1.4.2. Payments for Ecosystems Services (PES)

PES are a financial mechanism based on the voluntary transaction between ecosystem services providers and beneficiaries who pay for those services (IPBES, 2019). Farmers deliver ecosystem services - such as water filtration, biodiversity conservation, soil health improvement, cultural and spiritual values, among others – by adopting sustainable farming practices. Through agreement with governments or private entities, farmers receive payments as an incentive to maintain or increase the ecosystem service supply. Table 12 illustrates the advantages and disadvantages of Payments for Ecosystems Services (PES).

Table 12. Advantages and disadvantages of payments for ecosystems services (PES).

Advantages	Disadvantages
Farmers may receive compensation for providing measurable environmental benefits (e.g., carbon sequestration, water purification, biodiversity) or for	Quantifying ecosystem services can be complex and costly, especially in diverse landscapes (Barbato, C. T., et al., 2023).

implementing climate-smart farming practices expected to deliver such benefits (McDonald, H., et al., 2024).	
Payments are usually based on individual contracts, offering more certainty and flexibility than volatile markets (IPBES, 2019).	Farmers may face paperwork, compliance audits, and reporting requirements that are difficult to manage without support (IPBES, 2019).
	Smaller or marginalised farmers may be excluded if programs favour large landowners or require upfront investments.

Box 9. Example of payments for ecosystems services (PES): HUMUS +, Ecoregion Kaindorf.

The HUMUS+ program, part of the Ökoregion Kaindorf in Austria, aims to improve soil health conditions and tackle climate change by increasing soil organic carbon (SOC) in the form of humus. Participating farmers agree to adopting recommended practices which increase soil humus content, thereby improving soil fertility, enhancing water retention, and reducing soil erosion. Farmers receive a "success fee" based on the tons of CO_2 they demonstrate to sequester, which is verified through soil testing. These payments are funded by companies that voluntarily purchase CO_2 certificates to offset their emissions.

The programme encourages a range of practices to promote carbon storage in agricultural soils, including:

- Maximise diversity: Crop rotation, catch crops, undersowing, mixed sowing, winter greening, agroforestry, hedges
- Maximise photosynthesis: Intercropping, undersowing, mixed sowing, winter greening, agroforestry, hedges, healthy plants, compost, plant charcoal.
- Minimise soil disturbance: reduce tillage, direct sowing, mulch sowing, reduction of agrochemicals.

To join the programme, farmers must register on the HUMUS+ website and commit to participating for a period of 12 years. An initial soil sample, paid by the farmer, is taken to establish a baseline. This is followed by another soil sample after 5–7 years, funded by the programme, to verify humus build-up. If humus content increases by at least 0.3%, the farmer receives a success fee per tonne of CO_2 stored.

Note: Further information can be found in Annex III

5.1.5. Labels

Labels function as informational tools that communicate the environmental services provided by farmers and the agricultural sector to consumers. Labels can influence consumer behaviour by guiding it toward more sustainable consumption patterns (Schulze, C., et al., 2024). For farmers, certification through labelling can act as an incentive, enhancing their visibility and credibility by demonstrating compliance with established sustainability and climate standards. Labelling not only ensures the reliability of

environmental claims but also fosters market opportunities (e.g., consumers paying price premiums). Table 13 presents the advantages and disadvantages of labels.

Table 13. Advantages and disadvantages of labels.

Advantages	Disadvantages
Labelling facilitates the differentiation of sustainably produced agricultural goods, enabling farmers to distinguish their products within the marketplace (Schulze, C., et al., 2024).	Annual renewal fees for certification schemes can be expensive, especially for smallholder farmers, and may sometimes exceed the financial benefits gained from participation (ADA, 2022).
To meet labelling requirements, farmers are encouraged to adopt sustainable and innovative farming methods, helping them stay competitive and avoid losing market position (Tiboni-Oschilewski, O., et al., 2024).	Meeting and maintaining certification requirements often demand considerable investment in farm infrastructure and ongoing efforts to remain compliant, which can be challenging for farmers with limited resources (ADA, 2022).
Labelling and certification can lead to financial benefits, such as higher prices for their products or access to premium markets, offering farmers an extra source of income (ADA, 2022).	The monitoring, reporting, and verification (MRV) of sustainability claims can be both costly and complicated, creating barriers to wider adoption and scaling carbon farming practices (Tiboni-Oschilewski, O., et al., 2024).
	Farmers might be held accountable if certified practices do not deliver the expected environmental benefits, even when the outcomes are affected by factors beyond their control, such as adverse weather or climate variability.

Box 10. Example of labels: Bioland

Bioland is a German organic farming association that promotes sustainable agriculture and environmentally friendly food production. With more than 9,000 organic farms, beekeepers and winegrowers in Germany and South Tyrol, it operates according to seven basic principles integrated in its certification process. This certification process is recognised for exceeding EU organic standards, guaranteeing high sustainability and product quality. However, its rigorous certification requirements and bureaucracy can pose difficulties for farmers. To support this transition, Bioland offers training, networking and marketing opportunities. Its label covers the entire value chain, ensuring compliance with biodiversity and sustainability guidelines.

To receive Bioland certification, farmers begin by contacting Bioland e.V. to express their interest. This is followed by an initial assessment to determine the farm's potential and readiness for certification. Farmers must then complete on-site inspections and audits, officially enrol as Bioland members, and adopt Bioland's specific guidelines and standards. Participation in training programmes and workshops is also required.

Certified farms follow the seven Bioland principles:

- Implementing circular economy
- Promoting soil fertility
- Ensuring animal welfare
- Producing valuable food
- Promoting biodiversity
- Preserving natural resources
- Securing a liveable future for people

Note: Further information can be found in Annex III.

5.1.6. Price premiums

Price premiums refer to additional payments or higher prices that value chain actors (e.g., food processors, traders, or multinational corporations) offer to farmers who apply climate-smart farming practices. These premiums are not only the result of emission reduction, carbon sequestration, and climate change adaptation actions, but may also be linked to the achievement of various co-benefits, e.g., biodiversity or other sustainability outcomes.

Environmentally aware consumers and companies with clear sustainability objectives both contribute to the increasing demand for agricultural goods produced in sustainable ways. Some agri-food companies, especially those aligning their operations with climate targets, such as the Science Based Targets initiative (SBTi), use price premiums within their strategies to encourage regenerative, low-emission, and conservation-oriented farming systems (Ecosystem Marketplace, 2024). Despite this trend, consumers still hesitate to purchase products that come with a price premium. Concerns about affordability and doubts about the credibility of sustainability claims may reduce their willingness to pay (Lamerre, J., et al., 2024). Table 14 provides an overview of the advantages and disadvantages of price premiums.

Table 14. Advantages and disadvantages of price premiums.

Advantages	Disadvantages
Farmers can sell products at higher prices compared to conventional markets (at higher-than-average market price) (Ecosystem Marketplace, 2024).	The added price is often limited and may be insufficient to fully compensate the costs of sustainable practices (Pawlewicz, A., 2020).
Price premiums programs usually provide support services and technical assistance (Pawlewicz, A., 2020).	Access to price premiums is often limited for smallholders, who might face challenges in meeting program requirements or accessing associated benefits (Network for Business Sustainability, 2011).

Box 11. Example of price premiums: FarmAhead™.

FarmAhead™ is a sustainability incentive model developed by the cooperative Arla to calculate and reduce the carbon footprint of its dairy products. It forms part of Arla's broader sustainability strategy, which aims to reduce CO_2eq emissions from farms by 30% per kilogram of milk by 2030. The model is based on methodologies for calculating carbon footprints and operates as a point-based system, where farmers earn points by engaging in various sustainability activities. Each point corresponds to an additional €0.03 per kilogram of milk delivered to Arla. In addition, Arla awards €0.01 per kilogram of milk for submitting data to the "Climate Check" tool, which serves as a prerequisite for receiving the sustainability incentive. The tool consists of 200 questions that every Arla farmer must answer, covering five main categories: feed efficiency, protein efficiency, animal robustness, fertiliser use, and land use. Each Arla farmer also participates in a consultation with an expert advisor, who verifies the farm data and provides tailored recommendations for reducing CO_2 emissions. Small and medium-sized dairy farmers may come under pressure, as the model tends to benefit from intensive dairy farming systems.

To receive the price premium, farmers must first be members of the Arla Cooperative. They are then required to complete a detailed questionnaire of around 200 questions covering various aspects of dairy farm production. Finally, the information provided must be verified through a meeting with an external expert advisor. Farmers are expected to implement measures from Arla's Climate Catalogue: How to reduce CO_2eq emissions on your farm. These measures may include:

- Reduction of CO_2 emissions
- Improve animal feed characteristics
- Use of solar panels and wind turbines
- Use of manure for biogas
- Reduction of fertiliser use for feed production
- Reduction of fuel use

Note: Further information can be found in Annex III.

5.1.7. Insurances

Agricultural insurance is a risk management tool designed to protect farmers from financial losses caused by unforeseen events such as natural disasters, disease and market fluctuations (Aubert, C., et al., 2024). By providing compensation for such losses, insurance helps stabilise farm incomes and supports the financial resilience of agricultural businesses. Adopting climate-smart farming practices, can reduce farmers' vulnerability to climate-related risks. Consequently, farmers who implement climate-smart farming practices are often considered lower-risk clients by insurers (Meuwissen, M. P. M., et al., 2018). This lower risk profile can justify the introduction of premium discounts as a rewarding incentive, making insurance coverage more affordable while simultaneously promoting sustainable farming methods. However, despite the potential of agricultural insurances as an incentive for farmers, their availability and implementation at the EU level remains limited. Table 15 illustrates the advantages and disadvantages of agricultural insurances.

Table 15. Advantages and disadvantages of insurances.

Advantages	Disadvantages
Redistribute the risk linked to unforeseen events helping farmers to stabilise their income (Aubert, C., et al., 2024).	The bureaucratic process involved in obtaining this type of agricultural insurance can pose a barrier, limiting farmers' ability to access it as an incentive.
Insurance premium reductions associated with the adoption of climate-smart farming practices can enhance farmers' income by lowering the cost of insurance coverage (Meuwissen, M. P. M., et al., 2018).	Insurance premium discounts targeted to certain areas or types of farmers can lead to uneven benefits, influenced by local conditions and farming practices. Farmers in high-risk regions may encounter higher premiums or limited access to coverage (Aubert, C., et al., 2024).

5.1.8. Blended finance

Blended finance refers to the use of multiple types of capital, typically provided by development finance institutions, state-owned banks, philanthropic organisations, or impact investors, to mobilise additional private investment in activities with environmental or social benefits (IEEP, 2025; Convergence, 2024).

In agriculture, the transition to climate-smart practices often requires substantial upfront costs and faces uncertain returns. These risks discourage private investors from engaging independently. Blended finance addresses this challenge by de-risking investments, reducing the likelihood or severity of potential losses, and therefore making projects that would otherwise appear too risky more feasible. By temporarily lowering risks, blended finance enables transactions and investments that would not have occurred under conventional market conditions (Vanzini et al., 2024).

It is increasingly seen as an important tool to attract large amounts of private capital under favourable conditions, speed up investment in sustainable agriculture, and show that climate-smart farming practices can be commercially successful (IEEP, 2025). Table 16 outlines the advantages and disadvantages of blended finance.

Table 16. Advantages and disadvantages blended finance.

Advantages	Disadvantages
Bridges the gap between grant-based models and market-based products by integrating different actors, risk-return profiles, and expertise, thereby supporting farmers in advancing towards sustainable and commercially viable farming practices (Vanzini et al., 2024).	Limited application of blended finance at the EU level to date, with relatively few practical cases implemented (IEEP, 2025).
Can attract additional investment from private actors who would otherwise avoid agriculture due to perceived risks (Convergence, 2024).	Involves complex design and governance arrangements, requiring coordination between multiple actors, which can increase transaction costs and delay implementation (Habbel, V. et al., 2021).

5.2. Supportive

"The use of non-monetary incentives to support the adoption of climate-smart practices (which may be self-motivated)."

Supportive rewarding mechanisms refer to non-financial incentives that promote climate action by building on intrinsic motivation and social factors within farming communities. These mechanisms are essential to de-risking the transition to new practices, facilitate knowledge sharing, peer recognition and continuous learning, which can encourage farmers to implement climate-smart farming practices.

5.2.1. Advisory services / upskilling

Advisory services are tailor-made services provided to farmers and land users, that support and empower them to enhance their knowledge about climate-smart farming practices that promote emissions reductions, carbon sequestration, and climate adaptation while improving their livelihoods and overall wellbeing, building resilience, and creating opportunities to increase their profitability. Through advisory services, farmers can make informed decisions at farm level, optimising the effectiveness of their current practices. With this knowledge, farmers can maximise the environmental benefits of their land management and innovate along the entire value chain. Advisory services are provided individually or in groups, through various methodologies (e.g., on-site, online, newsletter), sometimes in collaboration with agricultural training schools or research and development institutions. Table 17 presents the advantages and disadvantages of advisory services.

Table 17. Advantages and disadvantages of advisory services / upskilling.

Advantages	Disadvantages
Farmers gain a deeper understanding of climate-smart farming practices, enabling them to make decisions that are both environmentally and economically sound (AgriPolicyKit, 2024).	Even with the right information, farmers might not adopt practices due to financial, cultural, or infrastructural barriers (Barbato, C. T., et al., 2023).
Access to up-to-date practices and technologies helps farmers experiment and innovate within their farming systems (Buck, H. J., et al., 2022).	Requires sustained investment in training, infrastructure, and delivery mechanisms (Sulaiman, R., et al., 2018).
Can be customised to local contexts and delivered through various formats (in-person, online, mobile platforms) (Barbato, C. T., et al., 2023).	Online platforms might not be accessible to all, especially in rural or low-income areas with limited internet or device access (AgriPolicyKit, 2024).

Box 12. Example of advisory services / upskilling: Organic Advice Network project.

The OrganicAdviceNetwork is a European initiative designed to enhance the knowledge and skills of organic advisors, to facilitate the transition towards sustainable agricultural practices. This initiative seeks to build a network of 1,000 organic advisors across the EU and neighbouring regions, fostering knowledge exchange and collaboration between experts in plant production and animal husbandry. The network offers training programs designed to strengthen both technical expertise and interpersonal skills, through a combination of in-person workshops, online courses, and practical learning through farm visits. Furthermore, it explores financial mechanisms and business models to develop a robust framework for advisory services in the organic farming sector.

Advisors get trained to improve their organic advice competences and on the conversion from conventional to organic farming. This will result in skilled advice for farmers from the advisors.

Note: Further information can be found in Annex III

5.2.2. Social rewards

Social rewards refer to the intangible benefits perceived by farmers as a result of engaging in climate-smart farming practices. Based on cultural and social contexts, these benefits strengthen relationships among farmers, facilitate peer-to-peer knowledge-sharing networks, and enhance social recognition of sustainable efforts. These rewards are often linked to the influence of opinion leaders, particularly farmers who adopt innovative and sustainable practices. By visibly demonstrating the benefits of climate-smart farming practices, these farmers gain credibility, serve as role model, and inspire others to follow (Barnes A. et al., 2022). Their influence contributes to the wider adoption of sustainable farming practices, encourages social participation, and reinforces community-based networks that support collective environmental stewardship. Advantages and disadvantages linked to social rewards are summarised in table 18.

Table 18. Advantages and disadvantages of social rewards.

Advantages	Disadvantages
Farmers are more likely to adopt sustainable practices when they see respected peers doing the same successfully (Barnes A. et al., 2022).	Hard to measure and track impact—what counts as a "reward" can vary greatly between individuals and cultures.
Encourages collaboration and collective action toward shared environmental and social goals (Buck, H. J., et al., 2022).	Social norms and peer influence take time to develop and might not produce quick results (Rodriguez, J. M., et al., 2009).
Farmers gain respect and prestige, which can lead to opportunities (e.g., training others, community leadership).	Recognition and influence might concentrate around a few individuals, potentially reinforcing existing inequalities in the community (Rodriguez, J. M., et al., 2009).

5.2.3. Research and Development (R&D)

Research and Development (R&D) refers to the process of increasing knowledge to better understand agricultural practices and their role in addressing climate change. It involves creating, testing, and applying innovative solutions that strengthen climate-smart farming, support carbon sequestration, and promote both mitigation and adaptation to climate change. The outcomes are achieved through the use of scientific research and technological innovation. By investment in, for example, new farming techniques, crop varieties and precision technologies, R&D seeks to boost agricultural productivity while minimising environmental impact. It can also promote sustainable farming systems, encouraging collaboration between researchers, farmers, and policymakers. In some cases, farmers may receive payments for participating in R&D initiatives. Table 19 illustrates the advantages and disadvantages of Research and Development (R&D).

Table 19. Advantages and disadvantages of Research and Development (R&D).

Advantages	Disadvantages
Participation in R&D programmes can generate additional benefits for farmers, including introduction to new knowledge, technologies, and methods, which can deliver sustainability and/or business benefits (European Commission, 2023f).	Participation in R&D programmes can be costly for farmers in terms of time and administration complexity (Barbato, C. T., et al., 2023).
Participation in R&D can open up access to carbon markets, certification schemes, or premium products (Sharma, M., et al., 2021).	Innovations do not always reach or resonate with farmers, especially if knowledge transfer is weak (Sharma, M., et al., 2021).
Opportunities to receive a monetary compensation for participating in R&D programmes, in certain cases.	The benefits from R&D may take several years to become tangible at the farm level.

Box 13. Example of Research and Development (R&D): LIFE Carbon Farming.

The LIFE Carbon Farming project is an initiative funded under the European Union's LIFE Programme, which supports environmental protection and climate action across the EU. Running from 2021 to 2027, the project involves 50 partners from six countries—France, Belgium, Germany, Italy, Ireland, and Spain—with the objective of promoting climate-friendly agricultural practices aimed at reducing greenhouse gas emissions and enhancing soil carbon sequestration. The principal aim of the project is to achieve a 15% reduction in the carbon footprint of agricultural products over a six-year period. This project supports 700 mixed livestock farms across Europe, providing tailored advisory services and monitoring tools to assist farmers in designing and implementing farm-level strategies to reduce emissions. A key element of the project is the development of a harmonised sustainability assessment methodology, alongside a standardised monitoring, reporting, and verification (MRV) framework, which aims at supporting farmers in assessing the progress in carbon footprint reduction, and facilitate the certification of low-carbon farming practices. This framework aims at enabling the implementation of a results-based reward mechanism on farms, facilitating contracts between farmers, project developers, and carbon buyers to generate revenue from carbon credits.

Farmers participating in the programme undergo visits by an accredited advisor at the start and end of the project, using standardised environmental and carbon diagnostic tools. Together, the farmer and farm advisors develop a tailored action plan, which the farmer has 5 years to implement. During this implementation period, two technical visits will be financed. After six years, a third-party audit certifies the carbon footprint reductions.

Note: Further information can be found in Annex III.

5.3. Regulatory

"Policies and regulations that create an enabling framework incentivizing the implementation of climate-smart farming practices."

Regulatory rewarding mechanisms consist of policies and regulations that create an enabling framework incentivizing the implementation of climate-smart farming practices, through recognition, market access, and support structures beyond direct financial rewards.

5.3.1. Enabling policies

Enabling policies refer to policies, strategies, and regulations that are developed to create synergies between climate mitigation, adaptation, and environmental protection fostering climate-smart farming

practices. They also seek to strengthen governance and transparency by aligning with international standards. This can involve, among others, better access to markets, common sustainability benchmarks, promotion of climate-smart products through labelling systems, which in return can generate or facilitate financial compensation for farmers. However, enabling policies alone are insufficient to incentivise sustainable and long-term change. Table 20 presents the advantages and disadvantages of enabling policies.

Table 20. Advantages and disadvantages of enabling policies.

Advantages	Disadvantages
Establishes a legal and institutional environment that makes it easier for farmers to shift toward sustainable and climate-smart farming practices (Climate Trade, 2023).	Well-designed policies can fail if not properly enforced or if local institutions lack capacity (Raina, N., et al., 2024).
Stable and predictable policy environments attract investment from businesses and financial institutions into climate-smart initiatives (Raina, N., et al., 2024).	Shifts in political leadership or priorities can lead to uncertainty or rollback of climate-smart policies (Eichhorn J. & Grabbe H., 2025).
	Navigating regulations or accessing benefits can be complex and time-consuming for farmers.
	Policies developed without farmer input risk being poorly oriented or perceived as imposed, which reduces stakeholder acceptance (Frelih-Larsen, A., et al., 2023).

Box 14. Example of enabling policies: EU Carbon Removals and Carbon Farming Certification (CRCF).

The Carbon Removals and Carbon Farming (CRCF) regulation establishes a voluntary system for certifying carbon removals and carbon farming activities across Europe, aiming to scale up high-quality carbon removals by standardizing practices, establishing quality criteria, and streamlining the certification process. This framework focuses on four key certification principles: quantification, additionality, permanence, and sustainability. By certifying carbon credits that can be traded on carbon markets, the CRCF supports financial incentives for farmers and land managers adopting carbon farming practices. Additionally, the framework aims to promote sustainable farming technologies and encourages investment in innovative practices as it seeks to align agricultural activities with broader EU climate goals. To ensure transparency, the CRCF aims to mandate third-party verification and the inclusion of certification-related data in an EU-wide registry.

To meet CRCF requirements, farmers must adopt a range of eligible, verifiable, and sustainable carbon removal practices in line with the core principles of the CRCF. They are also required to carry out Monitoring, Reporting and Verification (MRV) activities, including collecting baseline data and maintaining detailed records of the practices adopted. Additionally, farmers are expected to undergo independent third-party verification and comply with the Do No Significant Harm (DNSH) principle, ensuring to avoid negative impact of farming activities on biodiversity, water, or soil health.

Note: Further information can be found in Annex III.

5.3.2. Public procurement

Public procurement is a policy tool that can promote specific farming approaches (e.g., organic farming or carbon farming) by setting purchase requirements for public institutions, e.g. state-owned enterprises, hospitals, schools, kindergartens and government agencies. By influencing consumption patterns through public institutions, public procurement increases demand for agricultural goods produced following climate-smart farming practices. This stable demand creates income opportunities for farmers and provides a market-based incentive to adopt such practices (Andhov, M., et al., 2024). Public procurement thereby contributes to the transition toward more sustainable farming systems, supporting broader climate mitigation and environmental objectives. Table 21 outlines the advantages and disadvantages of public procurement.

Table 21. Advantages and disadvantages of public procurement.

Advantages	Disadvantages
Provides a reliable revenue stream, reducing dependency on volatile private markets (Andhov, M., et al., 2024).	Creates participation barriers for farmers due to scale, administrative complexity, and demanding procurement requirements.
Frequently includes local sourcing criteria, offering advantages to regional and small-scale farms.	Policy or funding changes may affect the continuity or level of payments available to farmers.

Box 15. Example of public procurement: Buy Better Food Campaign.

The Buy Better Food campaign is a coalition of European non-profit organisations, local and regional government networks and civil society groups advocating for the integration of sustainable, nutritious and ethically sourced food into public procurement processes. The aim of the campaign is to promote public procurement of food across Europe to improve environmental sustainability, consumer health and worker welfare, while ensuring the provision of healthy food in public institutions such as schools, hospitals and nursing homes. The campaign suggests seven minimum standards for public canteens across the EU, aligning with the Farm to Plate strategy and the UN Sustainable Development Goals. It advocates for public funding to support sustainable food systems and fair compensation for producers, as well as simplified procurement procedures to strengthen local supply chains and promote fair, healthy and sustainable food systems.

Farmers can join the Buy Better Food campaign by completing an on-line survey.

Note: Further information can be found in Annex III.

Chapter 6

Conclusions

This chapter provides final conclusions and recommendations

.

6. Conclusions

Promoting farm-level action through rewarding mechanisms is a crucial pathway turning climate action in agriculture into a success. The agricultural sector has the potential to reduce GHG emissions, enhance carbon removals, and support climate adaptation. Delivering these environmental objectives requires adequate funding and support to unlock opportunities that drive the transition toward greater sustainability and are a useful tool as part of a broader policy mix to promote the transition.

There are a wide range of tailor-made rewarding mechanisms across the EU and its Member States that incentivise climate-smart farming practices. This report shows that the landscape of these mechanisms is broad, dynamic and constantly evolving. Mechanisms differ in their scope of climate action, source and type of rewarding, target beneficiaries, supported on-farm practices, and timing. There is no silver bullet rewarding mechanisms to incentivise climate-smart farming practices. Instead, combinations of farm-level rewarding mechanisms are needed to drive the shift and to deliver targeted incentives that reflect the needs of the beneficiaries and the intended objectives.

To facilitate navigation through the different types of rewarding mechanisms, a categorisation framework has been developed. The framework is organised in three tiers: (1) the three overarching categories: monetary, non-monetary, and regulatory; (2) 13 types of rewarding mechanisms; and (3) further distinctions within these types. The framework has been developed based on literature review and a survey targeted at national coordinators within the CFD network and tested through expert workshops. The framework should be considered as a dynamic tool, able to adapt for further research and use in future policy work and should create a better understanding among providers and users of rewarding mechanisms. Overall, the categorization framework plays a crucial role in simplifying the complexity of rewarding mechanisms.

The research underpinning the categorization framework highlights several key findings:

- Rewarding mechanisms for climate mitigation are relatively well-represented. Conversely, rewarding mechanisms linked to climate adaptation were less frequently mentioned in the survey and less frequently found in the analysis of existing mechanisms. This finding suggests that climate adaptation is rarely rewarded compared to climate mitigation and is often not explicitly reported as a climate action. Climate adaptation should be mainstreamed into EU and national agricultural rewarding policies promoting farm-level incentives with win-win benefits for mitigation and ecosystems.
- There are limited blended finance approaches, though they are gaining increased attention. They can help bridge the gap between the beneficiaries' needs (e.g., financing transaction and opportunity costs, low risks, longer timelines) and providers' requirements (e.g., accountable outcomes, shorter timeframes).
- Supportive rewarding mechanisms can promote and sustain long-term behavioural change by encouraging farmers' intrinsic motivation to implement climate-smart farming practices. Yet they are often neglected and not considered as rewarding mechanisms.

- Farmers and farm advisors struggle to navigate the wide range of rewarding mechanisms, both administratively and in identifying which mechanisms suits best to their specific needs. In addition to the categorisation and description provided in this report, a decision support tool could support farmers to identify and apply for the rewarding mechanisms that addresses their needs and the climate objective in the most effective way.

Rewarding mechanisms must be embedded within a broader, mutually reinforcing policy mix. Evaluating both individual mechanisms and their combinations is essential to ensure that the policy mix can be adapted accordingly.

References

ADA. (2022). The benefits and shortcomings of labelling agricultural products. Appui au développement autonome. https://www.ada-microfinance.org/en/benefits-and-shortcomings-labelling-agricultural-products

AgriPolicyKit. (2024). Compendium of political instruments for promoting the agri-food sector. Deutsche Gesellschaft für Zusammenarbeit (GIZ) and University of Hohenheim. https://agripolicykit.net/en

Alter'NA. (2023). Alter'NA. https://www.alter-na.fr/

Andhov, M., et al. (2024). How to procure sustainable food and include farmers in public procurement? - Legal constraints and opportunities. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4826088

ANNEX to the Commission Implementing Decision on the adoption of the multiannual work programme for the years 2021–2024 for the LIFE programme. (2023). https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/life/wp-call/2021-2024/wp_life-2021-2024_en.pdf

Arla Foods. (2022). Climate check report 2022. https://www.arla.com/49162b/globalassets/arla-global/sustainability/dairys-climate-footprint/climate-check-report-2022.pdf

Arla Foods. (2024). How Arla farmers are rewarded for their sustainability activities. https://www.arla.com/sustainability/the-farms/arlas-sustainability-incentive-model-qa/#where-does-the-money-for-the-sustainability-incentive-model-come-from

Association HUMUS +. (2024). HUMUS+ Model Ökoregion Kaindorf. https://www.humusplus.at/

Aubert, C., et al. (2024). Multiple agricultural risks and insurance—issues, perspectives, and illustration for wine-growing. https://doi.org/10.1007/s41130-024-00217-w

Barbato, C. T., et al. (2023). Farmer perspectives on carbon markets incentivizing agricultural soil carbon sequestration. Climate Action. https://doi.org/10.1038/s44168-023-00055-4

Barnes A. et al. (2022). European Farmer Perspectives and their Adoption of Ecological Practices. EuroChoices https://doi.org/10.1111/1746-692x.12371

Baroni, L., et al. (2019). Approaches to financing nature-based solutions in cities [Working document]. GrowGreen. https://growgreenproject.eu/wp-content/uploads/2019/03/Working-Document_Financing-NBS-in-cities.pdf

Bartkowski, B., Droste, N., Ließ, M., Sidemo-Holm, W., Weller, U., & Brady, M. V. (2021). Payments by modelled results: A novel design for agri-environmental schemes. Land Use Policy, 102, 105230. https://doi.org/10.1016/j.landusepol.2020.105230

Bhattacharya, S., et al. (2024). Role of crop insurance in sustainable agriculture practices: A global perspective. https://doi.org/10.1108/978-1-83608-076-320241006

Bioland. (2024a). Bioland. https://www.bioland.de/verbraucher

Bioland. (2024b). Bioland-Richtlinien 18./19. https://www.bioland.de/fileadmin/user_upload/Verband/Dokumente/Richtlinien_fuer_Erzeuger_und_Hersteller/Bioland-Richtlinien_2024-11.pdf

Bleasdale, A., et al. (2020). Farming for nature, The role of result-based payments. Teagasc. National Parks and Wildlife Service. https://www.npws.ie/farmers-andlandowners/farming-for-nature/book-results-based-payments

Bognar, J., et al. (2023). Pricing agricultural emissions and rewarding climate action in the agri-food value chain. Rotterdam. Trinomics. https://www.ecologic.eu/19482

Bonvillain T., et al. (2020). Will the obligation of environmental results green the CAP? A comparison of the costs and effectiveness of six instruments for the transition to sustainable agriculture. I4CE. https://www.i4ce.org/wp-content/uploads/Etude_PAC-VA.pdf

Brady, M., Hristov, J., Höjgård, S., Jansson, T., Johansson, H., Larsson, C., Nordin, I., & Rabinowicz, E. (2017). Impacts of direct payments – lessons for CAP post-2020 from a quantitative analysis. Rapport / AgriFood Economics Centre. https://res.slu.se/id/publ/99888

Buck, H. J., et al. (2022). Soil carbon sequestration as a climate strategy: What do farmers think? Biogeochemistry. https://doi.org/10.1007/s10533-022-00948-2

Buy Better Food. (2024). The Buy Better Food Campaign for sustainable food on the public plate. https://buybetterfood.eu/

Böttcher, H. et al. (2022). Land use as a sector for market mechanisms under Article 6 of the Paris Agreement. UBA Climate Change 49/2022, Dessau-Roßlau. https://www.umweltbundesamt.de/publikationen/land-use-as-a-sector-for-market-mechanisms-under.

Catucci, A., et al. (2021). Farm weather insurance assessment. Springer. https://doi.org/10.1007/978-3-030-71069-9_19

Climate Trade (2023). Regulation grows to support carbon farming. https://climatetrade.com/regulation-grows-to-support-carbon-farming/

CONSOLE Project. (2022). The Humus-Program of the Ökoregion Kaindorf. https://console-project.eu/Nuevos_deliverables/AT4_fin_2022.pdf

Convergence. (2024). Blended Finance. Convergence blending global Finance. https://www.convergence.finance/blended-finance

CORDIS. (2023). Reaching 25% organic farmland in the EU by stronger and better-connected organic advisors and organic advisory services. https://cordis.europa.eu/project/id/101134850

COWI, Ecologic Institute, & IEEP. (2021). Technical Guidance Handbook – Setting up and implementing result-based carbon farming mechanisms in the EU (Report to the European Commission, DG Climate Action, Contract No. CLIMA/C.3/ETU/2018/007). COWI.

CrowdFarming. (2023). Impact and sustainability report 2023. https://common.crowdfarming.com/transparency/en/EN-CrowdFarming-Impact-and-Sustainability-Report-2023.pdf

Don, A., et al. (2023). Carbon sequestration in soils and climate change mitigation: Definitions and pitfalls. Global Change Biology, 30(1). https://doi.org/10.1111/gcb.16983

Ecosystem Marketplace. (2024). State of the Voluntary Carbon Market (SVCM) 2024: On the path to maturity. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

Efthimiou, N. (2024). Governance and degradation of soil in the EU: An overview of policies with a focus on soil erosion. Soil and Tillage Research, 245, 106308. https://doi.org/10.1016/j.still.2024.106308

Eichhorn J. & Grabbe H. (2025). Europeans still want climate action, but don't trust governments to deliver. Policy Brief. Bruegel. https://www.bruegel.org/policy-brief/europeans-still-want-climate-action-dont-trust-governments-deliver

ESABCC. (2024). Towards EU climate neutrality: Progress, policy gaps and opportunities. European Scientific Advisory Board on Climate Change. https://climate-advisory-board.europa.eu/reports-and-publications/towards-eu-climate-neutrality-progress-policy-gaps-and-opportunities

European Climate, Infrastructure and Environment Executive Agency. (2023). LIFE Programme. European Commission. https://cinea.ec.europa.eu/programmes/life_en

European Commission. (2022). Find your EU funding programme for the environment. Directorate-General for Environment. Publications Office of the European Union. https://data.europa.eu/doi/10.2779/768079

European Commission. (2023a). COMMISSION STAFF WORKING DOCUMENT Guidance on EU funding opportunities for healthy soils. https://data.consilium.europa.eu/doc/document/ST-11566-2023-ADD-9/EN/pdf

European Commission. (2023b). Eligibility for direct payments of the Common Agricultural Policy 2023–2027. https://agriculture.ec.europa.eu/document/download/66f112fe-8281-4366-a377-9e86d6e9bb71_en?filename=direct-payments-eligibility-conditions_en.pdf

European Commission. (2023c). France – CAP Strategic Plan. https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans/france_en

European Commission. (2023d). Phasing out environmentally harmful subsidies. https://environment.ec.europa.eu/economy-and-finance/phasing-out-environmentally-harmful-subsidies_en

European Commission. (2023e). Carbon removals and carbon farming. https://climate.ec.europa.eu/eu-action/certification-permanent-carbon-removals-carbon-farming-and-carbon-storage-products/carbon-farming-and-carbon-storage-products_en

European Commission. (2023f). Agriculture and rural development: Research and innovation. https://agriculture.ec.europa.eu/sustainability/research-and-innovation_en

European Commission. (2024a). European Agricultural Guarantee Fund (EAGF). https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-guarantee-fund-eagf_en

European Commission. (2024b). Agriculture and rural development: CAP paying agencies. https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-paying-agencies_en

European Commission. (2024c). Agriculture and rural development: The common agricultural policy at a glance. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en

European Commission. (2024d). EU funding programmes: European Agricultural Fund for Rural Development (EAFRD). https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-fund-rural-development-eafrd_en

European Commission. (2024e). EU invests over €380 million in 133 new LIFE projects to support the green transition all around Europe [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_5381

European Environment Agency. (2019). Climate change adaptation in the agriculture sector in Europe (EEA Report No 04/2019). https://www.eea.europa.eu/en/analysis/publications/cc-adaptation-agriculture

European Investment Bank. (2023). CrowdFarming's direct-sales model promotes sustainable food. https://www.eib.org/en/press/all/2023-322-investeu-the-eib-and-crowdfarming-sign-loan-to-support-a-sustainable-food-supply-chain-and-organic-farmers-in-europe

European Investment Fund. (2024a). Agricultural SMEs to get €50 million to support decarbonisation as Lithuanian fintech HeavyFinance teams up with EIF and InvestEU. https://www.eif.org/InvestEU/news/2024/agricultural-smes-to-get-eur-50-million-to-support-decarbonisation-as-lithuanian-fintech-heavyfinance-teams-up-with-eif-and-investeu.htm

European Investment Fund. (2024b). The EIF and InvestEU. https://www.eif.org/InvestEU/index.htm

European Parliament. (2021). Regulation (EU) 2021/783 of the European Parliament and of the Council establishing a Programme for the Environment and Climate Action (LIFE). https://eur-lex.europa.eu/eli/reg/2021/783/oj

European Parliamentary Research Service (EPRS). (2016). Access to credit and financial instruments in agriculture. Policy Brief. https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586677/EPRS_BRI(2016)586677_EN.pdf

Eurostat. (2015). Environmental subsidies and similar transfers. https://ec.europa.eu/eurostat/documents/3859598/6923655/KS-GQ-15-005-EN-N.pdf/e3be619b-bb19-4486-ab23-132a83f6ff24

Feder, G., & Savastano, S. (2006). The role of opinion leaders in the diffusion of new knowledge: The case of integrated pest management. World Development, 34(8), 1287–1300. https://doi.org/10.1016/j.worlddev.2005.12.004

Federal Ministry for Economic Affairs and Climate Action (BMWK). (2023). Carbon markets. https://www.carbon-mechanisms.de/en/introduction/carbon-market-basics

fi-compass. (2015). ESIF financial instruments: Financial products. European Commission. https://www.fi-compass.eu/sites/default/files/publications/ESIF-factsheet-FI-products.pdf

fi-compass. (2019). Debt finance and use of credit guarantee instruments for agricultural enterprises in the EU. European Investment Bank. https://www.fi-compass.eu/library/market-analysis/debt-finance-and-use-credit-guarantee-instruments-agricultural-enterprises

fi-compass. (2023). EAFRD - European Agricultural Fund for Rural Development. https://www.fi-compass.eu/funds/eafrd

fi-compass.(2023a). Guarantee factsheet: Introduction. fi-compass. https://www.fi-compass.eu/f/guarantee-factsheet/introduction.html

Flatz, J., et al. (2024). Climate action in a downstream agricultural emissions trading system. Concito. https://concito.dk/files/media/document/Climate%20action%20in%20a%20downstream%20agricultural%20emissions%20trading%20system.pdf

Frelih-Larsen, A., et al. (2023). The role of public consultations in decision-making on future agricultural pesticide use: insights from European Union's Farm to Fork Strategy public consultation. Journal of Environmental Policy & Planning. https://doi.org/10.1080/1523908x.2023.2212369

French Government. (2024). Tout savoir sur le crédit d'impôt en faveur de l'agriculture biologique. https://www.economie.gouv.fr/entreprises/credit-impot-agriculture-biologique

Glogovețan, A., et al. (2022). Consumer perception and understanding of European Union quality schemes: A systematic literature review. Sustainability, 14(3), 1667. https://doi.org/10.3390/su14031667

Habbel, V., et al. (2021). Evaluating blended finance instruments and mechanisms: Approaches and methods. OECD Development. https://www.deval.org/fileadmin/Redaktion/Bilder/05-Publikationen/Externe_Publikationen/OECD_Working_Paper_101_Blended_Finance.pdf

Hagemann, N., et al. (2025). Improving result-based schemes for nature conservation in agricultural landscapes—challenges and best practices from selected European countries. https://doi.org/10.1007/s10113-024-02324-2

Hameed, T. S., & Sawicka, B. (2017). The importance of opinion leaders in agricultural extension. The Scientific World Journal, 2017, Article ID 7635027. https://doi.org/10.1155/2017/7635027

HeavyFinance. (2024). Green loans. https://heavyfinance.com/green-loans-for-farmers/

HeavyFinance. (2024). Service rates for users of crowdfunding platform. https://heavyfinance.com/docs/Fees-HeavyFinance.pdf

Hoffmann, V., et al. (2007). Farmers and researchers: How can collaborative advantages be created in participatory research and technology development? Agriculture and Human Values, 24, 355–368. https://doi.org/10.1007/s10460-007-9072-2

ICLEI. (2022). Manifesto for establishing minimum standards for public canteens across the EU. https://iclei-europe.org/publications-tools/?c=search&uid=AXvXw6K2

ICOS. (2023). Carbon farming – A path to more sustainable agriculture. https://www.icos-cp.eu/fluxes/2/carbon-farming-path-more-sustainable-agriculture

IFOAM. (2024). OrganicAdviceNetwork project, the first Europe-wide network for organic advisors. https://www.organicseurope.bio/

Institute for Climate Economics (I4CE). (2019). Domestic carbon standards in Europe: Overview and perspectives. https://www.i4ce.org/wp-content/uploads/0218-i4ce3153-DomecticCarbonStandards.pdf

IPBES. (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. https://doi.org/10.5281/zenodo.3831673

Interreg Europe. (2020). ALTER'NA: An innovative investment fund to support the agricultural transition. https://www.interregeurope.eu/find-policy-solutions/stories/alterna-an-innovative-investment-fund-to-support-the-agricultural-transition

Kuehne, G., et al. (2019). Key social processes sustaining the farmer–advisor relationship. Rural Extension and Innovation Systems Journal, 15(1), 20–29. https://fenestrae.ecobln.de:8181/onelogin/idp

Lago, M., and McDonald, H. (2024). Overcoming barriers to pondscape nature-based solutions. A synthesis and final PONDERFUL framework. PONDERFUL Project (EU Horizon 2020 GA no. ID869296), Deliverable D1.6.

Lamerre, J., et al. (2024). Rapport final ACCLIM-AGRI. ADEME. https://librairie.ademe.fr/ged/9429/ACCLIM_AGRI_RF.pdf

LIFE Carbon Farming. (2024). LIFE carbon farming. https://www.life-carbon-farming.eu/life-carbon-farming/

McDonald, H., et al. (2021). Carbon farming: Making agriculture fit for 2030. Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament. https://www.europarl.europa.eu/RegData/etudes/STUD/2021/695482/IPOL_STU(20

McDonald, H., et al. (2024). Synthesis report on sustainable financing of the establishment of ponds and pondscapes. PONDERFUL Project (EU Horizon 2020 GA no. ID869296), Deliverable 1.4.

Meuwissen, M. P. M., et al. (2018). Prospects for agricultural insurance in Europe. Agricultural Finance Review, 78(2), 174–182. https://doi.org/10.1108/AFR-04-2018-0039

Midler, E., & Pagnon, J. (2022). Environment and climate assessment of France's CAP strategic plan Policy report. Institute for European Environmental Policy (IEEP). https://ieep.eu/publications/environment-and-climate-assessment-of-frances-cap-strategic-plan/

Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt. (2024). PAC 2023–2027 – Le plan stratégique national. https://agriculture.gouv.fr/pac-2023-2027-le-plan-strategique-national

Ministère de la Transition écologique et de la Cohésion des territoires. (2024). Qu'est-ce que le Label bas-carbone? https://label-bas-carbone.ecologie.gouv.fr/quest-ce-que-le-label-bas-carbone

Ministry of Agriculture, Agrifood, and Forestry of France. (2022). French CAP strategic plan.

Moorfuture. (2017). Der MoorFutures-Standard. https://www.moorfutures.de/konzept/moorfutures-standard/

Network for Business Sustainability. (2011). When "green" means premium—and when it requires a discount. https://nbs.net/when-green-means-premiumand-when-it-requires-a-discount/

Pawlewicz, A. (2020). Change of price premiums trend for organic food products: The example of the Polish egg market. Agriculture, 10(2), 35. https://doi.org/10.3390/agriculture10020035

Raina, N., et al. (2024). Incentive mechanisms of carbon farming contracts: A systematic mapping study. Journal of Environmental Management. https://doi.org/10.1016/j.jenvman.2024.120126

Result Based Payments Network. (2019). Humus-program of the Ökoregion Kaindorf. https://www.rbpnetwork.eu/country-infos/austria/humus-program-of-the-oekoregion-kaindorf-50/

Rodriguez, J. M., et al. (2009). Barriers to adoption of sustainable agriculture practices: Change agent perspectives. Renewable agriculture and food systems. DOI:10.1017/S1742170508002421

Rogissart, L., et al. (2024). Public spending in the French food system: Which contributions to the ecological transition? https://www.i4ce.org/en/publication/public-spending-french-food-system-contributions-ecological-transition-climate/

Rust, N. A., et al. (2021). Have farmers had enough of experts? Environmental Management, 68, 295–306. https://doi.org/10.1007/s00267-021-01546-y

Schmidt, M., et al. (2011). Persistence of soil organic matter as an ecosystem property. Nature, 478(7367), 49–56. https://doi.org/10.1038/nature10386

Schulze, C., et al. (2024). Between farms and forks: Food industry perspectives on the future of EU food labelling. Ecological Economics, 215, 108066. https://doi.org/10.1016/j.ecolecon.2023.108066

SDSN. (2023). Europe Sustainable Development Report 2023/24. Carbon farming and voluntary carbon markets in the EU: An updated guide. Sustainable Development Solutions Network. https://egd-report-2023.unsdsn.org/carbon-farming%20and-voluntary-carbon-markets-in-the-eu-an-updated-guide/#8-2-key-terms

Sharma, M., et al. (2021). Carbon farming: Prospects and challenges. Sustainability. https://doi.org/10.3390/su131911122

Siemons, A., et al. (2023). Funding climate-friendly soil management: Risks and key issues. Key issues to be considered in the design of funding instruments. German Environment Agency. https://www.ecologic.eu/19407

Siemons, A., et al. (2025). Funding climate-friendly soil management: Appropriate policy instruments and limits and market-based approaches. Final report (01/2025). German Environment Agency. https://www.ecologic.eu/19935

Skaalsveen, K., et al. (2020). The role of farmers' social networks in the implementation of no-till farming practices. Agricultural Systems, 184, 102824. https://doi.org/10.1016/j.agsy.2020.102824

Sulaiman, R., et al. (2018). Upscaling climate smart agriculture: lessons for extension and advisory services. FAO. https://www.fao.org/uploads/media/Climate_Smart_Agriculture_draft08.pdf

Szerletics, Á. and Jámbor, A. (2020). The economic impacts of direct payments on agricultural income – A Literature Review. https://doi.org/10.21845/comp/2020/1-2/2

Tiboni-Oschilewski, O., et al. (2024). Strengths and weaknesses of food eco-labeling: A review. Frontiers in Nutrition, 11, 1381135. https://doi.org/10.3389/fnut.2024.1381135

Tobin-de la Puente, J., & Mitchell, A. W. (2021). The little book of investing in nature. Global Canopy. https://globalcanopy.org/wp-content/uploads/2021/01/LBIN_2020_EN.pdf

UNDP. (2016). The Sustainable Development Goals report, Goal 13: Take urgent action to combat climate change and its impacts. UNDP. https://unstats.un.org/sdgs/report/2016/The%20Sustainable%20Development%20Goals%20Report%202016.pdf

Vanzini M., et al. (2024). Incentivising the transition to soil-health, regenerative farming practices. Leveraging Blended Finance for effective incentives design. Discussion Paper. SoilValues. https://doi.org/10.5281/zenodo.13771540

Wedl, I. and Kam, H. (2025). Leveraging private finance for the transition to sustainable agriculture. Institute for European Environmental Policy (IEEP), Brussels. https://ieep.eu/publications/leveraging-private-finance-for-the-transition-to-sustainable-agriculture/

World Bank Group. (2021). What you need to know about green loans. The World Bank Group's International Finance Corporation (IFC) https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans

Žičkienė, A., et al. (2022). Cap direct payments and economic resilience of agriculture: Impact assessment. Sustainability, 14(17), 10546. https://doi.org/10.3390/su141710546

Annex

Annex I: Survey to CFD National Coordinators

Information of the survey

- **Objective**: Use the CFD Network to gather information on rewarding mechanisms
- **Target group**: national coordinators and if possible, to the entire CFD mailing list
- **Timeline**: Latest by 2nd June 2023

Survey questions

We are looking for interesting and good examples of rewarding mechanisms, that are within the scope of our definition of rewarding mechanisms (see further down below). We are especially interested in rewarding mechanisms that cover the area of climate adaptation and non-monetary rewards. Both are part of our definition of rewarding mechanisms, but it has been difficult for us so far to identify rewarding mechanisms that cover those areas.

Contact of respondent (Name, Email & Organisation) (Mandatory field)

1. **Name Rewarding mechanisms** (Mandatory field)
2. **Regional scope** (Region/Country/EU/Global) (Mandatory field)
3. **What are farmers rewarded for?** (emission reduction, carbon removal, climate adaptation) (Multiple choice) (Optional field)
4. **Can you provide more information on the specific climate action being rewarded?** (optional field)
5. **Who is providing the funding** (public, private, mixed)? (Multiple choice) (Optional)
6. **And more specific?** (Optional field)
7. **Additional information on the rewarding mechanism you want to give us?** (Optional field)
8. **Links and references** (Optional field)

a. Additional studies, research projects, reports on rewarding mechanisms to be considered? (optional field)

How we define rewarding mechanisms:

Rewarding mechanisms for climate-smart farming actions on emission reductions, carbon removals or climate adaptation are rewarding farmers in return for implementing a desired action or delivering a desired outcome and can be sourced from public or private entities or a mix of both and include regulatory obligations, voluntary public funds, R&D, voluntary carbon markets and price premiums/labelling.

Annex II: Fact sheet Templates

1. Fact sheet template at incentive level

Incentive	*Name of the incentive*
Rewarding mechanism	*Name of the rewarding mechanim to wich this incentive belongs*
Category	*Monetary/Supportive/Regulatory*
Description	*Definition of the incentive*
References	*References*

2. Incentive example Fact sheet template

Rewarding mechanism	*Type of rewarding mechanims*		
Incentive	*Name of the incentive*		
Category	Monetary	*Supportive*	*Regulatory*
Example	*Name of the incentive example*		
Summary	*Short summary of key design elements of the example (location, years operational, scope incentivised)*		
Type of climate action	*Carbon removal*	*Emission reduction*	*Climate adaptation*
Appropriate for: *Who can benefit from this type of*	*Farmers*		

rewarding mechanism (in agricultural sector?)			
***Source of rewarding mechanism**: Who provides the rewarding mechanism?*	*Public*	*Private*	*Public-Private*
***Rewarding method**: What is the reward based on?*	*e.g., action-based, result-based, mixed*		
***Type of on-farm action:** What is the recipient obliged to deliver in return?*	*Description of the on-farm climate action to be delivered to receive the rewarding e.g., livestock emission reductions, soil carbon, etc*		
***Recipient requirements**: What requirements must recipient meet to receive finance?*	*e.g., any conditions around recipient type, size, location etc.*		
***Timing of rewarding**: When is the reward received?*	*e.g., ex ante, ex-post*		
***Rewarding timeline:** How often is the reward received?*	*e.g., one off, ongoing, multi-year payment*		
***Governance*:** *Who manages the programme, provides the reward, and where does the money come from?*	*e.g., Administrative costs and difficulties / farmers costs and difficulties*		
References:	*References*		

Annex III: Fact sheets

REWARDING MECHANISM: SUBSIDIES

Subsidies

Subsidies are a form of financial support provided by governments to individuals, companies, or organizations with the aim of promoting specific economic, environmental, or social objectives by reducing the cost of purchases or production (Lago M., 2024). For example, subsidies may be used to encourage farmers to adopt climate-friendly agricultural practices that reduce or avoid greenhouse gas emissions, sequester carbon, and support adaptation to climate change. These can include:

1. **Tax reductions**
2. **European Agricultural Guarantee Fund (EAGF)**
3. **Action-based subsidies**
4. **Result-based subsidies**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

SUBSIDIES

1. Tax reductions

Tier 1	Monetary
Tier 2	**Subsidies**
Tier 3	**Tax reduction**
Description	**Tax reductions** are incentives that reduce some or all tax obligations for specific groups, entities, products, investments, or activities engaged in agricultural practices that implement climate-friendly agricultural actions usually linked to the achievement of certain environmental targets. These reductions aim to stimulate the supply of specific goods and/or encourage the adoption of particular behaviours or economic activities
References	- Lago, M., Mysiak, J., Gómez, C. M., Delacámara, G., & Maziotis, A. (2015). *Use of economic instruments in water policy: Insights from international experience*. Ecologic Institute. Retrieved from https://www.ecologic.eu/14932 - Eurostat. (2015). *Environmental subsidies and similar transfers* (Statistical report). Publications Office of the European Union. Retrieved from https://ec.europa.eu/eurostat/documents/3859598/6923655/KS-GQ-15-005-EN-N.pdf/e3be619b-bb19-4486-ab23-132a83f6ff24 - European Commission. (2023). *Phasing out environmentally harmful subsidies* (Webpage). Retrieved from https://environment.ec.europa.eu/economy-and-finance/phasing-out-environmentally-harmful-subsidies_en

Advantages	Disadvantages
Encourage the adoption of climate-friendly agricultural practices by reducing tax obligations (Eurostat, 2015).	Accessing tax reductions may involve significant administrative burden, with complex eligibility requirements and bureaucratic processes that can discourage participation (Eurostat, 2015; Lago M., 2024).
Farmers' acknowledgment for the implementation of climate-friendly agricultural practices through the granting of tax reductions, thereby improving their net income (AgriPolicyKit, 2024).	Limited availability of this incentive at EU level.

SUBSIDIES

Example Tax reductions: Tax reduction for organic farming in France

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Subsidies**		
Tier 3	**Tax reductions**		
Example	Tax reduction for organic farming in France		
Summary	The organic farming tax credit is a form of public support for agricultural businesses that adopt certified organic production methods. To qualify, a farm must generate at least 40% of its revenue from organic-certified activities. This credit applies to income tax, regardless of the overall farming system, and can reduce a farmer's tax liability by up to €3,500 per year.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in agricultural sector?)	- Farmers		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	e.g. action-based, result-based, mixed		
Type of on-farm action: What is the recipient obliged to deliver in return?	Any certified or 'in conversion' organic farming system.		
Recipient requirements: What requirements must the recipient meet to receive finance?	To qualify, farmers must derive at least 40% of their revenue from activities that have been certified as organic or under conversion. Cumulation rules apply if the farm is already receiving organic farming support.		
Timing of rewarding: When is the reward received?	Ex-post after each annual tax declaration		

SUBSIDIES

Rewarding timeline: How often is the reward received?	Multi-year if the organic farming continues.
Governance: Who manages the programme, provides the reward, and where does the money come from?	These are deductions from the state annual budget. Annual budget discussions between the government and the parliament are key to maintaining the measure.
References:	-French Government. (2024). *Tout savoir sur le crédit d'impôt en faveur de l'agriculture biologique*. Retrieved from https://www.economie.gouv.fr/entreprises/credit-impot-agriculture-biologique -Rogissart, L., Lecq, S., & Tayeb Cherif, O. (2024). *Public spending in the French food system: Which contributions to the ecological transition?* Institute for Climate Economics (I4CE). Retrieved from https://www.i4ce.org/en/publication/public-spending-french-food-system-contributions-ecological-transition-climate/

SUBSIDIES

2. European Agricultural Guarantee Fund (EAGF) (Broad scale climate subsidy)

Tier 1	Monetary
Tier 2	**Subsidies**
Tier 3	**EAGF (Broad scale climate subsidy)**
Description	**The European Agricultural Guarantee Fund (EAGF)** provides income support for EU farmers through direct payments and market measures under the Common Agricultural Policy (CAP). It mainly provides direct income support for farmers, coupled income support and eco-schemes promoting environmental practices. Farmers receiving the direct payments have to fulfil certain minimum requirements (GAECs). Additionally, it finances market measures, such as intervention buying to stabilize prices, private storage aid, sector-specific support or exceptional market disturbance measures (European Commission, 2024a).
References	- European Commission. (n.d.). *European Agricultural Guarantee Fund (EAGF).* Retrieved from https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-guarantee-fund-eagf_en - fi-compass. (n.d.). *EAFRD European Agricultural Fund for Rural Development.* Retrieved from https://www.fi-compass.eu/funds/eafrd

Advantages	Disadvantages
Direct financial support, providing consistent income support for farmers, avoiding land abandonment especially in marginal regions, which are essential for biodiversity conservation and the maintenance of cultural landscapes (Szerletics, Á., 2020; Žickiene et al., 2022; Brady et al., 201)	This incentive may prioritize short-term income support that might not be sufficient to achieve and reward long term sustainability goals (COWI et al., 2021).
Risk reductions due to the income support, reducing the farmer 's exposure to the market volatility (European Commission, 2024a).	Low effectiveness of these payments and negative impact on farm efficiency (Brady et al., 2017, Žičkienė et al., 2022). The more payments farmers receive, the less incentivized they are to adopt the most effective and efficient strategies for adapting to market and environmental changes. This, in turn, results in lower income and a greater reliance on subsidies making the rewarding less efficient (Žičkienė et al., 2022).

SUBSIDIES

Example European Agricultural Guarantee Fund (EAGF) (Broad scale climate subsidy) (Pillar 1)

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Subsidies**		
Tier 3	**EAGF (Broad scale climate subsidy)**		
Example	European Agricultural Guarantee Fund (EAGF) CAP (pillar 1)		
Summary	Provides financial support to farmers through direct payments and market measures, helping to ensure stable incomes and balanced agricultural markets. With a budget of approximately €198 billion, the EAGF primarily supports farmers through direct income support (~50%), coupled payments (~12%), and eco-schemes promoting environmentally friendly practices (~24%). Jointly managed by the European Commission and Member States, the fund focuses on immediate support for markets and farmers, contributing to the economic and social sustainability of the EU agricultural sector. A substantial share of the EAGF budget is allocated to area-based and coupled income support—flat-rate annual payments per eligible hectare or livestock unit. Fully funded by the EU budget, these payments are often prioritized by Member States over more targeted instruments. However, this has raised concerns, as such payments are frequently seen as inefficient—or even counterproductive—in meeting environmental objectives, and have faced criticism in the past.[1].		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Action-based		

1 Special report 16/2021: Common Agricultural Policy and climate: Half of EU climate spending but farm emissions are not decreasing https://www.eca.europa.eu/en/publications?did=58913

SUBSIDIES

Type of on-farm action: What is the recipient obliged to deliver in return?	Implementation of Good Agricultural and Environmental Conditions (GAECs) as minimum requirements[2]: - Maintenance of permanent grassland (GAEC 1) - Protection of wetlands and peatlands (GAEC 2) - Preservation of soil organic matter (GAEC 3) - Protection of water pollution (GAEC 4) - Prevention of soil erosion (GAEC 5) - Minimum soil cover (GAEC 6) - Crop rotation (GAEC 7) - Preservation of landscape features (GAEC 8) - Protection of grasslands in Natura 2000 sites (GAEC 9) At least 25% of the EAGF budget is dedicated to eco-schemes, which are voluntary for farmers and offer payments for practices that benefit the environment and/or climate. These schemes can support a range of sustainable approaches, including organic farming, agroecology, precision farming, agroforestry, carbon farming, and improvements in animal welfare.

Recipient requirements:
What requirements must the recipient meet to receive finance?
	- Good Agricultural and Environmental Condition (GAECs) standards
	- Meet the Statutory Management Requirements (SMRs) which ensure that the agricultural industry complies with high EU standards for public, plant, and animal health and welfare.
	- Minimum requirements to receive support:
	  - Farmers must submit an annual aid application declaring all their agricultural areas.
	  - Income support is not granted for amounts lower than €100 to €500 (depending on the EU country) and/or where the eligible area is less than 0.3 to 5 hectares.
	  - Perform an agricultural activity or maintain land in good agricultural condition.
	  - Meet the definition of an 'active farmer' as specified by each EU country.

Timing of rewarding: When is the reward received?	Ex-post
Rewarding timeline: How often is the reward received?	Ongoing For the respective funding period (7 years) Payments are typically made annually or in instalments, depending on the national schedules.[3] Payments for Eco-schemes are on a yearly basis

2 https://op.europa.eu/en/publication-detail/-/publication/80d1210c-89bc-11ea-98ba-01aa75ed71a1/language-en

3 Understanding EU farm payments. https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/749357/EPRS_ATA(2024)749357_EN.pdf

SUBSIDIES

Governance: Who manages the programme, provides the reward, and where does the money come from?	- The European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI) manages EU policies on agriculture and rural development. - The Multiannual Financial framework (MMF) establishes the maximum spending ceiling for the CAP. - The fund is administered by the European Commission in collaboration with member states, providing some flexibility to tailor policies to local farming conditions. - For the period 2023-27, the planned EU budget for the EAGF is around € 291.1 billion[4].
References:	- European Commission. (n.d.). *European Agricultural Guarantee Fund (EAGF)*. Agriculture and Rural Development. Retrieved from https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-guarantee-fund-eagf_en - European Commission. (n.d.). *CAP paying agencies*. Agriculture and Rural Development. Retrieved from https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-paying-agencies_en - European Commission. (n.d.). *The common agricultural policy at a glance*. Agriculture and Rural Development. Retrieved from https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en

4 The common agricultural policy: 2023-27. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en

SUBSIDIES

3. Action-based subsidies

Tier 1	Monetary
Tier 2	**Subsidies**
Tier 3	**Action-based subsidies**
Description	**Action-based subsidies** refer to financial support provided to farmers and agricultural businesses that implement specific agricultural actions or practices, rather than on the results they produce, although they are generally expected to deliver positive environmental outcomes (AgriPolicyKit, 2024). These subsidies reduce the uncertainty farmers face when adopting climate friendly actions and have low transaction costs. Moreover, they can be customized to consider individual characteristics of the different measures, and local conditions. Most environmental schemes that have been implemented in the EU over the last years have been action-based especially through the Common Agricultural Policy (CAP).
References	- European Commission. (2023). *Eligibility for direct payments of the Common Agricultural Policy 2023–2027.* Retrieved from https://agriculture.ec.europa.eu/document/download/66f112fe-8281-4366-a377-9e86d6e9bb71_en?filename=direct-payments-eligibility-conditions_en.pdf - European Commission. (n.d.). *European Agricultural Fund for Rural Development (EAFRD).* EU Funding Programmes. Retrieved from https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-fund-rural-development-eafrd_en - European Commission. (n.d.). *Common Agricultural Policy funds.* Agriculture and Rural Development. Retrieved from https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-funds_en

Advantages	Disadvantages
Promote specific climate-friendly management practices and can be customized to consider individual characteristics of the different measures, and local conditions. They can be targeted to support nature-based solutions that deliver multiple benefits (IPBES, 2019).	Potentially low environmental effectiveness due to high uncertainty to what extent the action will deliver the envisaged environmental outcomes. Few or no guarantees that environmental outcomes will be maintained after the payment has been disbursed (COWI, 2021).
Rewarding can be tied to implementation requirements (AgriPolicyKit, 2024).	Can be very prescriptive in what specific measures are eligible for funding, giving farmers less flexibility and thereby less support for transformational change of management practices (European Commission, 2023b).
Relatively low implementation requirements and transaction cost (compared to result-based rewarding) (Siemons et al. 2025).	Provide less flexibility to farmers to try out different approaches and thus provide fewer incentives for farmers to innovate (European Commission, 2023b).
In principle suitable for private and public funding (Siemons et al. 2025).	

SUBSIDIES

Example Action-based subsidies: European Agricultural Fund for Rural Development EAFRD (Pillar 2)

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Subsidies**		
Tier 3	**Action-based subsidies**		
Example	European Agricultural Fund for Rural Development EAFRD (Pillar 2)		
Summary	The European Agricultural Fund for Rural Development (EAFRD) is a key financial instrument under the Common Agricultural Policy (CAP), with a budget of approximately €95.5 billion. It provides action-based payments to promote the sustainable development of rural areas, focusing on three long-term objectives: 1. Enhancing the competitiveness of agriculture and forestry 2. Ensuring the sustainable management of natural resources and climate action 3. Supporting balanced territorial development of rural economies and communities These goals are pursued through interventions co-financed by the EAFRD and national budgets, with at least 35% of the funding dedicated to environmental and climate-related measures. In addition, the EAFRD supports access to financial instruments such as loans, microcredit, guarantees, and equity for agricultural, forestry, and rural stakeholders engaged in financially viable projects that align with the fund's priorities.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Landowners		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Mainly action- based		

SUBSIDIES

Type of on-farm action: What is the recipient obliged to deliver in return?	- Reduction of GHG emissions (livestock, mineral soils, organic soils) - Increasing carbon sequestration and storage - Climate adaptation - Switching to efficient irrigation systems - Participation in trainings, farm exchanges, and demonstrations - Modernisation of technologies, machines, tools and equipment - Participating in quality schemes, local markets and short supply circuits, and producer groups/organisations[5]
Recipient requirements: What requirements must the recipient meet to receive finance?	- Good Agricultural and Environmental Condition (GAECs) standards - Statutory Management Requirements (SMRs) - The EAFRD is implemented by individual Member States through nationally tailored Rural Development Programmes (RDPs), resulting in country-specific eligibility criteria.
Timing of rewarding: When is the reward received?	Ex-ante
Rewarding timeline: How often is the reward received?	Ongoing. The timing and frequency can vary depending on the funding period set by each Member State
Governance: Who manages the programme, provides the reward, and where does the money come from?	- The European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI) manages EU policies on agriculture and rural development. - The EAFRD operates through multi-annual Rural Development Programmes (RDPs), which are designed and implemented by each EU member state or region. - Each RDPs must address at least four of the six priorities of the EAFRD, which are further divided into 18 specific focus areas. Countries set targets and strategies for their chosen priorities, selecting from 20 broad policy measures tailored to national or regional needs[6]. - The EAFRD does not give funds directly to farmers or rural businesses. Instead, it provides money to EU member states, which add their own funding to support projects - For the period 2023-27, the planned EU budget for the EAGF is around € 95.5 billion[7].

5 https://ec.europa.eu/enrd/policy-in-action/rural-development-policy-figures/priority-focus-area-summaries_en.html

6 European Commission. Rural development. https://agriculture.ec.europa.eu/common-agricultural-policy/rural-development_en

7 The common agricultural policy: 2023-27. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en

SUBSIDIES

References:	- European Commission. (2023). *Eligibility for direct payments of the Common Agricultural Policy 2023 2027.* Retrieved from https://agriculture.ec.europa.eu/document/download/66f112fe-8281-4366-a377-9e86d6e9bb71_en?filename=direct-payments-eligibility-conditions_en.pdf - European Commission. (n.d.). *European Agricultural Fund for Rural Development (EAFRD).* EU Funding Programmes. Retrieved from https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-fund-rural-development-eafrd_en - European Commission. (n.d.). *Common Agricultural Policy funds.* Agriculture and Rural Development. Retrieved from https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-funds_en

SUBSIDIES

4. Result-based subsidies

Tier 1	Monetary
Tier 2	**Subsidies**
Tier 3	**Result-based subsidies**
Description	**Results-based subsidies** are financial incentives provided to farmers and agricultural businesses linked to the achievement of a pre-defined environmental outcome (e.g. emission reductions or carbon sequestration). Although most of these payments do not rely on the direct quantification of environmental outcomes, they can be based on estimations with varying degrees of accuracy (Bonvillain T. et al, 2020). Result-oriented payments can involve high transaction costs for (MRV) of the environmental outcome.
References	- Siemons, A., Gocht, A., Bräuer, I., Droste, N., & Wurbs, A. (2023). *Funding climate-friendly soil management: Risks and key issues.* German Environment Agency, Dessau-Roßlau. Retrieved from https://www.ecologic.eu/19407

Advantages	**Disadvantages**
Rewards farmers to enrol land that will deliver higher environmental results, since outcomes are required to be monitored and quantified (Böttcher, H. et al., 2022).	High transaction costs associated with quantification and monitoring, reporting and verification (MRV) of results that limit their efficiency (Siemons A. et al., 2023).
Cost-effective in meeting set targets (COWI, 2021).	Less attractive to farmers if they do not know beforehand if results are sufficient compared to the effort (Siemons et al. 2025).
Cost-efficient by providing incentives for innovations that improve the measurable result while reducing the costs to achieve the intended outcomes over time (Bartkowski et al. 2021).	The focus on one result (e.g. additional mitigation) can come at the expense of other objectives (e.g. biodiversity) (Siemons A. et al., 2023).
Lower informational requirements for the regulator i.e. the regulator does not need to have all the information about the farm, if he can measure and pay for the result only (Bonvillain T. et al, 2020).	Potential environmental risks if the results do not actually deliver the expected results (Bonvillain T. et al, 2020).
Generally, suitable for private and public funding.	

SUBSIDIES

Example Result-based subsidies: French CAP strategic plan Agri-Environment-Climate Measures (AECMs) "Transition of practices". Reduction of carbon footprint (70.27)

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Subsidies**		
Tier 3	**Result-based subsidies**		
Example	French CAP strategic plan Agri-Environment-Climate Measures (AECMs) "Transition of practices" specifically the reduction of carbon footprint (70.27)		
Summary	**Agri-Environment-Climate Measure 70.27** is a key element of France's Common Agricultural Policy (CAP) Strategic Plan for 2023–2027. It offers flat-rate payments to farmers and land managers who voluntarily adopt practices aimed at reducing their farms' carbon footprint. The measure supports the implementation of locally relevant environmental practices that go beyond standard direct payment requirements. Participants are required to complete an initial assessment to establish a baseline, commit to monitoring their climate actions over a 5–7 year period, and receive payments based on the results achieved compared to the baseline. While the CAP Strategic Plan does not prescribe specific methods for achieving emissions reductions—allowing flexibility in how participants meet objectives—its overall effectiveness may be constrained by limited geographic coverage and restricted budget allocations.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Result-based		

SUBSIDIES

Type of on-farm action: What is the recipient obliged to deliver in return?	- Farmers should demonstrate that they have improved or achieved better climate results by summiting two GHG emissions assessments: at the beginning and end of the commitment period. Additionally, they must develop an action plan and record their farming practices. - The farms are required to achieve a minimum improvement of 15% in the carbon footprint of the farm within a contractual period of 5 to 7 years[8]. - Farmers who apply for environmental and climate commitments must complete a specific training, conduct an agro-ecological assessment of their farm, and participate in exchange meetings with other farmers.
Recipient requirements: What requirements must the recipient meet to receive finance?	- Good Agricultural and Environmental Condition (GAECs) standards - Statutory Management Requirements (SMRs)
Timing of rewarding: When is the reward received?	Ongoing: payments are granted annually for a period of 5 to 7 years Farmers are eligible to receive a flat-rate payment of up to €18,000 per farm over a 5-year period if they achieve the minimum improvement by 15% by the end of the contract. The payment is calculated based on the average characteristics of French farms, particularly the average Utilized Agricultural Area (UAA). Regardless of farm size, the maximum payment is capped at €18,000 per farm, which makes this measure particularly beneficial for smaller farms. -€3,600 per year. This can potentially be adjusted according to the size of the holding through flat rate aid.
Rewarding timeline: How often is the reward received?	Ongoing (Contract period of 5-7 years)
Governance: Who manages the programme, provides the reward, and where does the money come from?	- The scheme is part of the Agri-Environment-Climate Measures which runs under European Agricultural Fund for Rural Development (EAFRD), which is co-funded by the Member States. - This measure was designed and implemented as part of the French CAP Strategic Plan and the corresponding national regulations. - This measure is managed by the Ministère de l'Agriculture et de la Souveraineté alimentaire (Ministry of Agriculture and Food Sovereignty in France)

8 Trinomics (2022). Pricing agricultural emissions and rewarding climate action in the agri-food value chain. https://climate.ec.europa.eu/document/download/998c24d8-9004-4c4e-b637-60b384ae4814_en?filename=Pricing+agricultural+emissions+and+rewarding+climate+action+in+the+agri-food+value+chain.pdf

SUBSIDIES

References:	- Ministry of Agriculture, Agrifood, and Forestry of France. (2022). *French CAP Strategic Plan.* - Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt. (2024). *PAC 2023–2027 – Le Plan Stratégique National.* Retrieved from https://agriculture.gouv.fr/pac-2023-2027-le-plan-strategique-national - European Commission. (2023). *France – CAP Strategic Plan.* Retrieved from https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans/france_en - Midler, E., & Pagnon, J. (2022). *Environment and climate assessment of France's CAP Strategic Plan* (Policy report). Institute for European Environmental Policy (IEEP). Retrieved from https://ieep.eu/publications/environment-and-climate-assessment-of-frances-cap-strategic-plan/

REWARDING MECHANISM: GRANTS

Grants

A grant is a direct contribution (in the form of money, goods, or services) from governments (local, national, or EU) to recipients in return for undertaking a specific activity, such as implementing carbon farming practices. Grants are generally one-off payments (though they may be paid in instalments) and are not intended to be repaid.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

GRANTS

Tier 1	Monetary
Tier 2	**Grants**
Tier 3	
Description	**Grants** are monetary rewards provided by governments (local, national, or EU) to support practitioners in adopting specific sustainable practices (e.g., the implementation of carbon farming activities). They are often limited to a small number of recipients, typically selected through competitive application processes. Grants are generally one-off payments, although they may be paid in instalments, and they are not required to be repaid. However, their provision often depends on the beneficiary demonstrating concrete actions or results or their participation in evaluation and technical assistance programs (McDonald, H., et al., 2024).
References	- Tobin-de la Puente, J., & Mitchell, A. W. (2021). *The Little Book of Investing in Nature*. Global Canopy: Oxford. - Baroni, L., Nicholls, G., & Whiteoak, K. (2019). *Approaches to financing nature-based solutions in cities* (Working document). Prepared in the framework of the Horizon 2020 project GrowGreen. Retrieved from https://growgreenproject.eu/wp-content/uploads/2019/03/Working-Document_Financing-NBS-in-cities.pdf - McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023). *Synthesis report on sustainable financing of the establishment of ponds and pondscapes* (Deliverable 1.4). PONDERFUL Project, Horizon 2020, Grant Agreement No. 869296.

Advantages	Disadvantages
Grants reduce the initial cost of transitioning into climate-friendly agricultural practices (Tobin-de la Puente, J., & Mitchell, A. W., 2021).	Applying for and managing grants can be time-consuming and involve complex procedures, affecting especially small farms with limited capacities or resources (McDonald, H., et al., 2024).
Funding can be used for training, technical help, and sharing best practices, creating opportunities for farmers to improve their knowledge and abilities (Baroni, L., et al., 2019).	Grants often require farmers to demonstrate measurable outcomes or participate in evaluations and technical support programs. These requirements can be complicated and lead to extra costs (Baroni, L., et al., 2019).
Grants help to reduce the financial and practical risks of shifting from conventional to climate-friendly farming (McDonald, H., et al., 2024).	Specific grant programs may not fully reflect local needs or the variety of farming systems, resulting in unequal benefits for different farmers and regions (Tobin-de la Puente, J., & Mitchell, A. W., 2021).

GRANTS

Example Grants: LIFE programme

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Grants**		
Tier 3			
Example	LIFE programme		
Summary	The Programme for the Environment and Climate Action (LIFE) is an EU initiative that funds projects entirely focused on environmental protection, nature conservation, and climate adaptation and mitigation[1]. By acting as a bridge between research and practical implementation, this programme provides grants or public contracts to support projects that protect, restore, and enhance the EU's natural environment, halt biodiversity loss, and contribute to the transition toward a resource-efficient, renewable energy-based, climate-neutral, and resilient economy. The programme focuses on four thematic areas: Nature and Biodiversity, Circular Economy and Quality of Life, Climate Mitigation and Adaptation, and Clean Energy Transition. LIFE encourages collaboration among a diverse range of stakeholders — including NGOs, businesses, public authorities, academia, and community groups — to ensure broad participation in achieving environmental objectives. LIFE is implemented through multiannual work programmes lasting either three or four years. Despite its substantial budget, it is considered a limited grant programme in relation to the EU's ambitious environmental goals. As such, it is designed to act as a catalyst, promoting the exchange of knowledge and best practices to maximize its impact. The programme also plays a key role in supporting the Natura 2000 network and aligning environmental objectives with broader EU policies.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users (NGOs, business, etc) - Landowners - Farm advisors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private

1 European Commission. LIFE programme. https://single-market-economy.ec.europa.eu/industry/strategy/hydrogen/funding-guide/eu-programmes-funds/life-programme_en

GRANTS

Rewarding method: What is the reward based on?	Action-based and result-based
Type of on-farm action: What is the recipient obliged to deliver in return?	Implementation of on-the-ground initiatives that contribute to reducing agricultural greenhouse gas (GHG) emissions and enhancing carbon removals from the atmosphere through viable nature-based solutions in land management. Key activities include assessments, guidance, capacity-building initiatives, studies, surveys, stakeholder workshops, conferences, meetings, networking, and the development of appropriate financial approaches and products.
Recipient requirements: What requirements must the recipient meet to receive finance?	- Public and private institutions from all EU Member States are eligible to apply for LIFE funding (e.g., administrative authorities, non-governmental organisations, profit and non-profit entities). Natural persons are not eligible. - The LIFE programme publishes annual Calls for Proposals targeting different types of projects. Applicants must submit their proposals in response to these calls. Successful applicants are required to implement the proposed work plan in accordance with the programme's guidelines and timelines.
Timing of rewarding: When is the reward received?	- After signing the Grant Agreement, beneficiaries typically receive an initial payment to support the launch of project activities. The amount and timing are stipulated in the agreement. - During the project, beneficiaries are required to submit regular technical and financial reports. Based on the review and approval of these reports by the granting authority, interim payments may be issued. - At the end of the project, beneficiaries must submit a final technical report and a comprehensive financial statement. The final payment is made after these documents are reviewed and approved.[2]
Rewarding timeline: How often is the reward received?	Ongoing (multiyear)

2 LIFE Technical Assistance for Replication (2023). https://www.euro-access.eu/media/file/199_LIFE_2023_Technical_Assistance_for_Replication_2023.pdf

GRANTS

Governance: Who manages the programme, provides the reward, and where does the money come from?	- The LIFE Programme is managed by the European Climate, Infrastructure and Environment Executive Agency (CINEA) on behalf of the European Commission's Directorates-General for Environment, Climate Action, and Energy. - Its budget is provided directly from the EU budget. - Grants financed under the LIFE Programme are administered by CINEA. - The budget allocated for the implementation of the LIFE Programme for the 2021–2027 period is EUR 5.432 billion. - The LIFE Programme is established for a period of seven years to align with the duration of the Multiannual Financial Framework, as set out in Council Regulation (EU, Euratom) 2020/2093.
References:	- European Commission (2021). *Annex to the Commission Implementing Decision on the adoption of the multiannual work programme for the years 2021–2024 for the LIFE Programme*. Brussels. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/life/wp-call/2021-2024/wp_life-2021-2024_en.pdf - European Climate, Infrastructure and Environment Executive Agency (CINEA) (2023). *LIFE Programme*. European Commission. Available at: https://cinea.ec.europa.eu/programmes/life_en - LIFE Carbon Farming (2024). *LIFE Carbon Farming Project Overview*. Available at: https://www.life-carbon-farming.eu/life-carbon-farming/ - European Parliament and Council of the European Union (2021). *Regulation (EU) 2021/783 establishing a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EU) No 1293/2013*. Official Journal of the European Union. Available at: https://eur-lex.europa.eu/eli/reg/2021/783/oj - European Commission (2024). *EU invests over €380 million in 133 new LIFE projects to support the green transition across Europe* [Press release]. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_5381

REWARDING MECHANISM: FINANCIAL INSTRUMENTS

Financial Instruments

Financial instruments are mechanisms which facilitate access to financial support for farmers and agri-businesses, reducing financial barriers to the adoption of sustainable agricultural practices (McDonald, H., et al., 2024). They commonly take the form of agreements or contracts established between the farmer or agri-business and the provider of funds (e.g. governments or financial institution). These financing instruments encompass favourable lending conditions for borrowers, such as reduced interest rates or extended repayment periods (Green Loans); reduced risk for lenders, making it easier for farmers to access credit (Financial Guarantee); and access to capital from external investors in exchange for ownership stake in the future value generated by sustainable farming practices (Equity Investment).

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

FINANCIAL INSTRUMENTS

Green Loans (includes green bonds)

Tier 1	Monetary
Tier 2	**Financial Instrument**
Tier 3	**Green Loans** (includes green bonds)
Description	**Green loans and bonds** can finance the adoption of environmentally friendly practices. Both are financial instruments aimed at funding projects with environmental benefits (World Bank Group, 2021). Green loans are typically smaller private loans, issued by public or private banks, exclusively used to finance projects with environmental benefits, such as carbon climate- friendly farming projects. They are often simpler and less costly than green bonds. In contrast, green bonds are larger instruments, often issued by governments or corporations, that raise funds from multiple investors in the debt capital market and are tradable on bond markets. These bonds also finance green projects but tend to have higher transaction costs and can be more complex.
References	- McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023). *Synthesis report on sustainable financing of the establishment of ponds and pondscapes* (Deliverable 1.4). PONDERFUL Project, EU Horizon 2020 (Grant Agreement No. 869296). - World Bank Group. (2021). *What you need to know about green loans.* Retrieved from https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans

Advantages	**Disadvantages**
Green loans often come with lower (concessional) interest rates and longer repayment periods compared to traditional loans (McDonald, H., et al., 2024).	The criteria for green loans can be strict, requiring farmers to meet certain environmental performance standards or thresholds (Baroni, L., et al., 2019).
Green loans often facilitate collaborative partnerships between governments, financial institutions, and farmers (Tobin-de la Puente, J., & Mitchell, A. W., 2021).	Lack of awareness or understanding of green loan options among farmers.
	Although green loans provide access to capital, they are still debt instrument therefore, farmers are taking on debt. (which can be used to finance e.g. equipment or working capital required in their transitions) (McDonald, H., et al., 2024).

FINANCIAL INSTRUMENTS

Example Green Loans: InSoil- Green loans

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Financial Instruments**		
Tier 3	**Green Loans**		
Example	InSoil- Green loans		
Summary	InSoil is an online platform focused on climate action, functioning as a marketplace that connects investors with farmers across Europe to finance sustainable agricultural practices. The platform offers access to "Green Loans" featuring a fixed interest rate of 0%, aimed at supporting investments in renewable energy, reforestation, and regenerative land management practices such as no-till farming—all contributing to carbon sequestration in soils and the generation of carbon credits. To secure a loan, farmers typically offer heavy machinery as collateral. During the project registration process, they specify the number of hectares to be managed under regenerative practices. Once approved and listed on the platform, the InSoil investor community has 14 days to fully fund the project. InSoil employs a standardized methodology developed by Verra to monitor, report, and verify (MRV) carbon sequestration outcomes. The MRV framework integrates satellite imagery, public registries, on-site inspections, and laboratory soil analysis to ensure transparency and credibility in carbon impact tracking.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Landowners - Land users - Farm advisors - Investors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	Public-Private
Rewarding method: What is the reward based on?	Action based		

FINANCIAL INSTRUMENTS

Type of on-farm action: What is the recipient obliged to deliver in return?	Adoption of the following farming practices: - Reduced tilling - Plant cover crops - Increase crop rotation - Use organic fertiliser
Recipient requirements: What requirements must the recipient meet to receive finance?	- Implementing a minimum of two eligible farming practices - Manage 40+ hectares of arable agricultural land - Fill an online application - Take part in an initial interview to discuss loan options and financial details - The minimum loan amount is €10.000 - The maximum loan term: 4 years
Timing of rewarding: When is the reward received?	Ex-ante After the project is listed on the InSoil platform, the investor community has 14 days to fully finance the project.
Rewarding timeline: How often is the reward received?	One-off
Governance: Who manages the programme, provides the reward, and where does the money come from?	InSoil is a crowdfunding platform regulated by: - The on European Crowdfunding Service Providers (ECSP) - The Bank of Lithuania - The European Investment Fund (EIF) has committed €20 million to the fund. This commitment is supported by InvestEU - InvestEU
References:	- European Investment Fund. (2024). *Agricultural SMEs to get €50 million to support decarbonisation as Lithuanian fintech HeavyFinance teams up with EIF and InvestEU*. Retrieved from https://www.eif.org/InvestEU/news/2024/agricultural-smes-to-get-eur-50-million-to-support-decarbonisation-as-lithuanian-fintech-heavyfinance-teams-up-with-eif-and-investeu.htm - HeavyFinance. (2024). *Green Loans*. Retrieved from https://heavyfinance.com/green-loans-for-farmers/ - HeavyFinance. (2024). *Service rates for users of crowdfunding platform*. Retrieved from https://heavyfinance.com/docs/Fees-HeavyFinance.pdf

FINANCIAL INSTRUMENTS

Financial Guarantee

Tier 1	Monetary
Tier 2	**Financial Instrument**
Tier 3	**Financial Guarantee**
Description	A financial guarantee is a financial instrument that implies the repayment of a debt to a lender by including a third-party guarantor who agrees to take on the financial responsibility if the borrower fails to meet the initial financial obligation. In the carbon farming context, this mechanism can facilitate the access to better interest rates for farmers or land users, who will use the money for the implementation of climate friendly agricultural actions, by providing a guarantee to the lender (fi-compass,2023a).
References	- European Commission. (2023). *European Agricultural Guarantee Fund (EAGF).* Retrieved from https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/european-agricultural-guarantee-fund-eagf_en - European Commission. (2023). *Guarantee factsheet: Introduction.* fi-compass. Retrieved from https://www.fi-compass.eu/f/guarantee-factsheet/introduction.html - fi-compass. (2015). *ESIF financial instruments: Financial products.* European Commission. Retrieved from https://www.fi-compass.eu/sites/default/files/publications/ESIF-factsheet-FI-products.pdf

Advantages	**Disadvantages**
Can be used as collateral or to reduce lending risk, making it easier for farmers and agri-businesses to access finance for implementing climate-smart farming practices by lower interest rates, reduced collateral requirements, and longer repayment terms (fi-compass, 2023a).	Small-scale farmers may face challenges in accessing guarantees due to limited awareness or capacity to handle administrative procedures (fi-compass, 2019).
	Information on available financial guarantees is often difficult to access, poorly communicated, or fragmented across institutions (fi-compass, 2019).

FINANCIAL INSTRUMENTS

Example Financial Guarantee: Alter'Na

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Financial Instruments**		
Tier 3	**Financial Guarantee**		
Example	Alter'Na		
Summary	Alter'NA is a guarantee fund established by the Nouvelle-Aquitaine Region (France) to improve farmers' access to bank credit. Its primary objective is to support the transition to sustainable farming practices and strengthen the competitiveness of the agricultural sector. The fund offers notable financial advantages, including reduced personal guarantee requirements, no guarantee fees, and lower interest rates on loans, thereby easing the financial burden for farmers investing in environmentally friendly practices.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	Private	**Public-Private**
Rewarding method: What is the reward based on?	Action based		
Type of on-farm action: What is the recipient obliged to deliver in return?	- Diversification of production - Phasing out the use of pesticides - Developing production in an eco-greenhouse - Getting involved in a micro methanisation project		

FINANCIAL INSTRUMENTS

Recipient requirements: What requirements must the recipient meet to receive finance?	Applicants need an environmental certification (organic farming or High Environmental Value certification, level 2 or 3) The credibility of the project's business model is assessed.
Timing of rewarding: When is the reward received?	Ex-ante
Rewarding timeline: How often is the reward received?	One off
Governance: Who manages the programme, provides the reward, and where does the money come from?	The regional council is handling the program giving a financial guarantee to 3 affiliated private banks to help them to give loans to farmers. The guaranteed money is public money from the regional council, from the European fund for strategic investments (EFSI) and from the European Agricultural Fund for Rural Development (EAFRD). Free advisory services are also given to help the farmers to build a sustainable business plan and a loan application.
References:	- Alter'NA. (2023). *Alter'NA*. Retrieved from https://www.alter-na.fr/ - Interreg Europe. (2020). *ALTER'NA: An innovative investment fund to support the agricultural transition*. Retrieved from https://www.interregeurope.eu/find-policy-solutions/stories/alterna-an-innovative-investment-fund-to-support-the-agricultural-transition

FINANCIAL INSTRUMENTS

3. Equity Investment

Tier 1	Monetary
Tier 2	**Financial Instrument**
Tier 3	Equity Investment
Description	Equity involves the provision of capital to an agricultural enterprise or project in exchange for partial or full ownership, including rights to a share of profits, losses, and, in certain cases, participation in management decisions (fi-compass, 2023a). The financial return on equity investments is contingent upon the enterprise's growth and overall profitability. Equity does not require fixed repayments but rather, investors assume both the risks and potential rewards associated with the enterprise, with returns typically realized through profit distribution or the eventual sale of ownership stakes.
References	- fi-compass. (2015). *ESIF financial instruments: Financial products*. European Commission. Retrieved from https://www.fi-compass.eu/sites/default/files/publications/ESIF-factsheet-FI-products.pdf - McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023). *Synthesis report on sustainable financing of the establishment of ponds and pondscapes* (Deliverable 1.4). PONDERFUL Project, EU Horizon 2020 (Grant Agreement No. 869296).

Advantages	**Disadvantages**
Farmer and investor interests (need to be) are aligned, fostering shared responsibility and distributing the risks associated with adopting climate-smart farming practices (McDonald, H., et al., 2024).	Small-scale farmers, particularly those in marginalised or hard-to-reach areas, may struggle to access this kind of finance (fi-compass, 2015).
Provides adaptable financial support to manage unexpected challenges and encourages diversification, enhancing resilience to market fluctuations (McDonald, H., et al., 2024).	Smaller farms may face barriers to access, resulting in a disproportionate advantage for larger farms.
Allows farmers to maintain a stronger role in decision-making over the land management, rather than simply following external contracts or payment schemes (fi-compass, 2023a).	Involving external investors may lead to reduced ownership or influence over land and operations, limiting farmers' autonomy (McDonald, H., et al., 2024).

FINANCIAL INSTRUMENTS

Example Equity Investment:

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Financial Instruments**		
Tier 3	**Equity Investment**		
Example	Not available yet in Europe Currently, there are no specific examples in Europe that comprehensively implement the concept of equity within the specific context and objectives of carbon farming.		

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Markets

Incentives driven by markets. For example, payments associated with selling claims or rights to ecosystem services (especially climate mitigation) to companies, governments, and individuals (often in the form of "credits"). The buyer may use the credits for their own purposes, e.g. to meet environmental targets, offset their own emissions, or contribute to environmental protection. A credit price is negotiated between the buyer and the seller (e.g. project developer, farmer).

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Voluntary Carbon Markets (VCM)

Tier 1	Monetary
Tier 2	**Markets**
Tier 3	**Voluntary Carbon Markets (VCM)**
Description	**Voluntary Carbon Markets (VCM)** are a trading system where companies, organizations, and individuals buy carbon credits. This is often motivated by a desire to "offset" their greenhouse gas (GHG) emissions. These credits are generated by projects that reduce or remove emissions, such as farmers implementing climate-smart farming practices. Generally, one carbon credit is equivalent to one tonne of carbon dioxide equivalent (1 t CO_2eq) that has been reduced or removed from the atmosphere. These credits are usually certified by private organizations or sometimes by governments (SDSN, 2023). Farmers who adopt climate-smart farming practices can generate credits and sell them to buyers, creating a new source of income. However, the certification process can be highly complex, and since participation in VCMs is voluntary, no mandatory monitoring, reporting, and verification (MRV) standards exist, but rather a multitude of heterogeneous quality standards, raising concerns about the credibility of some credits. The price of carbon credits can vary widely, creating financial uncertainty for both sellers and buyers. While VCMs have the potential to attract private funding for climate action in the agricultural sector, they also present risks and challenges depending on the design of the market structure and the quality of certification methodologies.
References	- Sustainable Development Solutions Network (SDSN). (2023). *Transforming our world: Interdisciplinary insights on the Sustainable Development Goals*. SDSN European Green Deal Senior Working Group. Retrieved from https://egd-report-2023.unsdsn.org/carbon-farming%20and-voluntary-carbon-markets-in-the-eu-an-updated-guide/ - Federal Ministry for Economic Affairs and Climate Action (BMWK). (2023). *Carbon markets*. Retrieved from https://www.carbon-mechanisms.de/en/introduction/carbon-market-basics - McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023). *Synthesis report on sustainable financing of the establishment of ponds and pondscapes* (Deliverable 1.4). PONDERFUL Project, EU Horizon 2020 (Grant Agreement No. 869296).

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Advantages	Disadvantages
Farmers can earn money by selling carbon credits, offering a financial incentive for sustainable practices (COWI et al., 2021).	Carbon credit prices are often volatile, making farmers' income unpredictable and creating financial risks, as credits are not received immediately (McDonald, H., et al., 2021).
Participation is optional and less bureaucratic than compliance markets, allowing more tailored approaches for different farm types and regions (McDonald, H., et al., 2024).	Ensuring that carbon reductions are measurable and credible can be costly and complex, particularly for smallholders (SDSN, 2023).
	Many farmers may find the process of joining and complying with market standards difficult without external support or intermediaries (Barbato, C. T., et al., 2023).
	The VCM for climate-smart farming practices remains low.

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Example Voluntary Carbon Markets (VCM): Label bas-carbone

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Markets**		
Tier 3	**Voluntary Carbon Markets (VCM)**		
Example	Label bas-carbone		
Summary	**The Label Bas-Carbone (Low-carbon standard)** is a voluntary climate certification framework for emissions reductions and carbon removals in France, managed by the French Government[1]. The framework provides rules and guidance by establishing a framework for monitoring, reporting and verification of greenhouse gas emission reductions or carbon removals of projects implemented in France. The French Ministry of Ecological Transition is responsible for approving methodologies, validating project applications, and officially awarding the label. Once a project is approved, external audits are conducted to ensure it meets the label's standards. To date, 15 methodologies have been approved by the Ministry across various sectors, including forestry, construction, transport, urban and marine environments, and agriculture. The agricultural sector alone accounts for six of these approved methodologies.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users - Landowners - Farm advisors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	Public-Private
Rewarding method: What is the reward based on?	Result based		

1 https://label-bas-carbone.ecologie.gouv.fr/quest-ce-que-le-label-bas-carbone

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Type of on-farm action:
What is the recipient obliged to deliver in return?
	- Adoption of low carbon practices that lead to carbon removal or GHG emission reductions.
	- The practices implemented must be included in one of the 6 Label bas Carbone farming methods and can be for example (non-exhaustive):
	  - Reducing the use of mineral fertilisers for field crops
	  - Use of cover crops for field crops
	  - Optimising herd management in livestock farming
	  - Reducing the use of imported soya in livestock farming
	  - Planting hedges
	- Carbon audits are conducted both before the project begins and at its completion to measure progress in carbon sequestration and emission reduction.
	- The project design must be submitted and validated by the environmental ministry and progress is assessed by independent auditors.

Recipient requirements: What requirements must the recipient meet to receive finance?	- The plan is submitted to the environmental authority, which validates the credibility of the approach. The farmer must then implement the actions, and independent audits check that the targets are being met. The financial contract between the farmer and the funder is not regulated and can take a variety of forms.
Timing of rewarding: When is the reward received?	Ex-ante and ex-post
Rewarding timeline: How often is the reward received?	Multi-year payment, differs according to the methodology used 5 years (renewable) For agricultural methods, the project duration is five years. Depending on the contract established between the farmer, the funders, and the intermediaries, farmers may receive funding either annually or in a single payment at the end of the five-year period.
Governance: Who manages the programme, provides the reward, and where does the money come from?	- The programme is managed by the French Ministry of Ecological Transition. With the help of an independent expert group, it validates the methodologies developed by the stakeholders, assesses whether the projects comply with the methodologies and controls the work of the third-party auditors. Entities (mostly private companies, but also some public bodies) willing to offset or contribute to climate change mitigation finance the projects. - The label is part of the National Low-Carbon Strategy
References:	- Institute for Climate Economics (I4CE). (2019). *Domestic carbon standards in Europe: Overview and perspectives*. Retrieved from https://www.i4ce.org/wp-content/uploads/0218-I4ce3153-DomecticCarbonStandards.pdf - Ministère de la Transition écologique et de la Cohésion des territoires. (2024). *Qu'est-ce que le Label bas-carbone ?* Retrieved from https://label-bas-carbone.ecologie.gouv.fr/quest-ce-que-le-label-bas-carbone

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Example Voluntary Carbon Markets (VCM): MoorFutures

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Markets**		
Tier 3	**Voluntary Carbon Markets (VCM)**		
Example	MoorFutures		
Summary	Moorfuture is a voluntary carbon scheme aimed at financing the restoration and rewetting of drained peatlands to reduce CO_2 emissions and enhance the carbon sequestration potential of these ecosystems. The scheme follows a regional approach, currently operating in three German federal states (Länder), and forms part of their broader GHG reduction strategies. The price of carbon credits under MoorFutures is calculated based on the cost of implementation, divided by the total projected emission reductions over the crediting period (expressed in EUR per tonne of CO_2 equivalent). The revenue from certificate sales supports all stages of the project, including planning, scientific monitoring, and compensation for landowners. Both individuals and businesses can purchase project-specific certificates, allowing for transparent and targeted climate contributions. While the methodology is adapted from the Verra standard, it has been tailored to reflect regional conditions, thereby enhancing the delivery of local environmental and social co-benefits.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users - Landowners - Farm advisors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	Private	**Public-Private**
Rewarding method: What is the reward based on?	Result-based		

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Type of on-farm action: What is the recipient obliged to deliver in return?	Peatland restoration and rewetting to reduce CO2 emissions
Recipient requirements: What requirements must the recipient meet to receive finance?	- Project location: Mecklenburg-Western Pomerania, Brandenburg, and Schleswig-Holstein - MRV done by regional scientific institutions
Timing of rewarding: When is the reward received?	Ex-ante Duration of the project 30 – 50 years
Rewarding timeline: How often is the reward received?	One off
Governance: Who manages the programme, provides the reward, and where does the money come from?	- The Ministry for Climate Protection, Agriculture, Rural Areas, and the Environment of Mecklenburg-Vorpommern serves as an intermediary body[2], ensuring that MoorFutures projects are maintained for a minimum of 30 to 50 years. - This program is funded through a voluntary carbon credit scheme, allowing government bodies, companies, and private citizens to purchase carbon offset credits that support peatland restoration.
References:	- Institute for Climate Economics (I4CE). (2019). *Domestic carbon standards in Europe: Overview and perspectives.* Retrieved from https://www.i4ce.org/wp-content/uploads/0218-I4ce3153-DomecticCarbonStandards.pdf - MoorFutures. (2017). *Der MoorFutures-Standard.* Retrieved from https://www.moorfutures.de/konzept/moorfutures-standard/

2 https://foresteurope.org/wp-content/uploads/2017/08/PFES-Template_reDE-Moorfutures.pdf

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

2. Payments for ecosystems services (PES)

Tier 1	Monetary
Tier 2	**Markets**
Tier 3	**Payment for Ecosystem Services (PES)**
Description	**PES** are financial mechanisms based on the voluntary transaction between ecosystem services providers and beneficiaries who pay for those services (IPBES, 2019). In the Carbon farming context, farmers deliver ecosystem services - such as water filtration, biodiversity conservation, soil health improvement, cultural and spiritual values among others - by adopting sustainable farming practices. Through agreement with governments or private entities, farmers receive payments as an incentive to maintain or increase the ecosystem service supply.
References	- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. https://doi.org/10.5281/zenodo.3831673 - McDonald, H., Seeger, I., Lago, M., & Scholl, L. (2023) Synthesis report on sustainable financing of the establishment of ponds and pondscapes. PONDERFUL Project (EU Horizon 2020 GA no. ID869296), Deliverable 1.4.

Advantages	**Disadvantages**
Farmers receive compensation for providing measurable environmental benefits (e.g., carbon sequestration, water purification, biodiversity) (McDonald, H., et al., 2024).	Quantifying ecosystem services can be complex and costly, especially in diverse landscapes (Barbato, C. T., et al., 2023).
Payments are usually based on individual contracts, offering more certainty and flexibility than volatile markets (IPBES, 2019).	Farmers may face paperwork, compliance audits, and reporting requirements that are difficult to manage without support (IPBES, 2019).
	Smaller or marginalized farmers may be excluded if programs favour large landowners or require upfront investments.

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Example Payments for ecosystems services (PES): HUMUS +, Ecoregion Kaindorf (Austria)

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Carbon Markets and PES**		
Tier 3	**Payments for ecosystems services**		
Example	HUMUS +, Ecoregion Kaindorf (Austria)		
Summary	The HUMUS+ program, part of the Ökoregion Kaindorf in Austria, aims to improve soil health conditions and tackle climate change by increasing soil organic carbon (SOC) in the form of humus. Participating farmers agree to adopting recommended practices which increase soil humus content, thereby improving soil fertility, enhancing water retention, and reducing soil erosion. Farmers receive a "success fee" based on the tons of CO2 they demonstrate to sequester, which is verified through soil testing. These payments are funded by companies that voluntarily purchase CO_2 certificates to offset their unavoidable emissions.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Land users - Landowners - Farm advisors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	**Public-Private**
Rewarding method: What is the reward based on?	Result-based		
Type of on-farm action: What is the recipient obliged to deliver in return?	Farming practices promoting carbon in agricultural soil: - Maximize diversity: Crop rotation, catch crops, undersowing, mixed sowing, winter greening, agroforestry, hedges - Maximize photosynthesis: Intercropping, undersowing, mixed sowing, winter greening, agroforestry, hedges, healthy plants, compost, plant charcoal. - Minimize soil disturbance: reduced tillage, direct sowing, mulch sowing, reduction of agrochemicals.		

REWARDING MECHANISM: CARBON MARKETS AND PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Recipient requirements: What requirements must the recipient meet to receive finance?	- Register at the HUMUS+ website - Agreement to participate in the program, with a commitment of 12 years - Initial soil sampling paid by the farmer - Follow up soil sample (after 5 – 7 year) cover by the program to confirm the humus build-up - If the humus build-up is successful (from an increase of 0,3%), the farmer receives a success fee per tonne of stored CO2.
Timing of rewarding: When is the reward received?	Ex-post. To complete the entire process and obtain humus certificates, the project has to last at least 7 years.
Rewarding timeline: How often is the reward received?	On-going - Farmer receives initial payment after 5 to 7 years after demonstrating SOC increase - After 5 years, a second payment is made when the farmer demonstrates that the humus level has been maintained.
Governance: Who manages the programme, provides the reward, and where does the money come from?	- Managed by the Association nonprofit "Verein Ökoregion Kaindorf" in collaboration with the Institute for Soil Research at the University of Natural Resources and Life Sciences (BOKU) in Vienna - Austrian Ministry of Agriculture, Regions and Tourism
References:	- Association HUMUS+. (2024). *HUMUS+ Model Ökoregion Kaindorf.* Retrieved from https://www.humusplus.at/ - CONSOLE Project. (2022). *The Humus-Program of the Ökoregion Kaindorf.* Retrieved from https://console-project.eu/Nuevos_deliverables/AT4_fin_2022.pdf - COWI, Ecologic Institute, & Institute for European Environmental Policy (IEEP). (2021). *Operationalising an EU carbon farming initiative: Annexes – Case studies.* Retrieved from https://www.ecologic.eu/sites/default/files/publication/2021/Carbon-Farming_CaseStudies.pdf - Institute for Climate Economics (I4CE). (2019). *Domestic carbon standards in Europe: Overview and perspectives.* Retrieved from https://www.i4ce.org/wp-content/uploads/0218-i4ce3153_DomecticCarbonStandards.pdf - Result Based Payments Network. (2019). *Humus-Program of the Ökoregion Kaindorf.* Retrieved from https://www.rbpnetwork.eu/country-infos/austria/humus-program-of-the-oekoregion-kaindorf-50/

REWARDING MECHANISM: LABELS

Labels

Farmers can have their products or production processes certified through recognized labels. These labels serve as information tools for consumers, signalling adherence to sustainable and climate-smart farming practices. Displaying such labels helps enhance the farmer's credibility in the marketplace and gain recognition for environmental commitments, potentially leading to price premiums or other favourable market conditions.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

LABELS

Tier 1	Monetary
Tier 2	**Labels**
Tier 3	
Description	In the context of Climate Farm Demo (CFD), labels serve as informational tools that communicate the environmental services delivered by farmers and the agricultural sector to consumers. By guiding consumer choices toward more sustainable consumption patterns, labels can influence demand and support climate-conscious food systems. For farmers, certification through labelling acts as a market incentive, increasing visibility and credibility by demonstrating compliance with recognized sustainability and climate standards. Labelling not only enhances the credibility of environmental claims but also opens up new market opportunities for those committed to carbon farming practices.
References	- Schulze, C., Bui, S., Magrini, M.-B., & Lamine, C. (2024). *Between farms and forks: Food industry perspectives on the future of EU food labelling. Ecological Economics*, Elsevier BV. https://doi.org/10.1016/j.ecolecon.2023.108066 - Glogovețan, A., Cherheș, V., & Sălăgean, T. (2022). *Consumer perception and understanding of European Union quality schemes: A systematic literature review. Sustainability*, MDPI AG. https://doi.org/10.3390/su14031667 - Tiboni-Oschilewski, O., Abarca, M., Pierre, F. S. R., Rosi, A., Biasini, B., Menozzi, D., & Scazzina, F. (2024). *Strengths and weaknesses of food eco-labelling: A review. Frontiers in Nutrition*, 11. https://doi.org/10.3389/fnut.2024.1391135

LABELS

Advantages	Disadvantages
Labelling facilitates the differentiation of sustainably produced agricultural goods, enabling farmers to distinguish their products within the marketplace (Schulze, C., et al., 2024).	Annual renewal fees for certification schemes can be expensive, especially for smallholder farmers, and may sometimes exceed the financial benefits gained from participation (ADA, 2022).
To meet labelling requirements, farmers are encouraged to adopt sustainable and innovative farming methods, helping them stay competitive and avoid losing market position (Tiboni-Oschilewski, O., et al., 2024).	Meeting and maintaining certification requirements often demand considerable investment in farm infrastructure and ongoing efforts to remain compliant, which can be challenging for farmers with limited resources (ADA, 2022).
Labelling and certification can lead to financial benefits, such as higher prices or access to premium markets, offering farmers an extra source of income (ADA, 2022).	The monitoring, reporting, and verification (MRV) of sustainability claims can be both costly and complicated, creating barriers to wider adoption and scaling carbon farming practices.
	Farmers may face long-term responsibilities if certified practices do not deliver the expected environmental benefits, particularly when outcomes are affected by factors beyond their control, such as adverse weather or climate variability

LABELS

Example Labels: Demeter

Tier 1:	Monetary	Supportive	Regulatory
Tier 2	Labels		
Tier 3			
Example	Demeter		
Summary	The Demeter certification seeks to improve soil conditions, protect the environment, increase biodiversity, implement animal welfare, and produce high- quality products, ensuring that the entire production process follows the principles of biodynamic farming. This certification has strict requirements and is a guarantee for consumers that they are supporting farming practices that go beyond conventional organic standards.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Farm advisors - Value chain actors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	Public-Private
Rewarding method: What is the reward based on?	Action-based		
Type of on-farm action: What is the recipient obliged to deliver in return?	Meeting the requirements of the certification		
Recipient requirements: What requirements must the recipient meet to receive finance?	- Contact the certifying agency (different in each country) - Apply for the Demeter membership - Comply with the "Conversion for farmers" period (unusually 3 years): meet specific biodynamic agriculture standards - Inspection and get the certification		
Timing of rewarding: When is the reward received?	Ex-ante and ex-post		

LABELS

Rewarding timeline: How often is the reward received?	Ongoing
Governance: Who manages the programme, provides the reward, and where does the money come from?	- International Demeter Biodynamic Standard - Biodynamic Federation DemeterInternational e.V.
References:	- Biodynamic Federation Demeter. (2024). *Demeter – Biodynamic certification.* Retrieved from https://demeter.net/ - Jaeger, S. R., Jin, D., McRae, J., & Lai, J. (2023). *Consumer insights about sustainable and 'beyond organic' agriculture: A study of biodynamics in the United Kingdom, Australia, Singapore, and Germany. Journal of Cleaner Production*, Elsevier BV. https://doi.org/10.1016/j.jclepro.2023.136744

LABELS

Example Labels: Bioland

Tier 1:	Monetary	Supportive	Regulatory
Tier 2	**Labels**		
Tier 3			
Example	Bioland e.V.		
Summary	Bioland is a German organic farming association that promotes sustainable agriculture and environmentally friendly food production. With more than 9,000 organic farms, beekeepers and winegrowers in Germany and South Tyrol, it operates according to seven basic principles integrated in its certification process. This certification process is recognised for exceeding EU organic standards, guaranteeing high sustainability and product quality. However, its rigorous certification requirements and bureaucracy pose difficulties for farmers. To support this transition, Bioland offers training, networking and marketing opportunities. Its label covers the entire value chain, ensuring compliance with biodiversity and sustainability guidelines.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Farm advisors - Value chain actors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	Public-Private
Rewarding method: What is the reward based on?	Action-based		
Type of on-farm action: What is the recipient obliged to deliver in return?	- Following the seven Bioland principles: - Implementing Circular economy - Promoting soil fertility - Ensuring animal welfare - Producing valuable food - Promoting biodiversity - Preserving natural resources - Securing a liveable future for people		

LABELS

Recipient requirements: What requirements must the recipient meet to receive finance?	- Contact Bioland e.V. to express interest. - Undergo an initial assessment to evaluate farm potential and readiness for certification. - Complete on-site inspections and audits. - Enrol as a Bioland member. - Implement Bioland guidelines and standards. - Participate in training programs and workshops
Timing of rewarding: When is the reward received?	Ex- ante and ex-post
Rewarding timeline: How often is the reward received?	Ongoing
Governance: Who manages the programme, provides the reward, and where does the money come from?	Bioland e.V.
References:	- Bioland. (2024). *Bioland – Verbraucherinformation*. Retrieved from https://www.bioland.de/verbraucher - Bioland. (2024). *Bioland-Richtlinien 18./19.* Retrieved from https://www.bioland.de/fileadmin/user_upload/Verband/Dokumente/Richtlinien_fuer_Erzeuger_und_Hersteller/Bioland-Richtlinien_2024-11.pdf

REWARDING MECHANISM: PRODUCER PRICE PREMIUMS

Price premiums

Price premiums are voluntarily agreed financial incentives, typically provided in the form of higher purchase prices or additional payments, offered by agricultural value chain actors—such as food processors, traders, or multinational corporations—to farmers who adopt climate-smart agricultural practices. These premiums are usually conditional upon compliance with specific criteria, such as low-emission production methods, carbon sequestration efforts, climate change adaptation and mitigation strategies, or broader sustainability standards

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: PRICE PREMIUMS

Tier 1	Monetary
Tier 2	**Producer price premiums**
Tier 3	
Description	**Price premiums** refer to additional payments or higher prices that value chain actors (e.g. processors) offer to farmers who apply climate-smart agricultural practices. These premiums are not only the result of emission reduction, carbon sequestration, and climate change adaptation actions, but may also be linked to the achievement of various co-benefits, e.g. biodiversity or other sustainability outcomes. Environmentally aware consumers and companies with clear sustainability objectives both contribute to the increasing demand for agricultural goods produced in sustainable ways. Some agri-food companies, especially those aligning their operations with climate targets aligned with the Science Based Targets initiative (SBTi), use price premiums within their strategies to encourage regenerative, low-emission, and conservation-oriented farming systems (Ecosystem Marketplace, 2024). Despite this trend, consumers still hesitate to purchase products that come with a price premium. Concerns about affordability and doubts about the credibility of sustainability claims may reduce their willingness to pay (Lamerre, J., et al., 2024).
References	- Pawlewicz, A. (2020). *Change of price premiums trend for organic food products: The example of the Polish egg market. Agriculture*, MDPI AG. https://doi.org/10.3390/agriculture10020035 - Network for Business Sustainability. (2011). *When "green" means premium—and when it requires a discount*. Retrieved from https://nbs.net/when-green-means-premiumand-when-it-requires-a-discount/ - Ecosystem Marketplace. (2024). *State of the Voluntary Carbon Market (SVCM) 2024: On the path to maturity*. Retrieved from https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-svcm/ - Lamerre, J., Orliac, E., Duparque, A., & Hopquin, J. P. (2024). *Rapport final ACCLIM-AGRI*. ADEME. Retrieved from https://librairie.ademe.fr/ged/9429/ACCLIM_AGRI_RF.pdf

Advantages	Disadvantages
Farmers can sell products at higher prices compared to conventional markets (at higher-than-average market price) (Ecosystem Marketplace, 2024).	The added price is often limited and may be insufficient to fully compensate for the costs of sustainable practices (Pawlewicz, A., 2020).
Price premiums programs usually provide support services and technical assistance (Pawlewicz, A., 2020).	Access to price premiums is often limited for smallholders, who might face challenges in meeting program requirements or accessing associated benefits (Network for Business Sustainability, 2011).

Example Price premiums: FarmAhead™ (Arla climate check)

REWARDING MECHANISM: PRICE PREMIUMS

Tier 1	Monetary	Supportive	Regulatory
Tier 2	Producer price premiums		
Tier 3			
Example	FarmAhead™ (Arla climate check)		
Summary	FarmAhead™ is a sustainability incentive model developed by the cooperative Arla to calculate and reduce the carbon footprint of its dairy products. It forms part of Arla's broader sustainability strategy, which aims to reduce CO_2e emissions from farms by 30% per kilogram of milk by 2030.[1] The model is based on internationally recognised methodologies for calculating carbon footprints and operates as a point-based system, where farmers earn points by engaging in various sustainability activities. Each point corresponds to an additional €0.03 per kilogram of milk delivered to Arla. In addition, Arla awards €0.01 per kilogram of milk for submitting data to the "Climate Check" tool, which serves as a prerequisite for receiving the sustainability incentive. The tool consists of 200 questions that every Arla farmer must answer, covering five main categories: feed efficiency, protein efficiency, animal robustness, fertiliser use, and land use.[2] Each Arla farmer also participates in a consultation with an expert advisor, who verifies the farm data and provides tailored recommendations for reducing CO_2 emissions. Small and medium-sized dairy farmers may come under pressure, however, as the model tends to benefit from intensive livestock farming.[3]		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Farm advisors - Value chain actors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	**Private**	Public-Private

1 How Arla farmers are rewarded for their sustainability activities. https://www.arla.com/sustainability/the-farms/arlas-sustainability-incentive-model-qa/#when-will-the-incentive-be-paid-to-arla-farmers

2 Arla earmarks up to 500 m EUR annually for rewarding climate activities on farm. https://www.arla.com/company/news-and-press/2022/pressrelease/arla-earmarks-up-to-500-meur-annually-for-rewarding-climate-activities-on-farm/

3 Dairytales: Arla's smokescreen for its lack of climate action. https://changingmarkets.org/report/dairytales-arlas-smokescreen-for-its-lack-of-climate-action/

REWARDING MECHANISM: PRICE PREMIUMS

Rewarding method: What is the reward based on?	Result-based

Type of on-farm action: What is the recipient obliged to deliver in return?	- Submit Climate Check data
	  - Complete the mandatory questionnaire with 200 questions
	- Implement actions from the Climate catalogue: How to reduce CO2e emissions on your farm, from Arla:
	  - Reduction of CO2 emissions
	  - Improve animal feed characteristics
	  - Use of solar panels and wind turbines
	  - Use of manure for biogas
	  - Reduction of fertiliser use for feed production
	  - Reduction of fuel use
	  - Etc.

Recipient requirements: What requirements must the recipient meet to receive finance?	- Be part of the Arla Cooperative - Answer a 200 questionnaire about the dairy farm production - Meet with external expert advisor to verify data
Timing of rewarding: When is the reward received?	expost
Rewarding timeline: How often is the reward received?	Ongoing Monthly based: the incentive is included in the milk price only if the farmer has participated in the annual Climate Check.
Governance: Who manages the programme, provides the reward, and where does the money come from?	The price premium is directly managed by Arla. Each year, the Arla allocates a portion of its earnings to support farmers who implement verified climate-smart agricultural practices. A part of the price consumers pays for Arla Products is used to finance the rewards paid to farmers.
References:	- Arla Foods. (2022). *Climate Check Report 2022*. Retrieved from https://www.arla.com/49162b/globalassets/arla-global/sustainability/dairys-climate-footprint/climate-check-report-2022.pdf - Arla Foods. (2024). *How Arla farmers are rewarded for their sustainability activities*. Retrieved from https://www.arla.com/sustainability/the-farms/arlas-sustainability-incentive-model-qa/#where-does-the-money-for-the-sustainability-incentive-model-come-from

REWARDING MECHANISM: INSURANCES

Insurances

Agricultural insurance is a risk management tool designed to protect farmers from financial losses caused by unforeseen events such as natural disasters, disease and market fluctuations. By reducing financial risk and uncertainty, farmers can invest with a degree of confidence in their production, promoting income stability and resilience for both farmers and their communities. Agricultural insurance has also evolved to cover a wide range of risks through innovative insurance products, adapting to the needs of the farmers.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: INSURANCES

Tier 1	Monetary
Tier 2	**Insurances**
Tier 3	
Description	Agricultural insurance is a risk management tool designed to protect farmers from financial losses caused by unforeseen events such as natural disasters, disease and market fluctuations (Aubert, C., et al., 2024). By providing compensation for such losses, insurance helps stabilize farm incomes and supports the financial resilience of agricultural businesses. Adopting climate-smart practices (CSA), can reduce farmers' vulnerability to climate-related risks. Consequently, farmers who implement CSA practices are often considered lower-risk clients by insurers (Meuwissen, M. P. M., et al., 2018). This lower risk profile can justify the introduction of premium discounts as incentives, making insurance coverage more affordable while simultaneously promoting sustainable farming methods. However, despite the potential of agricultural insurances as an incentive for farmers, their availability and implementation at the EU level remain limited.
References	- Meuwissen, M. P. M., Feindt, P. H., Spiegel, A., Termeer, C. J. A. M., Mathijs, E., De Mey, Y., ... & Reidsma, P. (2018). *Prospects for agricultural insurance in Europe. Agricultural Finance Review.* https://doi.org/10.1108/AFR-04-2018-093 - Aubert, C., Arrondel, L., & Piet, L. (2024). *Multiple agricultural risks and insurance—issues, perspectives, and illustration for wine-growing.* https://doi.org/10.1007/s41130-024-00217-w - Catucci, A., Zaccaria, D., & Daccache, A. (2021). *Farm weather insurance assessment.* In Springer, Cham. https://doi.org/10.1007/978-3-030-71069-9_19 - Bhattacharya, S., & Biswas, B. (2024). *Role of crop insurance in sustainable agriculture practices: A global perspective.* https://doi.org/10.1108/978-1-83608-076-320241006

REWARDING MECHANISM: INSURANCES

Advantages	Disadvantages
Labelling facilitates the differentiation of sustainably produced agricultural goods, enabling farmers to distinguish their products within the marketplace (Schulze, C., et al., 2024).	Annual renewal fees for certification schemes can be expensive, especially for smallholder farmers, and may sometimes exceed the financial benefits gained from participation (ADA, 2022).
To meet labelling requirements, farmers are encouraged to adopt sustainable and innovative farming methods, helping them stay competitive and avoid losing market position (Tiboni-Oschilewski, O., et al., 2024).	Meeting and maintaining certification requirements often demand considerable investment in farm infrastructure and ongoing efforts to remain compliant, which can be challenging for farmers with limited resources (ADA, 2022).
Labelling and certification can lead to financial benefits, such as higher prices or access to premium markets, offering farmers an extra source of income (ADA, 2022).	The monitoring, reporting, and verification (MRV) of sustainability claims can be both costly and complicated, creating barriers to wider adoption and scaling carbon farming practices (Tiboni-Oschilewski, O., et al., 2024).
	Farmers may face long-term responsibilities if certified practices do not deliver the expected environmental benefits, particularly when outcomes are affected by factors beyond their control, such as adverse weather or climate variability.

REWARDING MECHANISM: INSURANCES

Example Insurances:

Tier 1	**Monetary**	Supportive	Regulatory
Tier 2	**Insurances**		
Tier 3			
Example	Currently, access to insurances targeting specifically climate-friendly agricultural practices at EU level remains limited, largely due to bureaucratic barriers and administrative complexity.		

REWARDING MECHANISM: ADVISORY SERVICES / UPSKILLING

Advisory services / upskilling

Advisory services are tailored guidelines provided to farmers and landowners to enhance their knowledge of climate-smart farming practices that promote carbon sequestration while improving livelihoods and overall well-being. These services enable farmers to make informed decisions at the farm level, optimising the effectiveness of their current practices. This includes promoting emission reductions, increasing carbon sequestration, enhancing climate adaptation, and encouraging the adoption of sustainable farming methods.

With this knowledge, farmers can maximise the environmental benefits of their land management and innovate across the entire value chain. Advisory services may be delivered individually or in groups, through various media or online platforms, often in collaboration with agricultural training centres or research and development institutions.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: ADVISORY SERVICES / UPSKILLING

Tier 1	Supportive
Tier 2	**Advisory services / upskilling**
Tier 3	
Description	Advisory services are support mechanisms provided to farmers and landowners, empowering them with knowledge to reduce emissions, sequester carbon, and adapt to climate change. This knowledge enables farmers to make informed decisions, optimising the effectiveness of their current farming practices while promoting emission reductions, carbon sequestration, and climate adaptation. As a result, farmers can maximise the environmental benefits of their land management.
References	- AgripolicyKit (2024). *Instruments: Public and private sector agricultural advisory services.* Available at: https://agripolicykit.net/en/instruments/public-and-private-sector-agricultural-advisory-services - Barbato, C. T., Kimble, B., Heikkinen, J., Rickert, B., Chabbi, A., & Zomer, R. J. (2023). *Farmer perspectives on carbon markets incentivizing agricultural soil carbon sequestration. npj Climate Action*, 2(1). https://doi.org/10.1038/s44168-023-00055-4 - Buck, H. J., & Palumbo-Compton, A. (2022). *Soil carbon sequestration as a climate strategy: what do farmers think? Biogeochemistry*, 159, 153–169. https://doi.org/10.1007/s10533-022-00948-2

Advantages	**Disadvantages**
Farmers gain a deeper understanding of climate-smart farming practices, enabling them to make decisions that are both environmentally and economically sound (AgriPolicyKit, 2024).	Even with the right information, farmers may not adopt new practices due to financial, cultural, or infrastructural barriers (Barbato, C. T., et al., 2023).
Access to up-to-date practices and technologies helps farmers experiment and innovate within their farming systems (Buck, H. J., et al., 2022).	Requires sustained investment in training, infrastructure, and delivery mechanisms (Sulaiman, R., et al., 2018).
Can be customised to local contexts and delivered through various formats (in-person, online, mobile platforms) (Barbato, C. T., et al., 2023).	Online platforms may not be accessible to all, especially in rural or low-income areas with limited internet or device access (AgriPolicyKit, 2024).

REWARDING MECHANISM: ADVISORY SERVICES / UPSKILLING

Example Advisory services / upskilling: OrganicAdviceNetwork project

Tier 1	Monetary	Supportive	Regulatory
Tier 2	Advisory services / upskilling		
Tier 3			
Example	Organic Advice Network project		
Summary	The **OrganicAdviceNetwork** is a European initiative aimed at enhancing the knowledge and skills of organic advisors to support the transition toward sustainable agricultural practices. The initiative seeks to build a network of 1,000 organic advisors across the EU and neighbouring regions, fostering knowledge exchange and collaboration between experts in plant production and animal husbandry. The network offers training programmes designed to strengthen both technical expertise and interpersonal skills through a combination of in-person workshops, online courses, and practical learning via farm visits. Furthermore, it explores financial mechanisms and business models to develop a robust framework for advisory services in the organic farming sector.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	Farm advisors		
Source of rewarding: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Advisors in the OrganicAdviceNetwork project receive training in both the technical aspects of organic advisory services and essential soft skills. In addition, knowledge exchange among network advisors is actively facilitated.		
Type of on-farm action: What is the recipient obliged to deliver in return?	Advisors receive training to strengthen their competencies in organic advisory services and in guiding the conversion from conventional to organic farming. This leads to more skilled and effective support for farmers.		

REWARDING MECHANISM: ADVISORY SERVICES / UPSKILLING

Recipient requirements: What requirements must the recipient meet to receive finance?	The OrganicAdviceNetwork is an open network, meaning that advisors from across Europe are welcome to participate in project activities. However, only those from countries where the project has partners, affiliated entities, or subcontractors are eligible for reimbursement of travel and subsistence costs.
Timing of rewarding: When is the reward received?	The Project takes place from April 2024 until March 2028
Governance: Who manages the programme, provides the reward, and where does the money come from?	- OrganicAdviceNetwork is a Horizon Europe project funded by the European Union and the Swiss State Secretariat for Education. - The project is coordinated by IFOAM Organics Europe (International Federation of Organic Agriculture Movements). A total of 18 project partners, 7 affiliated entities, and 7 subcontractors receive funding through the project.
References:	- IFOAM Organics Europe (2024). *OrganicAdviceNetwork project: The first Europe-wide network for organic advisors*. Available at: https://www.organicseurope.bio/ - CORDIS (2023). *Reaching 25% organic farmland in the EU by stronger and better-connected organic advisors and organic advisory services* [Project ID: 101134850]. Available at: https://cordis.europa.eu/project/id/101134850 - Kuehne, G., Llewellyn, R., Pannell, D., Wilkinson, R., Dolling, P., & Ewing, M. (2019). *Key social processes sustaining the farmer advisor relationship. Rural Extension and Innovation Systems Journal*, 15(1), 20–29. Available at: https://fenestrae.ecobln.de:8181/onelogin/idp

REWARDING MECHANISM: SOCIAL REWARDS

Social rewards

Social rewards are intangible benefits that farmers can gain by adopting carbon farming practices. Based on cultural and social contexts, these benefits strengthen bonds between farmers, facilitate knowledge-sharing networks, and promote social recognition of sustainable efforts. Additionally, practices like maintaining healthy soils can improve landscape appeal, fostering opportunities for rural development and agrotourism.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: SOCIAL REWARDS

Tier 1	Supportive
Tier 2	**Social rewards**
Tier 3	
Description	Social rewards refer to the intangible benefits perceived by farmers because of engaging in sustainable agricultural practices. These rewards are often associated with the influence of opinion leaders, such as farmers who adopt innovative, sustainable practices, such as carbon farming. By visibly demonstrating the benefits of climate-smart agricultural practices, these farmers gain credibility, playing a role model, inspiring others to follow (Barnes A. et al., 2022). This influence contributes to the broader diffusion of sustainable farming practices, fosters social participation, and reinforces community-based networks that support collective environmental stewardship.
References	- Buck, H. J., Spera, S., Thompson, A., & Dooley, K. (2022). *Soil carbon sequestration as a climate strategy: What do farmers think? Biogeochemistry*, Springer Science and Business Media LLC. https://doi.org/10.1007/s10533-022-00948-2 - ICOS. (2023). *Carbon farming – A path to more sustainable agriculture*. Retrieved from https://www.icos-cp.eu/fluxes/2/carbon-farming-path-more-sustainable-agriculture - Hameed, T. S., & Sawicka, B. (2017). *The importance of opinion leaders in agricultural extension. The Scientific World Journal*, 76, 35–41.

Advantages	**Disadvantages**
Farmers are more likely to adopt sustainable practices when they see respected peers doing the same successfully (Barnes A. et al., 2022).	Hard to measure and track impact—what counts as a "reward" can vary greatly between individuals and cultures.
Encourages collaboration and collective action toward shared environmental and social goals (Buck, H. J., et al., 2022).	Social norms and peer influence take time to develop and might not produce quick results (Rodriguez, J. M., et al., 2009).
Farmers gain respect and prestige, which can lead to opportunities (e.g., training others, community leadership).	Recognition and influence might concentrate around a few individuals, potentially reinforcing existing inequalities in the community (Rodriguez, J. M., et al., 2009).

REWARDING MECHANISM: SOCIAL REWARDS

Example Social rewards: Peer to peer recognition

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Social rewards**		
Tier 3			
Example	Peer to peer recognition (opinion leader farmer)		
Summary	Opinion leader farmers are influential members of agricultural communities playing a vital role in bridging the gap between research and practice by promoting the adoption of new technologies and farming methods. These farmers are often early adopters with an innovative mindset and can be perceived as role models for their peers. Their credibility is rooted in shared experiences and a deep understanding of local agricultural realities, which fosters trust among fellow farmers compared to external advisors or technical experts, who may be viewed as less empathetic to farmers' needs . In addition to their leadership, these farmers are skilled communicators, capable of translating complex information into accessible terms and effectively sharing their experiences, concerns, and successes to other farmers. By participating in external workshops and events, they bring valuable knowledge back to their communities, facilitating the broader adoption of sustainable agricultural practices.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	Private	Public-Private
Rewarding method: What is the reward based on?	Peer recognition and trust reinforces motivation by acknowledging the farmers' effort.		

1 Rust, N. A., et al. (2021). Have farmers had enough of experts? Environmental Management, 69(1), 31-44. https://doi.org/10.1007/s00267-021-01546-y

REWARDING MECHANISM: SOCIAL REWARDS

Type of on-farm action: What is the recipient obliged to deliver in return?	Adoption of climate-smart agricultural practices that demonstrate an active commitment to improving crop yields while addressing the long-term sustainability of the farming system in a holistic manner.
Governance: Who manages the programme, provides the reward, and where does the money come from?	Opinion leaders (farmers who adopt innovation in their practices) disseminate knowledge in their networks, promoting the adoption of climate smart farming practices.
References:	- Hoffmann, V., Probst, K., & Christinck, A. (2007). *Farmers and researchers: How can collaborative advantages be created in participatory research and technology development?* https://doi.org/10.1007/s10460-007-9072-2 - Rust, N. A., Echeverría, D., Jacobson, C., & Shankar, B. (2021). *Have farmers had enough of experts? Environmental Management.* https://doi.org/10.1007/s00267-021-01546-y - Skaalsveen, K., Ingram, J., & Urquhart, J. (2020). *The role of farmers' social networks in the implementation of no-till farming practices. Agricultural Systems*, 182, 102824. https://doi.org/10.1016/j.agsy.2020.102824 - Feder, G., & Savastano, S. (2006). *The role of opinion leaders in the diffusion of new knowledge: The case of integrated pest management. World Development*, 34(7), 1287–1300. https://doi.org/10.1016/j.worlddev.2005.12.004

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Research and Development (R&D)

Research and Development (R&D) refers to the process of generating new knowledge to improve the understanding of agricultural practices and their role in addressing climate change. It supports key objectives such as enhancing soil carbon storage, improving food security, conserving biodiversity, and fostering rural development through scientific research and technological innovation. By investing in new farming techniques, crop varieties, and precision technologies, R&D aims to boost agricultural productivity while reducing environmental impact and promoting more sustainable farming systems. In some cases, farmers may receive payments for participating in R&D initiatives.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Tier 1	Supportive
Tier 2	Research and Development (R&D)
Tier 3	
Description	**Research and Development (R&D)** expands knowledge by generating, testing, and implementing innovative solutions to advance sustainable agricultural practices that promote carbon sequestration and climate change mitigation. It focuses on developing and evaluating farming methods that enhance soil health, capture atmospheric carbon, and reduce greenhouse gas emissions. In Europe, various programmes support R&D and foster collaboration between researchers, farmers, and policymakers to deliver practical solutions for carbon farming. In some cases, farmers may receive payments for participating in these R&D initiatives.
References	- European Commission. (2023). *Carbon removals and carbon farming*. Retrieved from https://climate.ec.europa.eu/eu-action/certification-permanent-carbon-removals-carbon-farming-and-carbon-storage-products/carbon-farming-and-carbon-storage-products_en - European Commission. (2023). *Research and innovation – Agriculture and rural development*. Retrieved from https://agriculture.ec.europa.eu/sustainability/research-and-innovation_en

Advantages	**Disadvantages**
Participation in R&D programmes can provide farmers with access to new technologies and practices that support both sustainability and business performance (European Commission, 2023f).	Participation in R&D programmes can be costly for farmers in terms of time and administration complexity (Barbato, C. T., et al., 2023).
R&D involvement may open pathways to carbon markets, certification schemes, or premium product opportunities (Sharma, M., et al., 2021).	Innovations do not always reach or resonate with farmers, particularly when knowledge transfer mechanisms are weak (Sharma, M., et al., 2021).
Opportunities to receive monetary compensation for participating in R&D programmes, in certain cases.	The tangible benefits of R&D may take several years to materialize at the farm level.

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Example Research and Development (R&D): LIFE Carbon Farming

Tier 1	Monetary	Supportive	Regulatory
Tier 2	Research and Development (R&D)		
Tier 3			
Example	**LIFE Carbon Farming**		
Summary	The **LIFE Carbon Farming** project is an initiative funded under the European Union's LIFE Programme, which supports environmental protection and climate action across the EU. Running from 2021 to 2027, the project brings together 50 partners from six countries—France, Belgium, Germany, Italy, Ireland, and Spain—with the goal of promoting climate-smart farming practices that reduce greenhouse gas emissions and enhance soil carbon sequestration. The project's core objective is to achieve a 15% reduction in the carbon footprint of agricultural products over a six-year period. It supports 700 mixed livestock farms across Europe, offering tailored advisory services and monitoring tools to help farmers design and implement effective emission-reduction strategies at the farm level. A key feature of the project is the development of a harmonised sustainability assessment methodology and a standardised Monitoring, Reporting, and Verification (MRV) framework. These tools enable farmers to assess their progress in reducing carbon footprints and facilitate the certification of low-carbon farming practices. The MRV framework will also support the introduction of a results-based reward mechanism, allowing for the establishment of contracts between farmers, project developers, and carbon buyers, thereby enabling farms to generate revenue through carbon credits.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Farm Advisors - Research institutions		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Result-based		

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Type of on-farm action: What is the recipient obliged to deliver in return?	- The farm undergoes visits by an accredited advisor at the start and end of the project, using standardised environmental and carbon diagnostic tools. - The farmer and farm advisors jointly develop a tailored action plan together. The farmer has 5 years to implement it, during which two technical visits will be financed. - After six years, a third-party audit certifies the carbon footprint reductions. These certified reductions enable the carbon credits validation.
Governance: Who manages the programme, provides the reward, and where does the money come from?	The LIFE programme
References:	- LIFE Carbon Farming. (2024). *The project LIFE Carbon Farming.* Retrieved from https://life-carbon-farming.eu/life-carbon-farming/ - European Commission. (2025). *Development and implementation of a result-based funding mechanism for carbon farming in EU mixed crop livestock systems.* Retrieved from https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE20-CCM-FR-001663/development-and-implementation-of-a-result-based-funding-mechanism-for-carbon-farming-in-eu-mixed-crop-livestock-systems

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Example Research and Development (R&D): Climate Farm Demo

Tier 1	Monetary	Supportive	Regulatory
Tier 2	Research and Development (R&D)		
Tier 3			
Example	**Climate Farm Demo**		
Summary	Climate Farm Demo (CFD) is a unique pan-European network of Pilot Demo Farmers (PDFs) covering 28 countries and all pedo-climatic areas, allowing different practices to be tested in diverse contexts. Its goal is to accelerate the uptake of climate-smart farming practices and support the transition towards a carbon-neutral agricultural sector by 2050. The project connects 1,500 PDFs and their Climate Farm Advisors (CFAs) at European and national levels through demonstration events and peer-to-peer learning. Farmers can observe practical solutions, exchange ideas and experiences, and receive advisory support for implementing adaptation and mitigation measures. CFD also includes 10 living labs across Europe, where technical and social innovations will be tested through six annual demonstration campaigns, resulting in approximately 4,500 events with the participation of farmers, advisors, and researchers. This project helps to close the gap between research and practice by focusing on solutions that work on real farms. By monitoring outcomes, identifying farmers' needs, recognising effective incentives and rewarding mechanisms, and demonstrating feasible agricultural practices, CFD can help to inform policymakers and contribute to the development of improved agricultural policy at the EU level.		
Type of climate action	**Carbon removal**	**Emission reduction**	**Climate adaptation**
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farmers - Farm Advisors - Research institutions		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Action based		

REWARDING MECHANISM: RESEARCH AND DEVELOPMENT (R&D)

Type of on-farm action: What is the recipient obliged to deliver in return?	- Farmers should be open to participate or host Demonstration events. - Farmers are expected to implement climate-smart farming practices on their farms. - Farmers should collaborate closely with the farm advisors to design, implement and monitor a tailored "adaptation and mitigation plan" using specific tools to monitor the farm´s progress.
Governance: Who manages the programme, provides the reward, and where does the money come from?	Horizon Europe
References:	- EIP-AGRI. (2022). *Horizon Europe: Creating knowledge to boost agricultural innovation.* Retrieved from https://ec.europa.eu/eip/agriculture/en/horizon-europe-creating-knowledge-boost.html - European Commission. (2024). *Horizon Europe.* Retrieved from https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en - European Commission. (2024). *Horizon Europe – How to apply.* Retrieved from https://rea.ec.europa.eu/horizon-europe-how-apply_en

REWARDING MECHANISM: ENABLING POLICIES (CARBON FARMING POLICIES?)

Enabling policies

Policies, strategies, and regulations designed to promote synergies between climate change mitigation and environmental protection within the framework of carbon farming. They also aim to enhance governance and transparency by aligning with international standards. Enabling policies can play a crucial role in supporting or facilitating rewarding mechanisms, helping to establish or strengthen payment systems that incentivize farmers for delivering climate and environmental benefits.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: ENABLING POLICIES (CARBON FARMING POLICIES?)

Tier 1	Regulatory/ Policies
Tier 2	**Enabling policies**
Tier 3	
Description	Policies, strategies, and regulations are designed to establish frameworks that promote the adoption of sustainable agricultural practices and/or support rewarding mechanisms linked to those practices. By facilitating the transition to more sustainable farming methods, these measures help enable the implementation of carbon farming techniques, improve farmers' access to carbon markets, and support compliance with sustainability benchmarks increasingly expected by consumers. They can also help generate or facilitate financial compensation for farmers. However, enabling policies alone are not sufficient to ensure that farmers receive payments; additional mechanisms and implementation support are often required.
References	- ClimateTrade. (2023). *Regulation grows to support carbon farming.* Retrieved from https://climatetrade.com/regulation-grows-to-support-carbon-farming/ - European Commission. (2023). *Land use sector.* Retrieved from https://climate.ec.europa.eu/eu-action/land-use-sector_en - van Aaken, A., & Simsek, B. (2021). *Rewarding in international law. American Journal of International Law*, Cambridge University Press. https://doi.org/10.1017/ajil.2021.2

Advantages	**Disadvantages**
Establishes a legal and institutional environment that makes it easier for farmers to shift toward sustainable and climate-smart farming practices (Climate Trade, 2023).	Well-designed policies can fail if not properly enforced or if local institutions lack capacity (Raina, N., et al., 2024).
Stable and predictable policy environments attract investment from businesses and financial institutions into climate-smart initiatives (Raina, N., et al., 2024).	Shifts in political leadership or priorities can lead to uncertainty or rollback of climate-smart policies (Eichhorn J. & Grabbe H., 2025).
	Navigating regulations or accessing benefits can be complex and time-consuming for farmers.
	Policies developed without farmer input risk being poorly oriented or perceived as imposed, which reduces stakeholder acceptance (Frelih-Larsen, A., et al., 2023).

REWARDING MECHANISM: ENABLING POLICIES (CARBON FARMING POLICIES?)

Example Enabling policies: EU Carbon Removals and Carbon Farming Certification (CRCF)

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Enabling policies**		
Tier 3			
Example	EU Carbon Removals and Carbon Farming Certification (CRCF)		
Summary	**The Carbon Removal Certification Framework (CRCF)** establishes a voluntary system for certifying carbon removals and carbon farming activities across Europe. Its goal is to scale up high-quality carbon removals by standardizing practices, setting clear quality criteria, and streamlining the certification process. The framework is built around four key certification principles: quantification, additionality, permanence, and sustainability. By certifying carbon credits eligible for trade on carbon markets, the CRCF helps create financial incentives for farmers and land managers who adopt carbon farming practices. It also promotes sustainable farming technologies and encourages investment in innovative approaches, aligning agricultural activity with the EU's broader climate goals. To ensure transparency and credibility, the CRCF requires third-party verification and mandates the inclusion of certification-related data in an EU-wide registry.		
Type of climate action	**Carbon removal**	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in the agricultural sector?)	- Farm advisors - Farmers - Land users		
Source of rewarding mechanism: Who provides the rewarding mechanism?	**Public**	Private	Public-Private
Rewarding method: What is the reward based on?	Result based		

REWARDING MECHANISM: ENABLING POLICIES (CARBON FARMING POLICIES?)

Type of on-farm action:
What is the recipient obliged to deliver in return?
	- Farmers must implement a range of eligible, verifiable, and sustainable carbon removal practices in line with the core principles of the CRCF.
	- Apply Monitoring, Reporting, and Verification (MRV) actions
	  - Collect baseline data,
	  - Maintain records of implemented practices
	  - Undergo Third-party verification processes.
	- Comply with the Do No Significant Harm (DNSH) principle.
	  - Avoid the negative impact of farming activities on biodiversity, water, or soil health.

Recipient requirements: What requirements must the recipient meet to receive finance?	- Participate in the CRCF - Voluntary participation - Not defined yet
Timing of rewarding: When is the reward received?	ex post
Governance: Who manages the programme, provides the reward, and where does the money come from?	- The European Commission's DG CLIMA - Reward comes from buyer of CRCF-approved credit (not yet determined)
References:	- European Commission. (2024). *Carbon removals and carbon farming*. Retrieved from https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en - European Commission. (2022). *Proposal for a Regulation of the European Parliament and of the Council establishing a Union certification framework for carbon removals* (SEC(2022) 423 final; SWD(2022) 377 final; SWD(2022) 378 final).

REWARDING MECHANISM: PUBLIC PROCUREMENT

Public procurement

Public procurement is a policy tool that promotes sustainable agriculture by creating consistent demand for products produced through carbon farming practices. This approach incentivizes the adoption of climate-smart agricultural methods, ensures stable and reliable income for farmers, and supports broader climate and environmental objectives.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: PUBLIC PROCUREMENT

Tier 1	Regulatory/ Policies
Tier 2	**Public procurement**
Tier 3	
Description	**Public procurement** is a policy tool that can promote specific farming approaches—such as organic farming or carbon farming—by requiring public institutions (e.g. government agencies and state-owned enterprises) to purchase products from farms using these practices. By shaping consumption patterns, public procurement increases demand for agricultural goods produced in line with climate-smart practices. This stable demand creates income opportunities for farmers and serves as a market-based incentive to adopt carbon farming methods. In doing so, public procurement supports the transition to more sustainable farming systems and contributes to broader climate mitigation and environmental goals.
References	- Lindström, H., Lundberg, S., & Marklund, P. (2020). *How green public procurement can drive conversion of farmland: An empirical analysis of an organic food policy. Ecological Economics.* https://doi.org/10.1016/j.ecolecon.2020.106622 - European Commission. (2008). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Public procurement for a better environment* (COM/2008/0400 final). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0400 - Defranceschi, P., & D'Addario, F. (2024). *Public food procurement as a powerful tool to boost territorial food systems* (Policy Brief). ICLEI Europe. Retrieved from https://www.oneplanetnetwork.org/knowledge-centre/resources/public-food-procurement-powerful-tool-boost-territorial-food-systems - Sustainable Public Meal Toolkit (StratKIT+). (2025). *Public procurement.* Retrieved from https://www.sustainable-public-meal.eu/en/public-procurement/

REWARDING MECHANISM: PUBLIC PROCUREMENT

Example Public Procurement: Buy Better Food

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Public Procurement**		
Tier 3			
Example	Buy Better Food Campaign		
Summary	The **Buy Better Food** campaign is a coalition of European non-profit organizations, local and regional government networks, and civil society groups advocating for the inclusion of sustainable, nutritious, and ethically sourced food in public procurement processes. The campaign aims to transform public food procurement across Europe to enhance environmental sustainability, public health, and worker welfare, while ensuring access to healthy food in institutions such as schools, hospitals, and nursing homes. It proposes seven minimum standards for public canteens throughout the EU, aligned with the EU Farm to Fork Strategy and the UN Sustainable Development Goals (SDGs). The campaign also calls for increased public funding to support sustainable food systems and fair compensation for producers, along with simplified procurement procedures to strengthen local supply chains and advance fair, healthy, and sustainable food systems.		
Type of climate action	Carbon removal	**Emission reduction**	Climate adaptation
Appropriate for: Who can benefit from this type of rewarding mechanism (in agricultural sector?)	- Farmers - Land Users - Farm advisors - Landowners - Value chain actors		
Source of rewarding mechanism: Who provides the rewarding mechanism?	Public	Private	**Public-Private**
Rewarding method: What is the reward based on?	Result based		
Type of on-farm action: What is the recipient obliged to deliver in return?	Adoption of organic farming practices		

REWARDING MECHANISM: PUBLIC PROCUREMENT

Recipient requirements: What requirements must the recipient meet to receive finance?	Join the Buy Better Food campaign by completing an on-line survey
Timing of rewarding: When is the reward received?	ex post
Governance: Who manages the programme, provides the reward, and where does the money come from?	- Funded by: Healthy Food Healthy Planet and European Climate Foundation - Led by: Local Governments for Sustainability Europe (ICLEI)
References:	- Buy Better Food. (2024). *The Buy Better Food campaign for sustainable food on the public plate.* Retrieved from https://buybetterfood.eu/ - ICLEI. (2022). *Manifesto for establishing minimum standards for public canteens across the EU.* Retrieved from https://iclei-europe.org/publications-tools/?c=search&uid=AXvXw6K2 - HFHP. (2022). *Buy Better Food: Campaign for sustainable food on the public plate.* Retrieved from https://www.hfhp.eu/funded-members/iclei-european-secretariat

Advantages	Disadvantages
Provides a reliable revenue stream, reducing dependency on volatile private markets (Andhov, M., et al., 2024).	Creates participation barriers for farmers due to scale, administrative complexity, and demanding procurement requirements.
Frequently includes local sourcing criteria, offering advantages to regional and small-scale farms.	Policy or funding changes may affect the continuity or level of payments available to farmers.

REWARDING MECHANISM: BLENDED FINANCE

Blended Finance

Blended finance is a financing approach that combines public, philanthropic, and private capital to mobilise additional private investment in activities with environmental or social benefits. In the agricultural sector, it combines public and market-based approaches, enabling transactions and investments that benefit farmers but are often avoided by private investors due to the high perceived risk.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them.

REWARDING MECHANISM: BLENDED FINANCE

Tier 1	Monetary
Tier 2	**Blended finance**
Tier 3	
Description	Blended finance refers to the use of multiple types of capital, typically provided by development finance institutions, state-owned banks, philanthropic organisations, or impact investors, to mobilise additional private investment in activities with environmental or social benefits (Convergence, 2024). In agriculture, the transition to climate-friendly practices often requires substantial upfront costs and faces uncertain returns. These risks discourage private investors from engaging independently. Blended finance addresses this challenge by de-risking investments, reducing the likelihood or severity of potential losses, and therefore making projects that would otherwise appear too risky more feasible. By temporarily lowering risks, blended finance enables transactions and investments that would not have occurred under conventional market conditions (Vanzini et al., 2024). It is increasingly seen as an important tool to attract large amounts of private capital under favourable conditions, speed up investment in sustainable agriculture, and show that climate-friendly farming practices can be commercially successful (Wedl, I. and Kam, H., 2025).
References	- Convergence. (2024). Blended Finance. Convergence blending global Finance. https://www.convergence.finance/blended-finance - Habbel, V., et al. (2021). Evaluating blended finance instruments and mechanisms: Approaches and methods. OECD Development. https://doi.org/10.1787/f1574c10-en - Vanzini M., et al. (2024). Incentivising the transition to soil-health, regenerative farming practices. Leveraging Blended Finance for effective incentives design. Discussion Paper. SoilValues. https://doi.org/10.5281/zenodo.13771540 - Wedl, I. and Kam, H. (2025). Leveraging private finance for the transition to sustainable agriculture. Institute for European Environmental Policy (EIIP), Brussels. https://ieep.eu/publications/leveraging-private-finance-for-the-transition-to-sustainable-agriculture/

Advantages	**Disadvantages**
Bridges the gap between grant-based models and market-based products by integrating different actors, risk-return profiles, and expertise, thereby supporting farmers in advancing towards sustainable and commercially viable climate-friendly farming practices (Vanzini et al., 2024).	Limited application of blended finance at the EU level to date, with relatively few practical cases implemented (Wedl, I. and Kam, H., 2025).
Can attract additional investment from private actors who would otherwise avoid agriculture due to perceived risks (Convergence, 2024).	Involves complex design and governance arrangements, requiring coordination between multiple actors, which can increase transaction costs and delay implementation (Habbel, V., et al., 2021).

REWARDING MECHANISM: BLENDED FINANCE

Example Blended Finance

Tier 1	Monetary	Supportive	Regulatory
Tier 2	**Blended Finance**		
Tier 3			
Example	Currently, blended finance approaches that target climate-friendly agricultural practices at EU level remains limited, yet they are gaining attention as a key element to support European agriculture.		

Annex IV: CFD workshops and presentations

- **Meetings where the rewarding mechanisms categorisation was presented**

Meeting	Date	Meeting title
1st CFD Annual meeting	12.10.2023	CFD session #4: Rewarding mechanisms: definition, needs and challenges
Knowledge Exchange Session	06.11.2024	"Introduction to Rewarding Mechanisms and the EU Carbon Removal Certification Framework (EU CRCF)"
Midterm meeting 2024	05.06.2024	Workshop #4 - Rewarding mechanisms and carbon farming - CFAs/NCs needs & questions
2nd CFD Annual meeting 2024	23.10.2024	CFD Side session #10 - AMMs and rewards – what are the needs?
Knowledge Exchange Session	21.02.2025	What future rewarding mechanisms do organic farmers need to reward them for their climate action?

Funded by
the European Union

This project has received funding from the Horizon Europe research and innovation programme under Grant Agreement No 101060212.