Guidelines for a harmonised MRV framework

D.5.3./December 2025

Author(s):
Anaïs L'HÔTE, Idele
Léonard JARRIGE, Idele

Funded by the European Union

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

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	**Harmonized MRV framework and guidelines**
Deliverable Submission Date	**31.12.2025**
Status	**Final**
Dissemination Level	**PU – Public**
Deliverable Lead	**Idele**
Authors	**Anaïs L'HÔTE (Idele)**
Contact	**anais.lhote@idele.fr**
Work Package	**WP5**
Keywords	**MRV, certification, CRCF**

Disclaimer

List of Abbreviations

CFD	Climate Farm Demo
CRCF	Carbon Removals and Carbon Farming Regulation
CSA	ClimateSmartAdvisors
CSR	Corporate Social Responsibility
MRV	Monitoring, Reporting and Verification
NC	National Coordinator
PDF	Pilot Demo Farm
WP	Work Package

Table of Contents

Abstract

The Climate Farm Demo (CFD) project developed guidelines for a harmonised Monitoring, Reporting and Verification (MRV) framework in alignment with the EU Carbon Removals and Carbon Farming (CRCF) Regulation. Instead of creating a parallel certification system, the project provides recommendations to the European Commission, focusing on ensuring methodological coherence, transparency, and farmer engagement.

An MRV framework establishes baselines, monitoring methods, quantification of emissions reductions and carbon sequestration, and verification procedures to guarantee data quality. It also underpins access to rewarding mechanisms by ensuring credibility. Given the EU's certification framework, expected to issue its first units in 2026, CFD prioritises complementarity over duplication.

During the European Carbon Farming Summit (March 2025) and subsequent consultations, CFD issued key recommendations. First, carbon footprint assessment tools should reflect national and pedoclimatic contexts. The recommendation is to allow multiple robust tools, rather than imposing a single EU-wide model. Second, access to knowledge must be improved through a permanent, open-access repository of practices, tools, and methods – exemplified by the Farming for Climate platform – which requires sustained funding and continuous updates. Third, data collection must be simplified to reduce farmers' administrative burden and improve transparency on how data are used by processors, cooperatives, or certification bodies. Fourth, social and economic risks borne by farmers must be considered, as practice adoption depends on skills, workload, and potential losses, not solely cost-efficiency.

Finally, CFD highlights the need to extend CRCF to livestock emissions, since over half of farms participating in CFD are livestock-based. Recommendations include adopting farm-scale systemic accounting (including upstream emissions), using both absolute and intensity-based metrics, maintaining flexibility in eligible practices, and recognising co-benefits without excluding methane-reduction options. This integrated approach would enhance credibility, farmer engagement, and environmental integrity while avoiding carbon leakage or unintended trade-offs.

1. Introduction

Since the beginning of the project, WP5 has endeavoured to follow the European regulation on certifying carbon storage and emissions reductions from the agricultural sector.

When it came to the building of a harmonised MRV framework, it seemed important for us to rely on the existing resources, and especially the work carried out by the European Commission to develop CRCF regulation. For this reason, the goal of this task has been changed to provide recommendations on CRCF instead of designing another European certification framework from scratch. This document presents recommendations shared during the European Carbon Farming Summit that took place in Dublin in March 2025, and recommendations discussed in the frame of a focus group organised on 4th July 2025 by the European Commission on the extension of CRCF scope to livestock emissions.

2. What is a Monitoring, Reporting and Verification framework?

Applying low carbon practices on farms is essential to reach EU's climate goals. However, it is crucial to establish robust measurements and processes to guarantee the quality of the emissions reductions and carbon sequestration claimed by the farmers.

Defining a MRV framework (Monitoring, Reporting and Verification) enables to set the basis of this assessment. Indeed, such a framework defines:

- The baseline scenario that can be used by the farmers as a starting point to evaluate the progress they made by implementing good practices.
- The monitoring method to follow the farmers and ensure the success of their carbon farming projects.
- The method to quantify emissions reductions and carbon sequestration achieved by the farmers, based on carbon audit tools assessing carbon footprints of farms.
- The verification process to control the tons of CO2eq avoided by the farmers, by ensuring the quality and the integrity of data collection.

Additionally, an MRV framework is an entry point to access rewarding mechanisms, such as the voluntary carbon market. Indeed, a robust MRV framework ensures the trust of potential funders.

3. The European context and the need to align with EU framework

In 2022, the European Union presented the project of building a certification framework common to all EU countries, to assess carbon absorptions from products, biochars and agriculture and forestry sectors. After the trilogue with the Parliament and the Council, this framework was extended to the soils emissions reductions. The objective of the EU is to have first units certified in 2026.

What we see is that this task planned in Climate Farm Demo comes on top of the initiative from the European Commission. Today, proposing a MRV process common to all CFD countries (i.e. all the

European Union + one Associated Country + the UK and Switzerland) would be like doing the job twice regarding the European framework under construction. Therefore, we propose to analyse and provide recommendations on the official framework and the first methods developed by the European Commission, instead of building a framework on our side and rely on it once published.

At the moment, we have a demand from the field (coming from the *Climate Farm Advisors* and the *Pilot Demo Farmers*) to assess the GHG reductions of the farms. Knowing the method used by the Commission seems more adequate than building a quantification method not necessarily recognized by the Commission (for example, because the scope or units used are different). Indeed, the wish of the farmers is to benefit from rewarding mechanisms, but this could be compromised if the MRV process followed by the farmers is not compliant with the one proposed by the European Commission.

The first methods have been written and should be published in delegated acts by the end of 2025.
In the meantime, the European Commission is assessing the possibility of extending the agricultural method to livestock emissions.

With the proliferation of certification standards and quality labels, it is really important to follow a common European standard that will be widely recognized.

4. First recommendations submitted during the European Carbon Farming Summit of March 2025

Our work focused on closely following the development on CRCF and providing feedback to the European Commission on the regulation itself, the methods developed, and the future developments considered.
We had the opportunity to present this feedback during the last European Carbon Farming Summit in March 2025 organised in the frame of CREDIBLE project.

4.1. Assessing carbon footprints thanks to different tools adapted to national contexts

There are many existing tools across Europe to assess GHG emissions and carbon storage on farms. These tools are adapted to national contexts and have been used by advisors for many years.

Climate Farm Demo offers a unique opportunity to evaluate the use of this variety of tools in the field, in different national and pedoclimatic contexts. Indeed, carbon audits on Pilot Demo Farms are carried out with 22 different tools. Discussions with tools' owners, National Coordinators and Climate Farm Advisors enabled to identify several situations:

- Tools specific to a country, even to a production system (i.e. Agrosfär in Sweden or GES&VIT in France for wine production)
- Tools initially adapted to a country and that have been updated to include other national contexts (i.e. CAP'2ER now includes Italian and Spanish versions with specific parameters).
- Tools adapted to a country and that are used in other countries without necessarily changing the parameters (i.e. Farm Carbon Calculator).
- Tools developed for a global use (Cool Farm Tool).

What we see with the first audits done in Climate Farm Demo, is that the adaptation to a specific pedoclimatic context ensures a higher quality of the audits. It should be mentioned that tools that are meant for a global use, and especially a wide range of production systems, need to remove consistency checks to facilitate data input, which might lower the robustness of the data collected.

Our recommendation is that it is really important to base the CRCF regulation on the use of different tools depending on the context. Carbon farming projects must be based on robust tools, on one hand to assess carbon footprints, and on the other hand to evaluate the potential credits generated under different transition scenarios that can actually be implemented by farmers.
Therefore, there should be several carbon audit (robust) tools proposed to carry out carbon audits on farms, and not one unique tool for all Europe. Indeed, many advisors have already used tools, adapted to the local contexts.
MRV support tools are essential for implementing carbon farming projects, assessing the potential credits and also to evaluate possible different scenarios and then select the “best” one. There is a need for user friendly tools to help in comparison and choice.

We recommend to have a list of models pre-validated by the European Commission, and then tools’ owners can work on developing or updating tools corresponding to these models.
The quantitative comparison of carbon audit tools carried out in Climate Farm Demo highlighted the differences obtained when running the same data in different tools (D5.2). This comparison revealed that, in some cases, substantial discrepancies exist between tools, even when the same input data are used through a shared data sheet and despite a certain degree of model harmonization based on international GHG accounting standards (e.g. IPCC). As a result, benchmarking and comparisons of farm-level GHG performance based on assessments conducted with multiple tools should be approached with caution.

One explanation for these differences is that, although standards exist to guide the implementation of emission assessments, comprehensive and detailed guidance is not available for all agricultural sectors. For instance, the dairy sector benefits from a standard established by the IDF, whereas comparable guidelines are lacking for other sectors. Moreover, even when detailed standards are in place, they still allow calculator developers to adapt their methodologies, such as by choosing the trade-off between the level of detail required from users and the precision of the outputs generated. While more prescriptive methodological requirements could improve consistency across calculators, they would also limit the ability of developers to innovate and design tools tailored to their own approaches.

4.2. Ensuring access to knowledge for farmers and advisors

a. Farming for Climate Platform

There is already a lot of information available on different carbon farming practices and carbon assessment tools, but this information is scattered across different projects and platforms in Europe. It is difficult to find a full, clear, and up-to-date knowledge repository.

Therefore, it is important to develop a permanent and dynamic repository of trusted information on Carbon Farming practices, advisory tools and climate and carbon assessment tools consolidated across all European projects. This is the objective of the Farming for Climate platform developed by the project ClimateSmartAdvisors in partnership with CFD, ClieNFarms and OrganicClimateNet.
This platform aims to be:

- A response to multiple EU agricultural projects providing knowledge on climate change, mitigation, and adaptation.
- An open-access platform for field stakeholders: farmers, advisors, technicians, etc.
- A platform offering resources on Carbon Farming

- A regularly updated platform, allowing users to contribute by proposing new or improved tools, practices, and methods.

Nevertheless, developing this platform is only the beginning, as the most important is to maintain it, update it and manage it after the end of the aforementioned projects.
To that extent, each new project dealing with this topic should be informed of the existence of this platform and should feed its insights and results to the common repository, preventing duplication of efforts and fostering knowledge exchange. Moreover, maintaining such a repository and keeping it up to date requires a permanent funding for the people working on it after the different projects end.

b. Promoting peer-to-peer learning with demo events

The Climate Farm Demo project aims at organising demo events to disseminate climate smart farming practices among a huge community of 150,000 farmers.
To that extent, demo events organised on farms are a perfect place for farmers to gain knowledge on climate change, its mitigation and how to adapt to it.
Accent must be put on peer-to-peer learning as a way to foster a change of practices, instead of bottom-up approach only.

4.3. Simplification and transparency of data collection on farms

The first step in the MRV process relies on the reporting, and especially data collection on farms.
This data collection should answer two requirements expressed by the farmers: simplification and transparency.

Farmers already have a lot of data to upload to different accounting or regulatory systems in order to get EU funds or other certificates.
Simplifying systems to lighten the administrative burden for farmers is essential to make sure they will be willing to commit. The CRCF could help harmonizing and simplifying these processes, for example by using data already collected for the CAP subsidies. If the administrative burden is too heavy (or as heavy as for regulatory requirements), it will prevent farmers from engaging in voluntary projects. For instance, a proliferation of eligibility criteria, related to a multitude of supporting documents requested, can put a curb on farmers' participation.

As for the transparency, many companies like processors or cooperatives, ask more and more data concerning the carbon footprint of farms or good practices implemented. These data requested can feed CSR reports or be used in rewarding mechanisms specific to a type of product (premium on the price to be paid to the farmer).
However sometimes, no information is provided on why this data is requested and how it will be used.
An example was raised during the 2025 Carbon Summit by a farmer on a premium sector for rapeseed production: data used to be requested for the year of production, but now, data are also requested for the year before, with no explanation on this change.
Therefore, we recommend providing more transparency on the use of the data. This may help empowering farmers and create more trust.

4.4. Considering the transition cost when building an action plan

When assessing the impact of carbon farming projects on farms, not only should we consider the direct economic impact for the farmers (including investment), but more widely all the transition costs.

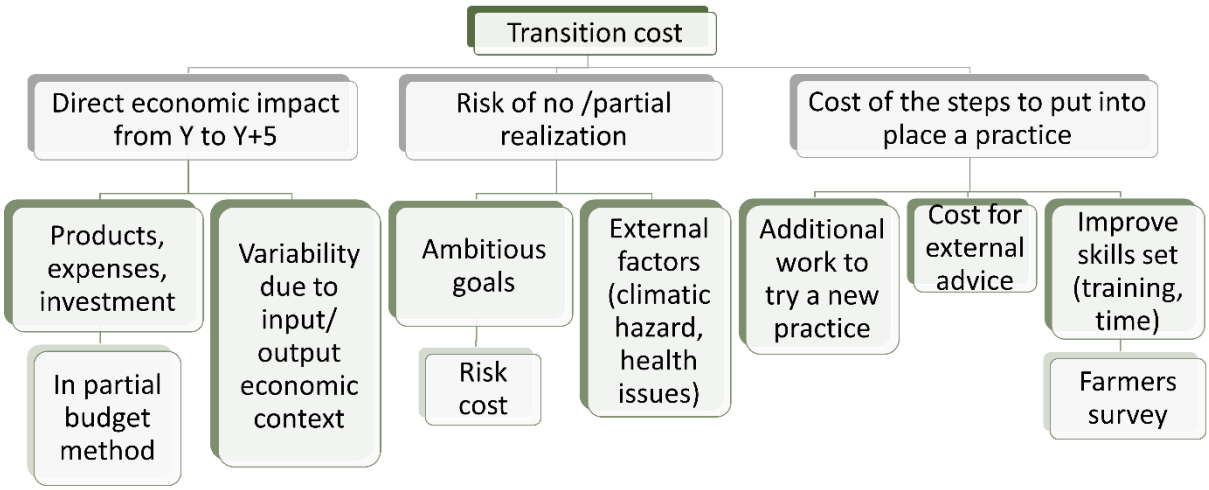

Figure 1: Detail of transition costs considered in the assessment of implementation costs (Diagram taken from research conducted by Idele and presented at EAAP 2025 – see sessions here)

Indeed, some practices that are cost-saving and that do not require an initial investment are not implemented on farms. Several reasons explain this situation.

First of all, it can be a matter of skills, that is to say, the farmer needs an initial training to put in place the practice. Then, it can be because of the workload required to implement the practice. Considering the social aspects is crucial when building a carbon action plan with farmers, and work time is one of the indicators to be taken into account. Finally, when assessing the economic impact of an action plan, it is important to consider the risk taken by the farmers. Should a practice fail (such as reducing the age at first calving), it can have a huge impact on the economic results of the farm.

For this reason, we recommend that, regarding the additionality aspect of the CRCF, it should not be restrained to an economic evaluation. Even if a carbon farming project is cost-efficient, it will not necessarily be implemented. There are potentially heavy initial investments, but also a risk taken by the farmers and that should be taken into account.

5. Extending CRCF scope to livestock emissions – Recommendations for a pilot method

Two thirds of the farms involved in CFD are livestock farms. With the current CRCF scope, most of the efforts carried out by these farmers could not be rewarded. Still, the potential for improvement is higher than on crops or arboriculture farms.
Furthermore, considering all the production system and the relations between the different production units is important to build a carbon action plan making sense on farm's scale.

Following initial discussions by the European Commission on a possible extension of the scope, here are several recommendations and comments based on the experience of CFD partners.

5.1. Activities considered in this pilot methodology

a. Animals categories

We recommend including in the framework of the CRCF livestock methodology the following animal categories: ruminants (including sheep) and housed livestock, including pigs and poultry.

Ruminants are the most-emitting animal categories because of enteric fermentation. However even if they are less emitting, it is important to reduce emissions from housed animals farms, especially as these production systems also rely on the import of feed, causing deforestation.
Furthermore, if the consumption of beef meat has decreased from 2000 to 2015, it is not the case for poultry meat. For instance, in France, consumption of poultry meat has overtaken beef meat since 2013 (INRAE, 2024). This shift in meat consumption has to be taken into account when thinking about the animal categories to consider.

Today, references are available for ruminants and housed animals. Practices to reduce GHG emissions of these production units are identified with scientific publications to back them up.
Moreover, carbon audit tools are available for farms including these kinds of animals.
This is not the case for animals with lower headcounts (such as rabbits or deer). These animals represent a marginal part of meat consumption; effort should be focused on the development of a relevant method for the main animal categories.

b. Eligible activities

It is important to have an open list of solutions available for the farmers engaging in carbon farming. This ensures the commitment of a diversity of production systems across Europe.

To guarantee the integrity of the implemented activities, a requirements specification should be set to assess them and define if they are allowed or not in the frame of CRCF. This specification would include the scientific robustness of the activity (and the scientific evidence of its impact, based on literature review), its emissions reduction potential and global impacts of the activity on animal welfare and the environment. To that extent, the library of adaptation and mitigation measures designed in the frame of ClieNFarms, Climate Farm Demo, ClimateSmartAdvisors and ClimateSmartResearch would certainly be a reliable basis to build on it. This library covers all the agricultural sectors and by the end of the Climate Farm Demo project will include a set of practices with:

- Their impact on emissions and carbon storage
- If a practice is suitable for organic farming
- The indicator to follow to assess their implementation
- Their reliability regarding scientific evidence
- A qualitative assessment of their costs
- Time horizon of implementation
- Potential risk factors / trade-offs
- Associated co-benefits.

Regarding the activities for which emission factors are not available from IPCC, they should not be included. But, it will be necessary to mention what the proposal covers, that is to say, to indicate the weight of the activities not considered for this reason. It is required for one of the technical quality criteria of inventories. e.g.: (i) all practices are considered, (ii) only significant practices are taken into account, (iii) only a few majority practices are taken into account, etc.

c. Verification of practices

Not all practices are easily verifiable on farm. For certain practices there is a high uncertainty on data quality. It is important to require a level of data quality depending on the impact of the practice. This means requiring a high level of data quality for activities impacting a lot farms' emissions, and on the contrary, allowing more uncertainty for activities with minor impact on emissions.

Among the data whose quality and level of uncertainty should be reduced as a priority relate to diet composition, which is used to estimate enteric methane emissions and nitrogen excretion. In any case, it is important to maintain a reasonable balance between data quality, robust verification and the complexity and time spent to verify the practices.

In the frame of Label Bas Carbone, the first collective project including livestock farms is being audited. The verification of the practices relies on the following documents/tools: invoices, health book, data from milk control, tools for herd or crops management carbon audit tools, fodder analysis, fertilization plan, CAP documents, spreading books and pictures.

5.2. Quantification

a. Methodological tier to be prescribed

Flexibility should be allowed concerning the methodological tier. The objective being to define the used tier depending on the precision and quality of input data. These adjustments must be made according to uncertainty of data. Indeed, it might sometimes be difficult to reach Tier 3 as less detailed information are available for some activities.

Regarding the practices, and for instance in relation to soil, it seems relevant to target Tier 2, even Tier 3. Tier 2 enables to get data specific to the countries, and even to the system, whereas Tier 1 is not enough precise to be sensitive to practices implemented to improve soil management.
Therefore, a balance must be found between scientific robustness, time and cost required to collect data and the impact it will have on the final results.

b. Use of generic data for emissions calculations

Using generic data enables to reduce the amount of measured data included in the emissions calculations. Such data should be permitted for: standard liveweight data for livestock, average annual temperature, nitrogen excretion data and animal intake.
Regarding standard liveweight data for livestock, there are two situations:

- Liveweight used to define animals' ingestion can be standard data.
- Liveweight should be specific for animals intended for slaughterhouses, as there is a high impact on the results.

The average annual temperature can come from national or regional records. It is not realistic to collect this data on farms. The same way, it is too difficult to measure nitrogen excretion on farms. However,

instead of using IPCC default values we recommend calculating this data with carbon audit tools based on specific farm's data.
Finally, another data for which generic data should be permitted is the animal's intake.

c. Reporting units

It is important to propose different types of units (emissions per hectare and emissions per kilogram of output) to be adapted according to the context of each country and its national and sector objectives. Nevertheless, the choice of the functional unit must be justified to ensure that the evolution of the product's carbon footprint at the national level is effectively decreasing.

Monitoring absolute on-farm emissions or emissions per hectare, could be relevant to avoid the increase in absolute value on national scale, when animal populations are increasing on national scale. However, we must be very careful regarding:

- Structural changes occurring on farms, especially as the current trend is the increase of farms' size, one of the reason being generational renewal in agriculture (Eurostat, 2022). This kind of evolution would necessarily lead to an increase in absolute emissions, even if emissions per hectare and emissions per kilogram of outputs do not increase.
- The risk of leakage. Indeed, the reduction of livestock farms induces emissions reductions but conflicts with food sovereignty, and can lead to increased imports of meat to cover domestic consumption. Depending on its origin, this non-EU meat production might cause higher emissions, caused by deforestation, among others.

At the farm level, monitoring absolute emissions alone would disqualify farms that are effectively implementing mitigation measures that reduce the carbon footprint of their production, but whose structural changes may lead to absolute increases in emissions at the farm scale (for example increases of livestock or cultivated surface). In such cases, an ex post re-evaluation of the baseline scenario, assessed at an equivalent herd size, could be an appropriate solution.

d. Selection of models or software tools for estimating GHG emissions or GHG emissions reductions

The European Commission should define a list of pre-validated models. Indeed, for Europe, in LCA, there are recommendations for assessing GHGs and PEF-compliant databases. This also allows for harmonisation of processes. Otherwise, comparisons or results could vary based on this single variable component of model selection.

However, it will be very important to:

- clearly define rules to validate the models and to update them
- regularly update this list of models, ensuring the inclusion of new models in this list and the evolution of methods and tools.

e. Boundaries of certification

A holistic, farm-scale approach better aligns with farmers' objectives and will therefore be more effective. In particular, mitigation levers that are highly relevant across agroecological challenges (such as improving system self-sufficiency and optimizing nitrogen - carbon cycles) are largely based on stronger complementarities between crop and animal productions. These levers can only be implemented when reasoning at the farm scale. Consequently, it seems relevant to extend the

boundaries of certification to the farm level, to account for all upstream flows and interactions between farm productions.

Therefore, it is crucial to include upstream emissions in the boundaries of certification, and especially feed production, feed transport, purchased animals, fertilisers and pesticides manufacturing and bedding material production.

Indeed, not including these sources of emissions would disadvantage farmers increasing their self-sufficiency for the benefit of farmers purchasing feed outside their farms. According to the factsheets produced by the French livestock Institute describing the average carbon results for dairy and beef farms in France (Idele, 2025), we see that upstream emissions represent 17% of gross emissions on an average French dairy farm, and up to 20% in French farms fattening young cattle.

For this reason, we think the best solution is to accept the uncertainty and include a requirement to assess these emissions, instead of not including them at all.

5.3. Sustainability and cobenefits

The CRCF Regulation mandates that carbon farming activities should generate co-benefits for biodiversity and ecosystems protection and restoration. However, adhering to this principle would be challenging for many activities that reduce livestock emissions, as they do not always result in a biodiversity co-benefit, but have other co-benefits.

We recommend requiring another co-benefit for climate mitigation activities related to livestock farming, instead of the one on biodiversity. It is important to consider as mandatory the monitoring of a global range of co-benefits, and to select one of them to be improved on the same rules as biodiversity.

The co-benefits we propose to consider are:

- Adaptation to climate change, in relation with soil fertility, farming resilience, food sovereignty
- Sustainable use and protection of water and marine resources: this can be evaluated based on the nitrogen balance on the farm and the share of nitrogen going to the water.
- Animal health: to be assessed on a global scale (and not for each practice implemented). This can be monitored with one of the following indicators: mortality rate, use of medicine, vaccination, somatic cells count.
- Animal welfare: to be assessed on a global scale (and not for each practice implemented). This can be monitored with one of the indicators listed above, or: technics to reduce animals stress, use of fans, etc.

As for the other co-benefits proposed, it is indeed important to consider them as well. However, it seems much more difficult to find indicators that are easily evaluated on farms without increasing the time spent collecting data on farms.

In addition to this comment, we recommend considering making co-benefits mandatory on farm's scale, and not on activity's scale. That is to say, to make sure that a mitigation action plan has co-benefits, but not necessarily each of the practices it includes, as it will be difficult to define co-benefits for some practices related to herd feeding or herd management.

Conclusion

The development of a harmonised Monitoring, Reporting and Verification (MRV) framework for agriculture cannot be achieved in isolation from the broader European policy context. Rather than

duplicating existing efforts, Climate Farm Demo has positioned its work in complementarity with the EU Carbon Removals and Carbon Farming Regulation (CRCF), providing concrete, field-based recommendations to support its implementation and future evolution.

The project highlights that methodological harmonisation must go hand in hand with flexibility. While alignment with common European principles is essential to ensure credibility, comparability and access to rewarding mechanisms, the diversity of agricultural systems, pedoclimatic conditions and advisory practices across Europe requires the continued use of multiple robust, context-adapted tools. The experience gained from deploying a wide range of carbon audit tools within CFD confirms both their value and their limitations, underlining the need for transparency, careful interpretation of results and clear rules for model validation.

Beyond methodology, the success of any MRV framework ultimately depends on farmer engagement. Simplified and transparent data collection, improved access to knowledge through permanent and open repositories, and strong peer-to-peer learning mechanisms are all critical enablers for participation. Equally important is the recognition of the full range of transition costs borne by farmers, including skills, workload and risk, which must be considered alongside purely economic indicators when assessing additionality and designing action plans.

Finally, the work carried out within CFD strongly supports the extension of the CRCF scope to livestock emissions. Given the systemic nature of livestock farming and its significant mitigation potential, a farm-scale, integrated approach that includes upstream emissions, allows methodological flexibility, and recognises a broad range of co-benefits is essential. Such an approach would enhance environmental integrity, avoid carbon leakage, and ensure that livestock farmers are fully included in Europe’s carbon farming ambitions.

In this context, the recommendations formulated in this document aim to contribute to a credible, practical and farmer-centred European MRV framework. By building on existing tools, scientific knowledge and field experience, and by maintaining an open dialogue between policymakers, researchers, advisors and farmers, the CRCF can become a robust foundation for scaling up climate action in European agriculture while safeguarding its economic and social sustainability.

References

Arvanitopoulos, T., Garsous, G., Agnolucci, P., *Carbon Leakage and Agriculture: A Literature Review on Emissions Mitigation Policies*. OECD Food, Agriculture and Fisheries Papers No. 169. Vol. 169. OECD Food, Agriculture and Fisheries Papers. 2021. https://doi.org/10.1787/9247f1e7-en.

Castellan, E. (2023, 29th September). *[BIENNALES CAP'2ER] Evaluer les coûts de mise en œuvre des plans d'action bas carbone.* Idele. https://idele.fr/en/detail-article/biennales-cap2er-evaluer-les-couts-de-mise-en-oeuvre-des-plans-daction-bas-carbone

Espejo, A. (2022, 27th July). *What You Need to Know About the Measurement, Reporting, and Verification (MRV) of Carbon Credits.* Worldbank. https://www.worldbank.org/en/news/feature/2022/07/27/what-you-need-to-know-about-the-measurement-reporting-and-verification-mrv-of-carbon-credits

European Commission. *Carbon Removals and Carbon Farming.* European Commission. https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en

Eurostat, *Farms and farmland in the European Union – statistics*. Eurostat. 2022. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farms_and_farmland_in_the_European_Union_-_statistics

Regulation (EU) 2024/3012 of the European Parliament and of the Council of 27 November 2024 establishing a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products. (Official Journal of the European Union, 27th November 2024).

Vettoretti, A., *Production et consommation mondiale*. Ressources, No. 6, p 18-19. INRAE, 2024. https://www.inrae.fr/dossiers/quels-defis-elevages-durables/production-consommation-mondiale

Vial, R., *Fiches références CAP2'ER Bovins viande édition 2025*. Idele. 2025. https://idele.fr/detail-article/fiches-references-cap2er-bovins-viande-edition-2025

Vial, R., *Fiches références CAP2'ER Bovins lait édition 2025*. Idele. 2025. https://idele.fr/detail-article/fiches-references-cap2er-bovins-viande-edition-2025

Funded by
the European Union

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