



# Assessing the contribution of carbon farming to CAP climate objectives

**Good Practice Workshop**  
Nantes (France), 24-25 June 2024



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Additional information about the activities of the European Evaluation Helpdesk for the CAP is available on the Internet through the Europa server [<https://eu-cap-network.ec.europa.eu/support/evaluation>].



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# List of acronyms

CO <sub>2</sub>	carbon dioxide
CRCF	Carbon Removal and Carbon Farming
CSP	CAP Strategic Plan
DG AGRI	Directorate-General Agriculture and Rural Development
EQ	evaluation question
ETS	Emission Trading System
ERDF	European Regional Development Fund
ESA	European Space Agency
FOS	factor of success
GAEC	good agricultural and environmental conditions
GHG	greenhouse gas
GIS	geographic information system
GPW	Good Practice Workshop
IACS	Integrated Administration and Control System
IMAP	Integrated Modelling platform for Agro-economic and resource Policy
JRC	Joint Research Centre
LUCAS	Land use and land cover survey
LULUCF	Land Use, Land-Use Change and Forestry
MA	Managing Authority
PMEF	Performance Monitoring and Evaluation Framework
RRF	Recovery and Resilience Facility
SOC	soil organic carbon





# Executive summary

The seventh Good Practice Workshop of the European CAP Network, organised with the support of the European Evaluation Helpdesk for the CAP was dedicated to the topic 'Assessing the contribution of carbon farming to the CAP climate objectives'. The workshop took place in Nantes, France, and was attended by 71 participants from 25 different countries, including Managing Authorities, evaluators, European Commission representatives, National CAP Networks, researchers, carbon certification experts and other relevant evaluation stakeholders.

The workshop aimed specifically to:

- > Increase the evaluation knowledge of stakeholders involved in the evaluation of carbon farming interventions/practices in the context of CAP Strategic Plans (CSPs).
- > Exchange practical experiences from past evaluations of climate change mitigation, including the assessment of measures that contribute to carbon conservation and sequestration in agriculture and forestry.
- > Provide an opportunity for networking and identifying needs for further support for Managing Authorities, National CAP Networks and evaluators in relation to the evaluation framework for assessing the contribution of carbon farming to the CAP climate objectives.

Both days of the workshop focused on sharing Member States' experiences in evaluating carbon storage and sequestration. The first day introduced the framework for assessing the contribution of the CAP to carbon farming, including clarifications of concepts, the regulatory background, and an overview of relevant interventions and farm practices. The second day offered examples from the European market and brought in the perspective of private sector certification initiatives.



Participants at the Good Practice Workshop 'Assessing the contribution of carbon farming to CAP climate objectives', 24-25 June 2024, Nantes, France.

Key messages from the workshop include:

- > **Consider the expected role of the CAP towards climate neutrality objectives.** Given the important share of the agricultural sector in the total EU greenhouse gas emissions, Member States need to adopt farm practices that contribute to reducing greenhouse gas emissions and expand carbon sequestration in biomass and soils.
- > **Evaluations related to carbon farming should not be limited to green architecture.** Although the first step would be to identify interventions and farm practices that reduce greenhouse gas emissions and increase soil organic carbon, other interventions beyond the green architecture also play a role and need to be assessed, such as innovation, training, non-green investments, and the potential of direct payments, coupled income support or animal welfare to maintain practices that contribute to carbon storage (e.g. extensive grazing).
- > **Consider coherence with other EU and national policies and private initiatives.** Efforts to promote carbon farming are not limited to the CAP. Other EU funds and national policies are significantly and increasingly focusing on reducing greenhouse gas emissions, especially through actions in the fields of agriculture and forestry. Furthermore, private sector certification schemes, sometimes covering the whole agri-food chain, provide farmers incentives to adopt carbon farming techniques and can be aligned with the EU Carbon Removal Certification Framework <sup>1</sup>.
- > **Past evaluations are a valuable source of information on what practices work best towards carbon storage and sequestration and how to measure them.** Useful findings are those that classified practices according to their effects on greenhouse gas emission reduction and carbon sequestration or those that explain the effects, such as the adoption of extensive agri-environment measures by farmers. Also, those that identified data-related challenges and proposed solutions that can be adopted by future evaluators, such as combining uptake values from CSPs with EU level data, or to use baseline scenarios or consulting and using relevant coefficients for farm practices (currently available from the Joint Research Centre <sup>2</sup>).
- > **Do not forget that carbon is only one part of the equation.** Although the workshop focused on carbon farming, evaluations would need to be holistic and consider other sources of emissions, stemming from manure management or enteric fermentation (e.g. nitrous oxide and methane emissions). Land use, soil management and livestock management must be combined to effectively contribute to climate neutrality targets.

<sup>1</sup> European Commission (2024), *Carbon Removals and Carbon Farming*, [https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming\\_en](https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en).

<sup>2</sup> Joint Research Centre (2024), *Quantifying the impact of sustainable farming practices on environment and climate*, <https://dx.doi.org/10.2760/20814>.



# 1. Introduction

The seventh Good Practice Workshop (GPW) of the European Evaluation Helpdesk for the CAP (Evaluation Helpdesk) took place in Nantes (FR) on 24-25 June 2024 and focused on assessing the contribution of the CAP to carbon farming and CAP climate objectives. The objective was for participants to reflect and learn from each other, and help Member States prepare for future evaluations.

Enhancing carbon sequestration is one of the most pressing needs for mitigating climate change and contributing to the European Green Deal target of climate neutrality. To this end, the land sector plays a central role in reaching a climate-neutral economy as it can capture carbon dioxide (CO<sub>2</sub>) from the atmosphere. At the same time, the land sector is vulnerable to the effects of climate change and can be a source of emissions, especially when soils are degraded. This is why the EU is supporting practices such as carbon farming to promote sustainability and resilience in agriculture and forestry. The goals of the European Green Deal have been translated into a number of EU communications and laws, such as the Sustainable Carbon Cycles Communication<sup>3</sup>, the EU Carbon Removal and Carbon Farming (CRCF) Regulation<sup>4</sup>, the proposed Soil Monitoring<sup>5</sup> and Forest Monitoring<sup>6</sup> Laws, and the land use, land-use change and forestry (LULUCF) regulation<sup>7</sup>.

CAP Strategic Plans (CSPs) operationalise one of the key objectives of the CAP: to mitigate climate change by reducing greenhouse gas emissions and enhancing carbon sequestration (Specific Objective 4<sup>8</sup>). The CAP has increased its climate ambition in the 2023-2027 period by allocating more funds to environmental objectives, thus encouraging carbon farming and strengthening ties to climate-related legislation. CSPs include several interventions

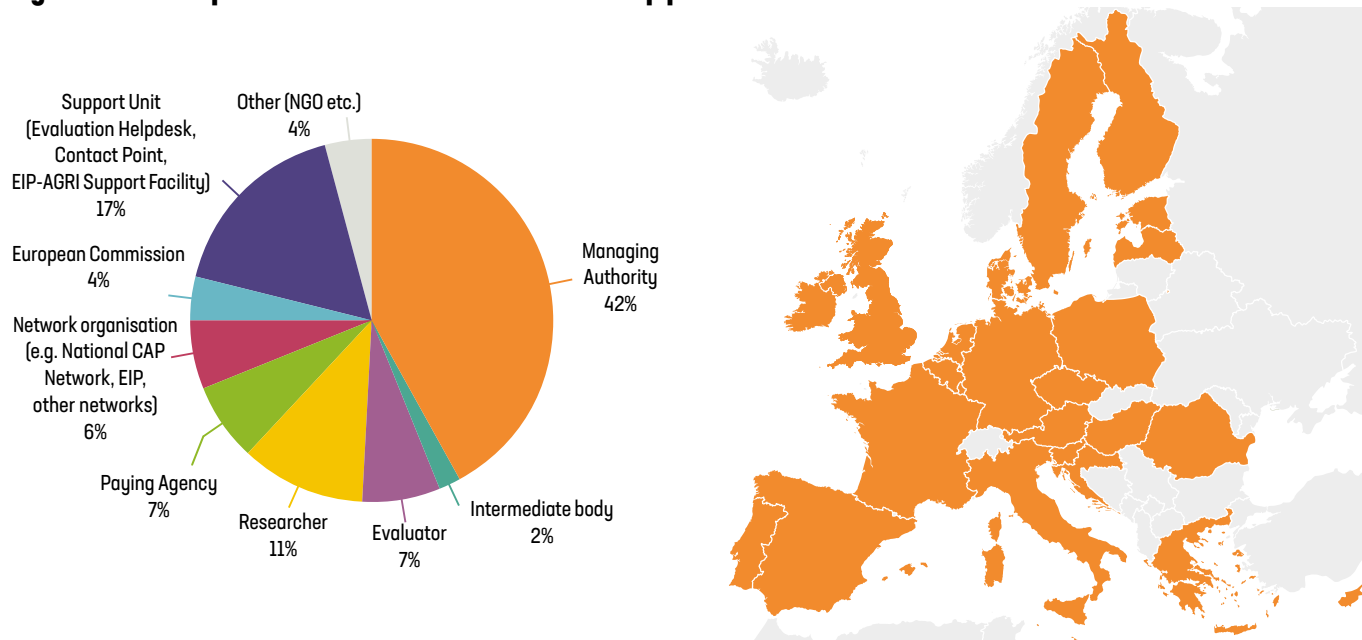
with potential to contribute to carbon sequestration by promoting carbon farming practices that are linked to Performance Monitoring and Evaluation Framework (PMEF) result and impact indicators. Member States are expected to assess carbon storage and the practices that contribute to it, in the context of their CSP evaluations.

The GPW provided an opportunity for Member States to exploit and deepen their experiences for evaluating the contribution of carbon farming interventions to the climate mitigation objective of the CAP. The workshops' specific objectives were to:

- **Increase the evaluation knowledge of stakeholders** involved in the evaluation of carbon farming interventions/practices in the context of CSPs.
- **Exchange practical experiences** from past evaluations of climate change mitigation, which include the assessment of measures that contribute to carbon conservation and sequestration in agriculture and forestry.
- **Provide an opportunity for networking and identification of needs for further support** for Managing Authorities (MAs), National CAP Networks and evaluators in relation to the evaluation framework for assessing the contribution of carbon farming to the CAP climate objectives.

Seventy-one participants from 25 different countries attended the event across the two days, including MAs, evaluators, European Commission representatives, National CAP Networks, researchers, carbon certification experts and other relevant evaluation stakeholders.

**Figure 1. Participants of the Good Practice Workshop per role and countries**



Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2024)

<sup>3</sup> European Commission (2021), *Communication from the Commission to the European Parliament and the Council - Sustainable Carbon Cycles*, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0800>.

<sup>4</sup> European Commission (2024), *Carbon Removals and Carbon Farming*, [https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming\\_en](https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en).

<sup>5</sup> European Commission (2024), *Carbon Soil Health*, [https://environment.ec.europa.eu/topics/soil-and-land/soil-health\\_en](https://environment.ec.europa.eu/topics/soil-and-land/soil-health_en).

<sup>6</sup> European Commission (2024), *Carbon Forest Monitoring*, [https://environment.ec.europa.eu/topics/forests/forest-monitoring\\_en](https://environment.ec.europa.eu/topics/forests/forest-monitoring_en).

<sup>7</sup> European Commission (2024), *Carbon Land use sector*, [https://climate.ec.europa.eu/eu-action/land-use-sector\\_en](https://climate.ec.europa.eu/eu-action/land-use-sector_en).

<sup>8</sup> European Commission (2024), *Key policy objectives of the CAP 2023-27*, [https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27\\_en](https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27_en).



## 2. Day 1 – Framework and experiences for assessing the contribution of the CAP to carbon farming

### 2.1. Setting the scene

#### 2.1.1. Introduction to carbon farming



*Mr Guillaume Pierre, evaluation advisor, European Evaluation Helpdesk for the CAP*

Mr Guillaume Pierre, from the Evaluation Helpdesk, gave an introduction on the concept of carbon farming and its implementation in the provisional agreement on the CRCF Regulation. He explained the main activities and practices that lead to soil carbon sequestration and how CAP interventions contribute to these. Some considerations were given to existing results-based interventions in the CAP, as well as some well-known schemes outside the CAP that remunerate farmers for carbon credits, in and outside of the EU. He also outlined the relevance of carbon farming as a CAP evaluation topic, as many interventions contribute to it under Specific Objective 4<sup>9</sup> and have an important contribution potential to European Green Deal targets. He concluded his presentation by sharing some thoughts on potential evaluation questions, such as how to measure effectiveness and explore the coherence and efficiency of the support, amongst others.

**Link to Mr Pierre's presentation:** [Introduction to carbon farming](#)

#### 2.1.2. The framework for assessing the contribution of the CAP to carbon farming



*Ms Sophie Helaine, Head of Unit A3 'Policy performance', Directorate-General for Agriculture and Rural Development, European Commission*

Ms Sophie Helaine and Mr Ruggero Fornoni from the European Commission (Directorate-General for Agriculture and Rural Development (DG AGRI)) further contributed to setting the scene by presenting the broader context in terms of EU climate targets, stressing the path to climate neutrality by 2050 and the evolution of the greenhouse gas (GHG) emissions from agriculture. They offered insights on the factors to consider when evaluating the CAP and carbon farming, with references to the green architecture and actions outside the CAP, including other funds, research projects, and national and private initiatives. Relevant result indicators and targets set by Member States were also shown. Finally, the usefulness of the Catalogue of CAP interventions<sup>10</sup>, including the labelling of farm practices, was stressed as a key source of information when evaluating the contribution of the CAP to carbon farming.

**Link to Ms Helaine and Mr Fornoni's presentation:** [The framework for assessing the contribution of the CAP to carbon farming](#)

<sup>9</sup> European Commission, 2024, *Key policy objectives of the CAP 2023-27*, [https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27\\_en](https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27_en).

<sup>10</sup> European Commission (2023), *Catalogue of CAP interventions*, [https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue\\_interventions.html](https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue_interventions.html).



## After the presentation, participants posed the following questions and/or comments

<p><b>Ricardo (UK)</b> commented that food waste was not mentioned and found this is of key importance (e.g. it reduces methane emissions and demand on meat production, which is crucial for composting) so it should also be analysed.</p>	<p><b>Ms Helaine</b> highlighted that food waste is part of CAP Specific Objective 9 (responding to societal demands on food and health)<sup>11</sup>. She agreed that it is part of the equation but acknowledged that it is not part of the evaluation of the CAP as no intervention specifically targets food waste. <b>Ms Helaine</b> mentioned that awareness of food waste was occasionally part of educational activities as part of school schemes.</p>
<p>The <b>Dutch MA</b> explained that it was decided not to include food waste in the Dutch CSP due to budgetary restrictions and assumed that other Member States also decided to focus on matters deemed more important.</p>	<p><b>Ms Helaine</b> added that various Member States introduced food waste aspects and support more organic aspects in their Recovery and Resilience Facility (RRF) plans to nudge consumption.</p>
<p>With regard to policy certainty, the <b>Irish MA</b> described developing methodologies for the EU regulation on carbon removals and highlighted that more money is needed. With regard to the compliance market, they wondered if this is lined up and if private investment can be brought in, as this would be needed to create engagement. The <b>Irish MA</b> also asked for clarification regarding fertilisation as it was understood that there are various EU regulations that could reduce the use of fertilisers but not ban them altogether.</p>	<p>On policy certainty, <b>Ms Helaine</b> explained that discussions are ongoing on the Emissions Trading System (ETS) and that there is legal uncertainty. She emphasised that if a decision was taken, a long transition period would be implemented to allow sufficient time to inform farmers on what would happen. However, she found that it is part of the equation to assess if incentives for voluntary commitments are desired or if a different system would be better and/or more effective.</p> <p>With regard to the use of fertilisers, <b>Ms Helaine</b> clarified that she did not refer to a legal ban, but to supported farm practices in which a farmer made a voluntary commitment to ban the use of fertilisers on their land. A huge effort was made to distinguish if such farm practices were a ban on fertilisers for the whole land, a ban during a certain period etc., which matters in terms of evaluating the efficiency and/or effectiveness of the farm practice.</p>
<p>The <b>Institute for Climate Economics (FR)</b> asked if future links between the CRCF and CAP are envisioned, and how such a triangulation would be managed.</p>	<p><b>Ms Helaine</b> explained the principle of no double funding within the Commission. However, supporting commitments (like the CAP does) and carbon credits are two payments of a different nature (practice cost-based vs. impact market-based), thus they might be complementary. It means that the possibility of combining both needs is to be assessed on a case-by-case basis.</p>

### 2.1.3. Carbon farming and the CAP: insights from Member States' evaluations

Mr Dimitris Skuras from the University of Patras (EL) shared a review of 56 evaluations from all 27 Member States, which revealed the efforts undertaken by the Rural Development Programmes to endorse carbon farming as a significant strategy for reducing GHG emissions and expanding carbon sequestration in biomass and soils. He also showed that evaluations unwrapped the unique issues and challenges involved in effectively designing and implementing carbon farming measures.

**Link to Mr Skuras's presentation:** [Carbon farming and the CAP - insights from Member States' evaluations](#)



Mr Dimitris Skuras, professor at the University of Patras, Greece

After the presentations, participants exchanged challenges for assessing the CAP contribution to carbon farming. A full list of the identified challenges by participants is provided in [Annex 1](#).

<sup>11</sup> European Commission, 2024, *Key policy objectives of the CAP 2023-27*, [https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27\\_en](https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27/key-policy-objectives-cap-2023-27_en).





## 2.2. Sharing experiences

### 2.2.1. Estimating soil organic carbon sequestration at the national scale



Ms Keesje Avis, associate director at Ricardo, United Kingdom

Ms Keesje Avis from Ricardo (UK) offered an overview of experience from multiple EU level projects in estimating GHG mitigation in the agriculture and land sectors and how this experience could be applied at national level evaluations. For estimating soil organic carbon (SOC) sequestrations at national level, the starting point would be the identification of interventions that increase SOC sequestration, followed by the identification of relevant farm practices. Then, the uptake would need to be estimated in terms of output values (e.g. number of hectares) multiplied by the mitigation coefficients for the relevant farm practice. She also offered examples of data sources and estimation approaches, then concluded with some results on the main farm practices that were found to contribute most to SOC sequestration.

**Link to Ms Avis's presentation:** [Estimating soil organic carbon sequestration at the national scale](#)

#### After the presentation, participants posed the following questions and/or comments

The **Austrian Agency for Health and Food Safety (AT)** asked if soil samples were behind the presented data or only estimations, and if the used data was distinguished per region within a Member State.

**Ms Avis** explained that the soil data used came from the [Agri-food Data Portal](#)<sup>12</sup> so no new soil samples were taken. Furthermore, she underlined that the goal was to execute an EU level study and that uptake values from the CSPs were used as well as EU relevant data from the Joint Research Centre (JRC). **Ms Avis** encouraged Member States to use any information they have access to when evaluating carbon at Member State level, as it is the beginning of a very long process.

**Naviga Advisory and Evaluation Ltd. (HR)** found the coefficients to be key and questioned what baseline scenario was used.

**Ms Avis** highlighted that they used a baseline scenario where the CAP was in place or not, but emphasised that it was up to the Member States to decide if their evaluation was to compare the current CAP to the previous CAP. She also clarified that the study used the Agri-food Data Portal<sup>13</sup> for the baseline carbon stock values. In addition, the JRC's Integrated Modelling platform for Agro-economic and resource Policy analysis (IMAP) project<sup>14</sup> provided the coefficients for the farm practices. **Ms Avis** added that it takes a very long time for soil carbon to change and results will most likely not be evident in two to five years.

**Ms Helaine** added that the JRC executed their analysis on the coefficients (i.e. IMAP project, now CORES4AGRI) by comparing what the farm practice is adding compared to a situation without a farm practice, which was used to acknowledge what is positively done by CAP finances and farmers' activities. She underlined that the JRC's work did not assess whether a farmer would execute the same practice without the CAP so it could not be used to compare to the past or a no-CAP scenario.

<sup>12</sup> European Commission, Agri-food Data Portal, <https://agridata.ec.europa.eu/extensions/DataPortal/home.html>.

<sup>13</sup> Ibid.

<sup>14</sup> European Commission, Joint Research Centre, 2023, *iMAP, Integrated Modelling platform for Agro-economic and resource Policy analysis - Tools to assess MS CAP strategic plans on environment and climate performance*, <https://wikis.ec.europa.eu/display/IMAP/IMAP+Home+page>, version October 2023.



## After the presentation, participants posed the following questions and/or comments

<p>The <b>Institute of Agricultural Resources and Economics (LV)</b> asked if the study made a distinction between direct and indirect contributions.</p>	<p><b>Ms Avis</b> gave the example that some of the soil management aspects would be indirect, but if there was enough data for a meta-analysis to say that improved soil management would produce 'X', this was factored in. However, overall, no differentiation was made between the two. She explained that this could be done, but that it would reduce the number of interventions that are going to have an impact.</p>
<p>The <b>Italian MA from the region Emilia Romagna</b> referred to the estimations that <b>Ms Avis</b> presented, which were based on a variety of simplifications and wondered if the cost of such simplifications was considered. They also asked for clarification regarding selecting a measurement unit and related simplification matters for this.</p>	<p><b>Ms Avis</b> clarified that the study did not reduce everything to carbon, but that she focused her presentation on this due to the topic of the workshop. She explained that methane and nitrous oxide would need to be part of an overall evaluation as they have massive impacts. Simplification occurred when farm practices overlapped and one would get savings across a number of gasses (i.e. conversion to carbon). However, she cautioned against simplifying too early as it would produce nonsensical results.</p>
<p><b>Ms Helaine</b> emphasised that not all farm practices were (sufficiently) implemented by Member States and so they might not be included in the study, as it focused on evaluating what has been implemented.</p>	<p><b>Ms Avis</b> agreed and shared her understanding that the overview of supported farm practices will need to evolve in CSPs with and more information provided, as there are missing aspects due to revisions.</p>

### 2.2.2. The effect on carbon sequestration in Swedish arable land: evaluation of the support in the Swedish Rural Development Programme 2014-2022



Ms Angelica Jörnling, economist/social analyst, WSP Sweden

Ms Angelica Jörnling from WSP Sweden presented an evaluation that showed that the support within the Swedish Rural Development Programme has been allocated to several measures that have a positive but small effect on carbon sequestration. Examples of such measures include cover crop cultivation, establishment of buffer zones and ley farming. Some support measures have likely had a significant impact on whether farmers have implemented the actions. The evaluation also indicates that there are additional effective measures for which support has not been available, such as reduced tillage, mineral fertilisation and fertilisation with solid manure.

**Link to Ms Jörnling's presentation:** [The effect on carbon sequestration in Swedish arable land: evaluation of the support in the Swedish Rural Development Programme 2014-2022](#)



## After the presentation, participants posed the following questions and/or comments

<p><b>Ms Helaine</b> asked what was meant with the term 'grassland cultivation' while <b>Ms Marili Parissaki (Evaluation Helpdesk)</b> asked whether the term refers to intensifying the grass by adding protein to the soil.</p>	<p><b>Ms Jörnling</b> explained that she meant ley farming (i.e. the alternate growing of crops and grass) and confirmed that grassland cultivation corresponds to adding proteins to the soil.</p>
<p><b>Mr Pierre</b> asked if the low impact was expected and what the reason could be for this (e.g. was it due to the practices itself, due to the implementation of the support, etc.).</p>	<p><b>Ms Jörnling</b> clarified that the low impact was due to the implementation of support.</p>
<p>With regard to organic agriculture, the <b>Institute of Agricultural Resources and Economics (LT)</b> understood there is a negative effect and questioned what the reasons for this could be (e.g. indirect contributions).</p>	<p><b>Ms Jörnling</b> clarified that indirect contributions were not included. She continued to explain that some research articles showed that organic farming had negative effects, which was discussed with the Swedish Board of Agriculture and their experts. There were some experts that found there is a negative effect while others found a positive effect. The study did not take indirect contributions into account when calculating the effects.</p>
<p>The <b>Austrian Agency for Health and Food Safety (AT)</b> asked whether the study made a distinction between types of cover crops.</p>	<p><b>Ms Jörnling</b> confirmed that the study did not make a distinction and simply referred to cover crops.</p>
<p><b>Ms Helaine</b> clarified that the work of the JRC showed positive effects of organic farming on carbon sequestration. However, due to the lower yield in organic farming, the efficiency of organic production measured in terms of GHG emissions per unit of production (i.e. per kilo of milk) is lower than conventional production.</p>	<p><b>Ms Avis</b> added that one way organic farming reduces carbon sequestration is due to the necessary ploughing between crops. This is where the farm practices can be useful, as it is possible to specify which farm practices are used for organic farming. She also recognised that carbon sequestration is not the only solution and other activities should be implemented in addition to it.</p>
<p><b>Naviga Advisory and Evaluation Ltd. (HR)</b> asked whether the negative effects of organic farming were published in scientific papers.</p>	<p><b>Ms Jörnling</b> confirmed that the estimates for calculation were extracted from scientific papers and that she could share references if so requested.</p>

### 2.2.3. Carbon storage in agricultural soils – evaluation and modelling results: the case of Austria



Mr Franz Sinabell, senior economist, the Austrian Institute of Economic Research (WIFO)

Mr Franz Sinabell from the Austrian Institute of Economic Research (WIFO) presented findings from Austria on carbon farming related topics. Firstly, he reported on evaluation results on SOC content in Austrian arable land over a period of two decades. The data shows generally increasing levels that are explained by the wide participation of farmers in agri-environmental schemes. Secondly, he reported on findings on practices to increase SOC even further. The analysis shows that such measures are relatively expensive compared to measures that reduce carbon dioxide emissions in other industries. One reason is that elevating SOC takes long time when it is already high. Another concern is that ever higher ambient temperatures are increasing mineralisation in soil which contributes to SOC depletion.

**Link to Mr Sinabell's presentation:** [Carbon storage in agricultural soils – evaluation and modelling results – the case of Austria](#)



## After the presentation, participants posed the following questions and/or comments

<p>With regard to high costs for agroforestry, <b>Ms Avis</b> asked if this is the case when only considering carbon and no other benefits.</p>	<p><b>Mr Sinabell</b> stated that the study only looked at carbon and that they did not try to identify benefits.</p>
<p><b>Naviga Advisory and Evaluation Ltd. (HR)</b> asked why causal effects could be identified for some measures, but not for all measures.</p>	<p><b>Mr Sinabell</b> explained that the study contained data concerning six to seven carbon relevant policies as farmers combine different measures, and so to identify causal effects of a measure, three things were essential: (i) farmers are required to make samples; (ii) geolocating the sample; and (iii) identifying the farmers and what other practices they are implementing. He explained that there are some sites in Austria where this is done and so evaluators were able to identify the effects of the measures. However, there were no samples from farmers in the same region who were not participating, so no counter analysis could be done.</p>
<p><b>Ms Parissaki</b> asked if it would be possible to assess the effects through input and output analysis.</p>	<p><b>Mr Sinabell</b> explained that in Austria, they have a good understanding of what is increasing with regard to carbon content based on field experiments. However, for an input and output model, one would need a combination of all relevant measures, and there are simply not that many field experiments covering a period of 20 years in different regions on different types of soil and variants of policy interventions. <b>Mr Sinabell</b> emphasised that one has to trust the judgement of experts and skilled experts would be able to indicate the measures that work but not how well.</p>
<p>The results from a PhD research executed under the <b>Austrian Agency for Health and Food Safety</b> show that continuous plant cover, such as in evergreen systems as presented by Mr Sinabell, has a significant effect on increasing soil organic matter storage. Even though there was a diffuse pool of soil samples as farmers brought their soil samples to the <b>Austrian Agency for Health and Food Safety</b> privately, they have established 600 000 data points and feel confident to find further evidence on positive effects of carbon farming practices on SOC.</p>	
<p><b>Ms Helaine</b> asked under which conditions the <b>Austrian Agency for Health and Food Safety</b> has access to such soil information and how it manages this information from the point of view of data protection.</p>	<p><b>The Austrian Agency for Health and Food Safety</b> explained that the data is anonymous. They have a big laboratory for soil testing and when farmers bring their soil samples, the farmer can indicate that the collected data can be used for evaluation on an anonymous basis. Due to this programme, 100% of arable land for continuous cover crop systems is covered. A caveat to this is that it is unknown from which exact field the sample comes from and so various assumptions have to be made to geo-reference samples.</p>
<p>The <b>Institute of Agricultural Resources and Economics (LV)</b> highlighted many farmers implement investment measures and so receive public money to purchase new techniques to make soil analysis. They found that such soil data could be very useful for evaluation purposes and so solutions should be found to gather such soil data.</p>	
<p>The <b>Slovenian MA</b> highlighted that they have a clear overview of carbon stock data for the LULUCF sector (starting from 2016) and started collecting data for the agricultural land three years ago. They underlined that gathering more data is an extensive but important process. One big challenge is to determine how to get data from farmers who take soil samples, as it is not mandatory for them to share such information. The <b>Slovenian MA</b> suggests that, as farmers use CAP money, such data should be accessible to MAs to improve their evaluations.</p>	





# 3. Day 2 – Assessing the contribution of the CAP to carbon farming

## 3.1. Sharing experiences

### 3.1.1. Carbon farming – European market experiences



Mr Andrew Voysey, chief impact officer, Soil Capital, Belgium

Mr Andrew Voysey from Soil Capital (BE) presented an overview of the range of private sector initiatives already underway across the EU on carbon farming, including Soil Capital's own regenerative agriculture transition programme. He observed that the public sector would be unlikely to be able to fund the agricultural transition at the speed and scale needed, but that analysis of CSPs to date does not seem to show evidence of intentions to blend public and private sector funding, creating the risk that public sector initiatives crowd out private sector funding due to additionality rules. He offered thoughts on how this could be avoided, such as market-making and stacking.

**Link to Mr Voysey's presentation:** [Carbon Farming – European market experiences](#)

#### After the presentation, participants posed the following questions and/or comments

With regard to certification, **Ms Helaine** asked if the drivers for private companies were to sell at higher prices or whether they are part of scope 3 and therefore have to reduce emissions from their farmers. Assuming a scenario where suddenly all farmers go for this system and prices go down, **Ms Helaine** asked how this system would be managed and how farmers would be remunerated.

**Mr Voysey** clarified that there are two main drivers for companies in his experience. The first is that companies have scope 3 targets, which matter to their investors and failing to deliver actions on this becomes a problem for the chief financial officer. The second driver relates to the security of the supply chain, as its disruption is more common due to extreme weather and there is a limit on how to manage such risks. Therefore, there is a need to look for sources of actual resilience, incorporating a growing understanding of soil health because of the key role it plays.

Furthermore, **Mr Voysey** explained that even if all EU farmers want to become carbon farmers, the changes in farming are slow, complicated and risky, whereas changes on the corporate side can be quick. His experience is that the speed of growth on the demand side will continue to be greater than the growth on the supply side.

The **Austrian Agency for Health and Food Safety (AT)** asked how to approach equality among farmers when they initially have a high soil organic matter. They also asked for further clarifications regarding the methodology for analysing soil organic matter.

**Mr Voysey** highlighted that the CRCF Regulation has taken the approach of using a common practice baseline in a region to determine additionality, which is favourable for a farmer who is an early adopter. There is a balance that needs to be struck between what the science will say and equality. He underlined that it is important to not only talk about carbon.

In terms of quantification, **Mr Voysey** emphasised the importance of evolving science, especially on the impacts of different practices on soil layers and whether more permanent soil carbon is created.

The [Carbon Removals Expert Group Technical Assistance](#)<sup>15</sup> study recommended a combination of quantification methodologies (e.g. soil analysis, modelling and remote sensing).

<sup>15</sup> European Commission (2024), *Carbon Removals and Carbon Farming*, [https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming\\_en](https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en).



## After the presentation, participants posed the following questions and/or comments

<p>With regard to <b>Mr Voysey's</b> comment on the public sector crowding out the private sector, the <b>Dutch MA</b> asked about the possibility of the opposite, so the private sector crowding out the public sector and the public sector losing control, which should not happen as it is needed for policy development.</p>	<p><b>Mr Voysey</b> said that, in his view, the best solution would be to have an intentionally blended solution so that the public sector and farmers get what they need and the private sector is engaged to reduce the suggested risks.</p>
<p>The <b>Luxembourgish MA</b> asked what about <b>Mr Voysey's</b> experience in avoiding double counting the benefits as many CAP interventions partly or fully contribute to objectives that private companies are also funding.</p>	<p><b>Mr Voysey</b> stressed the importance of differentiating two sources of funding and avoiding illegitimate double claims. However, he argued for the need to design a system where it is legitimate to have multiple sources of funding for the farmers to drive forward any change, based on the philosophy that no one has enough money on their own to make it work.</p> <p><b>Mr Voysey's</b> experience was to look at the existing eco-schemes and understand if the payment rates were enough to justify the transition. If not, then he is of the opinion that there is room for private sector funding.</p>
<p>Following up on their previous question, the <b>Luxembourgish MA</b> understood that the private sector looks at what is the base funding that a farmer can get, and the private sector then provides the additional funding to receive an income, though they then also claim some of the additional generated benefits.</p>	<p><b>Mr Voysey</b> confirmed that Soil Capital's approach is to look at the available base funding and then the private sector provides additional options for farmers to receive further income. Based on this, the private sector gets claims from scope 3. He has been advised that it is compatible with recording the same outcome in the national inventory if the national government wants to do the same thing. What the private sector is, therefore, trying to achieve in Soil Capital's experience is compatible integration by design.</p>
<p><b>The Institute for Climate Economics (FR)</b> shared that despite bridging the budget gap between public and private money, this does not necessarily translate to the development of a strategy and there is a need to discuss specific objectives. Furthermore, they asked if the presented approach was conceived to be a core payment or a top-up payment for farmers.</p>	<p><b>Mr Voysey</b> explained that this relates to the co-design process. However, he found that farmers conceived the payment as a bonus for incentivising changing practices. On the other hand, regarding soil maintenance, it is important to think about how to incentivise farmers to maintain the build-up level of soil carbon stocks.</p> <p>Today, the private sector does not have a good answer due to the additionality principle. However, <b>Mr Voysey</b> believes that this could evolve and that there is a clear strong role of the private sector in providing maintenance incentives.</p>
<p>On double funding, the <b>Polish MA</b> asked if it was legally possible to include links between public and private funding in the CSPs.</p>	<p><b>Ms Helaine</b> emphasised the principle of no double funding (i.e. no double funding of the same practice) and that it is a complex matter. However, the possibility to combine initiatives, should be made on a case-by-case e.g. are the initiatives complementary or financing the same practice?</p>



### 3.1.2. Establishing a field-based evidence base for the impact of agri-environment options on soil carbon and climate change mitigation



Mr Douglas Warner, associate professor research, the University of Hertfordshire, the United Kingdom

Mr Douglas Warner from the University of Hertfordshire (UK) presented a literature review and field-based assessment of carbon sequestration in soils that was completed to ascertain key management strategies relevant to agri-environment schemes. The assessment identified the creation of grass buffer strips/reversion to grassland on arable land, especially where targeted to protect vulnerable soils, as an important option. The results of the assessment recommended continued monitoring beyond the current ten year timeframe.

**Link to Mr Warner's presentation:** [Establishing a field-based evidence base for the impact of agri-environment options on soil carbon and climate change mitigation](#)

#### After the presentation, participants posed the following questions and/or comments

**Ms Helaine** was impressed that the soil was monitored over a period of ten years, as policy cycles tend to limit such activities to a much smaller scale. She was happy to have this example as MAs are encouraged to look at the previous CAP programming period for evaluations/monitoring as the main practices supported have not changed much. However, **Ms Helaine** found it discouraging in terms of policy design and implementation to see that the causal effect of the CAP on SOC could be demonstrated in so few cases and hoped that there were more effects than presented.

**Mr Warner** found the point on long-term monitoring crucial, as results coming from such field experiments are invaluable. He hopes that the project he presented will be revisited, as in the grand scheme, a ten year time period is quite short. **Mr Warner** acknowledged that if one is expected to deliver results fairly quickly, this could be a problem, especially due to the fact that there may be variation in samples over small spatial scales.

The **Austrian Agency for Health and Food Safety** asked Mr Warner's opinion on the argument that when soil organic matter is increased, fertilisation is also to be increased.

**Mr Warner** explained that productive single/low species diversity grassland may require supplementary nutrients to facilitate root growth and the return of carbon from plant biomass to the soil. He emphasised that species-rich grasslands comprised of native species adapted to local environmental and geological conditions tend to consist of multiple plant species each with different root architectures and nutrient requirements. This combination of species exhibits resource complementarity that enables plant growth and the return of organic matter without supplementary nutrients. **Mr Warner** also shared that individual plant species are adapted to the local soil conditions and extract nutrients efficiently within different zones of the soil and over different temporal scales. Furthermore, he said that there may also be greater symbiotic relationships present with, for example, arbuscular mycorrhizal fungi that also facilitate nutrient uptake efficiency by plant roots.



## After the presentation, participants posed the following questions and/or comments

<p><b>Ricardo (UK)</b> underlined that the approach for mixing grassland and integrated species could also be applied to having mixed cropping and arable land integrated.</p> <p><b>Ricardo</b> argued that if it is difficult to build carbon storage, it is of higher importance to maintain already stored carbon and that this could be where the Commission and MAs could make a difference: if private companies struggle to support carbon maintenance, public money can play an important role, as well as permanent pasture.</p>	<p><b>Mr Warner</b> agreed as he understands that losing carbon storage is a quicker process than rebuilding it. Going back to the point on carbon maintenance when there is an existing high carbon stock, <b>Mr Warner</b> found that it opens up the concept of benchmarking if one could identify what would be a good level of carbon stock at that location and what would be expected to be achieved, and then, based on that, decide what carbon stock should be maintained.</p>
<p>The <b>Spanish MA</b> asked what <b>Mr Warner</b> thought about digital soil modelling and using other data sources and remote sensing in regards to spatial variation.</p>	<p><b>Mr Warner</b> was of the opinion that geographic information systems (GIS) is a powerful technique, but that one needs data gathered from the field and key parameters set before GIS can be used to model spatial variation. However, he cautioned that one would still need to execute field testing in some cases to ensure that the modelling is performing as necessary. <b>Mr Warner</b> supports the combination of modelling and field testing.</p>

### 3.1.3. Evaluation challenges and ways out: lessons learnt from in-depth appraisals of evaluations



Dimitris Skuras, professor at the University of Patras, Greece

Mr Dimitris Skuras from the University of Patras (EL) showed that successful carbon farming assessments established and maintained evaluation frameworks that combined quantitative and qualitative data and information sources to sustain advanced methodologies. He emphasised that good evaluations are indispensable tools for carbon farming policy design and implementation.

**Link to Mr Skuras's presentation:** [Evaluation challenges and ways out: lessons learnt from in-depth appraisals of evaluations](#)

After the presentations, participants exchanged experiences and ideas regarding the importance of evaluating the CAP impact on carbon farming and how to do so. They specifically discussed relevant evaluation questions, potential additional factors of success (beyond Annex 1 of Regulation (EU) 2021/2115<sup>16</sup>), and what methods and data would be needed. A full list of the outcomes of the discussions is provided in [Annex 2](#).

<sup>16</sup> Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) 1305/2013 and (EU) 1307/2013, OJ L 435, p. 1-186 ELI: <http://data.europa.eu/eli/reg/2021/2115/oj>.





## 4. Concluding remarks

The outcomes of the presentations and group discussions provided useful insights into the most important lessons, challenges and ideas when evaluating the contribution of the CAP to carbon farming and, as a consequence, EU climate objectives.

The GPW confirmed that the CAP needs to contribute to EU climate neutrality targets and farmers should therefore adopt farm practices. It also confirmed that such CAP supported practices will need to be assessed for their actual contribution to climate objectives and draw conclusions for better policy design. The question raised is how best this assessment can be done.

The starting point would be to **identify the scope of evaluations** related to carbon farming. For this, Member States should **define evaluation questions** and the workshop generated many ideas in this respect (see [Annex 2](#)). There are evaluation questions related to effectiveness that ask, for example, the extent to which a specific intervention/practice or a group of interventions/practices promote carbon farming, the extent to which the effects of certain practices are permanent or an analysis of the reasons for the adoption of carbon farming practices. There are also questions related to relevance, aiming to analyse, for instance, whether the design of interventions responds to the needs of farmers. Efficiency questions examine the costs and benefits of adopting carbon farming practices and explore the potential for simplification and burden reduction. Evaluation questions that examine coherence focus on synergies among CSP measures and between the CSPs and numerous other EU, national and private initiatives. Finally, EU added value considers the changes due to the EU's support of carbon farming, in addition to what may have been expected from Member State national initiatives.

The next step is to **answer the evaluation questions and participants suggested several factors of success** that complement existing ones. These are mainly linked to effectiveness related evaluation questions and reflect expectations that quantities of carbon stored will increase and that the knowledge of farmers on the role of different carbon farming practices and their benefits will also increase.

Furthermore, answering evaluation questions raises several challenges and the workshop offered ideas for addressing them. First, there is the challenge of **how to use and quantify baselines**. Examples from past evaluations suggest one option may be to compare current and previous CAP periods and another may be to use the Agri-food Data Portal<sup>17</sup> for baseline carbon stock values or the JRC's IMAP project<sup>18</sup> for coefficients of farm practices.

Second, there are challenges related to data. The most critical issue is the **availability of monitoring data** given the need to cooperate with beneficiaries, including data privacy issues. Another issue is the **quality of data** i.e. to ensure it is reliable. A third issue is the **adequacy of indicators**, given that result indicators are mainly based on area measurements, while impact indicators lack targets. A final issue is **data maintenance and management** given

that the cost of monitoring data related to carbon farming may be too high. Member State experiences highlighted solutions to data collection and management, which include the provision of incentives to farmers for data collection (e.g. soil samples), the use of digital tools, such as GIS or digital data collection by farmers, the use of all available sources such as activity data from Integrated Administration and Control System (IACS), Land use and land cover survey (LUCAS) soil survey, emission coefficients from iMAP and national research institutes, or even the European Space Agency (ESA) soil indicator map. In addition, it is important to involve the Paying Agencies in monitoring to make use of the labelling of farm practices (available on the Catalogue of CAP interventions<sup>19</sup>) and to carry out pilots and case studies. Last but not least, raising awareness of farmers on the importance of data collection and improving their knowledge of carbon farming practices is crucial.

Third, there are methodological challenges. One issue here is **how to select the right methodologies** for measuring effects, especially in view of the long time it takes to observe changes in the soil and for capturing regional differences, measuring conditionality or accounting for external factors that may affect observations. Member State experiences so far indicate that long-term monitoring is crucial, as results coming from field experiments are invaluable. Links across programming periods may also be useful for the use of proxies and modelling.

Another issue is **how to assess causality or estimate the net effects of the CAP**. One option identified to address this issue is to ask farmers to collect samples, then geolocate these samples and finally identify the farmers and the practices they implement. Another option can be a combination of data from scientific papers, monitoring data and interviews. Special care should be paid to cases in which farmers opt for a supported farm practice that they would have adopted even without support. Generally, key steps to follow include the identification of interventions that contribute to carbon storage or sequestration, then determining the farm practices within each intervention, estimating the mitigation coefficients per hectare per practice and finally calculating the mitigation potential.

**How to maintain stored carbon** is also a key issue and the workshop offered ideas, such as the combination of private certification initiatives for stimulating the adoption of carbon farming practices with public funding to maintain the results in the long-term. In this respect, Member States need to **examine coherence** with other national initiatives aimed at reducing GHG emissions (e.g. the 'Label bas-carbone' in France), other EU funds (e.g. European Regional Development Fund (ERDF) for remaking dried wetlands) or the EU ETS.

Finally, the **innovative potential of farmers** should not be forgotten and Member States can incorporate in their evaluation frameworks the possibility to showcase actions undertaken by farmers that help increase carbon stock and use these to inspire future policy design.

<sup>17</sup> European Commission, *Agri-food Data Portal*, <https://agridata.ec.europa.eu/extensions/DataPortal/home.html>.

<sup>18</sup> European Commission, Joint Research Centre (2023), *iMAP, Integrated Modelling platform for Agro-economic and resource Policy analysis - Tools to assess MS CAP strategic plans on environment and climate performance*, <https://wikis.ec.europa.eu/display/IMAP/IMAP+Home+page>, version October 2023.

<sup>19</sup> European Commission (2023), *Catalogue of CAP interventions*, [https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue\\_interventions.html?page=FarmPractices#](https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue_interventions.html?page=FarmPractices#).



# Annex 1 – Results from group discussions day 1: challenges for assessing the contribution of the CAP to carbon farming

Below is a full list of the input from the GPW participants during the break-out discussions of day 1 during which they exchanged challenges for assessing the CAP contribution to carbon farming.

The table below lists the various identified challenges, grouped into six categories.

**Table 1. Identified challenges for assessing the CAP contribution to carbon farming**

Identified challenges in relation to farm practices
<ul style="list-style-type: none"> <li>› How to counterbalance practices if some practices lead to countereffects.</li> <li>› Temporary grassland – how to make it more attractive for farmers.</li> <li>› Role of animal husbandry and herd management.</li> <li>› Uptake of the practices due to risks (i.e. in income).</li> <li>› Capacity of the policy to support farm practices that are good for carbon storage/removal.</li> <li>› Do farmers know the benefits of the interventions?</li> </ul>
Identified challenges in relation to baselines
<ul style="list-style-type: none"> <li>› What baselines to use and how to quantify them.</li> <li>› How to assess results among different Member States if there are different baselines.</li> <li>› Standardisation and harmonisation of baselines.</li> </ul>
Identified challenges in relation to monitoring/data
<p><b>Availability of data:</b></p> <ul style="list-style-type: none"> <li>› How to get data on carbon on the soil for each farm.</li> <li>› Difficult to get data on costs and benefits, especially for carbon farming – MAs do not always have good data.</li> <li>› One must rely on the farmer’s efforts to collect the necessary data</li> <li>› How to disclose farm monitoring data – farmers unwilling to share the data.</li> <li>› How to account for the context in the monitoring data.</li> <li>› Ensuring data is robust – peer reviewed, not affected by politicians’ wishes.</li> <li>› How to monitor and measure all the things farmers are doing → do a whole carbon accounting of a farm on a voluntary basis.</li> </ul> <p><b>Indicators:</b></p> <ul style="list-style-type: none"> <li>› Result Indicators do not fully reflect the objectives.</li> <li>› ‘Area’ as a sole indicator is restrictive.</li> <li>› No targets for impact indicators.</li> <li>› Need for harmonisation of measure units into indicators (also outside the CAP).</li> </ul> <p><b>Data management:</b></p> <ul style="list-style-type: none"> <li>› Cost of monitoring (administrative burden).</li> <li>› Evaluation skills specific to carbon farming are needed.</li> </ul>



## Identified challenges in relation to methodologies

### Choosing relevant methodologies:

- › Methodologies for measuring effects (emission and storage)
- › How to evaluate and allocate benefits to different Specific Objectives.
- › Capture regionality – in terms of soil type and farm practices.
- › Assessment of carbon farming is more a resource topic à evaluations do not have sufficient knowledge
- › GAECs/how to measure conditionality – how to connect with the respective amount of money.
- › How to factor in external factors (i.e. weather/droughts) that may affect the observations.
- › How to evaluate efficiency.

### How to measure specific interventions:

- › Agroforestry: how to take into account the differences among Member States and differences between forests.
- › Eco-scheme for non-ploughing vs GAEC non-permanent grassland.
- › Permanent grassland.
- › Rewetting peatlands – undervaluation of benefits from peatlands.
- › Combination with eco-schemes.
- › How to deal with interventions that have different effects.
- › How to adopt a holistic approach while assessing specific interventions (or also outside the CAP).

## Identified challenges in relation to long-term effects/impacts and causality

### Netting out /causality:

- › Establishing counterfactual – lack of data.
- › How to quantify the net effects/impacts.
- › Cross-linking of databases to increase the potential to attribute the effects to the CAP.
- › Barriers to accessing data from non-beneficiaries.
- › Multiple factor causality/multiple effects of interventions.
- › How to disentangle the effects of different policies on the same plot of land. Or how to disaggregate effects when multiple measures are on the same plot.

### Long-term perspective:

- › Long-term effects of carbon farming/long timescale of sequestration.
- › How to measure long-term effects on soil.
- › How to link across programming periods.
- › Need for data over longer periods to assess net effects. May need proxies/modelling.
- › Time frame for measuring the effects vs. timeline of the policy.

### Maintenance issues:

- › Permanence issues – how to maintain the results from a long-term perspective.
- › How to maintain carbon storage.

## Identified challenges in relation to coherence

- › Coherence of the CAP with other policies (e.g. national, such as the Label Bas Carbon in France) and other EU funds must be assessed.
- › The Commission's Directorate-General for Climate Action (DG CLIMA) is also working on certificates (covering non-agricultural land).
- › How to be holistic in your evaluation approach and consider all other policies/funding sources.
- › For example, rewetting dried wetlands can be funded by ERDF. It depends on what the land is used for i.e. if for agriculture or other uses, e.g. in Greece it is bare land, in Ireland it is used for energy.

Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2024)



## Annex 2 – Results from group discussions day 2: towards an evaluation framework for assessing carbon farming

Below is a full list of the input provided by the GPW participants during the break-out discussions on day 2. During these sessions, participants shared ideas and experiences regarding relevant

evaluation questions, potential additional factors of success (beyond Annex 1 of Regulation (EU) 2021/2115<sup>20</sup>), and methods and data-related needs.

**Table 2. Identified evaluation questions, factors of success and challenges related to data and methods**

Evaluation questions (EQs)
<p><b>Effectiveness related questions:</b></p> <ul style="list-style-type: none"> <li>› To what extent does knowledge exchange promote carbon farming?</li> <li>› To what extent do training and post-training contribute to strengthening farmers' knowledge to adopt carbon farming practices/better address climate change adaptation? (Bear in mind, regarding AKIS, training is often not 'formal training', but a more peer learning and shared experience among farmers.)</li> <li>› To what extent do GSP interventions contribute to EU climate targets?</li> <li>› To what extent does carbon farming contribute to the reduction of emissions and carbon sequestration (i.e. farming, forestry)?</li> <li>› To what extent does the intervention or a specific practice contribute to carbon sequestration?</li> <li>› To what extent are CAP measures able to increase carbon content in arable land?</li> <li>› How can different types of interventions contribute to carbon storage?</li> <li>› Were eco-schemes good enough?</li> <li>› How effective is increasing or stabilising/maintaining soil organic carbon?</li> <li>› Is the CAP Strategic Plan increasing or maintaining the soil carbon?</li> <li>› How can carbon farming build climate resilience?</li> <li>› What are the different factors that contribute to climate change mitigation?</li> <li>› Which practices are worth repeating in the next CAP? What is worth supporting? (Looking at the effect of specific interventions on SOC.)</li> <li>› What are the results of interventions (result-based payments)?</li> <li>› How to ensure the long-term storage of carbon in the soil?</li> <li>› To what extent are the practices and the effects permanent?</li> <li>› Based on existing studies on proven farm practices: (i) what farm practices have been taken up; and (ii) how many farm practices are taken up or how many farmers changed practices?</li> <li>› How/Why farmers have changed farm practices? Is the continuation of intervention more than 1% of CO<sub>2</sub> stored or sequestered? (Framework conditions to be checked.)</li> </ul>

<sup>20</sup> Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013, <https://eur-lex.europa.eu/eli/reg/2021/2115/oj>.





## Evaluation questions (EQs)

### Coherence related questions:

- › How coherent is the intervention with national and EU regulations and the private sector? (external coherence)
- › To what extent are carbon farming practices coherent with other interventions in the CSP? (internal coherence)
- › What is the trade-off between carbon farming and production?
- › How could farmers be rewarded if they already reached good results in terms of soil health? (result-based interventions and/or reward certification)

### Efficiency related questions:

- › What are the costs/benefits? What are the co-benefits?
- › What is the cost of adopting carbon practices for beneficiaries and for administration?
- › To what extent are the CAP measures efficient in reducing GHG emissions and carbon sequestration?

### Relevance related questions:

- › To what extent is the design of the intervention responsive to the needs of farmers?
- › How many farmers are interested in addressing climate change mitigation?
- › How ambitious were the interventions on carbon farming? Uptake and target.
- › How to prioritise the various measures with a view to multiple ecosystem service delivery (e.g. water quality, biodiversity)?

### EU added value related questions:

- › What is the added value of EU intervention compared to other funding possibilities?

### General question:

- › Carbon farming is evaluated under Specific Objective 4, but it has long-term impacts, so is it possible to do an ongoing evaluation?

## Potential additional factors of success (FOS)

### Linked to effectiveness:

- › Carbon stored is increasing (quantity of stored carbon).
- › GHG emissions are declining (X% of CO<sub>2</sub> equivalent reduced).
- › Knowledge of farmers about carbon farming practices has increased.
- › Contribution of more than 1% (assuming the farmer did what he should have done).
- › Interventions and uptake: advisory services offered, training delivered, thematic actions, activities, AKIS and investments.
- › Soil organic carbon is stored in the soil for 5-10 years.
- › Resilience of agriculture to climate change is increasing due to the SOC increase.
- › Soil biodiversity is increasing due to CAP support.

### Linked to efficiency:

- › SOC has increased at a low cost and was easy to implement.

### General issues:

- › Lack of quantified targets for FOS.
- › Yearly permanence does not ensure effectiveness if FOS is not quantified.



## Methodologies/data

### Data sources:

- › Use activity data from IACS and emission coefficients from research institutes. The evaluator can calculate the effect by multiplying the activity data by coefficients.
- › Collect information on farms that are part of certain schemes to track farm data for future evaluations where related data will be needed.
- › Use data on soil samples from universities and research institutes i.e. pay farmers for soil sampling (SOC, PH, N) and soil passport interventions. Take samples to certified laboratories (already applied in BE-FL).
- › Combine samples, LUCAS (soil survey) and modelling. Problem with data protection when working with regional authorities.
- › Involve and engage Paying Agencies in monitoring and evaluation.
- › ESA: fund project soil indicators. Use soil indicator map at the EU level.
- › Utilise carbon farming labelling.
- › Use (highly controlled) experimental results to produce coefficients.
- › Leverage pilots or farmer case studies where the policy is mentioned and assessed.
- › Use uptake rate as an indicator of relevance and coherence.
- › I.10 emissions and I.11 SOC: farm level data is possible but a huge challenge.

### How to improve data availability:

- › Use baseline data.
- › Fill data gaps.
- › Use available data to understand if measures are going in a good direction.
- › Raise awareness among farmers on the importance of data collected. Farmers need more knowledge related to the practices they apply and the impacts that these might have.
- › Improve evaluation data as part of the evaluation plan.
- › Data collection and sampling must be considered from the beginning.
- › Digital collection of data (i.e. from farmers).
- › Give feedback to those who collect and provide data.
- › Although data are not super precise, the important thing will be to track changes.
- › Identify key performance indicators.

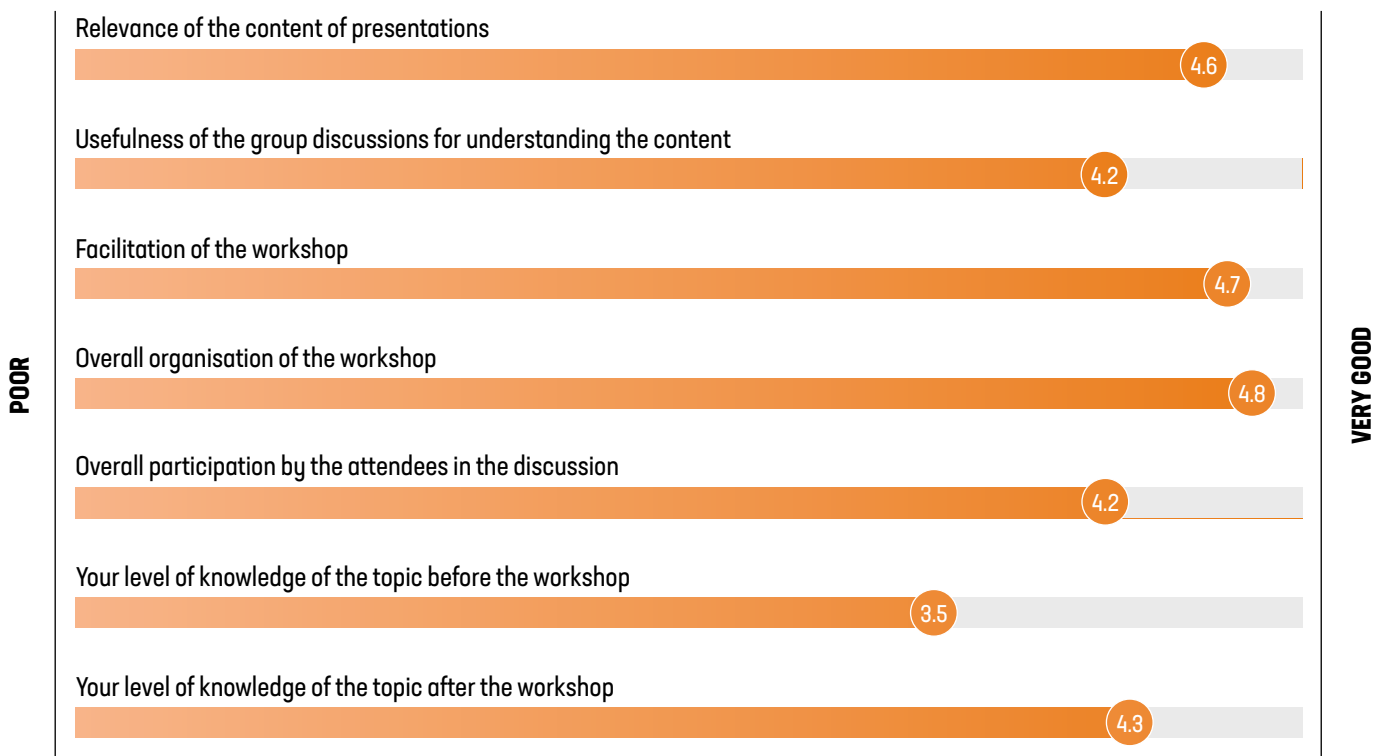
Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2024)



## Annex 3 – Results of the feedback poll

Please find below the outcome of the Mentimeter feedback poll on the GPW. The poll was launched to determine participants' satisfaction with the workshop, as well as to get feedback on how future events can be improved.

**Figure 2. Overview of received feedback on the Good Practice Workshop from 13 participants**



Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2024)





*Field visit to the farm du 'Breul', La Planche, Nantes, France, and meeting with farmer Gaël Drouet.*



**EU CAP Network** *supported by*  
European Evaluation Helpdesk for the CAP  
Rue Belliard 12,  
1040 Brussels, Belgium  
+32 2 808 10 24  
[evaluation@eucapnetwork.eu](mailto:evaluation@eucapnetwork.eu)

