German Environment Agency

Umwelt Bundesamt

# Workshop summary

# Funding climate-friendly soil use in the EU: Challenges and risks of market-based approaches

**Thursday, 8th of December, 9am - 1pm CET**

## Key messages

- 59 soil experts, carbon market experts, policy-makers and stakeholders participated in the *Funding climate-friendly soil use in the EU: Challenges and risks of market-based approaches* workshop
- Climate-friendly soil use poses a number of challenges for market-based funding, including additionality, non-permanence, quantification, and sustainability
- The workshop concluded that challenges, especially non-additionality and challenge of regulatory additionality as well as non-permanence, mean that offsets are inappropriate for climate-friendly soil use. Other results-based approaches (e.g. contribution claims) face some technical and demand challenges but lower environmental integrity risks than offsets.
- Overall, workshop discussions supported a broader perspective: our focus must be on what combination of policies and instruments will help to achieve the overarching objective of transitioning the land-use and agriculture sector to sustainability – measured not just in climate mitigation but also biodiversity conservation and sustainable farmer incomes.

## Overview

The *Funding climate-friendly soil use in the EU: Challenges and risks of market-based approaches* workshop gathered 59 stakeholders and other experts to discuss how to best promote climate-friendly soil use. In addition to providing an overview of climate-friendly soil actions, it focussed on results-based approaches to funding climate-friendly soil actions and their key challenges.

The **growing interest in results-based approaches** – exemplified by the EU Commission's Carbon Removal Certification Framework – has the potential to deliver mitigation but there are real concerns about the suitability and risks of these market-based approaches to soil carbon sequestration. The workshop discussed these challenges in depth, identifying key issues, critically assessing proposed solutions, and discussing minimum requirements to ensure environmental integrity - even where those requirements de facto limit or even exclude the applicability of market-based approaches. An overarching theme was whether, to what extent, and under what conditions results-based approaches - including offsetting – should be used to promote climate-friendly soil actions – and when alternative approaches, such as action-based payments or regulatory measures, are more appropriate.

This document provides a summary of the event, documenting key discussion points and conclusions. The annexes gather presentations, agenda, and attendee list.

## Context and introduction

Session 1 provided context and guiding direction for the rest of the workshop. Key messages included that we are observing a rapid growth of market-based approaches to climate mitigation and that climate friendly soil use offers a large mitigation potential in the EU. However, there many examples of market-based credits not backed by real mitigation. Based on this context, the **guiding questions for the workshop were the following:**

- What are the most pressing challenges for market-based funding of climate-friendly soil actions?
- Can we address these challenges? What minimum requirements are necessary to ensure permanent, additional, sustainable, and robustly quantified mitigation through results-based approaches?
- Overall, should market-based approaches be used to promote climate-friendly soil use? If so, to what extent - and are alternative approaches more appropriate?

## Setting the scene: Overview of key UBA NbS project results

*See presentation slides in Annex: 2022-12-08 UBANbS_Anne Siemons, Aaron Scheid presentation.pdf*

An **overview of the UBA-funded project *Nature-based Solutions in climate protection: Market-based incentives to promote climate-friendly soil use*** was presented by Anne Siemons (Öko Institut) and Aaron Scheid (Ecologic Institute). The project reports that soils store two-three times more carbon than the atmosphere. Currently, the EU is a net emitter of GHG emissions, yet European soils offer a significant mitigation potential of approximately 71-115Mt CO2-e annually[1]. Climate-friendly soil management measures with significant mitigation potential should be prioritised to avoid emissions (rewetting of peatlands and organic soils) and to enhance removals (i.e. the conversion from arable to grassland and enhancing and establishing agroforestry systems). The potential risks of reversal, permanence, leakage, saturation, and risks to soil health and biodiversity were also highlighted.

The session then shifted to focus on **funding instruments for promoting climate-friendly soil use**, and the particular challenges of results-based payment approaches (including offsetting and contribution claims). After defining different funding instruments and identifying key challenges, the presentation provided detailed descriptions of key challenges: quantifying emission reduction/ removals, assessing additionality, addressing non-permanence, avoiding double counting, and environmental and social impacts. In addition to clarifying the nature of the challenge, the presentation also summarised insights from an analysis of existing results-based climate-friendly soil use instruments (e.g. voluntary carbon market programmes).

The presentation concluded by identifying **other cross-cutting challenges particular to the land use sector**, including competition for land, complex ownership structures, environmental and social impacts. Combined with the challenges already identified, offsetting approaches were identified as posing significant environmental integrity risks. A holistic perspective on agricultural practices is needed to acknowledge past sustainable practices as well as global implications on GHG emissions and food security.

[1]See Frelih-Larsen, A.; Riedel, A.; Hobeika, M.; Scheid, A.; Gattinger, A.; Niether, W.; Siemons, A. (forthcoming): Role of soils in climate change mitigation. UBA Climate Change, UBA, Dessau-Roßlau

In the discussion, the distinction between carbon removals and reductions, between avoidance and sequestration, and contribution claims were clarified.

## Breakout groups

*See breakout group slides in annex: 2022-12-08 UBANbS_Breakout_groups presentations.pdf*

Participants broke into **four breakout groups, each focussed on a different challenge** and moderated by a project partner (Dr. Lambert Schneider: Additionality; Dr. Wiebke Neither: Quantification; Anne Siemons: Permanence; Hugh McDonald: Sustainability). Each breakout group deepened understanding of the challenge by discussing three aspects: 1) the nature and importance of the challenge; 2) potential solutions and their effectiveness; 3) minimum standards and recommendations. Moderators introduced the challenge and also presented key insights from project analysis of existing mechanisms. Key conclusions of each group are summarised below.

### Sustainability

It is important to ensure that climate friendly soil management also limits environmental impacts, including biodiversity, soil health, impacts of water, and farmer incomes. The participants of the breakout group agreed that **sustainability is essential for climate-friendly soil management and must be recognised by funding instruments**, especially the issue of biodiversity. Indeed, they suggested that climate mitigation could be considered a co-benefit rather than the sole focus of sustainable soil management. The overlap between regenerative agriculture and organic farming was also discussed. Furthermore, participants agreed that standards need a high ambition for sustainability and that sustainability should be recognised/incentivised through multiple payments. Positive/negative lists can be helpful to implement sustainability within programmes. Quantitative monitoring is key although it is lacking in many carbon standards. Moreover, advisory services are needed in addition to payments. Finally, soil scientists should be involved in the development of standards.

### Additionality

**Different views on the need of the concept of additionality and on what it entails were expressed**. Some participants argued that the proposed definition (mitigation is additional if it occurs as a result of the incentives created by the funding instrument) did not go far enough, and that in developed countries additionality requires going beyond what is required by Paris Agreement. Participants agreed that additionality approaches should be context dependent, i.e. should be in relation to host country ambition and existing funding instruments (including CAP), and also that there is a need to be mindful of ensuring that first-movers are still rewarded. Economic feasibility was identified as the only water-proof criterium, though the importance of a balance between feasibility and stringency was emphasised. Finally, the time frame of additionality was also discussed, especially the need for continuous incentives.

### Quantification

Regarding the **quantification of carbon sequestration**, different challenges appear: the heterogeneity of soils, the high noise ratio, slow carbon sequestration, the difficulty for soil providers to gather soil at the right time (especially for permanent crops and agroforestry), and the costs of sampling. If incentives are too low, farmers may not pick up the schemes. The need for a balance between practicality and robustness was highlighted. Potential solutions include a combination of (manual) sampling and modelling (remote

sensing). Moreover, the importance to give farmers room for experimentation was stressed. Participants proposed that the quantification and offsetting should be on field level, while certification should be at jurisdictional level. Carbon leakage is difficult to assess at EU and at global level, a supply chain perspective is therefore required. The question of fairness between farmers in initial and advanced stages of carbon sequestration was discussed. The question of maintaining incentives to maintain carbon levels was also raised.

### Permanence

**Participants agreed that permanence was a key challenge**. Participants highlighted that it is practically difficult to guarantee permanence even for a 10 year-period, in part because farmers do not want to pass on obligations to future generations. It is therefore difficult to develop recommendations and to define concrete minimum standards. Participants agreed that offsets were not a good way forward. There was some support for using e.g. contribution claims or temporary credits to meet national commitments but uncertainty whether there would be sufficient demand (and funding/investment) for such approaches. The need to define and improve minimum requirements for quantification and to set higher standards for permanence at EU level was raised. Finally, participants called for a shift in focus away from quantification, and rather focus on sequestration and on promoting soil health through other instruments. Participants also agreed that there is a need to differentiate between avoided emissions, emissions reductions and removals as they pose different permanence challenges.

## Panel discussion and key conclusions

A final panel featured three experts, Dr. Lambert Schneider (Öko Institut), Dr. Nicola Di Virgilio (European Commission DG AGRI) and Malin Ahlberg (German Federal Ministry for Economic Affairs and Climate). **The panel focused on the overarching question of should climate-friendly soil management be funded through offsets – what are the limits?**

Panellists identified that there are already many projects with questionable quality in the market, and discussed different potential approaches for improving quality, including the Integrity Council for Voluntary Carbon Markets and the new EU Commission Framework for Carbon Removal Certification. There were a number of questions related to the EU Framework, including the links with the Common Agricultural Policy (including the challenge of additionality and double counting). It was highlighted that the public funds could support initial activities to guarantee carbon sequestration, while private finance could support upscaling. A number of participants called on the EU Commission to define what carbon removals under the EU Framework would be used for, with panellists pointing out that much higher or potentially unattainable standards would need to be set if removals were to be used as offsets. A related point made by panellists was the importance of thinking about the demand side, as well as supply side, i.e. the need for clarity over the types of green claims that buyers can make. Panellists and some participants suggested that non-market-based approaches, e.g. regulation, could be more appropriate for climate-friendly soil use than markets, especially due to additionality and non-permanence challenges.

Key closing messages included:

- The overarching objective must be the transition of the land-used and agriculture sector to sustainability, delivering climate mitigation objectives as well as biodiversity conservation and farmer incomes.
- Overall, the workshop concluded that challenges, especially non-additionality and challenge of regulatory additionality as well as non-permanence, mean that offsets are inappropriate for climate-friendly soil use.
- Technical challenges remain for any market-based instruments (e.g. contribution claims) but here, the lower risks to environmental integrity mean that we can aim not for perfection but for practicality, and thereby take advantage of the potential benefits in terms of upscaling.

## Annexes

Annex 1: Agenda

Annex 2: Participants list

Annex 3: Presentations

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## Annex 1: Agenda

**Agenda - Final**

# Workshop: Funding climate-friendly soil use in the EU - Challenges and risks of market-based approaches

**Thursday, 8th of December, 9am - 1pm CET**

| Time | Description | Speakers |
|---|---|---|
| 9:00-9:25 | **1: Opening session**<br>• Introduction and workshop objectives<br>• UBA Welcome<br>• Participant introductions | Hugh McDonald (Ecologic Institute)<br>Friederike Erxleben (UBA) |
| 9:25-10:05 | **2. Setting the scene: The current landscape of soil carbon standards – and key challenges**<br>• Carbon farming and NbS potential: Introduction<br>• Funding carbon-friendly soil actions: current landscape<br>• Key challenges<br>• Poll questions/Q&A | Anne Siemons (Öko Institut) and Aaron Scheid (Ecologic) |
| 10:05-10:15 Coffee break | | |
| 10:15-11:25 | **3. Deep dive: Break-out groups on key challenges for result-based approaches**<br>Moderated breakout group discussions on key challenges – 1) Permanence; 2) Additionality; 3) Quantification; 4) Sustainability - each covering:<br>• Nature of challenge<br>• Potential solutions<br>• Minimum standards and EU recommendations | All participants<br>Moderators: Anne Siemons, Lambert Schneider (Öko Institut), Wiebke Niether (Uni Giessen), Hugh McDonald |
| 11:25-11:40 Coffee break | | |
| 11:40-12:00 | **4. Deep dive: Reporting back**<br>• Moderators report back<br>• Q&A | Anne Siemons, Lambert Schneider, Wiebke Niether, Hugh McDonald |
| 12:00-12:50 | **5. Panel discussion: Potential and limits of market-based funding for climate-friendly soil management**<br>• Panel discussion<br>• Moderated Q&A | Lambert Schneider (Öko Institut)<br>Nicola Di Virgilio (EU Commission DG AGRI)<br>Malin Ahlberg, (BMWK, German Federal Ministry for Economic Affairs and Climate Action)<br>All participants |
| 12:50-13:00 | **6. Workshop conclusion**<br>• Concluding comments<br>• Next steps | Anne Siemons<br>Tobias Herzfeld (UBA) |

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## Annex 2: List of Attendees

# Workshop: Funding climate-friendly soil use in the EU - Challenges and risks of market-based approaches

| First Name | Last Name | Organisation |
|---|---|---|
| Aaron | Scheid | Ecologic Institute |
| Almawazreh | Albara | Leibnitz Universität Hannover |
| Anna | Lóránt | Environmental Defense Fund Europe |
| Anna | De Boeck | European Landowners' Organization |
| Anna | Baumgärtel | Agravis Raiffeisen AG |
| Anne | Siemons | Öko-Institut |
| Benjamin | Nelles | BMUV |
| Carsten | Warnecke | NewClimate – Institute for Climate Policy and Global Sustainability gGmbH |
| Caspar | von Alvensleben | Landwirtschaftliche Rentenbank |
| Daniel | Zimmer | Climate KIC |
| Dennis | Melzer | Klim GmbH |
| Detlef | Gerdts | ElSA Europäisches Bodenbündnis |
| Friederike | Erxleben | Umweltbundesamt |
| Gabriele | Broll | Universität Osnabrück |
| Gerald | Schwarz | Thünen Institute of Farm Economics |
| Gerry | Lawson | European Agroforestry Federation |
| Hanna | Winkler | IFOAM Organics Europe |
| Hannah | Auerochs | Bavarian State Agency for Energy and Climate Action |
| Hannes | Jung | Oeko Institute |
| Harry | Gölz | Federal Agency for Nature Conservation (BfN) |
| Hugh | McDonald | Ecologic Institute |
| Ivo | Degn | Climate Farmers |
| Jessica | Berneburg-Wächter | K+S Aktiengesellschaft |
| Joel | Kramer | Resource Conservation District of Greater San Diego County |

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|---|---|---|
| Jonas | Galdirs | CO2-regio |
| Judith | Voß-Stemping | German Environment Agency |
| Juuso | Joona | Tyynelä Farm / Carbon Action |
| Kaj | Granholm | Baltic Sea Action Group |
| Kirstin | Marx | German Environment Agency (Umweltbundesamt, UBA) |
| Konstantin | Pauly | KlimaHumus GmbH |
| Lambert | Schneider | Oeko-Institut |
| Larissa | Tyroller | Landesagentur für Energie und Klimaschutz am LfU Bayern |
| Lauryn | McLoughlin | Manchester Metropolitan University |
| Lisa | Bretschneider | Umweltbundesamt |
| Malin | Ahlberg | BMWK |
| Marc | Rosiesr | ELO |
| Mateusz | Ciasnocha | European Carbon Farmers |
| Maximilian | von Kleist-Retzow | BMWK |
| May | Hobeika | Ecologic Institute gGmbH |
| Michael | Schwegler | CO2-Land e.V. |
| Miriam | Leimgruber | First Climate (Switzerland) AG |
| Müller-Sämann | Karl | CO2-Land e.V. (gemeinnützig) |
| Patrick | Lutz | ZUG |
| Richard | Profit | Cool Farm Alliance |
| Roman | Hüppi | First Climate |
| Sandr Kleine | Kleine | Ministerium Klimaschutz LM MV |
| Sara | Minoli | Climate Focus |
| Silke | Migdall | VISTA GmbH |
| Simon | Kraemer | NABU e.V. / foodactive e.V. |
| Sophie | Progscha | Öko Institut |
| Speckle | Johannes | BayWa AG |
| Stefanie | Figge-Wegener | Novihum Technologies GmbH |
| Susanna | Hönle | Thünen-Institute |
| Sven | Gönster-Jordan | K+S AG |
| Till | Till | First Climate |
| Tobias | Herzfeld | |
| Wiebke | Niether | JLU Gießen, Organic Farming |
| Wijnand | Stoefs | Carbon Market Watch |

## Annex 3: Presentations

- Hugh McDonald UBANbS_Moderation_final
- Anne Siemons, Aaron Scheid presentation
- Breakout_groups presentations