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Assessment of the draft technical specifications for certification under the EU CRCF

Soil carbon in mineral soils and agro-forestry

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Summary of key findings and recommendations

This document provides an assessment of the proposed draft elements for an EU certification methodology on soil carbon in mineral soils and agro-forestry, provided on 11 October 2024. Key findings include:

- **Only new mitigation activities should be eligible:** The methodology allows rewarding past climate action. The methodology should include provisions to ensure that mitigation activities are only eligible if they are newly implemented and if they have considered the incentives from CRCF units when deciding to proceed with the implementation of the mitigation activities (see our textual proposal in our cross-cutting findings).
- **No consideration of public funding:** The eligible mitigation activities may also be funded through public funding. If mitigation activities receive both public subsidies and CRCF units, this could artificially lower CRCF unit prices and implicitly subsidise continued fossil fuel use by the buyers of the units. The methodology should either exclude mitigation activities that receive public funding or proportionally attribute the removals or emission reductions to the financial support provided (see our cross-cutting findings).
- **Nitrification inhibitors:** Using nitrification inhibitors could have negative effects on water quality and soil biodiversity and further research on their impacts is required. Given the involved risks, the use of nitrification inhibitors is unlikely to comply with the requirements of the provisional CRCF directive. The use of nitrification inhibitors should thus be excluded from eligibility for certification.
- **Leakage risks are not addressed appropriately and can lead to large overestimation of removals or emission reductions:** The methodology does not consider

potentially large sources of leakage, such as leakage from indirect land-use change. This is likely to lead to significant overestimation of removals or emission reductions. Tools and methodologies to account for leakage effects are available from other carbon crediting programmes and should be used.

- **No incentives for continuing carbon farming practices:** The minimum duration of the activity period shall be 5 years, except for carbon farming activities on permanent grassland, conversion to permanent grassland or agroforestry where it shall be 10 years. The draft methodology lacks provisions that incentivise operators to continue carbon farming practices and extend the monitoring period as required by recital 13 of the CRCF Regulation.
- **Important emission sources not considered:** The methodology does not consider potentially significant emission sources such as upstream emissions associated with the production of the fertilizer. The organisations developing the methodology should conduct a systematic assessment (e.g. based on lifecycle emissions data) which emission sources and sinks beyond those already specified in the methodology may be significant for different carbon farming practices.
- **Standardised baseline of zero for biomass is inappropriate:** A standardised baseline equal to zero is proposed for carbon removals in above-ground and below-ground biomass for agro-forestry activities, meaning that all new removals associated to the increment in biomass during the activity period can contribute to the net carbon removal benefit, provided that the trees or woody elements have not been planted more than [5] years before the start of the activity period. This provision is inappropriate as it would allow gaining credits from activities that happened in the past without any incentives from CRCF units and are therefore not additional.
- **Lack of appropriate provisions to demonstrate additionality**: Carbon farming activities remain eligible for unit generation until the end of the activity period if new legal requirements are introduced during the activity period which mandate the activity. This undermines best practices established in other carbon crediting programs, in particular in developed countries. Additionality is assumed if activities are only financed through remuneration from private markets. This is not appropriate and should be replaced by a more specific additionality test.
- **Provisions on storage, monitoring and liability are underdeveloped and miss critical provisions**: The CRCF Regulation defines that units from carbon farming activities are temporary and expire at the end of the monitoring period of the relevant activity. However, there are no provisions on the consequences of the expiry of units that were already used. Provisions are needed to clarify that buyers bear the responsibility for replacing temporary units upon their expiry. Alternatively, the methodology should clarify for which purposes temporary units may be used. Furthermore, provisions are needed on how the monitoring period is to be prolonged. Also, the consequences of no submission of monitoring reports during the monitoring period should be defined in the methodology. For the stated liability mechanisms, it should be specified which types of reversals are covered by which entities and how the risk assessment will be implemented.
- **It remains unclear how fulfilment with sustainability requirements will be ensured**: Provisions are lacking on how compliance with safeguard criteria should be ensured and how monitoring of environmental impacts should be implemented. Compliance with the requirement to generate co-benefits for soil health and reduce land degradation should

not be taken for granted for all carbon farming activities that lead to carbon sequestration in or reduced carbon emissions from mineral soils.

More detailed and further comments are provided below.

Detailed comments

Definitions

- **Reference to carbon removals:** The methodology refers to "carbon removals" throughout the text. Carbon removals are defined as "the anthropogenic removal of carbon from the atmosphere and its *durable* storage in geological, terrestrial or ocean reservoirs, or in long-lasting products" (Art. 2.1 (a) CRCF Regulation).
    - This is misleading because the removals achieved through carbon farming are per se temporary and they are defined as such in Art. 2.1 (h) of the CRCF Regulation.
    - It would be better to refer to "**temporary carbon removal benefits**" in the methodology when referring to the process of transferring carbon from the atmosphere into the soil through plants and other organisms. This would be consistent with the term used in Article 4.2 of the CRCF Regulation. Moreover, the methodology may refer to "**temporary carbon storage**" when referring to the SOC pool (see Don et al. 2023).
- **No definition of greenhouse gases (GHG) and no specification of Global Warming Potential values:** The methodology does not provide a definition of greenhouse gases and does not specify the GWP values to be used in quantifying the mitigation impact of carbon farming activities. This should be added in line with relevant EU legislation (see our cross-cutting findings).

Section 1: Scope

Section 1.1 Eligible activities

- **Specification of the type of eligible activities:** The scope of the methodology is very broad. The draft methodology states that there was consensus that the methodology should not prescribe a specific list of practices to be implemented but that any carbon farming activity happening on agricultural mineral soils is eligible and can be certified if it can be shown to comply with all quality criteria in the CRCF (p. 5-6). The methodology proposes a non-exhaustive list of practices as examples, including e.g. improved crop management or conservation tillage practices and organic soil improvers/amendments (p. 8). We are concerned about this approach towards eligibility of mitigation activities for several reasons:
    - The quality criteria in the CRCF provide a general guidance framework that should be implemented through rules and provisions that are applicable to specific mitigation activities. The rules on sustainability set in Article 7 of the CRCF are rather general and should be operationalised through detailed provisions of the specific methodology to ensure that unsustainable activities are excluded from certification. Therefore, **the methodology should specify an exhaustive list of activities that are eligible**.

  - **Some carbon farming measures can pose risks to soil health and biodiversity.** This relates in particular to the use of nitrification inhibitors which do not qualify as nature-based solutions (Ecologic Institut; Universität Gießen; Oeko-Institut 2022). Nitrification inhibitors may have negative effects on water quality and soil biodiversity and further research on their impacts is required (Corrochano-Monsalve et al. 2021; Kösler et al. 2019; Ecologic Institut; Universität Gießen; Oeko-Institut 2022). The involved risks are therefore likely not to be covered by the sustainability requirements suggested by the CRCF and the methodology on carbon farming. **The use of nitrification inhibitors should thus be excluded from eligibility for certification.**

- **Application of off-farm organic amendments:** Applying off-farm organic amendments is only eligible if the operator can demonstrate that the organic amendments are coming from organic resources that would otherwise not be used following circularity principles in that region (e.g. from organic resources that are currently incinerated or landfilled) (p. 8). The impacts on soils of external organic inputs strongly depend on the quality of these inputs (e.g. benefits to the plants depend on the diet of the animals if manure is applied (Petersen et al. 2013); biowaste compost may include plastic components (Braun et al. 2021). **The sustainability criteria defined in the CRCF and the draft methodology on carbon farming do not specifically address the quality of such inputs. Therefore, more precise quality criteria for external inputs should be defined in the methodology**.

- **Provisions on improved grassland management:** Improved grassland management activities should take place on land that has not been converted to cropland during the 5 years preceding the start of the activity period (p.8).

  - The wording should be changed from “should” to “shall”.

  - It is not clear whether the methodology refers to grassland that has not been *used* as cropland during the 5 preceding years or whether the activity referred to is the conversion of grassland to cropland (and not improved grassland management). This should be clarified. It seems more reasonable to require that the land has not been used as cropland during the 5 preceding years.

  - Specific guidance is missing in the methodology on how the use of the land in question in the preceding years should be tracked.

- **Addressing perverse incentives:** The methodology should additionally include provisions to address perverse incentives for operators to degrade agricultural land first in order to obtain credits for changing the way it is farmed thereafter.

- **Only new mitigation activities should be eligible:** The methodology allows rewarding past climate action. The methodology should include provisions to ensure that mitigation activities are only eligible if they are newly implemented and if they have considered the incentives from CRCF units when deciding to proceed with the implementation of the mitigation activities (see our textual proposal in our cross-cutting findings). The provisions included on page 15 of the methodology are clearly not sufficient as these seem to limit the start of the crediting but still allow crediting activities that were implemented in the past.

Section 1.2: Activity period, monitoring period and certification period

- **No incentives for prolonging the monitoring period:** The minimum duration of the activity period shall be 5 years, except for carbon farming activities on permanent grassland, conversion to permanent grassland or agroforestry where it shall be 10 years (p. 9).
    - The minimum duration of the monitoring period shall be 10 years, except for carbon farming activities on permanent grassland, conversion to permanent grassland or agroforestry where it shall be 15 years (p. 9). After the end of the monitoring period, carbon farming sequestration units shall expire unless the long term-storage of the removed carbon is proven through continued monitoring (Art. 12.1.(b) CRCF).
    - According to CRCF recital 13, "it is appropriate that the certification methodologies incentivise operators to prolong the monitoring period several times, with the aim of storing captured carbon for at least several decades. **The draft methodology does not include any provisions that incentivise operators to continue carbon farming practices and extend the monitoring period though.** Such provisions should be included.
- **Unclear provisions and rationale for the length of monitoring periods:** It is not clear why monitoring should continue after the end of the activity period for temporary units that expire. Also, the proposed lengths of monitoring after the activity period seem arbitrary and do not ensure any longer-term benefits. To make temporary units more attractive for the market, the monitoring periods would need to be much longer. Units issued for these activities are temporary in nature. Under the CDM, buyers were less interested in temporary credits which had to be replaced upon their expiry and were not fungible with credits from other sectors (World Bank n.d.; Pew Center on Global Climate Change 2022). **It is therefore questionable whether there will be high demand for units for carbon farming activities under the CRCF with the proposed monitoring period. If demand is low, the CRCF might not achieve its aim to facilitate investment in carbon farming activities.**

Section 2: Quantification

Section 2.1: Relevant carbon removal sinks and GHG emission sources

- The title should be changed to "Relevant carbon sinks and GHG emission sources".
- **Further specification of relevant emission sources needed:** The methodology states that carbon removals in mineral soils and above- and below-ground biomass, emission reductions from mineral soils and direct and indirect N_2O emission reductions from mineral soils should be included in the quantification of a carbon farming activity (p. 9). The provisions are not appropriate and should be revised:
    - With the proposed wording, the methodology does not clearly define the GHGs that should be covered in the quantification of emission reductions and removals. It should be clarified which gases are covered (e.g. CO_2 and N_2O

emissions) and which exact carbon pools are covered according to the IPCC nomenclature of carbon pools).

- **Important emission sources not considered:** The methodology does not consider potentially significant emission sources. For example, the application of additional fertilizer compared to the baseline scenario does not only involve N_2O emissions from field application, but also significant upstream emissions associated with the production of the fertilizer. The organisations developing the methodology should conduct a systematic assessment (e.g. based on lifecycle emissions data) which emission sources and sinks beyond those specified in the methodology may be significant for different carbon farming practices. Emission sources and sinks should be included unless their omission is conservative.

Section 2.2: Standardised baseline

- **Standardised baselines for soil carbon are associated with high uncertainties which will lead to adverse selection and systematic overestimation of emission reductions or removals:** Standardised baselines for carbon removal in soils and LULUCF soil emissions and agricultural soil emissions are yet to be developed (p. 9-10). Options for calculating these standardised baselines are included in Annex I of the methodology. The proposed approach raises several concerns:
    - **Site-specific conditions unlikely to be appropriately reflected through the standardised baseline:** It is questionable how standardised baselines can be applied while the condition of soils is highly site-specific. Soils are heterogenous even across small areas and their management and condition is highly dependent on the local context (see e.g. West and Six 2007; EDF 2021; Smith et al. 2020). In our assessment it is likely that a standardised baseline may significantly underestimate or overestimate to true (but unknown) soil carbon fluxes for a specific land parcel.
    - **High uncertainties in baseline levels lead to adverse selection and systematic overestimation of emission reductions and removals:** Given that standardised baselines are likely to considerably over- or underestimate true baseline levels, the calculated emission reductions or removals will only be partially attributable to the mitigation activities and partially an artefact of wrongly set baselines. A large overestimation of the baseline would lead to significant over-crediting. By contrast, a large underestimation of the baseline could lead to no CRCF unit issuance at all, although the project may actually reduce emissions. One might argue that underestimation in some projects would compensate for overestimation in other projects. In practice, however, large uncertainties can lead to selection bias or adverse selection, in particular if paired with information asymmetry. Projects with an overestimated baseline have a competitive advantage because they receive more CRCF units, while projects with underestimated baselines may not move forward or fail as they do not receive sufficient credits to cover their costs. This can lead to more carbon credits being generated from projects with overestimated baselines, which would thereby undermine the integrity across the portfolio of projects (CCQI 2024).

- **Standardised baseline of zero for biomass is inappropriate:** A standardised baseline equal to zero is proposed for carbon removals in above-ground and below-ground biomass for agro-forestry activities, meaning that all new removals associated to the increment in biomass during the activity period can contribute to the net carbon removal benefit, provided that the trees or woody elements have not been planted more than [5] years before the start of the activity period (p. 6, 10). This provision is inappropriate as it would allow gaining credits from activities that happened in the past without any incentives from CRCF units and are therefore not additional. The methodology should ensure that only mitigation actions started due to the incentives from CRCF units are credited.

Section 2.3: Activity-specific baseline

- **Methodology lacks provisions to determine what the baseline scenario is:** The methodology does not contain any provisions to determine what the likely baseline scenario is for the activity period. While the continuation of the historical land-use practices may be a reasonable baseline scenario, this is not necessarily the most plausible scenario in all instances. The lack of provisions to determine the baseline scenario can lead to a baseline that is set very differently than what is likely to occur in the absence of the mitigation activity.

- **High uncertainty in quantifying soil content could pose considerable challenges:** In the absence of a standardised baseline for carbon in mineral soils, an activity-specific baseline shall be determined by taking soil samples at the start of the project and then calculate the baseline with a model that simulates the continuation of the practices that were in place during the reference period (p. 6, 10). The reference period for the activity-specific baseline should cover the 3 previous years before the activity period starts (p. 10). Calculation of removals or soil carbon emissions shall be done either on the basis of a measure-remeasure approach or a measure-model-based approach. No specific sampling protocols and/or models are prescribed but criteria for these protocols and models to be validated will be provided. These criteria are yet to be determined (p. 6). We identify several challenges with the proposed approach:

    - **Determining the SOC content of soils is inherently challenging.** This is because of relatively small changes in SOC over time (compared to baseline stocks) or high soil heterogeneity across areas that may result in a high variance of carbon stock measurements, making it difficult to distinguish measure impact from other factors (i.e., a low signal-to-noise ratio) (West and Six 2007). Additionally, SOC stocks are affected by climate change and extreme weather events and sensitive to small management changes, which can lead to variations over time as well as to quick releases of accumulated carbon stocks. Furthermore, high soil heterogeneity across areas and lack of standardised sampling techniques (e.g. different sampling depths) can result in a high variance of carbon stocks measured. Field conditions like stony or dry soils may pose further technical obstacles to sampling (see Smith et al. 2020).

    - Additionally, **specific challenges regarding measurement of SOC stocks exist for different carbon farming activities that need to be taken into account**, e.g.:

  - Silvoarable agroforestry is a system where woody perennials such as trees or hedges and agricultural crops are grown on the same cropland. Such systems pose specific challenges for SOC determination. Permanent tree rows have a higher SOC sequestration rate than cropland and the tree rows also can affect the adjacent crop strips (Golicz et al. 2021). The number of measurement samples must therefore be higher to deliver accurate data compared to pure cropland to account for the different components of the system and their interactions.
  - The carbon sequestration potential of improved crop rotation has been found to depend on other factors including reduced tillage (Shrestha et al. 2015) and how single crops in the rotation are managed, e.g., with high- or low-input of organic matter and crop residue management (Vinther et al. 2004). Sequestration gains can be reversed quickly by tilling due to fast mineralisation processes of organic compounds.
  - Reduced or no till practices reduce soil disturbance and thus the mineralisation of SOC, but the measure only impacts the concentration of SOC in the topsoil layer. The literature is inconclusive on the effects on soil carbon sequestration of conservation tillage practice (Griscom et al. 2017; Conant 2012) and quantification will be challenging.
- The complexity and costs of measuring or modelling mitigation impacts of carbon farming pose severe challenges (EDF 2021). **It is questionable whether farmers will be able to undertake the efforts required to robustly quantify mitigation impacts or which other actors would be involved in the measuring and monitoring and bear the costs. This raises the question whether it is sensible to make funding for carbon farming conditional upon the verification of mitigation results.** If resulting units are principally usable for offsetting, high accuracy in quantifying mitigation results is inevitable though.

- **Initial carbon stocks may not always be a representative baseline:** The methodology assumes initial carbon stocks are a representative baseline for the future (p. 10). This may be appropriate in some cases but not in others. Depending on the past land use practices and any future land-use practices, it may also be plausible that baseline carbon stocks would increase or decrease in the baseline scenario (e.g. if a change in practices occurred in the past this could lead to continued uptake of soil carbon throughout the crediting period in the baseline scenario).

- **Further guidance necessary to avoid bias in the selection of SOC models or relevant model parameters:** The methodology provides relatively vague guidance on the appropriateness of SOC models to be used (pp. 10-13). There is a large variety of models and model outcomes depend considerably on the input parameters, with sometimes rather different outcomes. This poses the risk that mitigation activity proponents select a model or parameters that provide for greater soil carbon removals or emission reductions in the context of their projects. This may thus lead to a systematic bias in the selection of SOC models and parameters, which could lead to a systematic overestimation of emission reductions or removals. The methodology should provide further guidance on the use of any modelling (e.g. how measurements for initialisation of models should be carried out, what parameters should be selected to calibrate models, how they should be

validated based on on-site measurements). The methodology should also provide guidance on how exogenous factors or co-variates that are not related to the mitigation activity (e.g. extreme weather events that may affect carbon stocks) should be taken into account.

- **Sampling approach needs further elaboration:** It is not clear which exact statistical techniques are to be applied to test for significance in changes over time due to an intervention.
- **Approaches for determining biomass quantities need more specificity:** The general approaches described are appropriate but lack clarity how biomass carbon stocks should be quantified. The methodology should be clearer on several aspects, including how sampling should be undertaken, how allometric equations should be selected, how biomass expansion factors should be selected or how the quantity of carbon in biomass should be determine. Moreover, significantly more guidance would be necessary in relation to forest growth models, given that growth rates can be very site-specific. The lack of clarity can lead to selection bias in choosing these parameters, i.e. project developers choosing values that are favourable. This has been observed as a wide-spread issue in forestry projects which has led to considerable overestimation of emission reductions (Haya et al. 2023; Martin et al. 2018; Badgley et al. 2022). There is wide-spread recognition in the voluntary carbon market that more specific guidance is necessary and several methodologies for the forestry sector are currently undergoing review to incorporate more specific requirements regarding these parameters.

Section 2.4 Total carbon removals and emissions

- Provisions on monitoring the quantified mitigation impact are missing in the draft methodology and should be added.
- The title of this section should refer to “removals and emission reductions” (not “emissions”)

Section 2.5 GHG associated emissions

- **Insufficient provisions to address leakage emissions:**
    - **Indirect land-use change can lead to large leakage emissions that are not considered in the methodology:** Several mitigation activities that are eligible under the methodology could lead to a reduction in the level of agricultural services or products provided. The resulting leakage effects from indirect land-use change can be very significant. The statement that the risk is very low (p. 14) is wrong and not backed by the scientific literature. The ICVCM, the CDM and the Article 6.4 mechanism require considering this type of leakage effects. Respective tools are available and default emission factors to account for such effects have been developed under different frameworks. The methodology should be revised to fully account for leakage due to any changes in the level of agricultural services or products compared to the baseline scenario.
    - **Activity shifting:** To avoid the risk that carbon removals or soil emission reductions on certified parcels are compensated by an increase in soil

emissions on other, non-certified parcels under the control of the operator, the entire farmed land under the operational control of the operator should be included in the monitoring (p. 9). We welcome this measure to reduce potential leakage effects. However, **more precise guidance is needed on how leakage to other parcels is to be identified and what would be the consequences of leakage.**

  - To determine the risk of leakage, it should be assessed to what extent a carbon farming activity changes the level of agricultural outputs and environmental services produced on the respective area of land compared to the baseline scenario. Default factors can be assigned for different levels of leakage risk which must then be considered in quantifying the total mitigation impact of the carbon farming activity.

- **The considered emission sources are incomplete:** For example, the production of fertilizers can cause significant emissions, in the same order of magnitude as the onsite N_2O emissions from the application of fertilizer on fields. The methodology should systematically consider all relevant emission sources and sinks and only exclude sources and sinks whether this is conservative.

- **The provisions for estimating emissions from energy use are unclear and not appropriate:** The methodology should specify more precisely how emissions associated with the use of such fuels is estimated, including upstream emissions (e.g. from oil and gas exploration and refining). The IPCC Guidelines provide procedures for some parameters, but for example do not include procedures to calculate grid emission factors for any increase in electricity consumed under the mitigation activities. Moreover, the IPCC Guidelines provide best estimates but do not provide conservative estimates. Relevant CDM tools may serve as a reference how these emissions could be estimated.

- **The proposed materiality threshold (p. 14) is inconsistent with the principle of conservative quantification.** The methodology should be revised to include all emission sources or sinks, except where the exclusion is conservative (see our cross-cutting findings).

Section 2.7 Addressing uncertainties in a conservative manner

- **The consideration of uncertainty (p. 14) is too limited and lacks specificity:** Generally, it is appropriate and required to account for uncertainty. However, the approach needs improvement in several areas:

  - **The methodology is not sufficiently clear how exactly an uncertainty deduction should be made to the total sequestration impact**. The accounting for uncertainty should be reflected in the relevant equations.

  - **The consideration of uncertainty seems to be limited to measurement uncertainty**. This is inconsistent with, and sets a lower standard than, the requirements under the Clean Development Mechanism (CDM), the Article 6.4 mechanism and the Integrity Council for the Voluntary Carbon Market (ICVCM). The ICVCM requires that, in estimating overall uncertainty, “all causes of uncertainty shall be considered, including assumptions (e.g., baseline scenario), estimation equations or models, parameters (e.g.,

representativeness of default values); and measurements (e.g., the accuracy of measurement methods). The overall uncertainty shall be assessed as the combined uncertainty from individual causes" (ICVCM 2023). Similar rules apply under the CDM and the Article 6.4 mechanism. To follow best scientific practice, the consideration of uncertainty should include all relevant causes of uncertainty.

Section 3: Additionality

Introduction

The approach towards additionality is not appropriate and could lead to the certification of mostly non-additional mitigation activities. It needs to be improved in several areas. It is particularly problematic that any additionality demonstration is only required in the case of activity-specific baselines.

Robust approaches for demonstrating additionality of removal or carbon farming activities for activity-specific baselines should consist of a three-pronged approach that restricts eligibility to those mitigation activities for which project proponents can demonstrate that:

1. The mitigation activities are not obligated to be implemented due to legal requirements in the country where the project is proposed to take place (often referred to as "regulatory surplus test" or "legal additionality test");
2. The mitigation activity proponents have considered revenues from selling CRCF units at the time when making their investment decision (often referred to as "prior consideration");
3. either
    - need additional revenues from selling removal or carbon farming certificates for making activities profitable and/or for mobilizing funders that are willing to invest in them (often referred to as "financial additionality test" or "investment analysis" or "benchmark analysis" or "financial attractiveness").

      OR
    - face non-financial barriers that can be overcome through removal or carbon farming certificates (often referred to as "barrier analysis")

In its current form, the proposed provisions for the additionality section result in a high risk that non-additional carbon farming activities would be eligible for certification under the methodology. The following paragraphs outline the risks for each component of the additionality section.

Section 3.1 – Regulatory test

Robust "Regulatory surplus" or "legal additionality" "tests" usually consist of two parts:

1. Provisions that exclude eligibility of activities that are mandated by legal requirements in the country or region in which the project is being implemented.

2. Provisions that regulate (dis-)continuation of unit issuance in case new legal obligations that mandate the activity are adopted after the start of project implementation.

The methodology's provisions addressing the **first part** of the regulatory test **can be considered as robust and in line with best practice on voluntary carbon** markets. They stipulate that there shall be no legal obligation on the operator stemming from Union or national legislation, to carry out the carbon farming activity in the project area. Legal obligations are further clearly defined by stating that these encompass laws, statutes, regulations, court orders, environmental management agreements, planning decisions or other legally binding agreements.

The provisions addressing the **second part** of the regulatory test **are however problematic and have the potential to undermine the additionality of units issued under the methodology.** They stipulate that if new legal requirements are introduced during the activity period, carbon farming activities remain eligible for unit generation until the end of the activity period. This is problematic, because the methodology stipulates that the minimum length of the activity period must be 5 years (and 10 years for carbon farming activities on permanent grassland, conversion to permanent grassland and agroforestry) while there is no ceiling to its maximum length. This means that if new legislation is adopted that mandates operators to implement the carbon farming activity e.g. in year two of the project, operators, depending on the length of the activity period, could receive credits for further years during which the activity should not be considered additional anymore.

This provision therefore constitutes a potential risk for issuing large volumes of non-additional units and it should be adapted for the final methodology.

The provisions in its current form further undermine best practices on voluntary carbon markets. The IC-VCM e.g., recommends reassessing legal surplus of activities at every verification in case the crediting period is longer than five years.[1] Such an approach is also common practice by many carbon crediting programs on the voluntary carbon markets.

It is therefore recommended to amend the provision by deleting the following paragraphs:

> *In order not to discourage Member States from introducing mandatory national obligations that are more stringent or ambitious compared to Union or national obligations in force at the time where the activity starts, an activity may still be considered additional where such national obligations are introduced during the activity period. The same is true in case of mandatory national obligations adopted in the absence of Union obligations.*
>
> *In particular, such activity can still generate units eligible for certification up to the end of the activity period.*
>
> *Activities going beyond the level required under national or Union obligations can generate units eligible for certification for those additional*

[1] See Criterion 8.2 „Existing Host Country Legal Requirements" of the IC-VCM Assessment Framework, Version 1.1 https://icvcm.org/wp-content/uploads/2024/02/CCP-Book-V1.1-FINAL-LowRes-15May24.pdf

delivered emission reductions. Such activity can still generate units eligible for certification up to the end of the activity period.

and replacing it by the following:

"Operators must demonstrate at each re-certification audit that the carbon farming activity passes the regulatory test. If operators at any re-certification audit fail to demonstrate that the carbon farming activity still passes the regulatory test, the activity period for the activity will be terminated."

The effectiveness of the proposed addition is contingent on the length of the re-certification audit. Currently the methodology does not include any provisions on the intervals in which re-certification audits would take place. Provisions should be added that the first re-certification audit should take place after four years and annually thereafter.

Additionally, it is not clear whether the "introduction" of an obligation refers to the adoption or entry into force of such an obligation. This should be clarified.

Prior consideration (missing from the methodology)

Prior consideration is an important criterion for assessing the additionality of mitigation or removal activities and its inclusion in "additionality-tests" is recommended by quality assessment frameworks such as the IC-VCM and CCQI. Also rating agencies such as Calyx Global evaluate it in their assessment frameworks.

Requirements for demonstrating prior consideration are important because they:

- filter out projects for which there is a high likelihood that they would have occurred without revenues from selling removal certificates,
- are an effective approach for minimizing the risk that projects claim removal certificates during a time when carbon finance was neither considered nor needed for project activities to proceed.

The proposed methodology lacks any provisions on prior consideration, and it is proposed to remedy this by adding the following text as a new section 3.3:

3.3 Consideration of carbon credits (prior consideration)

The operators shall provide publicly available documented evidence of the consideration of certified units prior to the calendar date on which they committed to implementing the carbon farming activity (e.g., the date when contracts for the purchase or installation of equipment required for the carbon farming activity were executed or the date when the first expenditures are incurred).

In the case where the carbon farming activity does not involve expenditure, operators shall demonstrate that they considered certified units prior to the date when the first physical actions were taken to implement the carbon farming activity.

In either case, operators shall provide such documented evidence to the certification scheme no later than six months after the respective calendar date.

Documented evidence shall be subject to assessment by a certification body and/or the certification program as part of the validation of the carbon farming activity.

Section 3.2 – Financial test

The current provisions in section 3.2 are unclear and are not fit-for-purpose for a robust financial additionality "test". In carbon crediting mechanisms, the objective of financial additionality tests is to assess whether the proposed mitigation activity would not be financially viable without the revenues from carbon credits.

An overarching issue with the provisions is that they confuse the question of additionality of mitigation activities with the question of whether existing certification schemes should be eligible for recognition under the CRCF. As the proposed methodology is conceptualised using an activity-specific baseline (in contrast to a standardized baseline), the financial additionality assessment must deal with the financial additionality of the proposed activities. Considerations of eligibility of existing certification schemes under the CRCF should be dealt with elsewhere.

Further, the provisions make conceptually inaccurate assumptions, including the following:

- They stipulate that if existing certification schemes are financed through remuneration from the private sector, they are automatically additional because the activity would not take place without the certification scheme (p. 15). The fact that private entities purchase carbon credits or CRCF units however does not allow making any statement on the likelihood of additionality of a mitigation activity. Various carbon farming measures including e.g. the use of cover crops, inclusion of forage and grain legumes in crop rotations and buffer strips are often common practice in Europe already and/or are financially viable without additional funding.
- They stipulate that if schemes are financed through a combination of public and private funding, this is appropriate as long there is no overcompensation of the costs carried by the operator. Therefore project operators must include information on any form of financing received or applied for with regard to the activity in the certificate of compliance. Cumulation rules under the State aid legal framework would apply accordingly (pp. 15-16). However, placing a ceiling on the amount of support an activity can receive, is not a robust approach for ensuring financial additionality of mitigation or removal activities.

The proposed methodological approach does not assess whether mitigation activities are additional. It is inconsistent with the approaches required by the ICVCM, and any of the larger carbon crediting programmes (CDM, Article 6.4, VCS, Gold Standard, ACR, CAR). The approach would likely lead to the certification of mostly non-additional mitigation activities.

It is therefore proposed to replace the complete section 3.2 with the following provisions:

"Operators shall demonstrate that the carbon farming activity would not have taken place without the added incentive of the certification scheme by performing an investment analysis for the proposed activity.

Operators should transparently document the investment analysis as part of the documentation submitted for registration. Such documentation shall include information and evidence that substantiate and justify the assumptions, data and conclusions made and used for the investment analysis. All information and evidence provided shall be consistent with information presented to the operator's decision-making management and investors/lenders.

For performing the investment analysis, the operator shall apply a suitable financial indicator such as the net present value (NPV) or internal rate of return (IRR). For calculating the financial indicator the operator shall consider all relevant costs (CAPEX, OPEX) and revenues, including all form of subsidies and support schemes for the carbon farming activity.

All parameters and assumptions used in the investment analysis shall be internally consistent (e.g. cash flows shall be consistently expressed either in real or nominal terms).

Operators shall apply the investment analysis to perform one of the following approaches to demonstrate additionality:

Benchmark analysis

Under the benchmark analysis operators shall compare the financial indicators of the carbon farming activity against a benchmark that is appropriate for the financial indicator used (e.g. when applying equity IRR the benchmark shall be the cost of equity and when applying project IRR the benchmark shall be the weighted average cost of capital).

Additionality is demonstrated if the analysis shows that:

i. *The carbon farming activity would not meet the required financial benchmark without revenues from CRCF units;*

ii. *The financial performance of the carbon farming activity increases decisively through revenues from CRCF units; and*

iii. *Revenues from CRCF units raise the financial performance at or above the required financial benchmark.*

Investment comparison analysis

Under the investment comparison analysis, operators shall compare the carbon farming activity to alternative scenarios that are mutually exclusive and provide the same type of products or service as the carbon farming activity.

Additionality is demonstrated if the analysis shows that the mitigation activity would not be the financially most attractive scenario in absence of revenues from selling CRCF units.

Regardless the approach chosen to demonstrate additionality (benchmark analysis; investment comparison analysis), operators shall, as part of their

investment analysis, conduct a sensitivity analysis to show whether the conclusion regarding the financial attractiveness is robust to reasonable variation in the critical assumptions.

All elements of the investment analysis shall be assessed as part of the validation by a certification body and checked by the certification scheme.

No consideration of public funding: The eligible mitigation activities might already receive funding through public support schemes, e.g., through the Common Agricultural Policy. The financial additionality provisions recognize that peatland rewetting activities might already receive funding through public support schemes, e.g., through the Common Agricultural Policy. If mitigation activities receive both public subsidies and CRCF units, this could artificially lower CRCF unit prices and implicitly subsidise continued fossil fuel use by the buyers of the units. The methodology should either exclude mitigation activities that receive public funding or proportionally attribute the removals or emission reductions to the financial support provided (see our cross-cutting findings).

Section 4: Storage, monitoring and liability

The rules on storage, monitoring and liability are yet to be defined; the section of the draft methodology is presented in italics and or in square brackets, indicating that it is still being developed (section 4). **In its current form, the section is underdeveloped and misses critical provisions to address the risks of reversals that are inherent to mitigation activities in the land use sector.** To what extent the provisions on liability will be able to address reversals will depend on the detailed rules that are yet to be developed.

- **Lacking consequences of expiry of temporary units from carbon farming activities**: Units generated under the CRCF from carbon farming activities expire at the end of the monitoring period of the relevant activity (CRCF Regulation recital 13, Article 6, Article 12.1b). As a consequence, they will then be cancelled from the certification registry or from the Union registry unless the operator commits to prolonging the monitoring period according to the rules set out in the applicable certification methodology (recital 26, Article 12.1b).
    - However, **neither the CRCF Regulation itself nor the draft methodology on soil carbon in mineral soils and agroforestry contains any provisions on the consequences of the expiry of units that have already been used**. This is a severe gap. If the temporary units had been used by a buyer before their expiry, after the expiry the carbon removals associated with these units may not be stored in soils or biomass anymore. This would undermine the environmental integrity of the CRCF because it would lead to higher levels of emissions in the atmosphere than without the use of the mechanism.
    - For that reason, **provisions are needed to clarify that buyers bear the responsibility for replacing temporary units upon their expiry**. Provisions must be developed to ensure that registries inform buyers of units about the expiry of these units so that buyers can fulfil this responsibility. Alternatively, the methodology should clarify for which

purposes temporary units may be used. Provisions to address this should be specified in the in the delegated act(s) that are to be adopted on the requirements concerning the Union registry (Article 12.1a CRCF Regulation) and the implementing acts on the structure, format and technical details of the certification registries, of the recording, holding or use of certified units (Article 12.a CRCF Regulation).

- **Lacking provisions on prolonging the monitoring period:** As stated above, temporary units expire at the end of the monitoring period of the relevant activity unless the monitoring period is prolonged. However, the draft methodology does not contain any provisions on how this is to be done (see also comments on section 1.2). These need to be added.
- **Lacking provisions on monitoring of reversals:** The draft methodology states that operators shall monitor every [x] years over the monitoring period any identified risk of reversal over the stored carbon (p. 16). However, this provision addresses the monitoring of risks of reversals, but not of reversals **themselves**. This is a severe gap. The text should be revised to say "*any reversal over the stored carbon*" instead of "*any identified risk of reversals over the stored carbon*".
    - Considering the high costs associated with monitoring, in our view it would be acceptable to require monitoring of reversals to be done only every 5 years if credits are issued on an ex-post basis, so after the mitigation impact has been verified.
- **Missing rules if monitoring ceases:** Rules should also be formulated for the event that monitoring of reversals ceases. It should be clarified that in such cases units issued for the activity would expire and would need to be compensated for.
- **Clarification needed for liability mechanisms**: For reversals occurring during the monitoring period, the draft methodology foresees an insurance policy or comparable guarantee product with an insurance company that manages a pool of units from which reversals can be covered. Alternatively, operators should directly participate in a buffer pool to which they must contribute an amount of units that corresponds to the reversal risks. The certification scheme shall ensure the resilience, sufficiency and solvency of the buffer pool (p. 16-17).
    - **Lacking provisions on implementation of risk assessment**: The draft methodology states that the contribution to the buffer pool shall be determined by a risk assessment. If no risk assessment is conducted, a default risk rate of 20%, 25% or 30% (yet to be determined) shall be used (p. 16). It should be clarified under which circumstances no risk assessment needs to be conducted. Additionally, provisions should be added to exclude activities from eligibility for which the risk assessment is very high.
    - **Specification needed which type of reversals are covered**: It should be clarified that any liability provision covers unintentional reversals such as natural disturbances. It should also be clarified that intentional reversals are compensated through the pool if the operator does not or cannot fulfil their contractual arrangements so that he cannot be held liable.

  - We welcome the proposal in the draft methodology that units held in a pool of units for liability purposes shall expire after the end of the monitoring period, unless the monitoring period is prolonged.
  - **Provisions lacking on continued operation of the buffer pool in case of bankruptcy of the buffer pool operator**: Such provisions should be added.

- **Prohibiting updating the baseline in case of reversals**: Provisions should be added to prohibit that the baseline of a carbon farming activity is updated (adjusted upwards) in the case of reversals to make sure that the reversals are adequately accounted for.
- **Legal agreements that restrict land management practices that would result in reversals**: Provisions should be added to require legal agreements with project operators that restrict or prevent land management practices that would result in reversals (by the operators themselves or by third parties).
- **Clarification of text needed**: The draft methodology states that in the management of the activity special attention should be paid to mitigation practices resulting in a smaller risk of reversal due to disturbances (p. 16).
  - It should be clarified what is meant by “special attention” and whether this provision implies any consequences for the risk assessment, the buffer pool contribution or how reversals are to be addressed.

Section 5: Sustainability requirements

Section 5.1: Minimum sustainability requirements

The minimum sustainability criteria are partly inspired by the Do Not Significant Harm criteria and partly based on expert judgment. Mandatory co-benefits for the protection and restoration of biodiversity and ecosystems including soil health and the avoidance of land degradation are based on indicators that are listed in the Nature Restoration Law Art. 11. It will be discussed in the expert group whether a more cost-efficient approach could be to make use of the positive list of practice under Annex VII of the Nature Restoration Law (p. 7).

Following Article 7.2 of the CRCF, the draft methodology on carbon farming sets minimum sustainability requirements for carbon farming activities in section 5.

We welcome the safeguard criteria included in 5.1.(a) to (f) on climate change mitigation beyond the net carbon removal benefit and the net soil emission reduction benefit as well as adaptation, the sustainable use and protection of water and marine resources, safeguards regarding the transition to a circular economy and safeguards regarding adaptation (p. 17-18).

Provisions should be added on how compliance with these criteria should be ensured and how monitoring of environmental impacts should be implemented.

Section 5.2: Monitoring and reporting of the mandatory co-benefits for the protection and restoration of biodiversity and ecosystems, including soil health and the avoidance of land degradation

Section 5.2 of the draft methodology sets rules and requirements for monitoring and reporting of the mandatory co-benefits for the protection and restoration of biodiversity and ecosystems, including soil health and the avoidance of land degradation (p.19).

- **Further elaboration on monitoring and reporting of co-benefits needed**: We welcome that the methodology provides guidance on mandatory co-benefits for the protection and restoration of biodiversity and ecosystems, including soil health and the avoidance of land degradation. However further specification is required. It is not clear how monitoring and reporting on these co-benefits shall be implemented.
    - To ensure the implementation of co-benefits, operators should be required to assign roles and responsibilities for managing environmental risks of the project, define how monitoring must take place and how information on these environmental risks must be reported. Also, a follow-up procedure on any potential negative environmental impacts should be defined.
- **Clarification needed how activities are to show compliance with Nature Restoration Law**: The draft methodology refers to Article 11 of the Nature Restoration Regulation and its Article 11(2) that requires MS to put in place measures aiming to achieve an increasing trend at national level of at least two out of three indicators. Two indicators are listed in the draft methodology, while the following sentence says that to ensure alignment with the NRR, an activity must show an improvement on one of these “three” indicators (p. 19). The third indicator from the NRR should be added. It remains to be clarified how activities are to show compliance with one of these indicators.
- **Specify under which conditions co-benefits for soil health and reduced land degradation are considered to be fulfilled**: The methodology states that carbon farming activities that lead to carbon removals in mineral soils or reduced carbon emissions from mineral soils will by definition improve on the first indicator (p. 19), i.e. stock of organic carbon in cropland mineral soils. This would then imply that the activity is compliant with the mandatory co-benefits for the protection and restoration of biodiversity and ecosystems.
    - However, compliance with the requirement to generate co-benefits for soil health and reduce land degradation should not be taken for granted for all carbon farming activities that lead to carbon sequestration in or reduced carbon emissions from mineral soils. For example, while compost enhances SOC stocks in the soil, it can be overapplied and would then have negative effects on soil health. More specific provisions should be added.

Social risks or safeguards are not addressed by the draft methodology. Provisions to cover these should be added.

For monitoring and reporting voluntary co-benefits on other sustainability objectives, operators may use approved methodologies under other certification schemes (p. 20). Details on this remain to be clarified.

Overall, it is not clear how the methodology incentivises the generation of co-benefits going beyond the minimum sustainability requirements as required by Art. 7.3 of the CRCF. This should be clarified.

Information to be included in the certificate of compliance

The definition of this information is missing in the draft methodology. The information to be included in certificates and publicly available background information should be provided (see the specific proposals in our cross-cutting findings).

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