CARBON MARKET WATCH

Overview of the Carbon Removals and Carbon Farming Certification process

In December 2024, the EU launched its certification framework for permanent carbon removals, carbon farming and carbon storage in products, commonly known as the Carbon Removals and Carbon Farming (CRCF) certification Framework.

As its name suggests, the CRCF aims to certify a variety of practices or processes, namely: permanent carbon removals, carbon farming, and carbon storage in products. Each practice involves specific activities for which tailored methodologies are currently being developed. The methodologies will be published as Delegated Acts, taking on the force of law. Note that the Regulation only offers guidance on the basic rules for developing the methodologies (Articles 4 till 8) and the elements they should contain (Annex I).

Overall, the activities involve:

1. **Permanent removals:** direct air capture and storage (DACCS), biomass with carbon capture and storage (BioCCS) and biochar. Biochar is currently classified as a permanent removal activity - yet uncertainty persists on its storage length. Therefore, a key aspect of the methodology is determining how much of a given biochar batch will be stored for at least several centuries.
2. **Carbon farming emissions reductions**, namely via peatland restoration through rewetting and, in the near future, reduced fertiliser use.
3. **Carbon farming sequestration**, specifically the planting of trees on unused and severely degraded land, soil carbon sequestration in mineral (or agricultural) soils and agro-forestry.
4. **Carbon storage in products**, mainly wooden construction elements.

Note that the list of activities is likely to expand.

As established in Articles 4 to 7 of the CRCF, the methodologies will follow the so-called QU.A.L.ITY criteria. These are the quantification of climate impacts (against a baseline), the additionality of the activity, its long-term storage and liability for early release into the atmosphere, and sustainability. The methodologies should set out robust conditions, tests and safeguards that eligible activities need to comply with to be certified under the scheme. However, as a voluntary framework, the decision on whether to participate in the scheme or not rests with the operators and certification schemes.

While the European Commission and its consultants are developing the methodologies, these are also being discussed within the EU Carbon Removals Expert Group (CREG) of which CMW is a member. Note that, in addition to CREG meetings, numerous online workshops, discussing particular sections of (at times specific) methodologies, e.g. quantification in forestry, are held throughout the year.

Unfortunately, the CREG is largely dominated by industry lobbyists, which skews the balance during discussions and diminishes vital voices from independent experts, researchers, and civil society. As an active member of the CREG and the CRCF process in general, CMW has sought to rectify this imbalance by hiring its own consultants to thoroughly review the methodologies and flag pertinent issues. This document sets out the feedback received for the tree planting methodology by Öko-Institut, Greenhouse Gas Management Institute and Carbon Plan. By sharing this information, we hope to contribute to the debate and shed further light on the numerous issues affecting the methodologies.

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

Planting of trees on unused and severely degraded land

// Hannes Böttcher, Anne Siemons and Lambert Schneider

Summary of key findings and recommendations

This document provides an assessment of the proposed draft technical specifications for temporary removals through carbon farming activities that meet the scope of planting of trees on unused and severely degraded land (available as of October 2024). The draft elements for a methodology include some provisions that help ensuring environmental integrity of carbon credits but also include many aspects that need improvements:

- **No additionality assessment is required:** This could lead to the issuance of a large amount of non-additional CRCF units, given that trees may also be planted on degraded areas for reasons other than the incentives from CRCF units. We propose that an activity-specific baseline be used and that an assessment of additionality be included, including all key elements for additionality.
- **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).
- **Further clarification on terms and definitions:** The methodology does not define key terms, such as above- and below-ground biomass, or uses terms that are misleading,

such as “planting”. Greenhouse gases and global warming potentials are also not defined (see our cross-cutting findings).

- **Materiality threshold:** The proposed materiality threshold is inconsistent with the principle of conservative quantification. The methodology should be revised to include all emission sources or removal sinks, except where the exclusion is conservative (see our cross-cutting findings).
- **Expected overestimation of removals due to inclusion of biomass on the site before start of activity**: All removals, including from an existing biomass stock covering at maximum 10% of the area, are accounted for. This leads to overestimation. However, the overestimation is larger at the beginning of the monitoring period and likely diminishing over the period of 30 years.
- **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.
- **No incentives for continuing carbon farming practices:** The minimum duration of the activity period shall be 30 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.
- **Use of non-native species open**: The methodology should consider different succession stages and define the term “native species typical for the site”.

More detailed and further comments are provided below.

Detailed comments

Definitions

- **Confusing term "planting"**: The draft elements for a methodology on planting of trees on unused and severely degraded land defines "planting" as "activity of enabling establishment of trees in the ground, including by sowing and introducing saplings, as well as assisting natural regeneration and enabling their successive growth." The term is thus misleading as planting usually means regenerating or establishing a tree cover by establishing young trees or samplings on a site. Section 1.1 refers to direct (planting or seeding) and indirect (to enable natural regeneration) activities. The term should be replaced (including in the title of the methodology) by "establishing" or similar.
- **No definition of above- and below-ground biomass** is given and whether the methodology refers to both, living and dead biomass.

Section 1: Scope

- **Exclusion of peatlands**: The draft elements state that activities on peatlands are to be excluded. This is positive as potential emissions from further degradation of the peat layer after implementation of an activity would not be accounted for as the soil pool is not included.
- **Exclusion of clearcut systems:** The elements state that an activity shall not result in clearcuts in a single event exceeding 0.2 ha. This constraint is wider than the typical maximum size of clearcuts applied in many EU countries. In many European countries, clearcuts are restricted to a maximum size of 0.5 or 1 ha; only Switzerland and Slovenia completely prohibit clearcuts[1].
- **Only new mitigation activities should be eligible:** The methodology does not include any provisions that prevent 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).

Section 1.1: Activity period, monitoring period and certification period

- **Minimum duration of 30 years:** The elements for a methodology state that the minimum duration of the activity period shall be 30 years, the monitoring period shall be 10 years longer (40 years).

[1] https://efi.int/sites/default/files/files/publication-bank/2024/efi_fstp16_2024.pdf

- The main purpose of the "activity period" (noting that the commonly accepted term that most carbon crediting mechanisms use is "crediting period") in certification mechanisms is to limit issuance of certificates to a period for which it can be realistically assumed that assumptions and parameters used for calculating the baseline and project scenario will not undergo significant changes. The length of the activity period is therefore an important lever for ensuring conservativeness of any quantification methodology.
- The baseline used to quantify the carbon removals that are achieved by a forest management activity should be regularly updated (see section 2.6 of the draft methodology). If the activity period lasts for (at least) 30 years, this means that any update to the baseline during this time period is not accounted for in the issuance of units. This can lead to an over-issuance of units under the CRCF.
- For this reason, shorter activity periods should be applied and operators should be eligible to apply for multiple renewals of these activity periods provided that the carbon farming activity meets the requirements of the most current version of the crediting methodology at the time of each application. At each renewal of the activity period, the validity of the original baseline shall be demonstrated, or where invalid, a new baseline scenario shall be determined when renewing the crediting period.

Section 2: Requirements for quantification

- **Incomplete definition of pools**: According to the draft elements for the methodology, the following pools and gases shall be included:
  - above-ground biomass, referring to stem, branches, and leaves; and
  - below-ground biomass, referring to coarse and fine roots.

  As discussed above, the methodology does not differentiate living and dead biomass.
- **The proposed materiality threshold is inconsistent with the principle of conservative quantification.** The methodology should be revised to include all emission sources or removal sinks, except where the exclusion is conservative (see our cross-cutting findings for more details). Note also that the materiality threshold of 2% refers to 'gross carbon removals' without defining what 'gross carbon removals' are, which presumably refers to CR_{total}.
- **Expected overestimation of removals due to inclusion of biomass on the site before start of activity**: The draft elements for a methodology state that a standardised f is to be applied that sets carbon stocks in biomass to zero. However, the rules allow the existence of "sparse trees" covering up to 10% of the activity area to be ignored in the baseline. It is argued that the carbon removals in woody biomass on such areas are negligible. Sparse trees covering up to 10 % of the activity area at or just before the planting of the trees shall not be removed (Section 1.1). However, all removals, including from the

existing biomass stock, are accounted for. A constraint is that the trees have not been planted more than [5] years before the start of the activity period. This can lead to overestimation of removals especially at the beginning of the monitoring period. The effect is likely diminishing over the period of 30 years.

- **Indirect effects or leakage are expected to be small due to constraint to unused land**. The methodology refers to analysis carried out by the Commission on the possible effects of carbon farming activities on indirect land use change as part of the review of the CRCF regulation. In fact, displacement of activities is likely to occur only to a limited degree because any agricultural or forestry use of the areas over the last 5 years leads to an exclusion of the areas. This includes grazing and fodder production as well as agricultural production or firewood supply.
- **Underestimation of removals due to full deduction of uncertainties:** Uncertainties need to be estimated with appropriate methods and shall be deducted from the total carbon removals. This is expected to systematically underestimate removals and can be considered a conservative approach.

Section 3: Additionality

- **No additionality assessment is required** as a standardised baseline is to be used that means automatically compliance with additionality (see CRCF Art. 5(2)). This could lead to the issuance of a large amount of non-additional CRCF units, given that trees may also be planted on degraded areas for reasons other than the incentives from CRCF units. While the standardised baseline estimates the carbon stocks on these areas, the size of these carbon stocks has no or very little correlation with the likelihood that an afforestation activity would take place. We propose that an activity-specific baseline be used and that an assessment of additionality be included. The additionality test should include the following elements:
    - Activities are not 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”);
    - Revenues from selling removal or carbon farming certificates are considered at the time when making their investment decision (often referred to as “prior consideration”); and
    - Either
        - Additional revenues from selling removal or carbon farming certificates are needed 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

    - Projects face non-financial barriers that can be overcome through removal or carbon farming certificates (often referred to as “barrier analysis”).

- **No consideration of public funding:** The eligible mitigation activities might already receive funding through public support schemes. 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. However, the draft methodology does not consider other public support schemes. 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 5). **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 tree planting on unused and severely degraded land 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. 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. 13). 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. 13-14).

    - **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. 13). 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

- **Requirement for co-benefits for biodiversity addressed by positive list**: The requirement of the CRCF sustainability criteria that activities certified under the framework need to have co-benefits for biodiversity is addressed by the draft elements for a methodology by referring to a positive list of practices. The draft makes reference to Annex VII of the Nature Restoration Law (NRR). It includes examples of restoration measures to be considered by Member States when preparing their national restoration plans. It lists measures like “Make use of ‘close-to-nature’ or ‘continuous cover’ forestry approaches” or “Apply paludiculture”. According to the draft co-benefits can be guaranteed if such measures are implemented as carbon farming activities. This would constitute a simplified approach. Indeed reference to the NRR is useful and co-benefits of the listed restoration measures can be expected.

- **Increasing biomass carbon stocks**: The draft methodology requires that the volume of tree felling has to be lower than the increment in the activity area. This implies that carbon stocks in living biomass shall not decline at any point in time over the course of the project.

- **Mitigation of risk to adversely affect adaptation measures**: The authors of the draft methodology state that “no risks of doing significant harm to climate change adaptation” is expected because the introduction of trees “usually” improves local climate conditions, e.g. by providing shade, water storage, cooling etc. Still, the draft requires that the activity shall not adversely affect the adaptation efforts or the level of resilience to physical climate risks and shall be consistent with local, sectoral, regional or national adaptation strategies and plans. This includes, for example, avoiding water stress of plants on the project area.

- **There are no constraints on the use of the grown wood**. The expected use of biomass to be harvested has implications for the overall effect of carbon storage by the activity. It can be expected that the use of biomass extents beyond the project time. Moreover, since emissions due to biomass harvest are accounted for as emissions, ignoring carbon storage in products leads to underestimation of removals.
- **Additional sustainability criteria**: the draft methodology puts forwards additional more explicit sustainability requirements, including to avoid inputs or release of substances into soil that may harm human health or the environment, to minimise the use of pesticides and fertiliser and favour alternative approaches, to prevent the introduction of invasive alien species or manage their spread, and to avoid significant effects on Natura 2000 sites in view of their conservation objectives.
- **Use of non-native species open**: The draft methodology allows the introduction of non-native species if the project can demonstrate that their use leads to favourable and appropriate ecosystem conditions or that the native species typical for the site in question are not anymore adapted to projected climatic and pedo-hydrological conditions. As the activity is targeting degraded areas, there is a high likelihood that typical native species of later succession stages are considered non-suitable. Species representing earlier succession stages, however, might still be suitable and well adapted. The methodology should therefore consider different succession stages and define the term “native species typical for the site”.

Information to be included in the certificate of compliance

- **Information to be made available on CRCF units:** The information to be included in certificates and publicly available background information should be amended (see the specific proposals in our cross-cutting findings).

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Call for feedback: Draft elements for an EU certification methodology on carbon removals and emission reductions through carbon farming under the CRCF

Planting trees on unused or severely degraded land

Response by Tani Colbert-Sangree, Greenhouse Gas Management Institute

Reviewed by Kathryn Bickel Goldman, Greenhouse Gas Management Institute

1. Definitions

Emission reduction is a regularly misused term to mean both lowering emissions across a time series (e.g., a national inventory) and the difference between a baseline and project scenario for crediting purposes. These are distinct concepts that are conflated to the general confusion of all stakeholders. For crediting purposes, it is better to say avoided emissions and enhanced removals, or emission reductions compared to the baseline scenario. “Soil emission reduction unit," “carbon farming sequestration unit,” and other terms would be impacted.

Activity period – should this be the length of time that an activity is in practice or the timeframe over which an activity is eligible to be issued credits? Perhaps a second term is needed? Existing reputable registries in the U.S., such as ACR and Verra, define the amount of time over which a project’s avoided emissions and enhanced removals are eligible to be certified (e.g., the Project Crediting Period). Projects involving biological sequestration tend to have longer crediting periods than non-sequestration projects.

The definition of **reversal** is not sufficient. Reversals are typically defined regarding whether they were intentional or unintentional not whether they were voluntary or not. Both intentional and unintentional reversals should be defined as well. Neither the overarching regulation nor the draft element clearly define a reversal. A clear definition helps eliminate confusion and prevents errors in administering the mechanism to remediate reversals (e.g., the buffer pool). The Offset Guide defines a reversal as, “For a crediting project that enhances or preserves carbon stocks in reservoirs (see enhanced removals), the occurrence of an event in which some or all of the additional increment in stocks resulting from the crediting project are subsequently released to the atmosphere. Reversals can, for example, occur due to natural processes, such as wildfires, or anthropogenic drivers, such as timber harvest or land conversion.”

GHG associated is defined as “emissions…which are attributable to its [the activity’s] implementation”. The use of the term “attributable” could be confusing as attribution is more typically associated with allocational GHG accounting frameworks (e.g., national or corporate level GHG accounting in which responsibility for emissions is assigned to entities). For a project-level accounting framework, which is a type of consequential GHG accounting, it would be more consistent to say “emissions…which are consequential to its [the activity’s] implementation”. This better identifies the intention of this term which is assumed to be to capture all emissions that are changed as a consequence of the project/intervention (to flip the perspective, a tree planting project would not be attributed the emissions from an auger used to dig holes – it would only need to account for the emissions related to the use of that auger that are beyond the baseline scenario and a consequence of the project). In addition, the definition of “GHG associated”, refers to GHG emissions “over the entire lifecycle of the activity.” This needs to be more specifically defined to avoid confusion with product lifecycle GHG accounting, which is distinct from project level accounting.

Defining a “**tree**” as including shrubs could present challenges for quantification as the primary method for quantifying tree growth is allometric equations, which do not relate to shrubs. The methodology references trees (including shrubs) but the quantification methods would differ significantly between trees and shrubs. Furthermore, this definition is inconsistent with how

carbon pools are defined in the IPCC Guidelines and applied to the IPCC methodological approaches.

2. Introduction

Note that “Approximately 8 million hectares of land in the EU is abandoned, representing a great potential for ecosystem recovery and restoration” will become an outdated statement.

Not sure what the “forest module” that is referenced refers to, include a link or citation?

The statement that “This approach will also preserve land in agriculture use…” needs to be justified. It is widely known that tree planting projects can cause displacement and impact land use changes outside of the project area such that forested land is converted to grazing and agricultural practices. In fact, methodologies in existing crediting programs require accounting for the potential indirect land use change of the project. This seems to conflict with the presumption of the above statement.

“It is therefore appropriate to set the standardised baseline at zero, even if sparse trees cover up to 10% of the activity area, as in such circumstances it can be assumed that the current carbon removals in woody biomass are negligible.” The allowance of 10% tree cover without any accounting for the existing carbon in these trees is an issue discussed later in these comments. The sentence that follows, “This simplified approach, however, should not give rise to the clearing of the trees” is not strong enough. If the intention is to prevent the clearing of trees then it should be a requirement not to do so, not a “should” provision to align with section 1.1.

3. Scope 1.1 Eligible Activities

“The abovementioned conditions shall be demonstrated through clear evidence, such as recent measurements or remote sensing data.” The abovementioned conditions identify a requirement that relates to the last 20 years of tree cover. The word “recent” is potentially confusing in this context. Greater clarity is suggested.

Similar Verra and Climate Action Reserve (CAR) methodologies use a threshold of a minimum of 10 years of non-forest cover as opposed to the 20 years proposed here. An explanation of the 20-year threshold is warranted – what is the intended effect of this criteria? 20 years would be a more stringent requirement but may not be necessary to ensure against bad actors entering lands that had been “abandoned” for the purpose of crediting down the road. Also, the CAR methodology specifies that the commercial harvesting of healthy trees cannot have occurred on the project area within the last ten years. It would be useful to have explicit guidance on the history of commercial harvesting practices with respect to project eligibility.

"Activities are eligible if the projected density after five years is in line with planting densities applicable in the jurisdiction where the activity is implemented." Does this mean "typical" planting densities for the jurisdiction? What does it mean for a planting density to be applicable to a jurisdiction? What source(s) determines what is considered an applicable planting density for a jurisdiction? Also, how should density be projected? The sources of jurisdictionally appropriate planting densities and the methodology to project density should be specified to avoid project developers that may favorably interpret these provisions to enable an ineligible activity.

Soil disturbance may not occur on more than 10% of the activity area - how is this determined, and by what methodological approach? What constitutes soil disturbance - machinery use/tire marks that lead to compaction or just ripping? The methodology should identify the evidence that must be provided by a project developer so that both the auditor and crediting program will be able to review and confirm this eligibility criteria is met.

The final guidelines will need to be more explicit about the eligibility of projects to harvest wood and the requirements for harvesting practices. No clearcutting above 0.2 ha in one event but can you harvest in other ways? Are there any other rules around harvesting practices? If commercial forests are allowed, perhaps it could be stated along with any other harvest-related restrictions in the eligibility section?

Note that if harvesting is allowed the treatment, quantification, and project emissions associated with Harvested Wood Products would need to be added into the quantification section, and if commercial forestry is allowed that would need to be considered regarding the additionality provisions of the methodology as well.

Verra and CAR forest methodologies typically require information be provided on land ownership (i.e., land tenure) and some restrictions on eligibility can apply based on land ownership or land ownership can impact quantification methods, which is why it is an important criterion for tree planting projects.

4. Scope 1.2 Activity period and monitoring period

Only minimum period lengths are specified - the crediting period should have a specified limit on the number of creditable years. The Carbon Credit Quality Initiative identifies that a crediting period of 40 years or less for afforestation, reforestation, and regeneration (ARR) projects is the highest integrity length for a crediting period.[1]

The monitoring period should have a longer minimum period associated with it, given that is the mechanism used to confirm the permanence of enhanced removals accomplished through the project. It is best practice among carbon crediting programs to monitor a project for at least 100 years from the start of the initial crediting period.[2] Also, it should be noted that 100 years is already a substantial compromise compared to a truly "permanent" removal of emissions. While this is the best practice among carbon crediting programs, if the intention of the CRCF Regulation of the European Parliament and of the Council is to ensure permanence as stated in provision (13) "***Permanent*** carbon ***removals*** provide enough certainties on the very long-term duration of several centuries" then the monitoring period should be aligned with this objective and extend beyond 100 years to ensure very long-term storage of carbon over several centuries.

[1] See page 43 of the CCQI Assessment Methodology: https://carboncreditquality.org/download/Methodology/CCQI%20Methodology%20-%20Version%203.0.pdf

[2] See page 77 of the CCQI Assessment Methodology: https://carboncreditquality.org/download/Methodology/CCQI%20Methodology%20-%20Version%203.0.pdf

5. Quantification: 2.1 Relevant carbon removal sinks and GHG emission sources

This section should provide guidance regarding definition of the project boundary, including a comprehensive list of carbon removal sinks and sources and specify for each whether they are included, excluded, or optional. Sources and sinks, related to the project or baseline scenario, that are excluded should be described and the rationale for their exclusion should be provided in the methodology (e.g., deadwood, leaf litter, harvested wood products). For example, a sizeable amount of carbon can be stored in shrubs and herbaceous understory and if this vegetation is removed during site preparation, the stored carbon will be lost and should be accounted for. In addition, carbon in pre-existing dead wood may be accounted for differently than carbon in trees that become dead wood during the project. Because the draft lacks reference to these processes, it is ambiguous how they are treated by the methodology. Careful consideration of each carbon pool is needed.

Related to those sources that are mentioned:

- Direct and indirect N_2O and CO_2 emissions from fertilizer use and machinery make sense to include but what about vehicles or other emissions related to maintenance and management?
    - There is no specification of how to quantify direct and indirect N_2O and CO_2 emissions from fertilizer use or machinery, except in section 2.5 “in accordance with the 2006 IPCC Guidelines…”. This is not a specific recommendation as elsewhere in the EU certification methodology specific tiers are identified for the methods that must be used. Methodologies to perform this quantification should be similarly specified and section 2.1 could include a reference to section 2.5 to aid readers in navigating the document.
- N_2O and CH_4 emissions from the occurrence of fire that might be used to prepare the site for planting or as a management practice over the crediting/monitoring period should be included if it may be practiced as it could result in significant emissions.
- Soil disruption is mentioned in the eligibility section, but not in 2.1. Soil disruption may occur at the initial planting and from harvesting over the crediting period (if harvesting is allowed). Soil disruption-related emissions should be quantified, at least as a project-emission source (may be optional as a baseline source as this would be conservative). If soil disruption does occur through site preparation and planting that is below 10% or harvesting throughout the project, it should be quantified or a conservative deduction should be made.
    - A method to determine the percentage of soil disturbance at site preparation should be included or referenced in the methodology so that measurement and assessment of this eligibility criteria may be fulfilled consistently by project developers. And,
    - A methodology to determine the emissions that result from soil disruption or the appropriate size of a conservative deduction should be identified to produce a conservative assessment of emissions related to soil disruption.

Lastly, tree planting projects that occur on land that was being used for grazing or growing crops can cause displacement of those practices and lead to emissions from deforestation (as previously noted). The draft states that projects are eligible on “unused land or severely degraded land.” If the intention is that this makes land used for grazing or growing crops ineligible, then it needs to be more clearly stated and that will resolve this issue. However, if that is not the intention, and land where there has been some grazing or growing of crops is eligible, then the possibility of displacement needs to be addressed. Indirect emissions from displacement can be addressed by including indirect emissions from land use

change as a relevant source in the quantification methodology. And a risk assessment could be used to determine when this is necessary.

6. Quantification 2.2 Standardised baseline

The standardized baseline is vaguely stated, not rigorous, and not justifiable with the information provided. The standardized baseline assumes zero carbon in above- and below-ground biomass and as a result allows for up to 10% of pre-existing tree cover to be accounted for as if it were a result of the project. In addition, the methodology is too vague as written to be consistently and credibly applied:

- It is unclear to say, "the baseline shall be equal to zero." The trend and units of the baseline should be explicit, e.g., "the baseline is static and assumes net emission and removals of carbon in above and below ground biomass would be zero absent the project."
- How is the 10% tree cover determined? A methodology should specify how this determination is made.
- "Tree cover" is also somewhat vague and should be defined. Does this mean tree canopy cover? At what time of year should this assessment be made (e.g., when deciduous trees have leaves or not)? If using satellite imaging to establish tree cover, then a time should be selected when leaves are present on all trees. Multiple measurements should be required to be used to determine tree cover given the potential for variability in the satellite imaging readings relating to cloud cover and other factors.
- If "trees" are defined as including shrubs, then shrubs would also count toward the determination of 10% tree cover at the project site. If the definition of "trees" is not changed, then the methodology for determining "tree cover" would need to incorporate the biomass cover contribution provided by shrubs on the project site.

Further, the standardized baseline does not uphold the principle of conservativeness in GHG accounting. If there is up to 10% tree cover on the land that is assumed to store zero carbon in the baseline but will be counted as accumulated carbon in the project scenario, this would give the project credit for up to 10% of the total canopy coverage of trees that did not result because of the project activity. This provision both inflates the baseline, when trees are present and the baseline does not, in fact, represent zero standing or below-ground carbon, and then allows for the over-crediting of these pre-existing trees (and shrubs).

The standardized baseline as written does not adequately address additionality. It should not only include carbon in pre-existing trees and future growth of carbon in the pre-existing trees, but also it should address how/whether existing legal requirements are likely to impact carbon sequestration on the project site. Either project proponents need to report that tree planting is not legally required or the baseline should be required to reflect legal requirements. (More on this is provided in the additionality section).

7. Quantification: 2.3 Activity-specific baseline

No comments.

8. Quantification 2.4 Total carbon removals and/or soil emission reductions from the activity

The guidance is too flexible regarding the use of quantification methodologies – they just must qualify as IPCC Tier 3 methods. Flexibility in the use of methods allows project developers to potentially attempt to

quantify their activities with multiple methods and then select the most favorable method. Too much flexibility and ambiguity hinder the ability for third party auditing and greatly reduce transparency.

IPCC methodologies are intended for quantifying annual carbon emissions and removals for a national inventory. They are applicable for larger scale areas, varied circumstances, and comprehensive accounting of all carbon pools and fluxes. This means they are not necessarily fit for purpose for project accounting methods. Aspects of the IPCC methodologies can be incorporated into project methodologies, such as equations and default emission/carbon stock factors but in general the methods are not directly applicable to project accounting. Therefore, it is not advisable to simply suggest the projects use IPCC Tier 3 methods.

Furthermore, lower "tier methods" can be useful in project-level accounting as they improve standardization, transparency, and verifiability. More work is needed to define and describe the quantification approach than is presented in the draft element. Existing similar methodologies such as the Verra Afforestation, Reforestation, and Revegetation protocol and the CAR Forest Protocol (specifically the Reforestation components) should be consulted for guidance on how to define a clear quantification methodology that applies to project-level accounting. Some specific areas in need of clarification are noted below.

Relating to ground measurements, the specificity of the representative sampling methods would be beneficial to reduce the potential for project developers to favorably interpret the sampling requirements and meet the methodology requirements while sampling in a way that leads to a greater quantified impact from the project.

- "Randomly selected plot" should better define the "plot" to be identified and the method of identifying random selection.
    - The grid has a 50m resolution, there are 4 plots per hectare (so one per grid square), and within each grid, there is a plot. It sounds like the "plot" is a randomly selected point within each grid square? This should be specified, perhaps a graphic would assist?
    - An acceptable random selection method(s) should be specified.
    - Could the methodology provide a specified confidence interval that must be met through the sampling approach?
    - Should stratification occur to ensure sampling results reflect the presence of multiple distinct strata at the project site?
- This provision related to transforming ground measurements into carbon stock estimates is confusing and could be more specific, "Special attention shall be paid to the fact that different natural characteristics such as climate conditions and varieties in tree species may have implications on the factors typically used to convert ground measurements into carbon stock." This appears to be the only provision that speaks to how carbon should be quantified. Should these points of special attention be read as requirements? Should any Tier 3 method be required to be appropriate for the project's specific climate conditions? I would say yes. Also, if multiple tree species are planted should the Tier 3 method apply separate allometric equations specific to each species? I would also say yes.
    - Whatever the method selected, uncertainty in the methods, allometric equations, and sampling should be incorporated into the uncertainty deduction. Limits on the allowable level of uncertainty should be identified.
    - There is no mention of allometric equations. Since these are the typical way of assessing tree growth, I would assume they will be used and therefore aught to be mentioned in the methodology.

- There are some issues with the use of allometric equations, relating to the typical assumption for the carbon fraction of tree biomass at 0.5 (See Martin et al. 2018) for angiosperms and trees in tropical forests. These issues should be identified through the methodology if these tree species are potentially eligible, with alternative, conservative biomass fraction ratios indicated for use.

Relating to remote sensing data, the provisions state this quantification option "shall include calibration" - but the calibration method is not specified. The calibration method should be specified. Remote sensing data should also specify a level of resolution and the frequency of remote sensing data collection that is assessed to quantify the project site carbon that is required.

Relating to modelling, the requirements for eligible models should be more clearly specified. If there are additional requirements for eligible models to incorporate they should be specified, not included with the "and similar" language. It is also unclear whether models must be calibrated, as the language says "can be calibrated using a historic time series", and if they must be calibrated then how? Functional requirements, such as the level of uncertainty, geographic relevance, species relevance, ability to adjust the carbon fraction of tree biomass (if necessary), and other parameters necessary to ensure the model applied is in line with CRCF legislation's goals should be identified to ensure the models used are robust and aligned.

The way that these three options for quantification may work together is also largely unclear. Significant, and unaddressed, questions are:

- Can project developers change methods through a crediting period?
- Must project developers apply the same methods for evaluating the baseline and project scenarios?

9. Quantification: 2.5 GHG associated emissions

Emissions that may result from soil disturbance should be added to the list of "$GHG_{associated}$" emissions.

See comments in sections 2.1 and 2.4 relating to methods for quantifying sources of project emissions.

The materiality rule: "According to the materiality rule, any emission source within the activity boundaries shall be considered material where it is associated with emissions over the course of the activity period equal to or greater than [2%] of the expected gross carbon removals delivered over that activity period." There should be a cumulative maximum of excluded emissions due to the materiality threshold. If multiple, let's say five, sources equal to 2% were excluded applying this provision's guidance – 10% of the total project impact could be over- or under-credited. Other crediting programs deal with this by establishing a limit on the percentage of total emissions that may be excluded because individual sources fall below the de minimis threshold. Typically, this amount is no more than 5% of total emissions may be excluded.

- One further point, if the materiality rule is set in proportion to the amount of "expected gross carbon removals" instead of the total project impact (i.e., expected gross carbon removals – baseline removals and – project emissions), this would increase the materiality rule threshold and allow more sources of emissions to be excluded. It is not typical to define the materiality or

de minimis threshold in relation to gross removals, rather it is typically defined in relation to the project's total impact.

- The materiality provision also states materiality should be assessed over the entire activity period instead of at a shorter interval. This would have the effect of minimizing project emissions related to site preparation and planting. These emission sources could be material compared to the expected project impact over the initial monitoring period, but not over the lifetime of the project. If so, this would create a timing issue whereby more credits are issued in the short term than should be, even if this is deemed immaterial by the next 40, 60, or 80 years of project activity. This is an issue because credits should only be issued for avoided emissions or enhanced removals that occur and not be issued for avoided emissions or enhanced removals that will occur in the future (there is uncertainty about whether that will come to be and the issued credit is being used in the present in place of GHG inventory emission reductions that would otherwise have occurred).
- In addition, specific sources/sinks excluded due to the de minimis materiality threshold can be pre-established in the methodology, for some sources that are likely to be de minimis for the vast majority of projects and thus standardized. This is favorable instead of leaving it up to the project developer to determine and justify as it improves transparency and reduces burden on project developers. But sources/sinks that are not reliably de minimis should not be excluded in this way.

10. Quantification: 2.6 Updates of the standardised baseline

Updating the baseline every 5 years is what the most robust and reputable crediting programs do. In some cases, with appropriate contextual analysis, less frequent baseline updating may still be robust, such as if the project activity's circumstances are unlikely to change. But it is conservative to at least check and assess whether updating is required every 5 years.

11. Quantification: 2.7 Addressing uncertainties in a conservative manner

Please also note the comments relating to section 2.4 about uncertainty. To quote a review paper by Barbara Haya et al 2023, "Major sources of uncertainty in estimating onsite carbon stocks in the biomass pools fall into four categories: (i) accuracy of measurements in the field; (ii) choice of allometric models (including selection of wood density values and root:shoot ratios); (iii) sampling uncertainty related to plot size; and (iv) sampling uncertainty related to statistical representativeness of the plots within the whole landscape (Chave et al., 2004; Temesgen et al., 2015). For the soil and litter pools, substantial uncertainty exists around both the processes of organic carbon cycling, as well as accurately quantifying highly variable carbon stocks across space. Lastly, uncertainty surrounding carbon benefits from harvested wood products primarily relates to life cycle considerations, such as duration of use or potential climate benefits from product substitution." To ensure a conservative approach, all sources of uncertainty should be addressed through the methodology.

Uncertainty of carbon removals shall be estimated and accompanied by a deduction from the total carbon "removals". Notably there are potential areas of uncertainty that are missing from the provision that should be included in an uncertainty deduction. These sources of uncertainty include:

- Baseline scenario uncertainty – what if something else would have happened with the land? Is assuming zero carbon in baseline above- and below-ground biomass on the land with no uncertainty deduction a conservative judgment? On what basis and how certain is this

judgment? Standardized approaches result in some amount of false positives (activities that meet the eligibility requirements to apply the standardized baseline but in fact should not) and false negatives (activities that do not meet the eligibility requirements to apply the standardized baseline but should be able to). A robust standardized baseline attempts to limit the occurrence of false positives as much as possible and may apply a conservative deduction into the methodology to accommodate some anticipated portion of activities that will be deemed eligible when in fact their baseline above- and below-ground biomass should not be considered zero. At present the methodological approach does not take either step as the standardized baseline is unlikely to be accurate for many project instances because zero carbon in above- and below-ground biomass seems unlikely for the majority of projects.

- Quantification method uncertainty (separate from measurement errors or data processing). Within eligible IPCC Tier 3 methods that are used, how should their identified uncertainty be incorporated?
- Satellite imaging data uncertainty should also be specified and factored in (if applied).
- Ground measurement sampling approach uncertainty – there can be error in the taking of samples but also in the selection of plots/determination of 'randomness'.

The language in section 2.7 could be clarified as at present it is unclear if you are supposed to use the IPCC guidelines to quantify uncertainty from your modelled baseline and project or quantify a conservative estimate of the carbon removed (following the IPCC guidelines?) - and then assume that this IPCC guideline informed estimate is the conservative estimate against which error and the uncertainty deduction are determined? Specific section references and specificity in quantifying uncertainty for each emission sink and reservoir is necessary. Also, this language "The level of uncertainty shall be deducted from the total carbon removals" has a few issues:

- First, "total carbon removals" only relates to project-enhanced removals, not any project emissions that occur through farming activities, planting, management, and harvest. Uncertainty exists for the methods used to calculate project emissions as well as baseline removals and emissions. Baseline uncertainty should not be excluded from the overall uncertainty estimate.

Second, uncertainty deductions should be conservatively applied not just to total carbon removals but to other quantified project and baseline sources and sinks as well. Uncertainty deductions should be applied to deduct the quantified values of project removals and baseline emissions and conservatively add buffers to the values of project emissions and baseline removals.

Third, the language is not precise on how the deduction should be applied. It raises the following questions for me as a reader, should the level of uncertainty (let's say it is 10%) be deducted on a 1:1 basis from the total quantified impact of the project? So, 10% of potentially creditable impact would be reduced? Is that the intention of the provision? If so, this would be a strong and conservative provision that would lead to higher environmental integrity, but if true the language should specify this is the case.

Finally, using consistently conservative approaches that both underestimate enhanced removals and avoided emissions and reduce uncertainty throughout the methodology is another tool to achieve an "acceptable level of uncertainty". Language to this effect would need to specify the selection of more conservative estimates (or the most conservative estimate) when multiple options are offered. This can reduce the burden of directly quantifying uncertainty and adjusting enhanced removals or avoided emissions, which can be subjective (unless very specific approaches are provided in the methodology). While this would not replace the need for an uncertainty deduction it could reduce the level of the deduction or simplify the deduction determination process (if provisions are added to specify this).

12. Additionality: 3.1 Regulatory test

As noted above, the current version of the standardized baseline is not rigorous and would overestimate enhanced removals by ignoring carbon in existing trees. In addition, the current draft standardized baseline is not sufficient to claim additionality has been met as it overlooks legal requirements and financial considerations. Further discussion and explanation of this finding is provided below.

Note: the Forest Planting methodology does not contain separate sections for 3.1 and 3.2, it only contains section “3. Additionality”. I will split my comments between these two sections based on the content of the comments.

This section should include some language broadly stating the regulations that this crediting methodology overlaps with and is being implemented to support. Is the CRCF Regulation a policy-based approach to achieve the EU's NDC/member states' individual goals? Can these credits be purchased by voluntary buyers? If yes, will the equivalent of a "corresponding adjustment" be applied to prevent double claiming by the voluntary buyer and the country in which the project occurs? How does this crediting approach align with the below – and what is the argument for why there are NOT double counting concerns given that tree planting is a targeted activity of both policies below:

- EU 3 billion additional trees pledge
- EU Forest Strategy 2030

The methodology is right to mention these related policies, but an explanation of how they overlap and why crediting the same activity encouraged by these policies is not double counting would help to clarify double counting concerns.

13. Additionality: 3.2 Financial test

The standardized baseline is that all trees new or existing, either planted within the last 5 years or comprising up to 10% of the activity area (I assume this means on a “tree canopy cover” basis), are quantified toward the project’s creditable enhanced removal impact even if they would have existed or been planted without the project occurring. This erodes the additionality of these projects. No provision seeks to distinguish additional from non-additional biomass. **Biomass planted in the absence of the incentive created by the opportunity to generate revenue from carbon credits is not additional and should not be quantified for credit issuance.** The methodology’s standardized baseline does not ensure the additionality of project activities when preexisting trees are present and when tree planting efforts are credited even if they began before the project. If tree planting efforts in the last 5 years can provide evidence that they were expecting to generate credits from this forthcoming policy, perhaps a case can be made for the inclusion of trees planted in the last 5 years, but that would need to be a highly scrutinized set of provisions.

Also relevant to additionality is whether harvesting is allowed and if so if any restrictions exist relating to harvesting except for:

- From the “eligibility” section it states, "no clearcuts in a single event exceeding 0.2ha".
- From the "sustainability" section it states, "Volume of tree felling shall be lower than the increment in the activity area."
    - Does this mean planting growth must exceed the amount of harvest (as well as management-related tree felling)? More specificity would be helpful to clarify what is

meant by “increment” and this should also be stated in other related sections (e.g., eligibility).

A clear statement regarding whether the establishment of commercial forests are acceptable through the methodology should be made in the introduction and eligibility sections.

If commercial forestry is allowed and practiced at a project or if the forest land is generating income from other non-crediting channels, it should then be required that projects demonstrate that credit revenue is decisive in the implementation of the project. Typically, a financial analysis that assesses the various revenue streams of the project site can be evaluated by certification schemes and auditors to determine if A) the project is not sufficiently funded to be implemented in the absence of credit revenue and B) if the expected revenue from selling carbon credits is sufficient to cause the project to be implemented. If both A) and B) are true then the project would be additional. The CRCF methodology should contain provisions that require evidence be provided by project developers to allow the financial analysis to support both A) and B).

14. Storage, monitoring and liability: 4.1 Monitoring rules and mitigation of any risk of release of the stored carbon

The “special attention…paid to mitigation practices resulting in a smaller risk of reversal” should be specified and requirements relating to their monitoring and implementation should be detailed. Auditors should be required to confirm that these practices that reduce the risk of reversal are being implemented appropriately.

The monitoring of stored carbon by project activities must also continue at least until the end of the crediting period, and it is good practice to extend these practices to the full extent of the permanence expectation. In the case of the EU CRCF regulatory text, this is “***Permanent*** carbon ***removals*** provide enough certainties on the very long-term duration of several centuries”. Monitoring requirements that confirm the continuation of removed carbon, should be aligned with the expectation for permanence.

15. Storage, monitoring and liability: 4.2 Liability mechanisms (N.A. for peatlands)

The wording “shall conclude an insurance policy” could be clarified. I believe the intent of this provision is that evidence must be provided revealing that an insurance policy will be active over the length of the monitoring period. Conclude, in my read, does not stipulate the extent of these requirements, rather it reads such that a policy should be completed (which does not necessarily mean it will remain active for the necessary timeframe). Also, please note that these insurance policies do not yet exist. While some may be in the process of development, it is risky to include them in a methodology before they have been publicly released, let alone tested by years of project activity.

The term “relinquished certified units” is not commonly used, and should either be defined to clarify its meaning or a more common term, such as retired (credits used against a compliance obligation or voluntary claim) or cancelled (eliminated credits that were issued mistakenly or from faulty accounting, or may be eliminated to compensate for reversals that have occurred). See ICVCM’s definitions chapter for “Cancellation” and “Retirement”: https://icvcm.org/wp-content/uploads/2024/02/CCP-Section-5-V2-FINAL-6Feb24.pdf.

Given that the impacts of climate change are being tracked/measured, our ability to predict these threats is inherently uncertain, and the impacts themselves are rapidly developing and intensifying, it is recommended that a shorter timeframe for the evaluation of the appropriateness of the buffer pool contribution be selected. So, if considering 5 years or 10 years for the assessment of the risk assessment methodology, which informs the buffer pool contribution, a 5-year timeframe would be more likely to accurately reflect the non-permanence risks facing projects from fire, disease, drought, storm, temperature, etc. If a 10-year timeframe is selected, more conservative provisions should be selected within the risk assessment methodology to ensure the longer timeframe does not endanger the long-term viability of the buffer pool. Noting that the language here is the same between the soil carbon methodology and this tree planting methodology it is important to mention that the risk of reversal will differ substantially between project types and within tree planting it will differ depending on the management practices implemented, the climate, the geographic location (e.g., proximity to population centers or in the typical path of storms), and other factors that could be incorporated into different risk ratings for different project circumstances.

"The certification scheme shall address negligent and intentional reversals by operators through contractual arrangements." These contractual arrangements should ensure that intentional or negligent reversals will be backstopped by the buffer pool and **that operators are responsible for replenishing the credits from the buffer pool** (if intentional or negligent reversals are backstopped in this way). While most certification schemes operate buffer pools to address the risk of non-permanence, if a certification scheme does not operate a buffer pool and insurance products have not been created or are not available, then the CRCF methodology should specify whether the activity is no longer eligible or if credits may be purchased and retired from other crediting programs to compensate for the reversal. It is important to ensure that the physical reversal of enhanced removals is countered with previously unused credits that originate from projects that meet EU CRCF methodology requirements. Compensation for intentional or negligent reversals by project developers is important to ensure the long-term viability of the buffer pool to manage reversals that are intentional and unintentional in nature.

16. Storage, monitoring and liability: 4.3 Rules for operationalizing the requirement referred to in article 6(3) (N.A. for peatlands)

No comments.

17. Sustainability: 5.1 Minimum sustainability requirements

No comments.

18. Sustainability: 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

No comments.

19. Sustainability: 5.3 Monitoring and reporting of other voluntary co-benefits

No comments.

20. Annex 1: Options to calculate the standardized baseline for mineral soils (soil carbon on mineral soils only)

This is not included in the forestry methodology.

21. Optional question on validation:

What would be in your view the best approach to ensure that the emission factors, sampling protocols, and/or models used to quantify carbon removals are validated? Which validation criteria would you recommend, and what should be the role of operators, certification schemes, academia, other public or private entities, and/or the European Commission in the validation process?

For the most part, I think carbon crediting programs like Verra have established well-functioning processes that can be mimicked for these purposes. Wherever possible, a limited number of vetted and well-regarded methods should be specified by the methodology – ideally, a single method should be stated as required. With more options of methods to apply there is greater opportunity for project developers to test out calculations and quantify project impact using multiple eligible methods and then select the method that produces the most financially beneficial outcome and submit project documentation using this most beneficial method.

Regarding validation of models – the main role for academia is developing and/or calibrating models, while verification entities would be applying them. Some criteria could be included to ensure models are published/peer reviewed and applicable to the specific cropping system and conditions for the project. The models should also be open-source or public in some way so that auditors could reproduce the calculations and obtain the same results, possibly refine calculations.

Regarding the sampling methods and emission factors – the key thing is to accurately stratify the land according to climate, soil type, slope, management practices, etc. Proper stratification can help ensure that sampling methods capture the representative characteristics of the soil and improve accuracy of the estimates (and possibly reduce the sampling burden). Proper stratification also allows for the selection of the most applicable emission factors by project developers. Using data collected and disaggregated by strata can then help refine emission factors. This could be done in partnership with academia.

22. Optional: general comments

No additional comments.

(carbon)plan

Carbon Market Watch CRCF Survey Responses — Tree Planting

Specify which type of activity your feedback refers to:

Planting trees on unused and severely degraded land

Feedback on: Definitions

N/A

Feedback on: Introduction

We recommend that all resources developed through the CRCF process clearly articulate the use case(s) that they are designed to support. This information should be included within each standalone document to enable informed interpretation, assessment, and use of the contents.

Paragraph 1 under subsection “Scope”: The introduction makes it clear that the activity is meant to support “ecosystem recovery and restoration.” Great care should be taken to ensure that methodologies adopted under this approach prioritize ecosystem functioning, as opposed to merely maximizing carbon storage.

Paragraph 2 under subsection “Quantification”: The mere presence of unused or degraded land is insufficient justification of the proposed zero baseline. Adopting a zero baseline risks substantial overcrediting. Any baseline must consider broader, regional trends in afforestation efforts. This is known as a “common practice” criterion. For example, Verra’s Afforestation, Reforestation, and Regeneration protocol (VM0047) deems afforestation non-additional if regional adoption rates for afforestation and reforestation exceed 15 percent (p. 14). Furthermore, many ecosystems naturally have “sparse” tree cover. While the draft elements prevent tree clearing, they do not provide sufficient protections to prevent tree planting at an ecologically inappropriate density in ecosystems with naturally sparse vegetation.

Feedback on: 1. Scope 1.1 Eligible activities

Paragraph 1: Eligibility criteria should only allow lands that have evidence of at one time having been forested. This additional criterion would prevent planting on grasslands and other open systems. Notably, the Directorate General for Environment's working document entitled "Guidelines on biodiversity-friendly afforestation, reforestation and tree planting" (referenced in footnote 9 of the Draft Elements) highlights this risk. On page 8 of the report, it explains that tree planting can actually harm biodiversity when performed in an ecologically inappropriate manner.

Paragraph 4: The eligibility criteria should specify a maximum planting density and a minimum threshold of species diversity. California's forest offset protocol, for example, requires projects to be composed of a mixture of species, where no single species exceeds a maximum, regionally defined percentage. Limiting planting densities would prevent plantation-style projects from enrolling. Densely planted trees over large areas would maximize carbon benefits. But these plantation-style plantings would do little to support ecosystem restoration.

Feedback on: 1. Scope 1.2 Activity period and monitoring period

Paragraph 4: Required information for assessing compliance should include a publicly available, machine readable description of the boundaries of the activity area. Knowing the location of projects is important for assessing the permanence of carbon storage, preventing projects from enrolling in multiple crediting programs, and for assessing project additionality.

Feedback on: 2. Quantification 2.1 Relevant carbon removal sinks and GHG emission sources

N/A

Feedback on: 2. Quantification 2.2 Relevant carbon removal sinks and GHG emission sources

Paragraph 1: Assuming a baseline of zero risks over-crediting. The Draft Elements simply require that the afforested parcel not have been forested in the previous 20 years. While it is appropriate to consider the history of individual activity areas, it is also important for the baseline to account for recent trends in land use change within a regional context. This is known as a "common practice" criterion. For example, imagine a region with a significant portion of unused land that has steadily been afforested, spurred by local, regional, or EU-wide policies that incentivize afforestation. The combination of these policies results in a measurable increase in regional afforestation rates, but the specific parcel seeking certification under the

CRCF has not yet been reforested. In such a context, it is inappropriate to adopt a zero baseline. Instead, the Draft Elements should propose an approach for developing a regional and dynamic baseline approach that accounts for regional trends in afforestation. If adoption of afforestation exceeds some threshold, all activities should be deemed non-additional and not subject to certification.

Feedback on: 2. Quantification 2.3 Activity-specific baseline

Paragraph 1: A standardized, zero baseline is inappropriate for evaluating afforestation and reforestation projects. An activity-specific baseline should be developed. See comments on section 2.2.2.

Feedback on: 2. Quantification 2.4 Total carbon removals

Paragraph 2: Monitoring on five-year intervals should require on-site visits and remeasurement of forest survey plots. While modeling and remote sensing may be sufficient for satisfying the objectives of a project's monitoring period, the Draft Elements should require regular ground measurements during a project's activity period during which certified units are generated. Ground measurements are an essential component for ensuring certified removals have taken place and are not, instead, a modeling artifact or the result of an assumption that goes into generating a remotely derived estimate of biomass. Expert Group members might take inspiration from California's U.S. forest offset program, which requires field-based remeasurements to occur every six years (Cal. Code Regs., title 17, § 95977(c)).

Paragraph 8: Forest growth models should not be the sole basis for calculating removals. Even calibrated models contain substantial uncertainties. For example, many existing forest growth models struggle to account for the effects of extreme drought on forest growth (see Fisher et al., Global Change Biology (2018) and references therein). Failure to capture these types of complex ecosystem dynamics could result in over-crediting. As such, field-based measurements should be the primary approach for quantifying removals.

Feedback on: 2. Quantification 2.5 GHG associated emissions

N/A

Feedback on: 2. Quantification 2.6 Update of the standardised baseline

N/A

Feedback on: 2. Quantification 2.7 Addressing uncertainties in a conservative manner

Paragraph 1: Forest ecosystem models contain “structural” uncertainty that relates to the way various biological and ecological processes are defined within the model. Accurately characterizing this uncertainty requires running multiple different models with a shared set of inputs. Failure to account for structural uncertainty could result in over-crediting. To prevent this, projects should be required to make regular site-level measurements of carbon stocks.

Feedback on: 3. Additionality

Paragraph 1: The proposed zero baseline is inappropriate for afforestation and reforestation activities, calling in to question the additionality of certified units under the proposed approach.

Feedback on: 4. Storage, monitoring and liability 4.1 Monitoring rules and mitigation of any risk of release of the stored carbon

Paragraph 1: Operators should monitor for reversals every year and should be required to report reversals upon discovery. To assist in monitoring, projects should be required to publicly share a machine readable computer file that contains information about the boundaries of the activity area. This would allow third parties to detect and report reversals.

Feedback on: 4. Storage, monitoring and liability 4.2 Liability mechanisms

Paragraph 4: The Draft Elements envision two approaches for calculating the fraction of certified units that must be contributed to the buffer pool: i) conducting a risk assessment or ii) adopting a default contribution rate. The option for a default contribution rate should be removed. Imagine a scenario where the risk assessment approach yielded a buffer contribution rate of 50 percent of units, but the default contribution rate was 30 percent. Operators would likely opt to not use the risk assessment approach and instead take the lower contribution from the default approach. Furthermore, there does not appear to be any scientific basis for the proposed default approach. It is particularly problematic that the default approach applies the same risk to all replanted forests, no matter their location. If a spatially-explicit, scientifically rigorous risk assessment cannot be performed, project activities should not be eligible to receive certified units.

Paragraph 5: The final methodology should maintain the requirement to disclose information about the context of the buffer pool and the requirement to stress test the buffer pool. The results of those stress assessments should be made publicly available.

Feedback on: 4. Storage, monitoring and liability 4.3 Rules for operationalising the requirement referred to in article 6(3)

N/A

Feedback on: 5. Sustainability 5.1 Minimum sustainability requirements

Subsection f: The Draft Elements identify afforestation of unused land as an avenue for promoting “ecosystem recovery and restoration.” However, the minimum sustainability requirements and criteria for mandatory co-benefits do not ensure this outcome. None of these requirements or criteria seems to explicitly prevent project activities that consist of planting monospecific, densely planted timber plantations. These types of projects do little to promote biodiversity or ecosystem health, but would likely maximize carbon sequestration and result in the generation of more certified units. Furthermore, these projects could yield additional financial returns after the 40 year monitoring period has expired through the subsequent harvest of trees planted for the project. While the sustainability requirements do prohibit planting non-native species, there are several species of tree, including Scots pine (Pinus sylvestris) and Norway spruce (Picea abies), that are native to parts of the European Union and are commonly grown in plantations.

If promoting ecosystem restoration is a priority, the Draft Elements could require activities under the proposed methodology to conform with the recommendations outlined in the Commission Staff Working Document “Guidelines on Biodiversity-Friendly Afforestation, Reforestation and Tree Planting”, which is referred to in footnote 9 of the Draft Elements. Fully incorporating these guidelines would also help defend against planting trees in ecologically inappropriate areas that are not otherwise protected by existing regulations or directives, which could adversely affect biodiversity.

Feedback on: General Comments

Storing additional CO_2 in newly planted trees lowers atmospheric radiative forcing (W m^{-2}). Newly planted trees can also change the reflective properties of the Earth’s surface, a property known as albedo. Surface albedo also affects atmospheric radiative forcing. In many places, converting “unforested land” to “forested land” lowers surface albedo and increases atmospheric radiative forcing, which partially or even entirely counteracts the carbon benefits of planting trees. Strikingly, it is possible to plant trees that, despite storing additional CO_2,

actually warm the planet through their albedo effects. Section 2.4 of the Draft Elements should account for albedo effects to ensure that promoted activities result in net cooling. Several new resources, including a globally resolved map of these albedo effects, are available and suitable for incorporating into the calculation of an activity's climate benefit (Hasler et al., Nature Climate Change (2024); Riley et al., ResearchSquare (2024)).

Survey Form Responses

Definitions

Potentially problematic definitions include:

- *Activity*. This definition could probably use some editing and "cleaning up." For example, I assume "…soil emission reductions through carbon farming where such carbon farming, overall, reduces the emissions of carbon from soil carbon pools or increases carbon removals in biogenic carbon pools" is intended to mean "…where such carbon farming, overall, reduces *net* emissions of carbon from soil carbon pools…"
- *Certification body*. Probably fine as a placeholder definition, but eventually there should be some clear parameters around accreditation and qualifications ("recognised" would be a relatively weak threshold). Unlike other definitions, I do not see any reference to relevant existing regulation here.
- *Soil emission reduction unit (and other "unit" definitions)*. Maybe okay, but somewhat conflates the unit with the benefit the unit represents (assuming these are effectively tradable "units," i.e., certificates or credits).
- *Reversal*. As written, this definition would apply only to removal activities ("release *back* to the atmosphere"). Could be problematic more generally, since many activities that avoid emissions (e.g., soil emission reductions) are also subject to reversal risk.
- *GHG associated*. IPCC national GHG inventory accounting methods may not be appropriate for / applicable to project- or activity-level intervention accounting.

Introduction

- Not mentioned in the context is that forested land area in the EU has been increasing over the last two decades, albeit at declining rates (Cf. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Forests,_forestry_and_logging#Forest_areas_in_the_EU_are_expanding). While there may be increasing pressures, more context could be provided for how the CRCF activities on degraded or unused land would be differentiated from "business-as-usual" forest area expansion.
- "It is therefore appropriate to set the standardized baseline at zero." This assumption needs greater scrutiny and/or qualification. Existing tree cover of up to 10% on "unused" land (i.e., land without competing uses) would – all else equal – be expected to grow over time due to natural growth. Other A/R methodologies require

measurement, monitoring, and accounting for baseline tree growth where trees are present prior to activity implementation (even on a small percentage of the area).
- "The draft methodology does not prescribe specific models and approaches, but rather will provide criteria for the protocols and models to be evaluated and become eligible for certification." Okay in principle, but care would need to be taken that operators cannot simply "shop" among methods for the one that yields the highest removal estimates.
- For *voluntary* co-benefits, whichever methodologies or certification schemes are ultimately selected, it would be important to require verification by approved certification bodies (just as for mandatory co-benefits).

1. Scope: 1.1 Eligible activities

- "Eligible activities shall take into account the projected forest structure both in terms of age composition and species composition, that is typical of the local natural conditions, and the expected climate change impacts and vulnerabilities." This provision needs further clarification. What does it mean to "take into account" these parameters and considerations? How will tree planting activities ensure "typical" age composition over time?
- The proposed restrictions on soil carbon disturbance (section 1.1) will minimize the risk of significant soil carbon emissions, but care needs to be given to how adherence to these restrictions is monitored and validated.

1. Scope: 1.2 Activity period and monitoring period

Further specifications needed here include:
- What is the *maximum* activity period, i.e., maximum period over which CRCF units may be generated?
- Will multiple activity periods be allowed? If so, what will be the conditions for renewal?

Other comments:
- 40 years for a monitoring period is arbitrary, and not aligned with objective (scientifically based) requirements for ensuring permanence. For reference, regulatory carbon crediting programs in other jurisdictions require a monitoring period of 100 years, either from the activity start date (e.g. the Australia ERF) or from *the date of last credit issuance* (e.g., the California compliance offset program and the Canadian Greenhouse Gas Offset Credit System).
- The monitoring period should be linked to the last date of unit issuance (e.g., end of activity period), not the beginning of the activity period. Otherwise, units issued later in the activity period will have a lesser permanence guarantee than those issued earlier. This is essential for environmental integrity reasons, but could also be important for market function – most voluntary buyers, for example, prefer a single commodity, and

will balk at having to differentiate credits by the length of their monitoring commitments.
- A longer monitoring period – linked to the date of unit issuance – is also important for ensuring additionality. See further comments under Additionality: 3.2 Financial test.

2. Quantification: 2.1 Relevant carbon removal sinks and GHG emission sources

It is not clear here whether “above ground biomass” (and “below ground”) refers only to biomass in trees, or would also include shrubs and other vegetation. (The definition of trees seems to include shrubs – but this section refers to neither.) Also, are both live and dead above ground carbon pools included in quantification?

2. Quantification: 2.2 Standardised baseline

The assumption that carbon uptake in existing trees will be “negligible” (p. 7) is not supported and is a questionable assumption. Existing trees may grow over time, and even lead to natural expansion of tree cover without human intervention. Assuming a static baseline that is “equal to zero” where pre-existing trees are present is likely to lead to over-estimation. All else equal, for example (similar trees species, stocking density, etc.), existing tree cover on 10% of a project’s land area could contribute to *more than* 10% to total carbon stocks in above and below-ground tree biomass over time (this is because, before newly planted trees reach maturity, pre-existing trees are likely to store *more* carbon per unit of land area). If these carbon stocks are included in the quantification of enhanced removals caused by a project, this would lead to at least a 10% overestimation of net (creditable) removals. Existing A/R methodologies under other programs require identification of pre-existing trees and vegetation and the inclusion of these in *baseline* carbon pools (so that they are subtracted from net removal calculations).

2. Quantification: 2.3 Activity-specific baseline

Some form of activity-specific baseline is needed to, at a minimum, avoid over-crediting from inclusion of baseline tree cover. (See comment on 2.2, above.)

2. Quantification: 2.4 Total carbon removals and/or soil emission reductions from the activity

- The equation presented here calculates the *annual average rate* of carbon removal, not the “total carbon removals … in a given timeframe.”

- The text mentions that the “processing of data from remote sensing shall include calibration.” It might help to clarify that remote sensing data should be calibrated with ground measurements.
- Modelling can be an appropriate tool for estimating carbon stock growth in years between measurements, but modelling results should always be calibrated *ex post*. The discussion here suggests models could be used to generate *ex ante* carbon stock estimates. This could be appropriate if an *ex ante* estimate is used to determine *current year* carbon stocks based on *prior year* measurements. It would be risky from an environmental integrity perspective, however, to issue credits *ex ante*, or to base crediting on *ex ante* modelling estimates without future correction/calibration based on monitoring.

2. Quantification: 2.5 GHG associated emissions

- This section does not address the potential release of carbon from pre-existing vegetation within a project area if this vegetation is cleared in preparation for tree planting. Existing A/R methodologies differ on whether to require quantification of these emissions. However, for some projects (on unused land, for example) these emissions could potentially exceed a 2% threshold for expected gross carbon removals (which is the threshold indicated in the draft text).
- Note that IPCC national inventory methods may be appropriate for quantifying emissions from sources (and removals by sinks), but they are inventory methods only, and so would have to be supplemented with guidance and requirements for determining emissions “compared to a counterfactual in which the activity does not take place” as the draft text here (rightly) suggests is needed.
- Very minimal guidance is provided here with respect to leakage assessment and quantification. Leakage could be a particular risk for “unused” lands that might otherwise be utilized (in the baseline) for agriculture, urban development, or other land uses. (To qualify as “unused,” the land area cannot have been used for crops or grazing fodder within the past 5 years; however, the historical absence of these activities does not mean they could not occur in a future baseline in which demand for these land uses is increasing.)

2. Quantification: 2.6 Updates of the standardised baseline

It is not entirely clear what is meant by “The updated standardised baselines shall apply only to activities for which the activity period starts after the entry into force of the applicable certification methodology.” What needs further clarification is whether updated baselines would be applied retroactively to activities that have already been registered (e.g., under a prior certification methodology). There could be policy reasons for *not* applying updates retroactively. However, updating baselines for existing (already registered) projects could be

important from an environmental integrity standpoint. If new laws or incentives have been put in place for example – or if economic conditions related to afforestation have changed – then it is possible A/R activities (or natural forest growth) would have occurred in an activity area in the baseline, starting at a later date. If this were the case, then activities should only receive credit for carbon stored above and beyond what would have occurred in a (revised) baseline.

2. Quantification: 2.6 Monitoring of soil emission reductions (peatlands only)

N/A

2. Quantification: 2.7 Addressing uncertainties in a conservative manner (N.A. for peatlands)

This is an important provision. The text here needs some more work. For example, it is not clear what is meant by "the level of uncertainty shall be deducted from the total carbon removals." What should be specified is that estimates of stored carbon must be conservatively discounted in proportion to the level of measurement uncertainty. In addition, a general provision could be that, if measurement uncertainty is too large (e.g., if the 95% confidence interval exceeds +/- 20% of the mean), estimates should be rejected (i.e., measurement methods must be improved until the confidence level is within an acceptable range). This is the practice followed under several existing A/R crediting methodologies, for example.

3. Additionality: 3.1 Regulatory test

Even where standardized baselines are applied, regulatory checks should still be required. This is an important safeguard against mistakenly crediting a non-additional activity. For example, it should be demonstrated that activities are not being undertaken in compliance with a court order or other legal mandate that may be specific to a particular jurisdiction (e.g., related to environmental remediation). Regulatory additionality tests are a common component of other A/R methodologies applying standardized approaches, e.g., under the California Protocol for U.S. Forest Projects (https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols/us-forest-projects).

3. Additionality: 3.2 Financial test

The presumption seems to be that an additionality determination (financial or otherwise) is not needed – that is, all tree planting projects will be considered additional as long as they meet eligibility conditions specified in section 1.1. At a macro level this assumption seems unjustifiable, given that forested land area in the EU has been increasing over the last two decades (cf.

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Forests,_forestry_and_logging#Forest_areas_in_the_EU_are_expanding).

At a minimum, further eligibility conditions should be specified to exclude areas that are likely to experience business-as-usual growth in tree cover. Existing A/R methodologies in other jurisdictions that employ standardized baselines – including, for example, the California Protocol for U.S. Forest Projects and the UK Woodland Carbon Code - still require an investment test (even if rudimentary) to confirm that tree planting would not be financially attractive for timber production without carbon revenues. See relevant links:

https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols/us-forest-projects

https://woodlandcarboncode.org.uk/standard-and-guidance/1-eligibility/1-6-additionality

Finally – as mentioned above in relation to monitoring periods – for at least some managed forests in the EU, observed and optimal rotation lengths are in the range of 30-40 years (cf. https://www.sciencedirect.com/science/article/pii/S0264837724000437). Thus, a monitoring period of 40 years from the start date of an A/R activity would not extend significantly beyond the "business as usual" rotation age for an operator motivated primarily by generating forest product revenue. The study referenced above suggests that optimal rotation ages for additional carbon benefit (e.g., applying a social cost of carbon) would be closer to 100 years. Therefore, to ensure additionality – especially if a standardize approach is used - the monitoring period should be set accordingly, e.g., to 100 years.

Storage, monitoring and liability: 4.1 Monitoring rules and mitigation of any risk of release of the stored carbon

The text here related to risk mitigation practices should be more prescriptive. Rather than saying "special attention should be paid," for example, the methodology should prescribe certain kinds of risk mitigation measures and/or stipulate that buffer reserve contributions will be reduced if risk mitigation measures are undertaken.

4. Storage, monitoring and liability: 4.2 Liability mechanisms (N.A. for peatlands)

Although the text here indicates that "operators shall be liable to address any reversal of the stored carbon by an activity occurring during the monitoring period," it also suggests that this liability could be covered through either insurance or participation in a pooled buffer reserve. Both insurance and buffer reserves are ineffective, however, in compensating for *intentional* reversals. If operators can simply harvest trees for timber revenue without any penalty for causing a reversal (e.g., because reversal losses are covered from a buffer reserve) then no amount of insurance or buffer set-asides will be sufficient to cover this liability. (In insurance terms, this is referred to as a "moral hazard.") The methodology guidance should stipulate

that operators must compensate directly for any intentional (or avoidable) reversals (e.g. by purchasing and retiring other carbon credits).

Note that even if operators are assigned first liability for intentional reversals, there is nevertheless some risk that operators may not be able to fulfil this obligation (e.g., due to bankruptcy). In a scenario where CRCF regulators are unable to compel compensation from an operator for an intentional reversal, the buffer reserve should be used as a last resort. Because of this, any risk evaluation used to determine contributions by and activity operator to the pooled buffer reserve should include an evaluation of the (residual) risk of project failure and the inability of project operators to compensate.

Finally, in relation to this, rules are needed around how to treat early termination of an activity. Existing carbon crediting programs typically consider early termination to result in a full reversal of previously credited carbon benefits.

4. Storage, monitoring and liability: 4.3 Rules for operationalising the requirement referred to in article 6(3) (N.A. for peatlands)

No comments

5. Sustainability: 5.1 Minimum sustainability requirements

The stipulations in 5.1a all concern avoidance of GHG emissions or reduction of risk related to GHG emissions. If the goal here is (as stated) “climate change mitigation beyond the net carbon removal benefit and net soil emission reduction benefit,” then additional or alternative provisions are needed, e.g., related to ensuring that some portion of carbon removal benefits remain uncredited.

Further clarification is needed under 5.1e related to “minimizing use of fertilizers.” Other regulatory A/R carbon crediting methodologies, for example, prohibit use of fertilizers.

In general, it will be important to specify monitoring and verification requirements related to all provisions listed here.

5. Sustainability: 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

Further guidance may be needed on how certification bodies will verify implementation of identified measures.

5. Sustainability: 5.3 Monitoring and reporting of other voluntary co-benefits

As noted, this will need further elaboration.

Annex 1: Options to calculate the standardised baseline for mineral soils (soil carbon on mineral soils only)

N/A

Optional question on validation: What would be in your view the best approach to ensure that the emission factors, sampling protocols, and/or models used to quantify carbon removals are validated? Which validation criteria would you recommend, and what should be the role of operators, certification schemes, academia, other public or private entities, and/or the European Commission in the validation process?

This largely depends on how prescriptive the methodology ultimately is in defining required emission factors, sampling protocols, and/or models. Generally speaking, the more prescriptive and standardized the better. Allowing operators to choose from a menu of options and data sources, for example, can introduce opportunities for “gaming” the results – even where robust mechanisms are in place to validate the options chosen. If optionality is introduced, then there should be clear prescriptive guidance on when specific emission factors or approaches must be used, or are allowed to be used, in order to prevent the arbitrary selection of methods maximize claimed carbon benefits.

Optional: general comments

More elaboration will be needed for a full methodology. If a standardized approach to additionality and baselines is pursued for the type of activity, further guardrails and eligibility conditions will be needed to exclude non-additional activity, and to exclude baseline carbon removal from crediting.