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Inputs to the draft ART TREES 3.0 standard

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1 Introduction

This document includes all comments that Oeko-Institut provided to the Architecture for REDD+ Transactions (ART) in a public consultation on the draft Version 3.0 of its "The REDD+ Environmental Excellence Standard (TREES)". The comments are based on a detailed evaluation of the standard, including a preliminary analysis using historical deforestation data from countries with tropical moist forest, which will be published in a separate report. We focus our analysis on activities to reduce deforestation and forest degradation, as this is the predominant activity in applications under ART TREES.

Our comments evaluate the draft standard against several integrity benchmarks for carbon credit quality, including the Core Carbon Principles (CCPs) and the Assessment Framework of the Integrity Council for the Voluntary Carbon Market (ICVCM)[1], the Article 6.4 Paris Agreement Crediting Mechanism (PACM)[2], the Carbon Credit Quality Initiative (CCQI)[3] and the Oxford Principles for Responsible Engagement with Article 6[4].

Overall, we find that the draft standard falls significantly short of all these integrity benchmarks. Under the proposed provisions, we expect that a large proportion of carbon credits issued under the standard will not represent actual emission reductions. We recommend that the standard be significantly improved prior to its adoption and provide specific proposals in this regard.

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2 Determination of the crediting periods

Comment 1 Topic: Minimum period of participation. Sections 2.3 and 6.2

The draft standard prescribes a crediting period of five calendar years that can be renewed any number of times. The standard does not specify any minimum period that jurisdictions must participate, except for carbon credits eligible under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), in which case a minimum term of four crediting periods (20 years) applies.

Historical deforestation is subject to high interannual fluctuations implying a high level of uncertainty regarding changes in deforestation and forest degradation in the absence of a JREDD+ programme implementation. Therefore, emission reductions in a single crediting period may be significantly over- or underestimated (see Comment 9 below). The longer a participant is required to account for emission reductions and reversals, the more likely it is that over- and underestimation of emission

1 https://icvcm.org/
2 https://unfccc.int/process-and-meetings/bodies/constituted-bodies/article-64-supervisory-body
3 https://carboncreditquality.org/index.html
4 https://www.smithschool.ox.ac.uk/sites/default/files/2025-06/The_Oxford_Principles_for_Responsible_Engagement_with_Article_6.pdf

reductions balances out over time. A minimum period of participation is also important to address non-permanence risks (see Comment 17).

We recommend that the standard requires participants to commit to a minimum period of participation, similar to the requirements already established for CORSIA eligible carbon credits. The duration of such a minimum period should be informed by further analysis of historical data deforestation.

Comment 2 Topic: Retroactive crediting. Section 2.3

The draft standard provides flexibility in picking the start date of the first crediting period up to four years prior to the acceptance of the TREES concept. This approach risks accounting for emission reductions that are not attributable to the JREDD+ programme but would have occurred anyways: if external factors would have reduced deforestation within that four-year period, then the jurisdiction could retroactively claim emission reductions that would have occurred anyways. While jurisdictions must submit a REDD+ implementation plan (section 3.3 of the draft standard), this plan may include only "ongoing" or "planned" mitigation actions. There is no requirements to actually monitor whether these mitigation actions are being implemented (and Comment 3 below). This means that in practice jurisdictions could also not implement any mitigation actions and only – through retroactive crediting – claim emission reductions that have occurred irrespective of any additional actions.

If on the other hand mitigation activities would have been implemented during the four years prior to the acceptance of the TREES concept, this would question the additionality of such activities as the activity may have been implemented before knowing whether revenues from carbon credits can be generated. This suggests that the JREDD+ programme implementation may have been financially viable without the revenues from carbon credits.

To avoid crediting emission reductions that may be driven by external factors, we recommend that participants be required to describe in detail the mitigation activities they plan to implement and provide evidence for their implementation (see Comment 3 and Comment 4 below) and that participants not be allowed to register JREDD+ Programmes retrospectively.

3 Additionality

Comment 3 Topic: Demonstration of additionality / REDD+ implementation plans. Section 3.3

As outlined in the ICVCM Assessment Framework, robust REDD+ implementation plans play an important role for additionality in JREDD+ approaches. We note that section 3.3 of the draft standard strengthens the requirements for REDD+ implementation plans with new requirements, including by requiring participants to outline the ongoing and new drivers of deforestation and degradation in the TREES accounting area along with the new, changed and ongoing activities planned or being taken to mitigate these drivers.

Despite these improvements, the revised draft standard is still very broad and vague, misses critical aspects of additionality, and falls considerably short of the requirements under the FCPF, the JNR and the ICVCM:

- Firstly, the draft standard does not seem to require jurisdictions to implement any new measures at all, as it would be sufficient to demonstrate that there are "ongoing" measures. This violates a

basic requirement for additionality, i.e. that additional action is taken. In this regard, the draft standard does also not comply with the ICVCM which requires "enhanced" implementation of ongoing mitigation actions.

- Secondly, the draft standard does not require any assessment whether the measures have the potential to significantly reduce deforestation rates. This poses risks that the calculated emission reductions may not be attributable to the measures undertaken. Here, the draft standard also does not comply with the ICVCM which requires demonstration that the actions "are designed for the purpose of significantly addressing key drivers of deforestation and degradation at jurisdictional scale in order to reduce emissions (and where applicable, enhance removals)".

- Thirdly, the draft standard does not require TREES participants to demonstrate that revenues from carbon credits are decisive for enabling the implementation of the activities outlined in the REDD+ implementation plan. Here, ART TREES falls short of the requirements of comparable standards such as VCS JNR and the FCPF. Under VCS JNR, program proponents *"shall provide evidence demonstrating that expected revenues from carbon credits are decisive for enabling the full and effective implementation of […] policies and measures*.[5] Under the FCPF countries must include in the FCPF Emission Reduction Program an assessment of the major barriers that are preventing the drivers of deforestation being addressed and a description and justification how the proposed measures help to overcome the identified barriers.[6] Moreover, the FCPF has much more elaborated provisions on the description of the mitigation activities undertaken and their costs. The lack of these provisions also makes the draft standard incompatible with the ICVCM requirements for meeting criterion 8.9 of the CCPs, which explicitly requires respective provisions for carbon credits being eligible for the CCP label.

To match the stringency and robustness of other JREDD+ programmes' additionality provisions and for ART TREES 3.0 to meet the requirements of the ICVCM CCP label and ensure that the emission reductions are attributable to mitigation interventions, rather than an artefact of external factors or interannual variations, we recommend that the draft standard be further elaborated, including the following elements:

- Removing the provision that it is sufficient have "ongoing" measures in place;

- Requiring a detailed description of new measures to be undertaken or changes to existing measures, including how they address drivers of deforestation in a way that deforestation emissions will be significantly reduced due to these measures, well beyond the interannual variability in the jurisdiction;

- Requiring the quantification of the costs associated with implementing these measures and demonstration that the revenues from carbon credits can cover the full costs for implementing the measures;

- Requiring that the implementation of these requirements be validated by an accredited third-party entity; and

[5] See section 3.11.1 of document JNR Requirements Scenario 2 – 19 August 2024. https://verra.org/wp-content/uploads/2024/08/JNR-Scenario-2-Requirements-v4.1.pdf

[6] See sections 4.2 and 4.3 of the FCPF Emission Reductions Program Document (ER-PD) template, version July 2014. https://www.forestcarbonpartnership.org/system/files/documents/FCPF Carbon Fund ER-PD template July 2014.docx

- Requiring that the first crediting period can at the earliest start on the date when the new measures, or changes to existing measures, are implemented.

Comment 4 Topic: Monitoring of REDD+ implementation plans. Section 3.3

The draft standard does not include any provisions to demonstrate that the planned mitigation actions have actually been implemented. This poses considerable risks that any observed changes in emissions may not be attributable to any mitigation actions but occur as a result of exogenous factors. Ensuring that emission reductions are attributable to mitigation interventions is a requirement under the ICVCM, the PACM, the CCQI and the Oxford Principles for Responsible Engagement with Article 6.

We therefore recommend that the draft standard requires that the planned measures are actually implemented (to a large degree) and that no carbon credits be issued if they are not. We further recommend that after adopting the ART TREES Standard 3.0, the ART Secretariat will include a respective section in the TREES Monitoring Report Template which requires participants to monitor the status of implementation for each of the activities outlined in the REDD+ implementation plan. Information provided in this section should be subject to verification by validation and verification bodies. The REDD+ implementation plan should therefore also be included in the validation and verification scopes outlined in sections 3.3 and 3.4 of the TREES Verification and Validation Standard.

Comment 5 Topic: Standardised approach to additionality demonstration. Section 3.5

The draft standard claims in section 3.5 that it applies a performance-based approach for additionality. However, instead of assessing typical performance of eligible activities to establish thresholds that would restrict eligibility to activities which have a high likelihood of being additional (as is usually done under a performance-based approach) the approach simply states that any emission reductions below a conservative historical baseline would be additional. It then uses a rather dialectical instead of technical-analytical approach to argue why this would be appropriate and conservative. For example, it simply states that "*performance-based additionality is widely accepted among carbon market stakeholders and is the most appropriate for jurisdictional-scale REDD+ programs*." Using a simple historical baseline as a performance approach is clearly not appropriate and does not align with the practice by other carbon crediting programs on how performance-based approaches are used.

We believe that in its current form section 3.5 has therefore little value to safeguard additionality of JREDD+ programmes and that it takes away attention from sections more relevant for additionality such as the new provisions in section 3.3 on the REDD+ implementation plan. We therefore recommend deleting the current section 3.5 and replace it with an activity-specific additionality test using the provisions of section 3.3 with the amendments suggested in Comment 3, Comment 4 and Comment 6.

Comment 6 Topic: Positive list additionality demonstration for emission reductions generated using the HFLD Crediting Level. Section 3.5

For countries using the HFLD crediting level, the draft standard assigns automatic additionality to emission reductions, using a positive list. It argues that this is appropriate because TREES only calculates emission reductions based on a fraction (0.05%) of a jurisdiction's carbon stock. The positive list means that ART TREES assumes that for HFLD countries emissions from deforestation

and forest degradation would increase in the future in the absence of mitigation interventions. This general assumption might however not be appropriate for all countries. For example, Teo et al. (2024) found that among 310 analysed HFLD jurisdictions, 57% faced higher deforestation rates than historically, while 43% jurisdictions faced lower deforestations than historically (see also Comment 9 below). This results in high non-additionality risks for HFLD credits because HFLD countries do not have to prove that their forests are under imminent threat and that incentives from carbon markets will make a difference for maintaining the conservation of these forests. In this regard, ART TREES also falls short of the FCPF which requires demonstration that national circumstances have changed such that rates of deforestation and forest degradation during the historical Reference Period likely underestimate future rates of deforestation and forest degradation during the Crediting Period. We therefore strongly recommend abandoning the positive list approach for HFLD credits and replace it with an activity-specific assessment that requires countries applying the HFLD crediting level to demonstrate that their forests are under immediate threat and that revenues from carbon credits make a difference in maintaining their conservation.

Comment 7 Topic: Attribution of emission reduction achievements to different funding sources involved in supporting forest-related mitigation activities in the accounting area. Section 3.5

In many cases, funding through participation in ART TREES will be one among several funding sources supporting mitigation activities targeted at reducing deforestation and forest degradation in the accounting area. Other sources could include domestic public resources from government budgets, philanthropic contributions as well as ODA and OOF flows channelled through bilateral and multilateral development cooperation instruments. To avoid that these other flows subsidize carbon credits issued under ART TREES it is important to divide the emission reduction achievements between the different funding sources based on their respective financial contributions to the mitigation activities taking place in the accounting area (Kohli et al. 2021; Jon Strand 2019; Schneider and Haase 2023). We recommend that ART TREES develops an approach to appropriately apportion the emission reductions achieved from deforestation to the different funding sources, including funding sources other than from carbon credits.

4 Quantification of emission reductions and removals

4.1 Determination of baseline emissions

Comment 8 Topic: Use of average historical emissions to establish the TREES crediting level. Section 5.1

The draft standard determines the TREES crediting level based on average emissions over a five-year historical reference period. The methodology thus assumes that the average historical deforestation rates would continue for a period of five years. Based on our preliminary analysis of historical deforestation data, this approach is likely to lead, on average across jurisdictions, to significant overestimation of emission reductions. The overestimation of emission reductions is a result of five different effects, which partially contribute to underestimation and overestimation of emission reductions (see also the CCQI assessment of the Verified Carbon Standard methodology VM0048):

1. Potential overestimation due to unaccounted uncertainty in short-term variations in deforestation and degradation levels

2. Potential underestimation in second and subsequent crediting periods due to the provision that the crediting level may not be higher than the previous crediting level
3. Potential underestimation in second and subsequent crediting periods due to the impact of mitigation actions on emissions in the historical reference period
4. Potential overestimation due to the impact of longer-term trends in deforestation levels
5. Potential overestimation due to continued crediting even if no forest would be available anymore

In the following, we discuss each of these effects.

1. **Potential overestimation due to unaccounted uncertainty in short-term variations in deforestation and degradation levels:** The available data suggests that deforestation levels are subject to significant change over time. Deforestation is decreasing in some jurisdictions and increasing in others. Often trends change over time. These short-term changes in individual jurisdictions are often a result of changes in drivers of deforestation over time, such as international prices for agricultural products, infrastructure development or climate conditions in a particular year – some of which are beyond the control of the jurisdiction. During the five-year crediting period, the methodology does not account for external factors that may impact deforestation levels over time, which could result in higher or lower true (but unknown) baseline levels than observed historically. Any changes in external factors would, however, be captured over time when establishing an updated baseline for a subsequent crediting period.

   Our preliminary analysis of historical data on deforestation rates indicates that, at the level of individual jurisdictions, average historical data in one five-year period is often a poor proxy for what happened in the next five years. Using average five-year historical data on deforestation and forest degradation is therefore a poor predictor for the future. Crediting baselines based on average historical emissions are therefore associated with large uncertainty and not conservative. This confers with the earlier analysis of the CQQI on the use of jurisdictional baselines under the Verified Carbon Standard methodology VM0048 (see Figure 2).

   The large baseline uncertainty will – across jurisdictions – lead to a significant overestimation of calculated emission reductions. This is because underestimation of baselines in some jurisdictions does not compensate for overestimation in other jurisdictions. Jurisdictions with declining emission trends due to external factors rather than mitigation policies could issue a vast amount of carbon credits without taking any actions. By contrast, jurisdictions with increasing emissions trends may not be able to issue any carbon credits even if they implement mitigation policies and may thus not be able to implement their planned mitigation polies. Jurisdictions that overestimate emission reductions can generate more carbon credits than those that underestimate emission reductions – everything else equal – and will therefore make up a larger share in the total number of issued carbon credits. This is amplified with retroactive crediting as jurisdictions with underestimated emission reductions would be less likely to register in the first place. In addition, jurisdictions in which emission reductions are overestimated would face a competitive advantage due to lower unit costs of generating carbon credits. In aggregate, these effects lead to more significantly more overestimation than underestimation of emission reductions.

   This effect also depends on the duration in which jurisdictions participate in crediting. The longer the period is, the more may temporary overestimation of baseline levels in some periods be compensated by underestimation in other periods (see Comment 1 above).

2. **Potential underestimation in second and subsequent crediting periods due to the provision that the crediting level may not be higher than the previous crediting level:** The draft standard partially addresses conservativeness by prohibiting an increase in the crediting

level in subsequent crediting periods, unless new carbon pools or activities are added. This provision contributes to underestimating emission reductions. However, this provision only ensures conservativeness if jurisdictions opt to renew their crediting period. As jurisdictions do not have any obligation to renew their crediting period, only those jurisdictions that are able to gain further emission reductions may renew their crediting period, while others may simply seize crediting.

3. **Potential underestimation of baseline levels due to the impact of mitigation actions on emissions in the historical reference period:** The crediting baseline in the second crediting period is established based on the average historical emissions observed in the first crediting period. This means that any mitigation actions implemented by the jurisdiction in the first crediting period are reflected in the data used to establish the crediting baseline for the second crediting period. In the absence of these mitigation actions, emissions would have been higher. This contributes to an underestimation of baseline emissions. However, this effect only holds for second and any subsequent crediting periods and not in the first crediting period and only if jurisdictions renew their crediting period.

4. **Impact of longer-term trends in deforestation levels:** While deforestation and forest degradation rates are subject to short-term changes, as discussed above, an important question is how well the draft standard captures any longer-term deforestation trends. In principle, the draft standard captures longer-term trends, as the baseline is updated every five years. Any longer-term trends would, however, only captured with a delay of five years on average, due to the use of historical data from the past five years to establish the baseline crediting level. Under a long-term trend of declining deforestation rates, the use of historical data could thus lead to a systematic overestimation of baseline emissions. By contrast, if deforestation increases over time, the baseline could be systematically underestimated.

   The available data suggests that deforestation is currently increasing in some jurisdictions and decreasing in others. In a long-term perspective, the proposed crediting baseline would only be conservative if deforestation never declines. However, at some point in the future, deforestation will always decline and ultimately be halted – at the latest when all forests are lost. The approach in the draft standard would therefore only be conservative if the existing forest stocks are endless. As described above, this approach may lead, on average across crediting periods over a long time horizon, to a systematic bias of the draft standard towards overestimation of emission reductions.

5. **Potential overestimation of baseline levels due to continued crediting even if no forest would be available anymore:** The draft standard does not consider whether forest land in the baseline scenario would still be available for deforestation. If deforestation stops in the baseline scenario at a future point because all forests have been deforested, or all remaining forest is in (well) protected areas, the draft standard would still allow claiming carbon credits after that point in time although, in the case that forests no longer exist, no such emission reductions would be physically possible. For example, if baseline deforestation in a jurisdiction would be constant in the period from 2010 to 2050 and all forest area would have been deforested by 2050, then the methodology would still the jurisdiction to claim emission reductions for five years thereafter, as the crediting baseline for 2051 to 2055 would be based on historical deforestation data in the period 2046 to 2050. In practice, this issue is unlikely to materialize except in very few jurisdictions. In most countries, there are still large amounts of forests. And if efforts to reduce and stop deforestation are successful, then this issue may also not materialize.

In summary, in our assessment, assuming average historical deforestation rates as the crediting baseline is associated with significant uncertainties and could lead to significant overestimation of emission reductions. The first among the five effects discussed above is likely to be the predominant effect. The main cause of overestimation is the large unaccounted uncertainty in establishing the crediting baseline. As crediting baselines tend to be more conservative for second and subsequent crediting periods, average degree of overestimation may be lower during these periods. According to our preliminary analysis of historical deforestation data, the degree of overestimation also depends on how strongly a jurisdiction reduces deforestation levels. The stronger emissions are reduced, the lower is the impact of baseline uncertainty. With only small or moderate emission reductions, the calculated emission reductions may just be an artefact of wrongly set baselines and thus not be attributable to the mitigation actions taken by the jurisdiction.

For these reasons, the draft standard does also not meet the requirements of major integrity benchmarks. Addressing all causes of uncertainty is a key requirement under integrity benchmarks, including the ICVCM, the PACM, the CCQI and the Oxford Principles for Responsible Engagement with Article 6. These benchmarks require that the baseline should be conservative, that the degree of conservativeness should be informed by the level of uncertainty, and that all sources of uncertainty should be accounted for. This means that the consideration of uncertainty should not be limited to the quality of the data but include uncertainty in association with methods and assumptions, such as the assumption that historical deforestation and degradation levels will continue in the future. The integrity benchmarks also require calculated emission reductions to be attributable to the implementation of the JREDD+ activities rather than external factors (see, for example, ICVCM 10.6 a) 1).

To address the large risk of overestimating emission reductions and align the draft standard with these integrity benchmarks, we recommend the following revisions:

- **Uncertainty of short-term variations:** To address the short-term uncertainty in the crediting baseline, we recommend that the standard imposes a deduction to historical emission levels to account for the uncertainty due to short-term variations in deforestation and forest degradation levels. The deduction should be based on a scientific analysis of the uncertainty, based on historical fluctuations across five-year periods in deforestation and forest degradation. We recommend that the deduction be based on the uncertainty at a 95% confidence level, consistent with the requirements under the PACM for using historical emissions data (see Baseline Standard of the PACM).

- **Reflection of long-term trends:** To avoid a systematic bias in the estimation of the crediting baseline due to the time delay involved in using historical data, we recommend that the standard assumes – at least in a longer-term time horizon - an emissions decline rather than constant emissions. The start and rate of decline in emissions could be informed by empirical analysis of historical trends based on underlying drivers in the jurisdiction (see, for example, Teo et al. 2024). Another approach could be alignment of the baseline with the NDC and LT-LEDS of the host country and the long-term goals of the Paris Agreement.

- **Approaches other than using historical data:** We recommend that further research be conducted to explore alternative methods to establish jurisdictional baselines. These could include models that identify drivers of deforestation and are calibrated using historical data (see, for example, Teo et al. 2024). Whether such approaches will deliver more accurate baseline is uncertain; however, given the large uncertainty associated with using historical data, it may be worthwhile considering such alternative approaches.

Comment 9 Topic: HFLD crediting level. Section 5.2

The draft standard allows an add-on to the TREES crediting level of up to 0.05% of total carbon stocks for jurisdictions classified as high forest, low deforestation (HFLD). This means that it is implicitly assumed that emissions from deforestation and forest degradation would increase in the future in the absence of mitigation activities. While this may be plausible for some jurisdictions, this is not the case for a large number of jurisdictions. For example, Teo et al. (2024) found that in 43% of HFLD jurisdictions (132 out of 310) emissions declined compared to historical levels.

In addition, the same integrity issues are relevant for HFLD crediting levels as for the TREES crediting level (Comment 8). Similar to the TREES Crediting Level, the uncertainty associated with short-term variations in deforestation and forest degradation are not accounted for. The HFLD add-on implies that the degree of underestimation in the TREES crediting level would be reduced, while the degree of overestimation in the TREES crediting level would be amplified.

Next to the recommendations applicable to the TREES crediting level, we recommend that the HFLD Crediting Level approach be revisited. We specifically recommend that any add-on be derived based on a scientific analysis of long-term historical data for relevant jurisdictions, i.e. based on the relative increase in deforestation and degradation levels over time for HFLD jurisdictions and that the associated uncertainty be quantified. Based on this analysis, a conservative add-on could be calculated, determined at the lower bound of the uncertainty at a 95% confidence level, consistent with the requirements under the PACM. Alternatively, methods other than relying on historical data could be developed (see Comment 8).

4.2 Accounting for leakage emissions

Comment 10 Topic: No accounting for international leakage. Section 7.2.

The draft standard does not account for any international leakage beyond national boundaries. It is well established in the literature that leakage from reducing deforestation does not stop at national boundaries but can occur at international level and that the size of such leakage is material. Ignoring international leakage is thus not conservative and leads to overestimation of emission reductions. None of the major integrity benchmarks, including the ICVCM, the PACM, the CCQI and the Oxford Principles on Responsible Engagement with Article 6, exclude international leakage from accounting. The PACM and the Oxford Principles on Responsible Engagement with Article 6 are explicit in requiring that international leakage must be considered (see paragraph 9 of the Standard “Addressing leakage in mechanism methodologies”).

We acknowledge that estimating international leakage is methodologically challenging; however, these challenges can be addressed by choosing reasonably conservative values within a plausible range of such leakage effects. We therefore recommend that international leakage be included and that appropriate deductions, based on the scientific literature, be included in the quantification of emission reductions.

Comment 11 Topic: Size of leakage deductions. Section 7.2

The draft standard provides default leakage deductions for jurisdictions implemented at sub-national level. The size of the deduction depends on the fraction of the national forest area included. It seems appropriate and is well established that the relative risk of leakage (as a percentage of total emission reductions) declines with the size of the area covered, as a large share of potential shifts in activities occurs within the accounting boundary. However, the proposed values are not justified and do not

appear to align with the literature on carbon leakage from forest conservation activities where leakage risks are mostly estimated to be larger, in particular due to market leakage. We recommend revisiting the proposed values and to base them on the available scientific literature.

4.3 Carbon accounting

Comment 12 Topic: Flexibility and no conservativeness in choosing key parameters, methods and models. Section 4

The draft standard provides considerable flexibility to participants in what values, methods and models to apply for activity data and emission factors. In contrast to most other carbon crediting programmes, there are no requirements to prioritize more accurate sources of information or to choose more conservative values among different options. The literature empirically evaluating the application of such flexibility shows that in such instances participants often pick and choose favourable values, which grant them more emission reductions, leading to overestimation of emission reductions (see, for example, Haya et al. 2023). We recommend providing additional guidance on the selection of parameters, methods and models, requiring participants to use the most accurate or conservative parameters, methods and models among the available options and to require verification of the application of this requirement.

4.4 Accounting for uncertainty

Comment 13 Topic: Gaps in accounting for uncertainty. Section 8

We welcome that the draft standard takes, in principle, a systematic approach to account for uncertainty. However, the uncertainty assessment is limited, as it focuses on very specific sources of uncertainty – some of which are relatively small in size – and does not consider the most important and largest sources of uncertainty. The largest source of uncertainty in the ART TREES approach is the uncertainty in the assumption that average historical emissions observed in the reference period would continue at the same level in the crediting period (see Comment 10 above). Another large source of uncertainty is the size of the leakage deductions. Similarly, allometric equations are associated with considerable uncertainty but consideration of such uncertainty is explicitly excluded, based on the argument that such uncertainties consistent between emissions in the reference period and crediting period. This argument does not seem valid as the uncertainties in the reference and crediting period do not balance out. For example, if allometric equations overestimate carbon stocks by 10% in both the reference and the crediting period, then overall emission reductions would also be overestimated by 10%.

All major integrity benchmarks, including the ICVCM, the PACM, the CCQI and the Oxford Principles on Responsible Engagement with Article 6, explicitly require consideration of all sources of uncertainty, including uncertainty in data, parameters, assumptions and methods. We recommend that ART TREES aligns with these integrity benchmarks and considers all sources of uncertainty. To limit transaction costs, the standard could introduce default uncertainties that are assigned to all type of parameters and allow participants to come forward with more accurate estimates of uncertainty. For example, any default values used in the standard could be provided with a respective uncertainty range, similar to the practice in IPCC Guidelines for National Greenhouse Gas Inventories.

Comment 14 Topic: Size of the uncertainty deduction. Section 8

The size of the uncertainty deduction is not based on the 90% or 95% confidence level, as required under the PACM and most other carbon crediting programmes, but it seems that an “ART allowable” risk factor is introduced. This appears to reduce the uncertainty accounting by more than two thirds. It leads to a low level of confidence that the true emission reductions are actually achieved. We recommend aligning with the best practice under the PACM and other carbon crediting programmes and use the 90% or 95% confidence level as the basis for the uncertainty deduction.

4.5 Accounting for carbon pools and emission sources

Comment 15 Topic: Scope of activities. Section 4.5

The draft standard allows to exclude emissions from degradation if these make up less than 10% of emissions from deforestation. In our assessment, this approach may not be conservative, as reduced deforestation could lead to increased degradation. The provisions that inclusion is subsequently required if there is an increase in emissions are insufficient, as this would only address the matter in subsequent crediting periods. Moreover, a relative increase in degradation (compared to the baseline scenario) may not be detected, as the draft standard appears to only consider an absolute increase to be attributable to the mitigation activity. This could leave large degradation as a result of reduced deforestation undetected.

Comment 16 Topic: Exclusion of emission sources. Section 4.6

All major integrity benchmarks, including the ICVCM, the PACM, the CCQI and the Oxford Principles on Responsible Engagement with Article 6, require accounting for all carbon pools and emission sources altered by the mitigation activity unless their exclusion is conservative or duly justified (see, for example, ICVCM criterion 10.2 a)).

The draft standard does consider any relevant emission sources that may occur as a result of implementing mitigation activities to reduce emissions from deforestation or forest degradation (e.g. non-CO_2 emissions from burning biomass, changes in stocks of harvested wood products, combustion of fossil fuels, application of fertiliser, or livestock emissions). Although this is a practical approach, given the jurisdictional nature of the mitigation activity, it is not clear whether this is a conservative approach. A discussion of the appropriateness or justification of this approach is not provided. While some emissions, such as non-CO_2 emissions from burning of biomass, may be reduced with the implementation of measures to reduce deforestation and forest degradation, other emissions may increase, such as emissions from application of fertiliser. We recommend that an analysis of the relevance and conservativeness of the exclusion of these emission sources be conducted.

Comment 17 Topic: Consideration of carbon pools. Section 4.6

The draft standard only requires accounting for aboveground biomass in trees and soil organic carbon in peat soils. Other carbon pools can be excluded if their exclusion is either conservative or if emissions make up less than 3% and cumulatively no more than 10% of total emissions. The draft standard does however not specify the period over which these conditions shall apply, i.e. whether this relates to the reference period or any other period. In addition, the 10% limit on cumulative emissions can lead to significant overestimation. Furthermore, the draft standard does not define any approach to determine whether the exclusion of carbon pools is conservative. This leaves

leeway for Participants to select and exclude carbon pools in ways that lead to overestimated emission reductions or removals. While in many instances excluding such emission sources is conservative, this may not apply to all instances. For example, excluding harvested wood products from accounting may not be conservative where timber is a main driver of deforestation or forest degradation. We recommend to further define how conservativeness should be assessed and to remove, or significantly reduce, the thresholds under which carbon pools do not need to be accounted for.

5 Addressing non-permanence

Comment 18 Topic: Time horizon for monitoring and compensating for reversals. Section 7.1

The draft standard does not define any time horizon for monitoring and compensating for reversals beyond the end of the crediting period. In principle, a jurisdiction could always "walk away" when reversals occur, even prior to the end of a crediting period. Any reversals that may occur after a participant leaves the program are deemed to be compensated for through the cancellation of remaining carbon credits in the buffer pool.

In our assessment, this approach is a major shortcoming of the standard and the integrity of the carbon credits. The available experience with supporting countries to reduce deforestation is that large-scale reversals at jurisdictional scale can occur. For example, all emission reductions achieved under the Zambézia Integrated Landscape Management Program (ZILMP), supported by the World Bank's Forest Carbon Partnership Facility (FCPF), were later reversed due to slash-and-burn agriculture (FAO 2024). Similarly, while deforestation levels in Brazil were reduced considerably, they subsequently increased again significantly, due to political changes. We recommend that the current approach be revisited and that jurisdictions would need to commit to continue monitoring and reporting emission reductions and reversals for a minimum period time. The minimum period of time could be a longer fixed period (e.g. 50 or 100 years) or possibly also start from counting when deforestation has been halted.

Comment 19 Topic: Consequences of not submitting monitoring reports or exiting the program. Section 7.1

The draft standard does not define any consequences in case participants do not submit the required monitoring reports during the crediting period. If a participant leaves the program, only the fraction of carbon credits in the buffer pool are deemed to be reversed. Given the low contributions to the buffer pool (see Comment 18), this approach is very unlikely to appropriately address non-permanence risks. Consistent with the practice of other carbon crediting programs, we recommend that all credited storage is assumed to be reversed when a participant does not submit a monitoring report or exits the program.

Comment 20 Topic: Contributions to the buffer pool. Section 7.1

The draft standard uses buffer pool contributions between 5 and 25%, which may be increased to 30% in case of reversals. In our assessment, the overall contributions made from jurisdictions so far is unlikely to cope with the reversal risk at hand, noting that in some jurisdictions all credited storage may be reversed (see Comment 17). We note that in practice, Costa Rica, Ghana and Guyana only proposed to contribute 5%, and only Vietnam proposed to contribute a higher share of 15%. In our

assessment, the mitigating factor 1 in the draft standard is purely a statement of intent that does not necessarily reduce reversal risk. It could presumably be provided by all countries and thus does not seem an effective instrument to distinguish between reversal risks from different countries. We welcome the mitigating factor 2, as interannual variability strongly affects the risk of reversals. We recommend considering longer time periods, or possibly two separate indicators for short-term variability and longer-term variability (e.g. 15 years).

Comment 21 Topic: Fallback if obligations are not enforceable or if crediting mechanism ceases operations

The draft standard does not include any provisions how reversals are compensated for if the participants do not live up to their obligations to replenish potential deficits in the buffer upon a reversal or to increase their buffer contributions following a reversal. Similarly, it is not clear how operates the buffer pool if ART TREES ceases its operations. Such fallback provisions should be added in order to ensure that reversals are appropriate accounted for as well as the robustness of the buffer pool.

6 Avoiding double counting

Comment 22 Topic: Double issuance with units used domestically. Section 13.1

The draft standard provides an exception that double issuance is permitted if the carbon credits are used in a domestic compliance market. It is unclear why this exception is provided. If the carbon credits are used to offset other emissions, such double issuance still leads to higher greenhouse gas emissions compared to a situation where carbon credits are used that are not subject to double issuance. Such double issuance is not permitted under any of the major integrity benchmarks, including the ICVCM, the PACM, the CCQI and the Oxford Principles for Responsible Engagement with Article 6. We recommend that this exception is not granted.

Comment 23 Topic: Further specification of instances of double issuance. Section 13.1

The draft standard does not specific what type of other mitigation activities may be subject to double issuance. Some mitigation activities in the carbon market reduce deforestation or forest degradation rather implicitly. This holds in particular for activities reducing the use of non-renewable biomass, such as efficient cookstove projects or clean water projects. We note, for example, that the TREES concept note by Ghana identifies several forestry carbon activities, while the projects implemented in Ghana to reduce the use of non-renewable biomass are not listed. While the draft standard in principle defines broadly that no overlap should occur, we note that it apparently has not been applied in TREES registration documents. To address this matter, we recommend that the standard clarifies a non-exhaustive list of activities that need to be considered in assessing double issuance risks, including the displacement of non-renewable biomass.

7 Environmental and social safeguards

Comment 24 Topic: Validation and verification of safeguards. Section 2.2

From the provisions in the safeguards chapter 12, and the current validation and verification documents (based on ART TREES 2.0), it remains unclear how strict the verification of the provided

safeguard information will be and what would happen if the provided information on safeguards is insufficient. With the update to ART TREES 3.0, we thus recommend that the respective ART Validation and Verification Standard would be updated accordingly to more clearly point out what is considered insufficient information provided on safeguards and what the consequences of non-conformance are.

Comment 25 Topic: Benefit sharing. Section 3.4.2

The new section 3.4.2 adds a mandatory requirement for participants to provide a description of the benefit sharing arrangements that govern the distribution of proceeds and benefits derived from TREES Credits. As part of this description participants must name the stakeholder groups that are eligible to receive benefits, the principles and criteria guiding how benefits are allocated, and the processes used to develop and implement the benefit sharing arrangements.

Participants must further demonstrate that their approach to benefit sharing meets the TREES safeguards, particularly safeguards B-E. These include the right of access to information, transparency, respect, protection and fulfilment of land tenure rights, access to justice, identification of indigenous peoples and local communities, respect, protection and fulfilment of the right of all relevant stakeholders to participate fully in the design and implementation of REDD+ activities as well as adequate participatory procedures for the effective participation of indigenous peoples, local communities and Afro-descendent peoples.

Participants must report on the above in the safeguard sections of the TREES Registration Document and TREES Monitoring Report. These new provisions strengthen the TREES standard compared to version 2.0 which did not include a stand-alone section on benefit-sharing arrangements. However, ART TREES falls short of provisions of other JREDD+ approaches in the following areas:

- No stand-alone benefit-sharing document: Under the FCFP countries must establish a stand-alone benefit sharing plan which will be assessed and validated before a JREDD+ program is included in the Carbon Fund's portfolio. Under ART TREES participants must only describe the benefit-sharing arrangements in the registration document and monitoring report.
- Legal bindingness of the benefit sharing arrangements: The VCS JNR framework requires that the benefit-sharing system is legally binding. This gives more certainty to stakeholders that benefits are indeed distributed to them
- Lack of equity considerations: The VCS JNR framework requires, that the benefit-sharing system is equitable. The ART TREES Standard version 2.0 did include an outcome indicator in theme 2.2 of Cancun Safeguard B that required that the distribution of benefits related to the implementation of the JREDD+ actions have been carried out in a fair, transparent and accountable manner. In the draft 3.0 version of the standard the "fair" has been deleted from this list of requirements. We recommend reinstating the requirement for benefit sharing to be fair or equitable.

Comment 26 Topic: Grievance/complaints mechanism / section 12.4.2

Section 16 "complaints and appeals" on the grievance mechanism of ART has been improved compared to version 2.0 regarding the scope and the procedure description of the grievance mechanism at program-level. However, we still see gaps in the provisions regarding a grievance

mechanism at project/actions-level. In contrast to the program-level mechanism described in section 16, the provisions in section 12.4.2 under theme 2.4 only prescribe that some form of grievance mechanism must be established but do not detail the process or the characteristics of the grievance mechanism. It hence remains unclear whether the processes set up will be clear and transparent. An important part of grievance mechanisms is that it ensures impartiality and that it is possible to submit anonymous grievances. However, the ART provisions do not include such requirements.

The provisions could thus be strengthened by including more concrete characteristics of the grievance mechanism (e.g. the possibility for confidentiality or anonymity). While it might be difficult to prescribe a very detailed, specific grievance mechanism for REDD+ actions, the most important pillars could be required by ART TREES (such as the aforementioned gaps) while retaining the ability of ART TREES to rely on country systems where applicable and prudent.

Comment 27 Topic: Grievance/complaints mechanism / section 12.4.5

While the safeguards of ART TREES cover several topics, there are still gaps where safeguards are not addressed (e.g. important labour rights like avoiding forced and child labour, cultural heritage, violence against women, economic displacement) or where the provision of minimum requirements could increase the robustness. General requirements, like for theme 5.2 in section 12.4.5, risks that participants interpret the safeguards differently and country systems might not sufficiently guarantee adherence with the safeguards. For example, theme 5.2 stipulates that participants should demonstrate that they have made use of mandates, procedures, and resources to protect and avoid adverse impact on biodiversity and ecosystem services in the design and implementation of REDD+ actions. Defining minimum requirements (like requiring participants to establish indicators for measuring biodiversity or requiring regular monitoring of biodiversity hot spots) would increase the clarity here and establish concrete requirements while retaining the ability of ART TREES to rely on country systems where applicable and prudent.

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