

Stakeholder input for Options to revise the recommendation on activities involving removals under the Article 6.4 mechanism, taking into account stakeholder inputs

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Based on the document and the suggested revisions there are some key points that we would like to reiterate and ask. They relate to residual emissions, the unclarity of the current accounting of nature based removals, the buffer solutions and dealing with risk and responsibility
Comments are highlighted in blue.

Residual emissions

We would like to express our support for the following comment to change:

‘ [YNG, 403] recommends addition of a new paragraph in Section 3.4 or 3.5: "Carbon removal activities under the Article 6.4 mechanism shall be limited to offsetting residual emissions that cannot otherwise be abated. Removals shall not be used to enable the ongoing use of fossil fuels."

However, we need to review and develop an extra tool to define which emissions are residual emissions as this is currently unclear: <https://www.nature.com/articles/s41558-022-01592-2> , <https://www.sciencedirect.com/science/article/pii/S2214629623000956> , <https://www.tandfonline.com/doi/full/10.1080/14693062.2024.2358989> , <https://iopscience.iop.org/article/10.1088/1748-9326/ad31db> , <https://www.nature.com/articles/s41558-024-02025-y>

Residual emissions should be taken into account under section 3.4. If removals are not exclusively used for residual emissions, they might undermine reductions and thus breaching the net-zero goal.

Biogenic and fossil carbon

We would like to express our support for the following comments:

[AOSIS] said many types of CDR are recognized in the IPCC reports, each with its own unique risks and challenges. The IPCC WGIII report at C.11.1 notes that: "CDR methods vary in terms of their maturity, removal process, time scale of carbon storage, storage medium, mitigation potential, cost, co-benefits, impacts and risks, and governance requirements." Ultimately, the guidance will have to be tailored to different types of CDR. Recommendations for nature-based removals would be treated differently from, for example, tech-based removals.

4. [AOSIS] emphasized that we need to look at climate-relevant time frames in developing recommendations. Activities used to offset emissions need to permanently reduce emissions or

sequester CO₂ over climate-relevant time frames—here an assurance from the SBM would be helpful. Carbon emissions from fossil fuels remain in the atmosphere for hundreds of thousands of years. But carbon emissions removed by biological methods (land use for example) in contrast only remain stored for decades to centuries. So, there is a key distinction that has to be maintained between emission reductions and removals.

5. Non-permanent removals cannot offset permanent fossil emissions, due to the different timescales between the short-term carbon cycle and geological reservoirs. Hence, they are not equivalent, or fungible. It is very important that the Article 6.4 guidance and system reflect this lack of fungibility, so that buyers are aware of the length of the impacts of their actions and the inherent limitations of removal units. [AOSIS] has been emphasizing the need to treat emission reductions and removals differently, and to reflect these differences, for example in unit identifiers, reversal risk tags and tags of categories of risk.

6. The only way to offset a tonne of CO₂ emitted is by an equivalent tonne of CO₂ permanently removed from the atmosphere. There is an asymmetry in how the climate system responds to emissions and removals, with emissions thought to be more effective at raising CO₂ concentrations than an equivalent removal is at lowering them. Anything less than permanent reduction, if used as an offset, will take us farther away from the 1.5 C temperature goal. Activities with a high risk of reversal are problematic and should not be accepted for registration under Article 6.4, for reasons of environmental integrity. By this we mean activities that may not have sufficient permanence over climate-relevant time frames—which is to say time frames that impact the climate. Not all categories of activities are suitable for crediting under Article 6.4 and the SBM needs to make this plain. Categories of activities to be credited also need to be uncontroversial, for the credibility of the mechanism. Article 6.4 is to set an example for other standards; it needs to set a high bar and cannot be ensnared in controversies. [AOSIS]

The long and slow carbon cycle need to be distinguished. This rigorous criteria is not introduced to discourage actors, but to avoid the generation of low permanence 6.4 ERs. Moreover, the removal must be as close to the climate impact of a fossil emission as possible. Short term biogenic storage is not able to achieve that. Thus, it must be made clear that credits generated under paragraph 4.9 (afforestation and reforestation) are not equivalent to fossil emissions. We suggest that they are excluded from article 6.4. It is uncertain and purely driven by “feasibility and market expansion” to enable this through a buffer account and reversal risks. They are not able to mitigate large scale risks and are not really insurable. Fossil emissions lead to an alteration of the climate systems for thousands of years:

<https://www.annualreviews.org/content/journals/10.1146/annurev.earth.031208.100206>

Removals must ensure a similar time span if they are used to offset residual emissions. This article shows that discounting should not be used and thus a ton year approach is not a viable solution: <https://www.tandfonline.com/doi/full/10.1080/17583004.2023.2284714>, which has been suggested by other commentators.

Other similar comments that make this point and we support are:

[YNG, 403] recommends excluding short-term removals and proposes addition of a new paragraph in Section 3.2 or 3.6: "Short-term or temporary carbon removals shall be excluded from the Article 6.4 mechanism. Robust rules shall be developed to ensure removals are permanent for a minimum of 300 years, with full protection of indigenous peoples' rights in alignment with international law." [YNG, 403]

-while we think that 300 years is not long enough to guarantee equivalence to the impact of a fossil emission, but we support the exclusion of short term removals.

On issues of definitions of durability and with respect to post-crediting monitoring periods, rules need to be designed on the basis of the science, rather than putting the policy before the science. The UNFCCC needs to take a conservative approach on these issues, for credibility and to protect environmental integrity.

Very strong support- it should not be about making a big business case for a lot of projects, but making sure that those projects deliver long term removals.

Support for this point:

43. [AOSIS] stated that reference to tonne-year accounting in response to this question seems misplaced. Tonne year accounting has been rejected by the scientific community, according to comments submitted to the SBM by a lead author of the IPCC WGI Report. His comments, submitted on 3 March 2023, stated that temporary crediting is the only crediting method suitable for temporary storage and the liability for release of removed emissions. He emphasized the point that a tonne-year approach undermines the long term climate target, because temporary carbon storage does not provide long-term climate benefits—and actually implies additional climate damage if used as an offset. This IPCC commenter also stated that the tonne-year approach has been debunked for over 20 years.

Other comments related to this point that we disagree with:

‘[BR, 408] considers it crucial to establish a reasonable period so that the project does not have excessive obligations, even after the completion of the activity, to avoid discouraging project implementation.’

Environmental integrity of removals must be high and they must be permanent- if that cannot be ensured, there is no benefit in many implemented projects that deliver temporal storage and that then release the carbon. Such an approach creates a high risk of overshoot.

‘[AILAC, 412] proposes specifying the duration of the post-crediting monitoring period obligation under item 20 (b) that is a timeframe that is viable to hold from a contractual standpoint by activity proponents. Currently this time frame is unspecified and this generates a lot of uncertainty for potential activities. It would be unwise to demand impossibly long periods of time such as 100-years which may make sense from a carbon Cycle point of view but to which no activity proponent would commit contractually to.’

Environmental integrity of removals must be high and they must be permanent- if that cannot be ensured, there is no benefit in many implemented projects that deliver no permanent removals and risk overshoot.

[RG, 388] recommends the use of tonne-year accounting (TYA) such as the one proposed by [SH, 379] in its Carbon 2.0. TYA offers solutions to such practical concerns of the investors:

- (a) The price of Carbon credit is normalized to 1t CO₂ removed precisely and stored;
- (b) The cost today is a discounted value of future benefits, discounting the underlying risks (environmental costs and regulatory penalties, shortfalls and reversals);
- (c) All risks associated with reversals / shortfalls are attributed within “Risk premium” over and above discount rate attributable to social cost of carbon much like how probability of default is factored into bond prices as credit spreads;

(d) Therefore paying “less” for a Carbon project with large inherent risks vis a vis paying “more” for a higher quality project should be financially normalized.

There are many problems with this for example which discount rate to choose. Discounting carbon emissions is not in line with inter-generational justice. We currently have no reason to think that there will be less carbon in the atmosphere in the future- so if we use discounting we should use negative discounting. An article that showed that discounting is likely to breach net zero is this one: <https://www.tandfonline.com/doi/full/10.1080/17583004.2023.2284714>

Buffer pool

We think that it is an **inadequate** approach to extend the buffer to include reduction buffers, as emission reduction credits have mostly been shown to be ineffective. The buffer pool should be separated by project type to not replace more permanent by more short term credits (biogenic removal vs technological removal – which was already addressed in comment 302) and additionally no replacement of removal credits by reduction credits. Paragraph 54 says that if it is possible the buffer should represent an equivalent project type. This is not good enough, especially if reduction credits will also be allowed in the buffer. If they are also in the buffer, it could be that all implemented removals are reversed, but if we have enough reduction credits in the buffer, we would still claim that we have ‘removed’ carbon. This is not adequate and would blur the distinction between reductions and removals even further. We therefore suggest to replace should with shall in paragraph 54.

Also the buffer pool solution as proposed in section 4.5.3.1. paragraph 52-56 does not represent a solution against reversals, which is why we reiterate and support the following comment:

[SCC 380] Unaddressed deficiencies in the buffer pool scheme as described in the recommendation document are as follows:

- (a) A “buffer pool” does not have any collateral value unless the buffer is made up of non-reversible credits;
- (b) Insurance: no actuarial basis exists for such insurance; it is a hypothetical proposal since no commercial entities can do this at present; over long period of time, the insured or insurer can disappear, judgement-proof cases can arise; who will sue whom, and under what jurisdiction and laws, is not clear;
- (c) Host Party liability: governments cannot arbitrarily assume liabilities of private entities; they will need legislation to be enacted for this, which is unlikely to happen in most developing countries; this requirement defeats the objective of the mechanism to “incentivize and facilitate participation by public and private entities”;
- (d) Perpetual monitoring: this is not feasible; it can incur unmanageable costs; lock-in of a land-use over indefinite period goes contrary to efficient resource use, contrary to sustainable development.

Comments to this section that we **disagree** with:

[RG, 388] proposes the mechanism to address reversal to be extended to include the following considerations:

- a. Article 6.4 SB buffer pools could include credits from all registered projects. The credits are not retired for specific period of time and therefore may be used to remediate shortfalls;
- b. The Buffer pools therefore at any point in time represent an aggregate sum of CDRs or tonnes removed, priced at a volume weighted average price of each CDR.

How do we ensure that the buffer pool is enough compared to the reversals? We have to do that without any empirical evidence of large scale CDR implementation? The buffer pool is not sufficient to solve the issue of uncertainty and risk.

(e) Increasing the activity rating, resulting in increased buffer contributions, if required as per the risk assessment update

Some strategy must be outlined, what happens if the buffer pool is empty

270. [ICLRC, 400] recommends that insurance instruments be considered, and their possible use added as an alternative mechanism to cover reversal risks and reversals. In many contexts insurance instruments used for removals appear to be devoid of many limitations of other instruments used to guarantee the delivery of carbon sequestration projects, such as, for example, buffer pools or temporary carbon credits.

I do not see how insurances could contribute here, especially if they do not have a buffer account of permanent removal credits.

Risk Reversal

Strong support for this point to adjust paragraph 52 and the reversal risk assessment tool

[CMW, 394] proposes revising the text to “The Supervisory Body will develop a reversal risk assessment tool. The tool shall incorporate the latest peer-reviewed scientific research and shall be regularly updated, at least every 5 years, to account for new scientific findings. The tool shall require activity participants to incorporate geographical context, historical risk record, and projections for future risk development, including those related to the impacts of climate change. The tool shall also define a minimum default risk rating for activities facing a reversal risk, potentially distinguished by broader activity type. The activity-level assessment described in paragraph 34, shall complement the default risk rating, and shall not lead to an overall rating that is lower than the default risk rating. The activity-level assessment may result in the overall rating being higher than the default risk rating. DOEs shall review the results of the activity-level assessment, including by assessing the appropriateness of the underlying data as well as the risk rating, and provide recommendations to the activity participant and SBM as appropriate. Methodologies may include additional guidance on the application of the tool.”

Many removal activities have not been implemented at scale as of now. When we will start to do so, we will empirically learn more and more about the risk, which makes it key to update and continuously work on this with the latest scientific findings. For example NBS will be less effective to store carbon due to climate change in different geographies.

Responsibility

Strong support for this point, because it will incentivize emission reductions more, as it will require ongoing financing and control of removals by the acquiring party.

366. [CMW, 394] suggests that one way to more equitably spread costs and liability for future MRV and reversals would be to ensure that buying entities take on responsibility by requiring the following:

- a. When ERs are authorised for NDC use, the acquiring Party should bear the cost of future MRV and remediation rather than the host Party. It is inappropriate for an acquiring Party to use an ITMO towards its NDC, and then never have to bear any responsibility for the underlying mitigation going forward, which it would have to do if it were undertaking actual domestic mitigation. Requiring the acquiring Party to bear liability will either incentivise the purchase of ITMOs from activities with a lower reversal risk or will require the acquiring Party to reflect the truer cost of purchasing ITMOs from activities with a higher reversal risk;
- b. When ERs are authorised for IMP/OP, the acquiring entity should also bear some or the full cost of MRV and remediation for the same reason detailed above.

We disagree with the following point, because it would weaken liability of individual projects and mix the quality of the different credits:

373. SBM should create a system for risk assessment in which the activity participants, host party and the acquiring party can share responsibility, as appropriate, in a transparent way. It makes sense to cover risks with a joint responsibility of a global buffer, host and purchasing country, and OMGE as a last resort. (AILAC, 412)

We want to highlight that this point asks a crucial question:

24. [EU] said guidance should further elaborate the remediation element to address reversals in full and over long time periods. There is a need to clarify whether carbon credit replacement refers to credits without non permanence risk and arrangements for backstop. It is appropriate that project developers bear the risk for intentional reversals. But what if project developer is bankrupt? In that case, a backstop would be needed.

This shows again that private market actors are not the ideal entity to ensure permanent removals. A backstop would be needed and that would be either the host party, buyers or the acquiring party. However, who would that like to purchase these credits at all, given that the liability will be purchased alongside? This needs consideration in the host country roles (4.8.).

32. [YOUNGO] said responsibility should be on the activity participants first and then be transferred to the host country, as decided on a methodology-by-methodology basis. Permanence time frame needs to be hundreds of years, as in the EU Carbon Removal Certification Framework.

100 years is not an adequate time frame as fossil emissions are active in the climate system for way longer than 100 years. The EU certification framework is not yet published in the EU journal and methodologies in relation to the 100 years are not yet available to my knowledge, and the finalized accounting methodologies are also not yet published.