

IN MEETING DOCUMENT

Information note

Summary of the views submitted by Parties and observers on addressing non-permanence and reversals draft standard v02.2

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DRAFT



COVER NOTE

1. Procedural background

1. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA), by its decision 7/CMA.4, invited Parties and admitted observer organizations to submit, via the submission portal, by 15 March 2023, their views on activities involving removals, including appropriate monitoring, reporting, accounting for removals and crediting periods, addressing reversals, avoidance of leakage, and avoidance of other negative environmental and social impacts.
2. The Supervisory Body, at its eleventh meeting, agreed with the recommendation of the MEP to consolidate the four related issues and to develop a standard on addressing non-permanence and reversals covering these issues.
3. The Supervisory Body, at its fifteen meeting, agreed with the recommendation of the MEP to consolidate the four related issues and to develop a standard on addressing non-permanence and reversals covering these issues.¹
4. At its seventh meeting, the MEP continued to work on the draft standard and released for public consultation a draft standard, consisting of two alternative proposals. Specifically, the MEP was divided as to whether it is necessary to address some requirements in a standard directed to activity participants and some requirements in a standard directed to mechanism methodologies or whether all requirements to address non-permanence and reversals can be provided in a standard directed to activity participants. To reflect the different views and options, the MEP elaborated three different Appendices for the purpose of seeking public inputs, with one option consisting in Appendix one and Appendix two and the other option consisting in Appendix three.
5. The call for public inputs opened for a three (3) week period from 15 July to 4 August 2025. The MEP received 112 inputs, which are publicly available on the UNFCCC website.² The secretariat prepared an internal compilation of stakeholder inputs.
6. At its seventeenth meeting, the Supervisory Body noted the MEP's ongoing work on implementation of the "Standard: Requirements for activities involving removals under the Article 6.4 mechanism" related to addressing non-permanence and reversals. The Supervisory Body requested the MEP to prepare a single recommendation, identifying options where necessary. The Supervisory Body underlined that, while the MEP is invited to explore the full range of potential approaches to operationalize the requirements of the Removals Standard for consideration of the Supervisory Body, it shall stay within the mandate set by the previous decisions of the Supervisory Body including the Removals Standard. In relation to the request for clarification concerning the role of the host Party in the Removals Standard, the Supervisory Body acknowledged that there is no need for

¹ See document A6.4-INFO-GOV-021: Workplan of the Methodological Expert Panel 2025.

² See <https://unfccc.int/process-and-meetings/the-paris-agreement/article-6/article-64-pacm/stakeholder-engagement/calls-for-input/2025-non-permanence-reversals>

specific focus on “host Party roles” and decided to remove the “host Party roles” from Table 1 of the MEP workplan.

7. At MEP008, the MEP considered the public input received and made a recommendation. Thereafter, a second call for public input on the annotated agenda of SBM018 was open from the 10 to the 24 September 2025 via the submission portal.

2. Purpose

8. This information note contains a summary of the submissions made by Parties and observers in response to the call for inputs issued on the annotated agenda of SBM018.

3. Key issues and proposed solutions

9. The main issues raised by Parties and observers in their submissions are summarized in this information note.

4. Impacts

10. This document will facilitate the consideration by the Supervisory Body of the views of Parties and observers on the non-permanence and reversals draft standard.

5. Subsequent work and timelines

11. No further work is anticipated in this regard.

6. Recommendations to the Supervisory Body

12. It is recommended that the Supervisory Body take note of the summary of submissions contained in this information note.

TABLE OF CONTENTS**Page**

1. INTRODUCTION	6	
2. SUMMARY OF VIEWS.....	6	
3. COMMENTS ON THE COVER NOTE: SUMMARY OF PUBLIC COMMENTS ADDRESSED IN THE RECOMMENDATION BY THE MEP	6	
3.1. Comments on the Cover Note: summary of public comments not addressed in the recommendation by the MEP	7	
3.2. Comments on the Cover Note: other subsections	8	
3.3. Comments on Appendix 1. Draft Standard: Addressing non- permanence and reversals in mechanism methodologies	10	
3.3.1. Paragraph 3 g. Negligible Risk		10
3.3.2. Applicability (4-7)		10
3.3.3. General principles and requirements (8-10)		11
3.3.4. Identification of applicable greenhouse gas reservoirs (11-17)		11
3.3.5. Quantification of emission reductions and/or net removals and reversals (18-37)		12
3.3.6. A6.4ER contributions to the Reversal Risk Buffer Pool Account (31-32)		12
3.3.7. A6.4ER contributions to the Adaptation Fund (33-34)		13
3.3.8. A6.4ER contributions to overall mitigation in global emissions (35-36)		13
3.3.9. Determination of whether reversals are avoidable or unavoidable (43-46)		13
3.3.10. Monitoring and reporting in the post-crediting monitoring period (47-49)		13
3.4. Comments on Appendix 2 Elements for inclusion in relevant regulatory documents	14	
3.4.1. Observed events that could lead to a reversal (3-11)		14
3.4.2. Annual reversal report (12-16)		14
3.4.3. Late, incomplete or missing report submissions (17-19)		15
3.4.4. Incomplete report submissions (24-31)		15
3.4.5. Missing report submissions (32-38)		15
3.4.6. Post-crediting period monitoring and reporting (39-43)		16
3.4.7. Termination of monitoring and reporting in the post-crediting monitoring period: Remediation of potential future reversals (44-45)		17
3.4.8. Termination of monitoring and reporting in the post-crediting monitoring period: Negligible risk of reversal (46-53)		17
3.4.9. Post-reversal actions: Remediating unavoidable reversals (54-55)		18

3.4.10.	Post-reversal actions: Remediating avoidable reversals (56-58)	18
3.4.11.	Post-reversal actions: Reversals below baseline (59-60)	19
3.4.12.	Post-reversal actions: De-registration of activities (61)	19
3.5.	General Comments.....	19
3.5.1.	Party submissions - General	19
3.5.2.	United Nations System - General	22
3.5.3.	Parties, United Nations system, Admitted IGOs, Admitted NGOs and non-admitted entities – General	22
4.	LIST OF SUBMITTERS.....	25

1. Introduction

1. This note provides a summary of the views submitted by Parties and observers in response to the call for inputs on the annotated agenda of SBM018.
2. At SBM014, the Supervisory Body adopted the “Standard: Requirements for activities involving removals under the Article 6.4 mechanism” and requested the MEP to continue its work on the above issues on the basis of the adopted Removals Standard.
3. At MEP007 the MEP prepared a draft Reversal Standard consisting in two proposals. A call for public inputs was open from 15th July until 4th August 2025 via the submission portal.
4. At its seventeenth meeting (SBM017), the SB provided direction to the MEP.
5. At MEP008, the MEP considered the public input received and made a recommendation. Thereafter, a second call for public input on the annotated agenda of SBM018 was open from the 10 to the 24 September 2025 via the submission portal.
6. A total of 70 respondents submitted their views, including late submissions received from the 10 to the 24 of September 2025. Only comments received on time are subject to the summary hereby presented. Table 1 summarizes the number of submissions by category included in this information note. The full content of all submissions is publicly available in the UNFCCC [website](#).

Table 1. Number of submissions received by category

Category	Number of submissions
Parties and groups of Parties	10
United Nations system bodies	2
Admitted intergovernmental organizations	1
Admitted non-governmental organizations	17
Non-admitted entities	41
SBM Members	1

7. The full list of submissions can be found in the appendix to this note.

2. Summary of views

8. The following sections summarize the views expressed in the submissions.
9. Comments received on the Draft Standard Addressing non-permanence and reversals v02.2:

3. Comments on the Cover Note: Summary of public comments addressed in the recommendation by the MEP

10. The proposal in Appendix 1 and 2 imposes indefinite monitoring based on “negligible risk” over 100 years, which is not feasible or supported by scientific certainty for land-use projects, especially in tropical forest contexts like Guyana. This would significantly disincentivize investments in high-integrity REDD+ and NbS. A recommendation is to

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- support the adoption of Appendix 3, with refinements: a post-crediting monitoring period of 40 years from the start of the mitigation activity, not from final verification. This aligns with IPCC durability science and practical contract horizons. [5].
11. Consultation process. Stakeholders noted that the consultation process did not fully reflect the balance of feedback, with many submissions expressing concerns or opposition to Appendices 1 and 2. They recommended establishing a more transparent process that incorporates independent scientific and technical expertise and engages Indigenous Peoples and other relevant stakeholders. [17, 3]
 12. Stakeholder input and draft revisions. Although the MEP reported revising the draft standard in response to feedback, stakeholders observed few substantive changes. Key concerns, particularly regarding post-crediting monitoring, remain unaddressed. Future revisions should better integrate stakeholder input. [11, 25, 29, 30, 32, 36, 51, 53, 60, 62]
 13. Materiality threshold. The introduction of a materiality threshold (para. 39, Appendix 1) helps maintain environmental integrity and avoid disproportionate consequences from minor, naturally reversible carbon losses, which is particularly important for nature-based projects. However, it currently applies only to activities that “generate ongoing net removals,” excluding avoided deforestation and similar activities. Stakeholders recommended expanding the threshold’s applicability and deleting the restriction in paragraph 39: “[The provisions of this paragraph shall only apply to activity types that generate ongoing net removals without ongoing interventions by the activity participant, and shall not be applied to any other matters, such as quantification of emission reductions and/or net removals.]” [18, 34, 38, 46, 50, 67]
 14. Threshold terminology and monitoring guidance. It is recommended to replace “materiality threshold” with “threshold of significance for reversals”, defined independently from verification materiality, and ensure consistent use. The proposed reduction of the upper limit for negligible risk from 5% to 2.5% lacks clear justification and could disproportionately affect land-based projects. Maintaining the original 0.1%–5% range or differentiating thresholds by project type is suggested. Stakeholders also noted that “high level of confidence” is not clearly defined, leading to subjective interpretations. Clarifying it quantitatively or qualitatively using technical criteria or international standards is recommended. Guidance is needed for annual reversal reports during the post-crediting period, including submission, verification, archiving, and simplified reporting when no reversals occur. [20]
 15. Post-crediting monitoring duration. The draft imposes indefinite monitoring based on “negligible risk” over 100 years, which is not scientifically supported for land-use projects, particularly tropical forests. Stakeholders recommended adopting Appendix 3 with a post-crediting monitoring period of 40 years from the start of the activity, aligning with IPCC durability guidance and practical contract horizons. [5]
- 3.1. Comments on the Cover Note: summary of public comments not addressed in the recommendation by the MEP**
16. Post-crediting monitoring duration. Stakeholders noted that the MEP’s draft incorrectly treats indefinite post-crediting monitoring as required by the Removals Standard. The Removals Standard allows monitoring to cease once either (a) stored GHGs are at negligible risk of reversal, or (b) remediation addresses potential reversals. It does not mandate indefinite monitoring, specify a 100-year horizon, a percentage loss threshold, or a confidence level. Introducing indefinite monitoring represents a

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- substantive extension beyond the original Standard, creating feasibility and cost challenges for land-based projects. [17, 3]
17. Alignment with the Removals Standard. The Reversals Standard narrows Supervisory Body discretion by treating certain parameters (100-year horizon, 95% confidence level, percentage thresholds) as fixed technical requirements. UNEP emphasized that these selections carry normative rather than empirical weight. Paragraphs 26–28 of the Removals Standard allow the Supervisory Body flexibility to design arrangements balancing ambition with practicality, including termination of monitoring once negligible risk or remediation is achieved. [10]
18. Recommendations on flexibility and gradual strengthening. Some stakeholders recommended:
- (a) Exploring time horizons for negligible risk calculations and fixed post-crediting monitoring periods;
 - (b) Ensuring alignment with the Removals Standard while maintaining environmental integrity and enabling progressive strengthening of requirements;
 - (c) Using a gradual approach to permanence, particularly for nature-based projects, where shorter initial horizons could tighten over time as monitoring tools and capacities improve;
 - (d) Directing the MEP to present options for time horizons and fixed post-crediting durations, preserving SB flexibility to set balanced, progressively strengthened requirements. [4, 10, 3]
19. Fixed monitoring periods as an option. Stakeholders noted that paragraph 26 allows monitoring beyond the last crediting period, and paragraph 28 allows termination if negligible risk or remediation is demonstrated. This leaves room for defining fixed durations, for example 40 years post-crediting, consistent with the Standard's language. Stakeholder inputs on fixed periods should be considered. [18, 27, 34, 38, 50, 67, 69]
20. Large-scale programme applicability. Comments highlighted that the draft standard may not be applicable or practical for large-scale crediting programmes, similar to concerns with other standards/tools (e.g., leakage, baseline). It is recommended that the MEP incorporate these comments when preparing the large-scale programme concept note and revise relevant standards to ensure suitability for large projects. [2]

3.2. Comments on the Cover Note: other subsections

21. Applicability across activity types. Stakeholders raised concerns that a single non-permanence and Reversals Standard may not suit all Article 6.4 activities. Engineered solutions (DACCS, CCS) have very long-term carbon storage, while nature-based climate solutions (forests, soil carbon) have shorter durations (20–100+ years). The current draft could exclude nature-based solutions. Recommendations include:
- (a) Deferring discussion of the standard until amendments to the Removals Standard are made, ensuring recognition of different carbon storage durabilities;

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- (b) Amending the Removals Standard to enable equal participation of nature-based and engineered solutions, with differentiated thresholds for negligible reversal risk and criteria for exemptions from post-crediting monitoring; and
 - (c) Developing a Reversal Risk Assessment Tool applicable to nature-based solutions. [2]
22. Post-crediting monitoring period. Without amendments, perpetual monitoring effectively excludes nature-based solutions and risks reducing financing for scalable carbon removal activities. Stakeholders recommended eliminating the indefinite requirement and adopting a fixed post-crediting monitoring period of 60 years for a 40-year crediting period, aligned with international standards. [25, 29, 30, 32, 36, 41, 49, 51, 53, 60, 62]
23. Permanence assessment horizon. Current proposals of 0.5–2.5% over 100 years may limit participation of nature-based projects. Stakeholders recommended replacing “negligible risk” with “acceptable risk”, defined as a reasonable probability that carbon remains stored for 40 years. This should be supported by robust scientific evidence, stakeholder input, and technical expertise. [6]. On the other hand, a 100-year assessment horizon is considered insufficient. Scientific evidence, modelling frameworks, and international standards indicate fossil CO₂ and other stored carbon may persist for centuries to millennia. Permanence assessments should adopt a minimum horizon of at least 200 years from the end of the last crediting period. Assessments should remain methodologically flexible, and consultation on the draft reversal standard and the Risk Assessment Tool should occur in parallel. [15]
24. Alignment with the Removals Standard. The Removals Standard does not mandate a 100-year horizon, specific percentage loss, or confidence level. Paragraphs 26–28 allow flexibility for termination once negligible risk or remediation is achieved. The Reversals Standard narrows this discretion, treating certain parameters as fixed. Stakeholders emphasized exploring options for time horizons and fixed post-crediting periods to ensure alignment with the Removals Standard while enabling progressive strengthening of requirements without compromising environmental integrity. [10]
25. Reversal Risk Management and Insurability of Nature-Based Solutions. Recent partnerships between Howden and both Verra and the Gold Standard demonstrate that insurance products can mitigate reversal risks for CORSIA-eligible credits. This indicates that Nature-based Solutions, which are critical for short- to medium-term carbon sequestration, should be considered insurable rather than excluded from Article 6.4 due to inherent uncertainties. A central component of the MEP’s work on reversals—the Reversal Risk Assessment Tool—has not yet been presented, limiting stakeholders’ and the Supervisory Board’s ability to assess the draft standard. To ensure feasibility and sectoral equity, methodologies should retain flexibility to select from alternative approaches for managing non-permanence risks, including shorter post-crediting monitoring periods, buffer pool credits, automatic cancellations at the end of the crediting period, guarantees or insurance mechanisms, or transfer of liability to third parties such as a reversal trust fund. These options align with paragraph 62 of the Removals Standard. It is recommended that the SBM either reject the current version of the standard and mandate the MEP to develop a revised, feasible version that ensures a level playing field for all sectors, including adjustments to the Removals Standard where appropriate, or incorporate these options into the concept note on implementing paragraph 62, alongside the Reversal Risk Assessment Tool and remedial action proposals. [21, 18, 34, 38, 46, 56, 67].

3.3. Comments on Appendix 1. Draft Standard: Addressing non-permanence and reversals in mechanism methodologies

3.3.1. Paragraph 3 g. Negligible Risk

26. Concerns with current definition. The existing definition of “negligible risk” (0.1–5% loss over 100 years) imposes unrealistic permanence requirements for nature-based solutions. It exceeds typical legal and practical timeframes (30–40 years), relies on long-term probabilistic modelling with high uncertainty, and risks excluding AFOLU projects and Indigenous Peoples from participation in Article 6.4 mechanisms. The current approach could also create perpetual monitoring obligations. [5, 3, 10, 22, 26, 71, 72]
27. Recommendations for revision. Replace “negligible risk” with “acceptable risk”, defined as the likely probability of carbon permanence over a 40-year timeframe, aligned with IPCC guidance (66% confidence level). [5].
28. Phased permanence approach: Allow shorter time horizons (e.g., <100 years) and wider confidence (e.g., <95%) intervals initially, with a trajectory to tighten as tools and data improve. [3, 10, 71, 72]. Research and consultation: MEP should study alternative time horizons, confidence intervals, and post-crediting monitoring durations with broad stakeholder input and external scientific expertise. [2, 22].
29. Scenario analysis and methodological adjustments: Permit re-baselining/normalization to maintain consistency when methods evolve, avoiding false reversal findings. Include clear pathways for early termination after the minimum monitoring period, capped at 60 years. [3].
30. Activity-specific calibration: Parameters for negligible/acceptable risk and monitoring durations should allow flexibility for different activity types, while maintaining environmental integrity. [26]
31. Thresholds and technical guidance. A recommended risk threshold: loss of no more than 1% of all A6.4ERs over a 200-year timeframe from the end of the last active crediting period; ideally below 1.5–2% to ensure overall mitigation integrity. [15, 37]. For stricter guidance, negligible risk could correspond to 0.5% carbon loss, with 0.1% as the preferred value; 2.5% is too high to be considered negligible. [28, 16]. IPCC confidence levels suggest “exceptionally unlikely” (0–1%) corresponds to negligible risk, supporting adoption of the lowest value (0.5%). [16]
32. Equity and inclusivity considerations. The high uncertainty and indefinite monitoring requirements disproportionately affect nature-based projects, particularly in AFOLU sectors, limiting participation for Indigenous Peoples and local communities. A gradual, risk-based approach ensures inclusivity, scientific credibility, and alignment with atmospheric CO₂ dynamics. [10, 22]
33. Replace definition in paragraph 3(g) for a placeholder, pending the approval of the Risk Assessment Tool [70]. To include a mandate for reconsideration of a range of values for defining what could be considered an acceptable [and] [or] negligible risk in light of the Risk Assessment Tool [70].

3.3.2. Applicability (4-7)

34. Divided support for non-exhaustive approach. The MEP’s use of a non-exhaustive, illustrated list of activities for which mechanism methodologies may apply is generally supported, providing flexibility in the application of standards. [15, 16, 23, 24]. On the

other hand, there are also concerns with pre-emptive exclusions. Paragraph 7 of the draft pre-emptively excludes certain activities without scientific justification, effectively prejudging the outcome of risk assessments. This exceeds the MEP's mandate. [3, 17]. Moreover, some other views suggest that all activities carrying carbon storage potential are subject to reversal risks; the draft does not clearly justify why certain mechanism methodologies are excluded. Even activities storing greenhouse gases temporarily, such as anaerobic digesters, can experience reversals. [16]. Some recommendations include:

- (a) Delete pre-emptive exclusions and apply a consistent framework to all activities. Differentiated treatment, if needed, should be guided by the risk assessment tool and empirical data rather than arbitrary lists; [3, 17]
- (b) Dynamic management of excluded activities: The MEP and/or SBM should maintain a flexible, clearly defined list of excluded activities, with mechanisms to incorporate public input and ensure transparency. This is particularly relevant for policy crediting. [15]

35. Replace paragraphs 5, 6 and 7 for "The standard applies to mechanism methodologies for activities involving emission reductions with reversal risks and activities involving removals with reversal risks." [70]

3.3.3. General principles and requirements (8-10)

36. Flexibility for Carbon Stock–Avoiding Activities. The standard should provide greater flexibility for activities that prevent the loss of carbon stocks, including jurisdictional-scale programs managing large forest reservoirs and projects such as cookstoves that reduce emission drivers without directly controlling the carbon stock. These activities provide benefits conceptually equivalent to reducing fossil fuel consumption, as the impact occurs relative to a counterfactual scenario, and future use of spared resources should not diminish the credited effect. Jurisdictional programs generally face minimal risk of carbon depletion due to the global abundance of stocks, while cookstove projects reduce non-renewable biomass use without responsibility for subsequent consumption by others. To ensure fair recognition of these contributions, monitoring requirements for rebound effects or suppressed demand should be moderated. The standard should explicitly clarify the eligibility of cookstove projects, with transparent criteria to support access to carbon finance and the achievement of NDCs, particularly in regions that rely on these technologies. [9]
37. Alignment with IPCC TACCC Principles. The draft standard redefines principles such as transparency, accuracy, consistency, and completeness, while omitting comparability. This approach conflicts with established IPCC guidance, including the 2006 Guidelines, and risks creating inconsistencies with national inventories and the Enhanced Transparency Framework (ETF). Redefining these principles exceeds the MEP's mandate, potentially causing confusion, undermining reporting and accounting integrity, and complicating the practical implementation of Article 6.4. To maintain alignment with international standards and ensure clarity and usability, the standard should adopt the IPCC TACCC definitions in full, including comparability, and reference IPCC guidance directly. [3, 17]

3.3.4. Identification of applicable greenhouse gas reservoirs (11-17)

38. Flexibility in Addressing Reversals. Paragraph 13 currently allows methodologies to propose alternative approaches for managing reversals, but only for activities that meet all specified conditions. To increase flexibility and foster innovation, the standard

should explicitly permit other scientifically justified approaches, such as portfolio-level risk management combined with multi-layered strategies, including program management, portfolio management, and insurance mechanisms for residual risk. These measures can complement, but not replace, buffer requirements, providing additional safeguards against reversals. Broadening paragraph 13 in this way would create a clear procedural pathway for methodologies to propose evidence-based, innovative solutions to manage reversal risks across a variety of project types, enhancing the applicability and robustness of the standard. [9]

39. In paragraph 13, replace “if all of the following conditions” for “if one or more of the following conditions” [70].

3.3.5. Quantification of emission reductions and/or net removals and reversals (18-37)

40. The equations in Section 6 are currently overly complex, reduce transparency, and are not necessary for estimating emission reductions and removals. Standard approaches, such as baseline minus emissions minus leakage used in CDM methodologies, are sufficient and better aligned with IPCC guidance and national GHG inventory practices. The proposed equations focus narrowly on carbon stocks, overlooking activities that combine removals with other interventions, such as soil management or fertilizer use, and cyclical variations in natural climate solutions, which do not necessarily constitute reversals. Many projects also rely on emission factors reflecting long-term average carbon stocks rather than direct measurements, which the equations fail to accommodate, creating a risk of over-crediting or misclassifying reversals. It is recommended to replace these equations with clear written requirements specifying that methodologies must account for crediting deficits, cap issuance to long-term average stocks, and accommodate stock fluctuations, ensuring transparency and alignment with practical project realities. Additionally, Option 2 (Appendix 3) from an earlier draft should be adopted, as it shifts reversal obligations to net-basis accounting. This reduces excessive costs for projects, supports participation in the PACM, maintains fairness, and continues to address non-permanence risks, whereas the current gross-based approach could impose prohibitive costs and penalize projects twice—through both gross-based liability and buffer contributions—potentially reducing participation and undermining mitigation and adaptation outcomes. [9, 26]

3.3.6. A6.4ER contributions to the Reversal Risk Buffer Pool Account (31-32)

41. Transparency and Stakeholder Involvement in Risk Buffering. The current approach to composite risk scoring in the proposed standard lacks transparency in its assumptions, particularly for AFOLU projects, which could lead to systematically higher buffer contributions. Risk scores that incorporate activity type, location, and participant solvency must be accompanied by publicly available risk factor tables, sector-specific ranges, and clear calibration logic. To ensure robustness and fairness, updates to these tables and methodologies should be subject to expert review and stakeholder consultation. Furthermore, critical tools such as the Reversal Risk Buffer Pool Account, the Risk Assessment Tool, and the remedial action concept note are currently unavailable for public input, limiting understanding of the standard’s implications. It is recommended that the SBM18 report include a requirement for these tools to adopt best practices for nature-based climate solutions and undergo comprehensive public consultation prior to approval, ensuring both transparency and credibility of the risk buffer system. [2, 3, 17].

3.3.7. A6.4ER contributions to the Adaptation Fund (33-34)

42. The MEP's choice to prioritize options resulting in higher contributions to the Adaptation Fund and to OMGE aligns with previous CMA decisions. Decision 3/CMA.3 specifies that 5% of issued A6.4ERs must be allocated to the Adaptation Fund, and a minimum of 2% must be cancelled for OMGE purposes. Since buffer pool A6.4ERs are part of the issued A6.4ERs, they must be included when calculating these contributions. To reduce the impact on A6.4ERs available for project transfer, it is recommended that contributions to the Adaptation Fund be made only after deducting the Reversal Risk Buffer, ensuring that adaptation and mitigation contributions are both accurate and equitable. [2, 16]

3.3.8. A6.4ER contributions to overall mitigation in global emissions (35-36)

43. The MEP's approach to selecting options that maximize contributions to the Adaptation Fund and OMGE is consistent with prior CMA decisions. Decision 3/CMA.3 specifies that 5% of issued A6.4ERs be allocated to the Adaptation Fund and a minimum of 2% cancelled for OMGE. Since buffer pool A6.4ERs are part of the issued units, they must be included in calculating these contributions. To reduce the impact on A6.4ERs available for transfer within projects, it is recommended that contributions to OMGE be made only after deducting the Reversal Risk Buffer. [2, 16]
44. The MEP's selection of options that result in higher contributions to the Adaptation Fund and OMGE aligns with previous CMA decisions. Decision 3/CMA.3 specifies that 5% of issued A6.4ERs be allocated to the Adaptation Fund and a minimum of 2% cancelled for OMGE, with buffer pool A6.4ERs included in calculating these contributions [16]. To protect project viability and ensure continued participation in the PACM, the SBM is recommended to adopt Option 2 from version 1.0 of the draft standard, which avoids applying buffer pool contributions to the gross A6.4ER amount, as this could impose prohibitive costs and reduce both emissions reductions and Adaptation Fund receipts. The SBM should also publish the Secretariat's legal advice referenced in the cover note and consider commissioning external legal advice, or alternatively, adopt an exemption for buffer pool units similar to the approach used for LDCs and SIDS under Decision 6/CMA.6. Contributions to OMGE should be calculated after deducting the Reversal Risk Buffer to minimize impacts on units available for transfer. [22]

3.3.9. Determination of whether reversals are avoidable or unavoidable (43-46)

45. Paragraph 43 requires methodologies to classify reversals as avoidable or unavoidable, but paragraphs 44 and 45 prescribe specific activities and introduce undefined concepts such as "risk mitigation plans" and "force majeure," creating rigidity and reducing flexibility. It is recommended to retain only a clear definition of avoidable and unavoidable reversals and to replace "shall" with "should" in paragraphs 44 and 45, allowing methodologies greater discretion in determining applicable reversals [9].

3.3.10. Monitoring and reporting in the post-crediting monitoring period (47-49)

46. Suggest aligning how negligible risk is demonstrated and post-crediting monitoring, giving more flexibility to methodologies Paragraph 49 notes that methodologies shall define the set of conditions or criteria to demonstrate the negligible risk of reversal. However, Appendix 2 Paragraph 47 already includes provisions for demonstrating the negligible risk of reversals, which would constrain the approaches that methodologies can put forward and propose. The same applies to post-crediting monitoring, where paragraph 47 notes that methodologies shall define these provisions, but then

Appendix 2 constrains these options. We would suggest aligning both parts of the text, and we would suggest that the text of Paragraph 47 becomes a 'should' rather than a 'shall' to give more flexibility to methodologies. A suggestion is to align both parts of the text, and that the text of Appendix 2 Paragraph 47 becomes a 'should' rather than a 'shall' so as to give more flexibility to methodologies. [9]

47. Delete paragraph 9 in appendix 1, section 7.4 [70].

3.4. Comments on Appendix 2 Elements for inclusion in relevant regulatory documents

3.4.1. Observed events that could lead to a reversal (3-11)

48. (Note: this comment is based on V.01. of the standard) Using a 95% confidence level to quantify reversals is too stringent and impractical for land-use and forest mitigation, raising costs and barriers, and may discourage participation (e.g., Guyana). Lowering to 90% (IPCC "very likely") balances environmental integrity with feasibility. Suggest replacing: "Assess and quantify the amount of the reversal by using the higher bound of the uncertainty interval at a 95% confidence level" with "...at a 90% confidence level, consistent with the IPCC's 'very likely' definition." [5]
49. The proposed 90-day timeframe for remediation and verification is unrealistic for DOE engagement. Contracting, scheduling, site visits, and verification often take longer, especially for small entities or remote projects. The deadline should be extended to 180 days, with justified extensions allowed for DOE constraints or delays. The text should acknowledge that DOE involvement includes third-party commercial and procedural steps that cannot be completed within 90 days. [20]

3.4.2. Annual reversal report (12-16)

50. Annual reporting over decades is costly and unnecessary. The Removals Standard allows methodologies to set frequency (typically 1–5 years). Mandatory annual reports with penalties overburden smaller proponents. Some submissions recommend a similar suggestion to replace "Annual Reversal Report" with "Reversal Report" and permitting 1–5 year intervals. Moreover, some submissions suggest to adopt a language around the following lines: "...Activity participants shall submit a reversal report every 1–5 years, indicating whether observed events... occurred in the prior period." [2, 3, 17]
51. Reversal reporting and monitoring are burdensome. Annual reports and multiple documents increase costs, deter participation, and limit equitable access for forest nations [5]. Recommend using the streamlined reporting in Appendix 3 or limiting reporting to credit issuance and confirmed reversal events. [5]
52. Annual reversal reporting is unnecessary and inflexible. Appendix 1 allows periodic monitoring aligned with project realities, but Appendix 2 imposes burdensome annual reporting, increasing bureaucracy and costs, potentially undermining scalability. Recommend relying on periodic monitoring reports instead, with flexibility: participants could report annually for lower discounts or every 5 years (or per methodology) with higher discounts. Failure to report as per methodology should be treated as avoidable reversal. [9]

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53. Requiring negligible risk of reversal over 100 years is impractical for land-based projects, given legal tenures of 30–40 years and dynamic ecological systems. High-frequency monitoring is costly (\$250k–\$100k per verification) and infeasible. Buffer pools and insurance already manage residual risk. [17]

3.4.3. Late, incomplete or missing report submissions (17-19)

54. The requirement for project developers to assume all future reversal liability is unrealistic, particularly for smallholders and community actors. There is no recognition of legal finality or transfer of responsibility. Recommend adding an option to transfer post-crediting liability to national institutions, insurance pools, or third parties approved by the Supervisory Body, provided risk-based assurance is maintained. [11]
55. Support making all requests and decisions publicly available, but the broadened scope risks turning report deadlines into optional guidance. Subparagraph (b), allowing participants to request extensions for any reason with “appropriate evidence,” is overly broad and could overwhelm the SBM with requests, many of which may be denied, creating unnecessary administrative burden. Recommend adopting the following language: “Activity participants may make a request to extend a deadline by submitting a request to the Supervisory Body through the secretariat. The secretariat shall review any request and take the following actions: (a) When a request is made because the activity participant’s process for DOE contracting evidences the unavailability of DOEs or because of force majeure, the secretariat shall automatically approve a single, 90-day extension of the applicable deadline; and (b) All requests and grants of extension or denials of requests shall be made publicly available.” [16]

3.4.4. Incomplete report submissions (24-31)

56. This section lacks clear consequences for incomplete report submissions. While a 60-day resubmission deadline is specified when a monitoring report fails completeness or substantive checks, reports may still be incomplete even if resubmitted on time. Clear consequences should be established linking these cases to the provisions for late and missing reports. Paragraph 31 should explicitly reference “the provisions for late, incomplete and missing report submissions (Sections 2.1, 2.2 and 2.3).” Additional wording is recommended: “Any submission deadline established pursuant to paragraph 30 shall be subject to the provisions for late, incomplete and missing report submissions (Sections 2.1, 2.2 and 2.3). Moreover, if a report is deemed incomplete and the resubmission deadline is met but the report remains incomplete, it shall be deemed late. If still incomplete despite additional documentation within late report deadlines, it shall be deemed missing.” [16]

3.4.5. Missing report submissions (32-38)

57. Guidelines for a “missing” status are vague, disconnected from issuance cycles, and provide no remedy for legitimate delays. Automatically treating all credited volumes as avoidable reversals is disproportionate, conflating administrative lapses with actual carbon loss. It is recommended to extend timelines, allow automatic and request-based extensions, and align with international best practices. A tiered escalation approach (warnings, grace periods, extensions) should differentiate administrative non-compliance from verified reversals, align verification windows with ecological realities, and clarify that liability applies only to A6.4ERs issued to participants, not SOP, OMGE, or buffer deductions. [3]
58. The timeframes for declaring reports “missing” are arbitrary, confusing, and disconnected from credit issuance. Penalties add burden without recourse, despite

legitimate reasons for delays. It is recommended to extend timelines, allow extension requests, and provide recourse in line with international best practices for late or missing reports. [17]

59. Automatically classifying all credited volumes as avoidable reversals for missing reports is overly punitive and ignores practical realities, especially in rural or developing contexts. The MEP did not incorporate stakeholder concerns on reporting burdens, citing alignment with the Removals Standard. Recommendations include: implementing tiered escalation (warnings, grace periods), aligning verification windows with ecological timeframes, and clarifying that participants are liable only for A6.4ERs issued to them, not those allocated to OMGE, SOP, or buffer contributions. [17]

3.4.6. Post-crediting period monitoring and reporting (39-43)

60. Post-crediting monitoring assumes ongoing project operation, which is unrealistic if the implementing entity ceases (bankruptcy, insolvency). Mechanisms should be introduced—such as host country responsibility, insurance, or risk-transfer instruments—to ensure reversals are managed [20]. Indefinite obligations are operationally unrealistic and legally vague, excluding nature-based removals and misaligned with the Paris Agreement horizon [2, 11, 18, 19, 22, 26, 38, 46, 67]. Indefinite post-crediting monitoring introduces uncertainty, limits project types, and may deter investment, particularly for nature-based solutions [6]. High-frequency monitoring is costly and not evidence-based for dynamic land systems. Requiring proof of “negligible risk” to avoid annual reporting creates indefinite obligations and may exclude nature-based projects. [3]
61. The Removals Standard does not set minimum or maximum post-crediting monitoring periods. The MEP’s indefinite obligations place excessive burdens on projects. Indefinite monitoring contradicts Paris Agreement timelines, complicates NDC accounting, and hinders project eligibility. [9] Other views suggest that, where post-crediting is applied, a maximum and a minimum monitoring period should be defined, based on scientific justifications, rather than having an indefinite period. [71].
62. A fixed period ranging from 30–60 years post-crediting is suggested [3, 6, 11], with early termination allowed upon verified permanence and liability transferable to approved entities [11] including insurance mechanisms [26]. Other proposals suggest setting the monitoring to start after the last crediting period and continues for [X] years (e.g., 60 years or until 2050 or aligned with net-zero commitments) or until section 3.2 conditions are satisfied, enabling feasibility for Nature-based removal projects. [3, 9, 18, 38, 67, 19, 19, 46]. A maximum duration should be defined using scientific analysis and risk assessment [4], with periodic reviews (e.g., every 5 years) to incorporate technological and assurance advances [6]. Another proposal is to adopt a 40-year of total monitoring time, including the duration of the crediting period, any renewals, and the post credit monitoring period [70]. This proposal suggests adopting the following text: “40. The post crediting monitoring period shall start on the first day after the end of the last active crediting period and continue for [40] years from [the first day of the first active crediting period] [the last day of the last active crediting period] or until one of the conditions in section 3.2 below is satisfied”. [70]
63. Open-ended, high-frequency monitoring is not evidence-based for dynamic land systems and imposes disproportionate costs, as VVB/monitoring cycles are typically 3–5 years. Requiring “negligible risk” to avoid annual reports creates indefinite obligations and may exclude nature-based projects. Liability is also retained indefinitely, which is impractical. Participants may face long-term obligations and liability; ensuring effective transfer to third parties is essential. Legal contracts should

define liable parties (e.g., project developer, registry, jurisdiction), conditions for liability transfer, and performance mechanisms. The Supervisory Body should include text providing contractual clarity and transferability [22]. It is also suggested that paragraph 41 allow: “Activity participants may designate a qualified third party or jurisdiction for post-crediting monitoring; liability may be transferred contingent on sustained monitoring capacity and buffer remediation.” [3]. On the other hand, the responsibility for post-crediting liability should not be placed on the host government [71].

64. Current buffer contributions do not account for rising climate-related reversal risks (fires, droughts, pests). They should be adjusted to reflect region-specific risks amplified by climate change, including wildfire, drought, pest infestation, and sea-level rise. [11]
65. A proposal suggests including to add in appendix 2, section 3.2.1, a paragraph 43bis, repeating the language from paragraph 62 of the removals standard. Moreover, the proposal suggests including a paragraph ‘43ter’, with a placeholder to be discussed during SBM18, further detailing the work to be done regarding paragraph 62 of the Removals Standard. [70]
66. Include in future work by the SBM, call for inputs from host countries and stakeholders on the development of options in paragraph 62. [70]

3.4.7. Termination of monitoring and reporting in the post-crediting monitoring period: Remediation of potential future reversals (44-45)

67. Paragraph 44 is ambiguous. Clarify that requests may only be submitted after the methodology’s minimum post-crediting monitoring period, per Appendix 1, Section 7.4. Cancelled units should come from Article 6.4 activities with the same or lower reversal risk rating. [16]
68. Flexibility allowing third-party monitoring carries risks if liability and activity termination (“de-registration”) are unclear. Only credits with at least the same reversal risk should be eligible for cancellation to terminate an activity. [14]

3.4.8. Termination of monitoring and reporting in the post-crediting monitoring period: Negligible risk of reversal (46-53)

69. The Reversals Standard excludes nature-based solutions from 6.4. Uncertainty in probabilistic risk analysis makes it impossible for these solutions to meet negligible reversal risk requirements, and the Removals Standard lacks limits on post-crediting monitoring, effectively requiring indefinite liabilities. This threatens participation, especially for AFOLU sectors where Indigenous and local communities deliver high-integrity mitigation. Recommendations: adopt gradual permanence, shorter horizons and wider confidence intervals initially, and signal progressive tightening as tools improve. [10, 72]
70. Indefinite post-crediting monitoring is not in the Removals Standard and is impractical, delaying finance. Activity participants may request termination after the methodology’s minimum monitoring period, provided conditions are met and verified by a DOE. [2,17]
71. 0.5–2.5% loss over 100 years at ~95% confidence is infeasible for land systems, exceeding typical legal horizons and risking exclusion of AFOLU projects. [3,17, 71, 72]. Recommendations: phased permanence, MEP-led research and consultation on time horizons/confidence intervals, allow termination requests before 60-year cap, permit re-baselining to maintain time-series consistency, and reference IPCC 2006 guidance. [3,17]

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72. Long-term modelling with conservative assumptions risks apparent stock changes due to evolving methods rather than real ecological loss. Recommendations: allow re-baselining for method changes, ensure methodological artifacts are not counted as reversals, and reference IPCC time-series consistency guidance. [17]
73. No equation exists for calculating the maximum percentage loss (MPL) of emissions or net removals for A6.4ERs, nor clarity on Reversal Buffer allocation and avoidable vs. unavoidable reversals. Recommendation: include MPL calculation with clear buffer accounting. [2]
74. Termination of post-crediting monitoring should include independent review or verification in addition to completeness checks. [16]

3.4.9. Post-reversal actions: Remediating unavoidable reversals (54-55)

75. Insurance and financial guarantee requirements, including “fit and proper person” assessments, disproportionately burden IPLCs, LDCs, and community developers, undermining climate justice goals. Recommendation: exempt these groups if risk buffers are applied. [11]
76. The requirement to prioritize A6.4ERs from the same activity experiencing a reversal is welcomed. It is recommended to also prioritize A6.4ERs from the same year or a newer vintage. Suggested revised paragraph: When a complete and verified monitoring report confirms unavoidable reversals, the secretariat shall cancel A6.4ERs from the Reversal Risk Buffer Pool as follows: (a) quantity equals unavoidable reversals; (b) cancellations reflect the proportion of Mitigation Contribution Units or A6.4ERs issued for the activity at the time of reversal; (c) prioritize A6.4ERs from the activity experiencing the reversal; (d) vintage priority: same year as reversal, then newer vintage, then older vintage; ~~(e) further criteria may be specified later.~~ [16]

3.4.10. Post-reversal actions: Remediating avoidable reversals (56-58)

77. The requirement to prioritize A6.4ERs from the same activity experiencing a reversal is welcomed. It is recommended to also prioritize A6.4ERs from the same year or an earlier year. When a complete and verified monitoring report confirms avoidable reversals, or when an activity is deemed to have experienced avoidable reversals under section 2.3, the secretariat shall cancel A6.4ERs from the Reversal Risk Buffer Pool as follows: (a) quantity equals avoidable reversals; (b) cancellations reflect the proportion of mitigation contribution A6.4ERs or authorized A6.4ERs issued for the activity at the time of reversal; (c) prioritize A6.4ERs from the activity experiencing the reversal; (d) vintage priority: same year as reversal, then earlier year, then later year; ~~(e) further criteria may be specified later.~~ [16]
78. Current provisions allow any A6.4ERs with the same authorization status to remediate avoidable reversals, which could incentivize using cheaper, higher-risk credits. To ensure the buffer reflects the overall supply of A6.4ERs with similar reversal risk, the secretariat should require: (a) the number of A6.4ERs forwarded equals avoidable reversals; (b) cancellations come from activities with at least the same or lower risk rating and are proportional to the issuance of mitigation contribution or authorized A6.4ERs cumulatively from the activity start date to the time of reversal; ~~(e) further criteria may be specified later.~~ [16]
79. Section 4.2 lacks practical guidance on the use of the buffer pool to address avoidable reversals. Issues include uncertainty about the source of ERs for compensation, potential fraudulent or negligent activity, and absence of sanctions if ERs are not

transferred. Unlike deregistration procedures, there is no Secretariat mechanism to enforce transfers or sanction participants. Recommendations include specifying buffer management and establishing consequences for gross negligence and wilful misconduct in avoidable reversals. [40]

3.4.11. Post-reversal actions: Reversals below baseline (59-60)

80. Clarifying that reversals below the baseline are not remediated, and that compensation applies only to credited A6.4ERs, improves clarity on liability. Remediation obligations are limited to credited emission reductions and removals, not uncredited activity portions. Paragraphs 59 and 60 in Appendix 2 should remain unchanged. [18, 67, 46, 34, 50]

3.4.12. Post-reversal actions: De-registration of activities (61)

81. Termination of a registered activity should cancel all A6.4ERs from that activity, as their permanence cannot be guaranteed. Using A6.4ERs from other activities, including discounts or transfers to the buffer pool, may also be needed to maintain buffer integrity. [16]

3.5. General Comments

3.5.1. Party submissions - General

82. Argentina – Direction for Environmental Affairs [1]:
- (a) Welcomes consultation but considers the period insufficient for detailed review of the complex Draft Standard;
 - (b) It requests additional dialogues, workshops, and at least two further consultation rounds to review post-crediting monitoring, negligible risk of reversal, and implications for nature-based projects and REDD+.
83. Indonesia's Ministry of Forestry [3]:
- (a) Postpone adoption: MOF recommends delaying the current draft to allow further refinement, ensuring credibility, feasibility, and broad participation, especially for land-based projects in developing countries;
 - (b) Enhance transparency and consultation: Multiple draft versions caused confusion; systematic engagement with experts, Indigenous Peoples, and local communities is needed;
 - (c) Limit monitoring obligations: Indefinite post-crediting monitoring is impractical; pragmatic approaches include time-bound monitoring (20–40 years) and centralized third-party or jurisdictional oversight;
 - (d) Revise negligible risk definition: The 0.5–2.5% risk over 100 years is unrealistic for land-based projects; shorter time horizons and appropriate confidence intervals should be considered;
 - (e) Publish risk assessment tools and clarify responsibilities: Reversal risk tools and remedial actions must be publicly available, and participants should only be liable for units directly issued to them, not OMGE, SOP, or buffer contributions;

- (f) Align with IPCC and Paris Agreement guidance: Current definitions diverge from established reporting frameworks, appearing punitive toward land-based activities; the standard must be scientifically grounded, equitable, and practicable.
84. Guyana – Ministry of Natural Resources [5]:
- (a) Paris Agreement Goals: Forests and nature-based solutions are essential to 1.5°C target; exclusion via non-permanence provisions is detrimental;
 - (b) Equity: Disincentivizing forest-based mitigation blocks developing countries from participating in Article 6.4 and accessing finance;
 - (c) Consistency: Standards should treat all mitigation types equally; forests should not face disproportionate requirements;
 - (d) Practicality: Indefinite monitoring is unrealistic; obligations should adapt as climate governance evolves;
 - (e) Market Durability: Standards must reflect declining future demand for credits; permanent obligations risk market inefficiencies;
 - (f) Commercial Risk: Excessive permanence requirements inflate costs, discourage high-ambition projects, and reduce incentives.
85. Australia – New South Wales Department of Primary Industries [7]:
- (a) Current draft discourages forest, soil, and blue carbon projects due to perpetual liability and onerous monitoring;
 - (b) Binary “permanence” thresholds ignore scientific variability; monitoring should reflect durability rather than indefinite certainty.
86. United Kingdom [8]:
- (a) Welcomes MEP and SBM progress on PACM implementation, additionality, baselines, and leakage;
 - (b) Supports transparency and stakeholder input;
 - (c) Recommends expeditious development of the Reversal Risk Assessment Tool and prioritization of work on large-scale programs and insurance/host guarantees;
 - (d) Notes domestic experience with carbon integration in UK ETS and Woodland Carbon Code as informative.
87. The Ministry of Environment, Climate Change and Forestry of the Republic of Kenya [71]:
- (a) Conveys its appreciation to the Supervisory Body of the Article 6.4 Mechanism for providing an opportunity to comment on the revised Draft Standard on Addressing Non-Permanence and Reversals, Version 02.2 (hereinafter “the Permanence Standard”).
 - (b) We commend the Methodological Expert Panel (MEP) for the substantial work undertaken and acknowledge the inclusive consultation process that has enabled stakeholders to share diverse insights.

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- (c) Kenya attaches high importance to the development of robust standards under Article 6.4, particularly those that safeguard removals from forestry and land-based activities.
 - (d) These sectors are central to our national climate strategy, our Nationally Determined Contribution (NDC), and to the livelihoods of communities that depend on forests and natural ecosystems. The credibility of the Permanence Standard is therefore of direct relevance to Kenya's ability to mobilize investment, promote nature-based solutions, and ensure lasting climate and development benefits.
 - (e) Given the breadth of feedback received and the far-reaching consequences of adopting the draft in its current state, Kenya respectfully calls upon the Supervisory Body to defer its adoption. We request that sufficient time be allocated to ensure that concerns raised by Parties and stakeholders are adequately addressed and allow for thorough consideration of stakeholders' contributions and refinement of the draft text.
 - (f) Kenya recognizes the urgency of operationalizing the Article 6.4 Mechanism and the shared commitment of Parties to advance this work in a timely manner. However, in the current context, where views remain divergent, accelerating a decision in the absence of broad alignment risks undermining confidence in the mechanism and excluding constituencies that are critical for its success.
 - (g) Allowing more time will provide the Supervisory Body with the opportunity to meaningfully address the substantive issues raised during the Call for Inputs, ensure coherence between the Permanence Standard and the Removal Standard, and safeguard environmental integrity. This way, we will be building trust, securing environmental integrity, and ensuring that the Article 6.4 Mechanism provides credible opportunities for countries such as Kenya to enhance climate action while delivering co-benefits for ecosystems and communities.

88. Ministry of Water and Environment, Government of Uganda [72]:

- (a) The Ministry of Water and Environment (MWE), and particularly, the National REDD+ Secretariat is grateful to the fact that an opportunity has been granted by the Supervisory Body of the Article 6.4 Mechanism to provide comments to the revised Draft Standard on Addressing Non-Permanence and Reversals Version 02.2 (hereafter the Permanence Standard). MWE takes note of the immense and technically rich work undertaken by the Methodological Expert Panel (MEP) and recognizes the consultation process, which enabled parties and other stakeholders to share their inputs into the standard.
- (b) Uganda is aware of the initial process in which we raised some concerns during the Call for Inputs, and further to this, Uganda being a Tropical Country places us in a difficult situation with dire consequences should you approve this Permanence Standard in its current form, and request that you stay the process for now, until it is well refined. Uganda recognizes that parties wish to expedite the implementation of Article 6.4, but we strongly believe that a REDD+ Country like Uganda would be alienated, yet we can make a contribution to the successful implementation of Article 6.4. We have provided some additional information in the next section to explain why we have reservations.

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- (c) Uganda and most likely other REDD+ and /or tropical forest Countries are confident that such additional time will enable the Supervisory Body to address the important concerns raised during the Call for Inputs in a meaningful manner. UNEP is confident that these concerns can be addressed while ensuring that the final text of the Permanence standard is aligned with the Removal Standard, safeguards environmental integrity, and strengthens confidence in the Article 6.4 Mechanism. This would not be a delay but rather an investment in the credibility, feasibility, and long-term success of the mechanism.

3.5.2. United Nations System - General

89. The World Bank recommends that the MEP manage reversals at the system level rather than on a per-project basis, using a pooled buffer to hedge risks across a portfolio of diverse projects. Existing tools and monitoring approaches, such as those used by the FCPF, can support this portfolio strategy and reduce the need for overly stringent requirements like annual reversal monitoring. The MEP should explore alternative approaches for different technologies and project types, recognizing that portfolio-level risk management mitigates many project-specific risks. The draft standard lacks clarity on how reversals are treated in host countries' GHG inventories and NDC accounting, including the treatment of buffer allocations and unit authorizations, which could create inconsistencies or double counting. Clear guidance is needed to determine whether authorizations apply only to net units or also to units in the buffer. Finally, the current requirements risk excluding Natural Climate Solutions, limiting participation from developing countries, particularly in Africa, and undermining the scalability and relevance of Article 6.4.
90. UNEP recommends extending the refinement timeline for the Reversals Standard to ensure a balanced, effective, and inclusive approach. A gradual approach to permanence would provide flexibility for 6.4 credits to integrate with other compliance markets while respecting sovereign eligibility criteria. The standard should be developed alongside complementary instruments, such as the reversal risk assessment tool and remediation frameworks, to avoid inconsistencies and loopholes. Stakeholder feedback has shown widespread concern with the current draft, and adopting it now risks alienating critical expertise and undermining the mechanism's credibility. Finally, overly stringent permanence requirements could exclude essential credit types, limiting the ability to rapidly scale emission reductions and removals necessary to prevent dangerous climate tipping points.

3.5.3. Parties, United Nations system, Admitted IGOs, Admitted NGOs and non-admitted entities – General

91. No Support for A1 & A2. Appendices 1 and 2 of the draft standard, which propose indefinite post-crediting monitoring, are widely considered impractical for nature-based carbon removal projects under Article 6.4. This framework creates a bias toward engineered removals, limiting the deployment of scalable nature-based solutions that are essential for achieving the Paris Agreement's Long-Term Temperature Goal by 2100. Nature-based removals not only provide critical carbon sequestration but also deliver broader ecosystem services, including climate regulation, flood mitigation, soil fertility, and water filtration, making them indispensable for both mitigation and adaptation. Moreover, the imposition of open-ended obligations raises significant legal and operational concerns, including enforceability challenges, disproportionate compliance costs, and violations of legal principles such as certainty and

-
- proportionality. Overall, the indefinite monitoring requirement risks undermining both the feasibility and the strategic objectives of the Article 6.4 mechanism. [60, 62, 32, 51, 49, 30, 25, 65]
92. Broaden Party Engagement, Inclusivity and Transparency. Fewer than ten Parties participated in the first consultation. PACM aims to support Parties' NDCs and sustainable development. The SBM's decision not to amend the Removals Standard was independent, and stakeholders lacked input as the standard was approved at SBM014 after its legal status changed from guidelines to standard. Broader Party engagement is needed to ensure integrity and feasibility [22]. The draft favours engineered removals, ignoring the scalability and near-term potential of nature-based solutions, undermining equity, trust, and Global South participation. It is recommended to include a principle ensuring inclusivity and proportionality, promoting equitable participation of all removal types and actors, especially from developing countries [11]. The Indonesia's Ministry of Forestry suggests improving transparency and consultation. [3]
93. Supporting postponing the adoption of the Reversals Standard. Some inputs recommend that the SBM delay adopting the Reversals Standard and instruct the MEP to develop a feasible version that ensures a level playing field for all carbon credit types, accompanied by proposed adjustments to the Removals Standard, the risk assessment tool, and the remedial actions concept note. [3, 18, 38, 67, 57, 19, 22, 31, 34, 26]
94. Supporting the amendment of the Removals Standard. Some inputs request the SBM to launch a call for input on the Removals Standard and consider amendments on the basis of the feedback received. [22, 57, 31]
95. Including Risk Assessment Tool & Para 62. The Risk Assessment tool and the concept note on remedial actions for managing reversals have not been released for public input. According to the MEP meeting report, work will continue in the coming months. As these tools are central to the draft standard, lack of access hinders understanding of its implications. [17]
96. Appendix 2 currently addresses requirements for activity participants and DOEs, but buyer responsibilities should also be defined. Buyers ought to support MRV funding and share liability for reversals. Guidelines for managing non-permanence and reversals must be strengthened, as short-term liability frameworks are scientifically unsound. A6.4ERs cannot justify temporary removals, since cumulative CO₂, long-term storage, and geological net zero are essential for Paris-aligned climate outcomes [16]. In this regard, developing a framework with short-term liability would be scientifically flawed and we recall the following points:
- (a) A6.4ERs will be used to offset permanent emissions. Offsetting claims, which are inappropriate for many reasons already, especially could not be justified with units that can only ensure temporary removals or reductions as they would not truly be offsetting emissions on climate-relevant timeframes;
 - (b) Global temperatures depend on cumulative CO₂ emissions rather than emission rates. Temporary reductions do not significantly contribute to long-term climate stabilization;³

³ Source: Mitchell-Larson & Allen 2021. Interactions and trade-offs between nature-based and engineered climate solutions.

- (c) A CO₂ storage period of less than 1000 years is insufficient for neutralizing remaining fossil CO₂ emissions under net zero emissions;⁴
- (d) “Compensatory claims seek to offset or neutralise the effects of CO₂ emissions. The only valid, Paris-aligned compensatory claims are based on physical equivalence. Compensatory claims based on temporary carbon storage are physically inconsistent and increase warming at the end of the carbon storage period;”⁵
- (e) “Targets should acknowledge the need for Geological Net Zero, meaning one tonne of CO₂ permanently restored to the solid Earth for every tonne still generated from fossil source.”⁶ [16]

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⁴ Brunner, C., Hausfather, Z. & Knutti, R. Durability of carbon dioxide removal is critical for Paris climate goals. *Commun Earth Environ* 5, 645 (2024). <https://doi.org/10.1038/s43247-024-01808-7>

⁵ <https://carbonmarketwatch.org/publications/a-framework-for-assessing-the-climate-value-of-temporary-carbon-storage/>

⁶ Allen, M.R., Frame, D.J., Friedlingstein, P. et al. Geological Net Zero and the need for disaggregated accounting for carbon sinks. *Nature* 638, 343–350 (2025). <https://doi.org/10.1038/s41586-024-08326-8>

4. List of submitters

Table 1. List of submitters from Parties

Party	
1.	Argentina's National Focal Point for UNFCCC - Direction for Environmental Affairs
2.	Costa Rica REDD+ Secretariat
3.	Indonesia's Ministry of Forestry (forwarded for publication)
4.	Ministry of Environment and Climate Change Brazil
5.	Ministry of Natural Resources Government of Guyana
6.	Ministry of the Environment of Chile
7.	New South Wales Department of Primary Industries and Regional Development Australia
8.	The United Kingdom of Great Britain and Northern Ireland (UK)
71*	Republic of Kenya, Ministry of Environment, Climate Change and Forestry
72*	Government of Uganda, Ministry of Water and Environment

Table 2. List of submitters from United Nations System

United Nations System	
9.	The World Bank
10.	United Nations Environment Programme (UNEP)

Table 3. List of submitters from admitted IGOs

Admitted IGOs	
11.	ECOWAS

Table 4. List of submitters from admitted NGOs

Admitted NGOs	
12.	American Forest Foundation
13.	Australian Forest Products Association
14.	Bellona Foundation
15.	Carbon Gap
16.	Carbon Market Watch
17.	Conservation International
18.	Emergent Forest Finance Accelerator
19.	Environmental Resources Trust (ERT)
20.	IAVVB
21.	IBÁ – Brazilian Tree Industry
22.	IETA
23.	Institute for Agriculture and Trade Policy (IATP)
24.	Institute for Agriculture and Trade Policy (IATP)
25.	Planète Urgence
26.	Project Developer Forum
27.	The Nature Conservancy (TNC)

Admitted NGOs	
28.	University of New England

Table 5. List of submitters from admitted non-admitted entities

Non – admitted entities	
29.	ADRYADA
30.	AGRIFORLAND
31.	Anew Climate
32.	ATMOSYLVA
33.	Beyond Alliance
34.	BTG Pactual Timberland Investment Group
35.	Capital for Climate (to resubmit)
36.	Carbonapp
37.	Carbon Balance Initiative
38.	Carbon Ventures Africa Ltd
39.	Central Union of Agricultural Producers and Forest Owners (MTK), Finland
40.	Climate Focus
41.	France Valley
42.	GHG Offset Services
43.	Heather Pace Clark – Insurance Consultant
44.	Howden Group Holdings
45.	International Sustainable Forestry Coalition
46.	iTeraka
47.	Kita
48.	LEVEL
49.	Ma Forêt
50.	New Forests
51.	Neosylva Investissement Forestier
52.	New Zealand Forest Owners Association
53.	Oklima
54.	Organization of Biodiversity Certification (GROMAP)
55.	PFS Certification Ltd
56.	REWILDERS
57.	Rubicon Carbon
58.	Save Climate Campaign
59.	SBCOP
60.	Société Forestière de la Caisse des Dépôts
61.	Southridge
62.	StockCO2
63.	Sylvera
64.	Taking Root Inc
65.	TEREA
66.	Terraformation Inc
67.	Terra Global Capital LLC
68.	WeForest

Non – admitted entities	
69.	Wildlife Works

Table 6. List of SBM members

Admitted IGOs	
70.	Felipe Ferreira

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Document information

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