

Agenda item 3.4.

Paragraph 27 of the annotated agenda, Annex 7 to MEP016
meeting report

Methodological tool: Reversal Risk Assessment

Article 6.4 Supervisory Body – 23rd meeting

Bonn, Germany, 5 to 9 October 2026



- At SBM 010, held on 26 February-1 March 2024, the Supervisory Body requested the MEP to prepare recommendations on products related to addressing reversals, including:
 - a) Guidance on post-crediting period monitoring, reporting, and remediation of reversals, post-reversal action, and host Party roles;
 - b) Guidance on late, incomplete, or missing monitoring report submissions and treatment of activities for which a reversal results in removals level that falls below baseline;
 - c) Reversal risk assessment tool; and
 - d) Guidance on avoidable and unavoidable reversals and reversal compensation.



- At SBM 014, held on 5-9 October 2024, the Supervisory Body approved the "Standard: Requirements for activities involving removals under the Article 6.4 mechanism" (A6.4-METH-002). Paragraph 37 notes, inter alia, the following reversal risks:
 - (a) Activity finance and management, asset ownership, rising opportunity costs;
 - (b) Regulatory uncertainty and social instability, political, governance and legal risks, acts of terrorism, crime, and war;
 - (c) Natural disturbances and extreme events such as fires, pests, droughts, hurricanes, floods, landslides, earthquakes, volcanic eruptions, geological faults, and fractures; and
 - (d) Climate change impacts exacerbating any of the above risks.



- At SBM 015, held on 10-14 February 2025, the Supervisory Body approved the “Information Note: Workplan of the Methodological Expert Panel 2025” (A6.4-SBM015-A02), which reaffirmed the MEP’s mandate to propose a draft methodological standard addressing non-permanence and reversals as well as a draft methodological tool on reversal risk assessment that would address the following considerations:
 - (a) Whether upper limits are needed in respect of the risk rating (overall) or specific risk factors (within the tool), including options and science-based rationales for upper limit(s);
 - (b) Risk rating that constitutes a negligible risk;
 - (c) Any further categorization of risk; and
 - (d) How remediation measures are taken into account in the risk assessment tool.



- At SBM 018, held on 6-10 October 2025, the Supervisory Body reviewed the MEP's recommended draft standard and approved two documents:
 - (a) “Standard: Addressing non-permanence and reversals in mechanism methodologies” (A6.4-STAN-METH-007) (hereinafter the "Reversals Standard"), incorporating all provisions directed at mechanism methodologies; and
 - (b) “Information Note: Elements related to non-permanence and reversals for inclusion in relevant regulatory documents” (A6.4-INFO-METH-002), incorporating all provisions directed at activity participants.



- Paragraph 3 of the Reversals Standard includes the following definition:

Negligible risk of reversal: A risk of reversal that would result in a loss of no more than a maximum percentage to be specified in methodologies on the basis of guidance to be developed in the reversal risk assessment tool of all the A6.4ERs issued with respect to the total emission reductions and/or net removals achieved by the activity during its active crediting period, calculated over a 100-year timeframe starting from no earlier than the end of the last active crediting period;



- At MEP 014, held on 22-26 June 2026, the MEP agreed to publish a draft methodological tool and initiated a call for public input. The MEP agreed to:
 - Prioritize the first version of the tool for use with clean cooking, clean water, and other activity types that reduce the consumption of fuelwood or charcoal, to align with the Supervisory Body's instruction to prioritize methodologies related to CDM transition activities; and
 - Align the geographic level of analysis of this application with the "Methodological tool: Fraction of non-renewable biomass" (A6.4-AMT-009).
- A call for public input was opened from 3-24 July 2026. A total of 35 submissions were received and considered by the MEP in preparation for MEP 016.



Purpose

- The purpose of this draft methodological tool is to allow activity participants to:

1 Calculate the parameter $F_{\text{buffer},i,t}$

which is used in mechanism methodologies to **determine the number of A6.4ERs to be forwarded to the Reversal Risk Buffer Pool Account**, consistent with equation 8 of the Reversals Standard

2 Determine negligible risk of reversal

Determine whether the stored greenhouse gases (or precursors of greenhouse gases) for which A6.4ERs have been issued are at **a negligible risk of reversal**, as defined in their applicable mechanism methodology

Scope of the first version: the methodological tool would be applicable only to Article 6.4 activities that reduce the consumption of non-renewable biomass (e.g., clean cooking activities).



KEY ISSUES AND PROPOSED SOLUTIONS

1 Calculate the parameter $F_{\text{buffer},i,t}$



- General requirements (expected to apply to all applications of the draft tool)
 - a) Includes cross-cutting definitions
- Requirements for activities that reduce non-renewable biomass consumption (the focus here)
- Additional requirements to be added for other activities types in the future (future work)



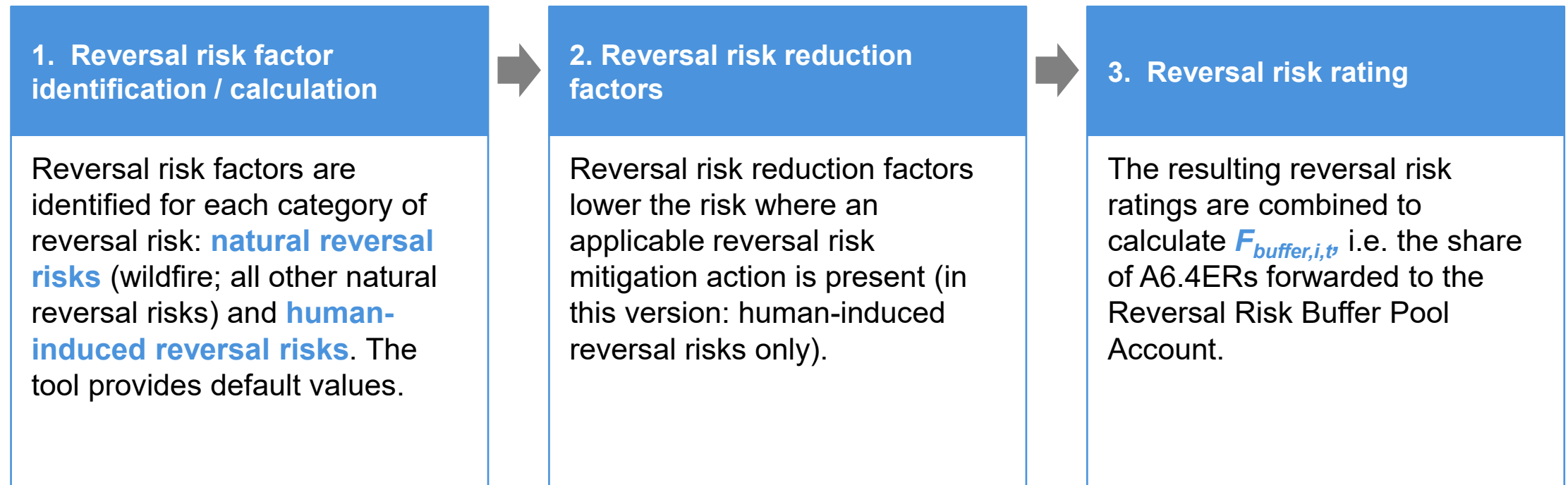
Definitions (general requirements)

- **Human-induced reversal risk:** Reversal risk arising from human-induced factors (e.g., as applicable, activity finance and management; asset ownership; rising opportunity costs; regulatory uncertainty and social instability; political, governance, and legal risks; acts of terrorism, crime and war);
- **Natural reversal risk:** Reversal risk from natural disturbances and extreme events (e.g., as applicable, fires, pests, droughts, hurricanes, floods, landslides, earthquakes, volcanic eruptions, and geologic faults and fractures);
- **Reversal risk:** The risk of reversal of greenhouse gases or their precursors stored in one or more applicable greenhouse gas reservoir(s);
- **Reversal risk factor:** The estimated loss of credited greenhouse gas stocks over a 100-year period that is attributable to an applicable reversal risk type in an applicable greenhouse gas reservoir;
- **Reversal risk mitigation measure:** An intervention undertaken or demonstrated by the Article 6.4 activity that reduces or eliminates a reversal risk factor;
- **Reversal risk rating:** The reversal risk factor associated with a given greenhouse gas reservoir and reversal risk type(s), adjusted for any reversal risk reduction factor(s), as applicable;⁷
- **Reversal risk reduction factor:** A dimensionless parameter that reflects the reduction in reversal risk where an appropriate reversal risk mitigation measure is present; and
- **Reversal risk type:** A category or individual driver of reversal risks.⁸



Structure of the methodological tool

- The MEP proposed that the methodological tool have the following structure:



- Use of default values means:
 - a) Selection of default values requires careful deliberation by the MEP and Supervisory Body
 - b) Implementation of the tool would be straightforward for activity participants, DOEs
- The methodological tool provides a simple lookup procedure to identify the appropriate default values based on the jurisdiction identified by the methodology for the fNRB Tool (subnational, national, multi-national)
 - Easy for activity participants and DOEs to use, aligned with existing requirements
- Where applicable, reversal risk reduction measures reduce human-induced reversal risks and are based on objective features of host Party NDC, LT-LEDs, and REDD-plus submission(s)
 - Optional feature that reduces buffer pool contributions; easy to determine for each host Party



Scope of application of the version of the methodological tool

- The first version of the draft methodological tool is applicable only to Article 6.4 activities that reduce non-renewable biomass consumption, e.g. energy efficient cooking.
 - This will support the transition of such type of CDM activities to the Article 6.4 mechanism
- Future versions of the draft methodological tool will be made applicable to the following applications, including but not limited to:
 - a) Forestry;
 - b) Subsurface geologic storage; and
 - c) Biochar



Calculation of $F_{buffer,i,t}$ (Equation (1))

- Calculating $F_{buffer,i,t}$ requires a procedure to combine the reversal risk ratings for natural and human-induced reversal risks. The appropriate procedure depends on how the parameters are selected and whether they are **statistically independent**.
- Considering the nature of their selection and stakeholder input, the MEP concluded that it is reasonable to assume that, for the values adopted in the draft tool, natural and human-induced reversal risks are **statistically independent**.
- To accommodate future alternative approaches, equation (1) includes a factor for statistically dependent outcomes, i.e. $Rating_{joint,i}$. It is **set to zero** by assumption but could be modified in future updates.

$$F_{buffer,i,t} = Rating_{natural,i} + Rating_{human,i,k} - Rating_{joint,i}$$

$F_{buffer,i,t}$	The fraction of the net enhancement in storage of a greenhouse gas or a precursor in reservoir i , resulting from the Article 6.4 project or CP over the period covered by monitoring report t , as determined by this methodological tool and used to determine the number of A6.4ERs to be forwarded to the reversal risk buffer pool account
$Rating_{natural,i}$	The reversal risk rating for all natural reversal risks with respect to greenhouse gas reservoir i
$Rating_{human,i,k}$	The reversal risk rating for all human-induced reversal risks with respect to greenhouse gas reservoir i and host Party k
$Rating_{joint,i}$	The reversal risk rating for all reversal risks jointly caused by natural and human-induced reversal risks with respect to greenhouse gas reservoir i



Reversal risk categories in this version of the methodological tool

1. Natural reversal risks
 - a) Wildfire and
 - b) All other natural reversal risks
2. Human-induced reversal risks



How natural reversal risk default values have been derived

- Default values for natural reversal risk factors were determined using a method that applied a **peer-reviewed modelling method** and was produced by a technical consultant to the secretariat as part of the development of this methodological tool. The method addressed:

(a) Exposure	The exposure of forest carbon to reversal risks, as informed by existing above-ground and below-ground forest carbon stocks in a baseline year	(b) Probability	The probability of a disturbance, as informed by the historical record of global satellite data documenting stand-clearing disturbances (and adjusted to project higher frequencies of disturbances under climate change)
(c) Severity	The severity of a disturbance, as informed by an academic literature analysis of forest carbon losses from disturbances in tropical forests (separately from temperate and boreal forests), with scenarios for different combinations of disturbances	(d) Future climate scenario	The use of a lower-emission climate scenario (SSP2-4.5) and a higher-emission climate scenario (SSP5-8.5) to model climate-change-related impacts on forest growth rates and disturbances due to natural reversal risks.



Geographical levels at which default reversal risk default factors are provided

- The draft methodological tool provides default values that are aligned with the administrative boundaries used in the “Methodological tool: Fraction of non-renewable biomass” (A6.4-AMT-009) (hereinafter referred to as the “fNRB Tool”).
- For natural reversal risk factors, the draft methodological tool provides default values at each of the following geographic levels:
 - a) **Multi-national;**
 - b) **National; and**
 - c) **Subnational.**

From grid cells to default values

Natural reversal risk calculations were initially performed at the resolution of **8 km × 8 km grid cells** with global forest coverage

Individual grid cells were aggregated as a **weighted average based on existing forest carbon stocks** for each grid cell within each geographic boundary

Subnational, national and multi-national boundaries, following the same geographic definitions as used in the fNRB Tool



Calculation of $Rating_{natural,i}$ (Equation (2))

$$Rating_{natural,i} = R_{wildfire,i} + R_{other,i}$$

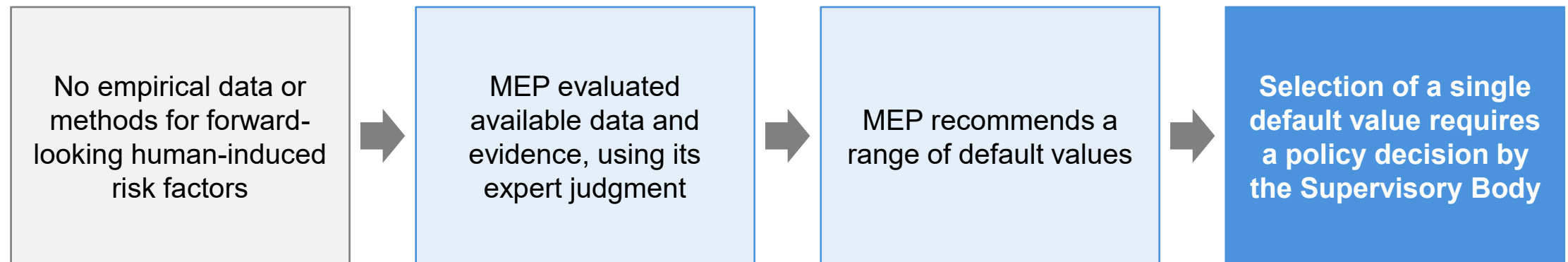
$Rating_{natural,i}$	The reversal risk rating for all natural reversal risks with respect to greenhouse gas reservoir i
$R_{wildfire,i}$	The reversal risk rating for wildfire with respect to greenhouse gas reservoir i
$R_{other,i}$	The reversal risk factor for all other natural reversal risks with respect to greenhouse gas reservoir i
i	The greenhouse gas reservoir

- Natural reversal risk ratings do not include “reversal risk mitigation measures” and associated “reversal risk reduction factors” because the MEP was unable to identify any jurisdiction-wide efforts to reduce natural reversal risks.
- Consistent with public comments, the MEP observed that reversal risk mitigation measures should be recognized at the activity level, but that these measures are out of scope for this application of the draft tool because activities that reduce consumption of non-renewable biomass are only traceable to jurisdiction-wide outcomes (at which level no reversal risk mitigation measures were identified).



How human-induced reversal risks have been evaluated

- **No empirically based data or methods** to determine **forward-looking** human-induced reversal risk factors were identified during the development of this methodological tool. Instead, the MEP evaluated the available evidence and agreed to recommend a **range of default values**, using its expert judgment. The decisions and their rationales are documented on the following slides.



Human-induced reversal risks: evidence base

- Activities reducing non-renewable biomass consumption may affect carbon stocks in different types of land; however, most of the carbon is assumed to be preserved in **forest** in estimating fNRB values.
- The MEP evaluated historical data on carbon stock losses due to human interventions in forests: forest cover loss data by **Sims et al. (2025)**, based on the **Global Forest Watch** data series (Hansen et al. 2013).
- These data include losses due to both deforestation and forest degradation, which are both relevant in this context.



Historical human-induced tree cover losses

- The MEP analysed historical rates of human-induced tree cover losses from the years 2000 through 2025, expressed as a per cent of forest cover loss relative to 2000 levels (Table 1).
- It also calculated the average historical annual forest cover loss (per cent of 2000 levels lost per year) and the total loss if that rate continued for 100 years, **without accounting for forest regrowth**.

Table 1. Historical human-induced tree cover losses and projected 100-year loss (per cent)

Series	Asia & Pacific	Latin America & Caribbean	Sub-Saharan Africa	Average across all regions
Forest cover loss, 2001–2010 vs 2000	4.76	4.64	2.78	4.30
Forest cover loss, 2011–2020 vs 2000	6.90	4.42	6.38	5.61
Forest cover loss, 2001–2025 vs 2000	14.55	11.1	12.51	12.49
Average annual loss, 2001–2025 vs 2000	0.58	0.44	0.50	0.50
Projected 100-year loss vs 2000	58.22	44.45	50.03	49.98

Average across all regions

About **0.5%** of 2000 tree cover lost per year



About **50%** lost over 100 years if the rate continued

Source: analysis by MEP and secretariat based on Sims et al. (2025).



Why future human-induced losses could be lower

- The data showed that human-induced carbon stock losses were significant over the past 25 years.
- Nevertheless, there are different reasons to assume that future human-induced carbon stock losses could be lower than in the past and that deforestation and forest degradation may ultimately be **halted and reversed**:

(a) Longer-term trend

- While the GFW data does not show a clear trend in forest cover loss over time, data compiled by FAO (reported by countries, FAO 2025) and remote sensing data compiled by the JRC on tropical moist forests show some trend that **global deforestation has been declining** over decades (see Tables 2 and 3 on the next slide).

(b) Caveat on these data

- Neither of these two additional data sources differentiates between human-induced deforestation and natural disturbances that involve deforestation.
- Both differ in several aspects from the GFW data, including the parameter to measure forest losses, data sources and algorithms to derive loss estimates.

(c) Commitments and policies

- New York Forest Declaration; Glasgow Leaders' Declaration on Forest and Land Use
- **NDCs** and **LT-LEDs** that address the forest sector
- **REDD-plus** elements (paragraph 71 of decision 1/CP.16; Warsaw Framework)
→ **could support policies that slow deforestation and forest degradation**



Deforestation trends reported by FAO and JRC

Both data sets indicate a decline in the rate of deforestation over recent decades (they do not separate human-induced from natural deforestation).

Table 2. Annual rate of deforestation reported by FAO for 112 countries

Period	Average annual rate of deforestation (million hectares per year)
1990 – 2000	15.0
2000 – 2010	11.8
2010 – 2015	8.5
2015 – 2020	8.2
2020 – 2025	7.9

Source: FAO (2025). Data from 112 countries for which entries were available for all five time periods.

Table 3. Total deforestation of tropical moist forest (direct and after degradation) for 65 developing countries reported by JRC

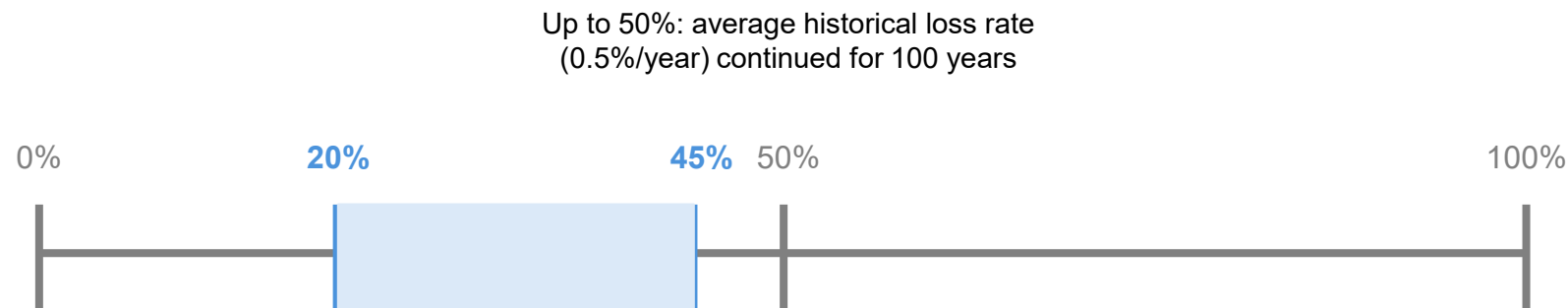
Period	Average annual rate of deforestation (million hectares per year)
1990 – 1994	5.4
1995 – 1999	10.0
2000 – 2004	9.4
2005 – 2009	5.9
2010 – 2014	5.5
2015 – 2019	4.6
2020 – 2024	3.3

Source: JRC (2025). Note that only developing countries are included by the MEP in this analysis.



Human-induced reversal risk factor: recommended range

- Estimates of human-induced reversal risk are a judgment of how the future may unfold.
- Based on the consideration provided in the previous slides, the MEP believes that selecting a default value for human-induced reversal risk factor is a matter of expert judgment.
- The MEP agreed it is reasonable to assume that efforts to slow deforestation and forest degradation will continue and that **future human-induced carbon losses will be lower than past losses**.
- Because the historical trends and projections in Table 1 do not account for forest regrowth, it is appropriate to select a default value **lower than the percentage losses in Table 1**.
- Although country-level trends may vary substantially, a **single default parameter** is appropriate, as assigning national- or multi-national-level trends would introduce additional uncertainties.
- Recommended range of human-induced reversal risk factor is **somewhere between 20% and 45%**



Human-induced reversal risk factor: rationale for the limits

Lower limit: 20 per cent

It is difficult to quantitatively estimate expected future carbon-stock losses.

However, assuming that losses will automatically be much lower than recently would **not be well justified**.

The MEP does not have a specific evidentiary basis for a lower bound, but agreed that a reasonable lower limit would be **about 20 per cent**.

Upper limit: 45 per cent

Future human-induced deforestation and forest degradation may increase, but it is reasonable to assume they will **decline over time**.

Average tree cover loss for all countries covered by the fNRB Tool is about **0.5 per cent per year**; continued for 100 years this would lead to a loss of about **50 per cent** of 2000 tree cover – treated as a proxy for losing about 50 per cent of carbon stocks.

Relative losses are likely higher where non-renewable biomass is harvested, but the upper limit for clean cooking activities should still be **lower than 50 per cent**.

While the selection of any one parameter is fundamentally uncertain and involves policy judgments, the conclusion that human-induced reversal risks are **material and significantly higher than zero per cent is robust**.



Reversal risk reduction factors: Natural and human-induced reversal risks

- Reversal risk ratings for natural and human-induced reversal risks are lowered by **reversal risk reduction factors** when an applicable reversal risk mitigation action is present. However, the MEP determined that mitigation actions are only relevant for human-induced reversal risks:

(a) Natural reversal risks – not applied

- No examples of reversal risk mitigation actions implemented at the jurisdictional level to address natural reversal risks were identified
 - **No reduction factors for natural reversal risks.**
- This conclusion is limited to circumstances where the greenhouse gas reservoir is:
 - not under the control of activity participants; and
 - defined on a jurisdictional or other large-scale basis (subnational, national, or multi-national).

(b) Human-induced reversal risks – applied

- Relevant mitigation actions identified at the level of individual **host Parties**, with criteria to establish their presence and associated reduction factors.
- Activity participants that demonstrate they apply the reduction factors → lower overall rating → **fewer A6.4ERs** contributed to the buffer pool account.
- A range of default values is recommended; the selection of specific values requires a **policy judgment** by the Supervisory Body.



Calculation of $Rating_{human,i,k}$ (Equation (3))

$$Rating_{human,i} = R_{human,i} \times (1 - M_{human,i})$$

$Rating_{human,i}$	The reversal risk rating for all human-induced reversal risks with respect to greenhouse gas reservoir i and host Party k
$R_{human,i}$	The reversal risk factor for all human-induced reversal risks with respect to greenhouse gas reservoir i
$M_{human,k}$	The reversal risk reduction factor for human-induced reversal risk reduction actions for host Party k
i	The greenhouse gas reservoir
k	The host Party of the Article 6.4 project or CP



Reversal risk reduction factors for human-induced reversal risk: mitigation actions

- NDC, LT-LEDs, and REDD-plus submissions frequently reference measures addressing natural reversal risks (e.g., wildfire prevention, pest and disease management), but no evidence was found on their implementation at the jurisdictional level.
- As human activities have historically been the dominant driver of deforestation and forest degradation, these mitigation actions apply **solely to human-induced reversal risk factors**. The MEP identified three actions:

(a) NDC submissions

Human-induced reversal risks are expected to be lower when a host Party has an NDC that includes **LULUCF**.

Activity participants demonstrate that the host Party has an NDC that includes **the LULUCF sector and has communicated a biennial transparency report that covers LULUCF emissions** and removals and is sufficient to track progress toward the NDC.

(b) LT-LEDs submissions

Human-induced reversal risks are expected to be lower when a host Party has submitted an LT-LEDs that includes the objective of **halting and reversing deforestation**.

Builds on and extends benefits of an NDC that includes LULUCF, so it is a distinct action that can be achieved separately.

(c) REDD-plus measures

Host Party has implemented the four elements of para. 71 of decision 1/CP.16 (Warsaw Framework):

- a) national REDD-plus strategy or action plan**
- b) national forest monitoring system**
- c) forest reference emission level / forest reference level**
- d) safeguard information system**

Higher factor if all four are met; proportionately smaller factor if fewer than four.



Calculation of $M_{human,k}$ (Equation (4))

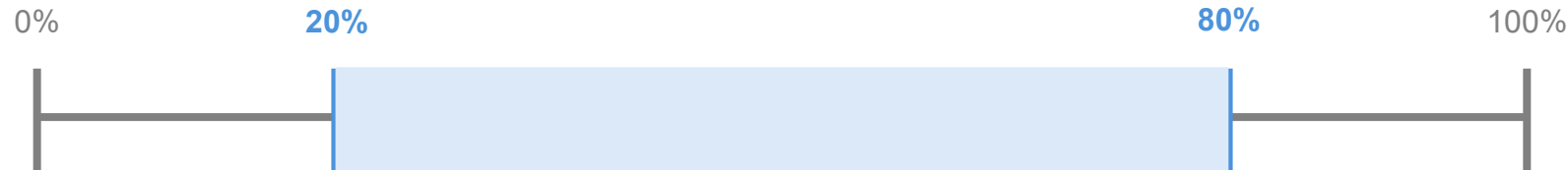
$$M_{human,k} = M_{NDC,k} + M_{LT-LEDS,k} + M_{REDD,k}$$

$M_{human,k}$	The reversal risk reduction factor for human-induced reversal risk mitigation measures for host Party k
$M_{NDC,k}$	The reversal risk reduction factor for applicable NDC submissions for host Party k
$M_{LT-LEDS,k}$	The reversal risk reduction factor for applicable LT-LEDS submissions for host Party k
$M_{REDD,k}$	The reversal risk reduction factor for applicable UNFCCC REDD-plus measures for host Party k
k	The host Party of the Article 6.4 project or CP



Reversal risk reduction factors for human-induced reversal risk: recommended range

- Given the limited information available, the MEP recommends a **relatively broad range** that excludes values at the lower and upper bound, for the **sum of all reduction factors** rather than for individual factors.
- The MEP recommends that the Supervisory Body: (a) select values for human-induced reversal risk reduction factors that **sum to between 20 and 80 per cent**; and (b) determine how to allocate the sum across individual factors.



Lower limit: 20 per cent

No basis for a parameter directly on data or evidence, but it is **unlikely** that implementation would have **no impact**. Factors only apply where the actions are demonstrated to be present in the host Party.

Upper limit: 80 per cent

Mitigation actions are expected to reduce human-induced reversal risks, but it is **unlikely** that NDC, LT-LEDS and REDD-plus implementation would **eliminate** them.



Recommendations: combinations to avoid

- The MEP provides technical advice based on expert judgment and technical evidence; the final selection of default values also includes **explicit policy judgments** by the Supervisory Body.
- The MEP recommends to select
 - Human-induced reversal risk factor from: **20 – 45%**
 - Sum of all reversal risk reduction factors: **20 – 80%**

Human-induced reversal risk factor			
Human-induced reversal risk reduction factors			
	Optimistic (up to 20%)	Pessimistic (up to 45%)	
	Optimistic (up to 80%)	Both optimistic Avoid: “double counts” the same drivers	Why not both optimistic? Optimism about reducing global deforestation trends risks conflation with optimism about the impact of NDC, LT-LEDs and REDD-plus – effectively “double counting” the same drivers of lower ratings.
	Pessimistic (up to 20%)	Example (a) Consistent with MEP analysis	Why not both pessimistic? Internally consistent and possibly justifiable, but conflicts with the potential for optimism identified by the MEP, and leads to more A6.4ERs going to the buffer pool and fewer issued to activity participants.
		Both pessimistic Consistent, but conflicts with grounds for optimism	



Reversal risk reduction factors for human-induced reversal risk: Expert judgement by the SBM

Region	NDC submission	LT-LEDS submission	REDD-plus submission
All regions	[X] per cent	[Y] per cent	[Z] per cent

*The MEP recommends that the sum of $X + Y + Z$ be set to a value between **20 per cent and 80 per cent**, with the distribution of values across the three reversal risk mitigation actions (X, Y, and Z individually) left to the judgment of the Supervisory Body*

(X) NDC submissions

Human-induced reversal risks are expected to be lower when a host Party has an NDC that includes **LULUCF**.

Activity participants demonstrate that the host Party has an NDC that includes **the LULUCF sector and has communicated a biennial transparency report that covers LULUCF emissions** and removals and is sufficient to track progress toward the NDC.

(Y) LT-LEDS submissions

Human-induced reversal risks are expected to be lower when a host Party has submitted an LT-LEDS that includes the objective of **halting and reversing deforestation**.

Builds on and extends benefits of an NDC that includes LULUCF, so it is a distinct action that can be achieved separately.

(Z) REDD-plus measures

Host Party has implemented the four elements of para. 71 of decision 1/CP.16 (Warsaw Framework):

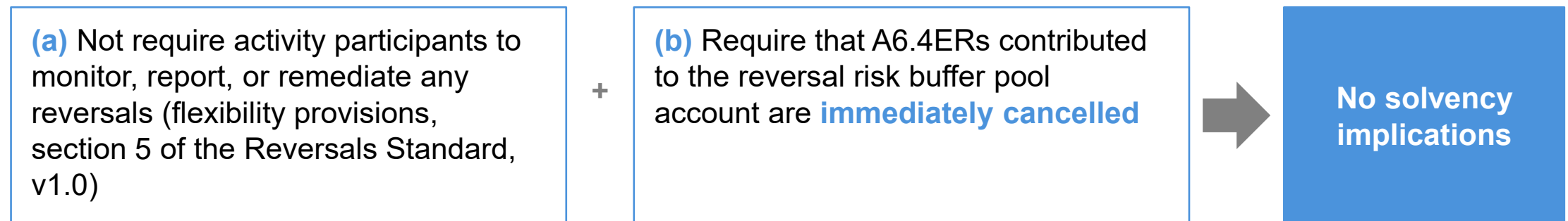
- a) national REDD-plus strategy or action plan**
- b) national forest monitoring system**
- c) forest reference emission level / forest reference level**
- d) safeguard information system**

Higher factor if all four are met; proportionately smaller factor if fewer than four.



Considerations related to Solvency of the Reversal Risk Buffer Pool Account

- The MEP proposes to assign default values for reversal risk factors and, where applicable, reversal risk reduction factors. The choice of default values has implications for the operation of the reversal risk buffer pool account as well as the **economics of Article 6.4 activity development**:
- Determining the intended level of confidence would help guide the determination of reversal risk ratings.
- However, for activities that reduce non-renewable biomass consumption, this may **not be necessary**, because mechanism methodologies for this activity type are expected to:



When both conditions are met, uncertainty related to the selection of the **disturbance and climate scenarios** does not have any implications for the solvency of the Reversal Risk Buffer Pool Account.



Maximum reversal risk ratings

- The Supervisory Body has mandated the MEP to recommend **whether upper limits** are needed for the overall reversal risk rating or specific risk factors.
- The MEP understands that an upper limit would **restrict eligibility**, by prohibiting Article 6.4 activities from earning A6.4ERs where their overall reversal risk rating or applicable reversal risk factor exceeds such a limit.
- The MEP proposes that for activities that reduce non-renewable biomass consumption, **no upper limit** is recommended or applied for reversal risk ratings



KEY ISSUES AND PROPOSED SOLUTIONS

2 Determine negligible risk of reversal



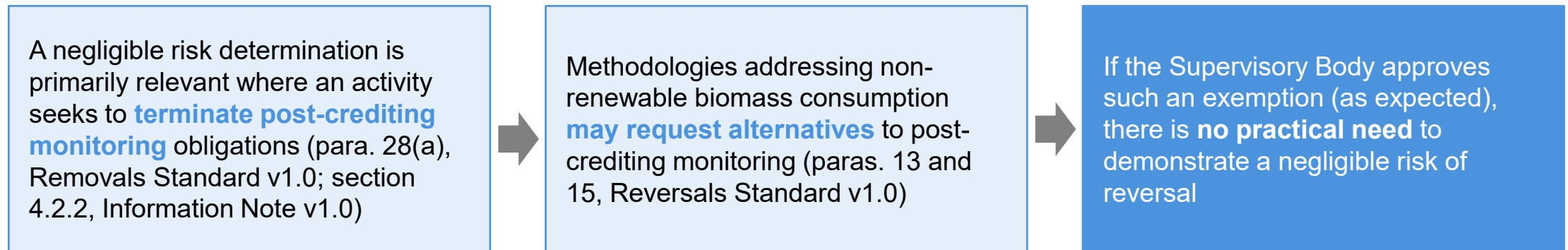
Agenda item 3.4.

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Guidance on negligible reversal risks

- Paragraph 3(g) of version 1.0 of the Reversals Standard defines a negligible risk of reversal

“A risk of reversal that would result in a loss of no more than a maximum percentage to be specified in methodologies on the basis of guidance to be developed in the reversal risk assessment tool of all the A6.4ERs issued with respect to the total emission reductions and/or net removals achieved by the activity during its active crediting period, calculated over a 100-year timeframe starting from no earlier than the end of the last active crediting period”.
- Mechanism methodologies are to define it as a **maximum percentage**, based on guidance provided in the draft methodological tool.
- However, such guidance **might not be relevant** to activities that reduce non-renewable biomass consumption:



- This draft methodological tool will enable activity participants to:
 - a) Calculate the parameter $F_{buffer,i,t}$, which is used in mechanism methodologies to determine the number of A6.4ERs to be forwarded to the Reversal Risk Buffer Pool Account consistent with equation (8) of the Reversals Standard; and
 - b) Determine whether the stored greenhouse gases (or precursors of greenhouse gases) for which A6.4ERs have been issued are at a negligible risk of reversal, as defined in their applicable mechanism methodology.
- This draft methodological tool will allow for the issuance of A6.4ERs to Article 6.4 activities that involve the reduction of non-renewable biomass consumption (e.g., clean cooking activities) that have applied to transition from the Clean Development Mechanism to the Article 6.4 mechanism.



- The MEP recommends the Supervisory Body to:
 - a) Consider the proposed range for the following parameters:
 - i. Human-induced reversal risk factor (a single value) from between 20 and 45 per cent
 - ii. The sum of all human-induced reversal risk reduction factors from between 20 and 80 per cent (across qualified NDCs, LT-LEDs, and REDD-plus submissions)
 - b) Select default values for the above parameters
 - c) Adopt the draft “Methodological tool: Reversal risk assessment”.
- The MEP seeks a mandate from the Supervisory Body to revise the methodological tool with respect to activities that reduce non-renewable biomass consumption when credible new evidence indicates such an update would be warranted



Overview of input received (1/2)

- The 1st call for input was open between **3 and 24 July 2026**
- In total **35 submissions** were received with **239** individual comments

Ref	Submitter	Ref	Submitter
1	aDryada	19	Funga Public Benefit Corporation
2	American Forest Foundation	20	Future Climate Group
3	Apple	21	IETA
4	Architecture for REDD+ Transactions	22	Kita
5	Beyond Alliance	23	PD Forum
6	Biomass	24	PUR
7	Brazilian Tree Industry	25	RMI
8	Bridge Carbon	26	SAJOMA Climate Technical Consulting
9	BURN Manufacturing	27	Dr. Libby Blanchard, Wilkes Center for Climate Science and Policy
10	Carbon at Risk, Climate Resilient Solutions	28	TASC
11	Carbon Business Council	29	The Nature Conservancy
12	Carbon Market Watch	30	United Nations Environment Programme
13	Clean Cooking and Climate Consortium	31	University of Utah
14	Climate Action Platform for Africa	32	Wildlife Works PBC
15	Climate Focus; University of Potsdam	33	Anew Climate
16	Conservation International	34	Stanford Woods Institute Natural Climate Solutions Initiative
17	DelAgua	35	University of California Santa Barbara
18	Emergent Forest Finance Accelerator		



Overview of input received (2/2)

- The largest number of comments was received on how to derive default reversal risk factors

Section#	Section title	# of comments	Section#	Section title	# of comments
Cover note			The tool		
General	-	1	General	-	15
2	Purpose	2	1	Introduction	-
3	Key issues and proposed solutions	-	1.2	Entry into force and validity	2
3.1	Definitions	4	2	Definitions	5
3.2	Scope of application	5	3	Normative and informative references	1
3.3	Classification of reversal risk types for activities that reduce the consumption of non-renewable biomass	7	4	Applicability	1
3.4	Determining default values for reversal risks	37	4.1	General requirements	15
3.5	Calculation of $F_{\text{buffer}, i, t}$	7	4.2	Article 6.4 activities reducing non-renewable biomass consumption	5
3.6	Maximum reversal risk ratings	9	5	Reversal risk assessment	-
3.7	Guidance on negligible reversal risks	7	5.1	Article 6.4 activities reducing non-renewable biomass consumption	68
5	Subsequent work and timelines	3	Appendix 2		
			All	All	38



- Although the cover note to version 01.0 of the draft methodological tool invited input on these questions, the stakeholder submissions did not include concrete, empirically derived approaches that the MEP could apply. Many of the comments offered valuable conceptual suggestions.

Ref	Question
Q.1	The MEP seeks feedback on how to combine natural and human-induced reversal risk factors. Please note that the MEP will consider whether this approach or any alternatives may be more appropriate for combining natural and human-induced reversal risk ratings , subject to how these terms are calculated in the revised draft methodological tool. The MEP notes that reversal risk ratings may be additive if they are statistically independent and from the same probability distribution; an alternative approach may be more appropriate if natural and human-induced reversal risk ratings are statistically dependent. Stakeholders are requested to provide comments on how any recommendations about the determination of human-induced reversal risks or human induced reversal risk reduction factors should inform the calculation of $F_{buffer,i,t}$.
Q.2	On what basis should the MEP determine default values for human-induced reversal risks? What is an appropriate choice for these values? Should the values vary across jurisdictions (e.g., to reflect variation in relevant factors related to land use and land-use change), and why or why not?
Q.3	On what basis should the MEP determine default values for human-induced reversal risk reduction factors? What is an appropriate choice for these values? Should the values vary across jurisdictions (e.g., to reflect variation in relevant factors related to land use and land-use change), and why or why not?
Q.4	(Cover Note, para 47) The MEP welcomes feedback from stakeholders on whether it is appropriate to not to apply upper limit for reversal risk ratings for activities that reduce non-renewable biomass consumptions, along with appropriate justification for stakeholders' views.



Topic	Stakeholder comment	MEP response
Uncertainty across scenarios	Publish values for the other climate and disturbance scenarios considered but not adopted.	Data files covering the full range of climate and disturbance scenarios are published (appendix 3).
Validity period of the tool	Limit validity to less than 5 years, as new (including unpublished) studies could inform natural reversal risks.	The tool should be updated as new studies emerge; the MEP recommends an SB mandate for such updates (external expert: 2–3 years or sooner) but retains the 5-year validity. New evidence could increase or decrease risk factors.



Topic	Stakeholder comment	MEP response
Comparison with other mechanisms	Refer to natural reversal risk assessment practices in other carbon crediting mechanisms and consider or adopt these approaches.	Neither the MEP nor any stakeholder identified explicit data or methods used to determine natural reversal risk factors in other mechanisms.
Method to derive natural reversal risk factors	The approach is too novel or insufficiently supported in the peer-reviewed literature and should not be used.	No alternative approach for empirically derived natural reversal risks was identified. It is appropriate to rely on results from peer-reviewed models and methods, even if not published as a specific peer-reviewed study.
10% biomass loss threshold for historical reversals	The threshold is inconsistent with the Reversals Standard and not conservative enough, as it may underestimate natural reversal risks.	The threshold reflects expert judgment to identify true reversals and avoid false positives from remote sensing imprecision or temporary losses. It is consistent with para 39 of the Reversals Standard (v1.0).
Exclusion of low-severity disturbance events	Only high-severity events are modelled, so reversals from low-severity events are not accounted for.	Low-severity historical events cannot be reliably distinguished from remote sensing artefacts, and including them would likely increase risk factors. The focus on high-severity events is appropriate for an initial application; low-severity events to be addressed in future updates.
How to combine natural and human-induced reversal risks	Some comments considered the two risks statistically independent; others considered them dependent.	Combine the two risk ratings by adding them, with a term for potential statistical dependency set to zero by default.



- The 2nd^t call for input was open between **21 and 28 September 2026**
- In total **8 submissions** were received

Ref	Submitter
1	Project Developer Forum (PDF)
2	Carbon Market Watch (CMW)
3	Conservation International (CI)
4	CLARA WG
5	Max Planck Institute Net Zero Lab
6	NewClimate Institute
7	The Nature Conservancy (TNC)
8	Alliance Sud

1. Input received

8 submissions received. Some comments offered directionally useful proposals with a sound scientific basis but these were not sufficiently developed or operational.



2. Not yet incorporated

Given the short time between the close of the call and SBM023, the MEP Small Group was not able to assess these proposals in detail or reflect them in the draft methodological tool



3. Next revision

If the methodological tool were to be adopted, the MEP seeks a mandate to update it when credible new evidence warrants it. The input received is the starting point.



Topic	Proposal	Submitter
Method for deriving natural reversal risk factors	The 10% carbon loss threshold leaves out low-severity disturbances and so underestimates reversal risks.	CMW
	Support for the overall empirical approach of the recommendation	NewClimate Institute, CMW, CI, TNC
	At about 8 km × 8 km, the Wu et al. grid is too coarse for site-level differences; permit site- or jurisdiction-specific natural risk assessments.	TNC
	Do not rely solely on the Wu et al. (2026) “absolute reversal” method to set default values.	CI
Natural reversal risk reduction factors	Keep exploring reduction factors where jurisdictions can show that policies or management interventions reduce natural disturbances.	TNC
	Recognise verified mitigation measures (e.g. prescribed burning, thinning, fuel breaks), quantified at grid-cell or landscape level and aggregated to the jurisdiction; where evidence is insufficient, allow conservative, evidence-based adjustments rather than a default of zero.	CI
Procedure for updating tool	Establish a mandatory update procedure	TNC



Topic	Proposal	Submitter
Basis for human-induced risk defaults	Base defaults on net rather than gross forest loss, since gross loss ignores regrowth and overstates long-term risk.	TNC
	Replace the single global factor with jurisdiction-specific values (subnational, national, multinational, including reduction factors), derived bottom-up from spatial driver data within the 20–45% range; until then, use region-specific values and task the MEP to complete the work by a set date, with a standardised, transparent process for the policy judgment.	CI
Human-induced risk reduction factors and mitigation measures	Treat coverage of the forest sector by an NDC, LT-LEDs or REDD+ framework should not be treated as evidence of deforestation mitigation.	NewClimate Institute
Combining natural and human-induced risks	Reconsider assuming statistical independence by default: require evidence of independence or, at a minimum, justify the assumption and assess its effect on reversal risk and buffer contributions.	TNC
	Do not set the joint term to zero (mathematically incorrect even under independence); derive it empirically from spatial data, use a plausible range with sensitivity analysis where evidence is limited, and add a joint term and a natural risk reduction factor to the natural risk rating.	CI



Topic	Proposal	Submitter
Selecting human-induced risk and risk reduction factors	Adopt conservative values or apply precautionary principles (i.e., select higher reversal risk factors and lower reversal risk reduction factors)	CMW, NewClimate Institute, CLARA, Alliance Sud, Max Planck Institute
	The 45% ceiling for the human-induced reversal risk factor already contains optimistic assumptions.	CMW
	Avoid stacking conservative assumptions: select the risk factor at the lower end and reduction factors at the upper end of their ranges, so as not to unduly limit participation or affect activities in developing countries.	TNC
	Recognise that the values rest on expert judgment and that reduction factors reward reporting capacity, penalising the least-resourced host Parties; state these limits and uncertainties in the decision itself.	CLARA
Risk assessment time horizon	A 100-year horizon is inadequate to ensure permanence; it should be longer, e.g. 1,000 years.	CMW

