Buffer Guidelines

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Buffer Guidelines

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1. Introduction

All the Emission Reductions (ERs) achieved by a REDD+ ER Program are subject to both Uncertainty and Reversal Risks. Specifically:

1. Improved observation methods and data, may indicate that the Emission Reductions generated by an ER Program were overestimated for prior reporting periods.
2. Certain physical disturbances and human activitiesmay cause forest carbon emissions that may reverse the mitigation effect of ERs achieved by ER Programs in previous reporting periods.

To help manage these risks, the CF relies on an ER Program CF Buffer to be managed by the Buffer Manager. As part of the ER Program CF Buffer, two (2) separate buffer reserve accounts will be established:

1. an 'Uncertainty Buffer' to create incentives for improving (reducing) the uncertainty associated with the estimation of ERs and manage the risk that the emission reductions were overestimated for prior reporting periods; ; and
2. a 'Pooled Reversal Buffer' to insure against potential large-scale Reversals, covering, on a pro-rata basis and subject to certain requirements, Reversal Risks that may materialize for any ER Program.

As detailed in these Buffer Guidelines, the proportion of ERs that must be set-aside in each buffer reserve account may change depending on improvements in emissions reductions estimates or revisions to Reversal Risk assessments. Buffer ERs that were set-aside for an initial reporting period may be released after subsequent Reporting Periods pending such improvements or revisions. Thus, the buffer reserves serve a dual purpose of both insuring against potential losses and providing incentives for improved quantification (reduction in Uncertainty) and management of Reversal Risks.

In the event that any transaction of ERs under any ER Program is carried out by a specific registry which provides for its own buffer rules and procedures such registry's buffer rules and procedures may prevail, if such an arrangement is agreed with the Carbon Fund.

Capitalized terms used in these Buffer Guidelines are defined in the FCPF Carbon Fund Glossary of Terms.

2. References

2.1 The following are references made in the Buffer Guidelines to other documents:

a) FCPF Methodological Framework: Provides the overarching guidance and acts as a standard designed for ER Programs to achieve a consistent approach to carbon accounting and programmatic characteristics.
b) Validation and Verification Guidelines: Provides the procedures for third party Validation and Verification by a Validation and Verification Body.
c) Process Guidelines: Provides the procedures for the ER Program cycle from ER Program pre-approval to payment for Emission Reductions.

d) Guidelines on the application of the methodological framework on technical corrections to GHG emissions and removals reported in the reference period;
e) FCPF Glossary of Terms: a separate general reference document providing a consolidated set of definitions of capitalized terms used throughout various instruments under the FCPF Carbon Fund.

2.2 Additionally, applicable templates are used to capture data or information required in the FCPF processes and provides pre-defined fields and specific guidance:

a) ER Monitoring Report: Template and guidance to help REDD Country Participants prepare a monitoring report describing the results achieved by an ER Program during a Reporting Period.
b) Validation/Verification Report Templates: Template and guidance to help Validation and Verification Bodies prepare the Validation/Verification Report.

3. Use of ER Program Transaction Registries to Manage Buffer Reserves

3.0 The FCPF requires ER Programs to manage Reversal Risks through the use of a Pooled Reversal Buffer managed by the Buffer Manager. Likewise, the FCPF requires ER Programs to have an ER Program CF Buffer to hold a set-aside of ERs in order to account for the quantification of Uncertainty.

3.1 The FCPF requires ER Programs to ensure that ERs are not double-counted (or "generated more than once") . These assurances are achieved through the establishment and/or use of a centralized "ER Transaction Registry" that meets certain criteria and can perform functions in accordance with the methods and definitions of the FCPF requirements.

3.2 ER Program CF Buffer accounts shall be established in the centralized ER Transaction Registry to manage Reversal Risks and Uncertainty .

3.3 Two (2) types of separate buffer reserve accounts shall be established:

a) ER Program 'Uncertainty Buffer' accounts to hold ERs set aside by each ER Program for the purpose of managing Uncertainty, and
b) A 'Pooled Reversal Buffer' account to hold ERs set aside by all ER Programs for the purpose of managing Reversal Risks covering, subject to certain requirements described in this document, Reversal Risks that may materialize under any ER Program. The Pooled Reversal Buffer shall have the capacity to identify the contributions and cancellations made by each ER Program.

3.4 The Buffer Manager will manage these accounts in accordance with the Buffer Guidelines to manage Uncertainty and Reversal Risks, respectively, and to dispose of Buffer ERs set aside in these accounts at the end of the Crediting period.

4. Establishing Buffer Reserve Accounts in the ER Program Transaction Registry

4.0 At the outset of an ER Program, separate accounts must be created in an appropriate ER Transaction Registry for the exclusive purpose of receiving, disbursing, or canceling Buffer ERs that will be allocated to the Uncertainty Buffer and the Pooled Reversal Buffer.

4.1 The Pooled Reversal Buffer account will exist separately from any Reversal risk management accounts established under an ER Program to manage Reversal risks for ERs that are not generated during the Crediting Period and are not required to be compliant with the FCPF requirements.

4.2 The Buffer Manager shall be given sole authority to access and manage the Uncertainty Buffer and Pooled Reversal Buffer accounts, such that transfers of ERs to and from the accounts, and cancelation of Buffer ERs from the accounts, may only be initiated by the Buffer Manager.

4.3 The technical requirements and modalities for managing the Uncertainty Buffer and Pooled Reversal Buffer accounts are elaborated in the operational guidance established for the ER Transaction Registry, in accordance with Criterion 38 (Indicator 38.4) of the MF.

5. Allocation of ERs to the Buffer Reserve Accounts

5.0 Each time ERs are reported and verified, a portion of the reported ERs must be set aside in the Uncertainty Buffer and Pooled Reversal Buffer accounts.

5.1 Once Total ERs are determined for a particular Reporting Period, the ER Program Entity and the World Bank[1] will instruct, or help instruct, as applicable, the administrator of the ER Transaction Registry to establish serial numbers for the amount of Total ERs.

5.2 The ER Program Entity and the World Bank or the Buffer Manager will instruct, or help instruct, as applicable, the ER Transaction Registry administrator to transfer and deposit a portion of the serialized ERs, as Buffer ERs, into the Uncertainty Buffer account. This portion shall be determined following Section 6 of the Buffer Guidelines.

5.3 The ER Program Entity and the World Bank or the Buffer Manager will instruct, or help instruct, as applicable, the ER Transaction Registry administrator to transfer and deposit a separate portion of the serialized ERs, as Buffer ERs, into the Pooled Reversal Buffer account. This portion shall be determined following Section 7 of the Buffer Guidelines.

5.4 The ER Program Entity and the World Bank shall instruct, or help instruct, as applicable, the ER Transaction Registry administrator to transfer from the remaining serialized ERs an amount of ERs designated for transfer to the CF or other buyers into one or more account(s) designated to hold ERs.

Commented [ME1]: This sentence is not clear. It seems like a part of the ERs goes to the CF or other buyers, but there is no indication on what happens to the remaining ERs (which, as far as I understand, should go to the ER Program account)

6. Determining the Quantity of ERs to Allocate to the Uncertainty Buffer

6.0 The uncertainty of Emission Reductions associated with deforestation, forest degradation and enhancements is reported separately if measured through separate (i.e., non-integrated) approaches and when degradation is estimated using proxy data. If non-integrated approaches are used, separate quantities shall be determined for the portion of Total ERs that resulted from avoided deforestation and avoided forest degradation, respectively.

[1] The World Bank refers to the World Bank acting as Trustee of the Carbon Fund.

6.1 The quantity of Total ERs associated with avoided deforestation shall be multiplied by the appropriate "conservativeness factor" for the aggregate uncertainty of the estimate for ERs (i.e. RL minus monitored and reported emissions and removals), as presented in the following Table 1 (from Criterion 22 of the Methodological Framework). If an integrated approach is used to measure deforestation, forest degradation and/or enhancements together, the conservativeness factor (see Table 1) is applied to the Total ERs only if spatially-explicit activity data (IPCC Approach 3) and high-quality emission factors (IPCC Tier 2) were used in their calculation. Otherwise, as a default, Clause 6.3 of the Buffer Guidelines applies.

Table 1. Quantification of Uncertainty Conservativeness Factors

Aggregate Uncertainty of ERs	Conservativeness Factor
≤ 15%	0%
> 15% and ≤ 30%	4%
> 30% and ≤ 60%	8%
> 60% and ≤ 100%	12%
> 100%	15%

6.2 If forest degradation is measured through a separate approach using proxy-based approaches, a general conservativeness factor of 15% is applied to the Total ERs associated with forest degradation.

6.3 The portion of Total ERs allocated as Buffer ERs to the Uncertainty Buffer shall be equal to the sum of the two amounts calculated in Clauses 6.1 and 6.2 of the Buffer Guidelines.

7. Determining the Quantity of ERs to Allocate to the Pooled Reversal Buffer

7.4 Reversals can be caused both by natural disturbances and by human activities, which may be driven by a range of factors both internal and external to an ER Program.

7.5 A certain quantity of ERs out of the Total ERs shall be allocated as Buffer ERs to the Pooled Reversal Buffer account to help manage the Reversal Risk. This quantity is calculated following each Reporting Period as a percentage of the Total ERs for that Reporting Period minus the quantity of ERs allocated to the Uncertainty Buffer for that Reporting Period.

7.6 The percentage of ERs to be set aside in the Pooled Reversal Buffer account shall be determined by the World Bank, following consultations with the Program Entity, or by the Buffer Manager, as applicable, in accordance with the Reversal Risk assessment tool below.

7.7 The Reversal Risk assessment tool shall be used to determine the Reversal Risk Set-Aside Percentages for each of the Risk Factors listed in the first column of Table 2 below. The full Reversal Risk Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Risk Set-Aside Percentages for each of the Risk Factors. The Risk Indicators in the second column of Table 2 below are provided to assess the Reversal Risk for each of the Risk Factors following the

guidelines provided in Annex I. The Reversal Risk is assessed separately for each Risk Factor (A-D). The resulting Reversal Risk Set-Aside Percentage for each Risk Factor shall be determined based on the default Reversal Risk Set-Aside Percentage (Table 2, column 3), the corresponding classification of the Reversal Risk (high, medium or low) and the associated discount (Table 2, column 4).

Table 2. Determination of the Reversal Risk Set-Aside Percentage

Risk Factors	Risk Indicators	Default Reversal Risk Set-Aside Percentage	Discount (increment)	Resulting Reversal Risk Set-Aside Percentage
Default risk	• Not applicable, fixed minimum amount	**10%**	**Not applicable**	**10%**
A. Lack of broad and sustained stakeholder support	• Are stakeholders aware of, and/or have positive experience with Emission Reduction Programs, FGRM, benefit sharing arrangements etc. or similar instruments in other contexts? • Have complaints, claims or occurrences of conflicts over rights and tenure been addressed?	**10%**	Reversal Risk is considered high: 0% discount; **OR**	**10%**
			Reversal Risk is considered medium: 5% discount; **OR**	**5%**
			Reversal Risk is considered low: 10% discount	**0%**
B. Lack of institutional capacities and/or ineffective vertical/cross sectoral coordination	• Is there a track record of key institutions in implementing programs and policies? • Is there experience of cross-sectoral cooperation? • Is there experience of collaboration between different levels of government?	**10%**	Reversal Risk is considered high: 0% discount; **OR**	**10%**
			Reversal Risk is considered medium: 5% discount; **OR**	**5%**
			Reversal Risk is considered low: 10% discount	**0%**

C. Lack of long term effectiveness in addressing underlying drivers	• Is there experience in decoupling deforestation and degradation from economic activities? • Is relevant legal and regulatory environment conducive to REDD+ objectives?	**5%**	Reversal Risk is considered high: 0% discount; **OR**	**5%**
			Reversal Risk is considered medium: 2% discount; **OR**	**3%**
			Reversal Risk is considered low: 5% discount	**0%**
D. Exposure and vulnerability to natural disturbances	• Is the Accounting Area vulnerable to fire, storms, droughts, etc.? • Are there capacities and experiences in effectively preventing natural disturbances or mitigating[2] their impacts?	**5%**	Reversal Risk is considered high: 0% discount; **OR**	**5%**
			Reversal Risk is considered medium: 2% discount; **OR**	**3%**
			Reversal Risk is considered low: 5% discount	**0%**
Actual Reversal Risk Set-Aside Percentage: 10+(Result A+ Result B+ Result C+ Result D) = 10 to 40%				

7.8 The quantity of ERs out of the Total ERs for a Reporting Period minus the quantity of ERs allocated to the Uncertainty Buffer for the same period represented by the Actual Reversal Risk Set-Aside Percentage, as determined in accordance with Table 2 above, shall be deposited as Buffer ERs into the Pooled Reversal Buffer account.

7.9 In determining the Actual Reversal Risk Set-Aside Percentage for each Reporting Period, the World Bank and the Buffer Manager(s), as applicable, shall take into account the results of any related

[2] Activities to mitigate natural disturbance may include, e.g., education to reduce the risk of uncontrolled fires resulting from slash-and-burn agriculture; periodic fuel removal; establishment and maintenance of fire breaks and towers; deployment and maintenance of fire-fighting equipment (for fire risk); planting of diverse and resistant tree species (for risk of pests or disease); planting of frost, drought, flood, or wind-tolerant species (for extreme weather risk); and use of salinity-tolerant plant species (for salt-water intrusion risk).

assessment done by another entity or body authorized by and acting on behalf of the CF (i.e. a Validation and Verification Body as described in the Validation and Verification Guidelines).

8. Adjustments to the Uncertainty Buffer

8.0 An ER Program may improve its MRV system, including data sampling or measurement techniques, such that the Uncertainty of Total ERs is reduced from one Reporting Period to the next and the ER Program qualifies for a lower conservativeness factor, as indicated in Table 1 (above). Adjustments to the Uncertainty Buffer can also be made at the end of the Crediting Period when ER Programs shall calculate the uncertainty of the cumulative Emission Reductions over the Crediting Period (see Section 8.4 below).

8.1 ER Programs that improve their MRV system shall use the improved data sampling or measurement techniques to update estimates for prior Reporting Periods. If such updates result in a lower estimate of Total ERs for prior Reporting Periods, Clause 8.2 applies. If they result in an equal or higher estimate of Total ERs for prior Reporting Periods, Clause 8.3 applies.

8.2 If updates result in a *lower* estimate of Total ERs for prior Reporting Periods, ERs need to be cancelled from the Uncertainty Buffer account. Then:

a) The Buffer Manager shall calculate the quantity of Uncertainty Buffer ERs to be canceled using the following formula:

$$Q_c = G_{t-1} - G_{t-1\ updated}$$

Where:

Q_c	=	The quantity of Uncertainty Buffer ERs to be canceled
G_{t-1}	=	The original estimate of Total ERs for the prior Reporting Periods as estimated in the respective monitoring report(s)
$G_{t-1\ updated}$	=	The updated estimate of Total ERs for the prior Reporting Periods, based on the improved measurements

Updated estimates shall only affect Buffer ERs already deposited in the Uncertainty Buffer account in prior Reporting Periods. Therefore, if Q_c is greater than the remaining Buffer ERs in the Uncertainty Buffer account from prior Reporting Periods, then the Buffer Manager shall only cancel all Buffer ERs in the Uncertainty Buffer account from prior Reporting Periods and permanently retire their associated serial numbers.

b) If the updated estimates for prior Reporting Periods show the same or a higher uncertainty, no further action is required. If the updated estimates for prior Reporting Periods can be produced such that the Uncertainty of Total ERs is reduced and a lower conservativeness factor applies as indicated in Table 1, Buffer ERs can potentially be released. The potential quantity of Uncertainty Buffer ERs to be released is calculated as follows:

$$Q_R = D_{t-1} - Q_C - (G_{t-1\,updated} * CF_t)$$

Where:

Q_R	=	The quantity of Uncertainty Buffer ERs to be released
D_{t-1}	=	The remaining Buffer ERs in the Uncertainty Buffer account from prior Reporting Periods
Q_C	=	The quantity of Uncertainty Buffer ERs to be canceled
$G_{t-1\ updated}$	=	The updated cumulative estimate of Total ERs for the prior Reporting Periods, based on the improved measurements
CF_t	=	The revised conservativeness factor, after improvements in measurements and respective reduction in uncertainty

If Q_R is positive then the Buffer Manager may release ERs from the Uncertainty Buffer equivalent to Q_R and transfer them to an account designated to hold ERs following the instructions of the ER Program Entity or World Bank, as applicable.

If Q_R is negative then no Uncertainty Buffer ERs can be released for prior Reporting Periods.

8.3 If updates result in an *equal or higher* estimate of Total ERs for prior Reporting Periods, then:

a) As appropriate, Sections 5, 6, and 7 of the Buffer Guidelines shall be followed to determine a new quantity of Total ERs for the prior Reporting Periods, as well as revised quantities for allocations to the Uncertainty Buffer and the Pooled Reversal Buffer.

b) If the revised quantity of required allocations to the Uncertainty Buffer for the prior Reporting Periods is greater than the original allocation, then additional ERs shall be allocated to the Uncertainty Buffer to make up the difference.

c) If the revised quantity of required allocations to the Uncertainty Buffer for the prior Reporting Periods is less than the original allocation, then the Buffer Manager may release ERs from the Uncertainty Buffer. The quantity to be released shall be equal to the difference between the original and revised allocation requirements. This amount shall be multiplied by the Actual Reversal Risk Set-Aside Percentage, as determined in accordance with Table 2 above, and the resulting number of ERs shall be deposited as Buffer ERs into the Pooled Reversal Buffer account. The remaining ERs shall be transferred to an account designated to hold ERs following the instructions of the ER Program Entity or World Bank, as applicable. Uncertainty Buffer ERs shall only be released if the ER Program has completely replenished any Pooled Reversal Buffer debits in accordance with Section 10.10.

d) Additional allocations of ERs to the Pooled Reversal Buffer shall be made as necessary, following Section 7 of the Buffer Guidelines.

8.4 In addition to determining the quantity of ERs to allocate to the Uncertainty Buffer for each Reporting Period, ER Programs shall calculate the uncertainty of the total Emission Reductions achieved cumulatively during the entire Crediting Period and report it in the last ER-MR. This reported cumulative uncertainty shall be used to recalculate the quantity of ERs to allocate to the Uncertainty Buffer at the end of the Crediting Period using the approach from section 6 of these Guidelines.

Commented [ME2]: Given that this case is where the volume of Total ERs is equal or higher than for prior reporting periods, the only way in which the allocations to the Uncertainty Buffer could be lower is if the conservativeness factor is lower. However, in this section there are no requirements to reasses the conservativeness factor (as opposed to section 8.2 c) above). Maybe we need to include them?

8.5 If such a recalculation finds that the quantity of ERs to allocate to the Uncertainty Buffer based on the entire Crediting Period is lower than the cumulative quantity of ERs already allocated to the Uncertainty Buffer during all the Reporting Periods, then the Buffer Manager shall release ERs equal to the difference between the two from the Uncertainty Buffer. This amount shall be multiplied by the Actual Reversal Risk Set-Aside Percentage, as determined in accordance with Table 2 above, and the resulting number of ERs shall be deposited as Buffer ERs into the Pooled Reversal Buffer account. The remaining ERs shall be transferred to an account designated to hold ERs following the instructions of the ER Program Entity or World Bank, as applicable. Uncertainty Buffer ERs shall only be released if the ER Program has completely replenished any Pooled Reversal Buffer debits in accordance with Section 10.8.

8.6 If such a recalculation finds that the quantity of ERs to allocate to the Uncertainty Buffer based on the entire Crediting Period is higher than the cumulative quantity of ERs already allocated to the Uncertainty Buffer during all the Reporting Periods, additional ERs shall be allocated to the Uncertainty Buffer to make up the difference.

9. Disposal of Uncertainty Buffer ERs at the End of the Term of the CF ERPA

9.0 If the ER Program Entity does not wish to maintain an uncertainty buffer reserve beyond the end of the Crediting Period, then the Buffer Manager shall cancel the ERs in the Uncertainty Buffer account in the ER Transaction Registry prior to the end of the Term of the CF ERPA. ERs shall be canceled by removing them from the Uncertainty Buffer account and permanently retiring their associated serial numbers.

9.1 If the ER Program Entity wishes to continue maintaining a buffer reserve serving the same function as the Uncertainty Buffer beyond the end of the Crediting Period, then the Buffer Manager shall transfer ERs from the Uncertainty Buffer account in the ER Transaction Registry to an equivalent buffer account designated and controlled by the ER Program Entity or any other entity designated by the ER Program Entity prior to the end of the Term of the CF ERPA. Uncertainty Buffer ERs shall only be transferred to an equivalent buffer account if the ER Program has completely replenished any Pooled Reversal Buffer debits in accordance with Section 10.10.

10.Compensating for Reversals Using the Pooled Reversal Buffer

10.0 A Reversal occurs if human activities and/or one or more disturbance event(s) result in the aggregate amount of ERs measured and verified within the Accounting Area for one Reporting Period being less than the aggregate amount of ERs measured and verified within the Accounting Area for the previous Reporting Period(s). Reversals can occur in two or more consecutive Reporting Periods.

10.1 The Program Entity shall inform the World Bank of a Reversal Event and identify the occurrence of a Reversal Event in its period reporting, as specified in the ERPA.

10.2 In the event that the Program Entity and the World Bank disagree on the occurrence, cause and/or scope of a Reversal Event, if requested by the World Bank, the occurrence, cause and/or scope of a Reversal Event shall be assessed and Verified by a Validation and Verification Body.

10.3 Subject to Clause 10.1 of the Buffer Guidelines, the World Bank determines whether a Reversal has occurred and, if so, notifies the Buffer Manager accordingly. A Reversal can only occur if ERs have been transferred to ER Program account, the Pooled Reversal Buffer and the Uncertainty Buffer, for at least one prior Reporting Period.

10.4 If a Reversal occurs, then Buffer ERs shall be canceled from the ER Program´s cumulative contribution to the Pooled Reversal Buffer account to compensate for the Reversal. Where the reversal exceeds the amount of cumulative buffer ERs that the ER Program has contributed to the Pooled Reversal Buffer, ERs from the ER Program´s Uncertainty Buffer shall be cancelled to compensate for the remaining reversal. If the number of ERs in the Uncertainty Buffer does not suffice to fully address the reversal, then any Excess ERs held by the ER Program shall be cancelled, and finally, if the reversal amount is still not met, Pooled Reversal Buffer ERs shall be cancelled until the reversal is fully compensated.

10.5 The quantity of Buffer ERs canceled in accordance to Section 10.4 above shall be equal to the difference between the ER Program´s cumulative ERs up to the year before the reversal took place and the cumulative ERs in the year of the reversal, noting that this quantity should be limited to the sum of cumulative amounts, in that same period, of transferrable ERs[3], contributions by the ER Program to the Pooled Reversal Buffer, and the Uncertainty Buffer, and any Pooled Reversal Buffer replenishments made by the ER Program. Therefore, the quantity of Buffer ERs affected by the Reversal shall be calculated as follows:

$R_c = T_{t-1} - T_t$

$R_c \leq C + PB + UB + RP$[4]

Where:

R_c	=	Quantity of Buffer ERs canceled from the Pooled Reversal Buffer account
T_{t-1}	=	Cumulative quantity of Total ERs estimated for prior Reporting Periods (as an aggregate of ERs accumulated since the Crediting Period Start Date)
T_t	=	Cumulative quantity of Total ERs estimated including the current Reporting Period (as an aggregate of ERs accumulated since the Crediting Period Start Date)
C	=	Cumulative quantity of transferrable ERs estimated including the current Reporting Period (as an aggregate of transferable ERs accumulated since the Crediting Period Start Date)

[3] Transferrable ERs are equal to Total ERs minus the set aside Buffer ERs (including uncertainty and reversal buffer ERs).

[4] R_c cannot be higher than the sum of cumulative transferable ERs and cumulative buffer contributions (to both the Pooled Reversal Buffer and the Uncertainty Buffer) and the Pooled Reversal Buffer replenishments up to T_t because the potential for reversals is limited to the amount of cumulative verified ERs produced up to that period. Where the difference between T_{t-1} and T_t exceeds that level, excess emissions should be considered as non-performance instead of as reversals. The rationale for this is that only the verified ERs (i.e., those transferable and the ones deposited/replenished in the buffers) are susceptible of being reversed, and therefore the "reversal liability" of the ER Program in case of a reversal should be limited to the volume of ERs it has generated up to the moment the reversal event took place.

PB = Cumulative ER Program´s Pooled Reversal Buffer contributions estimated including the current Reporting Period (as an aggregate of Pooled Reversal Buffer ERs accumulated since the Crediting Period Start Date)

UB = Cumulative ER Program´s Uncertainty Buffer contributions estimated including the current Reporting Period (as an aggregate of Uncertainty Buffer ERs accumulated since the Crediting Period Start Date)

RP = Cumulative ER Program´s Pooled Reversal Buffer replenishments estimated including the current Reporting Period (as an aggregate of Reversal Buffer ERs replenished since the Crediting Period Start Date)

10.6 The World Bank shall instruct the Buffer Manager(s) to cancel ERs from the relevant accounts in accordance with Section 10.5 above. The Pooled Reversal Buffer ERs to be cancelled beyond the contribution of the ER Program affected by the reversal shall be cancelled on a pro-rata basis. [5] ERs shall be canceled by removing them from the Pooled Reversal Buffer account and other applicable accounts, following Section 10.4, and permanently retiring their associated serial numbers.

10.7 The ER Program Entity and the World Bank or the Buffer Manager shall instruct, or help instruct, as applicable, the ER Transaction Registry administrator to cancel such ERs in the Pooled Reversal Buffer account, and other relevant accounts, following Section 10.4, as applicable.

10.8 ERs from the Pooled Reversal Buffer and the Uncertainty Buffer, where applicable, cancelled as a consequence of a Reversal need to be replenished by the ER Program before the end of the Crediting Period. In order to do so, all the ERs generated by the ER Program after a reversal shall be transferred to the Pooled Reversal Buffer and Uncertainty Buffer, where applicable, until at least 50% of the Program´s debit (including, if applicable, any subsequent Reversals) has been covered. After this level has been reached, the ER Program may transfer up to 30% of the ERs generated, while the remaining amount shall be used to cover the rest of the Program´s debt with the Pooled Reversal Buffer and Uncertainty Buffer, where applicable, until they are fully replenished. If the Reversal takes place from the third year of the Crediting period on, or if it represents more than half of the current net Pooled Reversal Buffer contributions of the ER Program, the ER Program shall not be able to transfer any ERs generated subsequently until it has fully replenished the amount of cancelled Pooled Reversal Buffer ERs (and, if applicable, Uncertainty Buffer ERs) resulting from such (and any subsequent) Reversal. Likewise, the affected ER Program shall not be able to transfer any Excess ERs held in its account until it has replenished the Pooled Reversal Buffer (and, if applicable, the Uncertainty Buffer) in accordance with the requirements set out in this section.

10.9 Pooled Reversal Buffer ERs cancelled beyond the contribution of the ER Program shall be replenished first, followed by the ER Program´s ER contributions to such buffer, and finally, by Uncertainty Buffer ERs cancelled because of a reversal in accordance with Section 10.4 above. ERs generated subsequently to a reversal that are used to replenish the Pooled Reversal Buffer shall not be subject to the contribution to the Uncertainty Buffer set out in Section 6.3 above.

[5] In the event that the Pooled Reversal Buffer is not able to offset the effect of a Reversal in full, the remaining effect of the Reversal will be addressed in accordance with the terms of the Emission Reductions Payment Agreement and the General Conditions applicable thereto.

11. Releasing Buffer ERs from the Pooled Reversal Buffer

11.0 Reversal Risk assessments after subsequent Reporting Periods may, in accordance with Table 2 above, determine a reduced risk exposure than was determined after the previous Reporting Period (e.g., from high to medium risk or from medium to low risk). Such reduced risk exposure shall reduce the required Actual Reversal Risk Set-Aside Percentage and allow for the release of a corresponding amount of Buffer ERs from the Pooled Reversal Buffer.

11.1 If the Actual Reversal Risk Set-Aside Percentages are increased, the amount of ERs to be transferred to the Pooled Reversal Buffer shall be determined in accordance with Section 7 of the Buffer Guidelines.

11.2 If the required amount of Buffer ERs set aside for the Pooled Reversal Buffer for the current Reporting Period is lower than the required amount of Buffer ERs set aside in prior Reporting Periods, the Buffer Manager shall release Buffer ERs from the Pooled Reversal Buffer account in an amount equal to the difference between such required amounts of Buffer ERs and transfer those released Buffer ERs into an account designated to hold ERs, following the instructions of the ER Program Entity and the World Bank. Buffer ERs shall only be released if the ER Program has completely replenished any Pooled Reversal Buffer (and, if applicable, Uncertainty Buffer) debits in accordance with Section 10.9. The quantity of Buffer ERs to be released from the Pooled Reversal Buffer account shall be determined using the following formula:

$$Q_r = (R_{t-1} - R_t) \times N_{t-1}$$

Where:

Q_r	=	The quantity of Buffer ERs to be released from the Pooled Reversal Buffer account
R_{t-1}	=	The actual set-aside percentage for the Pooled Reversal Buffer applied to all Reporting Periods prior to the current Reporting Period [6]
R_t	=	The actual set-aside percentage for the Pooled Reversal Buffer applicable to the current Reporting Period
N_{t-1}	=	The cumulative total of Total ERs minus the quantity of ERs allocated to the Uncertainty Buffer for all Reporting Periods prior to the current Reporting Period

11.3 If Qr is greater than the number of Buffer ERs currently in the Pooled Reversal Buffer account, then the quantity of Buffer ERs remaining in the Pooled Reversal Buffer account may be released.

11.4 The required set aside for the current Reporting Period is calculated following the procedure described in Section 6 above. The respective quantity of Buffer ERs is transferred to the Pooled Reversal Buffer account once the quantity of Buffer ERs to be released has been transferred out of the Pooled Reversal Buffer account.

Commented [ME3]: If the idea is that the release of Pooled Buffer ERs is done to reflect the actual risk on all ERs produced to date by the ER Program, then the quantity to be released should be based on the cumulative Total ERs generated before the period where the lower set-aside % is obtained (once they have been discounted for the contribution to the Uncertainty Buffer), and not the cumulative transferrable ERs.

Simply put, if the amount of ERs that should be transferred to the Pooled Reversal Buffer is estimated using the Total ERs-Uncertainty Buffer contributions, these should also be used when estimating the amount to be released

[6] Because the set-aside percentage is updated and retroactively applied each Reporting Period, the same percentage shall apply to all prior Reporting Periods.

12. Disposal of Pooled Reversal Buffer ERs at the End of the Term of the CF ERPA

12.0 At the latest one (1) year before the end of the Term of the CF ERPA, the ER Program shall have in place a robust Reversal Management Mechanism that addresses the risk of Reversals beyond the Term of the CF ERPA and is equivalent to the Pooled Reversal Buffer. A Reversal Management Mechanism is considered to be equivalent to the Pooled Reversal Buffer if:

a) It is a pooled buffer;
b) It covers potential reversals of the units generated under the ER Program during the Crediting Period;
c) It allows the transfer of the Buffer ERs contributed by the ER Program to the Pooled Reversal Buffer;
d) The reversal risk set-aside percentage calculated under the Reversal Management Mechanism is equal to or higher than the actual reversal risk set-aside percentage of the ER Program[7];
e) It has in place a periodic monitoring and third-party Verification mechanism for a period from the end of the Term of the CF ERPA to 31 December 2037 to confirm if there have been reversals and makes monitoring and verification reports publicly available; and
f) The Reversal Management Mechanism is operational and able to address identified Reversals.

12.1 If the ER Program has in place a robust Reversal Management Mechanism equivalent to the Pooled Reversal Buffer prior to the end of the Term of the CF ERPA, then the Buffer Manager shall, prior to the end of the Term of the CF ERPA, transfer a portion of the Buffer ERs remaining in the Pooled Reversal Buffer account in the ER Transaction Registry (equivalent to the ER Program's proportional share of any amount of Buffer ERs in the Pooled Reversal Buffer remaining at the end the ER Program's Term of the CF ERPA, but not exceeding the ER Program's original contribution) to such other buffer reserve account designated and controlled by the ER Program Entity or any other entity designated by the ER Program Entity.

12.2 If the ER Program does not have in place a Reversal Management Mechanism equivalent to the CF Pooled Reversal Buffer prior to the end of the Term of the CF ERPA, then the Buffer Manager shall, prior to the end of the Term of the CF ERPA, cancel a portion of the Buffer ERs remaining in the Pooled Reversal Buffer account in the ER Transaction Registry (equivalent to the ER Program's proportional share of any amount of Buffer ERs in the Pooled Reversal Buffer remaining at the end of the ER Program's Term of the CF ERPA, but not exceeding the ER Program's original contribution).

12.3 Buffer ERs shall be canceled by removing them from the Pooled Reversal Buffer account and permanently retiring their associated serial numbers.

12.4 If at the end of the Term of the CF ERPA an ER Program has not completely replenished the Pooled Reversal Buffer in accordance with Section 10.8 above, any remaining Excess ERs held by such Program shall be cancelled up to the amount required to compensate its Pooled Reversal Buffer debit.

Commented [ME4]: This is great in a way, because it implies that once the ER Programs move to another standard, the WB is no longer responsible for accounting for their reversals, so we avoid the situation where an ER Program may have a reversal once it has transited to another standard and we would have to figure out who has to cancel the buffer ERs, the FCPF or the other standard

Commented [ME5]: I would get rid of this requirement, because it implies that even if the ER Program subsequently reduces its reversal risk, it would not be able to reduce the set-aside percentage in the new Reversal Management Mechanism (the new stardard), not to mention that it may be difficult to determine if the set-aside % is comparable between standards due to the different approaches applied by each one of them

[7] The Reversal Risk Set-Aside Percentage calculated under the Post-Crediting Period Reversal Management Mechanism and the actual reversal risk set-aside percentage of the ER Program CF Buffer will be determined for the latest Reporting Period ending before the end of the Crediting Period and will be verified by the Validation and Verification Body at Verification.

13. Acronyms

CF	Carbon Fund
ERs	Emission Reductions
ERPA	Emission Reductions Payment Agreement
IBRD	International Bank for Reconstruction and Development
FCPF	Forest Carbon Partnership Facility
MF	Methodological Framework of the Carbon Fund dated December 20, 2013

Annex I: Requirements on the application of the Reversal Risk Assessment Tool and the validation and verification of its outcomes

Following paragraph 7.8 of the FCPF Buffer Guidelines, the Reversal Risk assessment tool shall be used to determine the Reversal Risk Set-Aside percentages for each of the Risk Factors listed in the first column of Table 2 of such Guidelines. The Risk Indicators in the second column of such table are provided to assess the Reversal Risk for each Risk Factor. The Reversal Risk is assessed for each Risk Factor separately as high, medium or low.

In order to facilitate the determination of the Reversal Risk level, the requirements provided below shall be followed when assessing the Risk Indicators found in Table 2 of the Buffer Guidelines. REDD Countries may deviate from the below guidelines (e.g., providing additional risk indicators), but in such a case, the REDD Country shall provide clear, complete and adequate justification of the reason for deviation, and the VVB shall assess these choices and apply the validation-verification principles described in the Validation and Verification Guidelines.

Evidence shall be provided to support the selection of a Reversal Risk level for each Risk Indicator as follows:

Risk factor A. Lack of broad and sustained stakeholder support

Risk Indicator: Are relevant stakeholders aware of, and/or provided feedback to and have positive experience with Emission Reduction Programs, FGRM, benefit sharing arrangements and/ or similar instruments in other contexts?

This risk indicator shall be analyzed through three separate sub-indicators:

a) ER Program consultations' procedures, processes, and outcomes
b) Performance of the Benefit Sharing Plan; and
c) Performance of the FGRM.

The overall risk level for this indicator shall be based on the risk level of the highest scoring sub-indicator (i.e., the one representing the highest risk).

<u>ER Program consultations' procedures, processes and outcomes</u>

In the case of the first sub-indicator, when assessing stakeholder awareness of, and experiences with, the ER Program and its related instruments (e.g., the FGRM and the BSP), the evaluation shall be made based on the procedures for engagement when they are planned, implemented and reported on, and the quality of public consultations. It is assumed that conducting broad and inclusive consultations following an agreed and disclosed stakeholders' engagement and/ or consultations plan would ensure the effective and meaningful participation of all key stakeholders and likely facilitate the acceptance of such instruments (and of the ER Program itself, thus contributing to its continuity and the permanence of its ERs and removals).

The evaluation of this sub-indicator shall consider three attributes:

1. Evidence of designing, planning and disclosure of clear and participatory procedures for consultations with stakeholders affected (or to be affected) by the ER Program, including information on the number of people to be engaged in consultations disaggregated by the type of stakeholders (e.g., government officials, civil society representatives, minority community representatives such as Indigenous Peoples, ethnic minorities, migrant communities, etc., as well as those stakeholders that can be key for triggering Reversals) and gender, depending on the local context;
2. Evidence that the clear and participatory procedures and plans for consultations and reporting on them have been followed, and on how the feedback obtained is reflected in the ER program.
3. The availability of information to carry out the assessment.

The assessment shall be carried out using ex-ante (pre-ER Program implementation) and ex-post (after the ER Program start) information. Where the assessment is carried out before the ER Program start, the information required to perform it should be drawn from the SESA (or similar social and environmental assessments), ERPD (e.g., the draft BSP and other documents), ESMF and other equivalent safeguards' management frameworks, stakeholders' engagements and other plans. Ex-post, this information shall be obtained from the ER monitoring reports (Annex 1, 2). All relevant documents shall be identified and included in the assessment. These can be WB aide memoires, Implementation Support Reports (ISRs), Third Party Monitoring and FGRM reports, and other stakeholders' engagement and safeguard-related reports. Ex-post assessments shall only be applied after the third year of implementation of the ER Program (i.e., once data for at least two years is available).

The risk score shall be determined as the combined risk of the three attributes mentioned above, as follows:

1. The existence of clear and participatory procedures for consultations with key stakeholders affected (or to be affected) by the ER program with considerations of the proportional engagement by type shall be rated as entailing a low risk if these plans and procedures are participatory, proportionally inclusive (proportionality is defined according to the purposes of the consultations, but with community representatives generally making not less than 60%, civil society representatives not less than 10%, and women not less than 35% of all consulted stakeholders) and publicly disclosed; medium risk where the procedures are clear and participatory but do not engage all key types of stakeholders proportionally; and high risk if the procedures are not clear, not proportionally participatory, and not disclosed.
2. Implemented proportionally participatory consultations with key stakeholders affected (or to be affected) by the ER Program should be rated as entailing a low risk if there is a disclosed reporting on the consultations that were conducted as planned or broader, with feedback captured in the report and reflected in the program; medium risk if reporting on the consultations conducted as planned, and feedback captured in the report and reflected in the program but not disclosed; and a high risk if there is not disclosed reporting on the consultations or consultations did not follow the disclosed plan.

3. Regarding the third attribute, related to the availability of information, whenever there is not sufficient information on the engagement of all key stakeholders (by type and gender) in the preparation and implementation of the ER Program to carry out the above assessments, the risk score of this aspect shall be considered high. Where enough information is available, the risk is low.

The highest risk level of the three attributes evaluated above represents the combined risk level of this sub-indicator.

Performance of the Benefit Sharing arrangements

The engagement and support of stakeholders in the preparation and implementation of the BSP established for the ER Program or similar programs is an important predictor of communities buy-in and the long-term sustainability of the ER measures and results. Before the start of the ER Program, the assessment of this indicator shall rely on the analysis of benefit sharing mechanisms proposed, feedback from stakeholders, and how it was reflected in the final benefit sharing plan. If there are other similar programs already implemented in the ER accounting area, the assessment shall incorporate their information. Once the ER Program has been operating for at least 2 years, the assessment shall be based on the performance of the program´s BSP.

The assessment shall be carried out using various sources:

- Ex-ante assessment: The level of awareness, engagement and support may be assessed based on records on, e.g., the feedback from the stakeholders and how they were considered in the BSP process of the associated program, the resources available for such program and the actual demand from stakeholders. If the demand (the number of requests to participate in the program) is higher than the resources available to support activities, it shall be deemed that such program enjoys high acceptance among stakeholders. Likewise, to ascertain if a program has been effective in disbursing resources (i.e., if the associated benefit sharing mechanism has worked well), records on the expected and actual dates of disbursements shall be used. Late disbursements shall be considered as indicators that the program´s effectiveness distributing resources is low, and thus, that the risk of stakeholder withdrawal may be high. Actual disbursements below the budgeted ones would indicate that some stakeholders may have abandoned the program, which shall also result in a high risk score.
- Ex-post analysis: Information regarding consultations on BSP, reports on BSP preparation and implementation, on defining beneficiaries and benefits, FGRM and ER Monitoring reports, and other relevant reports prepared by the WB task teams and by the Program Entity, and by third party monitors (if available).

For both the ex-ante and the ex-post analysis, when there is no sufficient information and a well-functioning feedback mechanism to allow for robust assessment, random surveys could be conducted to understand the level of acceptance of such a program and level of engagement.

Risk scores shall be determined as:

- **Low risk**: Benefit sharing mechanisms and other similar instruments have been developed incorporating feedback from stakeholders and used as planned (i.e., by more than 80% of their expected number), AND/OR feedback mechanisms reflect a low level of complaints, i.e., less than 30% of complaints relate to benefit sharing.
- **Medium risk**: Benefit sharing mechanisms and other similar instruments have been used by less than 60% of the expected number of stakeholders participating in the program AND/OR feedback mechanisms reflect a medium level of complaints with up to 60% of complaints relate to benefit sharing.
- **High risk**: Benefit sharing mechanisms and other similar instruments have been used by less than 30% of the expected stakeholders participating in the program AND/OR feedback mechanisms reflect high level of complaints, i.e., up to 80% of complaints or more relate to benefit sharing, OR there is insufficient information to carry out the assessment.

Performance of the FGRM

The existence and adequate operation of a Feedback and Grievance Redress Mechanism is critical to gain and sustain stakeholders´ support, and thus, for the long-term success of any program. The assessment of this sub-indicator therefore relies on the existence of such a mechanism and its performance, as well on the availability of information needed for the analysis. As with the previous sub-indicator, information to carry out the analysis should be drawn, ex-ante, from the experience with existing FGRM applied in the context of similar programs, and ex-post, from the actual performance of the FGRM used for the ER Program once at least two years of data have been gathered.

Risk scores are as follows:

- **Low risk**: There is a FGRM functioning according to the established plan, procedures, and processes with a disclosed publicly reporting.
- **Medium risk**: There is a FGRM functioning according to the established plan, procedures, and processes but no publicly disclosed reporting.
- **High risk:** There is a FGRM functioning but no evidence of its following the established plan, procedures, and processes and no publicly disclosed reporting OR the FGRM is not functioning OR information is lacking to carry out the assessment.

Risk Indicator: Have complaints, claims or occurrences of conflicts over rights and tenure been addressed?

The effectiveness and fairness in addressing complaints, claims or resolving issues and/or conflicts on land and forest resources related to the ER Program shall be assessed by reviewing documents related to the ER Programs (ERPD, BSP, safeguards instruments) and reports of the feedback mechanisms (FGRM), ER Monitoring Reports, other PE and safeguards reports, surveys, and other sources relevant to local circumstances. Since each of these sources individually usually provides only a marginal view of the situation, every effort should be made to use more than one of them to produce a more

comprehensive assessment. As for the previous risk indicator, ex ante (i.e., based on existing data from similar programs carried out in the ER Program jurisdiction) and ex post (i.e., based on the ER Program data) assessments shall be carried out. Likewise, ex post assessments shall only be applied after the third year of implementation of the ER program (i.e., when at least two years of data are available).

For the purposes of this analysis, mechanisms for addressing the complaints, claims or conflict on land and resource related to the ER Program shall be deemed effective and fair if there are clear mechanisms incorporated in the BSP/ER Program documents to address them properly.

Risk scores should be determined as:

- **Low risk:** There are legal instruments, clear arrangements, mechanisms and frameworks to manage complaints, claim or dispute resolution processes or customary and/or community-based mechanisms for conflict resolution in place in that have shown demonstrated effectiveness. Feedback mechanisms reflect high level of complaints, claims, or conflicts addressed (more than 80% of complaints on the land and resource related to the ERP have been addressed and/ or resolved in a timely manner).
- **Medium risk:** There are legal instruments, clear arrangements, mechanisms and frameworks to manage complaints, claim or dispute resolution processes or customary and/or community-based mechanisms for conflict resolution in place have shown limited effectiveness. Feedback mechanisms reflect a good level of complaints, claims or conflicts addressed (more than 60% but less than 80% of complaints, claims or conflicts on land and resource have been addressed and/ or resolved in a timely manner).
- **High risk:** There are no legal instruments, clear arrangements, mechanisms and frameworks to manage complaints, claim or dispute resolution processes or customary and/or community-based mechanisms for conflict resolution in place have shown to be ineffective. Feedback mechanisms reflect a low level of complaints addressed (less than 60% of complaints, claims or conflicts on land and resource have been addressed and/ or resolved in a timely manner).

The final risk score for Risk factor A shall be the lowest score of the two Risk Indicators above.

Commented [ME6]: Otherwise we would have a gap for the cases where complains represent between 40% and 60%. We either change this as proposed here (which means that cases where less than 60% of complaints are addressed are considered as high risk) or we modify this percentages to be more flexible, for instance, medium risk could be that more than 50% of complaints are addressed and high risk is where less than 50% of complaints are addresssed

Risk factor B. Lack of institutional capacities and/or ineffective vertical/cross sectoral coordination

Risk Indicator: Is there a track record of key institutions in implementing programs and policies?

The assessment of the track record of key institutions in implementing programs and policies shall consider as "key" all institutions included in Section 1 of the ERPD. Additionally, institutional arrangements established to implement programs shall be considered.

The overall risk level for this indicator shall be determined considering the average years of experience of the whole group of key institutions in the last 10 years. The assumption for using the average is that, if most key institutions have a long track record implementing programs, they may support and complement a minority of newer institutions with less experience. When estimating the years of experience of each key institution or institutional arrangement, only those policies and programs

directly related to the activities proposed in the ER Program and that are ongoing or have recently finished (i.e., were terminated at most 2 years before the risk assessment is carried out) shall be taken into account. Therefore, an explanation shall be provided for each key institution showing the similarities between the ER Program activities and such policies and programs, as well as information on their termination date if they are not ongoing.

Acceptable information to carry out this assessment include national strategies, sectoral plans, programs, budgets and reports (including monitoring reports) where such programs and their implementation arrangements are described and through which their actual implementation can be demonstrated and their results are provided. This information shall be offered for each of the years of claimed institutional experience in the implementation of policies and programs. The lack of sufficient information to demonstrate these claims shall result in a high risk score.

Ex-ante and ex-post assessments are similar, the only difference being that, for the ex-post assessments, the years of experience gained by key institutions as a result of the implementation of the ER Program shall be considered (i.e., the ex-post estimate shall include the years before and after the ER Program implementation).

Risk scores shall be:

- **Low risk:** Together, all the key institutions involved in the implementation of the ER Program average 8 or more years of experience in the 10 years before the date of the Reversal risk assessment executing policies and programs directly related to the activities described in the ERPD that are part of the ER Program.
- **Medium risk**: Together, all the key institutions involved in the implementation of the ER Program average 5 or more years of experience 10 years before the date of the Reversal risk assessment executing policies and programs directly related to the activities described in the ERPD that are part of the ER Program.
- **High risk:** Together, all the key institutions involved in the implementation of the ER Program average less than 5 years of experience 10 years before the date of the Reversal risk assessment executing policies and programs directly related to the activities described in the ERPD that are part of the ER Program OR there is not information enough to support the claims regarding the experience of key institutions.

Risk Indicator: Is there experience of cross-sectoral cooperation?

Cross-sectoral cooperation may be reflected in the design and alignment of policies and programs, the operation of working groups, joint research groups, and the implementation of activities on the ground. Such cooperation may happen at any level (from national to local) and across levels. In all cases, the cross sectoral cooperation actions considered to assess this indicator shall be relevant to the activities and objectives of the ER Program and shall have directly contributed to REDD+-related objectives.

In order to prove the experience in cross-sectoral cooperation, a description of the cooperation activities shall be provided (which shall discuss how they have contributed to achieving REDD+ objectives), together with an explanation of how they are related to the ER Program and evidence that such activities are ongoing or recent (i.e., they were finished at most 2 years before the risk assessment is carried out).

Information to support the assessment may vary widely depending on the type of cooperation activity and may include formal agreements, minutes of meetings, program reports, etc. This information shall cover all the years for which cooperation has taken place that are relevant for this assessment. The lack of sufficient information shall be reflected in a high-risk score.

Ex-ante and ex-post assessments are the same, the only difference being that, for the ex-post assessments, the years of cross-sectoral cooperation experience resulting from the implementation of the ER Program shall be considered.

Risk scores for this indicator shall be defined as follows:

- **Low risk:** Together, all the cross-sectoral cooperation initiatives relevant to, or involved in, the ER Program average 8 or more years of experience in the 10 years before the date of the Reversal risk assessment.
- **Medium risk**: Together, all the cross-sectoral cooperation initiatives relevant to, or involved in, the ER Program average 5 or more years of experience in the 10 years before the date of the Reversal risk assessment.
- **High risk:** Together, all the cross-sectoral cooperation initiatives relevant to, or involved in, the ER Program average less than 5 years of experience in the last 10 years before the date of the Reversal risk assessment, OR there is not information enough to support the claims regarding the experience of key institutions.

Risk Indicator: Is there experience of collaboration between different levels of government?

The requirements for cross-sectoral cooperation provided in the paragraph above shall apply *mutatis mutandis* when assessing the experience of collaboration between different levels of government.

The final risk score for Risk factor B shall be the lowest score (i.e., the highest risk) of the three Risk Indicators above.

Risk factor C. Lack of long-term effectiveness in addressing underlying drivers

Risk Indicator: Is there experience in decoupling deforestation and degradation from economic activities?

It is considered that an intervention has achieved decoupling deforestation and degradation from economic activities if it has consistently resulted over time in lower levels of deforestation and/or

degradation with the same or higher economic outputs, compared to the data before the start of such intervention.

Before ER Program implementation (ex-ante), it shall be shown (for instance, based on expert judgement or a qualitative demonstration using trends) that decoupling has been achieved for at least 5 consecutive years through interventions carried out by the key institutions involved in the ER Program in the last 15 years before the risk assessment, either in the ER Program area or in other areas (see Box 1 for a simplified example). Ex-post, evidence shall be provided that the ER Program activities have led to decoupling after the first two years of the ER Program implementation.

In both the ex-ante and ex-post cases the identification of economic activities leading to deforestation and degradation shall be supported by an analysis of drivers. Moreover, it shall be shown that before the intervention the levels of economic activity and the levels of deforestation or degradation were in fact associated (i.e., if decoupling happened before the start of the intervention, it shall not be claimed that it was due to its implementation). Information shall be provided showing how the proposed intervention addresses the economic activities leading to deforestation and degradation. Additionally, evidence shall be provided to demonstrate that the reduction in deforestation or degradation caused by the intervention was not in fact due to the displacement of activities to areas not covered by such intervention.

Sources of information for the ex-ante assessment may include deforestation and degradation estimates from national or internationally recognized sources (e.g., GFW), as well as logging statistics (for degradation) and national statistics (including for goods production data). Although estimates do not require high accuracy, they shall allow to establish that decoupling has been achieved and an explanation should be provided proving that this conclusion is not due to the use of low-quality data for the assessment. Ex-post, data from the ER Program monitoring reports shall be used. For both ex-ante and ex-post assessments, lack of information to determine if decoupling has been achieved shall lead to a high risk score.

Risk scores shall be defined as:

- **Low risk**: Ex-ante: there is evidence of 3 or more programs, policies or regulations run by key ER Program institutions that have decoupled deforestation and/or degradation from economic outputs for at least 5 consecutive years in the ER Program jurisdiction in the 15 years before the risk assessment. Ex-post: the same approach as for the ex-ante assessment shall be followed, but ER Program data shall be considered.
- **Medium risk**: Ex-ante: there is evidence of 2 programs, policies or regulations run by key ER Program institutions that have decoupled deforestation and/or degradation from economic outputs for at least 5 consecutive years in the ER Program jurisdiction in the 15 years before the risk assessment. Ex-post: the same approach as for the ex-ante assessment shall be followed, but ER Program data shall be considered.
- **High risk:** Ex-ante: there is evidence that one or less programs, policies or regulations run by key ER Program institutions have decoupled deforestation and/or degradation from economic outputs for at least 5 consecutive years in the ER Program jurisdiction in the 15 years before the

Commented [MP7]: I modified the approach for ex-post assessments because the one we had proposed before may lead to a situation where an ER Program that has historically been able to decouple deforestation and/or degradation from economic outputs, earning a "low" risk score would, once the program starts, obtain a "high" risk score simply because the ER Program has only been running for 1 or 2 years, even if it had achieved decoupling. Therefore, the new proposal is simply to consider the data from the ER Program in the assessment, together with the historical data.

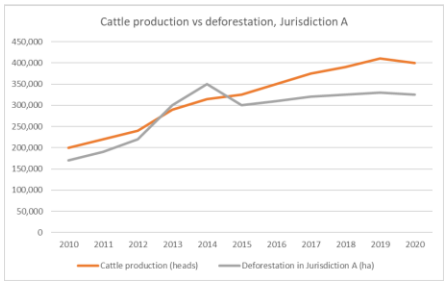
risk assessment OR there is no information available to carry out the assessment. Ex-post: the same approach as for the ex-ante assessment shall be followed, but ER Program data shall be considered, where relevant .

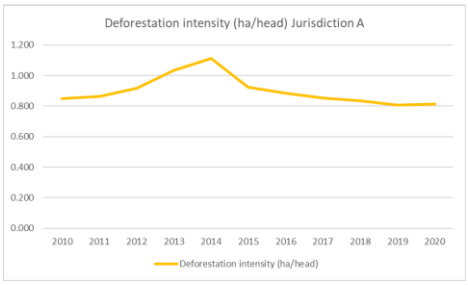
Box 1. Example of ex-ante deforestation decoupling assessment

The main driver of deforestation in Jurisdiction A is extensive cattle ranching, which has traditionally taken place throughout its territory. With the objective of reducing the pressure on forests, the government of the jurisdiction decided to establish a program to provide technical support and monetary incentives for intensifying this practice. Starting in 2015, the program ran for five years, with the following results:

Deforestation intensity of cattle ranching in Jurisdiction A, 2010 – 2020

Year	Cattle production (heads)	Deforestation in Jurisdiction A (ha)	Deforestation intensity (ha/head)
2010	200,000	170,000	0.850
2011	220,000	190,000	0.864
2012	240,000	220,000	0.917
2013	290,000	300,000	1.034
2014	315,000	350,000	1.111
2015	325,000	300,000	0.923
2016	350,000	310,000	0.886
2017	375,000	320,000	0.853
2018	390,000	325,000	0.833
2019	410,000	330,000	0.805
2020	400,000	325,000	0.813





As can be seen in the table and figures above, the deforestation intensity (i.e., the number of hectares deforested per head of cattle raised) decreased since the start of the program, which means that the jurisdiction was able to produce the same economic benefit while reducing deforestation. On average, the deforestation intensity decreased from 0.955 ha/head in the period 2010-2014 to 0.852 ha/head from 2015 to 2020. Moreover, the program was able to lower its deforestation intensity for

more than 5 years, so it would qualify as an eligible program while assessing this risk indicator (assuming that the risk assessment is carried out in 2021, i.e., the 5-year period of decoupling has occurred within the 15 years before the risk assessment is carried out).

Risk Indicator: Is the relevant legal and regulatory environment conducive to REDD+ objectives?

In order to determine if the relevant legal and regulatory environment is conducive to REDD+ objectives, all laws and regulations affecting the forest sector directly or indirectly in the ER Program jurisdiction shall be considered. Ex-ante, the analysis shall identify how the enforced legal framework in place at the time of the ER Program start promotes REDD+ objectives. The assessment shall consider all relevant laws and regulations with the aim of reflecting what their overall impact on REDD+ objectives is. Consequently, any potential provisions or contradictions between laws and regulations that may represent obstacles to their achievement shall also be considered. Additionally, evidence shall be presented showing that the laws and regulations considered have been, and continue to be, effectively enforced. The level of enforcement shall be assessed considering official data, academic analysis, NGO publications and other relevant sources. The ex-post analysis shall be an update of the ex-ante assessment, i.e., shall reflect the modifications made to the legal and regulatory environment and any variations in its enforcement since the previous risk assessment.

Risk scores shall be identified as:

- **Low risk**: The existing legal and regulatory framework undoubtedly promotes REDD+ (i.e., it does not include contradictions or gaps that may difficult the achievement of REDD+ objectives) and is effectively enforced.
- **Medium risk**: The existing legal and regulatory framework partially promotes REDD+ (i.e., there are contradictions or gaps that limit the achievement of REDD+ objectives, but it is mostly oriented towards promoting REDD+) OR the regulatory framework is partly enforced (i.e., enforcement issues have been identified, but they do not seriously undermine the effectiveness of the regulatory framework).
- **High risk:** The existing legal and regulatory framework does not promote REDD+, OR it is generally not enforced, OR the information available does not allow to assess this indicator.

The final risk score for Risk factor C shall be the lowest (i.e., the highest risk) score of the two Risk Indicators above.

Risk factor D. Exposure and vulnerability to natural disturbances

Risk Indicator: Is the Accounting Area vulnerable to fire, storms, droughts, etc.?

When determining the vulnerability of the Accounting Area to natural disturbances, all the occurrences of all types of disturbances in the last 50 years shall be identified and their impact on forest carbon stocks or forest area estimated. Ideally, forest carbon stocks shall be used to estimate this risk indicator; the reduction of forest areas should only be used where data on forest carbon stocks are not available. Average carbon stock values may be used for these estimates. Risk shall be assessed separately for each relevant type of disturbance, taking into account the average affected carbon stocks and return interval (or frequency) of disturbance events.

Risk scores shall be determined as (see also Figure A1-1):

- **Low risk**: Natural disturbances affecting forests in the Accounting Area have occurred every 50 years or more OR have been more frequent but reduced forest carbon stocks or the forest area by 9% or less.
- **Medium risk**: Natural disturbances reducing forest carbon stocks or the forest area in the Accounting Area by more than 10% and less than 20% have occurred every 25 to l49 years.
- **High risk:** Natural disturbances reducing forest carbon stocks or the forest area in the Accounting Area by 20% or more have occurred every 1 to l24 years OR there is not information to carry out the assessment.

Commented [MP8]: I made these changes to make the proposal clearer. There were situations (e.g., where the affected area was 20% or 10%) for which two different scores could apply, the same happened with some return intervals (e.g., 25 years and 50 years)

Figure A1-1. Risk scores related to exposure and vulnerability to natural disturbances

	Every 1 to 24 years	Every 25 to 49 years	Every 50+ years
Affected C stock or area 20%+	HIGH	MEDIUM	LOW
Affected C stock or area 10-19%	MEDIUM	MEDIUM	LOW
Affected C stock or area - 9%	LOW	LOW	LOW

Risk Indicator: Are there capacities and experiences in effectively preventing natural disturbances or mitigating[8] their impacts?

The resulting risk scores (low, medium, or high) of the previous Risk Indicator may be lowered by considering the capacities and experiences in effectively preventing natural disturbances or mitigating their impacts for each disturbance type. Risk mitigation activities shall be described, including an explanation of how they reduce the specific natural disturbance risk. Additionally, information shall be provided showing how the impacts of such disturbances have lowered since the activities were implemented (for instance, information on the average hectares of forest burned per event before the activities started compared against the average hectares burned after their implementation). Information to support the assumption that the mitigation activities will be carried out throughout the crediting period may include government budgets, relevant cooperation agreements with donor countries or international bodies, etc.

Mitigation scores shall be determined as follows:

- **High mitigation**: Activities proved to mitigate the identified natural disturbances have been successfully implemented for at least the last 10 years in the ER Program´s jurisdiction, and the ER Program proponent can demonstrate that it has the capacities and funding necessary to continue to fully implement them in the crediting period.
- **Medium mitigation**: Activities proved to mitigate the identified natural disturbances have been successfully implemented for at least the last 5 years in the ER Program´s jurisdiction, and the ER Program proponent can demonstrate that it has the capacities and funding necessary to continue to fully implement them in the crediting period.
- **Low mitigation:** Activities proved to mitigate the identified natural disturbances have been successfully implemented for less than 5 years, AND/OR the ER Program proponent cannot demonstrate that it has the capacities and funding necessary to continue to fully implement them in the crediting period.

The final natural disturbance risk per type of disturbance shall be determined considering both the initial risk score and the risk mitigation score, according to the following table:

Table A1-1. Deduction of risk mitigation scores

Risk score	Mitigation score	Final score
High	High	Low
	Medium	Medium
	Low	High
Medium	High	Low
	Medium	Low
	Low	Medium

[8] Activities to mitigate natural disturbance may include education to reduce the risk of uncontrolled fires resulting from slash-and-burn agriculture; periodic fuel removal; establishment and maintenance of fire breaks and towers; deployment and maintenance of fire-fighting equipment (for fire risk); planting of diverse and resistant tree species (for risk of pests or disease); planting of frost, drought, flood, or wind-tolerant species (for extreme weather risk); and use of salinity-tolerant plant species (for salt-water intrusion risk).

Low	High	Low
	Medium	Low
	Low	Low

Note that where no mitigation activities are in place, the risk score shall remain at the same level as initially estimated. The same whall apply where not enough information is available on the mitigation activities.

The highest final risk score of the assessed disturbance types shall be deemed to represent the natural disturbance risk of the ER program. The assessment process for this risk factor is exemplified in Box 2 below.

Box 2. Example of natural disturbance risk assessment

ER Program A is located in an area where forest fires and pest outbreaks have been persistent in the last five decades. The government of the jurisdiction where the ER Program is located put in place a fire prevention program in 1990 that is still operating in 2023 and that has been associated with a reduction of the average carbon stocks affected by each fire event, based on available historical data (from an average 47.5 MtC per event in 1972-1984 to 35 MtC in 1992-2016, see table below). This program is anticipated to continue during the crediting period, as it is part of a long-term cooperation agreement with several countries in the region. In contrast, no specific actions have been taken by the government to address pest outbreaks. The analysis of historical information regarding the impacts of these natural disturbances on forest carbon stocks within the Accounting Area are summarized in the tables below:

Fire risk

Year	Type of natural disturbance	Total forest carbon stocks (tC)	Affected carbon stocks (tC)	Affected carbon stocks (%)	Return interval (years)
1972	Fire	350,000,000	48,000,000	14	-
1984	Fire	296,000,000	47,000,000	16	12
1992	Fire	298,000,000	38,000,000	13	8
2016	Fire	260,000,000	32,000,000	12	24
Average				14	15

Pest outbreak risk

Year	Type of natural disturbance	Total forest carbon stocks (tC)	Affected carbon stocks (tC)	Affected carbon stocks (%)	Return interval (years)
1978	Pest	318,000,000	38,000,000	12	-
2009	Pest	257,000,000	40,000,000	16	31

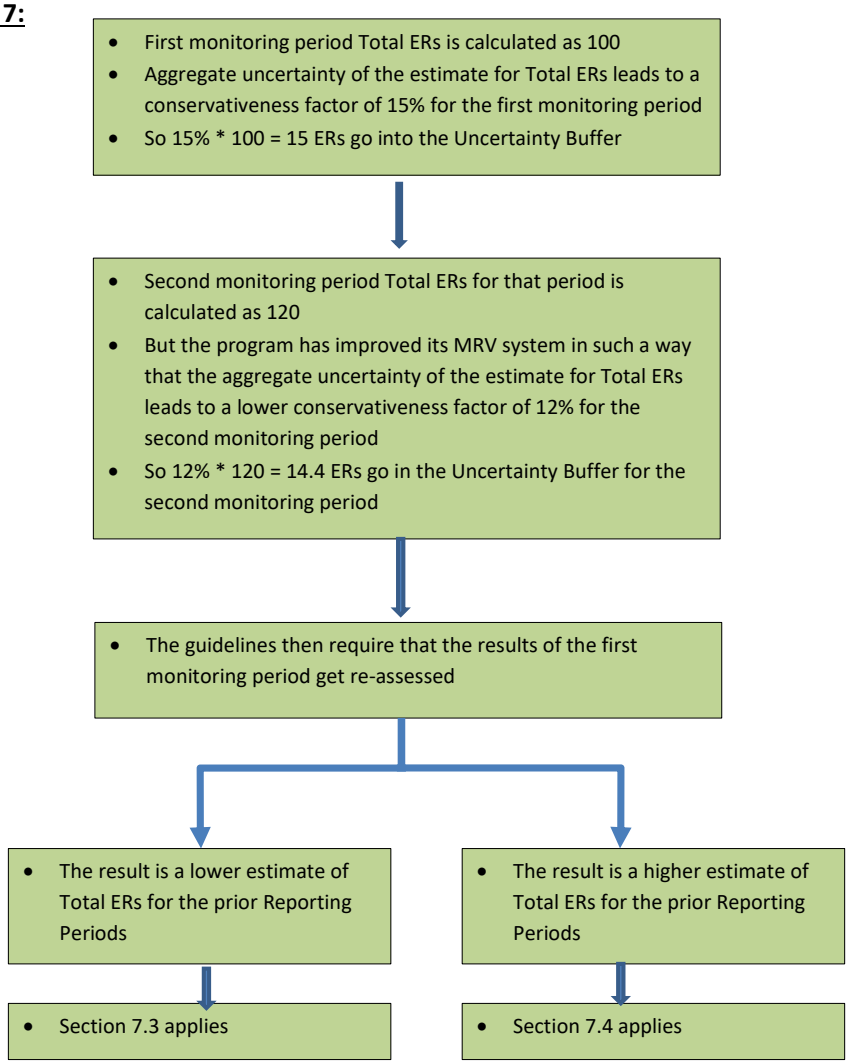
2019	Pest	237,000,000	41,000,000	17	10
Average				15	21

As can be noted, on average, forest fires have impacted 14% of forest carbon stocks per event, and have happened with an average return interval of 15 years. Pest outbreaks have affected 15% of carbon stocks per event and have occurred every 21 years, both being average estimates. Consequently, both disturbances would qualify as having a “medium” risk score. In the case of forest fires, the score would be downgraded to “low” due to the existence of the fire prevention program, which qualifies as having a “high” risk mitigation score (i.e., it has been running successfully for more than ten years and is assumed to continue during the crediting period). Nevertheless, the overall risk of the ER Program regarding this risk factor is “medium” due to the Reversal risk associated to pest outbreaks.

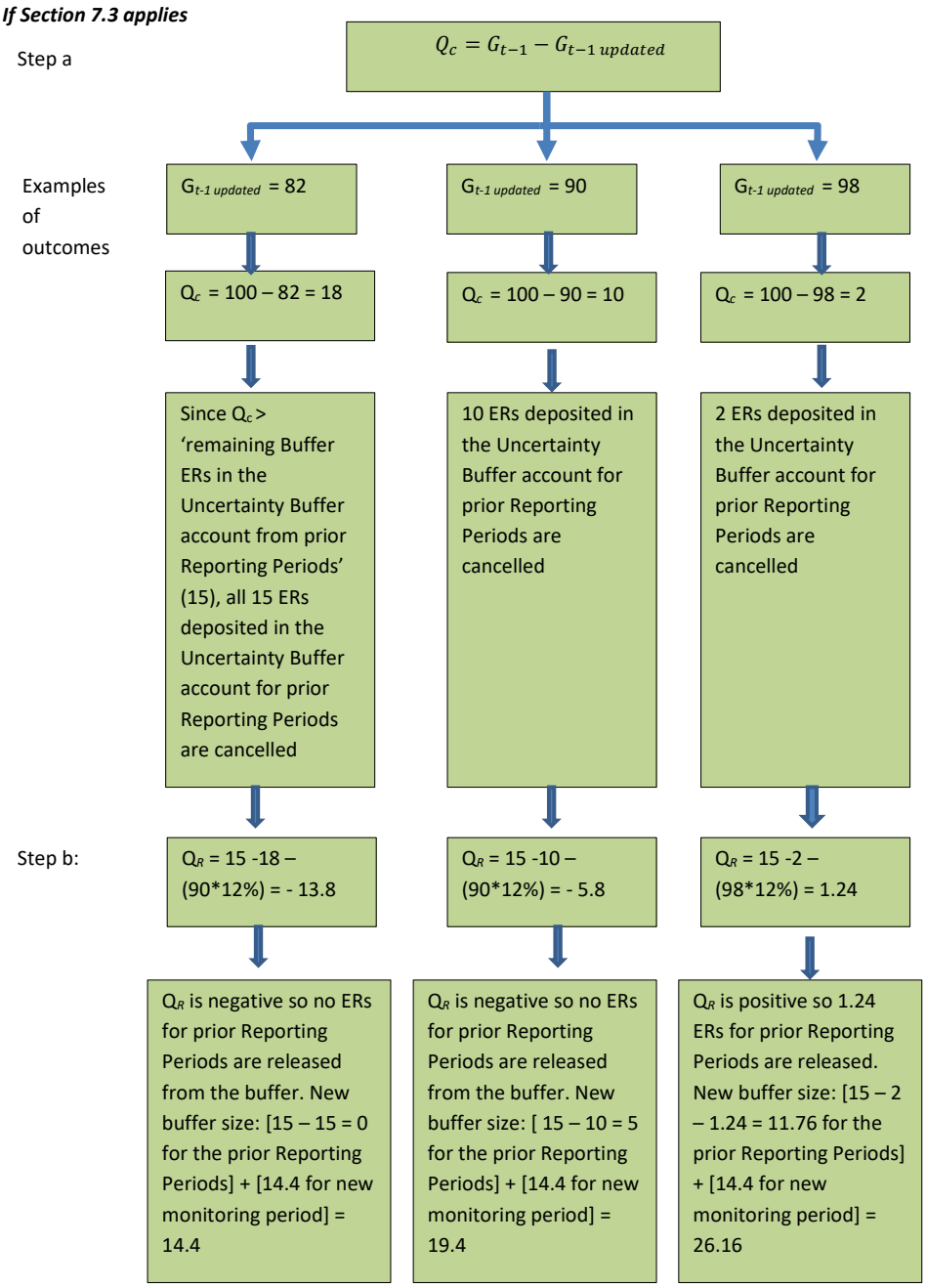
Annex II: Numerical examples

The purpose of this Annex is to illustrate some of the equations in the Buffer Guidelines by providing numerical examples of how they shall be applied. These examples do not supersede the actual text in the guidelines.

Section 7:



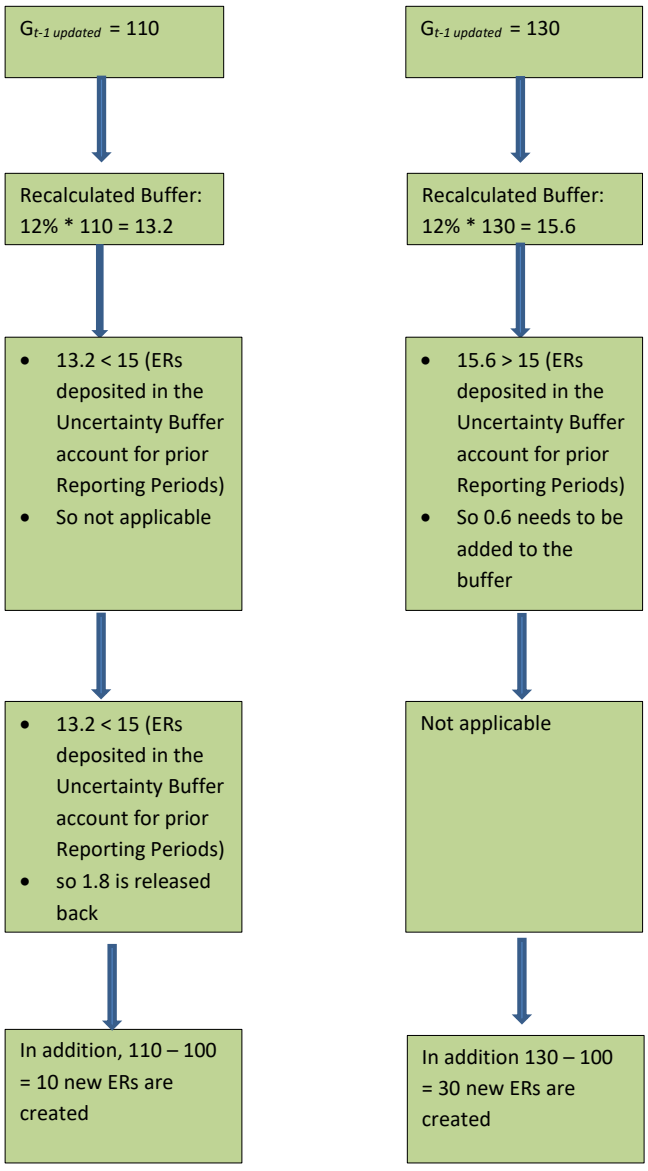
If Section 7.3 applies



If Section 7.4 applies

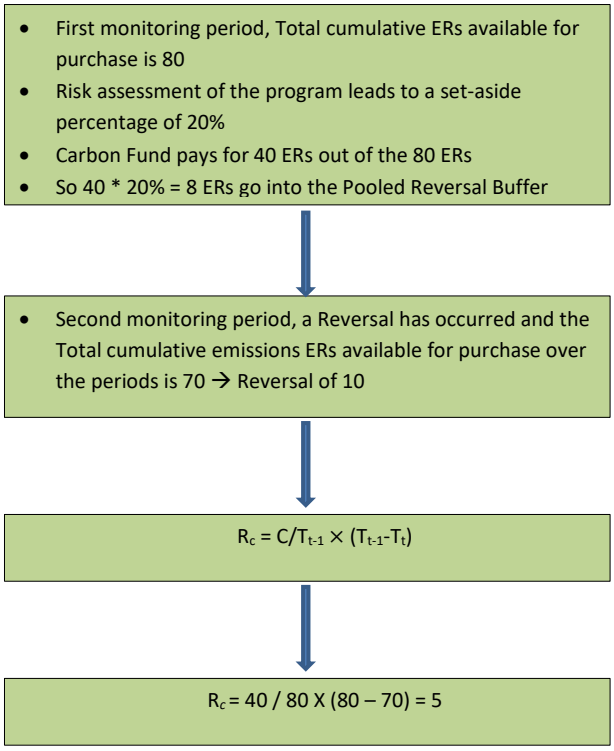
Step a

Examples of new quantity of Total ERs

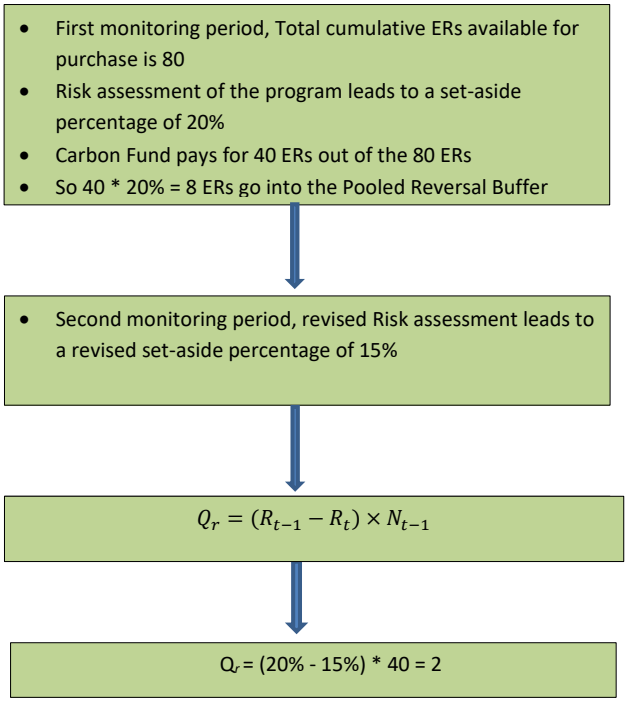


Revised quantities for allocations to the Uncertainty Buffer

Section 9:


First monitoring period, Total cumulative ERs available for purchase is 80
Risk assessment of the program leads to a set-aside percentage of 20%
Carbon Fund pays for 40 ERs out of the 80 ERs
So 40 * 20% = 8 ERs go into the Pooled Reversal Buffer
Second monitoring period, a Reversal has occurred and the Total cumulative emissions ERs available for purchase over the periods is 70 → Reversal of 10
$R_c = C/T_{t-1} \times (T_{t-1}-T_t)$
$R_c = 40 / 80 X (80 – 70) = 5$

Section 10:


First monitoring period, Total cumulative ERs available for purchase is 80
Risk assessment of the program leads to a set-aside percentage of 20%
Carbon Fund pays for 40 ERs out of the 80 ERs
So 40 * 20% = 8 ERs go into the Pooled Reversal Buffer
Second monitoring period, revised Risk assessment leads to a revised set-aside percentage of 15%
$Q_r = (R_{t-1} - R_t) \times N_{t-1}$
Q_r = (20% - 15%) * 40 = 2

Document history

Version	Date	Notes
Version 4.2	June 2024	• Changes were made to merge the Reversal Buffer and Pooled Reversal Buffer to allow for total pooling. • Modifications were introduced to the equation used to determine the amount of Pooled Reversal Buffer ERs that should be cancelled in case of a reversal, so as to include ERs used to replenish such buffer when determining the maximum size of a reversal. • Changes were made to reflect the fact that Uncertainty Buffer ERs do not contribute to the Pooled Reversal Buffer, and to require this contribution when they are released due to improved ER estimations. • Changes were included to clarify that the Uncertainty Buffer and any available Excess ERs shall be cancelled in case of a reversal before cancelling Pooled Reversal Buffer ERs beyond the contribution of the affected ER Program to the latter. • Requirements were added to disallow the release of Uncertainty Buffer ERs in cases where the ER Program has not yet fully replenished the Pooled Reversal Buffer after a reversal. • Requirements were added requiring ER Programs that have not completely replenished the Pooled Reversal Buffer at the end of the Crediting Period to cancel any remaining Excess ERs held by such Programs up to the amount required to compensate their Pooled Reversal Buffer debit. • Requirements were introduced establishing that Uncertainty Buffer ERs shall only be transferred to an equivalent buffer account at the end of the Crediting Period if the ER Program has completely replenished any Pooled Reversal Buffer debits. • Modifications were made to Annex I in order to clarify how to assess the risk indicator on the experience of participants in decoupling deforestation and degradation from economic activities, as well the one on the exposure and vulnerability of the Accounting Area to natural disturbances.
Version 4.1	January 2024	• The equation applied to estimate the amount of buffer ERs to be cancelled as a result of a reversal has been modified to reflect that all Total ERs may be subject to reversals and to establish a reversal liability limit.

		• Text was added to require ER Programs having suffered a reversal to replenish any Reversal Buffer and Pooled Reversal Buffer ERs they may have cancelled as a result of that reversal. • A requirement was added through which an ER Program affected by a reversal shall not be to transfer any Excess ERs held in its account before the reversal until it has replenished the Reversal Buffer and the Pooled Reversal Buffer in accordance with the requirements set out in such section. • Amendments were introduced to reflect that not only transferred ERs may suffer reversals.
Version 4	April 2023	• Annex I was included to further clarify the use of the risk factors to assess reversal risks • Section 8 was modified to provide the opportunity to recalculate the uncertainty Buffer ERs at the end of the Term of the ERPA
Version 3.1	May 2022	• Minor clarifications regarding the calculation of uncertainty buffer ERs.
Version 3	March 2022	• Section 13 has been added to provide guidance on the procedures, and governance arrangements necessary to ensure monitoring for and compensation of material reversals until the end of the CORSIA's implementation period (2037). This section is applicable to FCPF Programs that wish to generate CORSIA Eligible Emissions.
Version 2	April 2020	Revised version adopted through Resolution CFM/21/2020/02 of 21st Carbon Fund Meeting. Changes made: • Section 12 of the Buffer Guidelines was revised by requiring the Post-ERPA Reversal Management Mechanism to comply with a set of conditions. • The amount of ERs to be set aside in the Reversal Buffer and Pooled Reversal Buffer accounts is based on the Total ERs (minus the ERs set aside in the Uncertainty Buffer account) and not only on the Contract ERs and Additional ERs. • The term 'Trustee' was replaced by 'World Bank' where applicable. • The terms 'ERPA start date' and 'ERPA term' were replaced with the terms 'Crediting Period Start Date' and 'Crediting Period', where appropriate. • Provisions in line with Sections 12.01 (No Reversal of ERs), 13.01 (Notice of Force Majeure Event) and 13.02 (Effect of Force Majeure Event) of the ERPA General Conditions were added.

		• The glossary of terms from the Buffer Guidelines was removed, and such terms were moved to a separate general reference document "FCPF Glossary of Terms. • The conditions on the use of the Pooled Reversal Buffer ERs contained in Section 9.6 of the Buffer Guidelines, were removed.
Version 1	December 2015	Initial version approved by CF Participants.