



BioCarbon Fund
Initiative for Sustainable Forest Landscapes

ISFL Buffer Requirements

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Introduction

The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral facility that promotes and rewards reduced Greenhouse Gas (GHG) Emissions and increased sequestration through better land management, including Reduced Emissions from Deforestation and Forest Degradation (REDD+), climate smart agriculture, and smarter land use planning and policies.

ISFL Programs may obtain upfront grant funding and/or results-based payments for Emission Reductions. The upfront grant funding is used to improve the enabling environments appropriate to achieving Emission Reductions; this might include technical assistance, policy development, and investment activities. Programs that engage with the ISFL through ERPAs to receive results-based payments for GHG Emission Reductions and Removals from Tranche 3 of the BioCarbon Fund (BioCFT3) are henceforth referred to as 'ISFL ER Programs'.

The Initiative has set out 'ISFL Emission Reductions Program Requirements', including requirements for Greenhouse Gas Reporting and Accounting¹. ISFL ER Programs are expected to demonstrate conformity with these requirements and apply general principles of environmental integrity and conservativeness in order to be able to receive result-based finance from the BioCFT3.

The ISFL Emission Reductions Program Requirements identify two types of risks that shall be managed through the use of buffers. Specifically:

- Paragraph 4.6.4 states that ISFL ER Programs shall set aside a portion of Emission Reductions in a Buffer Reserve to reflect the level of Uncertainty associated with the estimation of Emission Reductions during the ISFL ERPA Phase²;
- Paragraph 4.7.2 states that ISFL ER Programs shall set aside a portion of Emission Reductions in a Buffer Reserve, appropriate for the ISFL ER Program's assessed level of risk of Reversals, which in the event of a Reversal during the ISFL ERPA Phase will be used to cover such Reversals. The portion to be set aside shall be determined using an ISFL approved risk assessment and buffer tool.

The purpose of this document is to provide details on how to assess and manage the Uncertainty and Reversal Risks, respectively, and what will need to be done with the Emission Reductions set aside in the buffers at the end of the Term with the ISFL.

Capitalized terms used in these ISFL Buffer Requirements are defined in the ISFL Glossary of Terms.

¹ <https://www.biocarbonfund-isfl.org/sites/biocf/files/documents/ISFL%20ER%20Program%20Requirements%20-%20Version%201.0%20final.pdf>

² ISFL ERPA Phase, a.k.a. Crediting Period, as used in this document and defined in the ISFL ER Program Requirements is expected to have the same meaning as 'Accounting Phase' as defined in the 'General Conditions Applicable to Emission Reductions Purchase Framework Agreements for BioCarbon Fund Initiative for Sustainable Forest Landscapes Emission Reductions Programs'

Part I: Requirements to reflect the level of Uncertainty associated with the estimation of Emission Reductions

1. Establishing Uncertainty Buffer accounts in the Transaction Registry

- 1.1 “Uncertainty” results from the statistical Uncertainty related to the estimation of Emission Reductions to be generated during the ISFL ERPA Phase which account for, among others, errors related to Emissions Baseline estimation and Emission Reduction measurements.
- 1.2 A quantity of ERs out of the Total Net Emission Reductions across the eligible subcategories shall be allocated to the Uncertainty Buffer to help manage Uncertainty.
- 1.3 At the outset of an ER Program, a separate account shall be created in an appropriate Transaction Registry for the exclusive purpose of receiving, disbursing, or canceling Emission Reductions that will be allocated to the Uncertainty Buffer.

2. Determining the quantity of Emission Reductions to allocate to the Uncertainty Buffer

- 2.1 ISFL ER Programs determine the Total Net Emission Reductions across the eligible subcategories by comparing monitored Emissions and Removals with a baseline. For each Reporting Period, the Total Net Emission Reductions across the eligible subcategories shall be multiplied by the appropriate “Uncertainty set-aside factor” based on the quantified Uncertainty of the Emission Reductions following table 1 (values are taken from paragraph 4.6.4 of the ISFL Emission Reductions Program Requirements).

Table 1. Uncertainty set-aside factors

Aggregate Uncertainty of Emission Reductions	Uncertainty set-aside factor
≤ 15%	0%
> 15% and ≤ 30%	4%
> 30% and ≤ 60%	8%
> 60% and ≤ 100%	12%
> 100%	15%

- 2.2 A discount of 15% will be applied to the share of net Emissions Reductions calculated using Activity Data Proxies and if Uncertainty of the Activity Data Proxies is not included in the aggregate Uncertainty of Emission Reductions.
- 2.3 For each Reporting Period, the portion of Total Net Emission Reductions across the eligible subcategories allocated to the Uncertainty Buffer shall be equal to the sum of the two amounts calculated in 2.1 and 2.2 above.

3. Adjustments to the Uncertainty Buffer within an ISFL ERPA Phase

- 3.1 An ISFL ER Program may improve its MRV system, including data sampling or measurement techniques, such that the Uncertainty of the Total Net Emission Reductions across the eligible subcategories is reduced. Depending on the reduction of the Uncertainty, the ISFL ER Program may qualify for a lower “Uncertainty set-aside factor”, as indicated in Table 1 (above) when determining the quantity of Emission Reductions to allocate to the Uncertainty Buffer.
- 3.2 If the ISFL ER Program has improved its MRV system, the improved data sampling or measurement techniques shall also be used to update the estimates of the Emissions for prior Reporting Periods within the same ISFL ERPA Phase. If such updates result in a lower estimate of Total Net Emission Reductions across the eligible subcategories for prior Reporting Periods within the same ISFL ERPA Phase, 2.3 below applies. If such updates result in a higher estimate of Total Net Emission Reductions across the eligible subcategories for prior Reporting Periods within the same ERPA Phase, 2.4 applies.
- 3.3 If updates of the estimates of the Emissions for prior Reporting Periods within the same ISFL ERPA Phase result in a *lower* estimate of total net Emission Reductions across the eligible subcategories, then:

- a) As a first step, ERs need to be cancelled from the Uncertainty Buffer and their associated serial numbers need to be permanently retired. Calculate the quantity of ERs to be canceled from the Uncertainty Buffer using the following formula:

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

Where:

Q_c	=	The quantity of ERs to be canceled from the Uncertainty Buffer
G_{t-1}	=	The original estimate of Total Net Emission Reductions across the eligible subcategories for the prior Reporting Periods as estimated in the respective ER Monitoring Report(s)
$G_{t-1 \text{ updated}}$	=	The updated estimate of Total Net Emission Reductions across the eligible subcategories for the prior Reporting Periods, based on the improved measurements

Updated estimates shall only affect ERs already deposited in the Uncertainty Buffer in prior Reporting Periods within the same ISFL ERPA Phase. Therefore, if Q_c is greater than the remaining ERs in the Uncertainty Buffer from prior Reporting Periods, then only all ERs in the Uncertainty Buffer from prior Reporting Periods within the same ISFL ERPA Phase shall be cancelled and their associated serial numbers permanently retired.

- b) As a second step, it needs to be determined if the reduction of the Uncertainty of the Total Net Emission Reductions across the eligible subcategories allows the ISFL ER Program to qualify for a lower “Uncertainty set-aside factor”, as indicated in Table 1 (above).

- i. If the same “Uncertainty set-aside factor” applies as the one that has been used for prior Reporting Periods within the same ISFL ERPA Phase, no further action is required.
- ii. If a lower conservativeness factor applies as indicated in Table 1, ERs can potentially be released. Calculate the potential quantity of ERs to be released from the Uncertainty Buffer as follows:

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

Where:

Q_R	=	The quantity of ERs from the Uncertainty Buffer to be released
D_{t-1}	=	The remaining Buffer ERs in the Uncertainty Buffer from prior Reporting Periods
Q_C	=	The quantity of ERs from the Uncertainty Buffer to be canceled [as calculated under 3.3 a)]
$G_{t-1 \text{ updated}}$	=	The updated cumulative estimate of Total Net Emission Reductions across the eligible subcategories for the prior Reporting Periods within the same ISFL ERPA Phase, 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 an amount of ERs may be released from the Uncertainty Buffer equivalent to Q_R and these ERs shall be transferred 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 ERs can be released from the Uncertainty Buffer for prior Reporting Periods.

- 3.4 If updates result in an *equal or higher* estimate of Total Net Emission Reductions across the eligible subcategories for prior Reporting Periods, then:
 - a) Determine the revised quantities for allocation to the Uncertainty Buffer using the new quantity of Total Net Emission Reductions and the new “Uncertainty set-aside factor”.
 - 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 ERs may be released from the Uncertainty Buffer and transferred to an account designated to hold ERs following the instructions of the ER Program Entity or World Bank, as applicable. The quantity to be released shall be equal to the difference between the original and revised allocation requirements.

4. Adjustment to the Uncertainty Buffer at the end of a ISFL ERPA Phase

- 4.1 Before the end of a ISFL ERPA Phase, ISFL ER Programs shall make any final adjustments to the Uncertainty Buffer for that ISFL ERPA Phase based on the estimates of the Total Net Emission Reductions across the eligible subcategories and the Uncertainty for the last Reporting Period within the ISFL ERPA Phase.
- 4.2 Unless the ISFL ERPA Phase is the last within the agreed ISFL ERPA, the ERs in the Uncertainty Buffer account in the Transaction Registry at the end of the ISFL ERPA Phase shall remain in the Uncertainty Buffer and will not be released during any next ISFL ERPA Phase. These ERs shall therefore remain in the Uncertainty Buffer until the end of the Term of the ISFL ERPA at which time they shall be treated in accordance with the requirements of section 5.

5. Treatment of Emission Reductions in the Uncertainty Buffer at the end of the Term of the ISFL ERPA

- 5.1 If the Program Entity does not wish to maintain an Uncertainty Buffer beyond the end Term of the ISFL ERPA, then the ERs in the Uncertainty Buffer in the Transaction Registry shall be cancelled prior to the end of the Term of the ISFL ERPA. ERs shall be canceled by removing them from the Uncertainty Buffer and permanently retiring their associated serial numbers.
- 5.2 If the Program Entity wishes to continue maintaining a buffer serving the same function as the Uncertainty Buffer beyond the end of the Term of the ISFL ERPA, then the ERs from the Uncertainty Buffer in the Transaction Registry shall be transferred to an equivalent buffer account designated and controlled by the Program Entity or any other entity designated by the Program Entity prior to the end of the Term of the ISFL ERPA.

Part II: Requirements to reflect the risk of Reversals associated with the Emission Reductions

6. Establishing Reversal Buffer Accounts in the Transaction Registry

- 6.1 A “Reversal” occurs if one or more disturbance event(s) result in the aggregate amount of ERs measured and verified within the ISFL ER Program Area for one Reporting Period being less than the aggregate amount of ERs measured and verified within the ISFL ER Program Area for the previous Reporting Period(s).
- 6.2 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 ISFL ER Program.
- 6.3 In addition to the amount of Total Net Emission Reductions designated for transfer to Buyers, a certain additional quantity of ERs out of the Total Net Emission Reductions across the eligible subcategories shall be allocated to the Reversal Buffer to help manage the risk of Reversal. This quantity is calculated following each Reporting Period as a percentage of the Total Net Emission Reductions for that Reporting Period minus the quantity of ERs allocated to the Uncertainty Buffer for that Reporting Period.
- 6.4 At the outset of an ISFL ER Program, a separate account shall be created in an appropriate Transaction Registry for the exclusive purpose of receiving, disbursing, or canceling Emission Reductions that will be allocated to the Reversal Buffer. The Reversal Buffer account will exist separately from any Reversal Risk management accounts established under an ISFL ER Program to manage Reversal risks for Emission Reductions that are not subject to the ISFL ERPA and which, therefore, will not be transferred to the ISFL.

7. Determining the quantity of Emission Reductions to allocate to the Reversal Buffer

- 7.1 The Reversal Risk Set-Aside Percentage of Total Net Emission Reductions (minus the ERs set aside in the Uncertainty Buffer account) to be set aside in the Reversal Buffer shall be determined in accordance with the Reversal Risk assessment tool below.
- 7.2 The Reversal Risk assessment tool shall be used to determine the Reversal Set-Aside Percentages based on the two identified risk factors. The risk indicators in the second column of Table 2 below are indicative and non-exclusive, and are provided as an example to show how to assess the risk of Reversal for each of the risk factors. The risk of Reversal is assessed for both risk factors (A and B) as high, medium or low with associated Reversal Set-Aside Percentages. The Reversal Set-Aside Percentage for the whole ER Program is calculated as the sum of the Reversal Set-Aside Percentages for both of the Risk Factors.

Table 2. Reversal Risk assessment tool for determination of Reversal Risk Set-Aside Percentage

Risk factors	Examples of risk indicators	Level or risk	Reversal Set-Aside Percentage
A. Lack of long-term effectiveness in addressing the key drivers of AFOLU Emissions and Removals	<ul style="list-style-type: none"> • Lack of broad and sustained stakeholder support (indicated by for example lack of awareness of the program) • Significant occurrences of conflicts over land and resources in the Program Area • Lack of institutional capacities and/or ineffective vertical/cross sectoral coordination, indicated by for example a weak track record of cross-sectoral cooperation and key institutions working together within a landscape approach • Lack of long-term incentives beyond climate finance to decouple deforestation and degradation from increases in agricultural production and other economic activities • Lack of relevant legal and regulatory environment conducive to addressing key drivers of AFOLU Emissions and Removals or lack of progress in the implementation of that policy and legal framework 	Reversal Risk is considered high for all eligible subcategories; OR	25%
		Reversal Risk is considered high for some eligible subcategories and or medium /low for others; OR	15%
		Reversal Risk is considered low for all eligible subcategories	5%
B. Exposure and vulnerability to natural disturbances	<ul style="list-style-type: none"> • Is the ISFL ER Program Area vulnerable to fire, storms, droughts, etc.? • Are there capacities and experiences in effectively responding to natural disturbances or mitigating their impacts? 	Reversal Risk is considered high for all eligible subcategories; OR	15%
		Reversal Risk is considered high for some subcategories and or medium /low for others; OR	10%
		Reversal Risk is considered low for all eligible subcategories	5%
Actual Reversal Risk Set-Aside Percentage = Result A + Result B (10 to 40%)			

8. Adjustments to the Reversal Buffer for compensating for Reversals

- 8.1 The Program Entity shall inform the World Bank of a Reversal Event and identify the occurrence of a Reversal Event in its Reporting Period, within 90 calendar days after becoming aware of any Emissions in the Program Area or changes in ER Program circumstances that, in the reasonable opinion of the ER Program, may lead to Reversals of previously transferred ERs by the next Monitoring event.
- 8.2 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.
- 8.3 The World Bank determines whether a Reversal has occurred based on the ERPA. A Reversal can only occur if ERs have been transferred to the ISFL or other Buyers, for at least one prior Reporting Period.
- 8.4 If a Reversal occurs, then ERs shall be canceled from the Reversal Buffer to compensate for the Reversal. ERs shall be canceled by removing them from the Reversal Buffer, and permanently retiring their associated serial numbers.
- 8.5 The quantity of ERs canceled from the Reversal Buffer shall be equal to the amount of transferrable ERs³ generated in previous Reporting Periods and are proportionally affected by the Reversal. The quantity of transferrable ERs to be canceled from the Reversal Buffer shall be calculated as follows:

$$R_c = C/T_{t-1} \times (T_{t-1}-T_t)$$

Where:

R_c	=	Quantity of ERs canceled from the Reversal Buffer
C	=	Quantity of transferrable ERs
T_{t-1}	=	Cumulative quantity of Total Net Emission Reductions across the eligible subcategories estimated for all prior Reporting Periods (as an aggregate of ERs accumulated since beginning of the ISFL ERPA over all ISFL ERPA Phases)
T_t	=	Cumulative quantity of Total net Emission Reductions across the eligible subcategories estimated including the current Reporting Period (as an aggregate of ERs accumulated since beginning of the ISFL ERPA over all ISFL ERPA Phases)

9. Releasing ERs from the Reversal Buffer

- 9.1 Reversal Risk assessments after subsequent Reporting Periods (both within the same ERPA Phase as well as in a subsequent ERPA Phase) may determine an increased risk exposure, in accordance with Table 2 above, or be affected by the addition of new subcategories. If it is determined that the Reversal Set-Aside needs to be increased, then the amount of ERs in the Reversal Buffer shall be determined in accordance with section 7 of these Requirements.

³ Transferrable ERs are equal to Total ERs minus the set aside Buffer ERs.

- 9.2 Alternatively, the Reversal Risk assessments during subsequent Reporting Periods may determine a reduced risk exposure compared to what was determined after the previous Reporting Period (e.g., from high to medium risk or from medium to low risk). Such reduced risk exposure may reduce the required actual set-aside percentage for Reversal and allow for a release of ERs from the Reversal Buffer.
- 9.3 If the required amount of ERs set aside for the Reversal Buffer for the current Reporting Period was reduced below the required amount of ERs set aside in prior Reporting Periods, then Buffer ERs shall be released from the Reversal Buffer in an amount equal to the difference of such required amounts of ERs and those released ERs transferred into an designated account, following the instructions of the ER Program Entity or World Bank, as applicable. The quantity of ERs to be released from the 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 ERs to be released from the Reversal Buffer
R_{t-1}	The actual set-aside percentage for the Reversal Buffer applied to all Reporting Periods prior to the current Reporting Period ⁴
R_t	The actual set-aside percentage for the Reversal Buffer applicable to the current Reporting Period
N_{t-1}	The cumulative total of transferrable ERs for all Reporting Periods prior to the current Reporting Period

- 9.4 If Q_r is greater than the number of ERs currently in the Reversal Buffer, then the determined quantity of ERs in the Reversal Buffer may be released.
- 9.5 The required set aside for the current Reporting Period is calculated following the procedure described in Section 7 above. The respective quantity of ERs is transferred to the Reversal Buffer after the quantity of ERs to be released were transferred out of the Reversal Buffer.

10. Treatment of Emission Reductions in the Reversal Buffer at the end of the Term of the ISFL ERPA

- 10.1 At the latest one (1) year before the end of the Term of the ISFL ERPA, the ER Program shall have in place a robust Reversal Management Mechanism that addresses the risk of Reversals beyond the Term of the ISFL ERPA and is equivalent to the ER Program ISFL Buffer⁵. A Reversal Management Mechanism is considered to be equivalent to the ER Program ISFL Buffer if:

⁴ Because the set-aside percentage is updated and retroactively applied each Reporting Period, the same percentage shall apply to all prior Reporting Periods.

⁵ If an ER Program wishes to supply "CORSIA Eligible Emissions Units" (as defined under CORSIA), the ER Program shall have in place a robust Reversal Management Mechanism that: addresses the risk of Reversals beyond the Term

- a) It is a buffer;
- b) It covers potential Reversals of the units generated under the ER Program during all ISFL ERPA Phases;
- c) It allows the transfer of the Buffer ERs from the ER Program ISFL 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 ISFL Buffer⁶;
- e) It has in place a periodic Monitoring and third-party Verification mechanism for a period of at least 15 years following the end of the ISFL ERPA Phase 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.

10.2 If the ER Program has in place a robust Reversal Management Mechanism equivalent to the ER Program ISFL Buffer prior to the end of the Term of the ISFL ERPA, then the Buffer Manager shall, prior to the end of the Term of the ISFL ERPA transfer all Buffer ERs remaining in the Reversal Buffer account in the ER Transaction Registry to such other buffer reserve account designated and controlled by the ER Program Entity or any other entity designated by the ER Program Entity, and

10.3 If the ER Program does not have in place a Reversal Management Mechanism equivalent to the ER Program ISFL Buffer prior to the end of the Term of the ISFL ERPA, then the Buffer Manager shall, prior to the end of the Term of the ISFL ERPA Cancel all Buffer ERs remaining in the Reversal Buffer account in the ER Transaction Registry. Buffer ERs shall be canceled by removing them from the Reversal account and permanently retiring their associated serial numbers.

of the ISFL ERPA; is equivalent to the ER Program ISFL Buffer as defined under paragraph 10.1; and shall be continually managed and operated by a “CORSIA Eligible Emissions Unit Programme” (or “Programme”, as defined under CORSIA) which administers comparable multi-decadal Programme elements that are included in the Programme’s scope of eligibility from the end of the Term of the ISFL ERPA through the duration of the period referred to in 10.1(e).

⁶ The Reversal Risk Set-Aside Percentage calculated under the Post-ISFL ERPA Phase Reversal Management Mechanism and the actual Reversal Risk set-aside percentage of the ER Program ISFL Buffer will be determined for the latest Reporting Period ending before the end of the last ISFL ERPA Phase, and will be verified by the Validation and Verification Body at Verification.

Document history

Version	Date	Notes
Version 1.0	February 2018	Initial version adopted.
Version 2.0	April 2020	<p>Following revisions were made:</p> <ul style="list-style-type: none"> • Change ‘Should’ or ‘Must’ to ‘Shall’ and all ‘Could’ to ‘May.’ • ERPA Phase was replaced by ISFL ERPA Phase • Glossary of terms was removed and replaced by the ISFL Glossary of Terms • ERPA was replaced by ISFL ERPA where applicable. • Terms included in the ISFL Glossary of Terms were capitalized. • Section 10 of the ISFL Buffer Requirements 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 account is based on the Total Net 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. • 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 ISFL Buffer Requirements was removed, and such terms were moved to a separate general reference document “ISFL Glossary of Terms”.