



THE REDD+ ENVIRONMENTAL EXCELLENCE STANDARD (TREES)

JUNE 2026

THE REDD+ ENVIRONMENTAL EXCELLENCE STANDARD (TREES), VERSION 3.0

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ABOUT ARCHITECTURE FOR REDD+ TRANSACTIONS (ART) PROGRAM

The Architecture for REDD+ Transactions (ART) has been developed to achieve the environmental integrity needed for REDD+ emission reductions and removals (ERRs) at national and jurisdictional scale. ART provides a credible standard and rigorous process to transparently register, verify, and issue REDD+ emission reduction and removal credits that ensure environmental and social integrity. ART aims to unlock new long-term financial flows to protect and restore forests.

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ACRONYMS

ART	Architecture for REDD+ Transactions
CCP	Core Carbon Principles
COP	Conference of Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CSI	Commercially Sensitive Information
ERs	Emission Reductions
ERR	Emission Reduction and Removal
ERT	Environmental Resources Trust
ESG	Environmental, Social, and Governance
EUC	CORSIA Emissions Unit Eligibility Criteria
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FPIC	Free, Prior, and Informed Consent
GFOI	Global Forest Observations Initiative
GHG	Greenhouse Gas
GIS	Geographic Information System
GWP	Global Warming Potential
HFLD	High Forest Cover/Low Deforestation
IAF	International Accreditation Forum
ICAO	International Civil Aviation Organization
ICVCM	Integrity Council for the Voluntary Carbon Market
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
IPLC	Indigenous Peoples and Local Communities
ITMO	Internationally Transferred Mitigation Outcome

MIGA	Multilateral Investment Guarantee Agency
NDA	Non-Disclosure Agreement
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
OIMP	Other International Mitigation Purposes
ORS	Ongoing Removals Stratum
PLR	Policies, Laws, and Regulations
QA/QC	Quality Assurance/Quality Control
REDD+	Reducing Emissions from Deforestation and forest Degradation, plus the sustainable management of forests and the conservation and enhancement of forest carbon stocks
SIS	Safeguard Information System
SOP	Standard Operating Procedure
TREES	The REDD+ Environmental Excellence Standard
TMR	TREES Monitoring Report
TRD	TREES Registration Document
TVVS	TREES Validation and Verification Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body

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1. INTRODUCTION

1.1 DESCRIPTION OF ART AND TREES

The purpose of the Architecture for REDD+ Transactions (ART) is to promote the environmental and social integrity and ambition of greenhouse gas (GHG) emission reductions and removals (ERRs) from the forest and land use sector to catalyze new, large-scale finance for REDD+ and to recognize forest countries that deliver high-quality REDD+ emission reductions and removals.

ART has adopted the following statement of Immutable Principles to govern its operation:

“...ART shall...

1. Recognize countries with quantifiable emission reductions (ERs) that result from slowing, halting, and reversing forest cover and carbon loss and maintaining forest carbon stocks;
2. Be consistent with United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) decisions including the Paris Agreement, Warsaw Framework for REDD+, and the Cancún Safeguards, which establish environmental, social, and governance principles countries are expected to uphold when undertaking REDD+ activities, in particular to ensure the recognition, respect, protection, and fulfillment of the rights of indigenous peoples and local communities.
3. Embody high environmental integrity, which includes accounting for the uncertainty of data and the risks of leakage and reversals, the avoidance of double counting, and result in issued units that are interchangeable with emission reduction and removal units from other sectors;
4. Promote national ambition and contribute to Paris Agreement goals including progress toward the fulfillment of Nationally Determined Contributions (NDCs);
5. Credit ERs at the national level or subnational level as a time-bound interim measure only where it represents high ambition and large scale and is recognized as a step toward national-level accounting; and
6. Set crediting baselines for deforestation and degradation that initially reflect historical emission levels and thereafter decline periodically to require higher ambition over time.”

The REDD+ Environmental Excellence Standard (TREES) sets out ART’s requirements for the quantification, monitoring, and reporting of GHG emissions and removals; demonstration of implementation of the Cancún Safeguards; and verification, registration, and issuance of TREES Credits. TREES has been designed to ensure that all TREES Credits issued are real, measured, permanent, additional, baselines beyond business as usual,¹ net of leakage, verified by an

¹ As referenced in the reporting requirements in the Article 6.2 Guidance Decision 2/CMA.3, Annex, paras. 18(h)(ii) and 22(b)(ii), which states that mitigation activities must ensure environmental integrity

accredited independent third party, and are not double counted. As a result, TREES Credits will represent high quality while still allowing flexibility for implementation of REDD+ programs at a national level or subnational as an interim measure.

1.2 ART GOVERNANCE

ART is financially overseen by the Board of Managers of Environmental Resources Trust (ERT) LLC, a wholly-owned nonprofit subsidiary of Winrock International. The ERT Board assumes fiduciary responsibility for the organization and operates according to robust bylaws.

ART is governed by an independent Advisory Board of Directors whose members represent a diverse group of objective, globally recognized experts. The Advisory Board is responsible for strategic guidance and for ensuring ART’s environmental and social integrity are in line with its Immutable Principles.

Daily operations of ART are managed by the ART Secretariat, hosted by Winrock International.

THE ART BOARD

The ART Board is responsible for:

- Approving TREES, the TREES Validation and Verification Standard and future Standard versions or revisions
- Approving non-procedural variance requests and issuance of TREES Credits

The ART Board is comprised of members serving in their individual capacities and operates in accordance with the ART Board Charter and the Winrock Code of Conduct.

THE ART SECRETARIAT

The ART Secretariat is responsible for:

- Drafting, maintaining, and revising Standards for ART Board approval
- Developing documentation templates and guidance documents
- Building understanding of ART and the requirements of TREES with stakeholders
- Convening technical committees as deemed necessary by the ART Board
- Reviewing Participant’s TREES Concepts for eligibility and completeness and approving Participant acceptance into ART

including “*through conservative reference levels, baselines set in a conservative way and below ‘business as usual’ emission projections (including by taking into account all existing policies and addressing uncertainties in quantification and potential leakage)*” as well as in the methodologies for the Article 6.4 mechanism which state that “mechanism modalities shall [...] be credible and below “business as usual” . (Decision 3/CMA.3, Annex, para 33).

THE ART SECRETARIAT

- Approving procedural variance requests
- Overseeing independent validation and verification
- Reviewing Participants' TREES Documents and third-party validation and verification documents for completeness
- Making recommendations to the ART Board on issuance of TREES Credits
- Developing and maintaining the ART Registry and website

1.2.1 Development Process for TREES

TREES 1.0 and the TREES Validation and Verification Standard were developed with support and input from three expert committees:

- The TREES Standards Committee
- The TREES Verification Committee
- The TREES Safeguards Committee

TREES 2.0 was developed with support and input from two additional expert committees:

- The TREES HFLD Committee
- The TREES Removals Committee

TREES 3.0 was developed with support and input from an advisory group and two additional technical expert committees:

- The TREES IPLC Advisory Group
- The TREES Forests Remaining Forests Committee
- The TREES Biomass Flux Committee

The Technical Committees were composed of appointed independent experts each serving in a personal capacity. The IPLC Advisory Group was comprised of four IPLC organizations and two Indigenous leaders serving in a personal capacity. Committee members and the IPLC Advisory Group provided expert advice and guidance for the development of TREES; however, the Standard does not reflect consensus opinions of the committees or the Advisory Group or necessarily the opinions of individual members.

1.2.2 Adoption of and Revisions to TREES

The ART Secretariat and ART Board will conduct a review of TREES at a minimum of every three years and update the Standard if deemed necessary, including input from technical expert committees and stakeholders as well as relevant market trends, scientific advancements, and

decisions under the UNFCCC and the Paris Agreement. Full or partial reviews may occur more frequently if deemed necessary by the Board.

The Secretariat will solicit broad stakeholder input to TREES and future updates and revisions to TREES through a public comment period. TREES will be posted publicly for stakeholder review and consultation for at least 60 days prior to review by the Secretariat and Board. The Board will consider stakeholder comments and make decisions on any changes prior to adoption and publication of TREES. The Secretariat will prepare responses to submitted comments and post the comments and responses on the ART website along with the Board-approved version of the Standard.

When a new version of TREES is approved by the Board, current Participants will have two options:

1. Continue to use the version of the Standard that was in place at the time of initial acceptance of a TREES Registration Document to ART for the remainder of the crediting period. At the start of the next crediting period, the latest version of TREES must be adopted.
2. Begin a new crediting period upon publication of the new version of TREES and update to all provisions and requirements of the new version of TREES, including any changes to the crediting level.

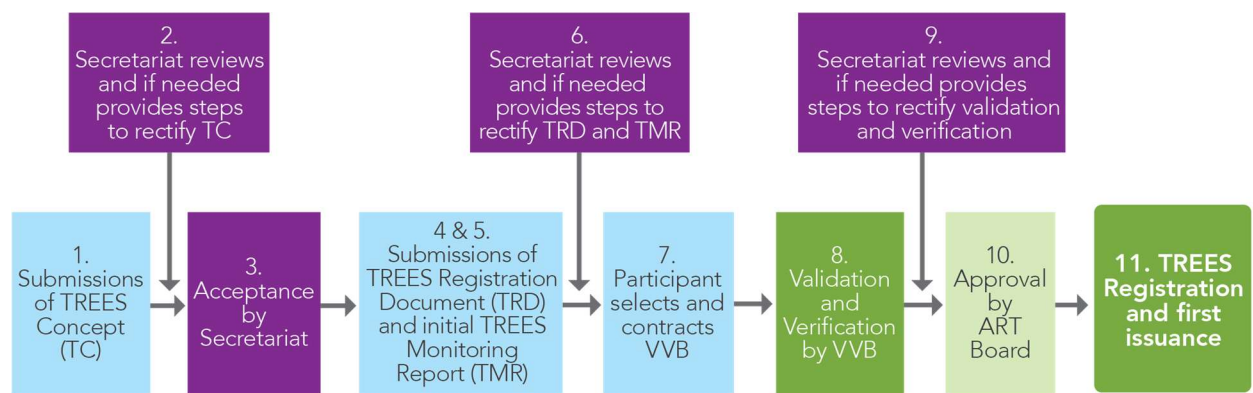
1.3 CONFLICT OF INTEREST

To ensure all ART Board members and the ART Secretariat are held to the highest standards for ethics and professional conduct and for avoidance of conflicts of interest, Board members and Secretariat staff shall be subject to the Winrock Code of Conduct, including the Conflict of Interest Policy which outlines disclosure, review, mitigation and approval by the Winrock Chief Risk and Compliance Officer. Each Board member and Secretariat staff member is required to regularly affirm in writing that they are in compliance with this policy, that they disclose, avoid and mitigate all Conflicts of Interest, and that they take reasonable action to avoid circumstances that create the appearance of a Conflict of Interest. Board members must disclose any conflicts to Winrock Chief Risk and Compliance Officer, who will determine a conflict management approach to be disclosed to the ART Board.

In addition to its internal Conflict of Interest policy for the Board and Secretariat, ART requires that all approved Validation and Verification Bodies meet Conflict of Interest requirements described in the TREES Validation and Verification Standard, and that they execute an Attestation of Validation and Verification Body, which includes detailed and comprehensive Conflict of Interest provisions. ART-approved Validation and Verification Bodies must also execute a Participant-specific TREES Validation and Verification Conflict of Interest Document, which the Secretariat reviews and approves, for each reporting period verified.

2. ART CYCLE

2.1 PROCESS FOR INITIAL REGISTRATION, VALIDATION, VERIFICATION, AND ISSUANCE

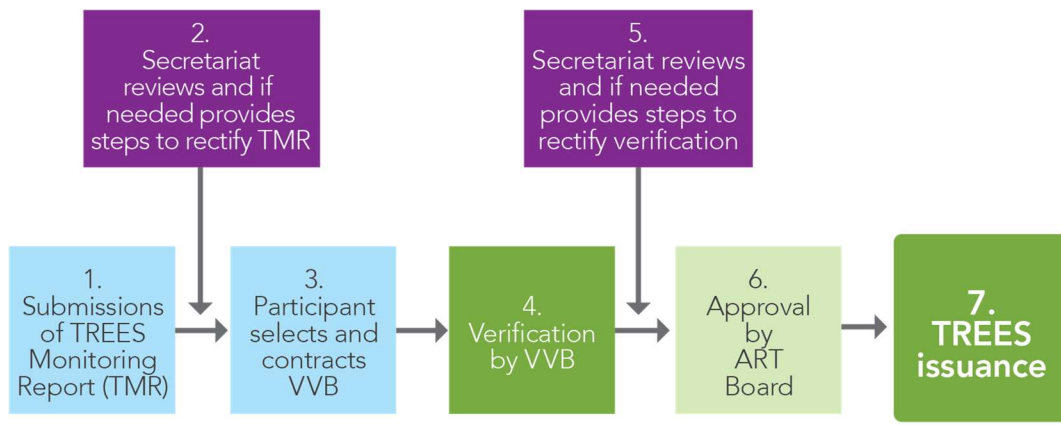


The process to participate in ART using TREES requires acceptance of a TREES Concept by the Secretariat, a positive Validation and Verification of the TREES Registration Document and TREES Monitoring Report, and approval by the ART Board for Registration and issuance of TREES Credits. An applicant shall be a national government entity or an eligible subnational Participant in accordance with the requirements set forth in Section 3 and will hereafter be referred to as a Participant. Each Participant shall complete the following steps prior to receiving credits.

1. The Participant submits a TREES Concept to the Secretariat for review. The TREES Concept template is available on the ART website.
2. The ART Secretariat reviews the TREES Concept for completeness and will request revisions as needed.
3. The Secretariat accepts the TREES Concept for posting in the ART Registry and approves the inclusion of the Participant in ART.
4. Following acceptance, the Participant's TREES Concept is referenced in the ART Registry as Listed.
5. The Participant submits the TREES Registration Document and the TREES Monitoring Report covering the initial calendar year(s) to the Secretariat for a completeness check. The TREES Registration Document and the TREES Monitoring Report templates are available on the ART website. The TREES Registration Document and the TREES Monitoring Report do not need to be submitted at the same time. If only the TREES Registration Document is submitted, the following steps only include the acceptance and validation of the TREES Registration Document.

6. The Secretariat reviews the TREES Registration Document and TREES Monitoring Report for completeness and will request revisions as needed. The Secretariat then accepts the TREES Registration Document and TREES Monitoring Report to be posted in the ART Registry and for validation and verification. Following acceptance of the TREES documents and any required translations, the ART Secretariat shall provide notice of the publication to inform stakeholders (see Section 2.6.2).
7. The Participant selects a Validation and Verification Body from the list of approved, accredited ART Validation and Verification Bodies maintained on the ART website. The Participant (may solicit bids and) negotiates a contract directly with the selected Validation and Verification Body. The selection process will include a disclosure of conflicts of interest and mitigation measures, if conflicts are identified.
8. The Validation and Verification Body conducts the validation of the TREES Registration Document and the verification of the TREES Monitoring Report in line with the requirements of Section 14 of this Standard and the TREES Validation and Verification Standard.
9. The Validation and Verification Body submits the Validation and Verification Reports and Verification Opinion to the Secretariat who reviews the documents to ensure completeness and accuracy. The Secretariat will request revisions as needed and accept the reports once they are complete.
10. The Secretariat submits the Participant's TREES Documents, the Validation and Verification reports and the Secretariat's recommendation to the ART Board for approval. The Board may request additional information as appropriate before approving the credit issuance.
11. Following Board approval, the Participant's TREES Registration Document and TREES Monitoring Report are made public in the ART Registry, the status of the Participant is updated to Registered and TREES Credits are serialized (issued) based on the verified volume. TREES Credits are labeled as appropriate in the ART Registry to indicate the crediting approach used (Removals, HFLD), CORSIA Eligibility, and other attributes. The Participant requests activation of some or all of the issued volume, and once the activation fee is paid, the TREES Credits become active in the Participant's ART Registry account and can be transferred or retired.

2.2 PROCESS FOR ONGOING VALIDATION, VERIFICATION, AND ISSUANCE



1. The Participant submits a TREES Monitoring Report to the ART Secretariat for review following calendar years 1, 3, and 5 of each crediting period. A TREES Monitoring Report may optionally be submitted following calendar years 2 and 4 as outlined in Section 14. At the start of each new crediting period, an updated TREES Registration Document must also be completed and submitted by the Participant. The revised TREES Registration Document is then also included in all following steps and is validated rather than verified.
2. The Secretariat reviews the TREES Monitoring Report for completeness. The Secretariat then accepts the TREES Monitoring Report for posting in the ART Registry and for verification. Following acceptance of the TREES documents and any required translations, the ART Secretariat shall provide notice of the publication to inform stakeholders (See Section 2.6.2).
3. The Participant selects a Validation and Verification Body from the list of approved, accredited ART Validation and Verification Bodies maintained on the ART website. The Participant (may solicit bids and) negotiates a contract directly with the selected Validation and Verification Body. The selection process will include a disclosure of conflicts of interest and mitigation measures, if conflicts are identified.
4. The Validation and Verification Body conducts the verification of the TREES Monitoring Report in line with the requirements of Section 14 of this Standard and the TREES Validation and Verification Standard. If required, the Validation and Verification Body also conducts a validation of the revised TREES Registration Document in line with the requirements of the TREES Validation and Verification Standard.
5. The Validation and Verification Body submits the Verification Report and Opinion and, if required, the Validation Report to the Secretariat who reviews the documents for completeness and accuracy. The Secretariat will request revisions as needed and accept the reports once they are complete.

6. The Secretariat submits the Participant's final TREES Documents, the Verification Report and if appropriate, the Validation Report, and the Secretariat's recommendation to the ART Board for approval. The Board may request additional information as appropriate before approving the credit issuance.
7. Following ART Board approval, the Participant's TREES Monitoring Report and, if applicable, updated TREES Registration Document are made public in the ART Registry and TREES Credits are serialized (issued) based on the verified volume. TREES Credits are labeled as appropriate in the ART Registry to indicate the crediting approach used (Removals, HFLD), CORSIA Eligibility, and other attributes. The Participant requests activation of some or all of the issued volumes and once the activation fee is paid, the TREES Credits become active in the Participant's ART Registry account and can be transferred or retired.

2.3 CREDITING PERIOD, RENEWAL, AND REENTRY

The crediting period under TREES shall be five calendar years. The initial crediting period may begin up to four calendar years prior to the year the Participant submits the TREES Concept but shall not overlap with the historical reference period used to determine the initial crediting level. All crediting periods shall begin on January 1 of the first year and end on December 31 of the fifth year in line with the calendar year reporting required in Section 2.5. All subsequent crediting periods shall begin on the date following the end date of the previous crediting period. The crediting period may be less than 5 years only in cases where the Participant is a subnational government, and must therefore terminate its crediting period on December 31, 2035, per section 3.1.1 of this Standard.

The crediting period renewal process occurs as outlined in Section 2.2. The Participant shall submit a revised TREES Registration Document for validation following the first year of a new crediting period, along with its Year 1 TREES Monitoring Report for verification. The crediting level shall be recalculated in accordance with Section 4.

If a Participant exits ART for any reason and wishes to rejoin ART in the future, the Participant must submit a TREES Monitoring Report, and if necessary, a TREES Registration Document, covering all years since the Participant's last verified Monitoring Report was submitted. The Report(s) must be validated and verified in accordance with the requirements of TREES. All provisions of TREES must be met including safeguards and reversals provisions.

2.4 DOCUMENTATION REQUIREMENTS

Participants shall use the latest version of the template for each of the eight documents listed below when submitting documents to ART. Revised templates will be published three months prior to the date that they are required for use, and version updates will not be required once a document has been submitted to the ART Secretariat or Validation and Verification Body.

Templates of all forms are available on the ART website. All sections of the template must be completed. In some instances, an alternative form of reporting may be acceptable for certain portions of the requirements to prevent a Participant from duplicating efforts. Approved exceptions are noted in the templates and when appropriate, a reference to the alternative reporting may be included.

The TREES documents are:

1. TREES Concept
2. TREES Registration Document
3. TREES Monitoring Report
4. TREES Validation and Verification Conflict of Interest Document
5. TREES Validation Report
6. TREES Verification Report
7. TREES Verification Opinion
8. TREES Variance Request Form

All TREES documents shall be submitted in English. Copies of the TREES Concept, TREES Registration Document, and TREES Monitoring Report shall also be submitted in any additional language(s) used for the Participant's government operations in the accounting area. These copies will be posted on the ART Registry to facilitate the public comment period. Please see Section 2.6.2. The English version of the TREES Documents shall be the version considered for ART review and for the validation and verification process.

2.5 TIMELINE AND DEADLINES

Potential Participants may submit the TREES Concept at any time. The ART Secretariat shall acknowledge receipt of the documentation. The Secretariat will then conduct a desktop review of the TREES Concept and either accept the documentation or provide a request for revision within 20 business days of receipt.

Following acceptance of the TREES Concept, the Participant shall submit the TREES Registration Document within two calendar years of the calendar year in which the TREES Concept was submitted. Participants that have already submitted a TREES Concept but do not yet have an accepted TREES Registration Document shall submit the TREES Registration Document within two calendar years of the calendar year in which TREES 3.0 was published (i.e., by December 31, 2028). A Participant that fails to meet this deadline must submit a new TREES Concept prior to submitting a TREES Registration Document.

The initial TREES Monitoring Report may cover multiple calendar years if the Participant selects a crediting period with a start date prior to the year of submission as outlined in Section 3.7. In all cases, each TREES Monitoring Report shall report ERRs per calendar year (January 1 – December 31) to ensure vintages can be assigned appropriately. Sections 5.1.1 and 5.1.2 of TREES include requirements for interpolation or proration of activity data when needed to enable annual calendar year reporting. For the initial crediting period, Participants may opt not to include

removals in their initial TREES Registration Document and TREES Monitoring Report but to include them as an addendum within two calendar years of completion of the initial validation and verification. In that case, the addendum would need to undergo validation and verification including a review of safeguards as they pertain to the removals activities.

Subsequent TREES Monitoring Reports shall be submitted within twelve months following calendar years 1, 3, and 5 of each crediting period and shall document one calendar year or two calendar years of results. TREES Monitoring Reports may optionally be submitted following calendar years 2 and 4 of the crediting period. Participants crediting for removals may monitor and report removals on a different frequency than emission reductions but must at a minimum include removals in the TREES Monitoring Reports following calendar years 1, 3, and 5 of the crediting period.

Upon submission of the Participant's documentation, the Secretariat will conduct a desktop review of the TREES Registration Document or TREES Monitoring Report and either accept the documentation as complete or provide a request for revision within 20 business days of receipt.

The TREES Validation and/or Verification Report and TREES Verification Opinion must be submitted to the ART Secretariat within 18 months of the kickoff of the validation or verification for an initial validation and verification or 12 months for subsequent validations or verifications unless an extension is granted in writing. Verifications shall be conducted consecutively unless an exception is granted in writing. Validation and verification will follow the process outlined in Section 14.

Upon receipt of the TREES Validation and/or Verification Report and TREES Verification Opinion, the Secretariat will conduct a desktop review of the documents and either accept the documentation as complete or provide a request for revision within 40 business days.

The Secretariat will present its recommendation to the ART Board for issuance of credits to Participants. The Board will request additional information or approve the credit issuance at a subsequent Board meeting.

2.6 STAKEHOLDER ENGAGEMENT

2.6.1 General Comments Regarding ART

Stakeholders can submit comments and feedback to ART in any language on an ongoing basis by contacting the ART Secretariat. If a response is appropriate, the response will be in English and if possible, the original language of the submission. Complaints and appeals are addressed as outlined in Section 16 of TREES.

2.6.2 Feedback Regarding Participant Programs

Subscribers to the ART listserv shall receive notification of new Participant documentation, including TREES Concepts, TREES Registration Documents, TREES Monitoring Reports, and

translated documents, as it becomes publicly available. Notifications regarding TREES Registration Documents and TREES Monitoring Reports will invite stakeholders to submit comments to ART regarding these submissions. Comments may be submitted in any language via email to ARTComments@winrock.org. Comments submitted to the Secretariat within 60 days of notice that documents are available in all required languages shall be directed to the Participant and their Validation and Verification Body to be responded to as part of the validation and verification.

Comments received after this time shall be incorporated into the current validation and verification process if possible. Any comments received that cannot be included in the current process shall be included in the subsequent validation and/or verification process.

Participants shall notify stakeholders of document availability and the opportunity to provide public comments in line with the Safeguards.

In instances where a stakeholder wishes to submit comments anonymously, the Secretariat and Validation and Verification Body shall make appropriate accommodation providing that the identity of the stakeholder must be made known to the Secretariat and Validation and Verification Body.

3. ELIGIBILITY, APPLICABILITY, AND KEY REQUIREMENTS

3.1 ELIGIBLE ENTITIES

Participants shall be national governments (i.e., the highest level of government that exists in the country), or subnational governments, no more than one administrative level down from national level, provided the requirements in Section 3.1.1 are met. No scale thresholds apply to national participants with national accounting areas. TREES accounting areas shall not overlap.

While ART does not directly credit projects or similar smaller-scale activities, ART recognizes that Participants will work with the private sector, Indigenous Peoples, local communities, Afro-descendant Peoples and other stakeholders to design and implement successful programs. ART does not prescribe whether or how such activities must be nested or incorporated into national or subnational programs in order to allow each Participant to determine the arrangement that is best for their specific needs. If desired, the eligible Participant may name an individual or another organization as an Agent to represent them in the ART process as outlined in the ART Registry Operating Procedures.

3.1.1 Subnational Accounting

During an interim period through December 31, 2035, subnational accounting areas may be registered under ART as a recognized step to national-level accounting. Participants registering subnational accounting areas may be a national government or a subnational government. After the interim period, Participants shall be national governments and accounting shall be at a national level,² though Participants can continue to credit at either the national or the subnational level.

Where a subnational accounting area is registered by a national government:

- The boundaries of the subnational accounting area shall correspond with the entire area of one or several administrative jurisdictions no more than one administrative level down from national level and/or one or several recognized Indigenous territories; AND
- The included jurisdiction(s) and/or recognized Indigenous territory(ies) do not need to be contiguous; AND
- Aggregation of jurisdictions and/or recognized Indigenous territories must be conducted in line with the safeguards in TREES Section 12; AND

² National scale participants should make efforts to include 100% of forest areas in accounting. However, national scale accounting shall be defined as $\geq 90\%$ of all areas in the country qualifying as forest under the national forest definition as described in Section 3.4. Areas excluded must be isolated, patchy and historically not subject to deforestation rates greater than half of the national rate.

- The total subnational accounting area must be comprised of a total forest area of at least 2.5 million hectares based on the area at the beginning of the crediting period AND
- After December 31, 2035, the Participant shall report emissions at the national level. Crediting may continue at the subnational level if desired.

Where a subnational accounting area is registered by a subnational government:

- The boundaries of the subnational accounting area shall correspond with the entire area of the single administrative jurisdiction; AND
- The jurisdiction must be comprised of a total forest area of at least 2.5 million hectares based on area at the beginning of the crediting period; AND
- After December 31, 2035, the Participant must be a national government and shall report emissions at the national level. Crediting may continue at the subnational level if desired.

Subnational jurisdictions may not aggregate as direct subnational Participants; however, they may aggregate where the ART Participant is a national government registering a subnational accounting area.

Where the ART Participant is a subnational government that can demonstrate inherent authority via law, statute or resolution to participate in ART, the subnational government must notify the national government of the terms of participation. Such notification should be in conformance with applicable legal requirements in the country. If a subnational government cannot demonstrate inherent authority via law, statute or resolution to participate in ART, the national government must provide the Participant with a letter from the relevant national entity authorizing the Participant's application to and participation in ART, as well as any special requirements for and exceptions to the authorization.

3.1.2 National Reporting Requirements

ART Participants, or the Participant's national government, shall include forests in their NDCs.³

In addition, national government Participants shall demonstrate that all UNFCCC REDD+ elements referred to in UNFCCC Decision 1/CP.16, paragraph 71, are in place in accordance with UNFCCC Decision 9/CP.19, and Paris Agreement Art. 5.2.

For the Cancún Safeguards, this includes:

1. Having addressed and respected the safeguards (Section 12),
2. Having submitted the most recent Summary of Information to the UNFCCC for any year where crediting under TREES is sought, and
3. Having either a digital or analog system for providing information on safeguards.

³ Forests must be included as part of the overall NDC target. A specific NDC target for forests is not required.

For other UNFCCC REDD+ elements, national government Participants shall demonstrate that the information is available on the Lima REDD+ Information Hub. This includes:

1. A link to the REDD+ national strategy or action plan;
2. The assessed forest reference emission level(s) and/or forest reference level(s) (FREL/FRL) and a link to the final report of the technical assessment;
3. Information on the national forest monitoring system, as provided in the technical annex to the Biennial Update Report (BUR) or Biennial Transparency Report (BTR);
4. The results for the years for which the Participant is crediting under TREES and a link to the technical analysis technical report referred to in Decision 14/CP.19.

Participants shall demonstrate conformance with the preceding requirements or, on an interim basis, provide a summary of the processes in place to meet these requirements, indicating when all of these requirements will be met. It is acknowledged that the reporting cycles under TREES, the UNFCCC, and the Paris Agreement may not align, and Participants are able to proceed with the TREES processes, including issuance of TREES Credits, while simultaneously working towards fulfilling the above requirements.

If an ART Participant is a subnational government, the Participant must demonstrate conformance with Cancún Safeguards related requirements, including:

1. Having addressed and respected the safeguards at the scale of REDD+ implementation applicable to the Participant in consistency with national legislation and/or safeguards conformance at the national level (Section 12),
2. Having submitted to the appropriate national government entity a Summary of Information or safeguards report at the respective scale that is consistent with national reporting to the UNFCCC for any year where crediting under TREES is sought, and
3. Demonstrating safeguards tracking and/or monitoring tools are consistent with national tracking or tools, in particular with the national system for providing information on safeguards when available.

3.1.3 Transition Pathway for Forest Carbon Partnership Facility (FCPF) Carbon Fund and Initiative for Sustainable Forest Landscapes (ISFL) Participants

In order to facilitate the transition of FCPF Carbon Fund and ISFL Country Participants to ART to continue their jurisdictional programs, those governments who have not yet begun validation under ART may meet the eligibility requirements outlined in Section 3.1.1 or may use the following Transition Pathway eligibility requirements.

FCPF Carbon Fund and ISFL Country Participants may use their FCPF or ISFL accounting area for one crediting period if they have a TREES Concept accepted by ART no later than December 31, 2028.

After the first crediting period, the Participant can continue in ART using the Transition Pathway criteria for eligible Participants (Section 3.1.4) for the second crediting period, or by changing the accounting area to meet the eligibility criteria of TREES for the second (or any subsequent) crediting period.

If the Transition Pathway criteria is used and the accounting area does not meet the TREES requirements for accounting areas described in Section 3.1.1, any credits issued during that crediting period will be labeled as “Transition Pathway” in the ART Registry. Participants using the accounting area Transition Pathway must continue to meet all other requirements of TREES.

3.1.4 Transition Pathway for Eligible Participants

Eligible Participants (national or subnational) may join ART with special accounting area Transition Pathway criteria for up to two crediting periods if they have a TREES Concept accepted by ART no later than December 31, 2028, and if they can demonstrate one or more of the following: 1) the Participant previously participated in another REDD+ or readiness program, 2) the Participant’s country contains less than 2.5 million hectares of forest, 3) the Participant is considered a Small Island Developing State, or 4) the Participant’s accounting area is made up of one or more recognized Indigenous territories. Subnational accounting areas for these Participants shall meet the requirements in Section 3.1.1, except that the total subnational accounting area must be comprised of a total forest area of at least 1.25 million hectares based on the area at the beginning of the crediting period. If the accounting area does not meet the TREES requirements for accounting areas described in Section 3.1.1, any credits issued during that crediting period will be labeled as “Transition Pathway” in the ART Registry. Participants using the accounting area Transition Pathway must continue to meet all other requirements of TREES.

Participants may only use the Transition Pathway criteria until December 31, 2035; after this date, all Participants must meet the requirements for accounting areas described in Section 3.1.1.

3.1.5 Host Country Authorization

If a Participant wishes to transact TREES Credits for use in meeting NDCs under Article 6 of the Paris Agreement or for other compliance purposes, including for CORSIA, host country authorization and agreement to report corresponding adjustments to the UNFCCC are required. If the Participant is a subnational government, the authorization letter must attest that the national government will support the Participant by aligning accounting and reporting as required under the Paris Agreement and towards NDCs, including addressing double counting provisions detailed in the Paris Agreement and outlined in Section 13 of this Standard, as well as any special requirements for and exceptions to the authorization. Participants may also wish to authorize and agree to report a corresponding adjustment for TREES Credits being transacted in voluntary markets. In this case, the same requirements apply.

3.2 ELIGIBLE ACTIVITIES

Activities that are eligible under TREES include all REDD+ activities that reduce emissions from deforestation and forest degradation and activities that result in removals from conversion of non-forest areas to forests. ART does not credit for forest carbon stock or removals from growth of intact forest or restoration of degraded forest.

3.3 REDD+ IMPLEMENTATION PLAN

Each ART Participant shall submit a REDD+ Implementation Plan as part of the TREES Registration Document and report on the implementation of activities in each TREES Monitoring Report. This plan must clearly outline the ongoing and new drivers of deforestation and degradation in the TREES accounting area along with the new and changed activities (e.g. policies, measures, actions, and plans), in addition to any ongoing activities, planned or being taken during the crediting period to mitigate these drivers and reduce emissions. Participants using the HFLD Crediting Approach must also describe the activities that have been undertaken to reduce emissions from deforestation and degradation during the reference period (i.e., the five years immediately preceding the crediting period). Participants crediting for removals must outline new and changed activities, in addition to any ongoing activities, to convert non-forest areas to forest during the crediting period. The REDD+ Implementation Plan must also describe where all activities are being conducted.

In the TREES Registration Document, Participants shall explain how the REDD+ Implementation Plan aligns with the National REDD+ Strategy/ Action Plan developed in accordance with the Warsaw Framework for REDD+ or explain any differences. In the case when a national government Participant is using a subnational accounting area, the Participant must specify which REDD+ interventions from its National REDD+ Strategy/ Action Plan are relevant to the subnational accounting area.

Subnational government Participants must explain how the REDD+ Implementation Plan aligns with their subnational REDD+ Strategy if one exists. If a National REDD+ Strategy/ Action Plan exists, the subnational government Participant must also explain how the REDD+ Implementation Plan aligns with the National REDD+ Strategy/ Action Plan.

3.4 EMISSION REDUCTION AND REMOVALS RIGHTS AND BENEFIT SHARING ARRANGEMENTS

3.4.1 Emission Reduction and Removals Rights

The Participant shall provide a demonstration of its rights to the ERRs generated from the accounting area for each year of the crediting period in which results are claimed based on national and/or subnational regulatory frameworks, laws or administrative orders. It may not be necessary for the Participant to establish or enact new legislation or a legal framework to address such rights. However, the Participant must explain how, under existing constitutional or other legal frameworks, rights to the ERRs and/or related intangible property rights are established and addressed. This explanation shall include how such rights to the ERRs and/or intangible property are established, the legal basis for creating such rights and interests, and how claims to such rights from private parties, Indigenous Peoples, Local Communities, Afro-descendant Peoples, other stakeholders or subnational entities will be resolved (consistent with applicable Cancún Safeguards and TREES Section 12).

When other ERR right holders are present in the accounting area, the Participant shall describe and provide evidence of any agreements in place or that will be in place for the transfer of ERR rights between them and the Participant.

The Participant shall demonstrate that the agreements were reached in conformance with TREES Safeguards and describe this in the relevant sections of their TREES Registration Document and TREES Monitoring Reports.

TREES Credits will only be issued for the number of ERRs for which the Validation and Verification Body has verified that the Participant can demonstrate rights regardless of how the credits will be used. The Participant must provide evidence of rights to the ERRs claimed in each calendar year before verification is completed. If a Participant cannot demonstrate rights to all ERRs being claimed, the ERRs for which rights cannot be demonstrated shall be set aside and will not be issued. These ERRs may be issued at a later date, within the same crediting period or during the following credit period, if another verification confirms that the Participant has obtained the rights to those ERRs and the process to obtain the rights was conducted in conformance with TREES Safeguards.

3.4.2 Benefit Sharing Arrangements

The Participant shall provide a description of the benefit sharing arrangements that govern the distribution of proceeds and non-monetary benefits derived from TREES Credits as follows:

1. In the TRD, the Participant shall describe the applicable national and if relevant, subnational legal framework, policies and/or programs governing the benefit sharing

arrangements and the process that was followed or will be followed to define and agree to the REDD+ benefit sharing arrangements in line with the TREES Safeguards.

2. In each TMR, the Participant shall describe:
 - a. The stakeholder groups eligible to receive benefits, including, where applicable, Indigenous Peoples, Local Communities, Afro-descendant Peoples, and other rights holders.
 - b. The principles and criteria guiding how benefits are allocated.
 - c. The process used to define and agree to the REDD+ benefit sharing structure and mechanisms and the process for reviewing, and if desired, adjusting these in the future.
 - d. Any changes or adjustments made to the benefit sharing plans since the last TMR.

The Participant shall demonstrate that the process used to design/develop the arrangements is being or was done in line with the TREES Safeguards.

The REDD+ benefit sharing arrangements shall be completed prior to distribution of or use of proceeds from the monetization of TREES Credits.

Each TMR shall also include a description of how the benefit sharing arrangements were implemented in line with the TREES Safeguards once revenues from TREES Credits are obtained. The description shall also be provided in line with national, or if applicable, subnational privacy laws or policies.

In addition to describing the arrangements, the Participant shall demonstrate how the process used to develop and implement benefit sharing arrangements is consistent with TREES Safeguards and report on this in the safeguard sections of the TREES Registration Document and TREES Monitoring Report, particularly:

- Safeguard B (transparent and effective governance);
- Safeguard C (respect for the knowledge and rights of Indigenous Peoples and Local Communities);
- Safeguard D (full and effective participation of relevant stakeholders including women, youth and vulnerable groups); and
- Safeguard E (protection and conservation of natural forests and their ecosystem services, and enhancement of other social and environmental benefits)

3.5 ADDITIONALITY

Additionality for the TREES Crediting Level and the Removals crediting approach is ensured through a performance-based approach that is established by a conservative historical baseline or “crediting level”. The performance-based approach for additionality ensures that credits will only be issued if emissions are demonstrated to be reduced below the crediting level, or removals are demonstrated to be above the crediting level. Using historical averages to set the baseline (against which performance is assessed, and additionality is determined) naturally captures

current impacts of laws, regulations, fiscal policies, commodity prices, local and regional actions, all the many layers that impact a jurisdiction's performance. Historical averages also capture cycles of drought, pest infestation, fires and other natural disasters which may vary from year to year.

This type of performance-based additionality is widely accepted among carbon market stakeholders and is the most appropriate for jurisdictional-scale REDD+ programs. Governments already have the power to draft and enforce legislation to address emissions; the fact that they haven't been incentivized to do so to date (resulting in forest loss) means that any generated results based on jurisdictional actions as compared to the jurisdiction's own recent historical past is the best metric to demonstrate additional climate progress. All Participants must describe the drivers of deforestation and degradation within their accounting areas, as well as the new and ongoing activities they undertake to mitigate these drivers (see Section 3.3). The performance-based approach for additionality guarantees that credits will only be issued for reductions and removals beyond the crediting level, ensuring that the new and revised, or improved, REDD+ activities are driving climate mitigation performance that results in TREES Credits.

Emission reductions generated using the HFLD Crediting Level use a positive list additionality test. Under TREES, only jurisdictions that meet the rigorous HFLD threshold values for high forest cover and low deforestation rates are eligible to utilize the optional HFLD crediting approach (see Section 4.2).

The TREES HFLD methodology sets a crediting level based on average emissions from deforestation and forest degradation in the recent past, plus a percentage of the forest carbon stock, which is used as a conservative proxy of forest loss across the entire jurisdiction's accounting area if no REDD+ activities are undertaken. TREES only calculates emission reductions based on a fraction (0.05%) of a jurisdiction's carbon stock — meaning that credits are conservatively-issued and meet the additionality criterion for carbon market financing. The total percentage is in practice less than 0.05% because it is multiplied by the HFLD Score, which by definition will always be less than one. This means that to set the HFLD Crediting Level, the TREES Crediting Level is adjusted by less than 0.05% of the standing forest carbon stock in the HFLD jurisdiction, and this small fraction represents a conservative proxy (Teo et al. 2024) of the actual risk of deforestation or forest degradation in HFLD jurisdictions. Per Section 4.2, Participants using the HFLD Crediting Approach must demonstrate that the HFLD Crediting Level is conservative compared to the threat of emissions during the crediting period.

3.6 FOREST DEFINITION

The forest definition(s) listed in the TREES Registration Document must be consistent with the most recent definition(s) used by the national government in REDD+ reporting under the UNFCCC and the Paris Agreement, or, if unavailable, in other reporting under the UNFCCC and the Paris Agreement. The same forest definition(s) must be used for each full crediting period.

Participants shall explain how they have monitored or made operational their forest definition(s). Any differences in the listed forest definition(s) and operational definition(s) must be explained and justified to be conservative.

3.7 NO EX-ANTE CREDITING

ART will not issue TREES Credits for ERRs that have not yet occurred or that have not yet been verified by an ART-approved Validation and Verification Body.

3.8 REGULATORY COMPLIANCE

In each TREES Monitoring Report, Participants must attest that REDD+ activities conducted as part of the Participant's REDD+ Implementation Plan to achieve ERRs are in compliance with applicable laws and regulations. Any known instances of non-compliance or violations with laws, regulations, or other legally binding mandates directly related to REDD+ activities must be disclosed in the TREES Monitoring Report along with corrective or preventive plans or actions.

3.9 EARLIEST CREDITING PERIOD START DATE AND VINTAGE

Participants may claim TREES Credits for emissions reductions and removals that occurred up to four calendar years prior to the year of submission of the TREES Concept, provided all other requirements under TREES are met for each year of crediting.

4. CREDITING LEVEL

The historical reference period for the crediting level under TREES shall be five (5) calendar years. It must be demonstrated that there is no bias in the selection of data used to calculate the crediting level, and interpolation is permissible in cases where data does not coincide with the beginning and end of specified calendar years. The reference period shall not overlap with the crediting period and there shall be no gaps between the end of the reference period and the start of each crediting period as defined in Section 2.3. The initial crediting period start date shall not be more than four calendar years prior to the year of submission of the TREES Concept. Crediting levels shall be updated every five calendar years at the start of a new crediting period.

4.1 CALCULATING A TREES CREDITING LEVEL FOR EMISSIONS

For each crediting period Participants shall calculate an emissions crediting level from the average of emissions during the reference period (Equation 1). To ensure the crediting level is below business-as-usual, the Participant shall decrease the crediting level by 1% in each crediting period. As an alternative to decreasing the crediting level, the Participant may instead provide quantitative evidence that the TREES Crediting Level is conservative compared to the threat of emissions during the crediting period from the drivers of deforestation and degradation outlined in the REDD+ Implementation Plan.

An updated TREES crediting level may not be higher than the previous crediting level. If a new crediting level value is greater than the previous crediting level value, the previous crediting level must be used for the new crediting period. When a new pool or activity is added, the new crediting level must be calculated with the new pool or activity included in the 5-year reference data. This represents the only circumstance in which a crediting level could rise from one crediting period to the next, and the increase must be explained by the addition of the new pool or activity.

Equation 1: TREES Crediting Level

$$CL_n = \frac{\sum E_t}{5} [\times 0.99]$$

WHERE:

CL_n	Crediting Level for crediting period n ; tCO_2e
E_t	Emissions during calendar year t of the reference period; CO_2e
5	Number of calendar years in the historical reference period
0.99	1% decrease to ensure the crediting level is below business-as-usual

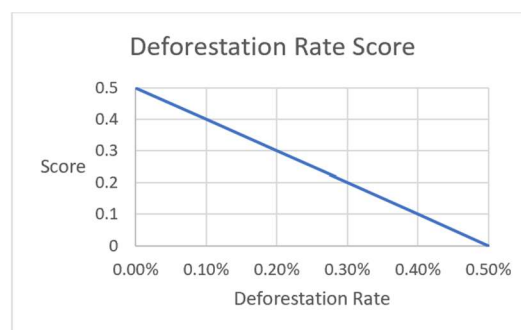
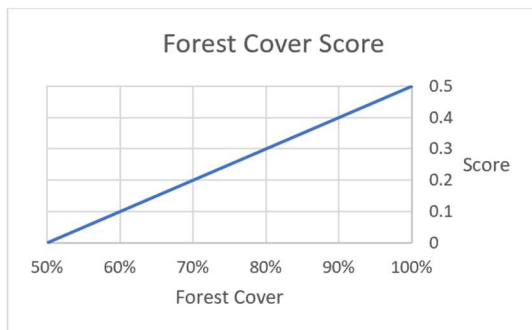
Note: this parameter is not required if the Participant can demonstrate that the 5-year historical average is below business-as-usual

4.2 CALCULATING A TREES CREDITING LEVEL FOR HFLD PARTICIPANTS (OPTIONAL APPROACH)

4.2.1 High Forest, Low Deforestation Eligibility

In order to qualify as an HFLD Participant under ART and use the optional HFLD Crediting Level approach, national or subnational Participants must demonstrate that they meet the HFLD Score threshold in each year of the historical reference period for their accounting area, which may include recognized Indigenous territories. This must be demonstrated at the beginning of each crediting period and the HFLD designation remains applicable for all five years of the crediting period. TREES Credits using the HFLD crediting approach will be labeled as such upon issuance in the ART Registry.

The HFLD Score is the sum of the Participant’s Forest Cover Score and the Participant’s Deforestation Rate Score as exemplified in the figures below and outlined in the following equations. Participants whose HFLD Score is 0.5 or higher for each year of the reference period meet the HFLD Score threshold and are considered HFLD Participants under ART.



Equation 2: HFLD Score

$$\text{HFLD Score}_t = \text{FCS}_t + \text{DRS}_t$$

WHERE:

HFLD Score_t	HFLD Score in calendar year t
FCS_t	Forest Cover Score in calendar year t (Equation 3)

DRS_t	Deforestation Rate Score in calendar year t (Equation 4)
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Equation 3: Forest Cover Score

$$FCS_t = (FC_t - 50) / 100$$

WHERE:

FCS_t	Forest Cover Score in calendar year t
FC_t	Forest Cover in calendar year t

Equation 4: Deforestation Rate Score

$$DRS_t = 0.5 - DR_t$$

WHERE:

DRS_t	Deforestation Rate Score in calendar year t
DR_t	Deforestation rate in calendar year t ⁴

Example HFLD score calculation

Consider a country with the following data, for year *t*:

Annual deforestation rate: 0.08%

Forest cover: 79%

The country's HFLD score for year *t* is calculated as follows:

1. $DRS_t = (0.5 - 0.08) = 0.42$
2. $FCS_t = (79 - 50) / 100 = 0.29$
3. $HFLD\ Score_t = 0.42 + 0.29 = 0.71$

A Participant must meet the HFLD threshold for each year of the reference period.

⁴ Deforestation rate is defined as the area of forest lost in calendar year *t* divided by the total area of forest present in calendar year *t*.

4.2.2 HFLD Crediting Approach

Participants meeting the criteria for high-forest, low-deforestation (HFLD) outlined in Section 4.2.1 may optionally use the following approach to determine the HFLD Crediting Level.

The HFLD Crediting Level shall be calculated in accordance with the formula presented in Equation 5. The HFLD Crediting level is determined by combining the TREES Crediting Level (as described in Section 4.1) with a conservative proxy of the risk of deforestation and degradation in the absence of REDD+ activities (see Section 3.5), based on the Participant’s HFLD Score and forest carbon stocks⁵.

Equation 5: HFLD Crediting Level

$$\text{HFLDCL}_n = \text{CL}_n + (\text{HFLD Score}_{\text{avg}} * \text{Carbon Stock})$$

WHERE:

HFLDCL_n	HFLD Crediting Level for crediting period n ; tCO_{2e}
CL_n	Crediting Level for crediting period n ; tCO_{2e} (Section 4.1)
HFLD Score_{avg}	HFLD Score averaged across reference period (Section 4.2.1)
Carbon Stock	0.05% of Standing Forest Carbon Stock within the accounting area at the start of the crediting period tCO_{2e}

To ensure the crediting level is below business-as-usual, at the start of each crediting period, the Participant shall provide quantitative evidence that the HFLD Crediting Level is conservative compared to the threat of emissions during the crediting period from the drivers of deforestation and degradation outlined in the REDD+ Implementation Plan.

For each year of the crediting period, HFLD Participants must compare their total reported annual emissions with the TREES Crediting Level (**CL_n** in Equation 1). If the total annual emissions exceed the TREES Crediting Level, a deduction must be applied to the total credits generated (Equation 12). The deduction shall be as follows:

Table 1: HFLD Annual Emissions Increase Deduction

Percent annual emissions exceed TREES Crediting Level	HFLD Deduction applied
≤ 15%	0
>15 - ≤ 35	15%

⁵ Above-ground and below-ground tree biomass only

>35 - ≤ 55	25%
>55 - ≤ 75	35%
>75%	No credits

4.3 CALCULATING A TREES CREDITING LEVEL FOR REMOVALS

In order to be eligible for crediting from removals for any calendar year, Participants must demonstrate that emissions have been reduced below the TREES Crediting Level during that year unless the Participant had a deforestation rate of less than 0.25% in every year of the reference period. In that case, the Participant may claim removals if 1) the removals (Equation 21 or 25) are greater than any increase in emissions above the TREES Crediting Level and 2) the emissions in the same year are no more than 15% above their TREES Crediting Level.

Removals from the conversion of non-forest to forest are eligible under TREES. TREES provides two approaches for establishing a crediting level for removals, as described in Section 4.3.1 and Section 4.3.2. The selected approach shall be identified in the TREES Registration Document and TREES Monitoring Report.

For the purposes of removals crediting under TREES, the following definitions apply:

Commercial forest is defined as any homogeneous tree planting or forest regeneration established primarily for the production of timber, fiber, fruit or tree sap. Homogenous tree planting/ regeneration should be considered as commercial forest unless the Participant can demonstrate intent of natural forest restoration and justify the appropriateness of homogenous tree planting for natural restoration.

Natural forest restoration is defined as tree planting or natural regeneration established primarily to restore natural forest cover and ecological function.

4.3.1 Spatially Explicit Removals Crediting Approach

The spatially explicit removals crediting approach may be used for crediting removals from natural forest restoration and commercial forest. Commercial forest is eligible for removals crediting only under this approach.

To use the spatially explicit approach, the Participant shall demonstrate that each area used for removals crediting:

- is defined using georeferenced data following the requirements of Section 5.2.1.1;
- has been converted from non-forest to forest and was forest prior to becoming non-forest;
- was non-forest for a minimum of five (5) years prior to the start of planting or restoration;

- has an explicit, documented link⁶ to the Participant's REDD+ activities from Section 3.3;
- is assigned to an applicable removals stratum, including whether the area is commercial forest or natural forest restoration; and
- is monitored over time in accordance with Section 5.2.1.1.

4.3.1.1 REQUIREMENTS FOR NATURAL FOREST RESTORATION

Natural forest restoration areas are eligible to use the spatially explicit removals crediting approach if they meet the requirements listed above. In addition, if a Participant chooses to use non-native species as part of the natural forest regeneration, the Participant must explain why the use of non-native species is appropriate for the location and demonstrate that this does not result in adverse impacts on natural forest areas and natural ecosystems, biodiversity and ecosystem services.

Removals from natural forest restoration under the spatially explicit approach shall use a zero-crediting level. Under this approach, all new areas of natural forest restoration during the crediting period that meet the above requirements are eligible for crediting. In addition, Participants may also claim the incremental growth that occurs during each crediting period on eligible areas of natural forest restoration established up to ten (10) years prior to the start of the Participant's initial crediting period. These previously restored areas must also meet the above requirements and shall be tracked as part of the ongoing removals strata, with a separate stratum for each year of planting or restoration (see Section 5.2.1.1).

In each year of the crediting period, areas of non-forest converted to forest for natural forest restoration, including both the initial and ongoing removals strata (see Section 5.2.1.1), shall be multiplied by the appropriate removal factor to estimate the net carbon removals eligible for crediting (see Section 10.3.1.1).

In order to ensure that crediting is consistent with having a crediting level above business-as-usual⁷, the Participant shall demonstrate that the program's REDD+ activities, to which the removals areas have an explicit and documented link, would not have occurred in the absence of the program. Participants must also deduct 1% of the removals quantified in each year prior to taking leakage or buffer pool deductions (see Equation 16 in Section 10.3.1.1).

4.3.1.2 REQUIREMENTS FOR COMMERCIAL FOREST

Commercial forest areas are eligible for removals crediting if they meet the requirements listed above. In addition, commercial forests must not include any invasive alien species⁸ in order to be eligible for crediting under TREES.

⁶ For purposes of this section, an explicit link to REDD+ activities means that the Participant must show, with evidence, that the specific removals area being credited is connected to actions the jurisdiction has listed in its REDD+ Implementation Plan.

⁷ For removals, the crediting level should be above business-as-usual, rather than below, to ensure conservative crediting.

⁸ As defined nationally, following the Convention on Biological Diversity

The crediting level for removals from commercial forests shall be the average of the annual eligible area of conversion of non-forest to commercial forest during the reference period (Equation 6). To ensure the crediting level is above business-as-usual, the Participant must then increase the crediting level by 1%. As an alternative to increasing the crediting level, the Participant may instead describe the country-specific circumstances that demonstrate that the 5-year historical average is higher than would occur without the REDD+ activities, and estimate/quantify the expected area of removals in the absence of program activities.

Equation 6: Commercial Forest Removals Crediting Level for the Spatially Explicit Approach

$$CL_{CF} = \frac{\sum ACF_{x,t}}{5} [\times 1.01]$$

WHERE:

CL_{CF}	Crediting level for new commercial forest; ha
ACF_{x,t}	Total area of new commercial forest in stratum x during calendar year t of the reference period; ha
5	Number of calendar years in the historical reference period
1.01	1% increase to ensure the crediting level is above business-as-usual <i>Note: this parameter is not required if the Participant can demonstrate that the 5-year historical average is above business-as-usual</i>

The Participant shall then determine the eligible area for crediting in each year of the crediting period by comparing the eligible area of conversion of non-forest to commercial forest in each year of the crediting period against this crediting level. Annual area in excess of the crediting level shall be eligible for crediting. If the annual eligible area is less than the crediting level in a given year, this is not a reversal, but no credits will be generated for initial removals in that year.

In each year of the crediting period, the Participant shall randomly select an area of removals equivalent to the crediting level to remove from the initial removals strata (which subsequently transitions to the ongoing removals strata); the removed area shall be proportional across all strata unless a different method can be justified as being more appropriate for the country-specific circumstances and/or more conservative.

In each year of the crediting period, areas of non-forest converted to commercial forest that exceed the applicable crediting level area, including both the initial and ongoing removals strata (see Section 5.2.1.1), shall be multiplied by the appropriate removal factor to estimate the net carbon removals eligible for crediting (see Section 10.3.1.2). Participants may credit for ongoing removals for a given year even when the area of new (initial) removals is below the crediting level for that year.

4.3.2 Sample-Based Removals Crediting Approach

The sample-based approach may be used only for natural forest restoration; conversion from non-forest to commercial forest must be excluded from removals crediting under this approach.

To use the sample-based approach, the Participant shall demonstrate that the removals accounting:

- meets the requirements of Section 5.2.1.2;
- estimates areas of conversion from non-forest to forest that were forest prior to becoming non-forest;
- includes only lands that were non-forest for a period of five (5) years prior to the start of planting or restoration;
- excludes conversion of non-forest to commercial forest; and
- monitors previously restored areas over time in accordance with Section 5.2.1.2.

Under the sample-based approach, the Participant shall include REDD+ activities related to removals in their REDD+ Implementation Plan (Section 3.3) but need not link such activities to specific areas of removals.

For removals from natural forest restoration under the sample-based approach, the crediting level shall be the average of the annual area of conversion of non-forest to forest during the reference period (Equation 7). To ensure the crediting level is above business-as-usual, the Participant must then increase the crediting level by 1%. As an alternative to increasing the crediting level, the Participant may instead describe the country-specific circumstances that demonstrate that the 5-year historical average is higher than would occur without the REDD+ activities, and estimate/ quantify the expected area of removals in the absence of program activities.

Equation 7: Natural Forest Restoration Removals Crediting Level for the Sample-Based Approach

$$CL_{NF} = \frac{\sum ANF_{x,t}}{5} [\times 1.01]$$

WHERE:

CL_{NF}	Crediting level for new natural forest restoration; ha
ANF_{x,t}	Total area of new natural forest restoration in stratum x during calendar year t of the reference period; ha
5	Number of calendar years in the historical reference period
1.01	1% increase to ensure the crediting level is above business-as-usual <i>Note: this parameter is not required if the Participant can demonstrate that the 5-year historical average is above business-as-usual</i>

The Participant shall then determine the eligible area for crediting in each year of the crediting period by comparing the eligible area of conversion of non-forest to forest in each year of the crediting period against this crediting level. Annual area in excess of the crediting level shall be eligible for crediting. If the annual eligible area is less than the crediting level in a given year, this is not a reversal, but no credits will be generated for initial removals in that year.

In each year of the crediting period, the area of non-forest converted to forest that exceeds the crediting level area, including both new and ongoing removals (see Section 5.2.1.2), shall be multiplied by the removal factor for that stratum to estimate the net carbon removals eligible for crediting (see Section 10.3.2). In the case where multiple removal factors are used, the Participant must justify why the removal factor(s) used to determine removals above the crediting level are appropriate for the country-specific circumstances and/or conservative. Participants may credit for ongoing removals even when the area of new (initial) removals for a given year is below the crediting level for that year.

5. CARBON ACCOUNTING

The TREES Credit is a greenhouse gas emission reduction or removal enhancement, denominated in metric tons of CO₂e, quantified and verified pursuant to TREES that is serialized and issued on the ART Registry as a TREES Credit.

TREES requires alignment with the most recent Intergovernmental Panel on Climate Change (IPCC) guidance and guidelines endorsed by the UNFCCC COP (including subsequent refinements), except where other methods are explicitly allowed under the Standard.

IPCC Guidelines are not specific to the purpose of REDD+ related estimation/reporting and may not systematically provide a necessary level of detail or specification. Therefore, other sources for best practices should be referenced.⁹

Participants must demonstrate that all CO₂e emission and removal estimation and quantification approaches conform with best practices for all matters. Details of each approach, including an explanation of why the approach or method was selected for use, and descriptions of how data were interpolated or prorated to achieve data for a single calendar year, must be provided in the TREES Registration Document, and any updates to measurements and methods must be detailed in the TREES Monitoring Report.

ART requires Participants to calculate GHG reductions based on the 100-year Global Warming Potentials (GWPs) in the IPCC Assessment Report that is used by the host country in NDC reporting, with the goal for all reporting to include GWPs from the IPCC Fifth Assessment Report.¹⁰ This should be accomplished in a way that ensures that both reference period and reported annual emissions under ART apply the same GWPs. A plan for eventual application of the IPCC Fifth Assessment Report must be submitted to ART in the TREES Registration Document unless the transition has already occurred.

⁹ For example, see The Global Forest Observation Initiative Methods and Guidance, <https://www.reddcompass.org/>.

¹⁰ IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

5.1 EMISSIONS ACCOUNTING REQUIREMENTS

Following IPCC guidelines, GHG emissions for each calendar year shall be the product of activity data multiplied by the respective emission factor(s), such that

$$\text{Greenhouse Gas Emissions (t CO}_2\text{e)} \\ = \text{Activity Data (units of activity)} \times \text{Emission Factor} \left(\frac{\text{t CO}_2\text{e}}{\text{unit of activity}} \right)$$

Only anthropogenic emissions shall be considered. Participants must document and justify any exclusion of non-anthropogenic emissions, following IPCC guidance.¹¹

5.1.1 Activity Data

Emissions activity data may be derived from sample-based area estimation techniques or from verifiable ground-derived data. Under specific conditions, areas directly derived from maps are acceptable (see below). Activity data must be reported in each TREES Monitoring Report at the intervals specified in Section 2.5.

The TREES Registration Document and TREES Monitoring Report must provide detailed descriptions and supporting evidence of the data sources and methods used to establish activity data, with sufficient details to enable replication by a verifier. This includes:

- Standard Operating Procedures or methodological protocols for all reference data collection and interpretation, measurements, calculations, and sample designs, as applicable
- Verifiable training procedures
- Quality Assurance/Quality Control (QA/QC) procedures for all measured data

Data collected before the Participant submits a TREES Concept are not required to meet these requirements. For example, documented training procedures are not required in this instance. However, information must be provided on how data was collected and how personnel were trained or deemed competent. Data collected after the Participant submits a TREES Concept must meet these requirements.

Emissions in natural forest and commercial (planted) forest should be assessed and reported on separately as commercial forests may not have reached mature carbon stocks by the time of deforestation or degradation.

Any changes in data sources or methods over time must ensure spatial and temporal consistency of activity data estimation, be documented in subsequent TREES Monitoring Reports, and be reviewed to ensure conformance with the requirements in this section at the verification event that follows the update. Changes are permitted during a crediting period but may require a new

¹¹ Per the 2019 Refinement to the 2006 IPCC Guidelines for Greenhouse Gas Inventories, natural disturbances may be excluded if they are “non-anthropogenic events or non-anthropogenic circumstances that cause significant emissions and are beyond the control of and not materially influenced by a country.” See Volume 4, Chapter 2 of the 2019 Refinement for more information.

TREES Registration Document to be submitted for validation to ensure consistency of approaches between the reference period and the crediting period.

Activity data must correspond to the calendar year (January 1 to December 31). If a Participant's data does not correspond to the calendar year, it must be interpolated or prorated to do so for both the reference period and the crediting period. Participants must explain how they have interpolated or prorated the activity data in the TREES Registration Document.

Both land-based and activity-based accounting are accepted under TREES. For activity-based accounting, Participants must demonstrate that no potentially significant source of emissions has been overlooked (see Section 5.4). For land-based accounting, Participants must have in place the means to add new forest areas in order to capture any future emissions from areas that have regenerated after initial registration. Uncertainty analyses must be able to determine the uncertainty associated with activity data for the selected accounting approach.

5.1.1.1 REQUIREMENTS FOR SAMPLE-BASED APPROACHES

Where activity data are sourced from sample-based approaches, area estimates and 90% confidence intervals must be reported. Wall-to-wall maps of activity data may be used in combination with sample-based approaches and may be used directly as area estimates under certain conditions (see below).

Good practice for sample-based approaches includes three components: sampling design – the protocol for selecting a subset of spatial units; response design – the protocol for classifying each sampled spatial unit to develop reference data; and analysis – the protocol for estimating accuracy, area and uncertainty (Tyukavina et al 2025). Sample units must be selected using a probability sampling design (e.g. systematic, random, or stratified random). Participants must document and justify the sampling design and sample size, including justification of the appropriateness for small or rare activity data classes. Participants must also provide the script with which the samples have been selected as well as any map data used to select sample unit locations.

Reference data must be collected in accordance with the forest definition thresholds applied by the Participant. When reference data is visually interpreted from satellite or aerial imagery, more than one interpreter must analyze the data and majority agreement or consensus decision may be used for the final reported data (see good practices in Section 4.1 of Jonckheere et al 2024 and in Tyukavina et al 2025). Participants must provide the verifier with the sample unit locations and interpretations.

Conditions specific to stratified area estimates approach:

1. The distribution of sample units per class may be allocated in multiple ways, including proportionally or optimally (for good practices, see Section 2 in Jonckheere et al 2024 and Tyukavina et al 2025). To increase the precision of estimates, Participants may split larger classes (typically the forest class) into a smaller subclass that is likely to contain the omissions of the activities of interest and a larger subclass that is unlikely to contain omission errors (Olofsson et al 2020).

2. If stratification is done based on or to assess the accuracy of wall-to-wall activity maps, information shall be reported as follows:
 - a. the error matrix including all classes used in the analysis;
 - b. the map areas for all classes;
 - c. the user and producer accuracy of the classes used for activity data reporting;
 - d. any additional details on the sample design, e.g. the use of a buffer.

If the map area estimates from wall-to-wall maps are within the 90% confidence interval of the stratified area estimates for each class used for activity data reporting, then Participants may opt to use the map estimates instead of the stratified area estimates.

Conditions specific to systematic or random sample approach:

1. Detailed information shall be reported as follows:
 - a. the equation used for establishing the sample size;
 - b. evidence that the sample size captures the feature of interest without bias;
 - c. when using a random sample, a description of the software or method used to determine the sample locations;
 - d. when using a systematic sample, provide a rationale for selecting the location of the initial sample unit or grid system, which determines the location of all other sample units
 - e. when sampling is intensified, documentation must be provided on the method of intensification along with an explanation of why sampling was intensified. If a map is used to intensify sampling, the Participant must provide the map and a table with all strata including the size of each and number of units sampled.
2. When the systematic or random sample is post-stratified, the Participant must document the method used for post-stratification, including the map or other data used to define post-strata, the area and weight of each post-stratum, sufficient class-level results to reproduce the post-stratified estimator reported in a form appropriate to the method used, and any additional design details, e.g. the use of a buffer.

5.1.1.2 REQUIREMENTS FOR GROUND-DERIVED DATA

Where activity data result from ground-derived data – including official industry or government records and statistics (e.g., harvested volumes) – information used is subject to verification, and a quantified estimate of uncertainty must be derived and reported.

5.1.2 Emission Factors

Emission factors are the GHG emissions per unit of activity data. Factors shall be the net change in carbon stocks, including the post deforestation or post degradation land use (e.g. the long-term average post-deforestation carbon stock subtracted from the carbon stock pre-deforestation).

Emission factors and components of emission factors can be derived from several data sources including on-the-ground plot measurements and inventories, peer-reviewed literature, use of models, biomass maps, and, where allowable, use of default factors such as IPCC Tier 1. All methods used for estimating emission factors shall be justified and sufficiently detailed in the TREES Registration Document to allow traceability of information to the source during verification. Where more than one emission factor exists for a stratum within the accounting area, the Participant must document which emission factors were considered and justify why the emission factor(s) selected are the most appropriate or the most conservative. Confidence intervals from the estimated emission factors, including sampling errors, shall be reported and included in uncertainty estimations.

Under TREES, IPCC Tier 1 methods and defaults may only be used for emissions accounting for secondary pools and gases (in Section 5.5), or to estimate post emission carbon stocks¹² and to estimate emissions resulting from *minor* activities (considered to be any activity contributing an equivalent of less than 3% of reported emissions; see Section 5.4).

Models and equations may be used where justified, but shall be peer-reviewed, and demonstrated to be applicable (and where necessary, parameterized) to the specified use and site conditions and must adhere to IPCC Tier 2 and Tier 3 methods.

Biomass maps may be used to derive emission factors or components of emission factors.¹³ Participants shall document the biomass product used and provide evidence of calibration and validation with nationally appropriate data. In cases where emission factors are derived from biomass maps, the uncertainty of this approach must be included.¹⁴

Emission factors derived from existing ground-plot measurements and jurisdiction-wide forest inventory data must report:

- Standard Operating Procedures (SOPs) or methodological protocols for all measurements, calculations, and sample designs
- Verifiable training procedures
- Quality Assurance/Quality Control (QA/QC) procedures for all measured data

Measurements taken to derive emission factors before a Participant submits a TREES Concept are not required to meet the three requirements listed above. For example, documented training procedures are not required in this instance. However, information must be provided on how data was collected and how personnel were trained or deemed competent. Measurements collected after the Participant submits a TREES Concept must meet these requirements.

Post-emission event removals need not be tracked year-by-year; instead, the long-term average¹⁵ post-emission carbon stock can be used when establishing emission factors. In cases

¹² Post deforestation and non-forest stocks may be derived from literature sources or direct measurements.

¹³ Guidance on the use of biomass data can be found in https://www.reddcompass.org/mgd/resources/GFOI_BiomassMaps_Guidance-20251022.pdf

¹⁴ Good practices on how to calibrate and validate biomass maps can be found in: https://lpvs.gsfc.nasa.gov/PDF/CEOS_WGCV_LPV_Biomass_Protocol_2021_V1.0.pdf

¹⁵ Typically defined as over 20 years.

where the post-emission (deforestation and degradation) land use includes cyclical systems and periodic harvest cycles (e.g., timber harvests, crop harvests, or shifting agriculture/fallow systems), the long-term average carbon stock of one full rotation (including harvests or fallow periods) shall be used. In instances where the post-deforestation or post-degradation land use carbon stock is higher than the pre-deforestation or pre-degradation carbon stock, there can be no crediting for the net sequestration. Instead, the emissions shall be treated as zero.

All emissions can be taken immediately at the time of the activity data for the purpose of simplified accounting except for emissions from peat soils. Emissions from peat soils can be accounted for immediately only where it can be verifiably demonstrated that emissions from peat are less than 3% of total emissions during the reference period AND where the deforestation rate in peatlands during the reference period is less than half of the deforestation rate in the total accounting area. Otherwise, a methodology for tracking emissions from peat soils through time both for the reference and crediting periods must be presented.¹⁶ Participants may propose a variance on the crediting level in order to account for accumulating peat emissions over time. Participants may credit for activities to reduce emissions from peat decomposition (e.g. rewetting) if the emissions from peat decomposition in the activity areas are included in emissions accounting and if the approach can adequately capture the change in emissions due to the activities.

Emission factors shall be reevaluated, and where necessary, updated every five years in line with crediting level updates and must be consistent with the reference period. Participants may determine that the emission factors do not need updating and this should be explained and justified in the TREES documentation.

5.2 REMOVALS ACCOUNTING REQUIREMENTS

GHG removals for each calendar year shall be the product of activity data multiplied by the applicable removal factor(s), such that:

$$\text{Greenhouse Gas Removals (t CO}_2\text{e)} = \text{Activity Data (units of activity)} \times \text{Removal Factor} \left(\frac{\text{t CO}_2\text{e}}{\text{unit of activity}} \right)$$

5.2.1 Activity Data

If the Participant is eligible and opts to include removals accounting, removals activity data must be reported in each TREES Monitoring Report at the intervals specified in Section 2.5.

The Participant shall apply the activity data requirements for the removals crediting-level approach selected under Section 4.3. Section 5.2.1 outlines requirements applicable to both approaches. Requirements that apply only to one approach are stated in Sections 5.2.1.1 and 5.2.1.2 and are not interchangeable.

¹⁶ This is an example of an approach that may be considered:

https://www.forestcarbonpartnership.org/system/files/documents/fmt_note_2020-5_application_of_ipcc_guidelines_v2_.pdf

The TREES Registration Document and TREES Monitoring Report must provide detailed descriptions and supporting evidence of the data sources and methods used to establish activity data, with sufficient details to enable replication by a verifier. This includes:

- Standard Operating Procedures or methodological protocols for all reference data collection and interpretation, measurements, calculations, and sample designs, as applicable
- Verifiable training procedures
- Quality Assurance/Quality Control (QA/QC) procedures for all measured data

Data collected before the Participant submits a TREES Concept are not required to meet these requirements. For example, documented training procedures are not required in this instance. However, information must be provided on how data was collected and how personnel were trained or deemed competent. Data collected after the Participant submits a TREES Concept must meet these requirements.

Any changes in data sources or methods over time must ensure spatial and temporal consistency of activity data estimation, be documented in subsequent TREES Monitoring Reports, and be reviewed to ensure conformance with the requirements in this section at the verification event that follows the update. Changes are permitted during a crediting period but may require a new TREES Registration Document to be submitted for validation to ensure consistency of approaches between the reference period and the crediting period.

Activity data must correspond to the calendar year (January 1 to December 31). If a Participant's data does not correspond to the calendar year, it must be interpolated or prorated to do so for both the reference period and the crediting period. Participants must explain how they have interpolated or prorated the activity data in the TREES Registration Document.

5.2.1.1 ACTIVITY DATA FOR THE SPATIALLY EXPLICIT REMOVALS APPROACH

Where the Participant uses the spatially explicit approach described in Section 4.3.1, removals activity data shall meet the requirements in this section. Areas of removals shall be provided in a georeferenced file or other equivalent documentation and must be demonstrated to meet the requirements for removals described in Section 4.3.1. The areas shall only include land that has been converted from non-forest to forest; infrastructure or other land on the same property that has not been converted may not be included.

The georeferenced data or equivalent documentation used to define removals areas shall be determined by field data collected with GPS, visual interpretation of high-resolution satellite or aerial imagery, or other verifiable spatial evidence. Each area shall undergo validation, where at least one additional trained interpreter shall assess the area of removals, and the final area shall be based on majority agreement, consensus decision, or another documented QA/QC procedure.

Activity data shall differentiate commercial forest and natural forest restoration, though a Participant may choose to only credit for commercial forest or only credit for natural forest

restoration. Activity data shall also distinguish any other strata within these categories that have different removal factors.

In each calendar year, the Initial Removals strata shall be defined including all areas eligible for crediting that began restoration or planting in that year, separated into commercial forest and natural forest restoration, and stratified as appropriate to align with removal factors. The Initial Removals stratum for crediting from commercial forest restoration shall identify all eligible areas for that year as well as the areas selected for crediting that are above the crediting level. In the subsequent year, the areas above the crediting level in the Initial Removals strata transition to ongoing removals strata (ORS) for the year; the ORS shall include all areas being claimed for ongoing removals crediting, separated into commercial forest and natural forest restoration, and stratified as appropriate to align with removal factors. The ORS shall continue to be monitored to ensure that removals can be properly accounted for in future years and to account for any deforestation emissions occurring in these areas. Any hectare of planted or restored forest in the ORS that is subsequently recorded as being deforested shall be removed from the ORS and is no longer eligible for ongoing removals crediting.

If an area that is being credited for removals under ART is converted back to non-forest, the resulting emissions, based on the removal factor(s) used for that area, must be reported as deforestation emissions for that year in the next TREES Monitoring Report submitted to ART.

5.2.1.2 ACTIVITY DATA FOR THE SAMPLE-BASED REMOVALS APPROACH

Where the Participant uses the sample-based approach in Section 4.3.2, removals activity data shall meet the requirements in this section. Removals activity data must be derived from sample-based area estimation techniques. Under specific conditions, areas directly derived from maps are acceptable (see Section 5.1.1). The activity data shall be consistent with the applicable requirements for sample-based approaches under Section 5.1.1, including reporting area estimates and confidence intervals and providing sufficient information to enable verification. As noted in Section 4.3.2, commercial forests must be excluded from the sample-based removals approach.

The Participant shall document and justify the methods used to monitor deforestation over time in previously restored areas. In the event that previously restored areas are deforested, the Participant must reduce the area of ongoing removals claimed as appropriate and report associated deforestation emissions in the next TREES Monitoring Report submitted to ART based on the removal factor(s) used.

5.2.2 Removal Factors

Removal factors are the GHG removals per unit of activity data per year since the start of the reforestation / forest restoration activity. Removal factors must be net of land cover prior to planting or restoration activities as well as any tree mortality and/or harvests that may occur in commercial forest plantations and/or natural forest restoration areas during the crediting period.

In cases where the restoration activity includes cyclical systems and periodic harvest cycles (e.g., commercial plantations), removals credits may be claimed up to the long-term average carbon stock of one full rotation (including harvests or fallow periods). Once the area has reached the long-term average carbon stock, additional removals credits will not be issued, and the area should be monitored as part of the general forest monitoring for deforestation and degradation events. Participants must document their approach for claiming removals from cyclical systems.

Removal factors and components of removal factors can be derived from several data sources including on-the-ground plot measurements and inventories, peer-reviewed literature, use of models, biomass maps, and IPCC Tier 1 default factors. IPCC Tier 1 default factors may be used in all instances for removals but must be shown to be conservative through on-the-ground measurements or country-specific peer-reviewed literature. All methods used for estimating removal factors shall be justified and sufficiently detailed in the TREES Registration Document to allow traceability of information to the source during verification. Where more than one removal factor exists for a stratum within the accounting area, the Participant must document which removal factors were considered and justify why the removal factor(s) selected are the most appropriate or the most conservative. Confidence intervals from the estimated removal factors, including sampling errors, shall be reported and included in uncertainty estimations.

Models and equations may be used where justified, but shall be peer-reviewed, and demonstrated to be applicable (and where necessary, parameterized) to the specified use and site conditions and must adhere to IPCC Tier 2 and Tier 3 methods.

Biomass maps may be used to derive removal factors or components of removal factors.¹⁷ Participants shall document the biomass product used and provide evidence of calibration and validation with nationally appropriate data. In cases where removal factors are derived from biomass maps, the uncertainty of this approach must be included.¹⁸

Removal factors derived from existing ground-plot measurements and jurisdiction-wide forest inventory data must report:

- Standard Operating Procedures (SOPs) or methodological protocols for all measurements, calculations, and sample designs
- Verifiable training procedures
- Quality Assurance/Quality Control (QA/QC) procedures for all measured data

Measurements taken to derive removal factors before a Participant submits a TREES Concept are not required to meet the three reporting requirements listed above. For example, documented training procedures are not required in this instance. However, information must be provided on how data was collected and how personnel were trained or deemed competent. Measurements collected after the Participant submits a TREES Concept must meet these reporting requirements.

¹⁷ Guidance on the use of biomass data can be found in https://www.reddcompass.org/mgd/resources/GFOI_BiomassMaps_Guidance-20251022.pdf

¹⁸ Good practices on how to calibrate and validate biomass maps can be found in: https://lpvs.gsfc.nasa.gov/PDF/CEOS_WGCV_LPV_Biomass_Protocol_2021_V1.0.pdf

Removal factors shall be reevaluated and where necessary updated every five years in line with crediting level updates and must be consistent with the reference period (where applicable). Participants may determine that the removal factors do not need updating and this should be explained and justified in the TREES documentation.

5.3 FOREST STRATIFICATION

Participants may choose to disaggregate their forest area into different forest types in order to improve estimates or uncertainties of emissions and/or removals.¹⁹ At a minimum, Participants must stratify between natural and commercial forests, according to the requirements of Sections 5.1.1 and 5.2.1. Where stratification is employed, Participants shall:

- Document the stratification criteria and procedure in the TREES Registration Document and TREES Monitoring Report
- Document the procedure for updating the stratification over time, when applicable
- Maintain records of stratification work and any changes made over time, including maps and relevant files

5.4 SCOPE OF ACTIVITIES

TREES incorporates accounting for emissions and removals as outlined in Section 3.2. Emissions across activities shall be summed.

Emissions from forest degradation must be included unless these emissions total < 10% of reported deforestation emissions during the reference period.²⁰ In cases where activity-based analysis is conducted, individual forest emission activities (e.g., timber harvest or fuel wood collection) can be excluded where considered minor, such that Tier 1 (or better) estimation of emissions are < 3% of reported deforestation emissions during the reference period as long as the sum of excluded activities remains < 10% of reported deforestation emissions. The estimates used in this justification shall be updated at the beginning of each crediting period. If emissions from an activity that was excluded in the previous crediting level are higher in the new reference period than in the previous reference period, the activity must be added to the TREES Crediting Level as described in Section 4.1.

Removals may be excluded in all instances but must be excluded for any calendar year where the emissions exceed the TREES Crediting Level unless the Participant had a deforestation rate of less than 0.25% in every year of the reference period. In that case, the Participant may claim removals for any year of the crediting period if 1) the removals (Equation 21 or 25) are greater than any increase in emissions above the TREES Crediting Level and 2) the emissions in the same year are no more than 15% above their TREES Crediting Level.

¹⁹ Note that the term “stratification” in this context is different from stratification for the purposes of sample-based area estimates, as described in Section 5.1.1.

²⁰ Evidence to demonstrate this exclusion may include published government reports, peer reviewed scientific literature, forest industry and market reports, or other relevant documentation.

5.5 SCOPE OF POOLS AND GASES

The pools under TREES are:

PRIMARY	Aboveground live tree biomass	<i>part of IPCC - AGB</i>
	Soil organic matter (peat soils)	<i>part of IPCC – SOM</i>
SECONDARY	Belowground live tree biomass	<i>part of IPCC - BGB</i>
	Standing dead wood	<i>part of IPCC - DW</i>
	Down dead wood	<i>part of IPCC - DW</i>
	Litter/forest floor	<i>IPCC - L</i>
	Non-tree live biomass	<i>part of IPCC - AGB</i>
	Soil organic matter (mineral soils)	<i>part of IPCC - SOM</i>

IPCC carbon pool categories are given for the purpose of cross-walking. AGB – above-ground biomass; BGB – below-ground biomass; DW – dead wood; L – litter; SOM – soil organic matter.

Pools not listed here are excluded, including for example harvested wood products.

The gases under TREES are:

PRIMARY	Carbon dioxide (CO ₂)
SECONDARY	Methane (CH ₄)
	Nitrous oxide (N ₂ O)

Estimates of emissions from the primary pools and gas must result from IPCC Tier 2/3 methods. Tier 1 methods may be used for emissions from soil organic carbon (peat soils) where it can be verifiably demonstrated that emissions from peat are less than 3% of total emissions during the reference period AND where the deforestation rate in peatlands during the reference period is less than half of the deforestation rate in the total accounting area.

Secondary pools and gases may be excluded from emissions accounting where either (a) the exclusion is demonstrated to be conservative; or (b) the emissions from the relevant pool or gas are demonstrated to be less than 3% of total emissions during the reference period, provided that the sum of emissions from all excluded pools and gases does not exceed 10% of total emissions during the reference period. The estimates used in this justification shall be updated at the beginning of each crediting period. If included, secondary pools and gases may be calculated using literature or IPCC Tier 1 calculation approaches, but the approach used may not be at a lower tier than that used in the national GHG inventory submitted to the UNFCCC.

For removals accounting, the primary pools and gas must be included, while secondary pools and gases are optional.



For both emissions and removals accounting, the pools and gases included shall remain fixed for each crediting period and once included, pools and gases may not be excluded in future crediting periods.

6. MONITORING

6.1 MONITORING PLAN

Each ART Participant shall develop a monitoring plan as part of the TREES Registration Document. The plan shall include parameters to be monitored and frequency and method of data collection including responsible parties. All data reported must have been subjected to quality control checks. Internal data quality checks and other quality control procedures shall be documented. Where appropriate, the plan may refer to other plans or documents that provide the information required.

All monitoring data shall be collected in line with the requirements of this Standard.

6.2 MONITORING AND REPORTING FREQUENCY

Following successful validation and verification of the initial TREES Registration Document and TREES Monitoring Report, Participants shall monitor and submit a TREES Monitoring Report following calendar years 1, 3, and 5 of the crediting period. A Participant may optionally submit a TREES Monitoring Report following years 2 and 4 of the crediting period as outlined in Section 14. Participants crediting for removals may monitor and report removals on a different frequency than emissions reductions but shall at a minimum include removals in the TREES Monitoring Reports following calendar years 1, 3, and 5 of the crediting period. The Participant shall use the latest approved TREES Monitoring Report template available on the ART website.

For Participants that wish to have credits deemed eligible for ICAO's Carbon Offsetting Scheme for International Aviation (CORSIA) or that wish to have their HFLD credits deemed eligible for an Integrity Council for the Voluntary Market (ICVCM) Core Carbon Principle (CCP) label, TREES requires that the Participant agree to monitor, report and verify under TREES for a minimum of four five-year crediting periods (20 years).

Subnational Participants who shift to be included in national level reporting after 2035 do not need to report separately as long as the national government reports under TREES. If the national government chooses not to join ART by the end of 2035 or leaves ART at any time prior to the end of the Subnational Participant's 20-years, the Subnational Participant will be required to continue monitoring, reporting and verifying under TREES for the remainder of its 20-year period.

7. REVERSALS AND LEAKAGE

7.1 REVERSALS

Under TREES, a reversal is when a Participant's annual reported emissions are higher than the crediting level for any calendar year after TREES Credits are issued to the Participant. Participants in ART are required to report following calendar years 1, 3 and 5 of each crediting period. Monitoring under ART is not required after a Participant exits the program, unless required under Section 6.2.

To maintain conservativeness under TREES, reversals are reported and a volume of credits from the buffer pool equivalent to the reversed volume is cancelled to permanently remove the credits from circulation and negate the reversal. If a Participant exits ART, any unused buffer pool contributions are cancelled to account for any possible future reversals as outlined in Section 7.1.4.

7.1.1 Reversal Risk Assessment

Participants shall assess their jurisdiction-specific level of reversal risk in accordance with the TREES Reversal Risk Rating Tool. The Participant shall use the latest approved TREES Reversal Risk Rating Tool available on the ART website. The total risk rating is calculated for each reporting year and is the result of the analysis, unless the Participant has reported a reversal in either the Initial TREES Monitoring Report or within the last five years of reporting. In these instances, the total risk rating is as outlined in Section 7.1.3.

7.1.2 Buffer Pool Contribution

ART maintains a combined buffer pool that includes contributions from all Participants. Based on the results of the Risk Assessment, each Participant must contribute to the TREES Buffer Pool, which is managed by the ART Secretariat.

The buffer contribution % is determined by the total risk rating determined in Section 7.1.1. This % must be used as "Buffer%" in Equations 29 and 34 (Section 10.4).

7.1.3 Reversal Compensation

When a reversal is identified in a TREES Monitoring Report, credits shall be cancelled from the pooled buffer account equal to the lower of I or II:

- I. The number of emissions above the crediting level
- II. The total number of credits previously issued to the Participant

If the number of credits cancelled for the reversal exceeds the number of credits contributed to the buffer to date by the Participant, this deficit must be replenished by the Participant. The Participant shall first use verified credits already in its account for the replenishment. If eligible credits are not available or do not fully replenish the buffer pool, future credits issued to the Participant will be placed into the buffer until the excess amount is replenished. Alternatively, the Participant may purchase equivalent TREES Credits and use these to replenish the required buffer amount. CORSIA Eligible credits must be compensated by buffer pool credits from CORSIA Eligible issuances.

After each reversal is reported, a Participant must use the highest Risk Rating possible in Section 7.1.1 (25%) plus a reversal increase of 5%, for a total risk rating of 30%, to determine its annual buffer contribution for a period of five calendar years.

If a reversal is reported in the first TREES Monitoring Report submitted to ART, the highest Risk Rating possible (25%) must be used for the years prior to the reversal as it will be assumed that mitigation measures were unsuccessful in mitigating the risk of reversal. Similarly, as outlined above, the buffer pool contribution shall be 30% for the 5 calendar years after the reversal. If the total amount of claimed credits plus the buffer pool contribution would not fully compensate for the reversal, no emission reductions or removals have been achieved in the monitoring period and ART will not accept the TREES Monitoring Report submission.

7.1.4 Buffer Pool Management

The TREES Buffer Pool will be managed by the ART Secretariat, with credits cancelled where reversals are recorded. If a Participant leaves ART at any time, all of that Participant's remaining buffer pool contributions are cancelled to compensate for any future reversals that may occur.

7.2 LEAKAGE

Where Participants submit a subnational crediting level, then negative leakage of emissions to outside the accounting area can occur. Participants must apply specified TREES leakage deductions.

TREES establishes three classes of leakage risk for Participants: high, medium, low. Participants must use the TREES Leakage Deduction table to determine the proportion of ERRs that must be used as "Leakage%" in Equations 26 and 31 (Section 10.4).

7.2.1 Leakage Deduction

The TREES Leakage Deduction shall consider the program boundaries. Both activity-shifting and market leakage are covered in the standardized deductions.

Table 2: Leakage Deduction Assessment

LEAKAGE CATEGORY	CRITERIA	DEDUCTION (LEAKAGE%)
High	< 25% of national forest area included in TREES	20
Medium	25–60% of national forest area included in TREES	10
Low	60–90% of national forest area included in TREES	5
No Leakage	>90% of national forest area included in TREES	0

8. UNCERTAINTY

TREES requires that estimates of emission reductions and removals are adjusted based on estimated uncertainty to minimize the risk of over-crediting. Participants shall endeavor to minimize all forms of uncertainty. Requirements to track uncertainty and to avoid systematic bias are given in Section 5.

Under TREES, uncertainty shall be quantified in terms of the half-width of the 90% confidence interval as a percentage of the estimated emissions. Sampling errors must be estimated and included in the uncertainty calculation.

Model and allometric errors are excluded, as such errors are considered consistent between emissions in the reference period and crediting period, and thus the transaction cost and capacity building needed to include far outweigh any benefit in uncertainty determination.

Uncertainty shall be assessed on both activity data and emission factors, and it shall be assessed separately for emission reductions and removals. Errors shall be propagated between sources using Approach 2 (Monte Carlo simulation). Monte Carlo simulations shall use the 90% confidence interval and a simulation n of 10,000. The bootstrapping method may be used where the probability density function is unknown. The simulations will form the basis for estimations both of value and uncertainty at each step, as the simulated sum of components will be more accurate than an arithmetic approach. Thus, simulated values should replace arithmetic values in Section 10.²¹

Participants must take an uncertainty deduction corresponding to the calculated risk of over-crediting for the calculated emission reductions and removals in accordance with Equations 27 and 32, respectively.

At the end of each crediting period the Participant may calculate emission reduction and removal uncertainty values across the crediting period based on the summed gross emission reductions or removals. In cases where the uncertainty value for the crediting period is less than an annual uncertainty value, additional TREES Credits will be serialized for issuance into the Participant's registry account²².

Equation 8: Emission Reduction Uncertainty Adjustment Factor

$$UA_{ER,t} = 0.524417 * \left(\frac{90\% CI_{ER,t}}{1.645006} \right)$$

Equation 9: Removals Uncertainty Adjustment Factor

$$UA_{REMV,t} = 0.524417 * \left(\frac{90\% CI_{REMV,t}}{1.645006} \right)$$

²¹ Monte Carlo guidance is available on the ART website.

²² Note that these additional credits are also subject to a buffer pool contribution.

WHERE:

$UA_{ER,t}$	TREES emission reduction uncertainty adjustment factor in calendar year t
$UA_{REMV,t}$	TREES removals uncertainty adjustment factor in calendar year t
0.524417	t value at ART allowable risk
90% $CI_{ER,t}$	Half width of 90% confidence interval for emission reductions expressed as a percent of the mean emission reductions in calendar year t ; %
90% $CI_{REMV,t}$	Half width of 90% confidence interval for removals expressed as a percent of the mean removals in calendar year t ; %
1.645006	t value at 90% confidence level

9. EMISSION REDUCTIONS AND REMOVALS LABELING

TREES Credits using the accounting area Transition Pathway, the HFLD Crediting approach, and the Removals Crediting approach will be labeled in the ART Registry to enable clear identification. TREES Credits shall also be labeled to signify CORSIA Eligibility, ICVCM CCP approval, and other attributes as appropriate.

10. CALCULATION OF EMISSION REDUCTIONS AND REMOVALS

10.1 GHG REDUCTIONS USING THE TREES CREDITING LEVEL APPROACH

Equation 10: GHG Reductions using the TREES Crediting Level Approach

$$GHG\ ER_t = CL_t - GHG_t$$

WHERE:

GHG ER_t	GHG ERs in calendar year t ; tCO₂e
CL_t	TREES Crediting Level for calendar year t ; tCO₂e (Equation 1)
GHG_t	GHG emissions in calendar year t ; tCO₂e

10.2 GHG REDUCTIONS USING THE HFLD CREDITING APPROACH

Equation 11: GHG Reductions using the HFLD Crediting Level Approach

$$HFLD\ CL\ ER_t = HFLDCL_t - GHG_t$$

WHERE:

HFLD CL ER_t	GHG ERs in calendar year t using the HFLD CL approach; tCO₂e
HFLDCL_t	HFLD Crediting Level for calendar year t ; tCO₂e (Equation 5)
GHG_t	GHG emissions in calendar year t ; tCO₂e

Equation 12: HFLD Penalty Deduction

$$PN_t = HFLD\ CL\ ER_t \times HFLDdeduction\%$$

WHERE:

PN_t	HFLD penalty deduction; tCO_{2e}
HFLD CL ER_t	GHG ERs in calendar year t using the HFLD CL approach; tCO_{2e}
HFLDdeduction%	HFLD deduction (from Section 4.2, Table 1); %

Equation 13: Adjusted GHG Reductions using the HFLD Crediting Approach

$$GHG\ ER_t = HFLD\ CL\ ER_t - PN_t$$

WHERE:

GHG ER_t	Adjusted GHG ERs using HFLD Crediting approach in calendar year t ; tCO_{2e}
PN_t	HFLD penalty deduction in calendar year t ; tCO_{2e} (Section 4.2.2)
HFLD CL ER_t	GHG ERs in calendar year t using the HFLD CL approach; tCO_{2e}

10.3 GHG REMOVALS

10.3.1 Removals Using the Spatially Explicit Crediting Approach

10.3.1.1 REMOVALS FROM NATURAL FOREST RESTORATION

Equation 14: Initial GHG Removals for Natural Forest Restoration Using the Spatially Explicit Approach

$$REMV_NF_{Initial,t} = \sum_x^n ((ARNF_{x,t} \times RF_x) - CE_x)$$

WHERE:

REMV_NF_{Initial,t}	Greenhouse gas removals for new natural forest restoration in calendar year t of participation in ART; tCO₂e <i>Note: REMV_NF_{Initial,t} includes all areas of new planting and restoration in a given year. All removals areas are reported as REMV_NF_{Initial,t} only for one year. Following this initial year, all removals are reported as Ongoing removals, REMV_NF_{Ongoing,t}, for all subsequent reporting to ART.</i>
ARNF_{x,t}	Area of new natural forest restoration removals in stratum x in calendar year t of participation in ART; ha
RF_x	Removal factor for stratum x ; tCO₂e/ha
CE_x	GHG emissions resulting from clearing vegetation prior to conversion to forest for stratum x ; tCO₂e

Equation 15: Ongoing GHG Removals for Natural Forest Restoration Using the Spatially Explicit Approach

$$REMV_NF_{Ongoing,t} = \sum_x^n (ORS_NF_{x,t} * RF_x)$$

WHERE:

REMV_NF_{Ongoing,t}	Greenhouse gas removals for natural forest restoration in the ‘Ongoing Removals Stratum’ in calendar year t of participation in ART; tCO₂e
ORS_NF_{x,t}	Area of removals for natural forest restoration in the ‘Ongoing Removals Stratum’ for stratum x in calendar year t of participation in ART; ha <i>Note: For natural forest restoration using the spatially explicit approach, the Ongoing Removals Strata may contain removals areas established up to 10 years prior to the start of the Participant’s initial crediting period. Removals crediting areas that have been deforested must be removed from the Ongoing Removals Strata.</i>
RF_x	Removal factor for stratum x ; tCO₂e/ha

Equation 16: GHG Removals for Natural Forest Restoration Using the Spatially Explicit Approach

$$\text{GHG REMV_NF}_t = (\text{REMV_NF}_{\text{Initial},t} + \text{REMV_NF}_{\text{Ongoing},t}) \times 0.99$$

WHERE:

GHG REMV_NF_t	Greenhouse gas removals for natural forest restoration in calendar year t of participation in ART; tCO₂e
REMV_NF_{Initial,t}	Greenhouse gas removals for new natural forest restoration in calendar year t of participation in ART; tCO₂e
REMV_NF_{Ongoing,t}	Greenhouse gas removals for natural forest restoration in the ‘Ongoing Removals Stratum’ in calendar year t of participation in ART; tCO₂e
0.99	1% deduction to the quantified removals to ensure crediting is above business-as-usual

10.3.1.2 REMOVALS FROM COMMERCIAL FOREST

Equation 17: Initial Area of Removals for Commercial Forests

$$\text{ARCF}_t = \text{ACF}_t - \text{CL_CF}$$

WHERE:

ARCF_t	Area of new commercial forest removals above the crediting level in calendar year t of participation in ART; ha <i>Note: If CL_CF is greater than ACF_t, ARCF_t = 0</i>
ACF_t	Area of new commercial forest in calendar year t of participation in ART; ha
CL_CF	Crediting level for new commercial forest; ha (Equation 6)

Equation 18: Initial GHG Removals for Commercial Forests

$$\text{REMV_CF}_{\text{Initial},t} = \sum_x^n ((\text{ARCF}_{x,t} \times \text{RF}_x) - \text{CE}_x)$$

WHERE:

REMV_CF_{Initial,t}	Greenhouse gas removals for new commercial forests in calendar year t of participation in ART; tCO₂e <i>Note: REMV_CF_{Initial,t} includes all areas of new planting in a given year. All removals areas are reported as REMV_CF_{Initial,t} only for one year. Following this initial year, all removals are reported as Ongoing removals, REMV_CF_{Ongoing,t}, for all subsequent reporting to ART.</i>
ARCF_{x,t}	Area of new commercial forest removals above the crediting level in stratum x in calendar year t of participation in ART; ha
RF_x	Removal factor for stratum x ; tCO₂e/ha
CE_x	GHG emissions resulting from clearing vegetation prior to conversion to forest for stratum x ; tCO₂e

Equation 19: Ongoing GHG Removals for Commercial Forests

$$REMV_CF_{Ongoing,t} = \sum_x^n (ORS_CF_{x,t} \times RF_x)$$

WHERE:

REMV_CF_{Ongoing,t}	Greenhouse gas removals for commercial forests in the ‘Ongoing Removals Stratum’ in calendar year t of participation in ART; tCO₂e/yr
ORS_CF_{x,t}	Area of commercial forest removals in the ‘Ongoing Removals Stratum’ for stratum x in calendar year t of participation in ART; ha <i>Note: Removals crediting areas that have been deforested must be removed from the Ongoing Removals Strata.</i>
RF_x	Removal factor for stratum x ; tCO₂e/ha

Equation 20: GHG Removals for Commercial Forests

$$GHG\ REMV_CF_t = REMV_CF_{Initial,t} + REMV_CF_{Ongoing,t}$$

WHERE:

GHG REMV_CF_t	Greenhouse gas removals for commercial forests in calendar year t of participation in ART; tCO_{2e}
REMV_CF_{Initial,t}	Greenhouse gas removals for new commercial forests in calendar year t of participation in ART; tCO_{2e}
REMV_CF_{Ongoing,t}	Greenhouse gas removals for commercial forests in the 'Ongoing Removals Stratum' in calendar year t of participation in ART; tCO_{2e}

10.3.1.3 TOTAL REMOVALS USING THE SPATIALLY EXPLICIT APPROACH

Equation 21: Total GHG Removals Using the Spatially Explicit Approach

$$\text{GHG REMV}_t = \text{GHG REMV_NF}_t + \text{GHG REMV_CF}_t$$

WHERE:

GHG REMV_t	Total greenhouse gas removals using the spatially explicit approach in calendar year t of participation in ART; tCO_{2e}
GHG REMV_NF_t	Greenhouse gas removals for natural forest restoration in calendar year t of participation in ART; tCO_{2e}
GHG REMV_CF_t	Greenhouse gas removals for commercial forest in calendar year t of participation in ART; tCO_{2e}

10.3.2 Removals Using the Sample-Based Crediting Approach

Equation 22: Initial Area of Removals for Natural Forests Using the Sample-Based Approach

$$\text{ARNF}_t = \text{ANF}_t - \text{CL_NF}$$

WHERE:

ARNF_t	Area of new natural forest restoration removals above the crediting level in calendar year t of participation in ART; ha <i>Note: If CL_NF is greater than ANF_t, ARNF_t = 0</i>
ANF_t	Area of new natural forest restoration in calendar year t of participation in ART; ha
CL_NF	Crediting level for new natural forest restoration; ha (Equation 7)

Equation 23: Initial GHG Removals for Natural Forest Restoration Using the Sample-Based Approach

$$REMV_NF_{Initial,t} = \sum_x^n ((ARNF_{x,t} \times RF_x) - CE_x)$$

WHERE:

REMV_NF_{Initial,t}	Greenhouse gas removals for new natural forest restoration in stratum x in calendar year t of participation in ART; tCO₂e <i>Note: REMV_NF_{Initial,t} includes all areas of new planting and restoration in a given year. All removals areas are reported as REMV_NF_{Initial,t} only for one year. Following this initial year, all removals are reported as Ongoing removals, REMV_NF_{Ongoing,t}, for all subsequent reporting to ART.</i>
ARNF_{x,t}	Area of new natural forest restoration removals above the crediting level in stratum x in calendar year t of participation in ART; ha
RF_x	Removal factor for stratum x ; tCO₂e/ha
CE_x	GHG emissions resulting from clearing vegetation prior to conversion to forest for stratum x ; tCO₂e

Equation 24: Ongoing GHG Removals for Natural Forest Restoration Using the Sample-Based Approach

$$REMV_NF_{Ongoing,t} = \sum_x^n (OR_NF_{x,t} * RF_x)$$

WHERE:

REMV_NF_{Ongoing,t}	Ongoing greenhouse gas removals for natural forest restoration in calendar year t of participation in ART; tCO₂e
OR_NF_{x,t}	Area of ongoing removals for natural forest restoration for stratum x in calendar year t of participation in ART; ha <i>Note: The area of ongoing removals must take into account deforestation in previously restored areas.</i>
RF_x	Removal factor for stratum x ; tCO₂e/ha

Equation 25: GHG Removals for Natural Forest Restoration Using the Sample-Based Approach

$$\text{GHG REMV}_t = \text{REMV_NF}_{\text{Initial},t} + \text{REMV_NF}_{\text{Ongoing},t}$$

WHERE:

GHG REMV_t	Greenhouse gas removals for natural forest restoration in calendar year t of participation in ART; tCO₂e
REMV_NF_{Initial,t}	Greenhouse gas removals for new natural forest restoration across all strata in calendar year t of reporting to ART; tCO₂e
REMV_NF_{Ongoing,t}	Ongoing greenhouse gas removals for natural forest restoration in calendar year t of participation in ART; tCO₂e

10.4 TOTAL TREES CREDITS

10.4.1 Total TREES Emission Reduction Credits

Equation 26: Emission Reduction Leakage Deduction

$$\text{LEAK}_{\text{ER},t} = \text{GHG ER}_t \times \text{Leakage}\%$$

WHERE:

LEAK_{ER,t}	TREES emission reduction leakage deduction in calendar year t ; tCO₂e
GHG ER_t	GHG ERs in calendar year t ; tCO₂e (Equation 10 or Equation 13)
Leakage%	Percentage leakage deduction (from Section 7.2.1, Table 2); %

Equation 27: Emission Reduction Uncertainty Deduction

$$UNC_{ER,t} = GHG ER_t \times UA_{ER,t}$$

WHERE:

UNC_{ER,t}	TREES emission reduction uncertainty deduction in calendar year t ; tCO₂e <i>Note: UNC_{ER,t} may be recalculated at the end of the crediting period in accordance with Section 8.</i>
GHG ER_t	GHG ERs in calendar year t ; tCO₂e (Equation 10 or Equation 13)
UA_{ER,t}	TREES emission reduction uncertainty adjustment factor in calendar year t (Section 8, Equation 8)

Equation 28: Adjusted TREES Emission Reductions

$$TREES ER_t = GHG ER_t - LEAK_{ER,t} - UNC_{ER,t} - OTH_{ER,t} - NR_{ER,t}$$

WHERE:

TREES ER_t	Adjusted TREES emission reductions in calendar year t ; tCO₂e <i>Note: TREES ER_t may not be negative.</i>
GHG ER_t	GHG ERs in calendar year t ; tCO₂e (Equation 10 or Equation 13)
LEAK_{ER,t}	TREES emission reduction leakage deduction in calendar year t ; tCO₂e
UNC_{ER,t}	TREES emission reduction uncertainty deduction in calendar year t ; tCO₂e
OTH_{ER,t}	Emissions reductions from other initiatives within the same accounting area in calendar year t ; tCO₂e (see Section 13)

$NR_{ER,t}$	Other emission reductions for which Participant does not have the rights in calendar year t ; tCO_2e (see Section 3.4)
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Equation 29: Emission Reduction Buffer Pool Contribution

$$BUF_{ER,t} = TREES\ ER_t \times Buffer\%$$

WHERE:

$BUF_{ER,t}$	TREES emission reduction buffer withholding in calendar year t ; tCO_2e
$TREES\ ER_t$	Adjusted TREES ERs in calendar year t ; tCO_2e
$Buffer\%$	Buffer contribution (from Section 7.1.2) potentially adjusted upwards as a result of prior reversals; %

Equation 30: Total TREES Emission Reduction Credits

$$TREES\ ER\ Credits_t = TREES\ ER_t - BUF_{ER,t}$$

WHERE:

$TREES\ ER\ Credits_t$	TREES Emission Reduction Credits in calendar year t ; tCO_2e
$TREES\ ER_t$	TREES Emission Reductions in calendar year t ; tCO_2e
$BUF_{ER,t}$	TREES emission reduction buffer withholding in calendar year t ; tCO_2e

10.4.2 Total TREES Removals Credits

Equation 31: Removals Leakage Deduction

$$LEAK_{REMV,t} = GHG\ REMV_t \times Leakage\%$$

WHERE:

$LEAK_{REMV,t}$	TREES removals leakage deduction in calendar year t ; tCO_2e
$GHG\ REMV_t$	GHG removals in calendar year t ; tCO_2e (Equation 21 or 25)

Leakage%	Percentage leakage deduction (from Section 7.2.1, Table 2); %
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Equation 32: Removals Uncertainty Deduction

$$UNC_{REMV,t} = GHG_{REMV,t} \times UA_{REMV,t}$$

WHERE:

$UNC_{REMV,t}$	TREES removals uncertainty deduction in calendar year t ; tCO₂e <i>Note: $UNC_{REMV,t}$ may be recalculated at the end of the crediting period in accordance with Section 8.</i>
$GHG_{REMV,t}$	GHG removals in calendar year t ; tCO₂e (Equation 21 or 25)
$UA_{REMV,t}$	TREES removals uncertainty adjustment factor in calendar year t (Section 8, Equation 9)

Equation 33: Adjusted TREES Removals

$$TREES_{REMV,t} = GHG_{REMV,t} - LEAK_{REMV,t} - UNC_{REMV,t} - OTH_{REMV,t} - NR_{REMV,t}$$

WHERE:

$TREES_{REMV,t}$	Adjusted TREES removals in calendar year t ; tCO₂e <i>Note: $TREES_{REMV,t}$ may not be negative.</i>
$GHG_{REMV,t}$	GHG removals in calendar year t ; tCO₂e (Equation 21 or 25)
$LEAK_{REMV,t}$	TREES removals leakage deduction in calendar year t ; tCO₂e
$UNC_{REMV,t}$	TREES removals uncertainty deduction in calendar year t ; tCO₂e
$OTH_{REMV,t}$	Removals from other initiatives within the same accounting area in calendar year t ; tCO₂e (see Section 13)
$NR_{REMV,t}$	Other removals for which Participant does not have the rights in calendar year t ; tCO₂e (see Section 3.4)

Equation 34: Removals Buffer Pool Contribution

$$BUF_{REMV,t} = TREES_{REMV,t} \times Buffer\%$$

WHERE:

$BUF_{REMV,t}$	TREES removals buffer withholding in calendar year t ; tCO_{2e}
$TREES\ REMV_t$	Adjusted TREES removals in calendar year t ; tCO_{2e}
Buffer%	Buffer contribution (from Section 7.1.2) potentially adjusted upwards as a result of prior reversals; %

Equation 35: Total TREES Removals Credits

$$TREES\ REMV\ Credits_t = TREES\ REMV_t - BUF_{REMV,t}$$

WHERE:

$TREES\ REMV\ Credits_t$	TREES Removals Credits in calendar year t ; tCO_{2e}
$TREES\ REMV_t$	TREES removals in calendar year t ; tCO_{2e}
$BUF_{REMV,t}$	TREES removals buffer withholding in calendar year t ; tCO_{2e}

11. VARIANCE

Participants may propose variances to this Standard where they do not negatively affect the conservativeness of the ERR estimate or they improve the accuracy of the data used. Variances may not be proposed regarding eligibility criteria or crediting level determination, except to account for accumulating emissions due to peat decomposition (see Section 5.1.2). Otherwise, variances may only apply to methodological or monitoring requirements. Participants shall submit proposed variances to the ART Secretariat for review. The Secretariat will approve or reject the variance, provided that the ART Board does not object to the Secretariat's recommendation.

Variances apply to a specific Participant for a specific crediting period and will be published publicly in the Participant's TREES documentation. A full list of approved variances will not be made public as they are not modifications to the Standard and do not serve as precedent. Participants shall provide evidence that the proposed variance is conservative or represents an improvement in data accuracy.

Participants shall request a variance by using the TREES Variance Request Form template.

12. ENVIRONMENTAL, SOCIAL, AND GOVERNANCE SAFEGUARDS

12.1 PURPOSE

TREES requires Participants to demonstrate they have implemented REDD+ activities defined in the REDD+ Implementation Plan in consistency with the Cancún Safeguards ensuring activities not only do no harm but also enhance social and environmental benefits. It is the goal of this Standard to provide concrete requirements for Participants to demonstrate they have addressed and respected all the Cancún Safeguards, while drawing on the stepwise nature of REDD+ implementation.

12.2 STRUCTURE

This section is structured as follows:

- 1. Cancún Safeguards.** Each Cancún Safeguard is listed to set out the environmental, social, and governance principles Participants are expected to address and respect when undertaking REDD+ activities.
- 2. Themes.** Each safeguard is further broken down into thematic topics which are encompassed in the Cancún Safeguards, and which define the conditions that must be met in order to address and respect the Cancún Safeguards in alignment with national policies, laws and regulations. We note that as certain Cancún Safeguards encompass human rights obligations, the wording of associated themes is aligned with international human rights laws, which requires countries to “respect,” to “protect,” and to “fulfill” these obligations.
- 3. Indicators.** Each indicator is meant to provide the stepwise process by which Participants can demonstrate conformance with all Cancún Safeguards while relying on progressive reporting on how the safeguards have been addressed and respected throughout REDD+ implementation. Verification will occur against the indicators only; as such, applicability, temporality, and scope conditions are included as appropriate.

There are three types of indicators:

Structure—demonstrate the relevant governance arrangements (e.g., policies, laws, and institutional arrangements) are in place in the country and applicable jurisdiction for the case of subnational Participants that align the implementation of REDD+ activities with the Cancún Safeguards;

Process—demonstrate that relevant institutional mandates, as well as processes, procedures, resources and/or mechanisms that are in place and enforced in the country for the implementation of REDD+ activities are consistent with the Cancún Safeguards; and

Outcome—demonstrate the context-specific desired results that have been achieved throughout the REDD+ activities and safeguard actions.

Due to the highly related nature of the Structure and Process indicators, Section 12.4 combines the Structure and Process indicators into one indicator, so Participants shall report on these together.

12.3 REPORTING REQUIREMENTS

Participants shall report on conformance with all Cancún Safeguards and, in accordance with the stepwise nature of REDD+ implementation, will report in a progressive manner through indicators established for each theme.

In their TREES Registration Document, Participants shall report and demonstrate conformance with all structure and process indicators. In addition, for the outcome indicators, Participants shall:

- Demonstrate how any REDD+ activities that occurred prior to the start of the crediting period but are relevant to the reporting period such as consultations, agreements, REDD+ plan design, etc. were developed and implemented in conformance with the outcome indicator and describe how the information was collected.
- Describe the context-specific desired results for any REDD+ activities that will occur during the crediting period to demonstrate conformance with the outcome indicator and how this information will be collected and reviewed. If some activities such as consultations, agreements, etc. occurring after the crediting period are needed or relevant to demonstrate conformance with TREES requirements during the crediting period, these shall be listed too and their expected results described.

In their TREES Monitoring Report, Participants shall report any changes to the information in the TREES Registration Document regarding the structure and process indicators that occurred during the reporting period. If no changes have occurred, the Participant shall note this. For the outcome indicators, Participants shall:

- Provide a brief summary of how conformance has been demonstrated previously. The Participant shall note and explain if no new activities were required during the reporting period to maintain conformance with the indicator.
- Describe how the context-specific desired results outlined in the TRD that were expected for the reporting period were achieved, providing a summary of the information and data that was collected through the Participant's monitoring system and the means of verification. The Participant shall note any changes to the monitoring that occurred. The Participant shall also note any changes to either REDD+ activities or the outcome monitoring that are planned for the future as a result of the review of this information.

- Describe other context-specific results achieved, monitoring approaches used, and information collected for any REDD+ activities that were new or changed during the reporting period and were not included in the TREES Registration Document.

A safeguards report template is provided for use by Participants as part of the TREES Registration Document and TREES Monitoring Report. However, Participants may utilize their Summary of Information reports prepared in the context of UNFCCC and Paris Agreement reporting or similar reports used on Cancún Safeguards outside the UNFCCC and the Paris Agreement insofar as all required information on required indicators is included and a cross reference is provided to ensure transparency on how the TREES indicators are reflected in the alternate report. Participants shall use the Safeguard Information System in place as a tool to provide data or systems information to demonstrate conformance. For the case of subnational Participants under TREES, reporting and monitoring tools to demonstrate conformance with safeguards shall demonstrate coherence and/or alignment with national reporting and monitoring in the context of the UNFCCC and the Paris Agreement.

All indicators apply to all Participants. Where indicators reference a national program, framework or other requirement and a Participant is not a national government, the Participant must demonstrate how applicable subnational legislation is aligned and consistent with applicable national legislation.

12.4 SAFEGUARDS

All indicators shall be implemented in accordance with relevant international conventions and agreements ratified by the Participant or the Participant's country and be anchored in domestic and if applicable, subnational, legal frameworks, policies or processes.

12.4.1 Cancún Safeguard A

Actions are complementary or consistent with the objectives of national forest programs and relevant international conventions and agreements

THEME 1.1 Consistency with the objectives of national forest programs.

Structure and Process Indicator: Participants have a clearly defined domestic legal framework, policies, or programs (or national REDD+ strategy or action plan) as well as the necessary procedures, resources and mechanisms for REDD+ activities to be designed in consistency with national and if applicable, subnational, forest policies/programs.

Outcome Indicator: Public institutions have designed and implemented REDD+ activities consistent with or complementary to the objectives of the national and if applicable, subnational, forest policies/programs.

THEME 1.2 Consistency with the objectives of relevant international conventions and agreements.

Structure and Process Indicator: Participants have a domestic and if applicable, subnational, legal framework, policies, or programs (or national REDD+ strategy or action plan) as well as the necessary procedures, resources and mechanisms to recognize and promote the application of ratified relevant international conventions and agreements in the design and implementation of REDD+ activities.

Outcome Indicator: Public institutions have designed and implemented REDD+ activities consistent with or complementary to the objectives of identified, ratified and relevant international conventions and agreements.

12.4.2 Cancún Safeguard B

Transparent and effective national forest governance structures, taking into account national legislation and sovereignty

THEME 2.1 Respect, protect, and fulfill the right of access to information.

Structure and Process Indicator: Participants have in place a legal framework, policies and/or programs as well as the necessary procedures, resources and mechanisms for providing access to information related to REDD+ activities, REDD+ benefit distribution, and how safeguards have been addressed and respected.

Outcome Indicator: Public institutions have provided access to information, and the public has been aware of and exercised the right to seek and receive official information on REDD+ activities and REDD+ benefit distribution as well as on how safeguards have been addressed and respected.

THEME 2.2 Promote transparency and prevent corruption, including through the promotion of anti-corruption measures.

Structure and Process Indicator: Participants have in place a legal framework, policies and/or programs as well as the necessary procedures, resources and mechanisms to prevent corruption, promote anti-corruption measures, and promote transparency in the REDD+ activities and the distribution of REDD+ benefits. These reflect the principles of rule of law, proper management of public affairs and public property, and integrity.

Outcome Indicator: Public institutions have carried out REDD+ activities and the distribution of REDD+ benefits in a transparent and accountable manner, preventing corruption.

THEME 2.3 Respect, protect, and fulfill land tenure rights.

Structure and Process Indicator: Participants have in place a legal framework, policies, or programs as well as the necessary procedures, resources and mechanisms for the recognition, inventorying, mapping, and security of customary and statutory land and resource tenure rights relevant to the implementation of the REDD+ activities.

Outcome Indicator: Public institutions have recognized, inventoried, mapped, and secured customary and statutory land and resource tenure rights relevant to the implementation of REDD+ activities and respected stakeholders' rights of access to, use of, and control over land and resources throughout the implementation of REDD+ activities. REDD+ activities have not caused any relocation without the Free, Prior, and Informed Consent (FPIC) of any Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent stakeholders. REDD+ activities have not affected the rights to lands, resources and livelihoods without the Free, Prior, and Informed Consent (FPIC) of any Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent stakeholders, as applicable.

THEME 2.4 Respect, protect, and fulfill access to justice.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs and the necessary procedures, resources and mechanisms for guaranteeing non-discriminatory and non-cost prohibitive dispute resolution mechanisms at all relevant levels for stakeholders involved in the implementation of and/or with a recognized legal interest in the REDD+ activities, including judicial and/or administrative procedures for legal redress, which, among other things, provide access for Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent stakeholders.

Outcome Indicator: Public institutions have resolved disputes and competing claims and provided effective recourse and remedies through non-cost prohibitive and non-discriminatory mechanisms when there was a violation of rights, grievance, dispute or claim related to the implementation of REDD+ activities. All REDD+ related dispute resolution mechanisms have been transparently and proactively communicated to stakeholders, and the disputes resolution progress is being monitored to inform evaluation and improvement processes.

12.4.3 Cancún Safeguard C

Respect for the knowledge and rights of indigenous peoples and members of local communities by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples

THEME 3.1 Identify indigenous peoples and local communities, or equivalent.

Structure and Process Indicator: Participants have in place a legal framework, policies, or programs as well as the necessary procedures, resources and mechanisms for the identification or self-identification of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent, including Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities.

Outcome Indicator: Public institutions have identified Indigenous Peoples, Local Communities, and Afro-descendant Peoples, or equivalent, including Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities, living and/or using forest resources in the REDD+ accounting area.

THEME 3.2 Respect and protect traditional knowledge and practices.

Structure and Process Indicator: Participants have in place a legal framework, policies, programs as well as the necessary procedures, resources and mechanisms to respect and protect the traditional knowledge and practices of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent (including those of Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities) in the implementation of REDD+ activities.

Outcome Indicator: Public institutions have respected and protected the traditional knowledge and practices of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent, including those of Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities, in the design and implementation of REDD+ activities.

THEME 3.3 Respect, protect, and fulfill rights of Indigenous Peoples, Local Communities, and Afro-descendant Peoples, or equivalent.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to respect, protect and fulfill the human rights of Indigenous Peoples, Local Communities and Afro-descendant Peoples, or equivalent (including Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities), in conformity with customary law, institutions, and practices, throughout the design and implementation of REDD+ activities and REDD+ benefit distribution.

Outcome Indicator: Public institutions have respected, protected and fulfilled the rights of Indigenous Peoples, Local Communities and Afro-descendant Peoples, or equivalent (including Indigenous Peoples in Voluntary Isolation and Initial Contact and transhumant communities) in the design and implementation of REDD+ activities and REDD+ benefit distribution, including applicable rights to Free, Prior, and Informed Consent (FPIC) for any REDD+ activity that could affect their rights to lands, resources and livelihoods.

12.4.4 Cancún Safeguard D

The full and effective participation of relevant stakeholders—in particular indigenous peoples and local communities—in actions referred to in paragraphs 70 and 72 of decision 1/CP.16

THEME 4.1. Respect, protect, and fulfill the right of all relevant stakeholders to participate fully and effectively in the design and implementation of REDD+ activities.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to respect, protect and fulfill the right of all relevant stakeholders, including women, youth and vulnerable groups, to participate fully and effectively (including timely access to information prior to consultations and access to recourse mechanisms to ensure the participation process is respected) in the design and implementation of REDD+ activities as well as in the decisions about the distribution of REDD+ benefits.

Outcome Indicator: Public institutions have respected, protected and fulfilled the right of all relevant stakeholders, including women, youth and vulnerable groups, to participate fully and effectively in the design and implementation of REDD+ activities and decisions about the distribution of REDD+ benefits.

THEME 4.2. Develop adequate participatory procedures for the effective participation of Indigenous Peoples, Local Communities and Afro-descendant Peoples, or equivalent.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to guarantee that the participation of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent in the design and implementation of REDD+ activities as well as in the decisions about the distribution of REDD+ benefits occurs through their respective decision-making structures and processes²³, ensuring adequate conditions for their participation and using culturally appropriate procedures.

Outcome Indicator: Public institutions have guaranteed that the participation of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent in the design and implementation of REDD+ activities as well as in the decisions about the distribution of REDD+ benefits occurred through their respective decision-making structures and processes, ensuring adequate conditions for their participation and using culturally appropriate procedures.

12.4.5 Cancún Safeguard E

That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of decision 1/CP.16 are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits

THEME 5.1 Non-conversion of natural forests and other natural ecosystems.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to define the term natural forests and other natural ecosystems, distinguishing them from plantations, map the spatial distribution of natural forests and other natural ecosystems, and prevent REDD+ activities from resulting in the conversion of natural forests and other natural ecosystems.

²³ If the institutions consulted are not considered representative by the people they claim to represent, the consultation may have no legitimacy. "If an appropriate consultation process is not developed with the indigenous and tribal institutions or organizations that are truly representative of the communities affected, the resulting consultations will not comply with the requirements of the Convention" (ILO Governing Body, 282nd session, 2001, GB.282/14/2).

Outcome Indicator: Public institutions have designed and implemented REDD+ activities without the conversion of natural forests and other natural ecosystems to plantations or other land uses.

THEME 5.2 Protect natural forests and other natural ecosystems, biological diversity, and ecosystem services and enhance environmental benefits.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to ensure that REDD+ activities are designed and implemented to protect and conserve natural forests and other natural ecosystems, biodiversity, and ecosystem services, enhance their environmental benefits, and avoid adverse effects on them.

Outcome Indicator: Public institutions have designed and implemented the REDD+ activities to protect and conserve natural forests and other natural ecosystems, biodiversity, and ecosystem services, enhance their environmental benefits, and avoid adverse effects on them.

THEME 5.3 Enhancement of social benefits.

Structure and Process Indicator: Participants have in place a legal framework, policies or programs as well as the necessary procedures, resources and mechanisms to enhance the social benefits of REDD+ activities and the distribution of REDD+ benefits and ensure that women, youth and vulnerable groups can also benefit from the REDD+ activities and the distribution of REDD+ benefits.

Outcome Indicator: Public institutions have designed and implemented the REDD+ activities and the distribution of REDD+ benefits to enhance social benefits and ensure that women, youth and vulnerable groups also benefit from the REDD+ activities and the distribution of REDD+ benefits.

12.4.6 Cancún Safeguard F

Actions to address the risks of reversals

THEME 6.1 The risk of reversals is integrated in the design, prioritization, implementation, and periodic assessments of REDD+ policies and measures.²⁴

Process Indicator: Public institutions have identified and integrated measures to address the risk of reversals in the design, prioritization, implementation, and periodic assessments of REDD+ activities.

No structure or outcome indicators have been developed for Safeguard F as these issues are broadly addressed by requirements in other sections of the Standard.

²⁴ In accordance and/or complementary to technical measures and procedures to address reversals included in Section 7 of the Standard.

12.4.7 Cancún Safeguard G

Actions to reduce displacement of emissions

THEME 7.1 The risk of displacement of emissions is integrated in the design, prioritization, implementation, and periodic assessments of REDD+ policies and measures.

Process Indicator: Public institutions have identified and integrated measures to address the risk of displacement of emissions in the design, prioritization, implementation, and periodic assessments of REDD+ activities.

No structure or outcome indicators have been developed for Safeguard G as these issues are broadly addressed by requirements in other sections of the Standard.

13. AVOIDING DOUBLE COUNTING

In the context of climate change mitigation, the term double counting describes situations where a single GHG ERR is used towards more than one mitigation target, pledge, obligation or other mitigation commitment or effort. Double counting must be avoided when ERRs are used to meet compliance mitigation obligations, targets, pledges, commitments or efforts. Double counting can occur in a number of different ways, including double issuance, double use/double selling, and double claiming, as described below. The risks can be mitigated through operational processes, transparent registry infrastructure and oversight by crediting programs. TREES will incorporate by reference relevant future decisions and guidance on accounting and reporting in the UNFCCC for the Paris Agreement and, as applicable, the International Civil Aviation Organization (ICAO) for its Carbon Offsetting and Reduction Scheme for International Aviation (CORSA).

13.1 DOUBLE ISSUANCE

Double issuance occurs when more than one unique unit is issued for a single ERR within the same program/registry or when more than one program/registry issues unique units for a single ERR. To mitigate the risk of double issuance, TREES requires the disclosure of any verified emission reductions and/or removals in the same accounting area, checks of duplicate registration under other programs (including offset programs) and requirements for disclosure of other registrations, as well as for cancellation of the units on one registry prior to re-issuance on another.

Verified ERRs from other initiatives (projects or programs) in the accounting area for the same calendar year, either led by the Participant or by other stakeholders, shall be deducted from the TREES issuance volume (Equations 28 and 33). This includes projects and/or REDD+ programs participating in other CO₂e-based GHG crediting programs or initiatives such as multilateral and bilateral agreements and results-based payments and includes any results that are captured by TREES accounting. Note that Participants must also account for ERRs to which they do not have the rights (see Section 3.4.1), which may include project areas that do not yet have verified credits.

The deduction for each calendar year shall be based on the verified number of ERRs from the other GHG program or the CO₂e ERR results receiving payment. It shall include any ERRs which could ever be issued from the project for a given calendar year. For some GHG programs, this may include the uncertainty or reversal buffer pool credits if these credits can eventually be returned and transacted by the project or Participant.

The deduction shall be made on a like-for-like basis, deducting emission reduction credits from the TREES emission reductions and removal credits from the TREES removals. If no credit type distinction is made by the other GHG program or results-based payments, then the deduction shall be applied to TREES emission reductions. If a Participant uses the spatially explicit approach for removals crediting (Section 4.3.1), removals credits must only be deducted from the TREES volume if they correspond to the same location as the areas of removals presented by the Participant.

Any proposed variances to this requirement must follow the process laid out in Section 11.

13.2 DOUBLE USE

Double use occurs when a unique unit is used twice, for example if it is 1) sold to more than one entity at a given time (also referred to as double selling) due to double issuance or fraudulent sales practices, 2) used by the same owner toward more than one obligation / target, or 3) paid for as a CO₂e results-based payment and then also transferred or sold to another entity. Double use can also occur if the use of a unique issued unit is reported, such as towards NDC achievement or a CORSIA obligation, but the unit is not retired or cancelled.

To prevent double use, TREES requires clear proof of rights prior to issuance of TREES Credits and tracking of rights to credits within the registry by serial number and account. In addition, double selling will be prohibited through rules in the legal Terms of Use agreement to be executed by all ART Registry account holders, which expressly prohibits double use of credits and prohibits the transfer of rights to credits off registry.

13.3 DOUBLE CLAIMING

Double claiming occurs when the same ERR is used by two or more entities (e.g. Parties to the Paris Agreement, aeroplane operators under CORSIA, corporate voluntary buyers) to meet climate change mitigation obligations, targets, pledges, commitments or efforts, including international transfers under the Paris Agreement towards achievement of Nationally Determined Contributions (NDCs) and transfers for use by aeroplane operators under the ICAO CORSIA, or when voluntary market transfers are counted toward both corporate buyer pledges and supplier country NDCs. ART Participants may authorize transfers of TREES Credits for compliance purposes to buyers outside of the Participant's country by submitting a Host Country Letter of Authorization to ART²⁵ which must include required elements of an authorization,²⁶ and providing an initial report or updated initial report²⁷ to the UNFCCC and subsequently reporting an accounting adjustment in the submission of annual information²⁸ and biennial transparency reports to the UNFCCC.²⁹ At present, voluntary market transactions do not always require corresponding adjustments, although some Participants and/or buyers may choose to require them.

²⁵ See Host Country Authorization template on the UNFCCC website:

<https://unfccc.int/documents/646071>

²⁶ As referred to in decision 2/CMA.3 and -/CMA.6, Matters relating to cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, Section I Authorization B, paragraph 5 Content of Authorization.

²⁷ As referred to in decision 2/CMA.3, annex, paragraphs 18–19 and -/CMA.6, Annex I Table of supplementary elements of information in initial report and any updated initial reports.

²⁸ Requested in the Agreed Electronic Format referred to in decision 2/CMA.3, annex, chapter IV.B, as contained in -/CMA.6, Annex II

²⁹ As referred to in paragraph 77, subparagraph (d) of the Annex to decision 18/CMA.1.

Where accounting for international transfers may be required or preferred, the ART Registry facilitates this process for all transactions by providing the infrastructure to publish Host Country Letters of Authorization for transfer of TREES Credits, to label TREES Credits as associated with a Letter of Authorization, as well as to label TREES Credits for which a corresponding adjustment has been reported. All TREES Credit retirements and cancellations will be transparently recorded in public reports on the ART Registry. In addition, all transfers of TREES Credits for use under CORSIA must follow the procedures and requirements outlined in Annex A.

13.3.1 Changes to Authorization

In the event of a change to an ITMO authorization³⁰, ART would assess the changes to the authorization to ensure they are aligned with Article 6 requirements and any circumstances specified in the original authorization and that they have been reported to the UNFCCC. All updated authorizations will be posted on the ART registry.

In the event an ITMO authorization is narrowed / rescinded, ART will remove the authorization label for the volume of issued units that have not already been first transferred, as defined in the Letter of Authorization. In the event that the Parties have specified in the authorization that the authorization can be revoked for first transferred units, and authorization for first transferred units is revoked, ART will require that the process specified to avoid double counting is followed. ART will not remove the authorization label from any units.

In the event the authorization is broadened, ART will update unit labelling accordingly.

³⁰ For changes to OIMP authorization for CORSIA, see Annex A.

14. VALIDATION AND VERIFICATION

14.1 VALIDATION AND VERIFICATION SCOPE AND FREQUENCY

Validation and Verification are required following calendar year 1 of each crediting period. Verification is required after calendar years 3 and 5 of each crediting period. Participants may elect to have verifications following calendar years 2 and 4 of the crediting period. If these optional verifications are conducted and a positive verification conclusion is reached, a Participant may be able to issue credits annually. If the optional verifications are not conducted, a Participant will only be able to issue credits following calendar years 1, 3, and 5, as no credits will be issued without verification.

If in the initial crediting period, a Participant elects to use a crediting period start date up to four years prior to the year of the TREES Concept submission, the initial verification shall cover all years included in the initial monitoring report.

Verification Cycle

CREDITING PERIOD YEAR	VERIFICATION SCOPE
End of Year 1	All sections of the TREES Registration Document and TREES Monitoring Report, including eligibility criteria and crediting level data and calculations, monitoring data, ERR calculations for calendar year 1; and conformance with social/environmental safeguards
End of Year 2 OPTIONAL	All sections of the TREES Monitoring Report including monitoring data and ERR calculations for the ERRs achieved in calendar year 2, and conformance with social/environmental safeguards
End of Year 3	All sections of the TREES Monitoring Report including monitoring data and ERR calculations for the ERRs achieved in either calendar year 3 only or calendar years 2 and 3 (if the optional verification was not performed), and conformance with social/environmental safeguards
End of Year 4 OPTIONAL	All sections of the TREES Monitoring Report including monitoring data and ERR calculations for the ERRs achieved in calendar year 4, and conformance with social/environmental safeguards

CREDITING PERIOD YEAR	VERIFICATION SCOPE
End of Year 5	All portions of the TREES Monitoring Report, including monitoring data and ERR calculations for the ERRs achieved in either calendar year 5 only or calendar years 4 and 5 (if the optional verification was not performed), and conformance with social/environmental safeguards

14.2 VALIDATION AND VERIFICATION BODY ACCREDITATION

Validation and Verification Bodies shall be accredited for validation and verification by an accreditation body that is a member of the International Accreditation Forum (IAF) as outlined in the TREES Validation and Verification Standard.

Validation and Verification Bodies shall also complete an application and an Attestation of Validation and Verification Body to be an approved ART Validation and Verification Body. This process serves to ensure the Validation and Verification Body has the technical capabilities, qualifications, and resources to successfully complete a TREES validation and verification. Additional details regarding the process and required capabilities, qualifications, and resources are provided in the TREES Validation and Verification Standard.

The Validation and Verification Body application documents and a list of approved ART Validation and Verification Bodies shall be maintained by the ART Secretariat on the ART website.

14.3 VALIDATION AND VERIFICATION PROCESS

TREES Validations and Verifications shall be conducted in accordance with the TREES Validation and Verification Standard. The Validation and Verification Body shall submit a TREES Validation Report following completion of the validation and a TREES Verification Report and Opinion to the Secretariat following completion of the verification. The reports will be posted on the ART Registry following ART Board approval for credit issuance. Reports and Verification Opinions shall follow the latest templates available on the ART website.

15. REGISTRY REQUIREMENTS

15.1 ACCOUNT REQUIREMENTS

All Participants will have an account in the ART Registry, managed by the ART Secretariat. The ART Registry will contain Participant information, program documentation, Validation and Verification Reports and Opinions, records of serialized credit issuance, and credit cancellation, transfer, and retirement data. The Secretariat will also manage a pooled reversals buffer account in the ART Registry which will be publicly available.

15.2 PUBLICLY AVAILABLE DOCUMENTATION

All approved and final TREES documents listed in Section 2.4 shall be publicly available through the ART Registry. Participants may designate certain parts of the documentation as Commercially Sensitive Information (CSI). In these cases, redacted versions of TREES documentation can be made publicly available. However, this information—as well as any requested supporting documentation—must be available for review by the Secretariat and Board and the Validation and Verification Body.

For the sake of transparency, the Secretariat shall presume Participant information is available for public scrutiny, and demonstration to the contrary shall be incumbent on the Participant. The Validation and Verification Body shall check that any information requested as “commercially sensitive” meets the TREES definition of CSI. Subscribers to the ART listserv shall receive notification of the availability of new and relevant Participant documentation as it becomes publicly available to ensure that stakeholders have ample opportunity to submit comments to ART regarding these submissions (see Section 2.6.2).

16. COMPLAINTS AND APPEALS

16.1 SCOPE

The TREES Complaints and Appeals procedure is for reporting instances in which the processes required by ART have not been followed, resulting in harm to stakeholders living and/or using forest resources in the REDD+ accounting area.

Other types of complaints or grievances including grievances related to the design and/or implementation of a Participating jurisdiction's REDD+ Program or complaints regarding the conduct or decisions of the Validation and Verification Body should be directed to the appropriate process to ensure proper investigation and resolution as outlined below.

Complaints regarding a Participant's REDD+ program, including participatory processes, distribution of benefits, activities or communities included in the program, access to information, FPIC or any topic related to the design and implementation of the REDD+ program should be directed to the appropriate dispute resolution mechanism in the jurisdiction. As required by Section 12, non-discriminatory and non-cost prohibitive dispute resolution mechanisms must be in place, and these mechanisms must provide effective recourse and remedies in the case of a violation of rights, grievance, dispute or claim related to the implementation of REDD+ activities. Stakeholders may also submit comments on any aspect of a jurisdiction's program as part of the public comment process as described in Section 2.6.2.

If the Complainant does not feel the jurisdiction's dispute resolution mechanisms are effective, they should report this concern to the Validation and Verification Body during the validation and verification process or to ART as part of the public comment process as described in Section 2.6.2. Validation and Verification Bodies will use the information provided in their audit planning and as evidence in their assessment of the Participant's conformance with the requirements of TREES.

Complaints on the conduct or decisions of the Validation and Verification Body can be reported to ART or to the Validation and Verification Body through its complaint process. If reported to ART, ART will forward the complaint to the VVB and, if appropriate, to the appropriate IAF accreditation member to be addressed through their process. ART will also take the complaint into account as part of the Validation and Verification Body oversight process as described in Section 2.5 of the TREES Validation and Verification Standard, but this will not be addressed through the TREES Complaint and Appeal process.

16.2 COMPLAINTS

Complaints must meet the following requirements to be considered eligible:

- Complainants must be either a) one or more individuals or communities who live and/or use forest resources in the REDD+ accounting area, or that have been relocated from the accounting area, or b) an ART Participant.
- Complainant must document harm or imminent pending harm from ART's failure to follow its processes.
- If a Complainant is a representative organization, it must include the names of the individual or individuals being harmed and their consent to be represented by the organization in this matter.
- The complaint must represent a new issue not associated with a previous complaint.

To submit a complaint, the Complainant sends a written complaint in any language via email to ARTComplaints@winrock.org. The complaint must detail the following:

1. Description of the eligible complaint with specific reference to TREES requirements that were not followed;
2. Complainant name, contact details, and organization;
3. Description of the harm or imminent harm to the Complainant; and
4. Supporting documentation provided for consideration by the reviewer in the complaint resolution process, if appropriate.

In instances where a Complainant wishes to remain anonymous from the ART Participant or other external stakeholders, ART shall make appropriate accommodation providing that the identity of the Complainant must be made known to ART and to the reviewer.

The ART Secretariat will maintain a list of qualified individuals not employed by ART or Winrock who may be called upon to review any complaint received. ART will select a reviewer based on availability and the nature of the complaint.

If a complaint is received, the ART Secretariat will acknowledge receipt to the Complainant and then appoint an external reviewer to evaluate whether the complaint meets the eligibility criteria. The reviewer will notify the complainant of the eligibility decision within 20 business days of being appointed.

If the complaint is eligible, a qualified reviewer will investigate the complaint. The investigation may include interviews with relevant stakeholders, a review of documents and information, and/or consultation with external experts as needed. All involved stakeholders, including ART, the VVB, the reviewer, and the Complainant and named individuals, will be required to sign Non-Disclosure Agreements limited to the term of the complaint review process to ensure the review process remains objective and uninfluenced by outside parties. The reviewer will submit a report summarizing the investigation and their conclusion to the ERT Board. Following the ERT Board review, the reviewer will share a copy of the report with the ART Secretariat and the Complainant.

If appropriate, the ART Secretariat will develop corrective and preventive actions to address the findings of the reviewer.

All eligible complaints and the outcome of the complaint review process will be published on the ART website once the review process is complete, subject to appropriate redacting of information requested to remain anonymous.

16.3 APPEALS

If within 30 days of the receipt of the reviewer's Complaint Report, the Complainant obtains evidence not previously considered during the Complaint process that would reasonably be expected to have impacted the decision, the Complainant may file an appeal including the evidence that was not considered. An appeal may not be filed only to dispute the outcome and must be filed by the same organization and affected individuals that filed the Complaint.

To file an appeal, the Complainant sends a written appeal via email to ARTComplaints@winrock.org. The appeal must provide a detailed description of the appeal with specific reference to evidence that was not considered during the complaint review process.

In instances where a Complainant wishes to remain anonymous from the ART Participant or other external stakeholders, ART shall make appropriate accommodation providing that the identity of the Complainant must be made known to ART and to the reviewer.

If an appeal is received, the ART Secretariat will acknowledge receipt to the Complainant and then appoint an external reviewer based on availability and the nature of the appeal. The reviewer will evaluate whether the appeal meets the eligibility criteria and will notify the complainant of the eligibility decision within 20 business days of being appointed. The reviewer for the appeal will be a different individual than reviewed the complaint.

If the appeal is eligible, a qualified reviewer will investigate the appeal. The investigation may include interviews with relevant stakeholders, a review of documents and information, and/or consultation with external experts as needed. All involved stakeholders, including ART, the VVB, the reviewer, and the Complainant and named individuals, will be required to sign Non-Disclosure Agreements limited to the term of the appeal review process to ensure the review process remains objective and uninfluenced by outside parties. The reviewer will submit a report summarizing the investigation and their conclusion to the ERT Board. Following the ERT Board review, the reviewer will share a copy of the report with the ART Secretariat and the Complainant.

If appropriate, the ART Secretariat will develop corrective and preventive actions to address the findings of the reviewer.

The conclusion of the appeal reviewer will be considered final and subsequent appeals will not be accepted.

All eligible appeals and the outcome of the appeal review process will be published on the ART website once the review process is complete, subject to appropriate redacting of information requested to remain anonymous.

DEFINITIONS

Access to Information	Access to information relates to the public's right to access information held by authorities that is relevant to forest-related processes.
Accountability	<p>There are two principle dimensions of accountability considered by safeguard B: vertical and horizontal accountability.</p> <p>Vertical accountability refers to the methods by which the State is (or is not) held to account by non-State agents through the relationship between citizens and their political representatives.</p> <p>Horizontal accountability refers to the intra-governmental control mechanisms that exist between the legislature, the executive branch, and the judiciary, and between different sub-entities of the executive branch, including the Cabinet, line ministries, and lower-level administrative departments and agencies.</p>
Activity-Based Accounting	Carbon accounting based on estimating the area of deforestation and/or degradation from individual anthropogenic activities, e.g. logging or mining, in the accounting area.
Activity Data	This is the magnitude of a given human-led activity that results in emissions or removals in a specified time period.
Additionality	Additionality ensures that the implemented activity reduces emissions or increases sequestration more than would have occurred in the absence of the intervention.
Addressing Safeguards	<p>This entails identifying and providing information on what a jurisdiction has in place, in terms of its governance arrangements, which would seek to guarantee the implementation of the safeguards.</p> <p>Addressing safeguards are linked to "structural" indicators under TREES ESG indicators.</p>
Afro-descendant Peoples	Communities or collectives descending from African people forcibly taken to the Americas that have developed cultural institutions, knowledge, and practices in the lands where they have traditionally lived.
Biological Diversity	In alignment with international law, the term biological diversity refers to the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the

ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

Buffer Pool	This is an account managed by the ART Secretariat as a reversal risk mitigation mechanism into which Participants contribute a determined quantity of ERRs to replace unforeseen losses in carbon stocks. The Buffer Contribution is a percentage of the Participant's ERRs determined through a Participant-specific reversal risk assessment.
Cancel or Cancellation	The permanent removal of a TREES Credit from the ART Registry so that it cannot be transferred, transacted, retired or applied towards any emission reduction targets. The exception to this is for airplane operators who cancel units to surrender them towards their CORSIA compliance obligations.
Cancún Safeguards	The term "Cancún Safeguards" refers to the safeguards developed under the UNFCCC in paragraph 2 of Appendix I to decision 1/CP.16 (the Cancún Agreement).
Commercially Sensitive Information	CSI comprises trade secrets, financial, commercial, scientific, technical, or other information whose disclosure could result in a material financial loss or gain, prejudice the outcome of contractual or other negotiations, or otherwise damage or enrich the person or entity to which the information relates.
Crediting Level	TREES includes three crediting level options in Section 4: TREES Crediting Level, HFLD Crediting Level, and a Removals Crediting Level. Only net emissions and removals that outperform the crediting level are eligible for TREES crediting. The crediting level is valid for one crediting period after which it must be recalculated and validated.
Crediting Period	This is the finite length of time for which a crediting level is valid, and during which a Participant can generate ERRs against the crediting level. The crediting level must be re-calculated and re-evaluated to renew the crediting period. The TREES crediting period is five years.
Customary Law	Traditional or customary land laws are the set of legal rules that constitute the traditions of a community or population. Customary law currently coexists with statutory law; in most Latin American countries it is subordinate to statutory law.
Dispute Resolution Mechanisms	This is the formal and informal means of settling (through negotiation, mediation, or arbitration) complaints or disputes of groups and

individuals whose rights may be affected through the implementation of REDD+ activities.

Double Counting

In the context of climate change mitigation, double counting consists of situations where a single GHG ER, removal, avoidance, or other mitigation outcome is used more than once to demonstrate achievement of mitigation targets or pledges. Double counting can occur in different ways, including double issuance, double use, and double claiming.

Ecosystem Services

These are *provisioning services* such as food, water, timber, fiber, and genetic resources; *regulating services* such as the regulation of climate, floods, disease, and water quality as well as waste treatment; *cultural services* such as recreation, aesthetic enjoyment, and spiritual fulfillment; and *supporting services* such as soil formation, pollination, and nutrient cycling.

Emission/Removal Factor

This is an average emission or removal rate for a given source relative to units of activity data.

Forest Definition

The forest definition or definitions listed in the TREES Registration Document must be consistent with the most recent definition used by the national government in reporting to the UNFCCC. The same forest definition must be used for each full crediting period.

Indigenous Peoples

In alignment with international law, the term Indigenous Peoples refer to peoples in independent countries who are regarded or self-determined as Indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs at the time of conquest or colonization, or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural, and political institutions. Specific application of the definition will vary according to each Participant's ratified international legal frameworks and agreements and national legislation regarding Indigenous Peoples, or equivalent.

Indigenous Peoples in Voluntary Isolation or Initial Contact

Indigenous Peoples that do not maintain regular or sustained contact with the majority population and who also tend to avoid all contact with persons outside their group.

Institutional Framework

Institutional framework of a country refers to the institutions and institutional arrangements mandated with a responsibility for overseeing the implementation of the legal framework.

Invasive Alien Species	Animals, plants or other organisms that are introduced by humans, either intentionally or accidentally, into places outside of their natural range, negatively impacting native biodiversity, ecosystem services or human economy and well-being.
Issue or Issuance	The creation of serialized TREES Credits equivalent to the number of verified GHG reductions or GHG removal enhancements for an approved REDD+ program over a specified period of time denominated in metric tons of CO ₂ equivalent. Issued TREES Credits are delivered in the ART Registry Account Holder's Account and after activation, can be transferred, retired, surrendered or cancelled.
Land-Based Accounting	Carbon accounting based on estimating the area of all deforestation and/or degradation across a landscape, regardless of the driver of deforestation and/or degradation.
Land Cover Change	Land cover reflects how much of a given area is covered by forests or by forests of specific types. This contrasts with land use which shows how people use the landscape. As an example, an area may change from unmanaged forest to forest managed for timber but there is no measurable land cover change. Different types of land cover can be managed or used differently.
Land Tenure Rights or System	The land tenure system in a given jurisdiction comprises the set of possible bases under which land may be used. It may include a) Formal or statutory land tenure system. This refers to the legislation and state institutions that govern rights to land and natural resources within the borders of a State; b) Customary land tenure system. A series of rules established by custom which define the rights of access for persons in a specific social group to particular natural resources.
Land Use Change	Land use reflects how people use a landscape, for example, conservation, forest management, settlement, and agriculture. This contrasts with land cover which details whether an area does or does not have forest cover, or the cover of a specific type of forest. Different types of land cover can be managed or used differently.
Leakage	Leakage refers to the displacement of anthropogenic emissions from within a Participant's registered subnational accounting area to an alternative area within the country not monitored under ART.
Legal Framework (Domestic)	This is comprised primarily of national policies, laws, and regulations (PLRs) relevant to the implementation of the safeguards. Programs and plans contribute to the implementation of the safeguards but rely on the recognition and compliance of the PLRs.

Local Communities	In alignment with international law, this term refers to communities that have a long association with, and depend on, the lands and waters that they have traditionally lived on or used; this also includes “forest dependent communities.” Sometimes these communities are also referred to as “traditional communities.” Specific application of the definition will vary according to each Participant’s ratified international legal frameworks and agreements and national legislation regarding local communities, or equivalent ³¹ .
National Forest Programs	National forest programs include forest (and forest-related) policies; forest (and forest-related) legislation and strategies, programs, and/or action plans for implementation of the forest policy; and the institutional framework for implementation.
Natural Forests	Natural forests are naturally regenerated by native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
National Level Accounting	A TREES submission by a national government, that includes accounting of greater or equal to 90% of a country’s forest area (defined as ≥90% of all areas in the country qualifying as forest under the national forest definition). Areas of forest that are excluded must be isolated, patchy and historically not subject to deforestation rates greater than half of the national rate.
Participant	An ART Participant is a national government or a subnational government no more than one level down from national responsible for an accounting area that meets the requirements of Section 3.1.1 of this Standard.
REDD+ Activities	The term REDD+ activities refers to those activities being conducted in the TREES accounting area by the Participant as outlined in the REDD+ Implementation Plan and associated programs and actions. In the UNFCCC context, REDD+ activities may also refer to those activities included in paragraph 70 of decision 1/CP.16 and Decision 1/CP.16, paragraph 73 as follows:

³¹ There are processes led by networks of local community organizations, such as the MOCAF Network (Mexico); Utz Che’ (Guatemala); FORMAD (Brazil), PCN (Colombia) and other allied networks, which have developed guidelines for the identification and self-identification of Local Communities, understanding that this is a global category and that each territory or country may have a specific identity. The criteria include: a shared history and culture; own forms of organization and representation; collective and customary management of territories; and self-identification. These can serve as a reference for participating jurisdictions in their application of TREES, without being restrictive or prescriptive, and recognizing national and local particularities.

- Reducing emissions from deforestation
- Reducing emissions from forest degradation
- Enhancement of forest carbon stocks
- Conservation of carbon stocks
- Sustainable management of forest

Reference Period	This is the period of time over which the crediting level is established. In this Standard the reference period is the 5 years immediately prior to the crediting period.
Remote Sensing	Remote sensing is the science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.
Removals	The process in which carbon dioxide gas (CO ₂) is removed from the atmosphere and sequestered for long periods of time in forests.
Reporting Period	The period of time covered by a single TREES Monitoring Report which may be 12 months corresponding to a single calendar year (January 1 through December 31), or 24 months corresponding to two calendar years which are reported separately. An initial TREES Monitoring Report may have a reporting period of up to five calendar years.
Respecting Safeguards	<p>This includes identifying and providing information on how a country has implemented its governance arrangements, and what were the implementation outcomes of the country's safeguards framework.</p> <p>Respecting safeguards are linked to "process" and "outcome" indicators under TREES ESG indicators.</p>
Retire or Retirement	The permanent removal of a TREES Credit from circulation as a transactable unit so that it represents a permanent reduction or removal of CO ₂ e from the atmosphere. A retired credit may be applied toward the emission reduction target of the ART Account Holder (towards its NDC achievement) or on behalf of a third party towards an emission reduction target (including NDC achievement).
Reversal	Under TREES, a reversal occurs where a Participant's emissions in a given crediting period exceed the crediting level.
Safeguard Information System	SIS is generally understood to be a domestic institutional arrangement responsible for providing information as to how the country-specific safeguards are being addressed and respected in the context of the implementation of the proposed REDD+ activities.

Start Date	The start date is when the initial TREES crediting period begins. This date shall be no earlier than four years prior to submission of a TREES Concept.
Traditional Knowledge	In alignment with international law, the term traditional knowledge refers to cultural heritage, traditional knowledge, and traditional cultural expressions, and can be defined as manifestations of Indigenous Peoples' sciences, technologies, and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games, and visual and performing arts.
Transhumant Communities	Indigenous Peoples or Local Communities that share the ancestral cultural and social practice of transhumance, which is characterized by seasonally moving with their livestock between geographical or climatic regions.
Transition Pathway	Timebound eligibility requirements for select Participants joining ART, see Sections 3.1.3 and 3.1.4.
TREES Credit	The ART unit of exchange is a greenhouse gas emission reduction or removal enhancement, denominated in metric tons of CO ₂ e, quantified and verified pursuant to TREES, that is serialized and issued on the ART Registry as a TREES Emission Reduction or Removal (ERR). TREES Credits may be generated using the TREES Crediting Level, the HFLD Crediting Level or the Removals Crediting Level. Credits generated using the HFLD or Removals crediting approaches will be labeled as such in the ART Registry.
Uncertainty	Uncertainty is an expression of the degree to which a value is unknown. Under TREES, uncertainty should be expressed quantitatively.
Validation	Validation is the systematic, independent, and documented process for the evaluation of a TREES Registration Document against applicable requirements of TREES.
Validation/Verification Body	The Validation and Verification Body is a competent and independent firm responsible for performing the validation and/or verification process. A Validation and Verification Body must be ART-approved to conduct validations and verifications.
Verification	Verification is the systematic, independent, and documented assessment by a qualified and impartial third party of the ERR assertion for a specific reporting period. The verification process is intended to



assess the degree to which an ART program complies with TREES and has correctly quantified net GHG reductions. Verification must be conducted by an independent third-party verifier.

Vintage

The calendar year in which an emission reduction or removal occurs.

ANNEX A: REQUIREMENTS FOR AVOIDING DOUBLE COUNTING WITH ICAO'S CORSIA

PURPOSE

According to *Guidelines on Avoiding Double Counting for the Carbon Reduction Offsetting Scheme for International Aviation (the Guidelines)*³²:

“Greenhouse gas (GHG) emissions from international civil aviation are typically not included in countries’ climate change mitigation targets under the United Nations Framework Convention on Climate Change (UNFCCC), its Kyoto Protocol and its Paris Agreement. Article 2.2 of the Kyoto Protocol mandated countries to work through the International Civil Aviation Organization (ICAO) to address these emissions.

In 2010, ICAO adopted an aspirational goal of carbon-neutral growth, meaning that global net carbon dioxide (CO₂) emissions from international aviation should be frozen at their 2020 levels. ICAO pursues a basket of measures to achieve this goal, including improved aircraft technologies, operational improvements, and sustainable aviation fuels. To address any remaining emissions above 2020 levels, in 2016 ICAO adopted an offsetting scheme – the Carbon Offsetting and Reduction Scheme for International Aviation (COR-SIA).

CORSIA requires aeroplane operators to offset any increase of CO₂ emissions from international flights between participating countries above an established baseline, through the purchase and cancellation of eligible emissions units.

For emissions units to be eligible under CORSIA, they must comply with eligibility criteria, referred to as the CORSIA Emissions Unit Eligibility Criteria (EUC), and, accordingly, carbon offset-crediting programs that wish to provide offset credits under CORSIA must demonstrate that the offset credits meet the CORSIA Emissions Unit Eligibility Criteria. Carbon offset-crediting programs that are approved by ICAO as eligible under CORSIA will be included on a published list of CORSIA Eligible Emissions Unit Programs. Likewise, emissions units approved by ICAO as eligible under CORSIA are included on a published list of [CORSIA Eligible Emissions Units](#).³³

A key requirement under the CORSIA Emissions Unit Eligibility Criteria is that carbon offset-crediting programs have in place rules and procedures to avoid the double counting of

³² “*Guidelines on Avoiding Double Counting for the Carbon Reduction Offsetting Scheme for International Aviation*”, ClimateWorks Foundation, Meridian Institute, Stockholm Environment Institute, version 1, July 2019.

³³ <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx>

emission reductions. The Paris Agreement likewise requires countries to avoid double counting. Avoiding double counting is essential for environmental integrity, because if double counting occurs, actual global GHG emissions will be higher than the sum of what individual countries or entities report their emissions to be.”

This Annex A to TREES details requirements to avoid double counting in the CORSIA.

A.1 CORSIA REQUIREMENTS FOR AVOIDING DOUBLE COUNTING

The CORSIA Emissions Unit Eligibility Criteria, as adopted by the ICAO Council in March 2019, requires programs to put measures in place to avoid all three forms of double counting: double issuance, double use, and double claiming.³⁴

Avoidance of Double Counting, Issuance and Claiming

Carbon offset credit integrity assessment criteria

Eligibility Criterion: Programs should deliver credits that represent emissions reductions, avoidance, or sequestration that are only counted once towards a mitigation obligation. Measures must be in place to avoid:

- a) Double issuance (which occurs if more than one unit is issued for the same emissions or emissions reduction).
- b) Double use (which occurs when the same issued unit is used twice, for example, if a unit is duplicated in registries).
- c) Double claiming (which occurs if the same emissions reduction is counted twice by both the buyer and the seller (i.e., counted towards the climate change mitigation effort of both an airline and the host country of the emissions reduction activity)). In order to prevent double claiming, eligible programs should require and demonstrate that host countries of emissions reduction activities agree to account for any offset units issued as a result of those activities such that double claiming does not occur between the airline and the host country of the emissions reduction activity.

³⁴ CORSIA Emissions Unit Eligibility Criteria, as adopted by the ICAO Council in March 2019 (https://www.icao.int/sites/default/files/sp-files/environmental-protection/CORSIA/Documents/ICAO_Document_09.pdf), Carbon Offset Credit Integrity Assessment Criteria, item 7: Are only counted once towards a mitigation obligation

A.2 FUNCTIONALITY OF THE ART REGISTRY

A key element to avoid double counting in all of its forms is a robust and transparent registry platform, including a program database, that is publicly accessible, transparent and easily searchable, and provides relevant information needed to avoid double counting under CORSIA.

The robust registry and database platform must support program registration including providing a unique identifier for each program that can be cross-referenced with offset credits issued in an offset credit registry, so that program information can be identified for every offset credit issued within the registry. ART's registry platform is operational with all functionality and transparency needed to avoid double counting for CORSIA including items on the checklist in the Guidelines Section III.2 Table 3, as detailed below:

1. Securely and transparently effectuating the issuance, transfer, retirement and cancellation of offset credits;
2. Serialization and labeling of issuances so that each offset credit is clearly associated with a specific REDD+ program, country, issuance block and vintage and so that information for avoiding double counting can be assigned to each offset credit. Program information includes:
 - a. A description of the REDD+ Program;
 - b. The emission sources, sinks, and greenhouse gases included in the calculation of the emission reductions or removals;
 - c. The Host Country and geographical location where the program is implemented;
 - d. The Host Country Program Proponent (Participant);
 - e. The year(s) in which the emission reduction or removal occurred (vintage);
 - f. Any other information needed for the program to be unambiguously identified, and distinguished from other programs that may occur in the same location;
 - g. A Letter of Authorization from the Host Country, which will be posted on the registry once obtained;
 - h. Designation of the credits as CORSIA Eligible once the Host Country Letter of Authorization has been obtained in addition to an approved double claiming compensation mechanism; and
 - i. Notice that the Host Country has applied an adjustment, once evidence obtained.
3. Public reports on all offset credits including programs, issuances, retirements and cancellations; and
4. Retirement and cancellation procedures that ensure the removal of the unit from circulation in the ART Registry is clearly indicated, irreversible, and unambiguously designated for an intended purpose. For cancellations of units for the CORSIA, the cancellation information will specify the aeroplane operator for which the offset credits were cancelled and the calendar year for which an offsetting requirement is fulfilled through the cancellation.

A.3 ART REQUIREMENTS FOR AVOIDING DOUBLE COUNTING IN CORSIA

ART requirements for avoiding double counting in all of its forms are detailed in Chapter 13 of TREES. Procedures are in place to avoid double issuance, double use and double claims of credits issued under TREES. To avoid double claiming with progress towards mitigation targets pledged by countries in their Paris Agreement Nationally Determined Contributions (NDCs) and emission reduction and removal units used for the CORSIA, TREES requires that countries authorize the use of offset credits by aeroplane operators under the CORSIA and provide a letter of authorization that they will report the use and corresponding adjustments to the UNFCCC in annual information reports and the structured summary of its biennial transparency reports.

ART will only qualify offset credits for CORSIA once such a letter is received, only to any limit established in the letter, and as long as all other ART and CORSIA requirements are met including the presentation of an ART-approved mechanism to mitigate the risk of or compensate for double claims for post 2020 units, as further described below.

- 1. The Host Country Letter of Authorization³⁵.** The letter will be obtained from the country's UNFCCC National Focal Point or host country designee to qualify post 2020 vintage TREES Credits for CORSIA. ART will make all Letters of Authorization publicly available by posting on the registry.

The Letter of Authorization shall explicitly:

- Identify the national point of contact for the authorization;
- Identify the specific REDD+ activity to reduce emissions or enhance removals in the country;
- Acknowledge that ART has issued, or intends to issue, offset credits for [a stated volume in CO₂-e] of [vintage year] emission reductions or removals that occur within the country;
- Authorize the use of the REDD+ emission reductions or removals, issued as TREES Credits, by aeroplane operators in order to meet offsetting requirements under CORSIA, including specifying the CORSIA compliance period(s) for which the units are authorized, providing a limit for the maximum number of emission reductions or removals that the country authorizes for use, including any limits on the time period over which the country provides such authorization;
- Specify the country's definition of "first transfer" and define the expected timing and processes for applying and reporting adjustments;
- Report the country's chosen accounting method consistent with the relevant provision of 2/CMA.3 Annex I "Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement; and

³⁵ A template authorization letter is available on the UNFCCC website:
<https://unfccc.int/documents/646071>

- Declare that the country will not use the authorized REDD+ emission reductions or removals to track progress towards, or for demonstrating achievement of, its NDC and will account for their use by aeroplane operators under CORSIA by applying relevant adjustments in the structured summary of the country's biennial transparency reports, submitted under Article 13 of the Paris Agreement, as referred to in paragraph 77, sub-paragraph (d), of the Annex to decision 18/CMA.1, and consistent with relevant future decisions by The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA).

In addition to the above, the Letter of Authorization shall include the following elements³⁶:

- “(a) A unique identifier for the cooperative approach, obtained from the centralized accounting and reporting platform, where available;
- (b) The name(s) of the participating Party(ies) and/or entities, if known, covered by the authorization;
- (c) The date and duration of the authorization, including the final date for mitigation outcomes to be issued, or to be used or cancelled, in connection with the first transfer specified by the Party as per decision 2/CMA.3, annex, paragraph 2(b), as applicable;
- (d) The specification of the first transfer of the mitigation outcome, as specified by participating Parties, as per decision 2/CMA.3, annex, paragraph 2;
- (e) The uses covered by the authorization, consistent with decision 2/CMA.3, annex, paragraph 1(d) and (f);
- (f) The identification of or cross-reference to underlying regulations, frameworks, standards or procedures, including any specific methodologies underpinning the cooperative approach;
- (g) Where changes to the authorization occur, information on the circumstances in which such changes may occur and a description of the process for effecting such changes in a way that avoids double counting;
- (h) The quantity of internationally transferred mitigation outcomes, if applicable;
- (i) Identification of the registry the participating Party has, or has access to, for the purpose of tracking and recording internationally transferred mitigation outcomes;
- (j) Identification of the relevant registry(ies) in the underlying regulations, frameworks, standards or procedures that (1) contain mitigation outcomes or inform their calculation by the participating Party(ies) and (2) transparently track the status of underlying mitigation activities and outcomes as well as participation and transactions by entities, as applicable;
- (k) The vintage(s) covered by the authorization;
- (l) The metrics and units of measurement or conversion and the greenhouse gases covered by the authorization³⁷;

³⁶ As referred to in decision 2/CMA.3 and -/CMA.6, Matters relating to cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, Section I Authorization B, paragraph 5 Content of Authorization.

³⁷ To ensure consistency in UNFCCC reporting and assurance of adjustments for CORSIA units issued, Participants must report the volume of units to be adjusted using the Global Warming Potential (GWP) value used by a country in its NDC reporting (in particular in its first NDC report) even in cases where it is different than the value used by ART to calculate the volume of offset credits issued. The volume that should be adjusted using the same GWP values the country uses in its NDC reporting will be provided to the country.

- (m) The sector(s) covered, if applicable;
- (n) The activity type(s) and/or activity(ies) covered, if applicable.”

2. ART Double Claiming Compensation Mechanism. Before labelling post-2020 vintage units as CORSIA Eligible, ART also requires that the Participant present, in a form acceptable to ART, a mechanism to mitigate the risk of or compensate for double claims of emission reductions units between aeroplane operators for the CORSIA and host countries towards NDC achievement. Compensation is required in the event that the adjustment has not been made or credible evidence cannot be obtained by ART within a year after the adjustment was due to be reported to the UNFCCC by the Host Country.

Options include:

- i. Evidence of the application of the adjustment, as detailed in the Host Country Letter of Authorization, in country reports to the UNFCCC, in the Article 6 database³⁸ or by other means (e.g. an irrevocable electronic certificate) from the Host Country indicating that the required adjustments have been applied within the relevant accounting system), before the unit could be cancelled for use by an aeroplane operator for CORSIA. The option of allowing an irrevocable electronic certificate will apply only in cases in between UNFCCC reporting periods and only when a Host Country has a robust GHG accounting system with functionality, such as a distributed ledger registry technology, to enable reporting of this type of real-time, transparent, immutable, irrevocable transaction information. When adjustments are demonstrated by an entry in the Article 6 database or via an irrevocable electronic certificate, ART requires that the information on the adjustment also be recorded in country reports to the UNFCCC in the next reporting period.
- ii. A guarantee, in a form acceptable to ART³⁹, that any double-claimed units (those for which an adjustment has not been made) will be replaced with a volume of CORSIA Eligible credits corresponding to the number of units that were double claimed by the Host Country (“Replacement Contribution”). These units must be ART units (or comparable units as approved by ART) that have not been sold or otherwise committed. ART will cancel the associated Replacement Contribution to mitigate the Host Country’s double claim of emission reductions. This guarantee could be from a reputable third-party, an entity such as the Multilateral Investment Guarantee Agency (MIGA) or an ART-approved insurance mechanism.
- iii. A guarantee, in a form acceptable to ART⁴⁰, that the guarantor will fully financially compensate ART for the procurement of a Replacement Contribution for the double-claimed units. The Replacement units must be ART units (or comparable CORSIA Eligible units as approved by ART) that have not been sold or otherwise committed. ART will cancel the associated Replacement Contribution to mitigate the Host Country’s double claim of emission reductions. This guarantee could be

³⁸ Including the (interim) Central Accounting and Reporting Platform

³⁹Any guarantee must be legally secure and binding, offered by a highly reputable third-party (i.e. a sovereign or corporate with a high grade or prime rating by Moody’s, S&P and/or Fitch) and include sufficient remedies to cover ART’s costs for replacement units in the event of a default.

⁴⁰ Ibid.

from a reputable third-party, an entity such as the Multilateral Investment Guarantee Agency (MIGA) or an ART-approved insurance mechanism.

- 3. ART Annual Reporting on the qualification and use of Units for CORSIA.** ART will publish annual reports that provide aggregated information related to the issuance, CORSIA Eligible qualification and cancellation of credits for compliance. ART will publish these reports within six months after the end of a calendar year and will transmit the reports to ICAO and to all countries in which the emission reductions or removals associated with issued CORSIA Eligible credits occurred. Reported information will include: (i) Quantity of CORSIA Eligible credits issued by country, calendar year, cancelled for CORSIA and cancelled for other purposes. (ii) Quantity of CORSIA Eligible credits cancelled by aeroplane operator for each CORSIA compliance period (iii) The maximum number of emission reductions or removals from ART programs authorized by countries for use by other countries or entities, by country and calendar year.
- 4. Changes to Authorization.** In the event the host country makes changes to the scope of authorization for CORSIA, ART will assess such changes to ensure they are aligned with Article 6 requirements and any circumstances specified in the original authorization and that they have been reported to the UNFCCC. All updated authorizations will be posted on the registry.

In the event an authorization for CORSIA is narrowed / rescinded, ART will require compensation via the double claiming compensation mechanism for the volume of issued units that have not already been first transferred, as defined in the Letter of Authorization. In the event that the Parties have specified in the authorization that the authorization can be revoked also for first transferred units, and first transferred units are unauthorized, ART will require compensation for this volume as well via the double claiming compensation mechanism. ART will not remove the CORSIA Eligible label from any units.

In the event the CORSIA authorization is broadened, ART will update unit labelling accordingly.

In the event that ART receives a new or revised Letter of Authorization for CORSIA from a host country that, in the past, has not applied corresponding adjustments or reported on these as committed, ART's response would depend on the status of the outstanding commitment to report the adjustment to the UNFCCC.

Assuming that the outstanding commitment is still being discussed/investigated for validity (and not just a misunderstanding), ART would wait to accept the new authorization and label associated units as CORSIA Eligible until this instance is resolved – either by proof of reporting of the corresponding adjustment to the UNFCCC or compensation through the double claiming compensation mechanism.

In the event that the outstanding commitment has been resolved, including by reporting to the UNFCCC or via the double claiming compensation mechanism, ART would accept the new authorization.

- 5. Obtaining evidence of the application of adjustments.** ART will take action to obtain evidence of the host country reporting the use of the emission reduction / removal units for CORSIA and the application of required adjustments in its reporting to the UNFCCC. ART will seek evidence in the country's annual and/or biennial transparency reports to the UNFCCC or provided in the form of a letter or irrevocable electronic certificate from the Host Country indicating that the required adjustments have been applied within the relevant accounting system. Any evidence should clearly reference the specific credits (e.g., using unique identifiers or serial numbers) for which the country has reported the adjustments. Once evidence has been obtained, ART will post such evidence on the registry and indicate that the adjustment has been made.

- 6. Remedy for CORSIA Double Claim.** In the event that the adjustment has not been made or credible evidence cannot be obtained within a year after the adjustment was due to be re-reported to the UNFCCC by the Host Country, compensation is required for the double claimed volume following its selected compensation mechanism. ART will inform the UNFCCC and ICAO accordingly.

ANNEX B: REFERENCES

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