ART
Architecture for REDD+ Transactions

THE REDD+ ENVIRONMENTAL EXCELLENCE STANDARD (TREES)

JULY 2025

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

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ART Secretariat
Winrock International
325 West Capitol Avenue, Suite 350
Little Rock, Arkansas, 72201 USA
Telephone: +1 703 302 6500

REDD@Winrock.org

www.ARTREDD.org

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.

ACKNOWLEDGEMENTS

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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 Outcomes

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 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 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 will be governed by the ART Advisory Board (ART Board) and managed by the ART Secretariat.

THE ART BOARD
The ART Board is responsible for: • Approving TREES, the TREES Validation and Verification Standard and future Standard version 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 • Convening technical committees as deemed necessary by the ART Board • Reviewing Particpant's TREES Concepts for eligibility and completeness and approving Participant acceptance into ART • 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] 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 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*)."

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 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 decisions of the UNFCCC. 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 three 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. 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 current crediting period *except* where the new TREES explicitly specifies where new or revised provisions may be adopted that do not affect the crediting level. Adopted provisions must be in place at the time of next reporting to ART. At the start of the next crediting period, the latest version of TREES must be fully adopted.
3. 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.

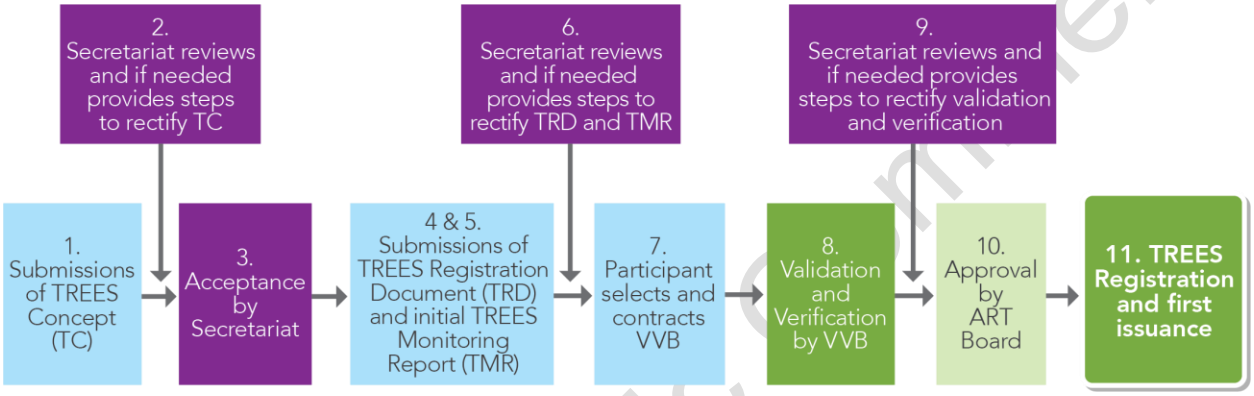
1.3 CONFLICT OF INTEREST

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 for each reporting period verified, which the Secretariat reviews and approves.

2. ART CYCLE

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

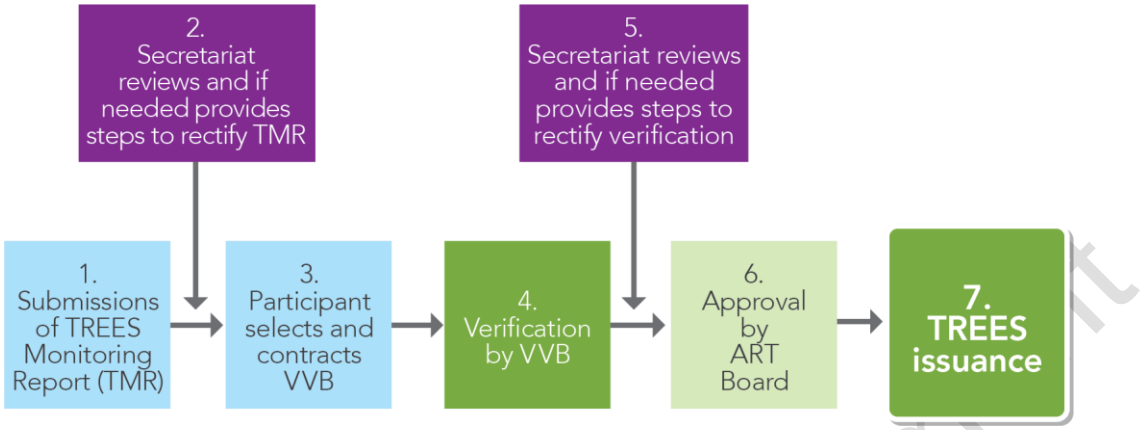


The process to participate in ART using TREES requires acceptance of a TREES Concept by the Secretariat, a positive Validation and Verification opinion of the TREES Registration Document and TREES Monitoring Report, and approval by the ART Board for Registration and issuance of TREES Credits. An applicant 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 includes information listed in Annex A.
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 include information listed in Annex A. 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 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 issuance of some or all the verified volume, and once the issuance 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 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 issuance of some or all of the verified volumes and once the issuance 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 AND RENEWAL

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 Note but may 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 subnational, and must therefore terminate its crediting period on December 31, 2040, 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 5.

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

TREES Registration Documents and TREES Monitoring Reports shall be submitted in English. Copies shall also be submitted in any additional official language of the Participant, if applicable. 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.

A summary of the information required in each is provided in Annex A. Instructions and additional information are included in each document template.

2.5 TIMELINE AND DEADLINES

Proposed 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. 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. Section 4 of TREES includes requirements for interpolation or proration of data when needed to enable annual calendar year reporting.

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.

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 12 months of the kickoff of the validation or verification unless an extension 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 on an ongoing basis by contacting the ART Secretariat. 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 and relevant Participant documentation, including translated documents, as it becomes publicly available to ensure that stakeholders have ample opportunity to submit comments to ART regarding these submissions. Comments submitted to the Secretariat within 60 days of notice that documents are available in all required languages shall be directed to the Participants to be addressed and shall also be provided to the Validation and Verification Body for inclusion in 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 a subnational government 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.

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 and Afro-descendant Peoples and other stakeholders to design and implement successful programs. ART does not prescribe 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 individual 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, 2040, subnational accounting areas may be registered under ART as a recognized step to national-level accounting. After the interim period, accounting shall be at a national level.[2] Participants registering subnational accounting areas may be a national government or a subnational government.

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 ≥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 of less 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 TREES Crediting Period AND
- The crediting period for subnational accounting shall end on December 31, 2040 regardless of how many years have passed in the crediting period.

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 TREES Crediting Period; AND
- The crediting period for subnational accounting shall end on December 31, 2040 regardless of how many years have passed in the crediting period.

Subnational jurisdictions may not aggregate as direct subnational participants, however, they may aggregate as part of a national government submission of a subnational accounting area.

Where the TREES 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.

For transactions of 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. In these instances, the authorization letter will 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. The host country may also elect to authorize transactions for non-compliance purposes.

3.1.2 National Reporting Requirements

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

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

In addition, national government Participants must demonstrate conformance with Cancún Safeguards related requirements, including:

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 results-based payments under TREES are sought, and
3. Having either a digital or analog system for providing information on safeguards.

If a TREES 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 results-based payments under TREES are 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 Readiness Fund Participants

In order to facilitate the transition of FCPF Carbon Fund and Readiness Fund Participants to ART to continue their jurisdictional REDD+ programs, these governments may meet the eligibility requirements outlined above or may use the following eligibility requirements:

Current FCPF Carbon Fund Participants may use their FCPF 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 by

1. Shifting to meet the Readiness Fund criteria (see below) for a second crediting period, OR
2. Shifting to meet the eligibility criteria of TREES for a second (or any additional) crediting period

Participants (national or subnational) located in FCPF Readiness Fund countries may join ART with special eligibility criteria for at most two crediting periods if they have a TREES Concept accepted by ART no later than December 31, 2028. 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 million hectares based on the area at the beginning of the TREES Crediting Period.

3.2 ELIGIBLE ACTIVITIES

Activities that are eligible under TREES include all REDD+ activities except removals from forests remaining forest (removals from growth of intact forest or restoration of degraded forest).

3.3 REDD+ IMPLEMENTATION PLAN

Each TREES Participant shall submit a REDD+ implementation plan as part of the initial documentation and each subsequent 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, changed and ongoing activities planned or being taken to mitigate these drivers. The plan must also describe where activities are being conducted.

It is expected that the implementation plan will be the National REDD+ Strategies/Action Plan developed in accordance with the Warsaw Framework. If a different implementation plan is submitted under TREES, the Participant must explain any differences between the two plans. In the case when a Participant is using a subnational accounting area, the Participant must specify which REDD+ interventions from its National REDD+ Strategies/Action Plan are relevant to the subnational accounting area.

3.4 EMISSION REDUCTION AND REMOVALS RIGHTS AND BENEFIT SHARING ARRANGEMENTS

3.4.1 Emission Reduction and Removals Rights

Before the issuance of credits, the Participant shall provide a demonstration of its rights to the ERRs generated from the accounting area based on 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 carbon rights. However, the Participant must explain how, under existing constitutional or legal frameworks, carbon rights and/or related intangible property interests, are established and addressed. This explanation shall include how such carbon rights and/or intangible property interests 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 UNFCCC Cancun Safeguards and 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.

Participants may provide demonstration of rights to the ERRs during verification or at a later date, within the same crediting period or during the following crediting period. 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.

3.4.2 Benefit Sharing Arrangements

The Participant shall provide a description of the benefit sharing arrangements that govern the distribution of proceeds and benefits derived from TREES Credits. This description shall include:

- The stakeholder groups eligible to receive benefits, including, where applicable, Indigenous Peoples, Local Communities, Afro-descendant Peoples, and other rights holders;
- The principles and criteria guiding how benefits are allocated; and
- The processes used to develop and implement the benefit sharing arrangements.

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); 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 5.2).

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 remaining forests' carbon stock, which is used as a conservative proxy of forest loss across the entire jurisdiction's accounting area if no REDD+ conservation actions 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.

3.6 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 TREES Crediting Period.

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 acceptance of the TREES Concept, provided all other requirements under TREES are met for each year of crediting.

4. CARBON ACCOUNTING

The TREES Credit is a greenhouse gas emission reduction or removal enhancement, denominated in metric tons of CO_2e, 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 Conference of the Parties to the UNFCCC (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.[4]

Participants must demonstrate that all carbon 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 in the IPCC Fifth Assessment Report.[5] 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.

[4] For example, see The Global Forest Observation Initiative Methods and Guidance.

[5] 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..

4.1 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

$$\text{Greenhouse Gas Emissions (t } CO_2e) = \text{Activity Data (units of activity)} \times \text{Emission Factor } \left(\frac{\text{t } CO_2e}{\text{unit of activity}}\right)$$

Only anthropogenic emissions shall be considered, and IPCC guidance shall be adhered to on any exclusion of non-anthropogenic emissions.[6]

4.1.1 Activity Data

Emissions activity data may be derived from sample data or sample data combined with maps, or from verifiable ground-derived data. 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
- 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 planted forest should be assessed and reported on separately as planted forests may not have reached mature carbon stocks by the time of the disturbance. Any changes in approaches 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

[6] 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.

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

When activity data does not correspond to the calendar year (January 1 to December 31), 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 their TREES Registration Document.

Where activity data are sourced from sample data or sample data combined with maps, area estimates and confidence intervals must be reported. Wall-to-wall maps of activity data may be used in combination with sample data and may be used directly as area estimates under certain conditions (see below). Participants must provide the verifier with the sample locations and interpretations, as well as any map data used to select sample locations.

Good practice to develop sample data includes three components: sampling design – the protocol for selecting a subset of spatial units, response design – the protocol for classifying each sampled spatial unit, and analysis – the protocol for estimating accuracy, area and uncertainty (Olofsson et al 2014). Sample data must be collected in accordance with the forest definition thresholds applied by the Participant. When sample data is visually interpreted from satellite or aerial imagery, more than one interpreter must analyze the reference data and/or trained algorithms and majority agreement or consensus decision may be used for the final reported data (see good practices in Chapter 4.1, Jonckheere et al 2024).

Conditions specific to stratified area estimates approach:

1. The distribution of samples per class may be allocated in multiple ways, including proportionally or optimally (for good practices, see Chapter 2 in Jonckheere et al 2024). To increase the precision of estimates, Participants may split larger strata (typically the forest stratum) into a smaller substratum that is likely to contain the omissions of the activities of interest and a larger substratum that is unlikely to contain omission errors (Olofsson et al 2020).
2. If stratification is done based on 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 pixel count area estimates from the wall-to-wall activity maps are within the confidence interval of the stratified area estimates, Participants may opt to use pixel count area estimates instead of 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, which determines the location of all other sample units
e. when sampling is intensified, a map with the strata used for intensification must be provided along with an explanation of why sampling was intensified. A table with all strata including the size of each and number of units sampled must also be provided

2. When the systematic or random sample is post-stratified, provide all details 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

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.

4.1.2 Emission Factors

Emission factors are the GHG emissions per unit of activity data. Factors shall be the net carbon stocks in the post deforestation or post degradation land use (e.g. the carbon stock in land use observed post-deforestation 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. Confidence intervals from sampling errors associated with the estimated emission factors 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 4.5), or to estimate post emission carbon stocks[7] 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 4.4).

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

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.

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 average[8] post-emission carbon stock can be used when establishing emission factors. In cases 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 shall be used. In cases where the national GHG inventory uses annualized accounting of post-deforestation carbon stock changes, the same approach shall be used under TREES. 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. For peat soils a methodology for tracking emissions through time both for the crediting level and during reporting periods must be presented. Regardless of the methodology used, the crediting level must remain static based on historical emissions for the entirety of the crediting period (see Section 5).

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.

[8] Typically defined as over 20 years.

4.2 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:

$$\text{Greenhouse Gas Removals (t } CO_2e) = \text{Activity Data (units of activity)} \times \text{Removal Factor } \left(\frac{\text{t } CO_2e}{\text{unit of activity}}\right)$$

4.2.1 Activity Data

Removals activity data (e.g. annual areas of conversion of non-forest to forest) must be area-based and may be derived from remote sensing data or from verifiable recorded statistics. 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.

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 5.3. 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 TREES Registration Document and TREES Monitoring Report must provide descriptions of the 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 measurements, calculations, and sample designs
- 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 approaches 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.

When activity data does not correspond to the calendar year (January 1 to December 31), 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 their TREES Registration Document.

Stratification between commercial forest and natural forest restoration is recommended (see Section 5.3).

In each calendar year, an Initial Removals stratum should be defined including all eligible areas that began restoration or planting in that year, separated (if possible) between commercial forest and natural forest. In the subsequent year, this initial removals stratum transitions to an ongoing removals stratum (ORS) for the year; the ORS should include all areas being claimed for removals crediting. In other words, all areas that are eligible for removals must be labelled and maintained in the 'ongoing removals stratum' class for subsequent monitoring, reporting and verification activities under ART to track removals over time, and report any deforestation emissions occurring in these areas.

For each hectare of planted and restored forest (natural or commercial) that is subsequently recorded as being deforested, one hectare shall be removed from the area recorded in the 'ongoing removals stratum' used to calculate additional annual removals. Where possible this shall be justifiably assigned to a comparable removals stratum or it shall be conservatively assumed the loss impacts the removals stratum with the highest removal factor.

If an area that is being credited for removals under ART is converted back to non-forest, these emissions must be reported as deforestation emissions for that year in next monitoring report submitted to ART.

4.2.2 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.

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. Confidence intervals from sampling errors associated with the estimated removal factors 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.

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.

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 emission factors do not need updating and this should be explained and justified in the TREES Documentation.

4.3 STRATIFICATION

When 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

4.4 LAND-BASED VERSUS ACTIVITY-BASED ACCOUNTING

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 4.5).

For land-based accounting, Participants must be able to attribute emissions to anthropogenic sources and have in place the means to add new forest areas (specified in stratification plans) where reforestation is occurring in the country in order to capture removals and any future emissions from areas that have regenerated after initial registration.

Uncertainty analyses must be able to determine the uncertainty associated with activity data and emission factors for the selected accounting approach (i.e., land-based accounting or activity-based accounting).

4.5 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 exclusion can be demonstrated to be conservative. This may occur where it can be demonstrated that gross annual emissions from forest degradation are higher in the prior five years than will occur under the current TREES crediting period. A new analysis shall be conducted at the start of each crediting period, including the first crediting period.

Emissions from forest degradation can also be excluded where emissions total < 10% of reported deforestation emissions.[9] 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 to demonstrate leakage is not occurring. If reported emissions indicate an increase in an activity that was excluded in the initial crediting level, the activity must be added to the TREES Crediting Level at the next update as described in Section 5.3.

Removals may be excluded in all instances but must be excluded for any calendar year where the emissions from deforestation and degradation exceeds the TREES crediting level unless the Participant qualifies as a High Forest Low Deforestation (HFLD) jurisdiction. HFLD Participants may claim removals for any year where the emissions from deforestation and degradation are within 15% of their TREES Crediting Level.

4.6 SCOPE OF POOLS AND GASES

The pools under TREES are:

PRIMARY	Aboveground live tree biomass	*part of IPCC - AGB*
	Soil organic matter (peat soils)	*part of IPCC – SOM*
SECONDARY	Belowground live tree biomass	*part of IPCC - BGB*

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

	Standing dead wood	*part of IPCC - DW*
	Down dead wood	*part of IPCC - DW*
	Litter/forest floor	*IPCC - L*
	Non-tree live biomass	*part of IPCC - AGB*
	Soil organic matter (mineral soils)	*part of IPCC - SOM*

IPCC carbon pool categories given for the purpose of cross-walking. AGB – above-ground biomass; BGG – 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_2O)

Estimates of changes/emissions from the primary pools/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 AND where the deforestation rate in peatlands is less than half of the deforestation rate in the total accounting area.

Secondary pools and gases may be excluded where conservative OR where the associated emission is equivalent to less than 3% of emissions (and the sum of emissions from excluded pools and gases does not exceed 10% of emissions). If included, secondary pools/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 inventory. The pools included shall remain fixed for each crediting period and once included, pools may not be excluded in future crediting periods.

5. 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 may not overlap with the crediting period and there may be no gaps between the end of the reference period and the start of each TREES 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 acceptance of the TREES Concept. Crediting levels shall be updated every five calendar years at the start of a new crediting period.

5.1 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.

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.

Equation 1: TREES Crediting Level

$$CL_n = \frac{rE_n}{5}$$

WHERE:

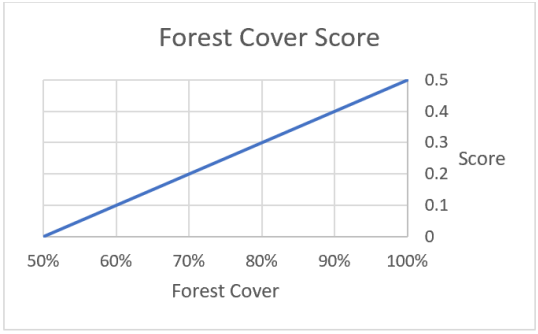
CL_n	Crediting Level for crediting period **n**; **tCO_2e/yr**
rE_n	Summed emissions during period **n** in the historical reference period **t**; **CO_2e**
5	Number of calendar years in the historical reference period; **years**

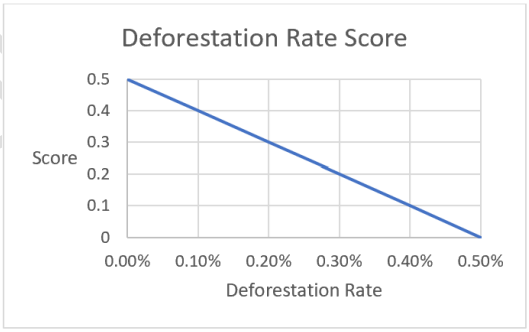
5.2 CALCULATING A TREES CREDITING LEVEL FOR HFLD PARTICIPANTS (OPTIONAL APPROACH)

5.2.1 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

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

WHERE:

$\textbf{HFLD Score}_t$	HFLD Score in calendar year **t**
$\textbf{FCS}_t$	Forest Cover Score in calendar year **t** (Equation 3)
$\textbf{DRS}_t$	Deforestation Rate Score in calendar year **t** (Equation 4)

Equation 3: Forest Cover Score

$$\mathbf{FCS_t = (FC_t - 50) / 100}$$

WHERE:

$\mathbf{FCS_t}$	Forest Cover Score in calendar year **t**
$\mathbf{FC_t}$	Forest Cover in calendar year **t**

Equation 4: Deforestation Rate Score

$$\mathbf{DRS_t = 0.5 - DR_t}$$

WHERE:

$\mathbf{DRS_t}$	Deforestation Rate Score in calendar year **t**
$\mathbf{DR_t}$	Deforestation rate in calendar year **t**[10]

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.

[10] 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.

5.2.2 HFLD Crediting Approach

Participants meeting the criteria for high-forest, low-deforestation (HFLD) outlined in Section 5.2.1 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 TREES Crediting Level is first calculated as required in Section 5.1. This crediting level is then adjusted based on the Participant's HFLD Score and forest carbon stocks[11] as indicated to determine the HFLD Crediting Level.

Equation 5: HFLD Crediting Level

$$\mathbf{HFLDCL_n = CL_n + (HFLD\ Score_{avg} * Carbon\ Stock)}$$

WHERE:

$\mathbf{HFLDCL_n}$	HFLD Crediting Level for crediting period **n**; **tCO_2e/yr**
$\mathbf{CL_n}$	Crediting Level for crediting period **n**; **tCO_2e/yr** (Section 5.1)
$\mathbf{HFLD\ Score_{avg}}$	HFLD Score averaged across reference period (Section 5.2.1)
Carbon Stock	0.05% of Standing Forest Carbon Stock within the accounting area at the start of the crediting period **tCO_2e**

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 11). 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%
>35 - ≤ 55	25%
>55 - ≤ 75	35%

[11] Above-ground and below-ground tree biomass only

>75%	No credits

5.3 CALCULATING A TREES CREDITING LEVEL FOR REMOVALS

In order to be eligible for crediting from removals, for any year that Participants wish to claim crediting from removals, they must also demonstrate that emissions from deforestation and degradation have been reduced below the TREES Crediting Level during the same year unless the Participant qualifies as a High Forest Low Deforestation (HFLD) jurisdiction. HFLD Participants may claim removals if the emissions from deforestation and degradation in the same year are within 15% of their TREES Crediting Level.

Removals from the conversion of non-forest to forest are eligible under TREES, provided they occur on lands that have been non-forest for a period of five (5) years prior to the start of planting/restoration and can be demonstrated to be connected to the Participant's REDD+ activities.

The crediting level for removals consists of an average annual area of conversion from non-forest to forest during the 5 calendar-year reference period. Annual areas converted from non-forest to forest during the crediting period that exceed the 5-year historical average are eligible for crediting.

Stratification of areas between "types" of conversion to forest is advised, and at a minimum stratification between commercial forest and natural forest restoration is recommended.

> *Commercial forest is defined as any homogeneous tree planting or forest regeneration with the purpose of timber, fiber, fruit or tree sap harvest. To be eligible for crediting under TREES, commercial forests must not include any invasive alien species.*
>
> *Natural forest restoration is defined as tree planting or natural regeneration with the intention of restoring natural forest cover.*

Strata should be associated with unique removals factors (see Section 4.1.3). Where separate factors do not exist for a given stratum, strata shall be combined as needed so unique removal factors are applied to each stratum.

If stratification clearly distinguishes the areas of natural forest restoration, they can be treated separately from commercial forests. All new areas of natural forest restoration reported under ART are eligible for crediting[12]; and, upon entering ART the incremental growth that occurs during the crediting period, on all areas of natural forest restored up to ten (10) years prior to the start of the crediting period start date is eligible for removals crediting. These previously

[12] All areas of natural forest restoration may apply a 'zero' crediting level.

restored areas shall be tracked as part of the 'ongoing removals strata', with a separate stratum for each year of planting (see Section 4.2.1).

If unable to stratify between commercial forest and natural forest restoration (or for commercial forest only), the crediting level shall be established using an average of the annual area of conversion of non-forest to forest during the 5 calendar-year historical period preceding the crediting period. This annual average area of non-forest to forest conversion shall serve as the crediting level for removals crediting.

In any given year of the crediting period, areas of non-forest converted to forest that exceed the crediting level area shall be multiplied by the removal factor (or growth equation) for that stratum to estimate the net[13] carbon removals eligible for crediting. In the case where multiple removal factors are appropriate, the areas with the lowest removal factor should be used for crediting and included in the ongoing removals strata. The ongoing removals strata is also eligible for crediting for removals that occurred in a given year of the crediting period (see Section 4.2.1).

Equation 6: Commercial Forest Removals Reference Area

$$\mathbf{RACF} = \frac{\sum \mathbf{ACF_{x,RP}}}{\mathbf{5}}$$

WHERE:

RACF	Reference area of new commercial forest (and new natural restoration if natural restoration is not stratified separately) in the reference period; **ha/yr**
$\mathbf{ACF_{x,RP}}$	Total area of new commercial forest in stratum **x** during the reference period**; ha** *Note: If participant is unable to stratify between new commercial forest and new natural forest restoration, then $ACF_{x,RP}$ shall include both areas (commercial forest and natural restoration) during the reference period.*
5	Number of calendar years in the historical reference period; **years**

[13] Removals must be net of pre-existing vegetation prior to planting or restoration.

6. MONITORING

6.1 MONITORING PLAN

Each TREES 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. 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), 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 at the end of 2040, do not need to report separately as long as the national government continues to report under TREES. If the national government chooses not to join ART by the end of 2040 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.

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

TREES establishes a starting level of reversal risk for Participants of 25%. The starting risk level may be lowered if Participants can demonstrate that mitigating factors exist. The risk level is associated with a buffer deduction taken from the final verified TREES ERR quantity prior to each issuance.

Participants must determine the number of TREES credits that will be contributed to the buffer at each issuance. Each monitoring report must identify the buffer contribution and all justifications for the contribution for each year reported.

TREES considers three risk mitigating factors (below) that affect the success of the Participant. Each factor shall be assessed and verified for each calendar year reported. They are applied to the buffer pool contribution of a given year only when demonstrated that the mitigating factor was in place, or applicable, for the entire year.

MITIGATING FACTOR 1 (-5%): Legislation or executive decrees actively implemented and demonstrably supporting REDD+, issued by a relevant government agency, or with leadership from the Presidential or Prime Ministerial Office.

MITIGATING FACTOR 2 (-10%): Demonstrated interannual variability[14] of less than 15% in annual forest emissions over the prior 5 years used in TREES Reporting. HFLD Participants automatically qualify for this mitigating factor.

[14] This applies to emissions that increase and decrease year by year but will not apply to situations where emissions consistently decrease by over 15% a minimum of two consecutive years. The 15% is determined by taking the average of the data points over the 5 years and then comparing each individual year against that average.

MITIGATING FACTOR 3 (-5%): Demonstrated national reversal mitigation actions, plan or strategy developed in alignment with Cancun Safeguard F. If a Participant has a reversal, the Participant must demonstrate evidence of fully implemented changes to its reversal mitigation plan in order to claim this mitigation factor.

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 Secretariat.

The buffer contribution % is determined as follows. This % is applied to determined BUF in Equations 22 and 27 (Section 10.4).

Table 2: Buffer Contribution Assessment

RATING	BUFFER CONTRIBUTION (%)
Fixed rate with no mitigating factors	25
Fixed rate with mitigating factor #1	20
Fixed rate with mitigating factor #2	15
Fixed rate with mitigating factor #3	20
Fixed rate with mitigating factors #1 and #2	10
Fixed rate with mitigating factors #1 and #3	15
Fixed rate with mitigating factors #2 and #3	10
Fixed rate with mitigating factors #1, #2 and #3	5

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

After each reversal is reported, a Participant must increase its annual buffer contribution for a period of five calendar years by 5%, added to the buffer contribution assessment scoring for those years. No mitigating factors may be claimed for five years following the reversal to permit time for substantive changes to be documented and verified as being successful. The buffer pool contribution based on the risk assessment must be 25% for the 5 calendar years following a reversal. When added to the required 5% increase in buffer pool contribution following a reversal, this equals a 30% buffer pool contribution for 5 calendar years following the reversal.

Further, 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. If the Participant does not have sufficient credits already issued into its account, 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.

If a reversal is reported in the first TREES Monitoring Report submitted to ART, no mitigating factors outlined in Section 7.1.1 may be claimed for the years prior to the reversal as it will be assumed that these measures were unsuccessful in mitigating the risk of reversal. The buffer pool contribution must be 25% for each of the years prior to the 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 19 and 24 (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 3: 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 4.

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[15], 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 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.[16]

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 20 and 25, 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 account[17].

[15] In cases where emission factors are derived from biomass maps, uncertainty of this approach must be included. 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
[16] Monte Carlo guidance is available on the ART website.
[17] Note that these additional credits are also subject to a buffer pool contribution.

Equation 7: Emission Reduction Uncertainty Adjustment Factor

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

Equation 8: Removals Uncertainty Adjustment Factor

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

WHERE:

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

9.1 PARTICIPANT PERFORMANCE INFORMATION

TREES Credits using the HFLD Crediting and Removals Crediting approaches 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 GROSS GHG REDUCTIONS USING THE TREES CREDITING LEVEL APPROACH

Equation 9: Gross GHG Reductions using the TREES Crediting Level approach

$$\mathbf{GHG\ ER_t = CL_t - GHG_t}$$

WHERE:

$\mathbf{GHG\ ER_t}$	Gross GHG ERs in calendar year **t**; $\mathbf{tCO_2e}$
$\mathbf{CL_t}$	TREES Crediting Level for calendar year **t**; $\mathbf{tCO_2e/yr}$
$\mathbf{GHG_t}$	GHG emissions in calendar year **t**; $\mathbf{tCO_2e}$

10.2 GROSS GHG REDUCTIONS USING THE HFLD CREDITING APPROACH

Equation 10: Gross GHG Reductions using the HFLD Crediting Level

$$\mathbf{HFLD\ CL\ ER_t = HFLDCL_t - GHG_t}$$

WHERE:

$\mathbf{HFLD\ CL\ \ ER_t}$	Gross GHG ERs in calendar year **t** using the HFLD CL approach; $\mathbf{tCO_2e}$
$\mathbf{HFLDCL_t}$	HFLD Crediting Level for calendar year **t**; $\mathbf{tCO_2e/yr}$
$\mathbf{GHG_t}$	GHG emissions in calendar year **t**; $\mathbf{tCO_2e}$

Equation 11: HFLD Penalty Deduction

$$\mathbf{PN_t = HFLD\ CL\ ER_t \times HFLDdeduction\%}$$

WHERE:

$\mathbf{PN_t}$	HFLD penalty deduction; $\mathbf{tCO_2e}$
$\mathrm{HFLD\ CL\ ER_t}$	Gross GHG ERs in calendar year **t** using the HFLD CL approach; $\mathbf{tCO_2e}$
$\mathbf{HFLDdeduction\%}$	HFLD deduction (from Section 5.2, Table 1); **%**

Equation 12: Adjusted Gross GHG Reductions using the HFLD Crediting approach

$$\mathbf{GHG\ ER_t = HFLD\ CL\ ER_t - PN_t}$$

WHERE:

$\mathbf{GHG\ ER_t}$	Adjusted Gross GHG ERs using HFLD Crediting approach in calendar year **t**; $\mathbf{tCO_2e}$
$\mathbf{PN_t}$	HFLD penalty deduction in calendar year **t**; $\mathbf{tCO_2e}$ (Section 5.2.2)
$\mathbf{HFLD\ CL\ ER_t}$	GHG ERs in calendar year **t** using the HFLD CL approach; **tCO2e**

10.3 GROSS GHG REMOVALS

10.3.1 Initial Removals

Equation 13: Initial Area of Removals for Commerical Forests

$$\mathbf{ARCF_t = ACF_t - RACF}$$

WHERE:

$\mathbf{ARCF_t}$	Area of commercial forest removals in calendar year **t** of participation in ART; **ha**
$\mathbf{ACF_t}$	Area of new commercial forest in calendar year **t** of participation in ART; **ha**

	Note: If participant is unable to stratify between new commercial forest and new natural forest restoration, $ACF_{,t}$ shall include both commercial forest and natural forest restoration.
RACF	Reference area of new commercial forest (and new natural restoration if natural restoration is not stratified separately) in the reference period; **ha**

Equation 14: Initial GHG Removals for Commerical Forests

$$\mathbf{REMV\_CF_{Initial,x,t}} = \left(\mathbf{ARCF_{x,t}} \times \mathbf{RF_x}\right) - \mathbf{CE_{x,t}}$$

WHERE:

$\mathbf{REMV\_CF_{Initial,x,t}}$	Greenhouse gas removals for commercial forests in stratum **x** in calendar year **t** of reporting to ART; **tCO_2e** *Note: $REMV\_CF_{Initial,x,t}$ includes all areas of new planting in a given year. All removals areas are reported as $REMV\_CF_{Initial,x,t}$ only for one year. Following this initial year, all removals are reported as Ongoing removals, $REMV_{ongoing,t}$ for all subsequent reporting to ART.*
$\mathbf{ARCF_{x,t}}$	Area of commercial forest removals in stratum **x** in calendar year **t** of participation in ART; **ha** *Note: In the case of multiple strata, the areas with the lowest removal factor should be used for crediting.*
RF_x	Removal factor for stratum **x**; **tCO_2e/ha/yr**
$CE_{x,t}$	GHG emissions resulting from clearing vegetation prior to conversion to forest for stratum **x**; **tCO_2e/yr**

Equation 15: Initial GHG Removals for Natural Regeneration

$$\mathbf{REMV\_NR_{Initial,x,t}} = \left(\mathbf{ARNR_{x,t}} \times \mathbf{RF_x}\right) - \mathbf{CE_{x,t}}$$

WHERE:

$\mathbf{REMV\_NR_{Initial,x,t}}$	Greenhouse gas removals for natural regeneration in stratum **x** in calendar year **t** of reporting to ART; **tCO_2e**

	Note: $REMV\_NR_{Initial,x,t}$ includes all areas of new planting and restoration in a given year. All removals areas are reported as $REMV\_NR_{Initial,x,t}$ only for one year. Following this initial year, all removals are reported as Ongoing removals, $REMV_{ongoing,t}$ for all subsequent reporting to ART.
$\mathbf{ARNR_{x,t}}$	Area of natural regeneration removals in stratum **x** in calendar year **t** of participation in ART; **ha**
RF_x	Removal factor for stratum **x**; **$tCO_2e/ha/yr$**
$CE_{x,t}$	GHG emissions resulting from clearing vegetation prior to conversion to forest for stratum **x**; **tCO_2e/yr**

Equation 16: Initial GHG Removals

$$\mathbf{REMV_{Initial,t}} = \sum_{x}^{n} (\mathbf{REMV\_NR_{Initial,x,t}} + \mathbf{REMV\_CF_{Initial,x,t}})$$

WHERE:

$\mathbf{REMV_{Initial,t}}$	Greenhouse gas removals across all strata in calendar year **t** of participation in ART; **tCO_2e**
$\mathbf{REMV\_NR_{Initial,x,t}}$	Greenhouse gas removals for natural regeneration in stratum **x** in calendar year **t** of participation in ART; **tCO_2e**
$\mathbf{REMV\_CF_{Initial,x,t}}$	Greenhouse gas removals for commercial forests in stratum **x** in calendar year **t** of participation in ART; **tCO2e**

10.3.2 Ongoing Removals

Equation 17: Ongoing GHG Removals

$$\mathbf{REMV_{Ongoing,t}} = \sum_{x}^{n} (\mathbf{ORS_{x,t}} * \mathbf{RF_x})$$

WHERE:

$\mathbf{REMV_{Ongoing,t}}$	Greenhouse gas removals in the 'Ongoing Removals Stratum' in calendar year **t** of participation in ART; **tCO_2e/yr**
$\mathbf{ORS_{x,t}}$	Area of removals in the 'Ongoing Removals Stratum' for stratum **x** in calendar year **t** of participation in ART; **ha** *Note: Removals crediting areas that have been deforested must be removed from the Ongoing Removals Strata.*
RF_x	Removal factor for stratum **x**; **$tCO_2e/ha/yr$**

10.3.3 Gross Removals

Equation 18: Gross GHG Removals

$$\mathbf{GHG\ REMV_t = REMV_{Initial,t} + REMV_{Ongoing,t}}$$

WHERE:

$\mathbf{GHG\ REMV_t}$	Gross greenhouse gas removals in calendar year **t** of participation in ART; **tCO_2e/yr**
$\mathbf{REMV_{Initial,t}}$	Greenhouse gas removals across all strata in calendar year **t** of reporting to ART; **tCO_2e/yr**
$\mathbf{REMV_{Ongoing,t}}$	Greenhouse gas removals in the 'Ongoing Removals Stratum' in calendar year **t** of participation in ART; **tCO_2e/yr**

10.4 TOTAL TREES CREDITS

10.4.1Total TREES Emission Reduction Credits

Equation 19: Emission Reduction Leakage Deduction

$$\mathbf{LEAK_{ER,t} = GHG\ ER_t \times Leakage\%}$$

WHERE:

$\mathbf{LEAK_{ER,t}}$	TREES emission reduction leakage deduction in calendar year **t**; **tCO_2e**

$\mathbf{GHG\ ER_t}$	Gross GHG ERs in calendar year **t**; **tCO_2e** (Equation 9 or Equation 12)
$\mathbf{Leakage\%}$	Percentage leakage deduction (from Section 7.2.1, Table 3); **%**

Equation 20: Emission Reduction Uncertainty Deduction

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

WHERE:

$\mathbf{UNC_{ER,t}}$	TREES emission reduction uncertainty deduction in calendar year **t**; **tCO_2e**
$\mathbf{GHG\ ER_t}$	Gross GHG ERs in calendar year **t**; **tCO_2e** (Equation 9 or Equation 12)
$\mathbf{UA_{ER,t}}$	TREES emission reduction uncertainty adjustment factor in calendar year **t** (Section 8, Equation 8)

Equation 21: Adjusted TREES Emission Reductions

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

WHERE:

$\mathbf{TREES\ ER_t}$	Adjusted TREES emission reductions in calendar year **t**; **tCO_2e**
$\mathbf{GHG\ ER_t}$	Gross GHG ERs in calendar year **t**; **tCO_2e** (Equation 9 or Equation 12)
$\mathbf{LEAK_{ER,t}}$	TREES emission reduction leakage deduction in calendar year **t**; **tCO_2e**
$\mathbf{UNC_{ER,t}}$	TREES emission reduction uncertainty deduction in calendar year **t**; **tCO_2e**
$\mathbf{OTH_{ER,t}}$	Emissions reductions from other initiatives within the same accounting area in calendar year **t**; **tCO_2e** (see Section 13)
$\mathbf{NR_{ER,t}}$	Other emission reductions for which Participant does not have the rights in calendar year **t**; **tCO_2e** (see Section 3.4)

Equation 22: Emission Reduction Buffer Pool Contribution

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

WHERE:

$\mathbf{BUF_{ER,t}}$	TREES emission reduction buffer withholding in calendar year **t**; **tCO_2e**
$\mathbf{TREES\ ER_t}$	Adjusted TREES ERs in calendar year **t**; **tCO_2e**
$\mathbf{Buffer\%}$	Buffer contribution (from Section 7.1.2, Table 2) potentially adjusted upwards as a result of prior reversals; **%**

Equation 23: Total TREES Emission Reduction Credits

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

WHERE:

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

10.4.2Total TREES Removals Credits

Equation 24: Removals Leakage Deduction

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

WHERE:

$\mathbf{LEAK_{REMV,t}}$	TREES removals leakage deduction in calendar year **t**; **tCO_2e**
$\mathbf{GHG\ REMV_t}$	Gross GHG removals in calendar year **t**; **tCO_2e** (Equation 20)
$\mathbf{Leakage\%}$	Percentage leakage deduction (from Section 7.2.1, Table 3); **%**

Equation 25: Removals Uncertainty Deduction

$$\mathbf{UNC_{REMV,t} = GHG\ REMV_t \times UA_{REMV,t}}$$

WHERE:

$\mathbf{UNC_{REMV,t}}$	TREES removals uncertainty deduction in calendar year **t**; **tCO_2e**
$\mathbf{GHG\ REMV_t}$	Gross GHG removals in calendar year **t**; **tCO_2e** (Equation 20)
$\mathbf{UA_{REMV,t}}$	TREES removals uncertainty adjustment factor in calendar year **t** (Section 8, Equation 9)

Equation 26: Adjusted TREES Removals

$$\mathbf{TREES\ REMV_t = GHG\ REMV_t - LEAK_{REMV,t} - UNC_{REMV,t} - OTH_{REMV,t} - NR_{REMV,t}}$$

WHERE:

$\mathbf{TREES\ REMV_t}$	Adjusted TREES removals in calendar year **t**; **tCO_2e**
$\mathbf{GHG\ REMV_t}$	Gross GHG removals in calendar year **t**; **tCO_2e** (Equation 20)
$\mathbf{LEAK_{REMV,t}}$	TREES removals leakage deduction in calendar year **t**; **tCO_2e**
$\mathbf{UNC_{REMV,t}}$	TREES removals uncertainty deduction in calendar year **t**; **tCO_2e**
$\mathbf{OTH_{REMV,t}}$	Removals from other initiatives within the same accounting area in calendar year **t**; **tCO_2e** (see Section 13)
$\mathbf{NR_{REMV,t}}$	Other removals for which Participant does not have the rights in calendar year **t**; **tCO_2e** (see Section 3.4)

Equation 27: Removals Buffer Pool Contribution

$$\mathbf{BUF_{REMV,t} = TREES\ REMV_t \times Buffer\%}$$

WHERE:

$\mathbf{BUF_{REMV,t}}$	TREES removals buffer withholding in calendar year **t**; **tCO_2e**
$\mathbf{TREES\ REMV_t}$	Adjusted TREES removals in calendar year **t**; **tCO_2e**
$\mathbf{Buffer\%}$	Buffer contribution (from Section 7.1.2, Table 2) potentially adjusted upwards as a result of prior reversals; **%**

Equation 28: Total TREES Removals Credits

$$\textbf{TREES REMV Credits}_t = \textbf{TREES REMV}_t - \textbf{BUF}_{\textbf{REMV},t}$$

WHERE:

$\textbf{TREES REMV Credits}_t$	TREES Removals Credits in calendar year **t**; **tCO_2e**
$\textbf{TREES REMV}_t$	TREES removals in calendar year **t**; **tCO_2e**
$\textbf{BUF}_{\textbf{REMV},t}$	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 and 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 consistent with 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 guidance on how a Participant can demonstrate that it has addressed and respected all the Cancún Safeguards, while drawing on the step-wise 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 uphold when undertaking REDD+ activities.
2. **Themes**. Each safeguard is further broken down into thematic topics which are encompassed in 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 step-wise 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, 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 have been achieved by the REDD+ activities and safeguard actions.

Due to the highly related nature of the Structure and Process indicators, Participants shall report on these together. This format is reflected in Section 12.4.

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+ actions listed in the REDD+ Implementation Plan that occurred prior to the start of the crediting period 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+ actions that will occur during the Crediting Period to demonstrate conformance with the outcome indicator and how this information will be collected and reviewed.

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.
- Summarize the information collected through the context-specific desired results monitoring outlined in the TREES Registration Document for any REDD+ actions that occurred during the reporting period. 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 because of the review of this information.
- Describe the context-specific desired results, monitoring approach, and information collected for any REDD+ actions that were new or changed during the reporting period and 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 reporting or similar reports used on Cancún Safeguards outside the UNFCCC insofar 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 may use Safeguard Information Systems in place as an important tool to provide data or systems information to demonstrate conformance as well. 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.

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 and resources 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 and resources 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 and resources 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 and resources to prevent corruption, promote anti-corruption measures, and promote transparency, as applicable to 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 and resources 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 ensured that stakeholders had access to, use of, and control over land and resources throughout the implementation of REDD+ actions. REDD+ activities have not caused any involuntary relocation without the free, prior, and informed consent (FPIC) of any Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent stakeholders.

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 and resources 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.

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 and resources for the identification or self-identification of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent, including uncontacted peoples and transhumant communities.

Outcome Indicator: Public institutions have identified Indigenous Peoples, Local Communities, and Afro-descendant Peoples, or equivalent, including uncontacted peoples 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 and resources to respect and protect the traditional knowledge and practices of Indigenous Peoples, Local Communities, Afro-descendant Peoples or equivalent (including those of uncontacted peoples 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 uncontacted peoples 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 and resources to respect, protect and fulfill human rights of Indigenous Peoples, Local Communities and Afro-descendant Peoples, or equivalent, including uncontacted peoples 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 uncontacted peoples and transhumant communities in the design and implementation of REDD+ activities and REDD+ benefit distribution.

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/CP16

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 and resources 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 and resources 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

processes[18], 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/CP16 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 and resources 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.

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 and resources to avoid adverse impacts on natural forest areas and natural ecosystems, biodiversity, and ecosystem services in the design and implementation of REDD+ activities and to enhance their environmental benefits.

[18] 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 the REDD+ activities without adverse impacts on natural forest areas and natural ecosystems, biodiversity, and ecosystem services and enhancing their environmental benefits.

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 and resources 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+ actions 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+ polices and measures. [19]

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.

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.

[19] In accordance and/or complementarity to technical measures and procedures to address reversals included in Section 7 of the Standard.

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 (CORSIA).

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. This includes projects / REDD+ programs participating in other CO_2e-based GHG crediting programs or initiatives such as multilateral and bilateral agreements and results-based payments.

The deduction for each calendar year shall be based on the verified or soon to be verified number of ERRs from the other GHG program or the CO_2e 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. 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 (see Section 4.2.1).

An exception to this requirement may be granted in cases in which credits from projects located within the Participant jurisdiction are verified and/or issued by a GHG program and labelled as being allowed only for use in a domestic compliance market within the Participant jurisdiction. Further, this exception is only applicable if the Participant (i.e., the host country government) provides assurance and verifiable evidence that the specified project credits are only eligible for use towards meeting obligations under a domestic compliance scheme or program, and that no entity is permitted to make claims about the use of the specified project credits towards corporate climate or net-zero targets. In the case of this exception, the volume of credits verified and issued to projects specifically for use in a domestic compliance scheme, and for which no claims are allowed to be made, will not be deducted from TREES issuance volume.

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 CO_2e 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 ART[20] which must include required elements of an authorization,[21] and providing

[20] See Host Country Authorization template on the UNFCCC website: https://unfccc.int/documents/646071
[21] 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.

an initial report or updated initial report[22] to the UNFCCC and subsequently reporting an accounting adjustment in the submission of annual information[23] and biennial transparency reports to the UNFCCC.[24] At present, voluntary market transactions do not require corresponding adjustments.

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 B.

Changes to Authorization

In the event of a change to an ITMO authorization[25], 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.

[22] 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.
[23] Requested in the Agreed Electronic Format referred to in decision 2/CMA.3, annex, chapter IV.B, as contained in -/CMA.6, Annex II
[24] As referred to in paragraph 77, subparagraph (d) of the Annex to decision 18/CMA.1.
[25] For changes to OIMP authorization for CORSIA, see Appendix B.

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 acceptance, 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 detail 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. 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.

The TREES Complaints and Appeals procedure is not for grievances related to the design and/or implementation of a Participating jurisdiction's REDD+ Program or for complaints regarding the conduct or decisions of the Validation and Verification Body.

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.

If the Complainant does not feel the 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.

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 our Validation and Verification Body oversight process, 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 one or more individuals who live and/or use forest resources in the REDD+ accounting area.
- Complainant must demonstrate 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.
- The complaint must represent a new issue not associated with a previous complaint.

To submit a complaint, the Complainant sends a written complaint via email to *redd@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; Description of the harm or imminent harm to the Complainant; and
3. Supporting documentation provided for consideration by the reviewer in the complaint resolution 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.

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.

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 *redd@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 complaint. 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.

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	There are two principle dimensions of accountability considered by safeguard B: vertical and horizontal accountability. **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. **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.
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	This entails identifying and providing information on what a country has in place, in terms of its governance arrangements, which would seek to guarantee the implementation of the safeguards. Addressing safeguards are linked to "structural" indicators under TREES ESG indicators.
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 quantify 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 5: TREES Crediting Level, HFLD Crediting Level, and a Removals Crediting Level. Only net emissions and removals that out-perform 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 TREES 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.
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 for transfer, retirement, surrender or cancelation.
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[26].
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 Submittal 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 of less than half of the national rate.
Participant	A 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: • Reducing emissions from deforestation

[26] 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 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	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. Respecting safeguards are linked to "process" and "outcome" indicators under TREES ESG indicators.
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_2e 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+ actions.
Start Date	The start date is when the initial TREES crediting period begins. This date shall be no earlier than four years prior to acceptance of a TREES Concept Note.
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.
TREES Credit	The ART unit of exchange is a greenhouse gas emission reduction or removal enhancement, denominated in metric tons of CO_2e, 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.
Uncontacted peoples	Indigenous Peoples who have little or no sustained contact with modern society, also referred to as Indigenous Peoples in voluntary isolation.
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: TREES DOCUMENTS

Annex A will be updated after TREES 3.0 is finalized and all TREES templates have been updated accordingly.

ANNEX B: 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)*[27]*:*

> "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 (CO_2) 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 (CORSIA).
>
> CORSIA requires aeroplane operators to offset any increase of CO_2 emissions from international flights between participating countries above a 2020 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.[28]
>
> 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

[27] "*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.
[28] https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

of 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 Appendix B to TREES details requirements to avoid double counting in the CORSIA.

B.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.[29]

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.

B.2 FUNCTIONALITY OF THE ART REGISTRY

[29] CORSIA Emissions Unit Eligibility Criteria, as adopted by the ICAO Council in March 2019, Carbon Offset Credit Integrity Assessment Criteria, item 7: Are only counted once towards a mitigation obligation

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 Guidance[30] Section III.2 Table 3: *Checklist for the incorporation of the provisions set forth in these Guidelines into program documents and operations*, 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, downloadable, sortable reports on all offset credits including programs, issuances, retirements and cancelations; and

4. Retirement and cancelation 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.

[30] "*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

B.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 in 13.3that 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 Authorization**[31]. 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 Assurance and Authorization publicly available by posting on the registry.

   The Letter of Authorization shall include the following elements[32]:
   "(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;

[31] A template authorization letter is available on the UNFCCC website: https://unfccc.int/documents/646071
[32] 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.

(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 authorization[33];
(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 database[34] 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

[33] 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.
[34] Including the (interim) Central Accounting and Reporting Platform

adjustment also be recorded in country reports to the UNFCCC in the next reporting period.

ii. A guarantee, in a form acceptable to ART[35], that any double-claimed units (those for which an adjustment has not been made) will be replaced with a volume of ICAO-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 ART[36], 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 ICAO-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 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

[35]Any 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.
[36] Ibid.

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-ported 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 C: REFERENCES

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