Jurisdictional & Nested REDD+

JNR Requirements

Scenario 3

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Verra's certification programs include the Verified Carbon Standard (VCS) Program and its Jurisdictional and Nested REDD+ (JNR) framework, the Climate, Community & Biodiversity Standards (Climate, Community & Biodiversity (CCBS) Program, the Sustainable Development Verified Impact Standard (SD VISta) Program, and the Plastic Waste Reduction Program.

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1 INTRODUCTION

The *JNR Scenario 3 Requirements* provide the VCS Program requirements for developing jurisdictional REDD programs where carbon accounting and crediting occur only to the jurisdictional program, and projects or lower-level jurisdictional programs are not eligible for direct issuance of VCUs. They include requirements for jurisdictional boundaries, crediting periods, eligible activities, GHG sources and carbon pools, forest reference emission level (FREL) determination, leakage calculations, monitoring, GHG emission reductions calculations, permanence, and verification. The *JNR Scenario 3 Requirements* are intended to assist governments, private entities, civil society organizations, local stakeholders, and validation/verification bodies in developing and auditing jurisdictional programs that do not include nested projects and/or lower-level jurisdictional programs.

The *Jurisdictional and Nested REDD+ (JNR) Requirements* (comprised of the *Jurisdictional and Nested REDD+ Guide* and the three scenario modules, including this document *the JNR Scenario 3 Requirements*) are the overarching program documents for the VCS JNR Program and set the rules and requirements for all jurisdictional and nested carbon accounting and crediting options. In addition to the requirements set out in this document and the *Jurisdictional and Nested REDD+ (JNR) Guide*, jurisdictional programs and nested projects shall adhere to all applicable VCS Program requirements and rules set out in the VCS Program documents. Readers are referred to the *VCS Program Guide*, the *VCS Standard*, the *VCS Methodology Requirements,* and the *Jurisdictional and Nested REDD+ (JNR) Non-Permanence Risk Tool*. Such rules and requirements apply *mutatis mutandis* (e.g., where the *VCS Standard* uses the term "project proponent," this is to be read as "jurisdictional proponent") unless otherwise noted in this document. Where this document references the *VCS Methodology Requirements* and it requires specific criteria or procedures to be set out in a methodology, such requirements should be read as requirements to be fulfilled in the jurisdictional program description. For example, where the *VCS Methodology Requirements* states, "The methodology shall establish criteria and procedures for monitoring, which shall cover the following…", this shall be read as "The jurisdictional program description shall establish criteria and procedures for monitoring…".

1.1 Version

All information about version control under the VCS Program is contained in the *VCS Program Guide*.

This document will be updated periodically and readers shall ensure that they are using the most recent version of the document. Where external documents are referenced, such as the *IPCC 2006 Guidelines for National GHG Inventories*, and such documents are updated periodically, the most recent version of the document shall be used.

Previous versions of the *JNR Requirements* may have included different rules and requirements than those set out in this version. Previous versions of the *JNR Requirements* and other VCS Program documents are archived and available on the Verra website.

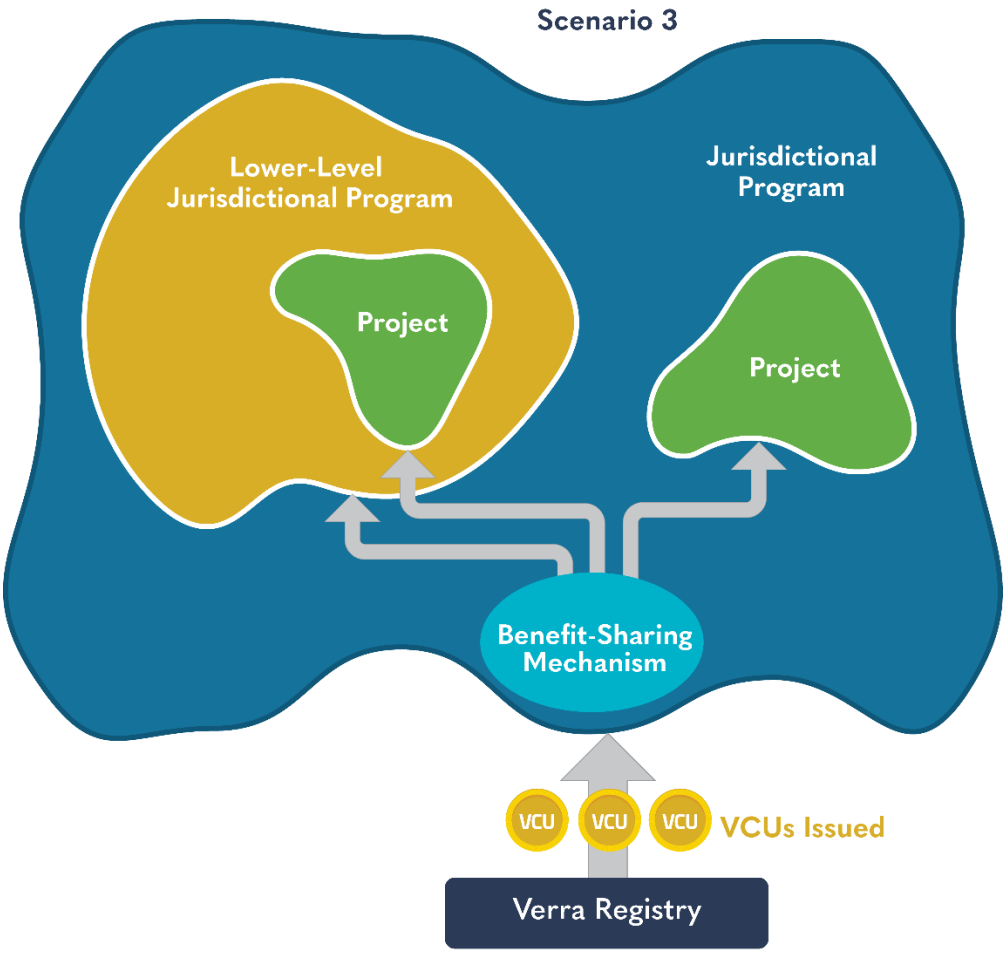
2 OVERVIEW OF SCENARIO 3

2.1 Overview

In jurisdictional programs developed under Scenario 3, carbon accounting and crediting occur only to the jurisdictional program, and projects or lower-level jurisdictional programs are not eligible for direct issuance of VCUs. Jurisdictional programs may optionally apply the nesting rules established in the *JNR Scenario 2 Requirements* in order to reward site-level activities and promote further GHG emission reductions via benefit or credit sharing.

Diagram 1 below outlines the carbon accounting and crediting pathways under Scenario 3. Box 1 below provide examples of the crediting options for jurisdictional programs developed following these *Scenario 3 Requirements*.

Diagram 1. Overview of Scenario 3



Box 1: Example of a Jurisdictional Program with Direct Crediting to the Jurisdictional Program Only

The government of Country D develops a jurisdictional program. Such government intends to request issuance of VCUs for GHG emission reductions achieved across the entire jurisdiction by the REDD policies and programs it implements. The jurisdictional proponent implements a payment for ecosystem services system that involves paying for the protection of forest under threat along with the conservation of less threatened forests that may not have been eligible or viable as REDD+ project activities. The jurisdictional proponent develops a jurisdictional program and benefit-sharing mechanism that documents such plans. The jurisdictional proponent implements REDD activities, conducts monitoring and leakage assessment, applies the relevant non-permanence risk tool, contributes buffer credits to the jurisdictional buffer pool, and requests issuance of VCUs. The jurisdictional proponent then either allocates such VCUs to participants in the domestic REDD+ program and/or sells the VCUs and uses proceeds to fund the payment for the ecosystem services system.

2.2 REDD+ Non-Permanence Risk and Jurisdictional Pooled Buffer Account

2.2.1 The risk of non-permanence for jurisdictional programs is assessed by conducting a risk analysis using the *JNR Non-Permanence Risk Tool* to determine the number of credits to be deposited in the jurisdictional pooled buffer account.

2.2.2 The jurisdictional pooled buffer account holds non-tradable buffer credits to cover the non-permanence risk associated with jurisdictional programs. It is a single account that holds the buffer credits for all jurisdictional programs.

2.2.3 The full rules and procedures related to the non-permanence risk of jurisdictional programs developed under Scenario 3 are set out in Section 3.15.9 below.

2.2.4 The jurisdictional pooled buffer account is subject to periodic reconciliation, as set out in the *VCS Standard*.

2.2.5 Program non-permanence risk analyses and tools will be subject to periodic review by Verra, as set out in the *VCS Standard*.

3 JURISDICTIONAL REDD PROGRAM REQUIREMENTS

This section sets out the rules and requirements for jurisdictional programs that do not include nested projects or lower-level jurisdictional programs under the VCS Program.

To complete the VCS Program certification process, jurisdictional programs must demonstrate how they meet all rules and requirements set out in this section. Compliance is assessed through the validation and verification processes, which are defined in Section 4 below. Once jurisdictional programs complete the validation and verification processes, they become eligible to request registration and VCU issuance. The full process for requesting program registration and VCU issuance is set out in the *JNR Registration and Issuance Process*.

3.1 General Requirements

Concept

Establishing consistent and standardized rules and requirements is critical to ensuring the integrity of VCS jurisdictional programs. Accordingly, certain high-level requirements must be met by jurisdictional programs, as set out below.

Program Requirements

3.1.1 Default factors and standards used to ascertain GHG emission data and any other data necessary for establishing the forest reference emission level (FREL) shall be publicly available from a recognized, credible source, such as the *IPCC 2006 Guidelines for National GHG Inventories* and their *2019 Refinement*, *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry* and the *Methods and Guidance from the Global Forest Observations Initiative (GFOI)*. See the *VCS Methodology Requirements* for the full rules and requirements for the use of default factors and standards.

3.1.2 The development and implementation of subnational jurisdictional elements (i.e., jurisdictional programs and/or jurisdictional FRELs) shall seek alignment with the national REDD+ strategy and policy framework and comply with all national and subnational laws and regulations.

3.1.3 Where implementing partner(s) are acting in partnership with the jurisdictional proponent, the implementing partner(s) shall be identified in the jurisdictional program description, as appropriate. The jurisdictional proponent shall identify their roles and responsibilities with respect to the program, including but not limited to, implementation, management, and monitoring of the program over the program crediting period.

3.2 Jurisdictional Program Description

Concept

Jurisdictional program descriptions outline all elements of a jurisdictional program.

Program Requirements

3.2.1 The jurisdictional program and its context shall be detailed in the jurisdictional program description using the *JNR Program Description Template* available on the Verra website. The jurisdictional proponent shall adhere to all instructional text within the template.

3.2.2 All information in the jurisdictional program description and any accompanying documents shall be presumed to be available for public review, though program sensitive information may be protected, as set out in the VCS Program document JNR Registration and Issuance Process. The validation/verification body shall check that any information designated by the jurisdictional proponent as program sensitive meets the VCS Program definition of program sensitive information. Information in the jurisdictional program description and any accompanying documents related to the determination of the FREL and monitoring of GHG emission reductions shall not be considered as sensitive and shall be provided in the public versions of the documents.

Jurisdictional Program Description Deviations

3.2.3 Deviations from the jurisdictional program description are permitted at verification following the process for project description deviations set out in the *VCS Standard mutatis mutandis.*

3.2.4 Jurisdictional program description deviations are not considered to be precedent setting.

3.3 Start Date

Concept

The program start date is specified by the jurisdictional proponent and is the date on or after which policies or activities that are expected to lead to the generation of GHG emission reductions are adopted and implemented.

Program Requirements

3.3.1 The program start date shall be justified based on the establishment of relevant GHG laws, policies (including jurisdictional REDD+ strategies or plans), or regulations that target GHG mitigation and/or concrete implementation of relevant GHG mitigation activities.

3.3.2 The program shall request listing and opening of the public comment period (as set out in the *JNR Registration and Issuance Process*) within four years of its start date and complete validation within six years of the project start date.

3.4 Crediting Period

Concept

The crediting period is the time period for which GHG emission reductions generated by jurisdictional programs are eligible for issuance as VCUs. Note that certain components of jurisdictional programs (e.g., the jurisdictional FREL) are expected to change periodically and therefore are not set for the entirety of the crediting period.

Program Requirements

3.4.1 The program crediting period shall be 10 or 20 years renewable for additional 10-year periods, for a maximum of 40 years of crediting.

Note - While the crediting period for jurisdictional REDD programs is at most 20 years, renewable up to a total of 40 years, permanence is addressed, in part, by assessing the capacity of the program design to ensure the permanence of the mitigation benefits in the long term. An appropriate level of buffer withholding is determined based on the JNR Non-Permanence Risk Tool*, as set out in Section 3.15.9.*

Note - Although jurisdictional programs may choose a 10-year crediting period, some market mechanisms (e.g., CORSIA) may only allow for credits generated by programs with longer (e.g., 20 years) crediting periods.

3.4.2 The following shall apply with respect to the renewal of the program crediting period under the VCS Program:

1) A full reassessment of additionality is not required when renewing the crediting period, as additionality is built into the FREL, as set out in Section 3.11.2.

2) The jurisdictional program shall be validated in accordance with the latest VCS Program rules, including the latest *JNR Requirements*.

3) The jurisdictional proponent shall update the program description as needed and shall complete validation within two years after the end of the (previous) program crediting period. Where programs fail to renew the program crediting period, the crediting period shall end, and the program shall be ineligible for further crediting.

4) Where the latest version of the *JNR Requirements* would require changes to the FREL, such updates may be incorporated at the time of the next FREL update.

   For example, where a jurisdictional program has chosen a crediting period of 10 years, and a FREL update frequency of every 6 years, the jurisdictional proponent would be required to update the FREL after year 6, renew the crediting period after year 10, and update the FREL again after year 12. Or, given the two-year grace period for renewing the crediting period, the crediting period and second FREL update may both be completed and validated together in year 12.

3.5 Jurisdictional REDD Program Area and Location

Concept

The jurisdictional program area and location define the spatial extent where the jurisdictional program will be implemented, the FREL will be estimated, and monitoring, reporting and verification of GHG emission reductions will take place. A jurisdictional program may cover an entire country or a subnational jurisdiction.

Program Requirements

3.5.1 The geographic location of a jurisdictional program shall be specified in the jurisdictional program description in terms of its geographic area. The location description of the jurisdictional program shall include the following information:

1) Name of the jurisdictional program;

2) Map of the jurisdictional program area;

3) Geodetic coordinates of the jurisdictional program area boundary, provided in the format specified in the *VCS Standard*;

4) Total area of the jurisdictional program.[1]

3.5.2 A national government may determine the boundaries of subnational jurisdictional FRELs and may submit such boundaries to the Verra registry as set out in Sections 3.2 and 4.1. All subsequent subnational jurisdictional program boundaries shall conform to the boundaries submitted by the national government. Such boundaries may follow existing administrative (i.e., politically defined) boundaries or may be based on ecosystems (e.g., ecoregions). Subnational governments may use ecosystem boundaries where such ecosystems are contained within the administrative boundaries of their jurisdictions. Jurisdictional proponents shall not exclude from the program boundary areas within the administrative boundaries of subnational jurisdictional programs where GHG emissions from deforestation or forest degradation may be reasonably expected to increase with respect to the historical reference period during the FREL validity period (e.g., a case where areas within the jurisdiction with high historical GHG emissions and low deforestation threat are included and those with low historical GHG emissions and high threat are excluded).

3.5.3 The determination of subnational boundaries shall be precise and shall not result in overlapping subnational jurisdictional programs.

3.5.4 Where a subnational jurisdictional program is registered, and the national government subsequently defines different boundaries for subnational jurisdictional programs (e.g., based on ecoregions), the subnational jurisdictional program shall follow the requirements set out in

[1] No minimum size of a jurisdiction is imposed because (i) this may be difficult to set and apply to smaller countries and, (ii) the complexity of jurisdictional crediting and approval requirements will likely lead to a de facto minimal size.

Section 3.13, after which the subnational program proponent shall adapt the jurisdictional program area to reflect the boundaries set by the national government.

3.5.5 The lowest eligible jurisdictional level for a subnational program geographically delimited by administrative units is the second administrative level below the national level.

For example, in Brazil this would be a municipality (i.e., one administrative unit below the state) or, in Indonesia, a regency (i.e., one administrative level below the province).

3.5.6 A country shall have no more than two registered jurisdictional levels (e.g., national and state, or state and municipality).

3.5.7 Where the precise boundary of an administrative unit is unclear, the national government shall provide written approval of the boundary as set out in Section 4.1.

3.5.8 Multiple administrative subdivisions, such as several municipalities, may form one jurisdiction for the purposes of a jurisdictional program.

3.5.9 The geographic boundary of a jurisdictional program may be changed after validation only under the following conditions:

1) A border dispute that affected the initially set boundary of the jurisdictional FREL has been resolved. Adjustments to the geographic boundary due the resolution of such conflicts may be made at any time after validation.

2) A new border dispute that affects the boundary has arisen since the boundary was initially set. Adjustments to the geographic boundary due to such conflicts may be made at any time after validation.

3) A border is modified as part of an administrative re-districting. Adjustments to the geographic boundary due to administrative re-districting may be made at any time after validation.

3.5.10 Where the geographic boundary of a jurisdictional program is changed, the following applies:

1) All changed areas shall be noted in the monitoring report;

2) The new geographic boundary and the reassessed FREL shall be validated at the time of the next verification;

3) Updated geodetic coordinates of the jurisdictional program boundaries shall be submitted to the Verra registry prior to the issuance of any further VCUs.

3.6 Authority and Rights to GHG Emission Reductions

Concept

Jurisdictional proponents must have program authority over the jurisdictional program and demonstrate rights to the GHG emission reductions resulting from the jurisdictional program. Program authority is the legal authority to adopt REDD+ policies and measures within the jurisdictional program boundaries. Rights to GHG emission reductions are the right to participate in jurisdictional benefit-sharing or transact GHG emission reductions resulting from 1) formal or informal, statutory, customary or ancestral land rights or land management rights, or 2) participation in activities that generate GHG emission reductions.

Program Requirements

3.6.1 The jurisdictional proponent shall provide documentary evidence establishing authority over the program. Such documentation includes the national political and legal constitution and any valid delegation of authority via statutes, laws, or regulations.

3.6.2 Where government officials represent jurisdictional proponents, they shall demonstrate that they have the necessary authority or delegated authority to represent the jurisdictional proponent.

3.6.3 The scope of program authority may be greater, or equal to the physical boundary of the jurisdictional program.

3.6.4 The jurisdictional proponent shall demonstrate the rights to GHG emission reductions generated by the jurisdictional program in accordance with local law and respect of all rights (including carbon rights). This shall include an explanation of how jurisdictional rights relate to the rights of non-state stakeholders including indigenous peoples, local communities, private entities, and individuals.

3.6.5 Where a higher-level jurisdictional program is registered subsequent to a lower-level jurisdictional program, the higher-level jurisdictional proponent shall clarify program authority of the higher and lower jurisdictional level. This includes clarification of control over specific elements of the program (i.e., areas, activities, and policies).

3.7 PARTICIPATION UNDER OTHER GHG PROGRAMS AND OTHER FORMS OF REDD+ INCENTIVES

Concept

Jurisdictional programs with the same program boundaries and scope may participate under the VCS Program, another GHG program[2] such as FCPF Carbon Fund, or a results-based payment mechanism

[2] The term GHG program covers carbon crediting programs, as defined further in the *VCS Program Definitions*.

that does not generate transactable carbon units) such as the Green Climate Fund's (GCF) REDD+ pilot program. GHG emission reductions that are issued as VCUs cannot be issued as other types of GHG credits or allowances under other GHG programs or GHG emissions trading programs, or as other environmental credits.

Programs that adhere to specific market criteria (including those related to double counting) set out under Paris Agreement Article 6 rules and procedures and international Paris-related programs such as CORSIA are identified via VCU labels. Jurisdictional proponents who want to demonstrate that their VCUs adhere to such criteria should refer to the Verra website for more information about VCU labels.

Program Requirements

Other GHG Programs

3.7.1 Jurisdictional proponents shall not seek credit for the same GHG emission reductions under the VCS Program and another GHG crediting program. Jurisdictional programs issuing GHG credits under both the VCS Program and another GHG program shall also comply with the rules and requirements set out in the *JNR Registration and Issuance Process*.

3.7.2 To prevent double counting, any GHG emission reductions achieved or anticipated by non-forest carbon projects within the geographic boundary of the jurisdictional program that include activities that reduce pressure on forests (e.g., fuel efficient cookstove projects) shall be deducted from the net GHG benefit of the jurisdiction. This applies to any such projects under any GHG program.

Results-Based Payment Programs

3.7.3 Where jurisdictional programs participate in a results-based payment program, jurisdictional proponents shall not seek credit, payment, sale or transfer for the same GHG emission reductions under the VCS Program and the results-based payment program and shall deduct from their net GHG benefit under the JNR program any GHG emission reductions paid for or anticipated to be paid for (or otherwise transacted or rewarded) by the results-based program. Evidence shall be provided that the GHG emission reductions generated within the jurisdictional program boundary have not and will not be otherwise counted or used under any results-based program.

3.7.4 Where jurisdictional programs have sought or received GHG-related results-based payments (or other forms of rewards for GHG emission reductions), jurisdictional proponents shall provide the following details for such payments:

1) Name and contact information of the relevant results-based program;

2) Details of the jurisdictional program as registered under the results-based program (e.g., title and identification number as listed under the program);

3) Monitoring periods for which results-based payments were sought or received under the results-based payment program;

4) Details of all payments sought or received under the results-based payment program (e.g., quantities and vintages of the GHG emission reductions for which payments were received).

Paris Agreement Article 6 Mechanisms and International Paris-Related Programs

3.7.5 Jurisdictional programs or nested projects that seek to use VCUs in the context of the Paris Agreement Article 6 mechanisms and international Paris-related programs such as CORSIA, shall follow the requirements set out in the *VCS Standard*.

Emission Trading Programs and Other Binding Limits

3.7.6 Jurisdictional programs that reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading shall follow the requirements related to emission trading programs and other binding limits set out in the *VCS Standard*.

3.8 Social and Environmental Safeguards and Benefit-Sharing

Concept

It is important for jurisdictional programs to transparently communicate with stakeholders during the program development and implementation processes and comply with relevant safeguards in order to avoid or limit negative environmental and social impacts. Benefit-sharing mechanisms are used to ensure that stakeholders, including indigenous peoples, local communities, and other relevant carbon rights holders, are recognized and rewarded for their role in reducing GHG emissions.

Program Requirements

3.8.1 Jurisdictional programs shall comply with all UNFCCC decisions on safeguards for REDD+,[3] and any relevant jurisdictional (national and subnational) safeguards requirements otherwise established in by any law, statue or regulatory framework (e.g., including those that are not specific for REDD+).

3.8.2 Jurisdictional proponents shall provide information in the monitoring report with respect to how, during the design and implementation of the program, UNFCCC decisions on safeguards and any relevant jurisdictional (national and subnational) safeguards requirements have been addressed and respected. Jurisdictional proponents shall report any advances in the jurisdictional information systems created for providing information on how safeguards are addressed and respected, where available.

[3] Jurisdictional proponents should refer to the most recent UNFCCC decisions. As of the publication of this document, the most relevant decisions include Decision 1/CP.16 (Cancun, 2010), paragraphs 69, 71, 72, 76, appendix II, paragraph 2; Decision 12/CP.17 (Durban, 2011), Section I, paragraphs 1, 2, 3, 4, 5, 6; Decision 9/CP.19 (Warsaw, 2013), paragraph 4, 11; Decision 12/CP.19 (Warsaw, 2013), paragraphs 1,2,3,4,5.

3.8.3 Jurisdictional proponents shall ensure information about how safeguards have been addressed is made readily accessible to all relevant stakeholders throughout implementation of the jurisdictional program. Jurisdictional proponents shall provide information in the program description about the nature of stakeholder consultations related to the design and implementation of the jurisdictional program, including who was consulted, the manner in which the consultations occurred (including input received, and how this was considered), and the outcomes of the consultations. Jurisdictional proponents shall demonstrate that the consultations were conducted in a language and a manner that allowed the effective participation of all relevant stakeholders, with special attention to indigenous peoples and local communities. Additional standards such as the Climate, Community & Biodiversity Standards (CCBS), policies of the Green Climate Fund, the World Bank safeguards policies, the World Bank Environment and Social Framework, and the Forest Stewardship Council (FSC) certification may be used, where appropriate, to help provide such information to stakeholders.

3.8.4 Jurisdictional programs shall be developed and documented in a transparent manner and in consultation with stakeholders. Stakeholders include, inter alia, proponents of existing AFOLU projects, private landowners, and rural and/or indigenous communities, as well as relevant government agencies, private sector, academy representatives, and NGOs. The *Guidelines on Stakeholder Engagement in REDD+ Readiness* of the Forest Carbon Partnership Facility and/or the UN-REDD Programme may be used to guide the stakeholder consultation process.

3.8.5 Jurisdictional proponents shall develop a mechanism for receiving, screening, addressing, monitoring, and reporting feedback, grievances, and concerns submitted by stakeholders relating to the design, implementation, and evaluation of the jurisdictional program at the local, subnational, and national levels. This mechanism shall include appropriate means of communication to enable all interested parties and/or stakeholders to participate.

Benefit-Sharing

3.8.6 Jurisdictional proponents shall put in place an equitable, transparent, and legally binding benefit-sharing system. This system shall consider stakeholders' carbon rights, including rights to land, forests, forest resources, as well as their contribution to ecosystem services that resulted or will result in GHG emission reductions. Benefit-sharing systems shall be developed through a transparent and participatory process in which stakeholder participation is justifiably representative, with a special emphasis on indigenous peoples, local communities, women and the most marginalized and/or vulnerable.[4]

[4] Additional guidance and information about good-practices in benefit sharing arrangements can be found at: https://www.forestcarbonpartnership.org/bio-carbon/en/index.html and https://www.forestcarbonpartnership.org/bio-carbon/en/index.html#additionalResources.

3.9 Eligible Activities

Concept

Jurisdictional proponents may decide which REDD activities, as defined under the UNFCCC, to include in their jurisdictional program.

Program Requirements

3.9.1 Jurisdictional programs may include REDD activities as defined under the UNFCCC,[5] and in line with the VCS Program AFOLU categories as set out in the *VCS Methodology Requirements* (see also Appendix 1 for a full classification of activities), as follows:

1) Reduced emissions from deforestation

2) Reduced emissions from forest degradation (including both REDD and IFM activities focused on avoided degradation)

Note – Requirements for carbon stock enhancement activities (e.g., afforestation/reforestation assisted natural regeneration, and IFM low-productive to high-productive forest set out in the VCS Methodology Requirements*) will be included in a future update to the* JNR Requirements*.*

Note - Activities falling under the UNFCCC activity of forest conservation in non-threatened forests are not eligible under the VCS Program.

3.9.2 Jurisdictional proponents shall determine which of the activities listed in Section 3.9.1 will be accounted for in their jurisdictional program, noting the following:

1) GHG emissions from deforestation shall always be accounted for, regardless of which other activities are (or are not) included.

2) GHG emissions from forest degradation shall be included where they exceed the *de minimis* threshold defined in Section 3.10.4. Where forest degradation is not included, procedures shall be established to account for possible leakage from deforestation to forest degradation, in accordance with Section 3.15.

3.9.3 The definition of forest used in the construction of the FREL shall be specified and shall be consistent with the forest definition used for reporting under the UNFCCC.[6] Where there is a difference between the most recent definition of forest used in UNFCCC reporting and the definition of forest used in the construction of the FREL, the jurisdictional proponent shall explain how and why the current forest definition was chosen.

[5] UNFCCC Decision 1/CP.16 paragraph 70.
[6] UNFCCC Decision 12/CP.17

3.9.4 Deforestation and forest degradation shall be defined with reference to the IPCC land-use change categories of *forest land converted to non-forest land* and *forest land remaining forest land*, respectively.

3.9.5 Jurisdictional proponents shall use activity-based accounting[7] to develop their jurisdictional FREL.

Note –Verra may develop rules and requirements for land-based accounting in the future if jurisdictional proponents demonstrate an interest in applying such an accounting approach.

3.10 Scope and Jurisdictional Program Boundary

Concept

The jurisdictional program boundary includes the GHG sources and carbon pools that are accounted for under a jurisdictional program.

Program Requirements

3.10.1 The relevant carbon pools for REDD activities are aboveground biomass, belowground biomass, litter, dead wood, harvested wood products (HWP), and soil.[8]

3.10.2 Aboveground and belowground biomass shall always be accounted for. Jurisdictional proponents shall determine which other carbon pools and GHG sources are accounted for in accordance with Sections 3.10.3–3.10.5.

3.10.3 Specific other carbon pools and GHG sources are deemed *de minimis* and do not need to be accounted for where together the omitted decrease in carbon stocks (in carbon pools) and increase in GHG emissions (from GHG sources) amounts to less than 10 percent[9] of the estimated total GHG emissions from the FREL over the jurisdictional FREL validity period.

3.10.4 The inclusion of other carbon pools and sources of GHG emissions shall be conservative. Where program implementation risks decreasing pools or increasing emissions beyond the *de minimis* threshold, relative to the jurisdictional FREL, such pools and sources shall be included. Harvested wood products may be excluded where timber harvest is negligible, or where its exclusion is demonstrably more conservative than its inclusion. Soil organic carbon may be optionally included, but it is conservative to exclude. Specific carbon pools and GHG sources do

[7] The activity-based approach to emissions estimation consists of identifying specific activities occurring on the land that influence GHG fluxes and focusing on the intervention, allowing for differentiation between activities. See Iversen P., Lee D., and Rocha M. (2014). Understanding Land Use in the UNFCCC, Chapter 2.2.3. for more information.
[8] Although wetlands are not currently included within the JNR program, peat soil may be a relevant carbon pool (e.g., where leakage may affect wetlands).
[9] The *VCS Methodology Requirements* sets *de minimis* (insignificance) at 5 percent (i.e., individual emissions sources need not be accounted for where they represent less than 5 percent of total project emissions) and allows methodologies to determine how this is calculated. To allow greater flexibility for jurisdictions where the inclusion of minor pools may be costly or infeasible, significance is defined as 10 percent rather than 5 percent for jurisdictional accounting, which is consistent with the Forest Carbon Partnership Facility Methodological Framework.

not have to be accounted for where their exclusion leads to conservative estimates of the total GHG emission reductions generated.

3.10.5 All carbon pool and GHG emission source exclusions shall be conservative and shall be demonstrated and justified at validation based on approximate calculations, references from scientific, peer-reviewed literature, including applicable default (Tier 1) data, or tools from an approved GHG program.

Note - Requirements to account for GHG emission reductions from soil organic carbon, organic soils in wetlands (including peatlands), and GHG emissions from biomass burning will be included in a future update to the JNR Requirements*.*

3.11 Additionality

Concept

To ensure that the GHG mitigation benefits of activities included in and nested into jurisdictional programs are additional compared to a business-as-usual scenario, it is critical for jurisdictional proponents to implement new and/or enhanced strategies, policies and measures, and estimate the resulting GHG emission reductions against a credible FREL.

Program Requirements

3.11.1 Jurisdictional programs shall demonstrate that they are enacting policies and measures to reduce GHG emissions compared to the jurisdictional FREL scenario, including those contained in a REDD+ strategy or plan developed by the jurisdictional proponent.[10] The jurisdictional program proponent shall provide evidence demonstrating that expected revenues from carbon credits are decisive for enabling the full and effective implementation of such policies and measures.

3.11.2 Additionality is factored into the FREL by establishing a conservative benchmark for measuring the performance of the jurisdictional program such that any GHG emission reductions relative to the FREL are considered additional. To this end, relevant policies and measures to reduce GHG emissions that were enacted and implemented before the start of the crediting period shall be included in the FREL estimation,[11] in accordance with Section 3.12.

3.12 Jurisdictional FREL

Concept

A jurisdictional FREL provides the benchmark against which program results are compared to determine the quantity of GHG emission reductions that a jurisdictional program has achieved. The

[10] For example, in accordance with Decision 1/CP.16.
[11] The effect of such policies and measures is, in practice, incorporated by constructing the FREL using historical emission data from (or encompassing) the period when those policies started implementation.

jurisdictional FREL is constructed from activity data (i.e., area of land transitioning to different land-uses) and emission factors (i.e., estimates of carbon stock loss in land-use transitions) estimated using data from the historical reference period. The FREL represents the activities and GHG emissions that would occur in the absence of the program activities. The FREL is updated periodically in order to take changes in drivers and rates of deforestation and forest degradation into account. Therefore, a jurisdictional FREL is only valid for a limited period, the FREL validity period, after which it must be updated.

Program Requirements

General Requirements

3.12.1 A jurisdictional FREL shall be established for the purpose of estimating the GHG emission reference against which program results are measured to determine the quantity of GHG emission reductions that a jurisdictional program has achieved. Jurisdictional proponents shall follow the requirements in this section to estimate jurisdictional FRELs.

3.12.2 The jurisdictional FREL shall remain fixed for a limited period (referred to as the *FREL validity period*), the duration of which shall be four to six years, as defined by the jurisdictional proponent. The jurisdictional FREL must be updated at the end of the FREL validity period, following the requirements set out in Sections 3.12.27 below. A reassessed FREL shall be equal to or lower than the previous jurisdictional FREL, except where new activities or pools are added, as described in Section 3.12.28. If the reassessed FREL is higher than the previous one, the previous FREL level will be adopted for the new validity period.

3.12.3 The jurisdictional FREL shall be disaggregated by activity (i.e., deforestation or forest degradation, as set out in Section 3.9.1 above).

3.12.4 The FREL may be further disaggregated by specific AFOLU activities (such as *unplanned deforestation*; see Appendix 1 for a comparative breakdown of these various activities). Where a jurisdictional FREL separates the broad UNFCCC REDD+ activities into specific AFOLU activities, the following applies:

1) It is considered good practice to differentiate between planned and unplanned activities, where historical data allows such differentiation and future progression can be documented (e.g., a construction plan has been approved by the relevant authority). Where differentiated, planned and unplanned activities may be estimated using different methods (see Sections 3.12.6 and 3.12.7).

2) Forest degradation may include all or only specific activities leading to forest degradation in the jurisdictional FREL (e.g., a jurisdictional FREL may include timber harvesting and exclude fuelwood collection).

3.12.5 The jurisdictional FREL shall be consistent, to the extent possible, with the data and methods used to account for forest-related GHG emissions in the country's existing or emerging UNFCCC GHG inventory.

FREL GHG Emissions

3.12.6 As a default, the jurisdictional FREL shall be calculated as the historical annual average GHG emissions from unplanned deforestation and forest degradation over a period, referred to as the "historical reference period" (HRP). The duration of the HRP shall be four to six years, as defined by the jurisdictional proponent, and its end shall be no more than one year before the start date of the jurisdictional FREL validity period. Guidance on the use of trends for the construction of FRELs is forthcoming (see note below).

3.12.7 Where GHG emissions from planned deforestation and planned forest degradation are estimated separately from unplanned activities, the jurisdictional FREL shall be calculated based on the common practice in the jurisdiction (i.e., based on observed historical average rate of change per permit type that allows for the deforestation or forest degradation). Where it is common practice to harvest/convert above the regulatory surplus in the jurisdiction, it shall be demonstrated that the law is not enforced and is not expected to be enforced for the entire FREL validity period. Emissions from planned deforestation and planned degradation shall be kept separate from the unplanned historical average emissions estimates to avoid double counting.

Note – Verra is exploring methodologically robust and credible options to establish jurisdictional FRELs that include increasing GHG emissions where these can be demonstrated and justified, and that include forest carbon enhancement activities (e.g., afforestation/reforestation and improved forest management).

3.12.8 In jurisdictions where the estimated annual average historical emissions represent a GHG emissions volume larger than that which could possibly result from the loss of the remaining forest lands under threat in the jurisdiction during the FREL validity period,[12] the remaining forests at risk must be assessed by applying VCS Tool VT0007 Unplanned Deforestation Allocation (UDef-A). The potential GHG emissions from the forest areas at risk of deforestation shall be estimated considering the same pools included in the FREL and compared to such FREL. Where the potential GHG emissions are lower than the total FREL emissions during the FREL validity period, the FREL shall be adjusted downwards so that it does not exceed the GHG emission potential of the remaining forest.

3.12.9 Jurisdictional FRELs shall not include GHG emissions from forest loss events that occurred during the historical reference period but are unlikely to reoccur during the FREL validity period. Accordingly, large (i.e., more than 1000 ha) forest losses due to geological (e.g., volcano or landslide) or extreme weather events (e.g., hurricane) that have a return period longer than four to six years shall be excluded from the calculation of historical GHG emissions from unplanned deforestation and unplanned forest degradation. Where areas of loss are not

[12] This situation may be expected in jurisdictions where historically persistent high rates of deforestation have been observed but that in recent years have shown a continuous decline that may be attributable to the lack of forest areas accessible to deforestation agents.

contiguous, it shall be demonstrated that all affected areas are associated with the same natural disturbance event.

3.12.10 Where excluded, the area associated with historical losses attributed to natural disturbances shall be clearly identified and not included in the jurisdictional program accounting, until such time as the forest has recovered to a state similar to that which existed prior to the disturbance. Once recovered, the area may be included in the jurisdictional FREL in a future update. However, if the area where historical losses attributed to natural disturbances have occurred is subsequently converted by human activities to a non-forest land use, the GHG emissions associated with the forest loss shall be accounted for by the jurisdictional program.

3.12.11 In addition to the historical average mentioned in Section 3.12.6 above, significant future GHG emissions from large unavoidable infrastructure projects (e.g., deforestation related to planned hydroelectric projects) may be included in the jurisdictional FREL as planned deforestation where all of the following conditions are met:

1) Forest loss is expected to exceed 1000 ha;

2) The infrastructure project is included in official development plans and has received all approvals required for the activity to commence;

3) Either the activity causing the GHG emissions has already commenced (e.g., construction is underway) or it is demonstrated that at least 80 percent of the finances are in place; and

4) It is demonstrated that similar deforestation is not already included in the historical deforestation (i.e., deforestation due to the implementation of similar infrastructure did not occur during the historical reference period or has been excluded to be processed separately where data allows such differentiation; see Section 3.12.4 above).

The GHG emissions from unavoidable infrastructure projects shall be included in the FREL in a way that represents the historical deforestation rate observed in similar infrastructure projects in the country. If the clearance of the forest areas associated to the development of such infrastructure requires more than one FREL validity period, the associated emissions should be allocated proportionately over several FREL periods. The area associated with this future loss shall be clearly identified when the jurisdictional FREL is developed, and any future GHG emissions associated with the area shall be accounted for.

Historical GHG Emissions

3.12.12 The jurisdictional FREL shall be based on the quantity of GHG emissions over the historical reference period, as set out in Section 3.12.1. Historical GHG emissions shall be estimated separately for each activity included in the jurisdictional FREL. The historical level of GHG emissions is determined by multiplying activity data (in ha/year) by the emission factor of each forest transition (e.g., forest to non-forest or forest to degraded forest) (in tCO_2e/ha). Requirements for estimating activity data and emission factors are set out in Sections **Error! Reference source not found.** to 3.12.25 below.

Activity Data

3.12.13 Activity data estimate the area of specific land-use transitions (e.g., forest to non-forest or forest to degraded forest) that occurred across the jurisdiction over a given time period. Activity data are expressed in ha/year.

3.12.14 A time series of area estimates shall be used to estimate the rate of different land-use transitions during the historical reference period. The maximum number of years between measurements shall be two years. For the initial development of the jurisdictional FREL, the period between measurements may be up to five years.

3.12.15 Area measurements shall be undertaken through remote sensing, using a sample based approach and the following applies:

1) Area sampling shall use high-resolution imagery with a maximum pixel size of 10 meters. Such high-resolution imagery shall be available for most of the historical reference period and for the entirety of the FREL validity period. Lower resolution imagery may only be used where high-resolution imagery is not available.

2) Classification error shall be quantified and minimized.

3) The approach to setting the sample size and sample allocation shall be described. Stratified or non-stratified sampling and random or systematic sampling may be used.

4) Data shall be analyzed using standard best practice methods.[13]

3.12.16 Activity data estimation results in mean area estimates for each land-use transition over the historical reference period. Only one activity (e.g., deforestation or forest degradation) shall be considered for each sample plot. Standard classification rules shall be used to determine which activity takes place in each sample plot within the jurisdictional program area. Each area estimate shall include an uncertainty estimate representing sampling error, as set out in Section 3.14.4 below.

Activity data produced by the jurisdictional proponent will be subjected to an independent expert assessment contracted by Verra to assess the data and procedures used to construct the jurisdictional activity dataset.

Emission Factors

3.12.17 Emission factors estimate GHG emissions (based on carbon stock changes in the carbon pools included in the jurisdictional program boundary) from land-use transitions in tCO_2e/ha.

[13] See Jonckheere, I., Hamilton, R., Michel, J.M. & Donegan, E., eds. 2024. Good practices in sample-based area estimation. White paper. Rome, FAO. https://doi.org/10.4060/cc9276en and GFOI Methods and Guidance document, v2.0, page 127, section 5.1.5 or v3.0, page 176, section 4.2.3 for examples.

3.12.18 Emission factors shall be fixed at validation. The same emission factors shall be used to estimate GHG emissions in the FREL scenario and to estimate GHG emission reductions by the jurisdictional program during the FREL validity period.

3.12.19 Emission factors shall be calculated as the difference in carbon stocks due to land-use transitions:

1) Where GHG emissions occur from above-ground biomass, below-ground biomass, deadwood and litter following the land-use transition, it shall be assumed that all GHG emissions from these carbon pools occur instantaneously.

2) Where there is post-deforestation revegetation, it shall be assumed that GHG removals occur instantaneously, and the emission factor shall be calculated from the long-term average carbon stock (see the *VCS Standard)*.

3) Where the post-deforestation land-use is cyclical (e.g., slash-and-burn agriculture with periodic fallow clearing), the biomass estimates shall reflect the long-term average over time (see the *VCS Standard* for more information on the long-term average GHG benefit).

4) Where the land-use after the land-use transition is degraded forest, the biomass estimates shall reflect an average state of carbon stock in the degraded forest.

3.12.20 Data sources for estimating forest carbon stocks shall be chosen as follows:

1) Above-ground and below-ground biomass shall be estimated based on a plot-based field inventory conducted within the jurisdictional area. Where only few sample units of national forest inventories fall into the jurisdictional area, sample units from other areas can be used if these can be shown to be representative of the forest within the jurisdictional area.

2) Above-ground and below-ground biomass shall be derived from tree measurements using allometric models and/or root-to-shoot ratios:

   a) Where available, allometric models and/or root-to-shoot ratios based on local data (e.g., from the jurisdictional area) that meet the requirements for use of default factors and models as set out in the *VCS Methodology Requirements* shall be used.

   b) Where such allometric equations and/or root-to-shoot ratios are not available, globally developed allometric equations and/or root-to-shoot ratios that meet the requirements for use of default factors and models as set out in the *VCS Methodology Requirements* shall be used.

   c) Uncertainty associated with allometric equations may optionally be included. Uncertainty associated with root-to-shoot ratios shall be propagated.

3) Deadwood and litter biomass shall be estimated through field inventories conducted within the jurisdictional area. Default data (e.g., from *the 2019 Refinement to the 2006 IPCC guidance*) may only be used where:

a) Suitable field inventories are unavailable;

b) Deadwood and litter are collectively expected to amount to less than fifteen percent of the total carbon stocks;

c) The default data meets the requirements for use of default factors and models as set out in the *VCS Methodology Requirements.*

4) Plot-based field inventories shall comply with the following requirements:

a) Raw measurements shall be available and have been analyzed;

b) It is considered good practice to collect this information regularly (e.g., at least every second update of the jurisdictional FREL);

c) A unique set of measurements shall be used for each forest type (i.e., the same sample plots cannot be used to develop emission factors for more than one forest type);

d) A minimum of 20 sample units shall be used in each forest type;

e) Where field measurements are compiled from several sources and do not represent one sampling frame for the entire jurisdictional area, it shall be demonstrated that the measurements are collectively representative of the forest in the jurisdictional program area.

3.12.21 Data sources for estimating non-forest biomass shall be chosen noting the following:

1) Biomass shall be estimated through field inventories where suitable data that meets the requirements for field inventories, set out in Section 3.12.20 above, are available;

2) Default data (e.g., from the *2019 Refinement to the 2006 IPCC Guidelines*) may be used where it meets the requirements for use of default factors and models as set out in the *VCS Methodology Requirements.*

3.12.22 Uncertainty shall be estimated for each carbon pool and each forest type as follows:

1) Where biomass is estimated from field measurements, the associated sampling uncertainty shall be estimated;

For example, where only one stratum is used and a national forest inventory has been conducted with 101 sample plots and a standard deviation of 50 tCO_2e, then the associated sampling uncertainty will be equal to: $\frac{50}{\sqrt{101-1}}$ = 5 tCO_2e.

2) Where biomass is estimated from default sources, the associated uncertainty shall be estimated based on the range of values provided in the source.[14]

[14] For instance, where the *2019 Refinement to the 2006 IPCC guidance* is used, Table 2.2 in Volume 4, Chapter 2 of the lists default values for litter and deadwood and Box 3.0B in Volume, Chapter 3 explains how to convert a range to an uncertainty.

For example, in tropical moist forests, the average carbon stock in litter per hectare for all vegetation types is 5.9 tCO_2e with a range of 1.9–14.8 tCO_2e. The uncertainty lower bound is calculated as: (5.9-1.9)/5.9 = 67.8%. The uncertainty upper bound is calculated as: (14.8 − 5.9)/5.9 = 150.8%. The average is calculated as: (67.8% + 150.8%)/2 = 109.3%.

3.12.23 Biomass estimation shall result in mean biomass estimates for the land-use (sub) strata. The mean biomass estimate is calculated by summing all the pools. The uncertainty shall be propagated.

3.12.24 Biomass estimates shall be converted to tCO_2e per ha using a carbon fraction and ratio of molecular weights as per the *2019 Refinement to the 2006 IPCC Guidelines*. Uncertainties shall be propagated.

3.12.25 Each estimate shall include an uncertainty estimate representing the error sources, as set out in Section 3.14.6 below.

Updating the Jurisdictional FREL

3.12.26 Jurisdictional FRELs shall be updated and revalidated at the end of each FREL validity period.

3.12.27 The following components of the jurisdictional FREL shall be updated:

1) Activity data representing land-use transitions shall be updated during every update to the jurisdictional FREL;

2) The GHG emission factors shall be updated at least every other update to the jurisdictional FREL.

3.12.28 The scope of the jurisdictional FREL may be broadened at any time (i.e., not only at the periodic update to the FREL validity period) through a program description deviation (as set out in Section 3.2.4) to include additional REDD activities set out in Section 3.8.6, GHG emission sources, and/or carbon pools. Where such updates are undertaken separately from the required periodic updates, only the additional pools or activities and associated emission factors, where necessary, may be updated. All other FREL elements (such as unrelated emission factors) may be updated only as part of required periodic updates.

3.12.29 Where the scope of the jurisdictional FREL has been expanded in advance of the required periodic update, the entire FREL shall be updated at the subsequent periodic update (i.e., all activities shall be updated, not only those activities included in the scope of the original jurisdictional FREL).

3.12.30 The scope of the jurisdictional FREL may be narrowed at the time of FREL update only where it can be demonstrated that the activity or carbon pool to be removed is (or has become)

The uncertainty lower bound and uncertainty upper bound should be calculated, and an average can be calculated to derive a symmetric interval.

insignificant, or that it is conservative to exclude it, and this will remain the case for the duration of the new jurisdictional FREL validity period.

3.13 Monitoring

Concept

Monitoring refers to the collection and analysis of data to assess the GHG emission reductions achieved by jurisdictional programs during a given time period in accordance with the monitoring plan set out in the program descriptions.

Program Requirements

3.13.1 Jurisdictional proponents shall monitor the activities and carbon pools that were included in the jurisdictional FREL using the same methods used to set the FREL.

3.13.2 The geographic area to be monitored shall be the entire forested area of the jurisdiction that was included in the jurisdictional FREL. See Sections 3.12.9 and 3.12.11 above for areas that may be excluded from the FREL. Emission reductions cannot be claimed for excluded areas.

3.13.3 The jurisdictional proponent shall submit a unique monitoring report for the entire jurisdiction.

3.13.4 Monitoring shall be carried out at least every two years and verification shall be conducted at least once per FREL validity period (i.e., every four to six years, as applicable, starting from the program start date or the end of the last FREL validity period). The periodicity of measurements is set out in Sections 3.12.14 and 3.12.20.

3.13.5 The jurisdictional proponent shall use the *JNR Monitoring Report Template* or an approved combined program description template available on the Verra website and adhere to all instructional text within the template. The jurisdictional monitoring report describes all the data and information related to the monitoring of GHG emission reductions.

3.13.6 The monitoring period of the jurisdictional monitoring report shall be a distinct time period that does not overlap with previous monitoring periods. In addition, monitoring periods shall be contiguous with no time gaps between them and in aggregate shall cover the entire program crediting period.

3.14 Uncertainty

Concept

Uncertainty is a characteristic of a measurement or sample that describes the dispersion of the values that could be reasonably attributed to the measurement or sample. Uncertainty is determined for the measurements or samples used to estimate GHG emissions and GHG emission reductions achieved by program activities. Uncertainty discounts are used to ensure that estimates are conservative.

Program Requirements

3.14.1 Jurisdictional programs shall undertake an analysis of uncertainty in estimating GHG emissions and GHG emission reductions.

3.14.2 A qualitative uncertainty analysis shall be undertaken that lays out how systematic uncertainty and random uncertainty are reduced as far as possible through the use of high-quality data and adequate quality management procedures.

3.14.3 A quantitative analysis of remaining random uncertainty shall be undertaken. Jurisdictional proponents shall calculate error propagation for the GHG emissions estimated for the FREL historical reference period and for the monitoring period. In addition, jurisdictional proponents shall apply a Monte Carlo analysis for GHG emission reduction estimates.

3.14.4 Uncertainties shall be reported referring to the half width of the two-sided 90% confidence interval. Uncertainties should be reported in the units of measurement for the estimate in question and as a percentage of the mean estimate.

3.14.5 Uncertainty requirements for activity data are set out in Sections 3.12.15 to 3.12.16. The area estimates of deforestation and of forest degradation for each forest type shall be accompanied by an estimate of the associated uncertainty. As set out in Section 3.12.15, sampling uncertainty associated with sample plot allocation for visual inspection of land-use transitions in satellite imagery shall be included.

3.14.6 The uncertainty requirements for emission factors are set out in Sections 3.12.22 to 3.12.25. Emission factors for each forest type shall be accompanied by an uncertainty estimate. According to the requirements in Section 3.12.22, the following sources of uncertainty are to be covered:

1) Uncertainty associated with calculation parameters such as the carbon fraction, root-to-shoot ratios and others

2) Sampling uncertainty associated with plot allocation for field inventories for all carbon pools

3) Uncertainty associated with default values for litter and deadwood in forests, and for all pools in non-forest vegetation

4) Other sources of uncertainty (e.g., associated with allometric equations), may be covered optionally

3.14.7 The uncertainty of GHG emission estimates shall be determined based on the uncertainties of activity data and of emission factors as laid out in Sections 3.14.5 and 3.14.6 above.

3.14.8 Uncertainties in estimating leakage do not need to be considered for estimating GHG emission reduction uncertainty.

3.14.9 To estimate the uncertainty of emission reductions using the Monte Carlo analysis, the following applies:

1) The same sources of uncertainty shall be covered that are considered for error propagation following the requirements in Sections 3.14.5 and 3.14.6 above.

2) Distributional assumptions shall be justified for each simulated variable. Bootstrapping may also be used.

3) A minimum of 10,000 model runs shall be conducted.

4) The results of the Monte Carlo analysis shall be compared against the results of the error propagation. Material differences shall be explained referring to distributional assumptions and the occurrence of covariances.

5) For the Monte Carlo analysis, generally recognized good practice should be followed in setting up the calculations.[15]

3.14.10 Jurisdictional programs shall discount the GHG emission reduction estimates in order to reduce the risk of overestimation.[16] The discounting shall be based on the results of the Monte Carlo simulation and the discount factors provided in Table 1.[17]

[15] Guidance is available in the IPCC guidance. A relevant template has been made available by the FAO that can be used: http://www.fao.org/redd/information-resources/tools/en/

[16] For the GHG emission during the monitoring period, "discounting" means increasing emission estimate.

[17] Background on this approach to discounting is available in: Neeff, T. 2021. What is the risk of overestimating emission reductions from forests – and what can be done about it. Climatic Change. 166:26. https://doi.org/10.1007/s10584-021-03079-z

Table 1. Uncertainty discount factors for GHG emissions and GHG emission reductions[18]

Uncertainty of the quantity of GHG emissions and GHG emission reductions	Discount factor	Uncertainty of the quantity of GHG emissions and GHG emission reductions	Discount factor
95% - 100%	-25.53%	45% - 50%	-12.44%
90% - 95%	-24.22%	40% - 45%	-11.13%
85% - 90%	-22.91%	35% - 40%	-9.82%
80% - 85%	-21.60%	30% - 35%	-8.51%
75% - 80%	-20.29%	25% - 30%	-7.20%
70% - 75%	-18.99%	20% - 25%	-5.89%
65% - 70%	-17.68%	15% - 20%	-4.58%
60% - 70%	-16.37%	10% - 15%	-3.27%
55% - 60%	-15.06%	5% - 10%	0.0%
50% - 55%	-13.75%	0% - 5%	0.0%

3.14.11 GHG emission reduction estimates with uncertainties that fall outside the range in Table 1 are not eligible for crediting.

3.14.12 The discount factors shall be multiplied by the estimated GHG emission reductions to calculate the conservativeness discount. The conservatively discounted GHG emission reductions quantity shall be calculated by subtracting the conservativeness discount from the estimated GHG emission reductions.

[18] The discounting shall be based on the results of the Monte Carlo simulation and the resulting uncertainty, i.e., the half-width of the two-sided 90% confidence interval as percentage of the mean estimate. The discount factors are given by the following:

- If the uncertainty is smaller or equal to 10% of the mean, then the discount factor is 0%.
- If the uncertainty is greater than 10% of the mean and smaller than 100%, then: discount factor = - uncertainty / $t_{alpha=10\%}$ * $t_{alpha=66.6\%}$. In this, uncertainty is the half width of the 90% confidence interval as percentage of the mean estimate; $t_{alpha=10\%}$ is the t-value for the two-sided 90% confidence interval, approximately 1.6449; $t_{alpha=66.6\%}$ is the t-value for a one-sided 66.66% confidence interval, approximately 0.4307. The discount factor is in percent.
- If the uncertainty of the GHG emission reduction estimate is equal to or greater than 100%, the jurisdictional program is not eligible for crediting.

For example, should a jurisdictional program estimate GHG emission reductions of 100,000 tonnes with an uncertainty of 31%, then the discount factor would amount to -8.51%. The conservativeness discount would then amount to 8.51% * 100,000 tonnes = 8,510 tonnes. The conservatively discounted GHG emission reductions would therefore amount to 100,000 tonnes – 8,510 tonnes = 91,490 tonnes.

3.15 Leakage

Concept

Leakage is the net change of anthropogenic GHG emissions that occurs outside the jurisdictional program boundary and is attributable to program activities. It is important for all jurisdictional programs to take steps to mitigate leakage to the extent possible and account for leakage within the jurisdiction (e.g., from deforestation to forest degradation). Jurisdictional programs do not account for international leakage, but subnational programs must account for leakage to neighboring subnational jurisdictions within the same country in cases where deforestation in those jurisdictions is not accounted for under a GHG program.

Program Requirements

General

3.15.1 Jurisdictional programs shall consider the three types of leakage (activity shifting, market leakage, and ecological leakage) described in the *VCS Methodology Requirements.* The *VCS VT0004 JNR Leakage Tool* may be used for this purpose. Jurisdictional programs shall quantify any leakage from deforestation to forest degradation in accordance with Section 3.15.10(2)1)c) and any leakage to wetland areas in accordance with Section 3.15.7 below.

3.15.2 Leakage occurring outside the country (i.e., international leakage) does not need to be accounted for or deducted from jurisdictional program GHG emission reductions, though steps shall be taken to mitigate potential international leakage, as set out in Section 3.15.8 below.

3.15.3 Jurisdictional proponents shall identify the drivers of deforestation or forest degradation and their potential for leakage.

3.15.4 Jurisdictional proponents shall develop and implement appropriate measures to avoid or reduce the risk of leakage where possible.

3.15.5 Jurisdictional programs shall not account for positive leakage (i.e., where GHG emissions decrease outside a jurisdictional program area due to jurisdictional program activities). Note that where positive leakage occurs, jurisdictional proponents are encouraged to include information in the monitoring report even though it cannot be accounted for in the jurisdictional program's net GHG benefit.

3.15.6 GHG emissions from leakage may be determined either directly from monitoring, or indirectly when leakage is difficult to monitor directly but where scientific knowledge or research provides

credible estimates of likely impacts. Jurisdictional proponents may apply *VT0004 JNR Leakage Tool.*

3.15.7 Where a jurisdiction contains non-forested wetlands, including peatlands, the jurisdictional proponent shall identify the potential for leakage from forested wetlands to non-forested wetlands (e.g., where GHG emissions increase, or removals decrease on non-forested wetlands). Such leakage risk shall be mitigated, and procedures shall be established to account for any such leakage in accordance with Section 3.15.9. Emission factors for wetlands shall be conservative and based on empirical data or other sources published in scientific peer-reviewed literature, such as the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*.

National Jurisdictional Programs

3.15.8 National jurisdictional program proponents shall identify potential sources of international leakage and mitigate leakage risk where practicable (within the country), following steps 1 and 2 set out in Section 3.15.9 on subnational leakage. Where it is possible to accurately determine and estimate the portion of leakage that would occur outside of the country, programs are not required to monitor and account for such leakage, as set out in Section 3.15.2.

Subnational Jurisdictional Programs

3.15.9 Subnational jurisdictional programs shall establish procedures to mitigate and quantify all significant sources of leakage outside the jurisdictional boundaries, but within the same country, except where leakage occurs to another jurisdictional program, as set out in Section 3.15.10 below.

3.15.10 Any residual leakage (i.e., after implementing mitigation measures) outside a subnational jurisdictional program shall be accounted for as follows:

1) Where leakage from one jurisdictional program may result in an increase in GHG emissions in another jurisdictional program within the same country registered under the VCS Program or another GHG program, each jurisdictional proponent shall be fully responsible for GHG emissions and reductions within its own jurisdictional program boundary, regardless of whether some GHG emissions are the result of leakage from the other jurisdiction. In this case, jurisdictional proponents are not required to monitor or account for any leakage in these neighboring jurisdictions.

2) Where leakage from the jurisdictional program may result in an increase in GHG emissions in a neighboring subnational jurisdiction within the same country that does not have monitoring in place or is not registered under the VCS or another GHG crediting program, such increase in GHG emissions in the neighboring jurisdiction shall be accounted for using one or more of the following methods:

a) A leakage belt or other method (e.g., directly tracking displaced deforestation agents) of monitoring and accounting for leakage outside the jurisdiction, using a VCS Program methodology or tool. A leakage belt is an area surrounding the border of the jurisdiction that is subject to monitoring to quantify any leakage. Leakage mitigation activities may or may not be carried out within the leakage belts. Jurisdictions shall demonstrate that the leakage belt is correctly placed and sufficiently large to capture displaced activities, or that the leakage belt is used in conjunction with other methods such that all potential leakage is captured. Where a jurisdictional program uses a leakage belt method for monitoring and reporting leakage a FREL for the leakage belt shall be established. Portions of the leakage belt falling in neighboring jurisdictions shall be excluded from the leakage belt where a neighboring jurisdictional program is registered under the VCS or another GHG crediting program.

b) The *VT0004 JNR Leakage Tool* for leakage associated with the production of global commodities, domestic markets, and subsistence activities and for leakage from avoided deforestation activities to forest degradation.

c) For activity shifting leakage within the jurisdiction, identification of likely shifts in activities and monitoring of activities that are not included in the jurisdictional FREL but that are at risk of causing leakage (e.g., where deforestation is accounted for and forest degradation is not, leakage may occur from areas that would have been deforested, causing forest degradation).

3) Any resulting leakage, either monitored or estimated, shall be subtracted from the total jurisdictional GHG emission reductions achieved by the jurisdictional program during the monitoring period.

3.16 Non-Permanence Risk and Natural Disturbances

Concept

Jurisdictional programs shall have a minimum longevity of 40 years. The risk of non-permanence of jurisdictional programs is addressed through the use of a risk analysis and the JNR pooled buffer account. Buffer credits are cancelled to cover carbon known, or believed, to be lost.

Requirements

3.16.1 Jurisdictional proponents shall prepare a non-permanence risk report in accordance with the *JNR Non-Permanence Risk Tool.* Non-permanence risk reports shall be prepared using the *JNR Non-Permanence Risk Report Template*, which may be included as an annex to the jurisdictional program description or monitoring report, as applicable, or provided as a stand-alone document.

3.16.2 Buffer credits shall be deposited in the JNR pooled buffer account based upon the non-permanence risk report assessed by the validation/verification body. Buffer credits are not VCUs and cannot be traded.

3.16.3 Jurisdictional proponents may choose to contribute a higher proportion of credits than that determined by the *JNR Non-Permanence Risk Tool* (e.g., to soften the impact of any need to repay the buffer in the event of a reversal in the future). Any deduction of additional buffer credits shall take place after the quantity of buffer credits determined by the application of the *JNR Non-Permanence Risk Tool* has been deducted from the jurisdictional program's net GHG benefit.

3.16.4 Assessment of non-permanence risk analyses may be conducted by the same validation/verification body that conducts validation or verification of the jurisdictional program and at the same time. The rules and requirements for the process of assessment by validation/verification bodies are set out in the VCS Standard.

3.16.5 Where an event occurs that is likely to qualify as a loss event (see the *VCS Program Definitions* for definition of loss event), the relevant rules and procedures stated in the *JNR Registration and Issuance Process* shall be applied.

3.17 Quantification of GHG Emission Reductions

Concept

The net GHG emission reductions achieved by jurisdictional programs are the basis for the quantity of VCUs that can be issued by the jurisdictional program. Net GHG emission reductions for jurisdictional programs are determined as the difference between the GHG emissions from GHG sources and carbon pools in the jurisdictional FREL scenario and the jurisdictional REDD program scenario.

Program Requirements

3.17.1 Net GHG emission reductions (the net GHG benefit) shall be determined as the difference between the GHG emissions from GHG sources, and carbon pools in the jurisdictional FREL scenario and the jurisdictional program scenario (including any GHG emissions resulting from the implementation of jurisdictional program activities), minus leakage.

3.17.2 GHG emissions and GHG emission reductions for the monitoring period shall be estimated for each stratum and for deforestation and forest degradation where applicable.

3.17.3 Each estimate of GHG emissions and GHG emission reductions shall be accompanied by an uncertainty estimate as determined in accordance with Section 3.14.

3.17.4 The number of GHG credits available to be issued to the higher-level jurisdictional proponents is determined by subtracting out the buffer credits from the net GHG emission reductions achieved by the jurisdictional program (which represent the FREL minus the program GHG

emissions minus leakage) and subtracting any GHG emission reductions issued (or available to be issued) to nested projects and lower-level jurisdictional programs, including buffer credits. Credits and other forms of incentives issued or anticipated for the same GHG emission reductions under the VCS and another GHG crediting program shall also be deducted in accordance with Section 3.7.2.

4 GOVERNMENT APPROVAL, VALIDATION AND VERIFICATION REQUIREMENTS

4.1 Approvals

Concept

Different government entities may have control over components included in a jurisdictional program. Only the jurisdictional proponent with program authority may submit documentation for registering a program or authorize government agencies to register on its behalf. Program authority is the legal authority to adopt REDD+ policies and measures at the jurisdictional level. Where there are multiple entities that have overlapping program authority, the jurisdictional proponent that is developing a jurisdictional program must secure an approval or non-objection from the national or subnational authority that shares the control over the program.

Program Requirements

4.1.1 The jurisdictional proponent shall provide documentary evidence establishing authority over the program. Such documentation includes the national political and legal constitution and any valid delegation of authority via statutes, laws, or regulations.

4.1.2 Where national and subnational authorities control different or overlapping components of a jurisdictional program, the following applies:

1) Where a national jurisdictional program is developed and encompasses areas under the authority of a subnational jurisdiction, the national jurisdictional proponent shall provide evidence that the subnational jurisdiction endorses, approves, or has no objection to, the registration of the national program.

2) Where a subnational program is developed and the national government exercises control over program elements, a subnational-level jurisdictional proponent shall provide evidence that the national government approves or has no-objection to the registration of the subnational program. Where the subnational jurisdictional proponent exercises full authority over the program, no further approvals are required.

   For example, a subnational government agency with control over forest and environmental management may register the jurisdictional program without a no-objection response from the national government. However, such jurisdictional proponents shall follow the

stakeholder consultation requirements set out in Section 3.8, including consultation with any relevant national government agencies.

4.1.3 Where any domestic regulations exist for government approval of any element covered by the jurisdictional program, evidence shall be provided to demonstrate that the jurisdictional program complies with any relevant regulation.

4.2 Validation/Verification and Registration

Concept

Validation is the independent assessment of the jurisdictional program by a validation/verification body that determines whether the program complies with the *JNR Requirements*. Verification is the periodic *ex-post* assessment by an independent validation/verification body of the net GHG emission reductions that the jurisdictional program achieved during the monitoring period, conducted in accordance with the *JNR Requirements*. Registration is the process of submitting documents to Verra to be listed on the Verra Registry.

Program Requirements

4.2.1 The full validation and verification process for jurisdictional programs is set out in the *JNR Validation and Verification Process.*

Non-Permanence Risk Analysis

4.2.2 The non-permanence risk analysis shall be assessed by a validation/verification body in accordance with the *VCS Standard*.

Registration

4.2.3 Jurisdictional programs may only be submitted to the Verra registry by jurisdictional government entities or agencies that qualify as jurisdictional proponents (see the *VCS Program Definitions* for definition of jurisdictional proponent), or by another entity that is authorized by the jurisdictional proponent to do so (e.g., where the jurisdictional proponent is participating in a public-private partnership (PPP), and the PPP has been nominated as the authorized representative). National jurisdictional proponents may register national and/or subnational jurisdictional programs. Subnational jurisdictional proponents may register only their own jurisdiction's program. Note that FRELs (or other parts of the jurisdictional program) may be developed by non-governmental organizations or other partners, but such partners may not submit such elements for registration, unless they have been designated as the authorized representative by the jurisdiction.

4.2.4 The full rules and requirements with respect to the registration of jurisdictional programs are set out in the *JNR Registration and Issuance Process*.

APPENDIX 1 COMPARISON OF IPCC, UNFCCC, AND VCS PROGRAM COMPONENTS OF REDD+

IPCC Categories	UNFCCC REDD+ Activities	Broad VCS Program Jurisdictional and Nested REDD+ Activities	Major Activities	Broad VCS Program Project Activities	Specific VCS Program Project Activities
Conversion of forest to non-forest	RED (Reducing Emissions from Deforestation)	Reducing Emissions from Deforestation	Reducing deforestation (conversion of forest to non-forest).	REDD (Reduced Emissions from Deforestation and Degradation)	APD (avoided planned deforestation)
					APD + RWE (avoided planned deforestation plus wetland restoration)
					APD + CIW (avoided planned deforestation and wetland conservation)
					AUD (avoided unplanned deforestation)
					AUD + RWE (avoided unplanned deforestation plus wetland restoration
Forests remaining as forests	REDD (Reducing Emissions from Degradation)	Reducing Emissions from Degradation	Reducing emissions from forests remaining forests.		AUDD (avoided unplanned degradation)
					AUDD + RWE (avoided unplanned degradation plus wetland restoration)
					AUDD+ CIW (avoided unplanned degradation and wetland conservation)
					RIL (reduced impact logging)

				IFM (Improved Forest Management)	LtPF (logged to protected forest)
					ERA (extended rotation age)
					IFM + RWE (improved forest management plus wetland restoration)
					IFM + CIW (improved forest management and wetland conservation)
	REDD+ (Sustainable management of forests and enhancement of forest carbon stocks)	Enhancement of forest carbon stocks	Increasing removals from forests remaining forests		LtHP (low productive to high-productive forest)
				ARR (Afforestation, Reforestation and Revegetation)	ARR (afforestation, reforestation and revegetation)
					ARR + RWE (afforestation, reforestation and revegetation plus wetland restoration)
Conversion of non-forest to forest			Increasing conversion to forests.		ARR (afforestation, reforestation and revegetation)
					ARR + RWE (afforestation, reforestation and revegetation plus wetland restoration) and wetland conservation)

APPENDIX 2 DOCUMENT HISTORY

Version	Date	Comment
v4.0	15 April 2021	Initial version released under VCS Version 4
v4.1	19 August 2024	Main updates (effective for all project requests submitted on or after 19 August 2024): 1) References to risk mapping and allocation procedures updated to refer to *VCS Tool VT0007 Unplanned Deforestation Allocation*. 2) Activity data shall be estimated by means of sample-based area estimation method to align with current best practices and ensure consistency with *VMD0055*. 3) Requirement added to provide evidence demonstrating that expected revenue from carbon credits is decisive for enabling implementation of jurisdictional program. 4) Limit to the time between the program start date and validation/registration added. 5) Minimum program longevity set at 40 years. 6) Provision to exclude areas presumably not impacted by program activities removed. 7) Eliminate redundancies with the *JNR Registration and Issuance Process*. 8) Minor editorial corrections.

VERRA

Standards for a Sustainable Future

Verified Carbon Standard

Jurisdictional & Nested REDD+

Climate, Community & Biodiversity Standards

Sustainable Development Verified Impact Standard

Plastic Waste Reduction Standard