

Terms of Reference (ToR)

Independent External Technical Review

BCR0002 - Emission Reductions from Avoided Unplanned Deforestation and Forest Degradation

REDD+ Projects | Draft for Public Consultation Version 6.0

1. Background

BioCarbon Cert has prepared Methodology BCR0002, Draft for Public Consultation Version 6.0, for REDD+ projects addressing emission reductions from avoided unplanned deforestation and forest degradation.

BCR0002 establishes requirements and procedures for quantifying and monitoring greenhouse gas emission reductions attributable to activities that avoid unplanned deforestation and forest degradation in eligible natural forests under the BioCarbon Standard.

Version 6.0 includes a comprehensive methodological update, including applicability conditions for eligible natural forests, forested wetlands, forested peatlands and forests on organic soils; project boundaries; reference-region and leakage-area requirements; dynamic baseline procedures; forest degradation assessment; emissions quantification; leakage management; permanence; uncertainty; monitoring; safeguards; QA/QC; and record keeping.

In accordance with BioCarbon methodological governance and international best practices, the methodology is subject to an independent external technical review before final approval.

2. Objective of the Review

The objective of the independent external technical review is to assess whether the methodology:

- ensures environmental integrity and conservative quantification of GHG emission reductions from REDD+ activities;
- avoids systematic overestimation, non-additional crediting, duplicate accounting and unsupported baseline assumptions;
- establishes scientifically robust, transparent and auditable procedures for baseline setting, dynamic baseline updates, degradation assessment, emissions quantification, leakage, uncertainty, monitoring and safeguards;
- adequately addresses project emissions, leakage, reversals, permanence risk, soil and wetland emissions, data quality, QA/QC, record keeping and traceability;

- provides adequate safeguards for Indigenous Peoples, local communities, FPIC, benefit-related evidence, grievance processes and stakeholder participation, as applicable; and
- provides a robust and replicable framework for application across eligible REDD+ project types, forest contexts, jurisdictions and data environments.

3. Scope of Work

The external reviewer shall assess, at a minimum, the following areas:

(a) Applicability and Eligibility

- clarity, enforceability and completeness of applicability conditions;
- eligibility requirements for natural forests, including forest-history requirements and national forest definitions;
- treatment of forested wetlands, forested peatlands and forests on organic soils;
- exclusions for planned deforestation, afforestation/reforestation and ineligible land-use categories;
- requirements for legal compliance, project control, carbon rights and non-overlap with other registered GHG mitigation projects; and
- consistency with applicable AFOLU, REDD+, IPCC, ISO and BioCarbon program requirements.

(b) Baseline and Additionality

- robustness and plausibility of baseline-scenario identification;
- application of the BioCarbon Baseline and Additionality Tool;
- treatment of historical evidence, direct causes, underlying drivers and agents of deforestation and forest degradation;
- rules for baseline reassessment and continuation of counterfactual forest accounting;
- treatment of national or subnational regulatory baselines and any authorized adjustments; and
- safeguards against crediting emission reductions that would have occurred in the absence of the project.

(c) Spatial and Temporal Boundaries

- definition and documentation of the project area, reference region and leakage area;
- representativeness, similarity and exclusion criteria for reference regions and leakage areas;
- treatment of fragmented or multi-unit reference regions;
- requirements for geographic proximity, accessibility, soil, slope, forest-type, hydrological and tenure comparability;
- requirements for project start date, project duration, quantification periods, monitoring periods and baseline reassessment intervals; and
- clarity and enforceability of provisions for adding areas after validation.

(d) Dynamic Baseline and Activity Data

- scientific robustness and conservativeness of the dynamic baseline approach for ex post deforestation quantification;
- use of contemporaneous reference-region observations and assigned activity-data products;
- treatment of forest cohorts, remaining forest exposure, calculation intervals, missing observations and non-estimable components;
- allocation of baseline deforestation to project accounting units and carbon strata;
- requirements for independent technical review, BioCarbon approval or release of assigned activity data, and CAB assessment of project-holder calculations; and
- traceability, reproducibility and continuity of baseline forest accounting over successive intervals.

(e) Forest Degradation Assessment

- technical adequacy of the fragmentation-based degradation approach;
- appropriateness of the Core, Perforated, Edge and Patch classification rules and transition assumptions;
- supporting evidence for the relationship between fragmentation transitions and carbon-stock loss;
- treatment of primary and secondary degradation transitions;
- requirements for transition matrices, accuracy assessment, area estimation, carbon histories and reconciliation with deforestation accounting; and
- limitations, uncertainty and conditions under which degradation estimates become non-estimable.

(f) Emission Factors, Carbon Pools and GHG Sources

- selection and consistent treatment of carbon pools and GHG emission sources;
- biomass emission-factor procedures, including aboveground biomass, belowground biomass, retained biomass, post-conversion uptake and temporal allocation;
- use of field measurements, allometric equations, national factors, peer-reviewed sources and IPCC defaults;
- treatment of carbon fractions, root-to-shoot ratios, unit conversions and prevention of double counting;
- soil organic carbon changes following deforestation and degradation; and
- quantification of emissions from forested wetlands, peatlands, organic soils, drainage, rewetting, inundation, organic-soil fire, dissolved organic carbon and associated CH₄ and N₂O emissions, where applicable.

(g) Leakage Management

- completeness and consistency in identifying activity-shifting, market, infrastructure and hydrological leakage pathways;
- appropriateness of leakage-area and leakage-domain delineation;
- quantification and deduction procedures for leakage emissions;
- use of conservative adjustments, default or proxy values, and materiality rules;

- attribution of leakage to project implementation and treatment of other causes of observed change; and
- prevention of overlapping or duplicate leakage deductions.

(h) Permanence and Reversal Risk Management

- alignment with the BioCarbon Permanence and Risk Management Tool;
- adequacy of reversal definitions, risk assessment, monitoring and compensation procedures;
- separation of uncertainty adjustments, General Reserve contributions and risk-based Project Reserve contributions;
- treatment of avoidable and unavoidable reversals, Loss Event Reports, corrective actions and reserve use;
- requirements for long-term monitoring and continuation of obligations; and
- specific permanence risks associated with forested wetlands, peatlands and organic soils.

(i) Uncertainty and Conservativeness

- adequacy of uncertainty assessment and propagation across activity data, emission factors, degradation estimates, soil and wetland emissions, leakage and net emission reductions;
- treatment of shared inputs, dependencies, spatial and temporal correlations, missing data and modeled values;
- application of conservative adjustments and data-quality discounts;
- treatment of zero or negative net results; and
- transparency and reproducibility of uncertainty calculations and supporting files.

(j) Monitoring, MRV, Data Integrity and QA/QC

- robustness and completeness of monitoring requirements;
- alignment with the BioCarbon MRV Tool and Validation and Verification Manual;
- suitability of data sources, remote-sensing methods, accuracy assessment and area estimation;
- monitoring frequency for forest cover, degradation, reference-region observations, leakage, safeguards and permanence indicators;
- record-keeping, data retention, version control, calculation traceability and public replication requirements;
- QA/QC procedures for field data, spatial data, calculations, assumptions and revisions; and
- ability of independent third parties to reproduce reported results.

(k) REDD+ Activities, Safeguards and Stakeholder Processes

- clarity of requirements for designing REDD+ activities based on causes, agents and drivers;
- alignment of REDD+ activities with community priorities, life plans, ethno-development plans or participatory rural processes, as applicable;
- requirements for FPIC and evidence of collective decision-making where Indigenous Peoples or local communities are affected;

- monitoring of safeguards and stakeholder engagement;
- treatment of benefit-related evidence, grievance mechanisms and governance measures; and
- consistency with the BioCarbon Sustainable Development Safeguards Tool and Sustainable Development Goals Tool.

(l) Consistency with BioCarbon Tools and Program Requirements

- consistency with the BCR Standard and applicable BioCarbon tools, including the Baseline and Additionality Tool, Permanence and Risk Management Tool, MRV Tool, Leakage Management Tool, Uncertainty Assessment Tool, Avoidance of Double Counting Tool, SDG Tool and SDS Tool;
- clarity of version, effective-date and transition provisions;
- consistency between methodology requirements, equations, monitoring tables, definitions and document history; and
- identification of any ambiguity, gap, internal inconsistency or cross-reference issue that may affect validation, verification or issuance.

(m) Transparency, Replicability and Usability

- methodological clarity and internal consistency;
- dimensional consistency of equations and variables;
- adequacy of definitions, tables, parameters and calculation instructions;
- reproducibility of calculations by project holders, CABs and BioCarbon reviewers;
- practical applicability across eligible REDD+ contexts and jurisdictions; and
- overall suitability for use in high-integrity carbon markets.

4. Deliverables

The external reviewer shall provide:

- a written independent technical review report;
- identification of material methodological risks, if any;
- clear and structured recommendations for improvement;
- specific comments on equations, definitions, cross-references, tables and implementation procedures where relevant; and
- an overall conclusion regarding methodological robustness, environmental integrity and suitability for application in high-integrity carbon markets.

The report shall clearly distinguish between:

- critical issues affecting methodological integrity, environmental integrity or credibility;
- major issues requiring correction before approval;
- minor issues requiring clarification, consistency correction or editorial adjustment; and
- advisory recommendations representing methodological improvements.

5. Eligibility Requirements for Applicants

Applicants may be individuals or multidisciplinary review teams. Where a team is proposed, a lead reviewer shall be designated.

Collectively, the reviewer or review team shall demonstrate sufficient expertise in the technical areas covered by the methodology. Relevant expertise may include:

- REDD+, AFOLU and forest-carbon methodology development;
- avoided unplanned deforestation and forest degradation accounting;
- remote sensing, GIS, forest-cover change detection and spatial statistics;
- dynamic baselines, counterfactual estimation, reference-region design and leakage assessment;
- forest biomass, soil organic carbon, forested wetlands, peatlands and organic-soil GHG accounting;
- IPCC AFOLU and Wetlands Supplement methods;
- uncertainty analysis, accuracy assessment, area estimation and conservative adjustment;
- MRV, QA/QC, data traceability and independent validation or verification of GHG projects;
- REDD+ safeguards, FPIC, Indigenous Peoples and local-community engagement; and
- high-integrity carbon market accounting, permanence, avoidance of double counting and program-level requirements.

Applicants shall disclose any past or present involvement in the development of BCR0002 and any actual or potential conflict of interest.

6. Selection Process

BioCarbon Cert shall evaluate proposals through a documented, merit-based process, considering:

- technical competence;
- relevant REDD+, AFOLU, forest-carbon and GHG accounting expertise;
- experience in methodology development, technical review, validation, verification or program assessment;
- expertise in remote sensing, spatial analysis, uncertainty and carbon quantification;
- independence and conflict-of-interest screening; and
- capacity to complete the review within the specified timeline.

7. Independence and Financial Arrangements

To safeguard independence:

- the external reviewer shall not have participated in the development of the methodology;
- the reviewer shall sign a conflict-of-interest declaration;

- the reviewer shall disclose any financial, professional or institutional relationship that may affect, or may reasonably be perceived to affect, independence;
- BioCarbon Cert shall retain full discretion to accept, reject or request clarification on review findings; and
- all costs associated with the review shall be borne exclusively by BioCarbon Cert.

8. Timeline

The external review is expected to be completed within two (2) weeks from contract signature, unless BioCarbon Cert establishes a different timeline in the engagement agreement.

9. Document Status

This Terms of Reference document supports the independent external technical review of BCR0002 Draft for Public Consultation Version 6.0. It does not modify the methodology, the BCR Standard or any applicable BioCarbon tool.