

BIOCARBON REGISTRY

VALIDATION AND VERIFICATION MANUAL GREENHOUSE GAS PROJECTS

Version 2.0 | February 18, 2022

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BIOCARBON REGISTRY. 2022. Validation and Verification Manual. GHG Projects. Version 2.0. February 18, 2022. Bogotá, Colombia. 30 p. <http://www.biocarbonregistry.com>

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1 Introduction

As part of the certification and registry of greenhouse gas projects (referred to as GHG projects in this document), BIOCARBON REGISTRY prepared this Validation and Verification Manual (VVM) to provide the basis for Conformity Assessment Bodies (CAB) performance through a standardized management system and to ensure that both the requirements established by BIOCARBON REGISTRY and the rules defined in sectoral, national or international standards are met.

This Manual specifies the principles and requirements for independent entities carrying out validation and verification processes of GHG projects, establishing the rules, procedures, and management needed to carry out the conformity assessment, including the scope, object, and field of application, criteria, level of assurance, also determining the approach and process needed for validation and verification.

The VVM is part of the Certification and Registry Program of BIOCARBON REGISTRY. Consequently, the Program requirements shall be met, in addition to those outlined in this Manual.

2 Object and area of application

To achieve consistency and maintain confidence in the GHG projects certified/registered and, therefore, the Verified Carbon Credits, BIOCARBON REGISTRY needs to define the requirements in terms of competencies for the conformity assessment bodies (CAB).

In this regard, the Manual for the Validation and Verification of GHG Projects (from now on the Manual) contains principles and requirements of the CAB's competence, consistency, and impartiality.

3 Version

This document constitutes Version 2.0. February 18, 2022.

This version of the Manual may be adjusted periodically, and intended users should ensure that they are using the latest version of the document. Expected users shall have a three-month transition period for the use of the updated version since its publication.

4 Principles

The principles described here guide the application of the requirements detailed in this Manual¹. Consequently, these principles should be applied as guidance for the development of validation and verification activities.

According to ISO 14064-3, the principles to be applied in the validation and verification processes are the following:

Independence

Remain independent of the activity being validated or verified and free from bias and conflict of interest. Maintain objectivity throughout the validation or verification to ensure that findings and conclusions are based on objective evidence generated during validation or verification.

Integrity

The integrity principle involves demonstrating proper behavior through trust, honesty, diligent and responsible work, observation of the law, maintenance of confidentiality, and the disclosure expected by the law and the profession throughout the validation or verification process.

Unbiased presentation

Truly and accurately reflect the activities, findings, conclusions, and reports of the validation or verification Report on significant obstacles encountered during the validation or verification process, as well as unresolved differences of opinion between the validators or verifiers, the responsible party, and the customer.

Due professional care

According to the risk attributed to the work performed and the trust placed in it by customers and intended users, take due professional caution and judgment. Have the necessary skills and competencies to carry out the validation or verification.

¹ Likewise, CABs must comply with the principles contained in the Voluntary Carbon Market Standard. BCR STANDARD.

Professional judgment

Have the ability to reach meaningful and accurate conclusions, give opinions and make interpretations based on observations, knowledge, experience, literature, and other information sources. Also, demonstrate professional skepticism.

Evidence-based approach

The evidence is verifiable. It's based on sampling information. The appropriate use of sampling is closely related to the confidence placed in validation and verification conclusions.

5 Normative references

The following references are indispensable for the application of this Manual:

- (a) Voluntary Carbon Market Standard. BCR Standard. From differentiated responsibility to common responsibility, in the most recent version;
- (b) Methodological documents and other guides or guidelines provided by BIOCARBON REGISTRY;
- (c) Existing national legislation related to GHG projects, or legislation modifying or updating such legislation;
- (d) Clean Development Mechanism rules, procedures, methodologies, and methodological tools, where applicable;

Similarly, compliance with the provisions of the following ISO Standards is required²:

- (a) ISO 14064-2:2019(en). Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emission reductions or removal enhancements, or that which updates it;
- (b) ISO 14064-3:2019(en). Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, or its amendment;

² In some parts of this document, reference is made to ISO Standards without the year of publication. In all cases, the most recent version of those standards always applies. Where the year of publication is indicated, this is the most recent version to date, and the version that updates it should always be considered.

- (c) ISO 14065:2013(en). Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition.

6 Terms and definitions

Client

Organization or person that requests validation or verification.

Conformity assessment

Demonstration that specified requirements relating to a product, process, system, person, or body are fulfilled.

Conformity Assessment Body (CAB)

Body performing conformity assessment activities and eligible for accreditation.

Conformity assessment system

Rules, procedures, and management of a conformity assessment. Conformity assessment systems may operate at the international, regional, national, or sub-national level.

Force majeure or unforeseen circumstances

According to the law "*force majeure or fortuitous case is the unforeseen event that cannot be resisted, such as a shipwreck, an earthquake, the capture of enemies, and orders of authority exercised by a public official.*"

Intended User

Individuals or organizations, identified by those reporting GHG-related information, who rely on reported information to make decisions.

Insurance level

It is the level of detail that the Conformity Assessment Body (CAB) uses to determine whether there are errors, omissions, underestimate, overestimates, or misinterpretations in the validation or verification process.

Note 1. The assurance level is used to determine the level of detail that the validator or verifier designs in its validation or verification plan to determine if there are errors, omissions, or misinterpretations.

Note 2. There are two levels of assurance (reasonable or limited) that produce differently worded validation or verification statements.

Material Discrepancy

Individual error or aggregation of errors, omissions, and misrepresentations in the GHG assertion. They could affect the intended users' decisions.

Materiality

A concept that individual errors or a transaction of errors, omissions, and distortions could affect GHG declarations and influence the intended user's decisions.

Relative importance of errors

A concept that individual or cumulative errors, omissions, and distortions could affect the GHG declaration and influence the intended users' decisions.

Note 1. The concept of "relative importance of errors" is used when designing validation or verification and sampling plans. This concept determines the type of key processes used to minimize the risk that a material discrepancy is not detected. The validator or verifier uses this concept as a risk detection tool.

Note 2. The concept of "materiality of errors" is used to identify information that, if omitted or misrepresented, would misrepresent a GHG claim to the intended users, thereby influencing their conclusions. The acceptable materiality of errors is determined by the validator, verifier, or GHG Program, based on the agreed level of assurance.

Responsible party

Person or persons responsible for the provision of the GHG assertion and the supporting GHG information.

Note. The responsible party can be either individuals or representatives of an organization or project, and it can be the party who engages the validator or verifier. The validator or verifier may be engaged by the client or other parties, such as the GHG program administrator.

Sector

A technical area that shares common attributes and similar GHG sources, sinks, and pools.

Specified requirement

Established need or expectation. The specified requirements may be set out in normative documents, such as regulations, standards, and technical specifications.

Statement on greenhouse gases

Statement or assertion of fact made by the responsible party.

Note 1. The GHG statement can be submitted at a specific time, or it can cover a period.

Note 2. The GHG statement, provided by the responsible party, should be clearly identifiable and capable of being consistently assessed or measured against appropriate criteria by a validator or verifier.

Note 3. The GHG statement may be provided as a GHG Report or a GHG project plan.

Uncertainty

It is the parameter associated with the quantification that characterizes the dispersion of values reasonably attributed to the quantified quantity.

Note: Uncertainty information generally specifies quantitative estimates of the likely dispersion of values and a qualitative description of the likely causes of the dispersion.

Validation

It is a systematic, independent, and documented process for evaluating a greenhouse gas assertion in a GHG project plan against agreed validation criteria.

Process for evaluating the reasonableness of the assumptions, limitations, and methods that support a statement about the outcome of future activities (ISO14064-2:2019(en)).

Note 1. In some cases, such as first-party validations, independence can be demonstrated by not responsible for developing GHG data and information.

Validation body

A body that performs validations of GHG declarations under ISO 14064-3 and ISO 14065.

Validation criteria; verification criteria

Policy, procedure, or requirement used as a reference against which evidence is compared.

Note: Validation or verification criteria can be set by governments, GHG programs, voluntary reporting initiatives, standards, or good practice guides.

Validation statement

Formal written statement addressed to the intended user, following validation of a GHG project plan, which guarantees what is stated in the responsible party's GHG statement.

Validation team

One or more validators conducting a validation, supported if needed by technical experts.

Validator

Competent and independent person(s) responsible for doing the validation and reporting its results.

Verification

It is the systematic, independent, and documented process for evaluating a GHG declaration against agreed verification criteria.

Process for evaluating a statement of historical data and information to determine if the statement is materially correct and conforms to criteria.

Verification body

Body performing verification of GHG declarations under ISO 14064-3 and ISO 14065.

Verification statement

A formal written declaration, addressed to the intended user, following verification, which guarantees what is stated in the responsible party's GHG declaration.

Verification team

One or more verifiers conducting a verification, supported if needed by technical experts.

Verifier

Competent and independent person(s) responsible for verification and reporting on the verification process.

Note 1. The verifiers' competence areas include the GHG Program, technical audit, data and information audit, and project-specific requirements.

7 General requirements of the BIOCARBON STANDARD

BIOCARBON REGISTRY does not issue Verified Carbon Credits (VCC) for GHG emission reductions or removals that have not been validated and verified by a Conformity Assessment Body (CAB). Therefore, the GHG projects and CABs shall comply with the following:

- (a) GHG projects should be subject to validation and verification processes by an independent third party, or the first party. These processes ensure that they employ quantification methodologies for GHG emissions reductions or removals that are verifiable within the framework of ISO 14064-3.
- (b) The validation and verification processes shall be carried out by a GHG Conformity Assessment Body (CAB), or an internal auditor (first part), which complies with the requirements described in the legislation in force and others defined by the BCR STANDARD.
- (c) The CAB shall issue a validation statement indicating that the identification of the baseline, the use of data and parameters for the estimation of the mitigation results, the GHG emission reductions or removals and the monitoring plan were determined applying the selected methodology.
- (d) The CAB shall issue a verification statement, indicating that the GHG emission reductions or removals were generated following the guidance defined in ISO 14064-2 and the results obtained from verification under ISO 14064-3 or those that adjust and update it.

In the framework of validations and verifications, CABs and the first party auditor³ shall comply with the following:

- (a) examine the GHG data and information to develop evidence to evaluate the project's GHG statement. This review should be based on a sampling plan by selecting data and information that provide a reasonable assurance level and ensure compliance with materiality requirements.
- (b) when assessing the material discrepancy, consider the principles of the standards (ISO or those applicable) or the BIOCARBON REGISTRY Program.

³ Hereafter, when reference is made to the CAB, if applicable and omitted, this also includes the first party auditor.

- (c) to have standardized procedures to assess the accuracy, relevance, completeness, consistency, and transparency of information provided by GHG project holders and other GHG projects.
- (d) to confirm whether or not the GHG project meets the validation or verification criteria defined by BIOCARBON REGISTRY and those applicable to it.

8 Conformity Assessment bodies⁴

The GHG conformity assessment bodies shall be accredited by the regulations in force and the BCR STANDARD provisions.

8.1 General requirements

The CAB shall be a legal entity, or a defined part of a legal entity, which can be held legally responsible for all of its validation and verification activities.

The CAB should be responsible for validation and verification statements and retain authority over its decisions concerning validation and verification.

The CAB shall be responsible for the impartiality of its validation and verification activities and does not allow commercial, financial, or other pressures to compromise the guarantee of impartiality.

The CAB shall demonstrate that it has assessed the risks arising from its validation and verification activities and that it has appropriate arrangements in place to cover the responsibilities arising from its activities in each validation and verification activity.

Conformity Assessment Bodies, which carry out the validation and verification of GHG projects, should also demonstrate the following:

- (a) its accreditation under the requirements of ISO 14065 and all the provisions of the legislation in force,
- (b) the scope of their accreditation includes the GHG mitigation activities subject to the validation and verification process,

⁴ Some of the requirements set out in this part of the document are met by the accreditation of the CAB by the accrediting bodies (UNFCCC, ANSI, ONAC, EMAS, etc.).

- (c) has a sufficient number of professionals, who demonstrate the necessary ethical conduct to perform all the functions required for validation and verification,
- (d) the auditors are experienced in the sector project type for which they are assigned and have the appropriate competence,
- (e) has documented internal procedures to perform its functions, in particular, procedures for the allocation of responsibilities within the organization,
- (f) ensures the necessary expertise and practice on environmental issues relevant to the verification of GHG projects and ensures quality in conformity assessment,
- (g) has knowledge of the technical aspects of GHG projects and methodologies for quantification and monitoring of GHG emission reductions and removals, including competence for the assessment of baselines , as well as mitigation results,
- (h) has procedures for handling complaints, appeals, and disputes.

Furthermore, CABs shall work in an independent, reliable, non-discriminatory, and transparent manner, respecting the applicable legislation and complying, in particular, with the following requirements:

- (a) have a documented structure that protects its integrity, with provisions to ensure the impartiality of its operations,
- (b) have appropriate arrangements to protect the confidentiality of information obtained from GHG project operators,
- (c) demonstrate that they have no actual or potential conflict of interest with the GHG project operators for whose validation or verification they have been engaged,
- (d) make available to BIOCARBON REGISTRY, upon request, information obtained from GHG project holders. Information classified as confidential shall not be disclosed without the written consent of the provider unless required by national legislation,
- (e) As defined in the BCR STANDARD, information used to determine additionality, baselie scenario and mitigation results shall not be considered confidential.

CABs are responsible for conducting an objective assessment and issuing a validation or verification statement concerning the information submitted to them by the project holder and the other criteria defined by BIOCARBON REGISTRY.

The scope of validation or verification should include the following:

- (a) the boundaries of the GHG project and its baseline scenarios,
- (b) physical infrastructure, activities, technologies, and processes of the GHG organization or project,
- (c) GHG sources, sinks, and pools,
- (d) types of GHGs,
- (e) areas or instances of the project, if it is a grouped project;
- (f) emissions reductions and removals quantification periods,
- (g) evaluation of co-benefits (if applicable),
- (h) indicators related to SDG,
- (i) the monitoring plan and monitoring report.

8.2 Validation and verification team

8.2.1 Team competence

A validation and verification team should have the required competence to carry out validation or verification activities⁵.

A validation or verification team shall have:

- (a) knowledge of the GHG Program, including eligibility requirements, applicable laws and validation, verification guidelines, and GHG emissions or removal's scope to be reported. Also, knowledge of project types including sectors and technological areas, applicable methodologies and emission reductions or removals,
- (b) technical knowledge of GHGs, global warming potentials, activity data, and emission factors, application of material error and discrepancy, as well as GHG

⁵ ISO 14065 establishes the competence required for the validation and verification team in section 6.3, and the process of the competence management in sections 6.1 and 6.2. In addition, ISO 14066:2011 specifies the competence requirements for team of validation and verification of GHG.

sources and reservoirs in the relevant sector and techniques and procedures to ensure data quality,

- (c) knowledge of data and information auditing including data and information audit methodologies, risk assessment methodologies, data, and information sampling techniques and GHG data and information control systems.

8.2.2 Skills

A validation or verification team should have the necessary skills to carry out validation or verification activities, including but not limited to the ability to:

- (a) collect relevant information and apply the knowledge in a manner appropriate to the work,
- (b) understand the meaning of the information and carry out appropriate interpretation,
- (c) think critically and analyze multiple input elements,
- (d) distinguish between facts and inferences and exercise professional skepticism,
- (e) conduct independent investigations to test the assumptions and evidence presented by a responsible party or customer,
- (f) evaluate information, data, and assumptions and make professional judgments,
- (g) apply methods for validation and verification in expected and unexpected situations; and,
- (h) communicate accurately and comply with the particular requirements, the validation or verification process, and its results.

8.2.3 Sectoral competence

A validation or verification team shall have, as a whole, knowledge and skills in the applicable sector. For each sector, the collective technical competence of the validation or verification team shall include the capability (as applicable) to identify:

- (a) GHG sources, sinks, and reservoirs from data sources applicable to the sector and type of project,
- (b) sources of leakage,
- (c) the project baselines associated with a specific project type,

- (d) situations that may affect the materiality of errors in the quantification and reporting of GHGs,
- (e) demonstrate the equivalence between the type and level of activities, goods, or services in the baseline scenario and the GHG project.

The CAB shall submit information related to professional training and work experience relevant to the competence to demonstrate the validation or verification team's competence and knowledge.

9 General validation and verification requirements

As part of the validation and verification processes, the CAB shall:

- (a) apply to BIOCARBON REGISTRY for approval to carry out validations and verifications, submitting the documentation with relevant accreditations,
- (b) apply the BIOCARBON REGISTRY Program and everything in this Manual, always following the most recent versions,
- (c) select a competent team to carry out validation or verification processes,
- (d) apply consistent criteria for validation and verification, based on the requirements of methodologies and other regulatory documents,
- (e) base their findings and conclusions on objective evidence and conduct validation or verification under applicable rules and procedures,
- (f) do not omit evidence that may alter the validation or verification opinion,
- (g) present validation and verification reports' information in an objective, neutral and consistent manner and document all assumptions, providing references to the appropriate GHG project's documentation,
- (h) safeguard the confidentiality of all information obtained or created during the validation or verification process.

In terms of validation and verification processes, the following general requirements apply to GHG project:

- (a) the start of the validation process for GHG project should take place no later than 5 years after the start date of the project,

- (b) verifications of GHG project may be annual but should be carried out at least once every 3 years,
- (c) validation and first verification may be carried out in a single validation and verification process,
- (d) in the case where validation and verification are carried out at different times, the verification may be carried out by the CAB that carried out the validation, provided that the validation or verification team is different from the one that carried out the validation,
- (e) the CAB that did the first verification may do the second verification, provided that the verification team is different from the one that did the first verification, in both auditors and sector experts.
- (f) A different CAB shall carry out the third verification to the one that did the first two verifications; if the same CAB did them.
- (g) if new areas are to be included in AFOLU projects, the same verifier may carry out the third verification,
- (h) from the fourth verification onwards, the same CAB may carry out the verifications, up to a maximum of 5 years, always changing the verification team,

Provided that the same CAB performs consecutive validation and verification activities, where permitted, the CAB shall transparently state in the verification report that it performed the previous validation or verification, as the case may be. It shall detail the validation or verification team, including names and roles in the previous validation or verification activity.

9.1 Validation

Validation is the systematic, independent, and documented process for evaluating a GHG mitigation activities against defined criteria to verify that it conforms to the requirements specified in current standards and as stipulated by BIOCARBON REGISTRY.

When GHG project holders request validation of the GHG project, they shall submit a GHG declaration to the CAB and provide all the information required by the CAB to do the validation process.

The validation and verification body, contracted by the project holder, shall evaluate the documentation and information related to the GHG project design. Besides, the CAB shall

determine whether the project holder complies with all the provisions of the BCR STANDARD and the others that apply to it, examining, among other aspects, the following:

- (a) GHG mitigation targets and results,
- (b) the adequate use of an appropriate methodology,
- (c) the assessment of uncertainty and conservative approach,
- (d) the baseline scenario,
- (e) the project mitigation results,
- (f) compliance with the additionality criteria of the GHG project,
- (g) ownership and carbon rights,
- (h) assessment of environmental and social aspects,
- (i) criteria and indicators related to co-benefits, if applicable,
- (j) contribution of the project to sustainable development objectives,
- (k) stakeholder's consultation,
- (l) compliance with national legislation,
- (m) conformity of the project with the requirements for grouped projects under the BCR STANDARD,
- (n) Comprehensive monitoring plan's design for the quantification and follow-up of GHG emission reductions and removals, following the selected methodology.

Similarly, the CAB shall do the validation process by the guidelines established for this purpose by the GHG mitigation mechanisms and the ISO 14064-3 standard.

Once the information has been assessed and all necessary procedures have been carried out, the CAB shall inform the project holders of its decision to validate the GHG project. The notification to the GHG project operators shall include:

- (a) the confirmation of the validation and the date of submission of the validation report to the BCR STANDARD, or

- (b) an explanation of the reasons for rejection. It determines that the project, judging from the documentation, does not qualify for validation.

If the CAB determines that the GHG project meets all the certification requirements, the CAB shall apply for registration. This application is contained in a validation report that shall include the project document and documentation related to the project design, with the quantification of GHG emissions reductions and removals and, if applicable, the conclusion on co-benefits and compliance with the indicators defined by the GHG project holder regarding Sustainable Development Goals (SDG).

9.2 Verification

Verification is the systematic, independent, and documented process for assessing the GHG Declaration against the verification criteria. Under the provisions of ISO 14064-3, the CAB shall consider the following:

- (a) conformity with applicable verification criteria, including the principles and requirements of BCR STANDARD in the scope of verification,
- (b) information and documentation on GHG project planning, including procedures and criteria for the project, baseline, quality control and assurance, risk management, monitoring, and reporting,
- (c) any significant changes in procedures or criteria of the GHG project since its last reporting period or validation,
- (d) emissions, removals, emission reductions, and removal enhancements reported in the baseline and project scenario GHG,
- (e) any significant changes in GHG emissions removals, emission reductions, and removals enhancements since the last reporting period or since the project's validation.

10 Validation and verification requirements

10.1 General requirements

Conformity assessment shall be done by the Validation and Verification Body in compliance with the principles described above, under ISO 14064-3, and complying with the following:

10.1.1 Risk-based approach

CABs shall consider the associated risks, being competent, consistent, and impartial. Risks may include, but are not limited to, those associated with:

- (a) the objectives of validation and verification and the requirements of the standard,
- (b) competence, consistency, and actual and perceived impartiality,
- (c) legal, regulatory, and liability issues,
- (d) the organization responsible for the GHG project and its management system, i.e., operating environment, geographical location,
- (e) the susceptibility of any parameter included in the quantification of GHG emissions reductions or removals, which may generate material errors, even if a control system is in place,
- (f) the assurance level achieved, and evidence collected accordingly, used in the validation or verification process,
- (g) the CAB shall establish the relative importance required by the intended users considering the objectives, assurance level, criteria, and scope of validation or verification,
- (h) stakeholder perception,
- (i) misleading information or misuse of the marks by the client.

10.1.2 Conservative approach

When the CAB evaluates comparable alternatives, it should give preference to the alternative that is moderately cautious.⁶

10.1.3 Responsibility

The CAB shall demonstrate that it has assessed the risks derived from its validation or verification activities. Also, adequate arrangements to cover the responsibilities derived from its activities of validation or verification in the geographic areas it operates.

In this sense, the CAB shall submit proof of having civil liability insurance, as demanded by Decree 1595/15 Article 2.2.1.7.8.6 (Civil liability insurance for Conformity Assessment

⁶Annex A of ISO 14066 provides guidance on the proper handling of evidence and the application of professional skepticism.

Bodies. Hence, the CAB shall have civil liability insurance covering responsibility for validation and verification processes under Article 2.2.1.7.8.5⁷. Such shall have the following features.

- (a) The holder and insured body shall be the Conformity Assessment Body.
- (b) Insurance beneficiaries are users or third parties whose the body causes damage associated with Conformity Assessment Bodies Activity, as described by article 2.2.1.7.8.5;
- (c) the Conformity Assessment Body shall cover the insurance cost, and this cost shall not be transferred to users under any circumstances.
- (d) Insurance covering shall include all damages caused by Conformity Assessment Body activity as described by article 2.2.1.7.8.5, covering shall not be divided according to services provided to different users.
- (e) Exclusions agreed upon the insurance service shall not prejudice its purpose, to protect the professional civil liability of the Conformity Assessment Body;

The insurance duration shall cover the accreditation period of the Conformity Assessment Body.

To demonstrate compliance with the previous requirements, the CAB shall submit to BIOCARBON REGISTRY a written communication. This document shall include a certification emitted by the insurance, with information about contracted civil liability insurance:

- (a) Insurance name, what Entity provides the civil liability insurance;
- (b) Insurance object and covering of geographical area and responsibilities or warranties;
- (c) Insurance amount.

⁷ Article 2.2.1.7.8.5. Liability of conformity assessment bodies. In accordance with the provisions of Article 73 of Law 1480 of 2011, and without prejudice to the other types of liability, the conformity assessment bodies shall be liable for the assessment services they provide or have recognized within the framework of the conformity assessment certificate or document they have issued or recognized.

10.2 Steps of the validation and verification process

The CAB shall complete the validation and verification activities through the steps described below.

10.2.1 Preliminary evaluation

As part of this preliminary evaluation, the CAB shall request to the project holder for sufficient information to determine the purpose and scope of the validation or verification, considering the following:

- (a) if the GHG project corresponds to a type of project eligible for the Certification Program,
- (b) if the GHG project applies a methodology eligible under the requirements of the Certification program,
- (c) if the monitoring plan or report complies with the methodology applied by the GHG project,
- (d) if the determination of the baseline considers the considerations provided by the BIOCARBON REGISTRY Program and by existing sectoral and national regulations.

10.2.2 Contractual agreement

Once the previous information has been evaluated, the project holder and the CAB shall sign a commercial agreement specifying the scope and everything related to the validation or verification audit process.

10.2.3 Validation or verification plan

The CAB shall develop a validation or verification plan, including a documented sampling plan addressing the aspects detailed in ISO 14065:2013 and considering the requirements specified by the BCR STANDARD, specifically:

- (a) assign competent personnel to carry out the activities,
- (b) determine the validation or verification activities, based on the GHG project's characteristics and the client needs,
- (c) assess the risk of material error concerning the information evaluated,
- (d) confirm the times and logistics required to carry out the validation or verification activities,

- (e) define the evidence collection activities necessary to complete the validation or verification under the specified requirements and by the results of (b) and (c),
- (f) prepare an evidence collection plan, considering (c) and any measures the client has implemented to control the sources of possible errors, omissions, and misrepresentations; and
- (g) prepare a validation or verification plan, including objectives and scope, validation or verification team (roles and responsibilities), duration of validation or verification activities, specific requirements, and the level of assurance and materiality.

10.2.4 Sampling plan

The CAB shall develop a sampling plan that considers the following:

- (a) the level of assurance,
- (b) the scope of validation or verification
- (c) the validation and verification criteria
- (d) the quantity and type of evidence (qualitative and quantitative) required to achieve the agreed level of assurance,
- (e) the methodologies for determining representative samples,
- (f) the risks of potential errors, omissions, or misinterpretations.

The sampling plan shall be modified based on any risks or concerns related to materiality that could lead to errors, omissions, or misinterpretations identified during the validation or verification process.

The CAB shall use the sampling plan as an input element to develop the validation or verification plan.

10.2.5 Conducting the validation or verification audit

The CAB shall carry out the validation or verification activities per the validation/verification plan agreed with the client. If necessary, the plan shall be reviewed and adjusted during the execution of the validation or verification activities. The CAB shall carry out the following activities:

- (a) collection of sufficient and objective evidence on the data and information provided by the GHG project operator, their traceability through the data and information management process, and any additional analysis and calculations,
- (b) conformity assessment to specified requirements,
- (c) prepare a conclusion on the conduct of validation or verification activities,
- (d) a draft validation or verification report; and,
- (e) the validation or verification statement.

The validation or verification statement can be a separate document or contained in the validation or verification report.

10.2.6 Reviewing

The CAB shall review the validation or verification activities and the documents generated by the validation or verification team. This review shall be carried out by professionals who were not involved in the validation or verification process.

This review shall confirm the following:

- (a) the validation or verification activities were performed following the agreement between the parties and the specific requirements that apply,
- (b) sufficient and appropriate evidence to support the decision of the validation or verification team,
- (c) all findings resulting from the validation or verification process have been identified, documented, and solved,
- (d) the competence of the members of the validation or verification team,
- (e) whether the validation or verification planning has been appropriately designed, including its scope, strategic risk assessment, validation or verification plan and evidence collection; and,
- (f) whether the opinion of the validation or verification team is properly presented.

10.2.7 Validation or verification statement

The CAB shall issue a validation or verification statement upon achievement of the validation or verification, which complies with the following:

- (a) address the intended users of the GHG declaration,
- (b) describe the level of assurance of the validation or verification statement,
- (c) describe the objectives, scope, and criteria for validation or verification,
- (d) describe whether the data and information supporting the GHG declaration are hypothetical, projected, or historical,
- (e) be accompanied by the GHG declaration made by the responsible party,
- (f) be accompanied by the statement on (f) include the CAB's conclusion on the GHG statement, including any qualifications or limitations made by the responsible party,
- (g) include a conclusion on the project's contribution to sustainable development objectives; and,
- (h) include a conclusion on criteria and indicators related to co-benefits (if applicable).

10.3 Means of validation and verification

10.3.1 Means of validation

The CAB shall evaluate the information provided by the GHG project holder. For the assessment, the CAB shall apply the means of validation specified in this VVM and, where appropriate, apply standard auditing techniques, including but not limited to:

- (a) Documentary review
 - i. full review of the GHG project data and information,
 - ii. cross-checking the information contained in the GHG project documents and other documentary sources used.
- (b) Follow-up actions
 - i. interviews with relevant stakeholders, such as people with knowledge about the design of the GHG project and its implementation,
 - ii. interviews with GHG project participants and those in charge of designing, implementing, and monitoring GHG activities,

- iii. cross-checking the information, ratified with the participants in the interviews, to ensure that relevant information was not omitted,
- iv. review of other sources of information related to the type of GHG project or sector in which it is located;
- v. evaluation of the application of the methodology selected by the GHG project, including the identification of the baseline,
- vi. consideration of the appropriate and accurate use of models and parameters for the estimation of GHG reductions or removals and,
- vii. sampling applies a method following the GHG project's characteristics, the level of assurance, and materiality required.

10.3.2 Means of verification

The CAB shall evaluate the information submitted by the GHG project holder. To do this, the CAB shall apply the means of verification specified in this VVM and, if it considers it appropriate, audit techniques that ensure the quality of the information, including the following.

(a) Documentary review including the following:

- i. review of data and information for completeness,
- ii. review of the monitoring plan, the methodology applied, the quantification of GHG reductions or removals and other regulatory issues, paying particular attention to measurement frequency, measurement quality, equipment and calibration requirements, as well as quality assurance and process control,
- iii. evaluation of data management, quality assurance, and the management system in the context of generating and reporting GHG emissions reductions or removals,

(b) follow-up actions:

- i. evaluation of the implementation and operation of the GHG project, according to the validated project document,
- ii. review of the information flows to generate, consolidate and report the monitored parameters,
- iii. interviews with GHG project participants and those in charge of designing, implementing, and monitoring GHG activities,

- iv. interviews with relevant personnel to determine whether operational and information gathering procedures are implemented following the monitoring plan,
- v. cross-checking between the information in the monitoring report and data from other relevant sources,
- vi. inspection of the monitoring equipment, including performance and monitoring practices, based on the requirements described in the monitoring plan, the applied methodology, and other related documents,
- vii. review and evaluation of data, parameters, and models, as well as assumptions considered for the calculation of GHG emission reductions or removals,
- viii. the evaluation of procedures that guarantee quality control and assurance, to identify and correct omissions or errors in the reported monitoring parameters,
- ix. the sampling method that is adequate with GHG project's characteristics, the requirements specified in the applied methodology, the level of assurance, and materiality requirements.

10.3.3 On-site visit

During the validation and verification process of GHG projects, an on-site inspection visit is essential.

In all cases, the CAB must consider the project's characteristics, the specifications of the methodology, the sectoral and national scope, and the complexity of the information and data and parameters to be evaluated to reach a conclusion of validation or verification of the GHG project.

11 Specific requirements for validation and verification of GHG projects

In all cases, the CAB shall also consider the following criteria to validate and verify GHG projects.

- (a) the level of assurance of the validation and verification of the GHG Project shall not be less than 95%,
- (b) the material discrepancy in the data supporting the GHG Project baseline and the estimate of GHG emission reductions or removals may be up to $\pm 5\%$,

- (c) the consistency of the GHG project baseline under existing national regulations and the methodology applied, as appropriate,
- (d) the mitigation results quantification against the validated baseline, by the national regulations in force and the applied methodology, as appropriate,
- (e) evaluation of co-benefits and indicators related to sustainable development objectives, as applicable.

Document history

Type of document. Normative

Validation and verification Manual of GHG projects.

Version	Date	Nature of the revision
1.0	April 17, 2020	Initial version
1.1	October 19, 2020	Updated version Starting date Validation and verification statement
1.2	January 19, 2021	Updated version Section 8.3 Civil liability insurance
1.3	April 5, 2021	Updated version Validation and Verification Bodies (VVOs) changed to Conformity Assessment Bodies (CABs) Liability Insurance section now in section 10.1.3 Clarifications and definitios about other greenhouse gas projects
2.0	February 18, 2022	Updated version Mitigation initiatives and other GHG projects now referred to as GHG projects. Mandatory on-site audit in all cases. Copyright BIOCARBON REGISTRY.