MUCR
Mauritius Carbon Registry

Validation & Verification Guidelines

Introduction

The Mauritius Carbon Registry ('MUCR') is a Mauritius-based, STEM oriented carbon registry dedicated to issuing Carbon Credits.

These Guidelines set out MUCR's current Verification and Validation requirements and guidelines. This document shall be subject to regular updates and all VVBs with whom we are in contract must ensure that they are using the most current version of the document. This is the September 2023 version.

The requirements set out in these guidelines are MUCR'S requirements for all VVBs and certifying bodies seeking to work and working for MUCR. These Guidelines shall also apply to all VVBs carrying out regular audits for MUCR.

The following words and expressions shall have the following meanings:

Carbon Credits: A tradable permit or certificate that represents the reduction, removal, or avoidance of one metric tonne of carbon dioxide (CO2) or an equivalent volume GHGs, used as a mechanism to incentivize and regulate emission reductions and promote sustainable practices.

Clean Development Mechanism (CDM): A project focused mechanism developed under the UNFCCC. The CDM is designed to promote sustainable developments and help mitigate the emissions of GHG.

Designated Operating Entity (DOE): are independent entities accredited by the Executive Board of the CDM under the UNFCCC. DOEs play a critical role in the verification and validation processes of CDM oriented projects.

Emissions Reductions: Emissions Reduction refers to the intentional and measurable offset in GHG emissions into the atmosphere.

GHG: Greenhouse gas or gases, which refer to a group of gases in Earth's atmosphere that have the ability to trap heat from the sun and contribute to the greenhouse effect. These ¬¬-gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases. They are released into the atmosphere through various human activities such as burning fossil fuels, deforestation, and industrial processes. The accumulation of greenhouse gases in the atmosphere leads to an increase in the Earth's average temperature, known as global warming, which can have significant impacts on climate patterns and ecosystems.

Guidelines: means these guidelines, and any modification thereof

ISO: The International Organization for Standardization, which is an independent, non-governmental international organization that develops and publishes voluntary international standards. The ISO standards are widely recognized and used globally as guidelines, specifications, and best practices in various spheres.ISO develops standards through a consensus-based process, involving experts from member countries who collaborate to establish international standards that address specific areas such as quality management, environmental management, information

security, energy management, and many others. ISO standards provide a framework that validation and verification bodies must follow to adhere to MUCR's rules and requirements.

Monitoring Plan: a monitoring plan refers to a systematic and structured approach that outlines the activities, procedures, and resources necessary to effectively monitor and evaluate the performance of offsetting projects.

Monitoring Report: A documented analysis that provides a detailed assessment of the ongoing monitoring activities conducted during the verification and validation processes. It presents the findings, observations, and results obtained from monitoring the performance, compliance, and effectiveness of the activities being assessed.

Organization: the corporation, limited company, partnership ; limited liability partnership or any business organization of a like nature which operates or owns the Project (Offsetting Projects)

Project (Offsetting Projects): Projects that conduct a verified activity of environmental conservation, energy efficiency or renewable energy which reduces, avoids, or removes GHG emissions from the atmosphere and contributes to the mitigation of climate change. These types of projects also incur the issuance of Carbon Credits.

PDD: Project development document

STEM: Science, Technology, Engineering and Mathematics.

MUCR Carbon Credit: A carbon credit issued by the MUCR.

UNFCCC : the United Nations Framework Convention on Climate Change

VVB: Verification and Validation Body.

Scope

The overriding objectives of the Guidelines are to:

- Ensure consistency, quality, transparency, relevance and completeness in the preparation, execution and reporting of validations and verification works.
- Ensure that all validation and verification works are conducted according to the MUCR's requirements.

Verifying & Validating Requirements

1 General Requirements

The VVB must adhere to these general principles :

a) Relevance: to ensure that the GHG inventory appropriately reflects the GHG emissions of the Organization and serves the decision-making needs of users both internal and external to the Organization.

b) Completeness: Account for and report on all GHG emission sources and activities within the chosen inventory boundary; disclose and justify any specific exclusions.

c) Consistency: Use consistent and valid methodologies to allow for precise comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

d) Accuracy and conservativeness: ensure that the quantification of the GHG emissions is systematically neither over nor under the actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

e) Transparency: address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

f) A duty of professionalism to adopt at all times the most appropriate industry standards and best industry practices and to comply with all applicable relevant ISO standards.

2 Accreditation Requirements

To be eligible to become a MUCR VVB, a VVB must hold and continue to hold the following valid accreditation:

- The latest version of the ISO 14065 for scopes ISO 14064-1, ISO 14064-2 and ISO 14064-3.
- The VVB must also act as a DOE under the CDM rules and regulations and should therefore be approved by the CDM Executive Board.
- Other accreditations may be recognised and may form part of the MUCR Accreditation Requirements over time
- Suitable insurance cover with reputable insurers.

In the event that a VVB loses, changes or refuses to renew its accreditation during the 36-month period from the date of approval, it must notify the MUCR as soon as possible and provide details to their circumstances.

Furthermore, The VVB must:

- Establish, implement, and document a method for evaluating the competence of the Validation/Verification team personnel against the requirements outlined in the latest ISO 14065 and ISO 14066.
- Maintain records to demonstrate the competency of the validation/verification team and personnel in accordance with this guidance.
- Make available at all times to MUCR copies of any documents necessary to show the VVB is fully compliant with its duties to MUCR
- Do anything else reasonably required by MUCR.

3 Avoidance of Conflict-of-Interest Requirements

- The MUCR validation and verification process requires a high level of objectivity and independence. Therefore, the chosen VVB must act impartially and avoid any conflicts of interest between both the MUCR and the project developer.
- The VVB must not take over or control any activities regarding the preparation of the Monitoring Plan and estimated Emission Reductions.

- The MUCR insists that no VVB possess any control or have any interest (financial or operational, direct or indirect) over the projects being validated.

4 Competences of Personnel Requirements

The VVB must:

- Identify and select qualified and competent team personnel for each engagement (verification and validation works as well as audits);
- Ensure appropriate validation and verification team composition;
- Ensure that the validation/verification team includes a team leader who is responsible for the engagement planning and management of the team;
- Ensure continued competence of all personnel conducting validation and verification activities, including continual professional development and training for validators and verifiers to maintain and/or develop competencies;
- Conduct regular evaluations of the competence assessment process to ensure that it remains relevant to the MUCR standard.

The VVB shall guarantee the inclusion of the following roles and competences in the validation/verification teams:

- A team leader and technical reviewer:
- Documented experience in leading and managing audit teams for not less than two complete audits;
- Documented expertise in auditing of data and information;
- Knowledge of GHG information and data management systems and controls, including quality assurance and quality control techniques.

5 Level of Assurance Requirements

MUCR insists that all verification work conducted by the VVB must ensure that they are following the reasonable level of assurance verifications (according to the latest ISO 14064-3 standard).

6 Materiality Threshold Requirements

The VVB shall confirm and ensure that the required materiality thresholds meet MUCR requirements.

Quantitative materiality issues refer to the error in value in GHG statement. Examples include misstatements, incomplete inventories, misclassified GHG emissions or misapplication of calculations.

The threshold for quantitative materiality concerning the aggregate of misstatements, errors or omissions relative to the total reported GHG emissions and removals or emission reductions shall be 1%.

Qualitative materiality refers to intangible issues that affect the GHG statement. Examples include:

- Control issues that erode the verifier's confidence in the reported data.
- Poorly managed documented information
- Difficulty in locating requested information.
- Noncompliance with regulations indirectly related to GHG emissions, removals or storage.

Any outstanding qualitative material discrepancies should be highlighted and reported to MUCR. The VVB as soon as practicable, shall communicate requests for clarification, material misstatements and non-conformities to MUCR.

7 Risk Assessment

The VVB shall follow a risk-based assessment in compliance with the latest ISO 14064-3 standard.

The VVB must assess the risk of misstatement and determine the nature and extent of the evidence gathering activities. The verifier shall determine performance materiality taking into account the intended user's quantitative materiality threshold. The verifier shall identify qualitative matters that may be material.

Verifying and Validating Planning and Process

9 Validation/Verification Plan

The VVB must adhere and follow a consistent validation/verification plan that is compliant with the latest ISO 14065 and ISO 14064-3. Additionally, the validation/verification plan must include:

- site visit(s) by the validation/verification team, including the technical experts.
- Auditing and verifications should be caried out at least once every year.
- The VVB must present to MUCR the team chosen to perform validation/verification work, the location of on-site visits and the date of any on-site visit 15 days prior to performing the task.
- The VVB must communicate their validation/verification plan to MUCR and inform MUCR of any significant changes.
- The validation/verification plan shall be revised as necessary during the course of the audit process.
- The VVB shall communicate the validation and verification plan at the start of the beginning of the validation/verification and the revised version at the conclusion.

The VVB shall develop a sampling plan or evidence-gathering plan based on the results of the risk assessment and in compliance with the latest ISO 14065 and ISO 14064-3. This sampling plan shall include a plan for sampling source(s) of errors to assess the degree to which they are free of material errors, mistakes, and misstatements. The sampling plan shall take into account:

a) The basis of validation/verification agreed, i.e. level of assurance, materiality threshold, scope, and criteria;

b) The assessment of 'inherent risk', 'risk of control failure' and the 'risk of detection' for all possible measured, estimated or calculated parameters;

c) amount and type of evidence (qualitative and quantitative) necessary to achieve the agreed level of assurance, including an indication on whether sampling will be used to detect a material error, mistake or misstatement;

d) when sampling is applied, methodologies for determining representative samples.

10 Validation and Verification Process

VVBs conducting validation and verification for MUCR must follow the multistep process set out in the latest ISO 14064-3 standard.

Below, is a breakdown of the steps the VVBs must follow to issue an emission report for MUCR oriented projects.

1. VVB initial Monitoring Report.
2. Completeness check: MUCR shall perform a completeness check on the Monitoring Report.
3. Initial review: The VVB must perform a first review of the PDD to ensure that it is compliant with MUCR's standards
4. Site Visits: The VVB shall then perform any necessary initial side visit to develop the verification and validation plan. The VVB must inform MUCR 15 days in advance of the site visit and the team chosen to perform the site visit.
5. List of findings: The VVB shall then submit a report of their findings. MUCR may also request the VVB to share that report.
6. Revised monitoring report: MUCR shall then perform any necessary amendments to the initial Monitoring Report.
7. Draft validation and verification report: The VVB shall ensure that the Monitoring Report is in accordance with MUCR's requirements.
8. Completeness check: MUCR shall perform a final completeness check on the Monitoring Report.
9. Approval of the VVB"s Monitoring Report.