

# MUCR Project Standard

## Introduction

Mauritius Carbon Registry (MUCR) is the first Mauritius-based, STEM (science, technology, engineering and mathematics) oriented carbon registry providing services in carbon markets and carbon credit issuance. MUCR is dedicated to offering the opportunity for private STEM focused entities to issue, hold, trade and retire carbon credits through our platform.

At the core of the MUCR lies a comprehensive governance framework that adheres to internationally recognized standards. Based on ISO 14064 standards and the Clean Development Mechanism frameworks and methodologies, our governance structure ensures a transparent, relevant and effective approach to supporting the issuance of carbon credits. These standards and frameworks give shape to and define the roles, responsibilities, and decision-making processes within MUCR, ensuring data accuracy, business efficiency and environmental integrity. By working to these standards, MUCR can uphold the highest levels of transparency, accountability, and quality in every facet of our operations.

ISO 14064 compliant/ CDM Compliant. Furthermore, MUCR strives to develop new methodologies to best support the quality and integrity of the Credits issued.

This document highlights MUCR's current project standards and requirements. This document shall be subject to regular updates and all members involved with MUCR must ensure that they are using the most current version of the document. This is the September 2023 version.

## Aim & Goal

This document is intended to:

Instil guidelines ensuring the setting up of High-Integrity Carbon Projects.

Outline the scope of eligible projects.

Offer an outline of the project specific requirements applicable to STEM focused projects.

Ensure transparency and relevance by all parties involved, both organizations and project proponents.

Ensure quality and consistency throughout the development of Carbon Projects.

Promote efficiency, effectiveness, integrity, and transparency of Carbon Projects.

## Fundamental Guidelines

In addition to the ISO 14064-2, the following guidelines have been set out by MUCR. These guidelines should be followed by all members who intend to engage in the development of a Carbon Project with MUCR or use any of our services.

**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.

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

**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.

**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.

**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.

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

**Conservativeness:** Project Proponents as well as all involved parties must ensure to record all relevant GHG emissions and removals during the development of a carbon project. Furthermore, all parties involved should include any relevant documentation supporting the evidence of the latter.

**Additional:** All MUCR Carbon Credits should have met the ISO 14064-2 and MUCR's additionality criteria.

**Permanent mitigation:** Adequate structures should be set up for projects that pose a risk of revisability in GHG emissions reduction. Should any reversal occur, the equivalent amount of emission reductions shall be replaced or compensated by the Project Proponent.

**Impartiality:** MUCR shall impose the objective and unbiased treatment of data, information, and processes related to the measurement, reporting, and verification of carbon emissions and removals.

## Definitions

**MUCR Approved Project:** a Project (Project Activity) that has met all the necessary MUCR requirements and has been verified as generating Carbon Credits

**Carbon Credit(s):** A carbon credit is a tradable permit or certificate that represents the reduction, removal, or avoidance of one metric tonne of carbon dioxide (CO<sub>2</sub>) or an equivalent volume GHGs, used as a mechanism to incentivize and regulate emission reductions and promote sustainable practices.

**Greenhouse Gases (GHG):** Greenhouse gases 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 (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), 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.

**Project Activity (Project):** 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.

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

**MUCR Registry Platform:** The platform used by MUCR to perform activities in the field of carbon credits. The MUCR Registry Platform lists Approved Project and issues Carbon Credits in accordance with the requirements of each of the MUCR Framework/Rules, Regulations and standards it administers.

**User:** an entity that engages with MUCR, the MUCR Registry Platform and its software, applications, websites, or devices and in any other manner or format.

**Over-issuance:** Over-issuance of carbon credits refers to a situation where an excessive number of carbon credits are issued. This may occur when overestimations are made on the expected amount of carbon credits a project would be entitled to issue during its Accreditation Period.

**Crediting period:** A specified period of time that an offsetting project is entitled to claim and issue carbon credits.

**Project Proponent:** an individual, organization, or entity that proposes, develops, and takes responsibility for implementing a Project Activity.

**Carbon Registry:** A carbon registry is a system for tracking and verifying greenhouse gas emissions reductions and removals, often in the form of carbon credits or offsets. It records and documents efforts to reduce carbon footprints and facilitates their use in carbon markets and climate initiatives.

## **Project Types**

### **STEM-based Carbon projects**

MUCR exclusively registers STEM oriented projects capable of issuing MUCR Carbon Credits through the use of STEM focused implementation.

STEM-based carbon projects require a significant application of Science, Technology, Engineering, and Mathematics (STEM) principles and practices to address carbon emissions mitigation, and the overall management of greenhouse gases (GHGs).

These projects encompass STEM focused tools to offer an innovative approach to climate change and to promote sustainability. Common STEM-based Carbon Projects may include the use of:

- Carbon Capture and Storage Technologies
- Renewable Energy implementations
- Energy Efficiency Initiatives
- Climate Modelling and Simulation Tools
- Smart Grid and Grid Integration
- Carbon Footprint Assessments
- Climate Adaptation and Resilience Projects
- Green Transportation Technologies
- Carbon Data Management and Reporting
- Waste-to-Energy technologies

Furthermore, MUCR imposes the implementation of STEM based monitoring practices. It is the Project Proponent's responsibility to use relevant practices to ensure accurate, consistent and relevant of the projects GHG emissions removal.

All Project Proponents who intend to start a STEM based project must complete the Project Initiation Form, available on the MUCR Registry Platform. Based on the provided information, MUCR shall decide whether the proposed Project Activity is suitable. MUCR may in its total discretion decline the registration of the Project and issue credits on behalf of the Project Proponent.

## **Project Class Definition**

MUCR does not accept any Projects set up or registered before the 1st Jan 2018.

MUCR defines the following Project Classes to delineate the boundaries of registered Project Activity. Below is an outline list of Project Classes outlines by MUCR:

Class 1: This Class refers to projects that intend to directly register with MUCR. These include projects that are not registered with any GHG or CDM Program. These projects therefore have no previous record of being registered elsewhere.

Class 2: These include projects that have been de-registered from the CDM platform. These projects have already proven for compliance with the CDM requirements and MUCR Rules related to GHG emissions reductions. For such de-registered CDM projects, Projects Proponents would need to demonstrate the reasons related to that circumstance and are requested to provide all supporting documentations to support their claims. This Project Class is separated into two categories present below:

Class 2/A: Projects being registered with MUCR and only issuing carbon credits.

Class 2/B: Projects that intend to have emblems and labels attached to it.

Class 3: This class includes projects that are de-registered with a voluntary carbon market and that seek to be transferred to MUCR. In this case, the Project Proponent should demonstrate that the Carbon Project is aligned with MUCR's requirements. The Project Proponent must confirm that the latest Verification and Validation

works have been completed by one of MUCR's onboarded VVBs. All documentations and records regarding the projects should also be shared and a complete Verification and Validation track record is required to allow the transfer for the project along with its Carbon Credits.

## Eligibility Criteria

All projects that lead to mitigation of climate change, conforming to requirements herein and ISO 14064-2 are eligible for registration. Projects may follow methodologies, e.g. approved methodologies in order to facilitate implementation, subject to conformity to the requirements herein and ISO 14064-2.

### General Eligibility criteria

Prior to developing a project, the Project Proponent must ensure that the Project abides by all geographical and reveal legal requirements.

Project Proponents, prior to completing the Project Initiation Form must ensure that the Project Activity is eligible to be registered and follows the MUCR Program.

To confirm the eligibility of the project, all Project Proponents shall be invited to complete the MUCR Eligibility Form.

### Specific Eligibility Criteria

Carbon Projects registered with MUCR need to comply with the following MUCR Requirements:

- GHG emission reductions: the Project Proponent needs to prove that there is a real, measurable GHG emission reduction through the projects
- UN SDGs (SDG+ label): the Project Proponent may choose to attribute various UN SDG goals to their Credits. This is a voluntary requirement but must be met if chosen.
- Environmental requirements (E+ label): The Project Proponents may choose to cause no net harm to the environment throughout the implementation of the project. This is a voluntary requirement but must be met if chosen.
- Society requirements (S+ label): the Project Proponent proves that the implementation of the Project causes no net social impact. This is a voluntary requirement but must be met if chosen.
- The Project Proponent must ensure that all Host Country Attestations on Double Counting as and when required by CORSIA are submitted. This is a voluntary requirement but must be met if chosen.

## Project Requirements

All Carbon Projects registered with MUCR would need to abide by the following guidelines.

The Project Proponent should provide a complete description of the project with the use of a Project Design Document.

The Project Proponent must ensure that the Carbon Credits issued are additional. Project Proponents need to follow all relevant CDM or MUCR methodologies to prove for additionality.

The project Proponent must at all times ensure that the Project is in accordance to the latest ISO 14064-2.

The Project Proponent must abide at all times by the MUCR Rules and Regulations as well as any applicable standards, methodologies, standardized baselines, methodological tools, guidelines, and other regulatory documents available.

A Monitoring Program is to be clearly outlined and applied throughout the project. If needed or if instructed by MUCR, the Project Proponent may be instructed to set up a separate Monitoring Program. This would then need to be Verified and Validated by one of MUCR's onboarded VVBs.

All projects need to be to be Verified and Validated by one of MUCRs onboarded VVBs

We do not accept project that exceed a crediting period above 10 years.

## **Project Design Document**

MUCR requests that all Project Proponents develop and submit a Project Design Document for each Project registered. The Project Design Documents needs to highlight all the necessary and relevant information to demonstrate the conformity of the project to MUCR's and the ISO 14064-2 requirements.

For Class 1 projects, All Project Proponents seeking to initiate a Project or Grouped Activity are instructed to follow the latest Project Design Document Questionnaire available on the MUCR Registry Platform. All PDDs must be validated in order to be accepted by the Registry and scheduled verification audits are required to issue Carbon Credits from the project. Verification and Validation works need to be conducted according to MUCR's VVB Guidelines through MUCR's accepted VVBs.

Project Proponent with Class 2 or Class 3 projects would need to provide a complete track record of the Verification and Validation audits. Furthermore, a record of all Carbon Credit issuances and transfers would need to be provided and approved by the previous Carbon Registry. Class 3 projects must provide proof that the latest PDD and all relevant documentations were Verified and Validated by MUCR's onboarded VVBs. All future Validation and Verification works conducted on for registered Class 2 projects need to be performed by MUCR's accepted VVBs.

## **Methodology Requirements**

All Project Proponents seeking to develop a Project Activity should demonstrate the use of a MUCR or CDM approved methodology.

Below, is a list of accepted methodologies:

The Latest Approved Methodologies, tools and modules created by MUCR.

Methodologies, tools and modules valid and active under the Clean Development Mechanism.

Approved Methodologies, modules, and tools created by Project Proponents.

Approved methodologies can be found on the MUCR website. Project Proponents choosing to use one of MUCR's approved methodologies would need to justify the

relevance of that choice. This would need to be highlighted and explained in the PDD.

As stated above, new methodologies may be put in place (either by the Project Proponent or Registry) to facilitate the implementation of Projects. For the methodology to be approved, Validation and Verification audits by MUCR's approved VVBs are required.

## **Monitoring Requirements**

When developing the Project Design Document, it is essential to establish a robust monitoring system/protocol to precisely quantify the project's GHG emission reductions and, consequently, the issuance of Carbon Credits. Depending on the methodology and project specifics, a monitoring report may also be mandated. This Monitoring Report/Protocol will serve as an independent document that complements the PDD, facilitating the assessment of the implemented Project Activity's outcomes and performance.

When preparing the Monitoring Report or Monitoring Protocol, the Project Proponents must furnish all essential information and documentation to illustrate the compliance of the executed registered Project Activity and the monitored GHG emission reductions with the requirements outlined in this document, ISO 14064-2, and the validated project.

All projects need to demonstrate that a consistent monitoring protocol and reporting mechanism has been set in place throughout the duration of the project.

The Project Proponent must implement STEM based monitoring data methods and must apply real time (or close to real time) data recording implementations. The frequency of the data being recorded for carbon recording purposes and for the issuance of credits should not exceed one day (24 hours).

All the technology, monitoring devices and tools used in the monitoring process of the Project need to be highlighted and justified in either the PDD or Monitoring. The technologies used need to meet the countries regulatory and governmental rules. Project Proponents shall provide a detailed outline on the installation process of the monitoring technologies.

The Project Proponents shall describe the monitoring structure used and provide any relevant documentations, diagrams and/or schematics that highlight all relevant monitoring elements. The description of the monitoring system must include all data collection procedures. The project proponent must include the process for data generation, aggregation, recording, calculations and reporting. Furthermore, the Project Proponent must highlight all organizational structures, roles and responsibilities of personnel, and emergency procedures for the monitoring system.

The Project Proponents must develop and describe the monitoring plan, containing all of the relevant monitoring parameters, for the proposed Project Activity in accordance with the relevant methodologies and all other applicable MUCR requirements. For each parameter required to be monitored under the relevant methodology, the Project Proponents shall:

- Demonstrate how each relevant parameter is quantified/measured/calculated
- Highlight the monitoring and recording frequency of each relevant parameter;

- Elaborate on the quality control measures in place to identify and rectify errors or inconsistencies in data collection, recording, and reporting. This may involve routine checks, data reconciliation, and outlier detection.
- Provide data specification sheets for all monitoring equipment are required. The data specification sheets must be issued by the company manufacturing the equipment used and need to be acceptable by international standards.
- Ensure that the calibration of measuring equipment shall be carried out by relevant and accredited entities with procedures and measurements traceable to equipment manufacturers. In cases where neither the applied methodology nor the MUCR requirements prescribe specific calibration frequency criteria for measurement equipment, the Project Proponents are responsible for ensuring that the equipment undergoes calibration. Calibration should adhere to either international standards or the manufacturer's specifications. In instances where neither of the specifications are available, unless the applied methodologies specify otherwise, the Project Proponent must ensure that the equipment used to measure a parameter for determining emission reductions undergoes relevant and frequent calibration.
- Ensure that measured data with high levels of uncertainty or without adequate calibration must be evaluated through international and commercial data to ensure consistency throughout the monitoring process;
- Define the data variables involved, distinguishing between those subjects to fluctuations and those that remain relatively constant.
- Detail the instrumentation utilized for monitoring the pertinent parameters. The Project Proponents are kindly requested to furnish comprehensive information regarding the equipment, including details on its accuracy class and calibration procedures. This should encompass the calibration frequency, date of calibration, validity period, uncertainty levels, and calibration methods employed.
- Furnish the data values of the parameter under observation for the explicit purpose of calculating greenhouse gas (GHG) emission reductions or net anthropogenic GHG removals. In cases where data are continuously measured, these values should be reported using a suitable time interval (e.g., on a monthly basis for monitoring periods lasting six months or longer, weekly for monitoring periods shorter than six months, or daily for monitoring periods lasting one month or less), unless specific requirements are outlined in the applied methodology.
- Specify predetermined thresholds or trigger points for data anomalies or deviations from expected values. Outline the actions to be taken when such thresholds are exceeded, including corrective measures and reporting procedures.
- Describe how monitoring data will be made accessible to stakeholders, including the public, and ensure transparency in reporting. Address any data-sharing platforms or mechanisms used.
- Provide the sources of data. The data provided must come from reliable, credible and valid sources.
- Provide the calculation method of the parameter, where relevant;
- Furnish details regarding the relevant emission factors, IPCC default values, and any other designated reference values employed in the computation of greenhouse gas (GHG) emission reductions or the net anthropogenic removal of GHGs.

- Put in place the operational and management structure to implement the monitoring plan;
- If applicable, describe how the monitoring plan addresses environmental and social impact parameters beyond GHG emissions. This includes factors like habitat preservation, community well-being, or other sustainability metrics.
- Clarify data ownership and intellectual property rights, especially when third-party equipment or technologies are involved. Address data licensing, usage rights, and proprietary considerations.
- Describe the procedures for internal and external audits to assess compliance with monitoring methodologies, standards, and regulatory requirements. Explain how audit findings will be addressed and reported.

## **Material Changes and Adjustments**

Should there be any changes brought to the PDD or Project, it is the duty of the Project Proponent to inform MUCR of such changes. These types of changes may lead to the over-issuance and under-issuance of the Project's credits.

If any adjustments are to be brought to the PDD during the issuance phase of the project, the Project Proponent would need to submit a formal request highlighting the reasons related to the adjustment. Any adjustments or changes to the PDD will immediately stop the issuance of credits for the Project. Validation and Verification audits would then be needed to resume the issuance phase of the project.

## **MUCR Carbon Credits**

### **Crediting Period**

The crediting period shall commence after the initial Validation and Verification of the Project. A Project Activity can only issue Carbon Credits under the condition that it meets all of MUCR requirements and elements outlined in this document. Once this is met, the Project (considered as an Approved Project) shall be able to issue Carbon Credits. The Project Proponent must perform continuous Verification auditing phases should he decide to issue more credits.

Project proponents are allowed to request at the end of crediting period of a Project to renew the crediting period. The Project would therefore need to submit a formal request to the Registry and would need to update the PDD, re-evaluating baseline scenarios using tools and methodologies in effect at the time of renewal, and Verify and Validate the PDD and all relevant documentation (monitoring report, methodology) by a MUCR approved VVB.

### **Over-issuance**

MUCR is dedicated to ensure that no Over-issuances of credits occur. If there has been any Over-issuance of carbon credits, the excess credits are to be returned to the registry and cancelled.

In the case of ex-anti credits, the Registry shall impose to all Project Proponents to cancel the credits issued in excess.

## **Ex-Ante Credits Issuance**

MUCR may offer the opportunity for a Project Proponent to validate a Project Activity on an ex-ante basis. This entails the pre-issuance of an estimate number of carbon credits before the GHG emission mitigation occurs.

However, it is important to highlight that Ex-ante credits cannot be used for offsetting purposes or for other environmental claims and can therefore not be retired.

Ex-ante carbon credits are replaced by ex-post carbon credits when GHG emission mitigation outcomes have been verified.

A project proponent is only allowed to issue 60% of the overall projects credits as ex-ante carbon credits without an insurance wrapper. However, 100% of the over project's credits may be issued as ex-ante credits if an insurance has been applied on the project.