UKCCC MRV protocol development framework V 1.0 04/08/23

UK Carbon Code of Conduct: Measure-Report-Verify Protocol Development Framework

Introduction
The UK Carbon Code of Conduct (UKCCC) establishes standards to ensure that carbon credit projects are robust, transparent, and effective in mitigating climate change. The **Measure-Report-Verify (MRV) Protocol Development Framework** is designed to guide the development of new protocols for accurately measuring, reporting, and verifying emissions reductions or removals. This framework ensures consistency, reliability, and transparency in the generation of carbon credits.

---

1. Purpose of the MRV Protocol Development Framework

The primary purpose of this framework is to provide a structured approach for developing MRV protocols for new carbon projects or methodologies. Each protocol must ensure that emissions reductions or removals are:

- **Accurately measured**, following approved standards.
- **Reported transparently**, ensuring all stakeholders can assess the project's performance.
- **Verified independently**, guaranteeing that the claims are legitimate and meet the UKCCC's standards.

This framework ensures consistency across projects and maintains the integrity of the UK's carbon market.

---

2. Key Components of the MRV Protocol Development Framework

The MRV framework is built on three critical components, which are each developed with clear steps and guidelines:

- **Measure (M):**
  Defining methods for accurate, consistent measurement of emissions reductions or carbon removals.

- **Report (R):**
  Establishing requirements for transparent reporting of measurement data, methodologies, and project progress.
- **Verify (V):**
  Implementing independent verification processes to ensure the accuracy of reported data and emissions reductions.

---

3. Development Framework for the Measure-Report-Verify Protocol

3.1. Measure (M)

The **Measure** component ensures that all carbon reduction or removal activities are based on scientifically sound and widely accepted measurement techniques.

Steps to Develop Measurement Protocols:

1. **Define the Scope and Boundaries:**
   - Identify the specific activities or technologies being measured (e.g., reforestation, regenerative agriculture, biochar, etc.).
   - Establish the geographic and temporal boundaries of the project.
   - Define the types of greenhouse gases (GHGs) to be measured (e.g., CO_2, CH_4, N_2O).
2. **Identify Measurement Standards:**
   - Adopt or adapt recognized international standards such as the **ISO 14064**, **IPCC Guidelines**, **GHG Protocol GWP factors**, or other recognized methodologies for emissions measurement.
   - Where necessary, propose new measurement techniques that reflect emerging technologies or methodologies.
3. **Data Collection Methodology:**
   - Specify how data will be collected (e.g., field measurements, remote sensing, soil sampling).
   - Identify the frequency and timing of data collection to ensure continuous and reliable monitoring.
   - Define the quality assurance/quality control (QA/QC) procedures for the data.
4. **Monitoring Plan:**
   - Develop a monitoring plan detailing the parameters that will be tracked over the project lifecycle.
   - Identify key performance indicators (KPIs) that reflect the project's success in reducing or removing emissions.

5. **Baseline Setting:**
    - Define the project baseline against which the emissions reductions or removals will be measured. This baseline represents the conditions in the absence of the project.
    - Specify the data sources used to determine the baseline and justify their reliability.

3.2. Report (R)

The **Report** component sets out the requirements for transparent and accurate reporting of measurement data and project progress.

Steps to Develop Reporting Protocols:

1. **Establish Reporting Templates:**
    - Develop standardized reporting templates that include project information, measurement data, baseline assumptions, and emissions reductions/removals achieved.
    - Ensure templates are consistent across all projects under the UKCCC.
2. **Frequency of Reporting:**
    - Define the frequency of reporting, typically annual or biannual, depending on the project type and its lifecycle.
    - Ensure that reporting aligns with monitoring schedules to provide accurate, timely updates on project performance.
3. **Public Disclosure:**
    - Define the elements of the report that will be made publicly available (e.g., project descriptions, verified emissions reductions/removals).
    - Develop guidelines to protect confidential business information while ensuring transparency.
4. **Reporting Guidelines:**
    - Set clear guidelines for the content and format of the reports, including the methodology used for calculating emissions reductions, assumptions, and data sources.
    - Ensure that the reporting aligns with international reporting standards (e.g., ISO 14064-1, GHG Protocol).
5. **Audit-Ready Documentation:**
    - Ensure that all reported data is supported by audit-ready documentation, including field measurements, monitoring data, and verification results.

3.3. Verify (V)

The **Verify** component ensures that an independent third party confirms the accuracy of the emissions reductions or removals claimed by the project.

Steps to Develop Verification Protocols:

1. **Independent Third-Party Verifiers:**
    - Define the criteria for accredited third-party verifiers who will assess the project's data. Verifiers should be accredited under recognized bodies (e.g., UKAS, ISO).
    - Ensure that verifiers are independent from the project developer and the carbon credit buyer.
2. **Verification Frequency:**
    - Set the frequency of verification based on project size, type, and complexity (e.g., annual or biannual verifications).
    - Verification may also be required at key project milestones (e.g., after significant carbon reductions are claimed).
3. **Verification Process:**
    - Develop a clear verification process, including:
        - **Document Review:** Verification of all reported data, methodologies, and assumptions.
        - **Site Visits:** Conduct on-site assessments, where applicable, to verify data accuracy and project compliance.
        - **Sampling Methods:** Establish appropriate sampling techniques for large-scale or multi-location projects.
4. **Verification Reports:**
    - Ensure verifiers provide a detailed report summarizing the findings of the verification process, including any discrepancies or issues found.
    - The report should confirm the amount of verified emissions reductions or removals.
5. **Error Correction Protocols:**
    - Develop protocols for handling discrepancies identified during verification. This may include adjustments to credit issuance, invalidation of certain claims, or re-verification.

---

4. Approval and Implementation of New MRV Protocols

1. **Review and Approval by the UKCCC Advisory Board:**
    - All newly developed MRV protocols must be submitted to the UKCCC Advisory Board for review and approval. The review will ensure that the

protocol meets the necessary standards for accuracy, transparency, and scientific validity.

2. **Pilot Testing:**
    - Conduct pilot tests of the new MRV protocol on selected projects to ensure it works as intended. The results of the pilot tests should be used to refine the protocol.
3. **Stakeholder Consultation:**
    - Engage relevant stakeholders, including project developers, verifiers, and the carbon market, in a consultation process to ensure the new MRV protocol is practical and effective.
4. **Training and Capacity Building:**
    - Provide training and resources for project developers, verifiers, and other stakeholders to implement the new MRV protocol effectively.

---

5. Continuous Improvement and Adaptation

1. **Regular Review Cycle:**
    - Establish a regular review cycle (e.g., every 3-5 years) for the MRV protocols to ensure they remain relevant and reflect the latest scientific and technological advancements.
2. **Feedback Mechanism:**
    - Implement a feedback mechanism to collect input from project developers, verifiers, and other stakeholders regarding the performance and applicability of the MRV protocols.
3. **Protocol Updates:**
    - Update MRV protocols based on feedback, technological advancements, or changes in regulatory requirements.

---

6. Conclusion

The UKCCC's **Measure-Report-Verify Protocol Development Framework** ensures that all carbon credit projects operate with the highest levels of transparency, accuracy, and credibility. By establishing clear guidelines for measurement, reporting, and verification, the UKCCC can maintain the integrity of the carbon market and foster trust among stakeholders. This framework is dynamic and adaptable, ensuring it evolves alongside emerging technologies and methodologies in carbon management.