Report and recommendations on minimum requirements for high-integrity soil carbon markets in the UK

Table of Contents

Background

This draft report has been prepared to help shape the development of agreed standards and minimum requirements for investment in soil carbon in the UK. It was developed with funding from Defra's Natural Environment Investment Readiness Fund (NEIRF), which seeks to create a pipeline of nature projects ready to operate on private sector investment and support innovation and development of high integrity ecosystem service markets. The report has been prepared with input from the Environment Agency and in consultation with the policy officials from the UK and Devolved Governments to maximise policy relevance.

The proposed minimum requirements for soil carbon codes were developed by a team of more than 15 individuals from ten institutions, including the University of Leeds, Scotland's Rural College, Farming & Wildlife Advisory Group South West, James Hutton Institute, and the Sustainable Soils Alliance (for the full list of team members and organisations see: https://sustainablesoils.org/soil-carbon-code). The intent of this document is to provide an initial draft set of minimum requirements and solicit feedback from key stakeholders. The final report will be delivered in October 2022 as an input to inform the development of policy frameworks and formal standards for soil carbon investments in the UK.

Introduction

There are currently two recognised standards for investing in nature-based solutions to generate carbon units to sell into voluntary carbon markets, the UK Woodland Carbon Code and the UK Peatland Code. The UK Government supports the further development of high integrity markets for carbon and other ecosystem services. This includes the development of robust mechanisms for investment in a broader range of projects and activities, including other natural habitats as well as projects and activities to support farmers to deliver carbon services alongside food production. A nascent agricultural soil market is developing in the UK, based on proprietary soil carbon codes now in operation, and significant growth is expected in the near future. There are concerns that some of these codes may not yield additional or permanent climate mitigation benefits and may not provide adequate protection

to buyers and sellers. This challenge is replicated across ecosystem markets in other habitats and land uses, and in response to this, UK governments are developing policy frameworks to promote the development of high-integrity markets for ecosystem services. This includes both the development of new codes where necessary, alongside the development of overarching principles and minimum requirements that codes must adhere to, that will ensure the integrity of markets for multiple services across most of the UK's major habitats and land uses.

This document proposes an Evaluation Framework based on evidence-based principles for the development and operation of high-integrity agricultural soil carbon markets (Black et al., in press). It also recommends governance arrangements which provide guidance on the Evaluation Framework. The focus of this document is for farmed lands and does not include peat soils over 50 cm deep (which are covered by the Peatland Code), agroforestry or wetlands within agricultural holdings.

1.0 Recommendation 1: Establish robust governance arrangements

The proposed Governance Framework will provide guidance for the evaluation of soil carbon codes, explaining how codes will be evaluated, decisions reached, support given and the principles underpinning the evaluation process kept up to date. The proposed Governance Framework consists of:

- An Organisation with ownership and responsibility for governing the evaluation framework (section 2.0), decision-making process and advice given to codes that have been evaluated (the Organisation is currently presumed to be the British Standards Institute (BSI), pending the outcome of negotiations between Defra and BSI).
- The Organisation will appoint an Executive Board, Evaluation Committee and Technical Advisory Group to govern the minimum requirements for agricultural soil carbon codes set out in section 2.0. The Executive Board will be responsible for decision making around updates to minimum requirements based on recommendations from the Technical Advisory Board and the assessment of whether or not codes have met the minimum requirements based on recommendations from the Evaluation Committee. It will also liaise with policy colleagues from each of the four UK governments in collaboration with JNCC when issues are identified in the operation of the soil carbon market, where policy or regulatory intervention may need to be considered. The Evaluation Committee will be composed of experts who will apply the minimum requirements to evaluate codes, making recommendations to the Executive Board. The Technical Advisory Board will be responsible for reviewing new

evidence as it emerges, or relevance to the minimum requirements or their operation, and making recommendations for changes to the requirements as necessary.

- The decision-making process for evaluating a code against the minimum requirements laid out in section 2.0, includes:
    - Evidence required for evaluation (see section 2.0)
    - Criteria for codes to meet an agreed formal standard (informed by the minimum requirements laid out in section 2.0)
    - Appeals process
- Advisory role: where possible, the Evaluation Committee and Technical Advisory Group will provide support and guidance to codes submitting (or re-submitting) evidence for evaluation, to support the development of high-integrity soil carbon markets in the UK.

2.0 Evaluation framework

This Evaluation Framework will be designed to assess the evidence provided by Codes to determine their ability to meet internationally recognised criteria for the design and operation of high-integrity soil carbon markets. The criteria used in this draft are based on a comprehensive review of international agricultural soil carbon markets by Black et al. (in press). The principles for providing evidence will be maintained and updated by the Executive Board based on feedback from the Evaluation Committee and Technical Advisory Board, ensuring that they align with Defra's proposed high-level ecosystem market principles.

The Evaluation Framework will be used to inform decisions on whether soil carbon codes adhere to a formal standard, currently presumed to be developed by BSI. Where there is insufficient evidence to demonstrate that all the evaluation criteria (below) have been met, codes will be provided with feedback and (where possible support) on the remedial actions necessary to meet these criteria. Formal accreditation to ISO standards alone will not guarantee that projects meet the criteria set out below. The minimum requirements for high-integrity soil carbon codes that follow are currently open to consultation, and subject to change.

2.1 Evidence Required for All Codes:

2.1.1 Quality of evidence underpinning eligible practices, demonstrating the likelihood of soil carbon sequestration or emissions reduction in eligible project types/locations

All Practices allowed by the Code must demonstrate through publicly available evidence that the Practices implemented are likely (a) to lead to an increase in soil

organic carbon (SOC) stock, and/or decrease SOC stock loss rate, and/or reduce greenhouse gas (GHG) emissions and (b) to 'do no harm' to biodiversity, carbon stocks elsewhere, water and air quality. Evidence should consist of empirical studies relevant to UK pedo-climate and agricultural systems including grey literature, but preferably peer-reviewed scientific articles and/or a meta-analysis of peer-reviewed studies.

Practices must be implemented through clearly defined projects on specific fields with a clearly defined and quantified baseline. All these requirements must be defined in the Code.

2.1.2 Evidence from pilot projects to demonstrate the functionality and integrity of all key code structures and processes

Prior to evaluation and consideration under the Evaluation Framework, all Codes must have piloted their project registration, validation, measurement, reporting and verification and governance processes, which have demonstrated that the Practices included in the Code are technically appropriate and practical across the proposed region of application.

2.1.3 Evidence for GHG emissions reduction and soil carbon sequestration

The Code must include SOC stock increases, reduced SOC stock loss, and farm and soil derived GHG emission reductions. Hereafter, we refer to this combination of climate benefits from soil carbon projects as net carbon abatement. At a minimum, the Code must address carbon dioxide (CO_2) emissions from agricultural soils and, where significant, nitrous oxide (N_2O) and/or methane (CH_4) emissions from soils. The Code must also include GHG emissions from farming equipment where those emissions are significant. Hereafter, we refer to this combination of climate benefits from soil carbon projects as net carbon abatement. Net carbon abatement must be expressed as CO_2e as the standard unit of measurement which can integrate across these different sinks and sources. The global warming potential (GWP) used by the Code must be clearly stated and a rationale for the use and a process for updating the GWP must be stated in the Code.

2.1.4 Evidence that codes comply with UK legal and regulatory frameworks

Codes must require projects to provide evidence demonstrating they comply with all local, regional, national or UK law and regulation relevant to the region, jurisdiction and operations where a project is implemented.

2.2 Minimum requirements for code specification:

2.2.1 Additionality criteria (and how these allow stacking where they are met)

Codes must provide criteria about what qualifies as an additional practice. At a minimum:

- A Code must establish a historic review period (no less than [5] years) wherein prior land use and / or management change practices were implemented and then reversed. These lands with reversed Practices shall not be ineligible for crediting within the Code.
- No Practices may be credited by a Code if they are required by local, regional, national or UK law or regulation relevant to the region, jurisdiction and operations where a project is implemented.
- Codes shall only credit projects where changes in Practices have been newly adopted.[1]
- Codes must require that projects provide evidence that newly adopted Practices would not have been viable and/or sustainable without revenue from soil carbon credits.
- Codes must provide evidence that where practices involve addition of organic material, that this is additional rather than transferred from an area outside the project boundary and would lead to a loss elsewhere (leakage, see 2.2.7).
- Codes should not prevent the stacking of payments for other ecosystem services where the payments are required for financial viability. Codes should not prohibit payments from other financing mechanisms, other than those that explicitly pay for SOC stock increase / reduced GHG emissions as an outcome. Additionality requirements of the Code must be met in addition to the requirements of all other financed schemes within the same project boundary.

2.2.2 Quantification of credits

Soil carbon credits can only be generated from a conservative and verified change in net carbon abatement over and above a baseline (expected removals or emissions of the same area in absence of a project) as a direct consequence of the project

[1] It is possible to retrospectively demonstrate additionality if projects have started prior to registering with a code, if the project developer can supply evidence to the satisfaction of a VVB to confirm that carbon finance from selling carbon units or 'insetting' was considered in the planning stages of the project (for example the inclusion in minutes of board meetings or planning documents, cashflow or emails).

Practices. Therefore, Codes should require an approach that will determine how the baseline for business-as-usual would respond over the project duration. This can be achieved using either a biogeochemical model or soil carbon sampling.

The quantification of soil carbon credits that can be issued by a project must consider the different forms of uncertainty generated throughout the process and generate credits using a conservative approach. The uncertainty evaluation must include the uncertainty generated in the quantification process and modelling and/or measurement. The Code must indicate what approach is mandated to account for uncertainty, e.g. discounting and indicate how the chosen approach is implemented, documented and verified and why it is an appropriately conservative quantification approach.

When the implementation of a Practice supported by the Code results in increase in GHG emissions from livestock/ farmyards, those emissions must be accounted for and reduced from the net carbon abatement, prior to issuance of credits.

If GHG emissions from fossil fuels are included in the Code, they should be quantified using emission factors specific to the fuel (e.g. for transportation fuels) or region (e.g. for electricity consumption).

The Code must include criteria for what emissions must be quantified, monitored, and reported and what emissions are considered de minims.

2.2.3 Permanence

A Code must require projects to include mechanisms to reduce the risk of loss of net carbon abatement, e.g. water management across the project. It must also indicate how permanence will be maintained by a project beyond the project crediting period consistent with international standards. The entities responsible for monitoring and maintaining permanence must be included in the Code.

A permanence period must be a minimum of 10 years beyond the crediting period. The objective of the minimum requirements is to incentivize the adoption and maintenance of the Practices implemented by the project. Strategies for ensuring permanence through other contractual and mechanisms should clearly stipulate how they will ensure the Practices are maintained through the permanence period. All

forms of permanence should address the risk of reversals and other non-permanence risks with appropriate risk management mechanisms put in place.

Codes must clearly define the difference between the crediting and permanence periods. The Code must include monitoring requirements for the project to determine potential releases which occur after the crediting period and during the permanence period. Monitoring during the permanence period must occur on a regular basis throughout the permanence period. Codes need to have clearly articulated processes for identifying and quantifying if / when release of net carbon abated has taken place (see also 2.2.4). The Code must consider how it encourages the long-term adoption of Practices to ensure the permanence of the carbon sequestered. Farmers are required to disclose soil carbon contracts that exceed current farming contracts to the landowner (see also 2.2.18).

2.2.4 Mechanisms to address unintended reversals of net carbon abatement

Mechanisms must be included in the Code for assessing, accounting, compensate for any unintended reversals of net carbon abatement, such as natural disasters including drought, extreme temperatures, fire, and floods which can release GHGs and/or reduce SOC stocks.

A buffer pool, insurance, or similar approach must be included in the Code for the replacement of unintended released of soil derived CO_2e. Replacement of soil carbon credits must be from nature-based solution projects.

2.2.5 Replacement of unintended reversals

If the Code uses a buffer pool to compensate for unintended reversals, the Code must provide:

- Evidence for determining the risk and criteria for contributions to the buffer pool
- Quantification method for the contribution to the buffer pool
- Procedure for the cancelation of credits after an unintended reversal
- How long credits are maintained in the buffer pool and if the credits are returned to the project
- Criteria for what events are allowed to draw from the buffer pool
- A description of how the buffer pool is structured (e.g., the buffer pool project specific or aggregated across all projects)

- A process for evaluating the risk of depleting the buffer pool by a large unavoidable event
- A process for compensating for released carbon if the buffer pool is insufficient to cover an unintended reversal event.

2.2.6 Intentional Reversals

Codes must include procedures to address situations where farmers reverse Practices that result in the intentional reversal of net carbon abated, e.g. tilling a field that generated soil carbon credits for implementing no till Practices. The procedures should include a quantification of the amount of CO_2e reversed. Procedures could include the repayment of any revenue generated through soil carbon credits or retiring soil carbon credits in the amount of the net carbon abatement that is reversed.

2.2.7 Assessing and accounting for leakage

The Code must not allow projects to knowingly cause a decrease in SOC stocks or an increase in GHG emissions elsewhere as a result of implementing the project management Practices, with reporting requirements to demonstrate that leakage is minimal beyond the project boundary (e.g., farmers could be required to sign a legal attestation stating that all fields were evaluated in setting the baseline for the project). The Code must quantify credits in a conservative fashion, which includes adjustments for yield reduction (e.g., if a mitigation practice reduces yield, the issued carbon credits are reduced to account for an increase in emissions that may occur elsewhere).

2.2.8 Accreditation

All Codes must stipulate clearly which parts of the process are required to be carried out by an accredited Validation and Verification Body (VVB). Where a Code owning/ operating organisation is conducting any part of the validation and verification process internally, they must be accredited by UKAS (or an alternative International Accreditation Forum member) for doing so. Where a code owner or operator is not accredited directly, but subcontracts the validation and verification of projects to a third-party VVB, that VVB (or multiple VVBs) must be accredited by UKAS (or an alternative IAF member) and must be identified in a public listing alongside (or within) the code.

2.2.9 Appointment of validation and verification bodies/experts

The Code must include processes for the approval of independent third parties to validate the initial project design and verify the project. All VVBs must be accredited to an established standard. Codes must include provisions for the periodic rotation of VVBs throughout the lifetime of the project; projects should not be verified continually by the same VVB for more than two crediting periods or [10] years, whichever is the shortest.

2.2.10 Project validation and verification

The Code must require an initial validation of the project to confirm that it meets the requirements of the Code before a project is formally approved and accepted by the Code. Once a validation is approved, the project must undergo a verification by an independent third party, called a Validation and Verification Body (VVB), prior to any issuance of credits. The verification does not need to occur annually but must precede the issuance of any credits. Verifications must be conducted at least once every [5] years.

The VVB must develop a verification plan for the project that includes review of:

- the project boundaries, GHG emissions sources, GHG sinks, and GHG reservoirs;
- the project eligibility
- that the project boundary is appropriately defined
- the project calculations, measurements, and modelling
- data management systems, including review of the data collection process and procedures;
- key personnel involved in collecting data; and
- confirm that the project complies with all local, regional, national or UK law and regulation relevant to the region, jurisdiction and operations where a project is implemented. The Code may allow for the use of remote sensing, desk audits, and the sampling of project data. Codes must include clear criteria for the design of the verification, conduction of the verification, and procedures that determine if a project meets or does not meet the verification criteria.

2.2.11 Stakeholder engagement by projects

The Code must include procedures for the systematic engagement of stakeholders during the design of a project. The engagement procedures should consider the

potential economic, environmental, and equity impacts on the local community and other stakeholders who may be affected by the project and provide mechanisms to ensure that all relevant voices are heard, and concerns are addressed effectively by project developers. Incorporation of criteria based on the United Nations Sustainable Development Goals is strongly encouraged.

2.2.12 Registries

The Code must provide information about how projects and their associated credits are tracked. Codes must include process and procedures for the listing and approval of projects as well as for the issuance, trading, and retirement of credits. This information must be contained in a transparent, public, and independent database registry. The registry must include the date for the listing of the project, credit issuance, and credit retirement. It must include the volume of credits issued and the status of the credits, e.g. retired, buffer pool, invalidated, etc. The registry must also include documentation about the project including a summary of the project, monitoring report, and the review from the verifier. The retirement of credits must include the date retired, the entity retiring the credits, and the reason for retirement. Provisions must be included that ensures credits are listed and retired in only one registry.

2.2.13 Know your customer (KYC) and anti-money laundering checks

The Code must provide what information is required to confirm the entities engaged with the Code. This would include unique, verifiable identification for the farmer, project developer, and buyer of the credits. Any additional requirements, such as notarized forms and documents must be provided. The processes for identifying and confirming the identities of all entities participating in the Code and methods for addressing any conformities must be provided in the Code's procedures.

2.2.14 Eliminated

2.2.15 Co-Benefits

Where co-benefits are associated with soil carbon credits, the Code must provide information about the procedures for quantifying, monitoring, reporting, and verifying of the co-benefits. While these methods may not go as far as the rigour expected for carbon measurements, they should be demonstrable to justify any price premium and claims that buyers may wish to make about co-benefits. Examples could include benefits, such as, GHG emissions from livestock/farmyards, water quality, water

quantity, biodiversity, equity, energy savings, and local employment. The Code must define if the co-benefits are bundled or stacked. Where co-benefits are stacked, there must be additional requirements for additionality and MRV (See section 2.2.1).

2.2.16 Resale of carbon units

The Code must state whether credits can be traded or sold more than once. If so, the criteria for trading or resale must be provided, including if there is a limit to the number of trades or exchanges can be made and how subsequent sales are tracked to avoid double-counting.

2.2.17 Crediting period

The Code must state the number of years over which a project is allowed to generate soil carbon credits, also known as a crediting period. The Code must also state if the crediting period can be renewed and, if so, the number of times it can be renewed and the requirements for subsequent crediting periods. Each crediting period, Projects must use the most recent version of the relevant Code at the time the crediting period commences. The first crediting period must not be longer than [10] years.

2.2.18 Land ownership

The Code must clearly articulate who is paid for the implementation of the Practices. Any legal requirements, e.g. conservation covenants, on the land must be disclosed to the landowner as a part of the validation process. See also section 2.2.11. The code must also include mechanisms to manage any changes in land ownership during the crediting period or the permanence period, and how to ensure the continuation of practices adopted as part of the code.

2.3 Minimum requirements for MRV:

2.3.1 Data collection and recordkeeping requirements

The Code must specify what data (including data standards and formats) must be collected by a project and detail what records are necessary to support the generation of credits. The Code must also clearly state the ownership, use, management, and retirement of the data collected and used. Data ownership should reflect and respect land ownership and land user rights as well as licensing conditions. The Code must differentiate between data that is collected by the farmer, collected by the project developer or sourced elsewhere (such as soil maps, weather data, emission factors). For any data that obtained through analysis or processing,

such as soil laboratory analysis or modelling, the protocols, processes and procedures, including quality management, must be sufficiently detailed to enable independent verification of the resultant data.

2.3.2 Construction of baselines

The Code must provide criteria for establishing a reliable project baseline for the existing pre-project management (i.e. "business-as-usual") which will be the foundation for the quantification of soil carbon credits from the project Practices over the project period. The methods used to determine the baseline must reflect the credit quantification method whether based on measurements, modelling or a combination thereof. At a minimum, the baseline (measured or modelled) must incorporate at least one soil sampling campaign within the entire project boundary and reflect the typical crop rotations in the pre-project management scenario. Projects must provide evidence that no net-harm has been caused prior to a baseline assessment in the expectation of the implementation of a farm soil carbon project. The baseline must be at least three years and encompass a complete rotation of crops on each of the fields in the project.

2.3.3 Soil testing requirements

Codes must require soil testing. Soil testing must be used to either a) update and validate the accuracy of the model used in the code or b) used to quantify the soil carbon sequestered as a result of implementing Practices. Regardless of the quantification approach, a sampling plan must be created, which ensures that soil testing will obtain an accurate and representative measurement of soil carbon stock throughout the project. The sampling plan must include requirements to determine how to quantify a statistically significant change in SOC stocks over the sampling period. The period between sampling events should reflect the likelihood of detecting significant change based on the sampling plan and the expected impact of the Practices. Representative soil samples across the project must be taken for the project at least every [5] years during the crediting period and include sampling at the end of each crediting period.

Sampling of soils must obtain reliable measurements of averages and variation in soil carbon content (% / g/kg) and soil bulk density (g/cm^3) to a depth within the project boundary which has been delineated through a project sampling plan for the quantification of soil carbon credits.

Codes must ensure that soils are sampled to sufficient depth to obtain an accurate assessment of soil C stock at baseline and throughout the crediting period. Therefore, soil depth should be set to sample at and below the depth of impact of the business-as-usual and project Practices. Codes must follow the soil sampling guidance from the IPCC and require standard soil sampling to 0-30cm, at least and unless the soils are shallower, with recommended sampling to further depths of 30-60cm and 60+cm, dependent on total soil depth and management, and to support harmonisation of soil carbon credits across projects, codes and registries.

All analytical methodologies must be reliable, reproducible and operated by appropriate facilities with established quality management procedures. It is recommendation to use facilities with relevant certification and/or accreditation (e.g. UKAS) and to use ISO equivalent methods for the determination of soil carbon content using elemental analysis with appropriate methods to ensure that inorganic carbon is excluded from the results and for the determination of bulk density including reference to fixed depth and equivalent soil mass. Other methods may be allowed if it can be demonstrated, prior to use in the project, that they have been adequately calibrated to the standard methods and that they are suitable for the project's requirements.

Uncertainty in the measurement and calculation of soil properties must be reflected in the process of quantification of soil carbon credits. All method documentation (including how samples are taken, whether they are composited or not, how they are stored and transported, and number of samples taken), quality control data and associated calibration data must be documented in full and publicly available. All relevant mathematical and statistical calculations, and the data used in these calculations, must be fully detailed and freely available for reporting and verification.

2.3.4 Soil carbon and GHG emissions modelling requirements

If mathematical models are allowed by the Code, it must demonstrate that any allowed model is appropriate and shows no systematic bias for determining a baseline or change for the geography, practice, and farming system under consideration by a project. Models must use the latest version of the model and it must be validated using the latest scientific guidance for the geography, crops, and Practices. If the Code allows models to generate annual credits, the model must be validated prior to quantification of soil carbon credits throughout the duration of the

project.

Codes must require model calibration using independent data from suitable publicly available sources i.e. peer-reviewed and published experiments that have demonstrated quantifiable change in SOC stock and/or GHGs emissions for relevant geography, Practices, and farming systems included in the Code. All models must be recalibrated at regular intervals throughout a project using soil sampling results, with a minimum interval of every [5] years. Codes must include model validation that will demonstrate reliable and repeatable model performance and include model prediction error as a measure of uncertainty. Datasets suitable for validating model performance and uncertainty should reflect a project's characteristics e.g. geography, soil sampling depth, farming system, management, etc.

2.3.5 Data retention

The code must provide information on what records must be retained, for how long, in what format, and by whom (i.e. farmer, project developer, registry, code owner). The code should indicate that data ownership, access and privacy requirements must be addressed. All Codes must comply with the UK General Data Protection Regulation.

3.0 Glossary

- **Additionality:** Practices implemented by a farmer that are above and beyond "business as usual," exceed the baseline, and are not required by regulation.
- **Baseline scenario:** The land use and management Practices that were in place prior to the implementation of Practices. The baseline (or reference) is the state against which change is measured.
- **Buffer Pool:** A holding account of soil carbon credits used as a general insurance against unintended reversals of net carbon abatement.
- **Carbon dioxide equivalent (CO_2e):** The quantity of a given GHG multiplied by its total Global Warming Potential. This is the international standard unit for comparing the degree of warming which can be caused by different GHGs.
- **Calibration:** The process of confirming that a model can reliably predict the project environment under consideration by comparing model outputs with empirical data from and / or representing the project environment.
- **Code:** A standard, methodology, protocol, or scheme that quantifies, monitors, reports, and independently verifies soil carbon credits.

- **Crediting period:** The time period during which soil carbon credits are generated.
- **Discounting:** The practice of issuing less credits than are quantified to be conservative and ensure that the project is a net benefit to the climate.
- **Greenhouse Gas (GHG):** Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), hydrofluorocarbons (HFCs), or perfluorocarbons (PFCs).
- **Insurance:** Products or mechanisms purchased by the project to protect against Unavoidable and Intentional Reversals of soil carbon credits.
- **Intentional Reversal:** Any reversal that is due to the project's negligence, gross negligence, or wilful intent within the project boundary.
- **Leakage:** This refers to an increase in GHG emissions or a loss in SOC that occurs as a result of the project's activities but beyond the scope and/or boundaries of the project's quantification of net carbon abatement, e.g. crop yield reductions or intensification of land management.
- **Monitoring:** The process of collecting data, tracking and analysing information over time and overall implementation progress, with the purpose of providing information for reports.
- **Net carbon abatement**: SOC stock increases, reduced SOC stock loss, soil derived GHG emission reductions or a combination thereof.
- **Permanence period:** The time period following the crediting period in which soil carbon is retained.
- **Practice:** A change made on a field that in intended to increase net carbon abatement in a project
- **Project:** A Project a specific fields where specific Practices are implemented using a clearly defined and quantified baseline. All these requirements must be defined in the Code. All fields managed by farmer must be included in a Project, but Practices do not need to be implemented on all fields.
- **Project Boundary:** The fields within the geographic boundaries of a project.
- **Reporting:** The document prepared prior to the issuance of soil carbon credits that includes quantification of SOC stocks, GHG emissions and monitoring results. Reporting should be done in a public and transparent manner.
- **Resale / trade (of credits)**: Soil carbon credits can be exchanged between entities after issuance by a registry and until the credits are retired.

- **Retirement (of credits)**: The transfer of a soil carbon credit to a retirement account. Retirement is a permanent state where the soil carbon credit cannot be transferred or retired again.
- **Soil Carbon Credits:** A fungible instrument that represents the increase in soil SOC stock, and/or decrease SOC stock loss and/or reduce GHG emissions from agricultural soils. Credits are measured in metric tonnes of carbon dioxide equivalent (CO_2e).
- **Soil Organic Carbon (SOC) stock:** The organic carbon measured or modelled in the soil for a given area within a project, measured in ton/ha.
- **Unavoidable Reversal:** The loss of net carbon abatement quantified through soil carbon credits resulting from actions not in the direct control of farmers, such as natural disasters including drought, extreme temperatures, fire, and floods which can release GHGs and/or reduce SOC stocks.
- **Validation (model):** The process of evaluating the performance of model predictions relative to empirical data.
- **Validation (project):** The review and approval that a project meets the requirements of a Code.
- **Verification:** The third-party, independent process used to ensure that a project's GHG emissions or emission reductions have met the minimum quality of the Code for calculating and reporting GHG emissions and emission reductions.