SUSTAINABLE SOILS ALLIANCE

**15 August 2024**

**The Integration of Greenhouse Gas Removals (GGRs) into the UK Emissions Trading Scheme**

***Consultation Response by the Sustainable Soils Alliance***

The Sustainable Soils Alliance (SSA) was launched in 2017 to address the current crisis in our soils. Its aim is to campaign to restore UK soils to health within one generation by seeing soil health elevated to where it belongs as a priority alongside clean air and clean water. The SSA is a non-profit organisation (CIC number 10802764).

1. Background

This document provides input from the Sustainable Soils Alliance (SSA) to the joint consultation by the UK Government, the Scottish Government, the Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland on the integration of Greenhouse Gas Removals (GGRs) into the UK Emissions Trading Scheme.

The consultation document acknowledges that the UK ETS may offer an appropriate long-term market for high quality nature-based GGRs, and while it includes soil carbon sequestration among the examples of nature-based approaches, it concentrates on woodland creation as the only nature-based removal mechanism that might currently be integrated into the ETS, and where it is inviting specific feedback.

**The SSA supports the focus on woodland creation as a starting point. Given the technical, practical and legal challenges inherent in any soil carbon transaction - permanence, reversals, measurement, reporting and verification (MRV), leakage, as well as the comparative infancy of the (voluntary) marketplace for soil carbon, it would be too early to incorporate soil carbon sequestration into the ETS at this stage.**

**Nevertheless, we would highlight the importance of keeping the exclusion of (non-woodland) nature-based solutions under review as the scheme evolves – and as the marketplace for soil carbon and the accompanying technology achieves maturity, associated (MRV) costs fall, and the solutions to some of the challenges above are identified.**

**Ongoing review should also consider the impact of focusing exclusively on woodland creation in the context of land management impacts (national food security), and therefore the need to include GGRs that don't impact upon food production.**

This opinion is based on our experience developing the Minimum Requirements for high-integrity soil carbon markets in the UK (commissioned by the Environment Agency funded Natural Environment Investment Readiness Fund), published in December 2023.

The Minimum Requirements themselves were based on a review of 12 soil carbon code MRV methods and associated programmes from around the world, submitted for publication in April 2022:

The review: *What makes an operational Farm Soil Carbon Code? Insights from a global comparison of existing soil carbon codes using a structured analytical framework (Black et al 2022)* is published in *Carbon Management* and can be found here.

This analysis and the creation of the Minimum Requirements required us to identify the critical components of a robust soil carbon transaction, as well as the mechanisms employed by project developers around the world to address the challenges listed above.

**The learnings and insights we gathered as part of this process are as relevant for compliance as much as the voluntary market, so provide helpful context for this consultation exercise.**

2. Soil Carbon Market – Context

- In comparison with woodland, the marketplace for soil carbon as a subcategory of natural capital, is still immature (many schemes only launched formally in 2021), and engagement in these projects across the UK remains small with the result that no holistic analysis of the scale, quality and scope of the marketplace have taken place.
- The market consists of a range of investors including those interested in offsets, insets and return on investment, mainly focussing on regenerative cropping systems. These different schemes take different approaches to MRV which vary in their levels of rigour, use different models to estimate likely carbon gains when developing projects, and have varying approaches to additionality, permanence and leakage.
- The proliferation of soil carbon market schemes and their differences in approach are creating confusion for farmers and investors alike, and concerns about the integrity of some schemes are undermining market confidence, risking de-legitimising soil carbon markets through the sale of easily reversible, "hot air" credits. This does not necessarily indicate a poorness of quality but is emblematic of a market still establishing itself, and a learn-as-you-go approach.
- Any changes in soil carbon occur slowly and uncertainly, which makes it difficult to reliably track changes once new practices are implemented. Improved modelling and measurement and the use of technology can be expected to close this knowledge gap over time.
- Despite these challenges, there is a clear underlying rationale for driving private investment into nature recovery, including soil, and in particular fill the gap between the available public money and the amount needed to tackle the twin challenges of climate change and biodiversity loss in the UK. The 2021 Green Finance Institute Finance Gap for Nature report puts this figure at £56bn over the following 10 years, of which £3.75 billion is the amount of private investment needed to transition to more sustainable soil management in the UK.

3. Minimum Requirements for Farm Soil Carbon Projects (VCM):

- In 2021 Environment Agency Natural Environment Readiness Fund supported the funded The UK Farm Soil Carbon Code Consortium (led by the Sustainable Soils Alliance) to develop a set of minimum standards for high integrity soil carbon markets. These were published in December 2022, and should be used by the British Standards Institute as part of its Nature Investment Standards Programme - one of a suite of interventions the UK government is putting in place as part of its forthcoming Green Finance Strategy and Nature Markets Framework to boost market confidence and increase private sector investment into nature recovery and nature-friendly farming.
- High-integrity, landscape-specific standards should provide the critical first step the market confidence needs to unlock pent-up private investment capable of transforming UK farming - whether through insets, scope 3 reductions, offsets or even via a compliance market. It is highly desirable for any set of minimum standards for carbon and other ecosystem market codes to be agreed and operate nationally, given that these markets all currently operate at this scale.

4. Soil Carbon & Permanence

- The permanence of storing carbon presents a challenge for all GGRs, but soil carbon in particular, and was one of the more challenging concepts encountered by the SSA-led consortium in the development of the Minimum Requirements for scientific, economic, cultural and practical reasons:
    - Farming practices can easily be reversed, leading to a potential future loss of carbon.
    - The length of carbon storage in soil varies based on the biological, chemical, and physical properties of soil.
    - Changes in land ownership or management can result in a reversal in carbon storage
    - Farmers are reluctant to commit to long-term contracts that restrict their capacity to manage their land, restrictions that might extend over several generations
- The consultation document acknowledges the very specific challenge of permanence as critical for integrity, specifying that, *once captured by a project, carbon must be sequestered in a highly durable store. The assessment of permanence should consider durability and 'risk of reversal' (likelihood of captured carbon being re-emitted into the atmosphere) associated with a carbon store.*
- It proposes a permanence framework, including that GGRs can store carbon for a minimum period of time, the use of liabilities enforceable on GGR operators in the event of a reversal event and fungibility measures which will apply to some GGRs, where shorter/higher risk GGRs are awarded fewer allowances.

5. Market Insights

The following are insights about different approaches taken to Permanence identified in our review of 12 soil carbon code MRV methods and associated programmes from around the world, submitted for publication in April 2022 that can be found here, alongside more recent, informal market analysis.

*a) Permanence Period*

- Our 2022 Review of international codes identified examples of these mechanisms already in place, indeed one of the most significant differences between codes was their treatment of permanence.
- To start with, we found significant difference between codes in the time requirements for permanence i.e. after the crediting period of a project has ended. Ten of the twelve codes stipulated that permanence was required for a defined period which ranged from eight to 100 years, with 100 years being the most common period.
- Credits were generally issued based on MRV at intervals across the permanence period.
- Three codes adopted a different approach where there was no specified permanence period but instead applied specified credit discounts over the project period to account for post-project non-permanence, leakage and reversals (10 or 20%).
- A cursory examination (August 2024) of schemes currently inviting participation by UK farmers (based on web-based research) reveals permanence periods of 5-10 and 10-15 years.
- When developing our Minimum Requirements, we identified the need to strike a balance between the willingness of farmers to use Codes with the requirements to reduce atmospheric levels of CO2.

*b) Buffers/Insurance*

- To maintain the permanence, Codes need to have a mechanism to replace Net Carbon Abatement that is lost as a result of events beyond the control of a farmer, such as floods and droughts. The most common options are buffers and insurance products.
    - Buffers are created by taking a portion of credits at the time of issuance and placing them in a separate account. This account is used to replace any credits lost during the permanence period resulting from unintended reversals.

    - Insurance products are third party contracts where the project pays an entity to cover any unintended reversals. These products either replace the reversed credits or compensate the purchaser for the credits so that the total Net Carbon Abatement remains the same. Like buffer pools, insurance pools need clear criteria to determine the cost of the insurance product and a process for compensating the buyer of the credit in the event of an unintended reversal.
- Our examination of international schemes revealed different applications of buffers to manage uncertainty. The size of buffers was established in several ways; for example, based on the permanence period, frequency of sampling, model estimations of uncertainty, project-specific risk rating or quality of verification methods used.
- In one code, the size of a buffer could change over the course of a project based on changes in risk. Non-variable buffers ranged from 5% to 20% and up to 50% for a temporary buffer in one code. Some of the codes did not require contributions to a buffer.
- A cursory examination (August 2024) of schemes currently inviting participation by UK farmers (based on web-based research) reveals that most schemes incorporate a buffer of 20%.
- There are legitimate reasons a farmer may have that require the reversal of implemented practices. For example, farmers may need to till to maintain soil health. In our Minimum Requirements, we called for codes to include provisions to determine how much Net Carbon Abatement is lost by an intentional reversal and a process to compensate buyers for the same quality and value of reductions.

6. <u>'Minimum Requirements' for Permanence and Buffering</u>

The following is the approach to achieving permanence in farm soil carbon codes/projects as specified in our Report and recommendations on minimum requirements for high-integrity soil carbon markets in the UK:

*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.
- For every year that a credit is issued, there must be a minimum of 10 years of permanence. For example, if you have 5 years of credits issued, the total timeframe of the project is 15 years (5 years of crediting and 10 years of permanence).
- 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
- 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 notify landowners of soil carbon contracts that exceed current farming contracts to the landowner.

*Buffering*

- Mechanisms must be included in the Code for assessing, accounting, and 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 release of soil derived CO2e.
- Replacement of Soil Carbon Credits must be from nature-based solution projects.
- Buffer pools can be created for a single project or aggregated for all projects developed under the Code.
- 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
- If the Code uses insurance to compensate for unintended reversals, the Code must provide:
    - A process for determining the risk of the project
    - A procedure for claiming an unintended reversal
    - Criteria for what events are allowed to make a claim
    - A description of how the insurance product is structured
- 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 CO2e 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.