RegenFarm Network Policy Position on Farm Carbon Auditing

Purpose

This paper sets out the RegenFarm Network Policy Group's position on the current use of farm carbon audits in Scotland, particularly as they relate to ruminant livestock, pasture-based systems, and regenerative farming. It explains why current audit approaches risk being misleading, identifies the unintended consequences already being observed on farms, and proposes principles and priorities for improvement.

Summary Position

The RegenFarm Network supports action on climate change and recognises agriculture's responsibility to reduce greenhouse gas emissions. However, we believe that the farm carbon audits currently being promoted and, in some cases, required by policy and advisory systems are fundamentally incomplete. By accounting primarily for emissions while inadequately accounting for carbon drawdown and cycling in pasture-based systems, these audits risk driving poor decisions that undermine soil health, biodiversity, animal welfare, farm resilience and, ultimately, climate outcomes.

Good decisions cannot be made from poor, unbalanced or misleading information. Until farm carbon audits reflect the full carbon cycle and the wider ecological context of farming systems, they should not be used as a primary basis for policy direction, conditionality, or prescriptive farm-level advice.

Agriculture and the Carbon Cycle

Agriculture is unusual among industries in that carbon is both emitted to and removed from the atmosphere as an integral part of production. Photosynthesis captures atmospheric CO_2 and converts it into plant biomass, which underpins all agricultural systems. In grazed pasture systems, particularly those involving ruminant livestock, carbon, nutrient and water cycles are tightly coupled. Grazing, trampling, dung and urine inputs stimulate plant growth, feed soil biology, and can contribute to the long-term development of biologically active, resilient soils.

Historically, these processes built deep, fertile soils across many of the world's grasslands. While modern farming has diverged from these natural processes in many cases, regenerative and agroecological systems seek to realign food production with them.

The Limits of Current Farm Carbon Audits

Incomplete Carbon Accounting

Current farm carbon audits typically rely on standardised or average emissions factors for livestock, particularly methane emissions from ruminants. While we recognise the scientific challenges involved, these audits:

- Account for emissions from livestock in detail – albeit formulaic;
- Barely acknowledge, or entirely omit, the carbon drawn down by grazed pasture that provides the feed for those animals;
- Struggle to meaningfully represent changes in soil carbon, plant productivity, or biological function over time.

In pasture-fed systems, the carbon atoms that make up methane emissions originate in the plants eaten by livestock, and those plants derive their carbon directly or indirectly from the atmosphere. Ignoring this drawdown while counting only emissions presents a skewed and incomplete balance sheet.

Methane and Balance Sheets

We do not argue that methane emissions from livestock are irrelevant or should be ignored. Methane plays a role in atmospheric warming and must be addressed. However, decisions about livestock numbers and systems must be made using a balance sheet that accounts for both:

- Emissions to the atmosphere; and
- Drawdown, cycling and potential sequestration driven by pasture-based systems.

Reducing livestock numbers solely on the basis of emissions figures, without accounting for their contribution to carbon cycling, soil function and ecosystem processes, is a decision based on partial information.

Output-Focused Metrics and Perverse Incentives

A further concern is the strong policy emphasis on emissions per unit of output (e.g. per kilogram of meat or litre of milk), rather than total emissions and sequestration at farm or landscape scale.

This approach can incentivise:

- Short-term intensification to increase output;
- Tighter calving or lambing cycles that may compromise animal welfare;
- Increased use of inputs to suppress ‘weeds’ or marginal habitats that deliver important ecological functions;
- Bringing marginal land into production through drainage or cultivation, even where this damages soils, biodiversity or carbon stocks.

The climate does not respond to emissions per kilogram of output; it responds to the total balance of greenhouse gas emissions and removals. Output-driven metrics risk ignoring soil health, biodiversity, water, animal welfare and long-term resilience.

We propose instead the concept of emissions per ‘sustainable unit of output’, where sustainability is defined by a whole-farm and landscape-scale assessment of ecological, social and economic outcomes.

Evidence of Harmful and Misleading Advice

Members of the RegenFarm Network report repeated instances where carbon audits and associated advice conflict with well-established regenerative principles and observed on-farm outcomes, including:

- Deferred winter grazing on hill land, which has increased species diversity and productivity over several years, being penalised in audit results the longer it is practised;
- Long-established organic hay meadows with high biodiversity being recommended for ploughing and reseeding;
- Farms already practising adaptive multi-paddock (AMP) grazing being advised to adopt it, indicating a lack of understanding of the systems being audited.

These examples highlight a mismatch between the assumptions embedded in audit tools and the realities of regenerative, pasture-based farming.

Risks to Policy and Practice

Using incomplete carbon audits as a basis for policy, funding or regulatory decisions risks:

- Misinforming farmers, advisors and policymakers;
- Driving intensification rather than regeneration;
- Undermining systems that are improving soil function, biodiversity and resilience;
- Locking agriculture into another dead-end policy pathway at a time of climate and biodiversity crisis.

Scotland’s farms, countryside and ecosystems cannot afford such mistakes.

Principles for Improvement

We call for farm carbon auditing and related policy to be guided by the following principles:

1. **Whole carbon cycle accounting**
   Audits must account for both emissions and drawdown, particularly in grazed pasture systems, in a way that is transparent about uncertainties and limitations.
2. **System sensitivity**
   Tools must be capable of recognising and differentiating between farming systems, including regenerative, organic and pasture-based approaches, rather than forcing all farms into inappropriate assumptions.

3. **Total impact over intensity metrics**
   Greater emphasis should be placed on total farm and landscape-scale impacts, rather than narrow output-based efficiency measures.
4. **Ecological context**
   Carbon should not be assessed in isolation. Soil health, biodiversity, water, animal welfare and long-term resilience must be integral to assessment frameworks.
5. **Decision-support, not prescription**
   Until tools are robust and balanced, carbon audits should support farmer learning and reflection, not dictate prescriptive changes or be used punitively.

Conclusion

The RegenFarm Network believes that regenerative, pasture-based livestock systems have a potentially significant role to play in addressing climate change and biodiversity loss. Allowing such systems to be undervalued or damaged by simplistic and incomplete carbon auditing would be irresponsible.

We urge policymakers, advisors and tool developers to work with farmers to improve carbon accounting approaches rapidly, ensuring they reflect the full complexity of biological systems. Only then can carbon audits genuinely support the transition to resilient, sustainable farming systems in Scotland.