Sector Focus: Carbon Markets

As subsidy and finance reform in agriculture increasingly aligns with climate and environmental targets and compliance, carbon markets have become a core topic of interest.

The incentives to drive down emissions in food supply chains come from all angles – government, retailers, consumers, buyers, the finance sector – and while the agriculture sector itself faces no legally binding emissions targets (accounting for 7.5 mega tonnes CO2 equivalent in 2019), it must play its part in Scotland's target of net zero by 2045.

Climate mitigation and adaptation will inevitably cost money, and as these flows of money begin to open up more and more, all industries are keen to make the most of opportunities from new sources of finance. It is likely that this finance will flow at a faster rate and higher value as 2050 and net zero targets draw nearer.

The role of carbon finance for net zero

Since the emissions baseline of 1990, UK agriculture has managed to reduce emissions by 16%. Various modelling scenarios across farm enterprises estimate that continuing to improve marginal efficiency gains and other mitigation options, in line with the science and technology that is current available, may help to reduce agricultural emissions by around a third. However, agricultural production inherently emits greenhouse gases, therefore, in order to reach a net zero target, sequestration and offsetting is essential. The main options for this are improved grazing management (freeing up land for afforestation), and biochar soil incorporation using agricultural residues.

Soil carbon sequestration may also be an option here, although it is important to understand the wide variation in potential impact of agricultural practices on soil carbon sequestration (see next section), and limits to total sequestration amount relative to net emissions from other aspects of agricultural production systems.

Many farms have or are now baselining their emissions, and looking at ways they can reduce their overall carbon footprint. From this there are three main potential options for GHG reduction measures:

- No net cost/cost saving measures
- Measures requiring small cost or investment
- Measures requiring larger investment or structural change

Options two and three are where carbon finance has potential to play a role in enabling or incentivising actions. This could include finance for mitigation measures (reducing GHG production), offsetting measures (counterbalancing emissions with carbon credits from another industry), or sequestration measures (capturing carbon in agricultural systems to offset emissions from farming systems). Carbon credits may be one means of finance, although finance also includes subsidies, grants and private investments.

What is the potential to sell carbon credits?

At a time where money is tight and carbon appears to offer a new income stream, selling carbon credits linked to on-farm activities appears very appealing. However, there are many points to consider before jumping into the market, namely:

- **Establish whether you have anything to sell**. Carbon offsets or sequestration may be small relative to total emissions of production. Also, soil carbon stocks are not the same as sequestration, credits cannot be linked to stocks. Soil carbon can be sequestered or lost, and soils reach a 'saturation point' where they reach limited further sequestration potential. Only credits linked to sequestration can be sold if you meet required criteria. For more background on soil carbon sequestration see the June 2020 edition.
- In most cases **carbon credit payments require additionality**, i.e. proof that the intervention of the land owner is responsible for any changes in soil carbon levels
- They will also **proof that carbon capture has occurred,** including a credible measurement of soil carbon levels over an extended period of time.
- The **market for soil carbon credits is currently unregulated** (unlike the woodland and peatland codes). A soil carbon code is in the process of development, due later this year.
- **Who knows where the carbon price will go?** Sell now and you might be kicking yourself in the foot in a few years as prices are likely to increase as pressure grows to reach net zero targets. If you decide to sell, sell only a share of what you can capture in any one year or spread any sales out.
- It is yet unclear what agriculture's strategy will be for net zero as an industry, relative to others. If credits created are sold to other industries, then the sector can no longer claim the credits and will struggle even more to reach GHG reduction targets. **Should credits generated be retained to offset agriculture's own emissions first?**

Watch this space for further updates on carbon markets and finance as new frameworks and schemes develop, and let us know if there are specific topics you would like us to write about.

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