

## Red meat topic sheets: environment

When it comes to tackling the twin crises of biodiversity loss and net zero, agriculture has a better story to tell than many realise.

Farming livestock isn't just about food, it also **promotes biodiversity** and healthier soil, helping the environment to thrive and enhancing natural ecosystems. Sustainable land management practices such as reforestation, peatland restoration, and maintaining permanent grasslands contribute to carbon sequestration, which **helps mitigate climate change**.

Grazing animals break up the soils and allow new life to break through, spreading seeds and fertilising land. Livestock are habitat managers, carefully maintaining the species rich grasslands rich with pollinators as well as habitats for some of our most iconic species; capercaillie, wildcats, otters, and eagles.

Farmers can play a key role in enhancing the carbon storage capacity of soils through regenerative agriculture practices.

Working to reduce greenhouse gas (GHG) emissions from farm gate to plate and our journey net zero continues to be a priority for the red meat sector; it goes hand in hand with our ambitions towards greater productivity and profitability. Sustainable farming makes sure that we can continue to be part of the global food security challenge, providing nutritious protein to feed a growing population.

Net zero is the balance between the amount of GHGs emitted versus the amount captured: it is not zero emissions.

Working to reduce GHG emissions continues to be a priority for our industry, 62% of farmers think it is important to consider GHGs when making farm business decisions (Farming Practices Survey, 2023).

Quality Meat Scotland (QMS) in partnership with the Agriculture and Horticulture Development Board (AHDB) is progressing an evidence base to lower emissions across the supply chain. The Environmental Baseline pilot supports 22 Scottish beef, lamb and pig farmers with an evidence base on net carbon contributions above and below ground to support positive reputation and confidence in the environmental services that farmers actually provide. Methods to capture net emissions include aerial light detection and ranging (LiDAR) surveying, soil sampling to one metre deep, and measuring carbon in trees and hedges. Results will start to become available throughout 2025 and beyond.

Improved farming practices and technologies aimed at sustainability have reduced agriculture's UK GHG emissions to 12% of the UK's net territorial GHG emissions, which is a 12% decrease between 1990 and 2023 (UK Government Agri-Climate Report, 2023).

It shouldn't be a binary choice between reducing emissions or increasing livestock production. By focussing on net emissions from Scottish farming, we can continue to play our part in feeding our nation, enhancing our natural environment and significantly supporting Scotland's economy.

In 2021, QMS published the position paper, 'Putting Out Steak in the Ground', outlining the collective ambition from stakeholders across the Scottish red meat supply chain to bring together an evidence-baked route map to lower emissions.

QMS contracted SAC Consulting to undertake the study, which analysed anonymous data from the AgreCalc data set and conducted a Life Cycle Analysis (LCA) approach to understand the full impact of these GHG emissions. This established that emissions from the red meat sector are approximately 98-99% on farm emissions, made up of enteric fermentation (54%), manure management (22%) and fertiliser use (13%). Post-farm gate emissions from processing and transport after the animal leaves the farm only accounted for between 0.5% and 1.7% of total emissions.

The research showed that the largest and most immediate impacts come from **making farm businesses more efficient**, with beef finishers having the greatest potential for emissions reductions. On farm, the red meat sector must address four key themes: animal management, feed, forage, and manure management. Improving how efficiently we work in these areas can deliver immediate and cost-effective GHG emission reductions.

There are a suite of mitigation measures, most of which any livestock business can implement, that will help reduce the impact of GHG emissions. These include:

- Low emissions breeding - the process of harnessing breeding techniques, and better genetics to build more productive, resilient and sustainable herds.
- Increasing productivity - can lead to better returns, profits, and business resilience. Greater outputs from livestock can be achieved in several ways and recording and utilising data can help identify all of these.
- Better animal health - improving animal health can contribute to GHG emissions reductions based on the simple principle that healthy animals are more productive for longer.
- Enhance sequestration capacity - Like most industries, during production, agriculture emits GHGs. But unlike some industries, agriculture can sequester GHGs by capturing them in soils and vegetation.

The greatest impact on GHG emissions does not come from reducing our herds and flocks, rather farming businesses embracing the mitigation measures and working collaboratively.

## Summary

The agriculture industry's net zero potential and ability to deliver multiple public goods such as affordable food and nature recovery simultaneously must be heard.

Scotland has the potential to produce some of the world's most environmentally friendly red meat. We have a strong, and unique starting point with over two thirds of our land mass boasting a natural propensity to grow nutritious grasses on non-arable land, and some of the best livestock genetics on earth. There are universal steps we can take to ensure that we can all reduce GHG emissions while retaining the iconic qualities that make Scotch Beef, Scotch Lamb, and Specially Selected Scottish Pork as world renowned as they have always been.