

Food & Footprint

Case Study

Farming for Net Zero:
Transitioning Scottish
Agriculture

Project Summary

Assessing the GHG reduction potential across management practices outlined in the Agricultural Reform Route Map.



Online:

www.wwf.org.uk/our-reports/farming-net-zero-transitioning-scottish-agriculture

Flyer:

www.wwf.org.uk/sites/default/files/2024-10/Farming%20for%20Net%20Zero.pdf

Full published report:

www.wwf.org.uk/sites/default/files/2024-09/WWF-Soil-Association-Net-Zero-Farming-Full-Report.pdf

WWF Scotland has led the call for a low carbon future for Scotland for almost two decades, proposing, alongside ambitious emissions reduction targets, policies that will transform sectors of our economy, bringing opportunities for renewed investment and job creation. It is vital that we have a just transition to net zero, where the many benefits of climate action are widely shared, and where the costs of the transition are not disproportionately borne by those least able to shoulder them.

Soil Association works across the whole farming and food system in Scotland: from the farmer in the field, to the food on your plate. Working to deliver on the ground solutions to the challenges that our food system faces through several programmes that collaborate directly with communities to deliver positive change and hopeful solutions.

Agricultural and Land Use Policy Manager at WWF Scotland, Ruth Taylor, and David MacKay, Head of Policy at Soil Association led the project to gather evidence-based advocacy to influence legislation and regulatory activity in Scotland and promote nature-friendly farming to tackle climate change and nature loss.

The customer challenge

In Scotland, 75% of land-use is agricultural. As such, WWF Scotland has been undertaking research which would help to guide the development of agricultural policy in the Scottish Parliament and support the drive to tackle the climate and nature emergency.

As part of this work, WWF Scotland and The Soil Association commissioned a joint project to better understand the greenhouse gas reduction potential across the regenerative agricultural management practices outlined in the Scottish Government's Agricultural Reform Route Map. They would then use this to estimate the uptake which would be required to reach net zero in agriculture for Scotland.

The work highlighted a range of climate and nature-friendly (regenerative) measures and how these can be supported through the new agricultural support payment tiers as well as future policy frameworks. Many of these measures have co-benefits for nature, and therefore contribute to nature protection and restoration as well as the journey to net zero in agriculture.

Our solutions

This project comprised three key phases. Phase 1 included analysis of a proposed 4-tier scheme design. SAC Consulting reviewed the management practices proposed by The Scottish Government's Agricultural Reform List of Measures and mapped these across to the proposed 4-tier payment framework set out by the Agricultural Reform Route Map.

A summary report for the implementation of each measure across each tier was provided, for example the level of resources, financial implications and technical educational/ knowledge required to adopt each measure. The mapping process highlighted a range of specific knowledge gaps and barriers to the implementation of different regenerative agricultural practices.

In phase 2, the team conducted rapid evidence reviews of the Greenhouse Gas (GHG) mitigation potential across all measures outlined by Scottish Government's Agricultural Reform List, as well as estimates for the likely economic costs associated with the implementation of these practices.

Though it was not possible to source an overall estimate of GHG mitigation potential for all regenerative agriculture measures, the report outlines the significant challenges associated with assessing GHG mitigation potential. This is due to inherent heterogeneity of natural systems, the range of agricultural enterprise types across Scotland, and

inconsistencies of data availability across different measures (including underlying uncertainties associated with the data that is available).

For phase 3, evidence and data were reviewed to estimate the scale of uptake required to meet net zero targets in agriculture. To determine a realistic pathway to net zero within the agricultural sector, there is a need to translate and extrapolate GHG mitigation potentials across the agri-reform measures into tangible achievable actions. The report highlighted some key actions needed in order to quantifying the uptake of agri-reform measures needed to achieve net zero, which included:

- Provide a baseline from which to estimate the adoption needed.
- Provide GHG mitigation potentials across all agri-reform measures.
- Recommend how best to amalgamate GHG mitigation potentials across a range of practices and better understand the interactive effects of multiple measures being adopted simultaneously.
- Show how best to rank or prioritise the impact of different measures across with GHG mitigation potential and the wider ecosystem health benefits. (E.g., for some measures there may be great biodiversity benefits but contribute less to GHG mitigation, and vice versa.)





The report highlights key challenges in terms of quantifying mitigation potential across a diverse range of agricultural practices, in particular the implications of stacking emission reduction potentials, when more than one agricultural practice is conducted and the interactive effects this may have in overall GHG emissions.

However, overall, the project highlighted many positive opportunities for strengthening climate friendly agriculture through adopting additional measures within the current support system. The many gaps in knowledge and data highlighted in the study led to three core future recommendations, which were presented to Scottish Parliament:

1. More monitoring of on-farm activities would be needed to calculate progress to net zero targets.
2. Further research into GHG emissions are needed specific to the agricultural reform practices outlined by Scottish Government.
3. Support is needed to alleviate barriers to uptake and the adoption of new and different practices across farm types

Added value

SAC Consulting was able to bring together colleagues with specific expertise in agricultural GHG emissions research, economic cost analysis and a wealth of knowledge on regenerative agricultural practices. The team were supported by SRUC's robust underpinning research in this field, as well as extensive knowledge of on-farm activities (the challenges and opportunities) through customer relations and engagement.

Our customer says

"This report provided us with an important evidence base for advocating for changes to agricultural policy. Launching this project at the Scottish Parliament together as a group was fantastic. We had an all-female panel, which can be rare – despite the large number of women working in this field. Having the technical expertise of Sarah from SAC Consulting on the day to showcase the findings really helped us to make the case for the impact of the report."

Ruth Taylor

Agricultural and Land-Use Policy Manager,
WWF Scotland