Pure

Scotland's Rural College

The Transition to Future (Conditional) Agricultural Support – NFU Scotland's Approach

Thomson, SG; Moxey, Andrew P; Hall, Jonnie

Print publication: 21/06/2021

Document Version Publisher's PDF, also known as Version of record

Link to publication

Citation for pulished version (APA):

Thomson, SG., Moxey, A. P., & Hall, J. (2021). *The Transition to Future (Conditional) Agricultural Support – NFU Scotland's Approach*. National Farmers Union Scotland. https://www.nfus.org.uk/userfiles/images/Policy/0521 NFUS Proposals For Future (Conditional) Support.pdf

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
 You may not further distribute the material or use it for any profit-making activity or commercial gain
 You may freely distribute the URL identifying the publication in the public portal ?

Take down policy If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



The Transition to Future (Conditional) Agricultural Support – NFU Scotland's Approach May 2021



This NFU Scotland policy document has been compiled by: Andrew Moxey (Pareto Consulting), Steven Thomson (SRUC) Jonnie Hall (NFU Scotland).

Executive Summary

ES1. Following earlier publication of the Suckler Beef Climate Scheme (SBCS) report, the Dairy, Arable and Hill, Upland and Crofting farmer led groups (FLGs), alongside the pig sector leadership group, have established a clear roadmap on how Scottish agriculture will meet the challenges of combating climate change and biodiversity loss whilst contributing to Scotland's ambitious food and drink sector targets.

ES2. These sectoral reports from the FLGs, published between November 2020 and the end of March 2021, provide an informed industry perspective of the challenges and opportunities faced. This NFU Scotland Policy Briefing combines the main messages and recommendations provided and, significantly, proposes how they can be used to design and implement future agricultural policy in Scotland.

ES3. Moreover, NFU Scotland's proposals build on the already established principles of tiered support set out in its policy vision Steps to Change published in March 2018. Critical to enabling change is how support to agricultural businesses is delivered in the future. There must be a fundamental shift away from blunt area-based support that can incentivise inertia towards a system based on activity.

ES4. The Scottish Government has set legally binding targets for reductions in the emissions of greenhouse gases. The urgency of addressing biodiversity loss also sets out the twin nature crisis and biodiversity restoration needs to happen at the same pace and scale as tackling emissions. In that context, all the FLGs recognise that agriculture can and should contribute to achieving these goals. Importantly, Scotland is radically redesigning policy alongside, but devolved from, the rest of the UK. In the EU, the Common Agricultural Policy (CAP) is also evolving rapidly.

ES5. Crucially, however, agriculture is the key driver behind other policy objectives – including food production and biodiversity targets, as well as the provision of renewable energy and significant storage of carbon – all of which must be considered jointly when deciding how best to achieve agricultural emission reductions.

ES6. A focus on emission reductions alone is too blunt and too simplistic and it will not reduce global emissions if reductions in Scottish agricultural activity merely leads to increases elsewhere and Scotland's agricultural emissions are simply 'off-shored'.

ES7. There is significant scope to reduce agricultural emissions in Scotland whilst maintaining and enhancing other benefits through improving productivity, adjusting management practices and carbon storage in soils, peatlands and woodlands. As increased global agri-tech research and development is focused more on reducing agriculture's carbon footprint, and the way that emissions and targets are measured and set, the scope for reducing emissions will expand.

ES8. For example, enteric methane – the largest single component of Scottish agricultural emissions – can be reduced through breeding programmes, better animal health and nutrition, and emerging technologies such as methane inhibitors. Similarly, better matching of nutrients to soil conditions can reduce nitrous oxide emissions,

modern and better maintained machinery can lower carbon dioxide emissions, and soil carbon stores can be protected and increased.

ES9. At the same time, different perspectives on emissions and targets are emerging in the form of new climate metrics, which must be advanced in order to properly reflect differences between the various greenhouse gases (GHGs) and recognise the sequestration of carbon through agricultural land use.

ES10. Crucially, NFU Scotland's proposals will deliver on food production, climate change and biodiversity ambitions. The basis for support is 'how' production is undertaken, rather than 'how much', and such an approach to delivering support will continue to safeguard the socio-economic multipliers that are critical to wider rural prosperity while also meeting obligations in climate and biodiversity terms.

ES11. Operationalising and effecting change will take time. It will require purposeful action across the industry – including other parts of the supply-chain, finance sector, researchers, education providers, advisors and government. From the latter, there is an absolute need for clear and consistent messaging on the direction of policy travel, and appropriate support to aid the transition process.

ES12. Government support should include the provision of information, advice and training but also, crucially, grant-aid for appropriate capital investments and on-going management. The latter should include funding to help farmers gather necessary data and to plan for how businesses will adjust over time.

ES13. Funding could be disbursed via a new agri-environment scheme that provides 'public monies for public goods'. However, modifying the existing Scottish framework of area and headage payments with a ratcheting-up of conditionality requirements offers considerable advantages in terms of how payment rates have to be calculated under WTO rules and avoiding the time and effort needed to build a new payments system.

ES14. That said, delivery against these objectives will require a more complex support framework, one which has multiple payment tiers based on delivery against climate and biodiversity goals. In addition, payments must reward attainment to encourage improvement but also sustained performance.

ES15. Moreover, this approach also appears more aligned to the ongoing reforms of the EU's CAP, recalling that the European Union (Continuity) (Scotland) Act 2021 was enacted to permit greater Scottish alignment with the EU than otherwise may be permitted through UK legislation.

ES16. While the FLG reports allude to common elements in an approach to increased conditionality, the sectoral approach fails to recognise the complexity of current agricultural businesses and the need for a single coherent policy framework that has flexibility in delivery across all sectors, farm business types and sizes, and geographies.



Figure 1 Industry Groups Established to Support Policy Evolution

ES17. Whilst the FLGs did not suggest any movement away from conditional direct support, even the retention of the existing framework requires careful consideration of a range of implementation issues if policy objectives are to be achieved. For example, the degree of commonality across different sectors, eligibility criteria, payment rates and monitoring requirements. Some specific points are listed below.

- A single payment scheme should cover all sectors, to avoid multi-enterprise businesses having to navigate multiple schemes.
- A single payment scheme can and should allow for flexibility, to enable farmers and crofters to choose options best suited to their circumstances, including year-on-year variation in (e.g.) weather conditions.
- In the first instance, support should focus on building capacity through helping farmers to gather information and data to understand their businesses (and natural capital assets) better and how to plan for change:
 - This will include environmental auditing of, for example, soil carbon and ecological features.
 - Appropriate advisory support will be essential and may require adjustments to current delivery modes and content.
- Thereafter, through transition, funding should gradually switch from its current form of retained CAP Pillar 1 schemes to one increasingly conditional on attaining performance metrics aligned to desired environmental outcomes:
 - This should be on biodiversity in the first instance but must include climate change measures introduced through new primary legislation.

- For cattle, existing traceability data could permit the use of metrics such as calving and rearing rates that can be linked to modelled emissions.
- For other sectors, metrics could be based more on management actions, again linked to modelled emissions.
- In all cases, the choice of metrics needs to balance ease of data collection against precision, thereby aiming for tolerable rather than absolute accuracy. Existing data collection methods are likely to be supplemented by greater use of remote sensing and self-reporting by farmers.
- Maintenance of a degree of coupled support should be seen as a long-term option in order to maintain activity and a commitment must be given as to how peripheral and disadvantaged support is provided.

ES18. The change required of Scottish agriculture is a journey towards a different and possibly rediscovered perspective of what farming is about. Whilst the desired endpoint destination has been defined, the precise pathway to it has not. The full route-map need not be clear at this stage.

ES19. However, kick-starting change within the industry is required so that farmers and crofters can start adjusting their systems and businesses prior to new Scottish agricultural policy being implemented, as required by the sunset clause embedded in the Agriculture (EU Retained Law and Data (Scotland) Act 2020.

ES20. Achieving the Scottish Government's food, climate change, biodiversity and rural economy ambitions through a 'just transition' in the agriculture sector will require collective critical thinking from a wide body of expertise to design effective policy measures linked to the framework presented here.

ES21. The design of this uniquely Scottish, future agricultural policy will require the joint working between the Integrated Implementation Board (and/or sub-groups of it) and Scottish Government (and Agency) working groups that should be established to develop thinking on: transition; biodiversity tiers; GHG tiers; data; disadvantage support; activity; tenure & new entrants; payment rates; smallholders; advice and innovation, and; communications.

ES22. In that context, timeframes become crucial. Critical to success in agriculture delivering against climate, biodiversity and food sector ambitions is an appreciation by all that action is required sooner to instigate change. While initial change may be relatively minor, what is set out and achieved in the 'just transition' phase from 2021 to 2025 will determine success or failure from 2026 onwards.

ES23. Here is acceptance that the path to future agricultural policy will be far from linear. It will take time to build capacity and momentum, and the availability of mitigation options and understanding of targets will evolve over time. This is the time for action and here NFU Scotland sets out a clear roadmap for robust and credible Scottish agricultural policy in the future that will deliver on the interdependent objectives required.

Introduction

- Signatories to the Paris Climate Agreement are committed to setting targets for reducing their greenhouse gas (GHG) emissions. These targets themselves are not legally binding internationally, but the UK and Scottish governments have enshrined targets in legislation to make them so domestically – notably via the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 in the Scottish case.
- 2. Whilst it is intuitive that emissions should be accounted for at the point of consumption, international agreements to which the UK and Scottish governments are obligated to monitor emissions from the supply side through monitoring of industrial sectors. This means that emissions from imported machinery, fertilisers or feed are not accounted for in Scottish targets, but emissions embedded in exported beef, lamb, strawberries, whisky, etc. are included in GHG reduction targets.
- 3. The overall Scottish emission reduction targets are for a 75 per cent reduction (relative to emissions in the baseline year of 1990) by 2030 and for net zero by 2045. Net zero means that any emissions into the atmosphere are balanced-out by equal removals from it, for example through carbon sequestration into trees and soils.
- 4. All sectors of the economy are expected to share in the effort required to achieve these overall targets. Consequently, the Update to the Climate Change Plan 2018-2032 includes specific aspirations for agriculture:

"By 2032, the agriculture sector in Scotland will have adopted and be competently using all available low emission technologies throughout the whole sector" and "In 2045, our agriculture industry will have been transformed into a low emissions, holistic and integrated food production system that has a low environmental impact as well as benefitting nature, restoring biodiversity and contributing to our economy".

- 5. The wording of the 2045 aspiration is an important reminder that addressing the climate emergency is not the only policy imperative. Rather, domestic agriculture also has a key role to play in food production, economic vibrancy and improving other environmental public goods such as water and air quality, habitats and landscapes, and biodiversity. Indeed, Scottish ministers have consistently stressed that sustainable food production remains a priority.
- This highlights that simply reducing agricultural activity to achieve domestic GHG emission reduction targets would have implications for other policy objectives, such as £30 billion output from the food and drink sector by 2030 as set out in Ambition 2030. Hence, a more balanced approach and a 'just transition' are essential.
- 7. It is also important to note that because GHG emissions and climate change are an international concern, unilateral reductions in domestic emissions may give the illusion of local progress yet be of no relevance globally if emissions are simply relocated to other geographies so called 'off-shoring'. Indeed, offshoring goes beyond climate impacts and there is a moral imperative to ensure the food consumed in Scotland does not unjustly exploit natural resources, the environment and vulnerable labour elsewhere.

- 8. As much of Scottish agricultural produce is consumed outwith Scotland (beef, lamb and mutton, potatoes, barley through whisky, soft fruit, etc.) it essentially means that UK (and EU particularly for lamb) consumers offshore their emissions to Scotland. This means that an absence of Scottish production could and would simply encourage production (and hence emissions) and imports from elsewhere to satisfy continuing consumer demand.¹ Hence, it is far better for Scottish emission reduction targets to be sought through reducing the emissions per unit of Scottish output and/or increasing emission removals through Scottish land management and to ensure that they are accounted for in UK targets.
- 9. As summarised in their various reports, the FLGs recognised the need for balancing different policy objectives and the possibilities for improving, rather than abandoning, domestic production. For example, they all cite opportunities to reduce the carbon intensity of output through efficiency gains, to increase sequestration into, particularly, soil and, in the case of the Hill, Upland and Crofting group, to restore and then manage degraded peatlands.

The Farmer Led Groups on Climate Change

- 10. In total, five Farmer Led Groups submitted reports on how different sectors can meet the challenges of reducing agricultural emissions and enhancing biodiversity whilst maintaining food production. The Suckler Beef Climate Group reported in November 2020, with the Arable, Dairy, Hill, Upland and Crofting, and Pig reports submitted in March 2021.
- 11. The reports vary a little in terms of format and detail, but all offer a set of observations on how farmers and crofters can mitigate emissions through the adoption of existing best practice and emerging technologies, and how policy can be used to support this transition process.
- 12. Although focusing on different parts of agriculture, each of the reports identified challenges and actions common to all farms types and sizes as well as some sector-specific ones. For example, as shown in Table 1, baseline measurement and on-going monitoring of environmental conditions plus enterprise performance are identified as enabling-type activities common to all enterprises, as are planning and skills development.

Activity	Sector
Carbon audit	All
Biodiversity audit	All
Soil analysis	All
Manure analysis	All
Forage analysis	Livestock
Nutrient management plan	All
Animal health & welfare plan	Livestock
Continuing Professional Development	All

Table 1 Example Data and Planning Actions

¹ Of course, consumer demand outwith Scotland may change – but that is not influenced by Scottish Government policy.

13. Similarly, each of the reports emphasises the scope for emission savings to be realised through improving productivity (summarised in Table 2). For example, through utilising fuel, fertiliser and feed more efficiently, or improving animal health and fertility. Equally, the scope for increasing carbon sequestration is recognised through activities such as enhancing soil carbon organic matter and creating farm woodland, but also anaerobic digestion and simply covering slurry stores.

Table 2 Example Productivity-Enhancing and Carbon Sav	ing/Sequestration
Activities	

Activity	Sector
Fuel efficiency	All
Fertilizer and manure management	All
Animal health & fertility management	Livestock
Soil carbon management	All
Farm woodland/agro-forestry	All
Hedgerows/ecological areas	All
Peatland restoration and management	Hill & uplands
Anaerobic digestion	All
Modern manure storage and handling	Livestock

- 14. In addition to identifying current best practice, the reports also stress the crucial role of innovation in delivering new ways of mitigating emissions (see Table 3) such as: new forms of fertiliser; dietary additives; and breed selection or vaccination for low enteric methane. Moreover, it is recognised that the Agricultural Knowledge Information System (AKIS) infrastructure or ecosystem supporting innovation and its uptake needs to include a diversity of elements, including initiatives such as the Knowledge Transfer and Innovation Fund (KTIF) and Rural Innovation Support Service (RISS).
- 15. Innovation also extends to how agricultural emissions and reduction targets are set, both in terms of improving the accuracy of the Inventory but also more fundamentally in how methane emissions are viewed relative to carbon dioxide (e.g. GWP* rather than GWP_{100} as the basis for calculating equivalence).

Table 3 Example Possible Innovations

Activity	Sector
Electric/hydrogen powered machinery	All
Precision/slow-release fertilizers	All
Dietary additives	Livestock
Low methane breed selection	Livestock
Individual animal management	Livestock
Automated environmental monitoring	All
Refinement of Inventory data	All
Adoption of GWP* rather than GWP ₁₀₀	Livestock
Carbon trading	All

16. Importantly, the reports recognise that innovation requires continued off-farm investment in R&D by both public and private-sector bodies. Moreover, a collaborative approach between public and private sector bodies is likely to be needed to agree

common standards and processes for measuring and reporting emissions and/or mitigation actions. For example, it would be helpful if banks, supermarkets, assurance bodies and government all used the same approach and were open to sharing information to avoid unnecessary duplication of recording or reporting effort.

- 17. More generally, the reports urge policy coordination across different sectors to promote a holistic, joined-up rather than sector-specific approach. In addition, they emphasise the desirability of a managed transition, helping farmers and crofters prepare for and then gradually adjust to new policy demands. This will require the provision of advice and training as well capital grants, but also on-going annual payments albeit that the basis for these shifts over time to become more explicitly 'public money for public goods'. Government policy should also allow for the possibility of private funding for ecosystem services, most obviously carbon trading, although it is noted that development of such markets can be problematic.
- 18. The reports favour retention of familiar direct area and headage payments, but with tighter eligibility and conditionality requirements that will ratchet-up over time as the industry transitions towards the that target of net zero. This process is acknowledged to be difficult and unlikely to progress smoothly or evenly, but all of the reports are clear that agriculture can and must play its role.
- 19. The task now is to draw the various FLG recommendations together into a coherent policy that can be implemented. This means balancing different considerations, including how emissions can be measured and monitored, the required pace of change, the degree of commonality across different sectors and enterprises, and the distribution of support across different sectors and enterprises and across different support measures.

Emission Estimates and Targets

- 20. Emission reduction targets relate to figures reported in the UK National Atmospheric Emissions Inventory (NAEI). This provides an annual estimate of greenhouse gas emissions over time, allowing progress relative to the 1990 baseline to be monitored. The NAEI is structured into nine National Communication Sectors (chapters), of which two relate directly to farming and crofting in Scotland: 'Agriculture' and 'Land Use, Land Use Change and Forestry' (LULUCF).
- 21. For ease of presentation, the various different GHGs are all reported on a common basis as carbon dioxide equivalents (CO₂e), calculated according to their Global Warming Potential over 100 years (so-called GWP₁₀₀). This approach has been subject to some criticism because of differences in the behaviour of different gases, particularly the shorter atmospheric persistence of methane relative to that of carbon dioxide.
- 22. Alternative metrics have been suggested to better reflect differences between the various GHGs. For example, GWP₂₀, GWP* or indeed simply reporting gases separately (as New Zealand is doing for carbon dioxide and methane). Nonetheless, for the time being, targets and progress against them will be measured using GWP₁₀₀.

- 23. Using GWP₁₀₀, Scottish agriculture emissions in 1990 are reported as totalling around 8.9 Mt CO₂e, falling to around 7.5 Mt CO₂e in 2018. In both cases, reflecting the dominance of ruminant livestock, methane from enteric fermentation and manure management is the largest component at over 55 per cent of agricultural emissions (without consideration of LULUCF). Other significant sources include nitrous oxide from fertiliser usage and carbon dioxide from farm machinery. It is estimated that 41 per cent of 2018 emissions were from suckler beef production, 19.8 per cent from the arable sector, 17.7 per cent from milk production, 15.1 per cent form the sheep sector and 3.1 per cent form dairy beef.
- 24. Figure 2 summarises the estimated composition of Scottish 'agriculture' emissions in 2018 by farm sector and emission type. This reaffirms the dominance of ruminant livestock, particularly beef cattle. For 2018, it was estimated that 48.5 per cent of total emissions in the 'agriculture' envelope arose from enteric methane from ruminant livestock, with a further 7.7 per cent from methane in manures and 7.5 per cent from nitrous oxide emissions from manure management and application. 10.3 per cent of total emissions were from mobile machinery.





25. In addition, further emissions associated with agriculture are also reported under the LULUCF chapter. Whereas all elements of the Agriculture chapter within the NAEI relate to positive emissions, some elements within LULUCF can have negative emissions – they remove carbon dioxide from the atmosphere through sequestration into, for example, trees and soil. Yet land use change can also cause emissions if, for example, soil is disturbed, woodland cover is reduced, or peatlands degraded. Alternatively, land use change such as restoration of degraded peatlands can act to

reduce current emissions from the uplands. Consequently, LULUCF can be an overall source of net emissions or a sink of net removals.

- 26. In 2018, LULUCF was estimated as an overall carbon sink of -5.4Mt CO₂e. Yet within this, cropland-remaining-cropland and grassland-converted-to-cropland were net sources of 2.3 and 2.4Mt CO₂e respectively, whilst grassland-remaining-grassland and cropland-converted-to-grassland were net sinks of -2.0 and -1.0 Mt CO₂e respectively. Forestry-remaining-forestry was the dominant sink at -7.8Mt CO₂e. However, methodological changes to include degraded wetlands are anticipated to change the status of grassland-remining-grassland to a net source (e.g., rough grazing on drained peatland), and shift LULUCF to an overall net source (figures expected to be released in June 2021).
- 27. The sectoral emissions targets set by the Scottish Government² for the 'agriculture' and 'LULUCF' envelopes are shown in Table 4. Whilst the target reductions for agriculture appear to be 24 per cent by 2032, in 2020 emissions were actually 7.7 MtCO₂e meaning a 32 per cent reduction is required in 12 years if agricultural targets are to be met. The impacts of woodland creation and their emissions in early years within the LULUCF envelope and targets is clear, with the set target emission profile actually increasing over the period before newly planted trees become established and net sequesters beyond 2032.

MtCO2e	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2020-2032
Agriculture	7	6.8	6.5	6.3	6	5.8	5.7	5.6	5.6	5.5	5.5	5.4	5.3	-24%
LULUCF	0.6	0.5	0.4	0.2	0.1	-0.1	0.3	0.3	0.4	0.5	1.8	2.1	2.3	 283%
Electricity	1.7	1.6	1.6	1.5	1.4	1.3	1	0.8	0.5	-0.5	-3.7	-4.2	-4.7	 -376%
Industry	11.5	11.3	11.1	11	10.8	10.7	9.8	9.4	8.4	7.7	7.2	6.3	5.5	-52%
Waste	1.6	1.5	1.3	1.2	1	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-56%
Transport	11	10.2	9.4	8.7	7.9	7.1	6.9	6.6	6.5	6.5	6.5	6.5	6.5	-41%
Buildings	8	7.6	7.1	6.7	6.2	5.6	5	3.9	3.1	2.6	2.6	2.6	2.6	-68%
Targets/total	41.6	39.5	37.5	35.4	33.4	31.3	29.4	27.3	25.1	23	20.6	19.4	18.3	-56%
Agric & LULUCF as % of Total	18%	18%	18%	18%	18%	18%	20%	22%	24%	26%	35%	39%	42%	

 Table 4 Scottish Government Climate Change Targets

28. Achieving the 2045 low emission aspiration for Scottish agriculture will require a combination of emissions reductions in both the Agriculture and LULUCF chapters, plus some counter-balancing removals in LULUCF. The FLGs' reports recognise this, recommending a range of farm-level actions encompassing changes to management practices and land use. For example, more efficient input usage, appropriate manure storage and handling, and better animal health, plus improved soil and pasture management, hedgerow expansion and on-farm woodland.

Defining and Monitoring the Basis for Support Payments

29. The provision of government funding to agriculture has to satisfy various public accountability requirements. For example, policy objectives must be achieved cost-effectively, and funding must be distributed according to pre-agreed criteria. Satisfying such requirements needs support schemes to be designed and implemented well,

² Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update <u>https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/</u>

including with respect to how outcomes are defined and monitored as the basis for support payments.

- 30. Whereas land-based income support and voluntary coupled support (VCS) production outcomes are relatively easy to measure and verify, many environmental outcomes are more complex and harder to observe. For example, in-field measurements of GHG emissions are difficult to achieve and biodiversity is multifaceted. Consequently, typically recourse has to be made to proxy indicators.
- 31. These proxy indicators may take the form of outputs or narrower outcomes judged to be representative of the desired broad outcomes. For example, the use of a habitat areas or a few indicator species, such as farmland birds or butterflies, as a guide to broader biodiversity health. Alternatively, management actions may be used as input or process indicators judged to contribute to desired outcomes. For example, volume of manure and subsequent storage and handling practices as a guide to emissions.
- 32. Choices between possible proxy indicators depend on how closely related they are to desired outcomes, but also on how easily and reliably they can be monitored. Difficulties with monitoring outcomes is one reason that 'payment-by-results' schemes are still far less common than 'payment-for-action' schemes notwithstanding challenges of complying with the WTO Agreement on Agriculture (AoA) 'additional costs' or 'income forgone' rules relating to environmental support.
- 33. For biodiversity outcomes, it is likely that a mix of proxy outputs, outcomes and management actions will be used as the basis for support payments. For example, the mix of plant species in a grassland sward or area of a given habitat, but also adherence to specified timings and intensities of field operations.
- 34. Similarly, for GHG emissions, it is likely that a mix of input, process and output indicators will be used as proxies for emission reductions. For example, fertiliser application rates, the timing of field operations, and livestock performance.
- 35. In all cases, it is likely that additional information will need to be collected to provide the necessary detail and accuracy for support to be shown to be delivering effectively and appropriately. This may require a combination of independent monitoring, remote sensing, and self-reporting by farmers overseen by third party or scheme administrator (SGRPID) checks. For example, professional ecological surveys, satellite imagery of habitat areas, and self-reporting of management practices and/or some environmental conditions (perhaps using digital technology).
- 36. For cattle and, to a lesser extent sheep, a degree of self-reporting by farmers already occurs for traceability purposes and can inform performance metrics related to GHG emissions. For example, calving rates and age at slaughter. However, further information, such as animal weights at different ages and on ownership transfer, may also be required.
- 37. Additional information on input usage and practices, such as fertilisers and manure, and the timing and method of their application is also likely to be required. Similarly, the timing and method of other field operations may need to be recorded for biodiversity purposes. This suggests that monitoring of purchase invoices and farm diaries, along with photographic or video evidence of activities (or reporting from input

suppliers), may be required. The development of Smartphone Apps is also likely to be relevant here, including for recording biodiversity and soil conditions.

38. Commercial operators, including banks, processors and major retailer multiples, are also giving increasing attention to measuring environmental performance across agrifoods supply chains. This may offer some opportunities for co-ordination across the private and public sectors, both in terms of which indicators are chosen and how they are monitored. For example, it might be possible, and sensible, to align and share information between processor/retailer requirements, levy board quality assurance standards and 'cross-compliance' with public support schemes (e.g. QMS, Red Tractor, LEAF etc.). Ideally, data are provided once, in an agreed common format, and are then available for repeated used by the farmer when needed and to (only) nominated other users.

Desired outcome	Input/process	Process	Output
Reduced enteric methane emissions	 Low methane breeding stock Dietary additives EID equipment 	 Drafting and implementation of nutrition and health plans Individual animal management 	 Higher calving rates Higher rearing rates Faster finishing rates Fewer animals
Reduced manure methane emissions	 Modern storage facilities Modern spreading equipment 	 Nutrient planning Appropriate spreading practices 	• Fewer animals
Reduced nitrous oxide emissions	 Soil testing Precision agriculture equipment Reduced fertiliser usage 	 Nutrient planning Appropriate timing and intensity of field practices 	 Reduced farmed area Area of cover crops Area of buffer strips
Reduced carbon dioxide emissions	 Modern machinery Soil testing 	 Machinery maintenance Drafting and implementation of soil health plans 	 Area of cover crops Area of buffer strips Area of woodland Area of restored peat
Enhanced biodiversity	 Environmental mapping 	 Appropriate timing and intensity of field practices 	Habitat areasIndicator species

Table 5 Example Proxy Outcome,	Output,	Management Process and Input
Indicators		

A Common Framework for Future Policy

39. Although GHG emissions are reported for different agricultural sectors and some mitigation options are sector-specific, some options are generic, and many farms undertake multiple enterprises anyway. For example, beef and sheep, dairying and beef, arable and pigs. This means that individual farms and crofts are likely to face a range of mitigation options, each of which may require specific advice, training and grant-aid. Hence, whilst different support schemes could be devised to target specific sectors, a single scheme offering a degree of commonality is preferable. For example, to make it simpler for multi-enterprise farms to navigate and easier for administrators to assess outcomes. This is particularly relevant to enabling-type activities, such as

data gathering and planning, and to some core management practices for enhancing soils and biodiversity.

- 40. One way of offering a degree of commonality is to utilise the existing framework used for the Good Agricultural and Environmental Condition (GAEC) aspect of the crosscompliance attached to existing CAP Pillar 1 schemes and the Greening component attached to the Basic Payment Scheme (BPS) to introduce additional conditionality requirements. For example, with respect to soil testing, environmental audits and planning. The alternative approach of a new, targeted environmental scheme (as with the ELMS and the Sustainable Farming Incentive 'Standards' approach in England³) could also be considered but would require a different framework which would take time and funding to develop and would, significantly, involve more complexity in setting payment rates under WTO rules. Moreover, competitive targeting inevitably means that not all farms, crofts or land would be enrolled, thereby implying that emission and biodiversity benefits will not be delivered universally.
- 41. Existing conditionality requirements are exposed to criticism as not being sufficiently binding to affect land management in ways that deliver desired outcomes. Moving forward, conditionality will necessarily be tighter. To illustrate the point, reference can be made to next iteration of the CAP whereby conditionality is to be enhanced. There is a total of 10 GAECs in the future CAP, an extra 3 new GAECs compared to the current CAP.
- 42. Moreover, the European Union (Continuity) (Scotland) Act 2021 provides the legislative powers for the Scottish Government to maintain alignment to EU regulations in devolved competencies. Thus, the evolutionary process of the CAP will likely remain of interest in Scotland – lest of all as the EU try to develop acceptable approaches to support agriculture, tackle climate change targets and deliver against the CAP's new (greener) objectives (illustrated in the figure).



43. However, existing requirements are sometimes also criticised for being too prescriptive. To overcome this, requirements will need to be more flexible to reflect variation across different years and circumstances. This would mimic targeted environmental schemes, highlighting that whilst the labels and administrative processes may differ, the two approaches share common themes.

³ See here for prototype 'standards' <u>https://www.gov.uk/government/publications/sustainable-farming-incentive-scheme-pilot-launch-overview/sustainable-farming-incentive-defras-plans-for-piloting-and-launching-the-scheme#annex-1</u>

44. Box 1 shows suggested payment rates under the ELMS, and associated BPS reductions planned for England, which might be copied here if such an approach were adopted rather than retaining BPS with increased conditionality.

Box 1: ELMS Sustainable Farming Incentive Approach - BPS Reduction & Pilot Payment Rates

SFI Standard		Initial bas (first phas	e rates se of pilot	only)	
Arable and horticultural land standard		from £28 ι	ip to £74	per hectar	
Arable and horticultural soils standard		from £30 ι	ıp to £59 j	per hectar	
Improved grassland standard		from £27 ι	ip to £97 j	per hectar	
Improved grassland soils standard		from £6 up	o to £8 per	r hectare	
Low and no input grassland standard	from £22 up to £110 per hectare				
Hedgerow standard	from £16 up to £24 per 100 metres				
On farm woodland standard	£49 per hectare				
Waterbody buffering standard	from £16 up to £34 per 100 metres				
Deverent hand	P			4:	
Sebeme veer ⁴	D 2024	rs rayme			
Scheme year	2021	2022	2023	2024	
Up to £30,000	5%	20%	35%	50%	
£30,000 - £50,000	10%	25%	40%	55%	
£50,000 - £150,000	20%	35%	50%	65%	
More than £150.000	25%	40%	55%	70%	

45. The need for a common framework that establishes the key delivery mechanisms for different components of future Scottish agricultural support is therefore apparent. The main elements for post 2025 support are summarised in Figure 3. This evolves the existing CAP support mechanisms to deliver to new Scottish Government objectives yet still offer direct support for food production (unlike in England where BPS is being rapidly phased out to be replaced with yet uncertain future schemes). The budgetary balance between these framework layers will need careful consideration set against the objectives of food production, climate change, biodiversity, sustainable rural economies and resilient rural communities – as does a 'just transition'. It is likely that policy development and implementation will need to iterate over time to fine-tune details, meaning that provision for feedback loops should be designed-in.

⁴

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/939683/far ming-changing.pdf

Figure 3 A Framework for Future Support



- 46. **Direct Income Support**. Both area-based and coupled livestock support should remain the foundation layer of future support. Whilst farmers have become accustomed to cross-compliance measures, the existing CAP has had limited 'greening' success despite over a third of direct support delivered as the required Greening alongside the BPS. Future policy needs to redress this weakness, and the associated public and environmental NGO criticism. The introduction of new direct payment conditionality relating to biodiversity and GHG emissions will be essential to drive the necessary changes on farms and crofts and it is essential that those already delivering are rewarded. To that end, future direct support should have:
 - a. Tiered area-based and coupled support based on environmental performance, with the mix of biodiversity and climate change focus left to individuals to choose⁵. The payment matrix should have low levels of support for those choosing the baseline level of conditionality. There should be higher payment rates for those that deliver on biodiversity and climate change mitigation (perhaps via a weighted scoring index)

⁵ In the Suckler Beef and Hill, Upland and Crofting there was many pointers as to how farmers can better deliver on climate and biodiversity – a blueprint for the modern farmer. However, policy must set out a transparent monitoring and payment framework that allows farmers to choose the pathway most suited to their situation.

- b. Support conditional on regular planning and analysis, provision of data and completion of a Climate Smart Farm Plan
- c. Increasingly conditional elements that are based on activity defined in terms of, for example, stocking density or other demonstrable management per hectare, to minimise inadvertently supporting inactivity
- 47. **Disadvantaged Areas Support.** A form of 'less favoured areas' support remains an imperative to maintain agricultural activity and desired benefits from extensive grazing in systems that would otherwise be unprofitable. This does not need to be the existing Less Favoured Areas Support Scheme (LFASS) that no longer meets policy objectives, is no longer able to draw down EU co-finance, and has limited conditionality attached. If the Scottish Government (as laid out in the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021) wishes to retain alignment with the EU, then the natural process would be to designate Areas of Natural Constraint (ANCs) and examine whether a separate scheme or percentage uplift payments would be the most appropriate delivery mechanism. A very simple uplift could be based on the existing LFASS fragility markers. It should be noted that under the Islands (Scotland) Act 2018, the Scottish Government has a legal obligation to consider the impact of policy reforms on island communities.
- 48. **Transformative Support**. The second tier, including advice, will be an essential part of the future framework, given the quantum of change that may be required in the sector as farmers and crofters adapt to the realities of agricultural policy more aligned environmental outcomes. The Scottish Government's Agricultural Transformation Programme, alongside vestigial Pillar 2 support will be essential to help producers fund the necessary capital investment to drive technical efficiency, reduce emissions from production, improve biodiversity outcomes (e.g. hedgerows, water margins). In addition, the need for diversification support and support for new entrants will be vital. There will be a need to provide opportunities for appropriate training and CPD amongst farmers and crofters and supporting producers in this process will be required and should be linked to future Farm Advisory Service and Veterinary Service provision.
 - a. Advice has a key role to play, but modes, content and culture will need to evolve. For example, through greater use of one-to-few and peer group delivery, actively involving farmers in setting the R&D agenda and getting new ideas off the ground, and encouraging self-reliance using central knowledge hubs and standardised data recording. Similarly, advice needs to extend to non-farming activities, mental health and issues of succession, retirement and exit from farming. Importantly, the 'why' as well as the 'how' needs to be emphasised continuously, to support the transition journey, and delivered by a broader range of providers – including consultants, vets and (ideally) RPID staff acting in a guidance as well as inspection capacity.
- 49. **Targeted Environment and Climate Support.** There remains a need for targeted support for peatland restoration and woodland creation on farms and crofts and consideration should be given to top-up (management) payments for smaller plantings where it may not be appropriate or feasible for Woodland Carbon Code and Peatland

Code agreements. Equally, there remains a need for funding in the same vein as the current Agri-Environment Climate Scheme (AECS) for priority species and habitats that could be coordinated through RLUPs with NatureScot. There could also be a move to 'payment-by-results' actions for such environmental support and a review of support on designated sites should be prioritised with an outcome to improve condition status.

A Functional Common Transition Scheme

- 50. Devising a single, common transition scheme for all sectors to 2025 must be a Scottish Government priority to provide the impetus to take the first steps on the pathway to deliver on food production, biodiversity and climate change. The transition options agreed by the Suckler Beef Climate Programme Board, and largely endorsed by the other FLGs, provides an opportunity to support farmers and crofters across all sectors to engage in baseline data gathering, analytics and planning that can help the industry start the transition to better deliver against Scottish Government objectives. This requires a step-change in the delivery approach and necessitates strong and consistent messaging to the industry on the rationale and benefits of the approach – particularly on planning and data provision (and indeed where, and under what terms and conditions, farmer-provided data should be held).
- 51. Figure 4 depicts three key phases within a 'just transition' as the Scottish Government prepares primary legislation on future agricultural support that must come into force by 2026. The premise of the 'just transition' 2021-2025 is to incentivise farmers and crofters to start the journey towards new policy legislation that will undoubtedly embed climate and biodiversity further into future support mechanisms. It is challenging for any business to embrace change if the starting point and/or endpoint are unknown.
- 52. During the first year of entry to the 'just transition' it is proposed that:

Box 2: Just Transition Payment Options

Payments could be as % uplift for each scheme with a cap on any premium and a redistributive premium to account for higher relative transaction costs for small units.

or

Payments could be based on standard costs of undertaking additional activities by scale of enterprise, paid through each scheme (i.e. £x uplift paid over beef calves, or greening hectares). a. A series of baseline analytics and planning is undertaken as part of the Pillar 1 Greening and VCS payments with top-up funding supporting these undertakings.

b. Only farmers and crofters taking up the 'just transition' would be eligible to apply for transformational capital support (such as is currently available under the Sustainable Agricultural Capital Grant Scheme (SACGS)) and advice, that could extend to woodland creation and peatland restoration.

c. Implement new biodiversity conditionality requirements for current Greening payment based on a choice from a suite of measures and those undertaking such measures should receive higher Greening payments than those who do not.

53. After the initial transition entry year it is proposed that farmers and crofters:

- a. Will be required to produce a 'Carbon Smart Farm/Croft Plan'⁶ that summarises baseline performance and environmental data and establishes a sustainability pathway for the business integrating economic resilience and environmental performance goals. These goals could, for example be achieved through improving calf-rearing rates, reduced fertiliser or pesticide use, enhanced improving linear features for biodiversity, etc. as well as targeted woodland, peatland and biodiversity actions.
- b. Access specialist advice and training.
- c. Agree to a second set of additional biodiversity conditionality measures for Greening payments, with higher Greening payments for enhanced delivery.
- d. Access (subject to providing a business case, to avoid misdirecting grant-aid) to transformational capital (SACGS) to support improved delivery on the environment and hep the business transition towards future tiered support based on climate change mitigation and biodiversity.



Figure 4 A Just Transition for Scottish Agriculture

54. It is proposed that the 'just transition' is funded using the additional uplift in funding Scotland will receive following the recommendations of the Bew Review, as well as the existing budget allocations to Greening and VCS schemes and the Agriculture Transformation Programme funds. Should additional funds be required priority should be given to providing higher payments to those undertaking the 'just transition' at the expense of those who do not. As the Scottish Government have committed to

⁶ These were recommended in the Arable FLG and equivalent to a sustainable farm plan and are similar to the "Whole Farm Climate Review" that the Dairy FLG recommended.

'Stability and Simplicity' during the transition to 2024, BPS and LFASS should remain unaffected but should be brought into play together with the additional conditionality from 2024. Box 2 suggests two possible options for making 'just transition' payments.

55. Figure 5 sets out the common entry requirements, the frequency of undertaking and how additional support is justified. For example, soil analysis would be expected once every 6 years for each cropping and pasture field, i.e. all current Region 1 field parcels, with SG paying for additional soil carbon analysis cost. The additional cost of undertaking the analysis would be paid for through Greening premiums⁷, thereby making it accessible to all sectors, and can be justified on the additional costs incurred and data acquisition from farmers and crofters. For animal health and welfare planning and silage and slurry analysis, the payment would be through a VCS premium meaning a greater emphasis can be placed on suckler beef as the largest source of methane emissions. Other elements would be land based and paid through Greening premiums with, for example, carbon audits only being required once every four years and a Climate Smart Farm Plan updated every two years. Transformational capital applications should be explicitly linked to Climate Smart Farm/Croft Plans and should clearly demonstrate environmental benefits and impact on farm financial performance. Transformational capital should be based on standard costs. Finally, with increased biodiversity conditionality, there is a requirement to provide a Greening premium justified on additional costs.

Figure 5 Transition Scheme requirements, frequency, payment mechanisms and payment basis



⁷ Premium over non transition scheme participants

Future (Conditional) Agricultural Policy

- 56. Similarly, the proposed framework for support post-2026 depicted in Figure 3 can be conceptualised in Figure 6. Conditional income support is accepted by the EU and the WTO and the approach here is therefore more in line with EU support frameworks and less likely to be exposed to external challenge by trading partners than Defra's ELMS approach. Figure 6 sets out the tiered direct support hierarchy whereby those delivering can achieve higher payment levels and for baseline support there may be a disadvantage or peripherality uplift. Support would be conditional with continued monitoring and planning as per the 'just transition' period.
- 57. Filling in the practical details of the framework suggested in Figures 3 and 6 is required. For example, in addition to definitions and measurement of activity, disadvantage, and environmental outcomes, consideration also needs to be given to how different forms of land tenure will be handled and how new entrants will be treated. Similarly, designing payments consistent with budgetary, internal market and WTO constraints will require careful thought.
- 58. Moreover, the importance of building delivery and IT systems that enable the 'just transition' phase from 2021 to 2025 but also endure from 2026 onwards to underpin the future support scheme is critical. In that respect, the SNP manifesto commitment for the first 100 days of the new Scottish Government is noted, i.e. "*Establish the integrated implementation board to develop new proposals for sustainable farming support and drive forward the recommendations of the farmer-led groups*". The integrated implementation board must go beyond the FLGs to provide objective and practical development and implementation.

Figure 6 Future Support scheme structure, payment mechanisms and payment basis



- 59. Once a fully conditional scheme that supports biodiversity and GHG reductions becomes operational post-2025 it is imperative to demonstrate to the agriculture sector that delivery on these fronts will be rewarded. Table 6 provides an illustrative payment matrix to help conceptualise how such conditional support may be operationalised (with Tier criteria and standards to be developed around an indexed scoring system for (i) biodiversity and (ii) GHGs, and possibly evolving over time).
 - a. Overall funding to a given farm or croft will comprise a mix of area payments and headage (VCS) payments, plus a possible payment uplift for degree of disadvantage applied to both.
 - b. Area and headage payments will be conditional on attaining specified emission reduction and biodiversity maintenance/enhancement thresholds, with separate uplift payment calculations according to Tier attained and their disadvantage-adjusted Tier Zero (base) rate.
 - c. A smallholder scheme could be operationalised that reduces the burden to achieve all of the requirements of conditional schemes on smallholders (to be defined). Smallholders would have the option to choose to enter the simplified smallholder scheme or the main conditional schemes.
 - d. Payments for disadvantaged areas could be embedded as an uplift payment on Tier Zero or Simplified Smallholder Scheme payments. These would need to be effectively delimited (through, for example, the three fragility markers in the current LFASS, or new ANC definitions).
 - e. If standards are not achieved for either Tier 1 biodiversity or Tier 1 GHG support, payments will be lower (depending upon levels of achievement attained by other farmers and crofters).
 - f. The Scottish Government would need to establish a maximum permittable Tier Zero payment (£X and £Y) and should there be shortfall (i.e. not enough achievement of Tiers 1 and 2) monies should be directed towards helping transition to greener, sustainable agriculture (i.e. cost neutral capital, training and advice).
 - g. Achievement of Tier 1 Biodiversity standards would stimulate a premium payment with achievement of Tier 2 Biodiversity standards stimulating additional premiums. Similarly uplifts for achieving Tier 1 and Tier 2 GHG standards would stimulate premiums.
 - In this illustrative example farmers and crofters achieving both Biodiversity and GHG Tiers can therefore achieve support levels that are range from 30 per cent (Tier 1 + Tier 1) to 60 per cent (Tier 2 + Tier 2) higher than Tier Zero support for area-based support and VCS.

Activity Tier	Area Based Support (BPS + Greening)	VCS	Disadvantage uplift*			
Simplified Smallholder Scheme	£A	£B	(A+B)*15% (A+B)*30% (A+B)*45%			
Tier Zero¬	£X	£Y	(X+Y)*15% (X+Y)*30% (X+Y)*45%			
Tier 1 Biodiversity	£X*115%	£Y*115%	N/A			
Tier 2 Biodiversity	£X*130%	£Y*130%	N/A			
Tier 1 GHG	£X*115%	£Y*115%	N/A			
Tier 2 GHG	£X*130%	£Y*130%	N/A			
¬non-achievement of Tier 1 biodiversity or GHG *Disadvantage uplift delimited into 2 rates based on ANC						

- 60. Whilst this illustration may appear to have large differences in payment rates available to those achieving Tier 2 GHG and Biodiversity standards compared to those in Tier Zero, such signalling may be necessary to stimulate the desired behavioural change required to meet the objectives and targets the Scottish Government sets for Scottish agriculture. Such discrepancies in payment rates should likely be transitioned to during the 2026 to 2028 period meaning there is a clear signal that failure to deliver on GHG and biodiversity will see a significant reduction in support for those not achieving the minimum standards for conditional support.
- 61. To aid long-term planning, policy signals and messaging need to be clear and consistent. This includes guarantees of future funding and at least indications of future payment rates, although some flexibility needs to be retained for adjustment (possibly at pre-agreed break points) to allow adaptability in response to on-going feedback and monitoring.
- 62. In addition, given the multi-annual commitment from farmers and crofters to both the 'just transition' phase and then on-going future conditional agricultural support, it is just as critical to success that governments in both Westminster and Holyrood fully commit to sufficient financial resources on a multi-annual basis.

Next Steps

63. To operationalise this, uniquely Scottish, conceptual framework for future agricultural support it will be critical to rapidly kick-start a design phase. This design phase needs to concentrate on how the different components of this policy approach can work in practice. This will require internal Scottish Government (and Agency) working groups that draw on external expertise through the joint Implementation Board (and/or sub-groups of it). We suggest that working groups are required for a number of topics raised in this paper, described in Table 7. The Scottish Government will need to fully engage with industry stakeholders, environmental NGOs, agencies and academia (including SEFARI institutes) in order to deliver a functional agricultural policy that

enables a 'just transition' for Scottish agriculture to help Scotland achieve its food, climate-change, biodiversity and rural economy ambitions.

Торіс	Issues	Example considerations
Transition Scheme	Conditionality actions & evidence Payments and advice	Baseline conditionality requirements; Single entry data capture; Payment uplifts and eligible capital items and payment rates; Advice provision
Biodiversity Tiers	Defining metrics Measurement	Tolerable (in)accuracy; Thresholds; Role of self-reporting & remote sensing.
GHG Tiers	Defining metrics Measurement	Tolerable (in)accuracy; Thresholds; Role of self-reporting & remote sensing.
Data	Reporting, Storing &, Accessing data	Standardised formats; Centralised databases; Sharing
Disadvantage Support	Defining criteria and boundaries	Peripherality indicators; ANCs
Activity	Defining criteria	Stocking densities; Field operations; Use of contractors
Tenure/New entrants	Availability of support to all	Treatment of tenants and seasonal-lets; National Reserve
Payment Rates	Short vs. long-term	Budgets; Internal Market; WTO; Compliance costs; Degressivity/capping
Smallholder Scheme	Purpose Coverage	Eligibility; Min & max support;
Advice/Innovation	Mode and scope Infrastructure	Ambition, capacity and role of different delivery bodies; Different delivery modes
Comms	Winning hearts and minds	Role of different bodies, not just Government; Hard to reach audiences

ENDS