Evidence to Support Development of a New Rural Support Scheme for Scotland: A summary of written outputs

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Riaghaltas na h-Alba

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Authors: Steven Thomson, Andrew Moxey and Keith Matthews
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Introduction

Scotland, along with the rest of the UK, withdrew from the European Union (EU) in January 2021 following the conclusion of the EU-UK Trade and Cooperation Agreement[1]. This means that Scotland is no longer bound by the rules and support frameworks that underpin the EU's Common Agricultural Policy (CAP).

As the UK was negotiating withdrawal from the EU the CAP was also going through a major round of reforms, with EU Member States having to deliver more for climate and nature through new support mechanisms and priorities from 2023. In the UK the Devolved Administrations are evolving agricultural policies that reflect each administration's priorities for agriculture and the environment. This means that agricultural policy across the UK is starting to diverge. Whilst the Scottish Government have committed to remaining aligned to EU policy where practicably possible[2], Scottish agriculture still operates in UK agri-food supply chains where cross-border issues remain important, as well as budget allocations from Westminster for agriculture and land use sectors. With differing policy approaches evolving across the UK administrations the Common Frameworks[3] also become important for Scottish officials to consider alongside the Internal Market Act 2020[4], and Subsidy Control Act, 2022[5].

To help progress its own unique approach to agricultural policy that supports sustainable food production and tackles climate change and nature restoration, the Scottish Government commissioned work in 2021 to provide expert advice and analytical support to help consider future policy options available for Scotland. Scotland's Rural College (SRUC), along with partners the James Hutton Institute, Pareto Consulting and ICF were commissioned by RESAS to provide **Economic Advice and Related Services to Support Development of a New Rural Support Scheme for Scotland (ref: RESAS/005/21).** The project ran from November 2021 to March 2023 and the core research team co-constructed the programme of work with Scottish Government analysists (RESAS), policy leads and delivery teams (RPID).

The project was managed by Steven Thomson (SRUC) with the core team also consisting of Andrew Moxey (Pareto Consulting) and Keith Matthews (JHI). The full list of contributors to the project included:

SRUC: Steven Thomson, John Newbold, Carol-Anne Duthie, Ian Archibald, Mark Lawson, Tim Geraghty, Mike Coffey and Davy McCracken

JHI: Keith Matthews, Douglas Wardell-Johnson, Dave Miller, Zisis Gagkas

Pareto Consulting: Andrew Moxey

[1] The EU-UK Trade and Cooperation Agreement (europa.eu)

[2] Statement by Scottish Ministers in exercise of UK Withdrawal Act

[3] UK Common Frameworks - GOV.UK (www.gov.uk)

[4] United Kingdom Internal Market Act 2020 (legislation.gov.uk)

[5] Subsidy Control Act 2022 (legislation.gov.uk)

ICF: John Elliot

The programme of work consisted of (i) evidence reviews; (ii) conceptual, expert, think pieces (e.g. Basic Payment Scheme Regions, delivery framework, incentivising nature restoration); and, (iii) analytical evidence. In total twelve written reports were provided to the Scottish Government, in addition to numerous informal discussions with officials, presentations of concepts and findings to officials, and presentations to the Agriculture Reform Implementation Oversight Board[6]. This report reproduces the summaries from each of the 12 individual written reports, with hypertext links to each full report.

The reports are:

1. **Summary of Future Agricultural Policy Proposals for Northern Ireland** (Ref: RESAS/005/21 – W1). An evidence review of policy thinking and commitments in Northern Ireland. **Page 7.**

2. **BPS regionalisation options – some conceptual considerations** (Ref: RESAS/005/21 – W2). A conceptual piece that considers the background to the current 3 Basic Payment Scheme regions in Scotland and options for change to baseline direct support better deliver against policy objectives. **Page 9.**

3. **Summary of Delinking and Lump Sum Direct Payments in England** (Ref: RESAS/005/21 – W3). An evidence review of policy options around delinked payment proposals in England. **Page 11.**

4. **Summary of the Agricultural Common Support Framework** (Ref: RESAS/005/21 – W4). An evidence review of the draft UK common support frameworks that devolved administrations will have to adhere to. **Page 13.**

5. **'Actively Farmed Hectares' - Data analysis and policy considerations** (Ref: RESAS/005/21 – W5). An analytical report with conceptual considerations regarding the NFUS proposal for actively farmed hectares to replace the 3-rgion Basic Payment Scheme as the baseline for future direct support. **Page 15.**

6. **Basic Payment Regionalisation Options - Analysis of Spend and Redistribution Implications** (Ref: RESAS/005/21 – W6). An analytical report that considers the redistributive impacts arising from selected future baseline direct area based support scenarios, including conceptual consideration of practical implementation issues and strengths and weaknesses of the approaches. **Page 17.**

7. **Methane mitigation by feed supplements** (Ref: RESAS/005/21 – W7). An evidence review of a larger piece of work that SRUC scientists had completed for DEFRA. **Page 21.**

8. **EU Member States' CAP Strategic Plans** (Ref: RESAS/005/21 – W8). An evidence review of the emerging details of how EU Member States were

[6] Agriculture Reform Implementation Oversight Board - gov.scot (www.gov.scot)

implementing the new 2023 Common Agricultural Policy following major reforms. **Page 23.**

9. **Calving Intervals in Scotland's Cattle Population: Conditionality Options** (Ref: RESAS/005/21 – W9). A conceptual and analytical report that used Animal and Plant Health Agency supplied Cattle Tracing System data to estimate the potential for introducing calving interval conditionality to coupled support payments for beef calves. **Page 25.**

10. **Protection of Peatlands and Wetlands – a potential new GAEC measure for Scotland** (Ref: RESAS/005/21 – W10). A conceptual and analytical report that used unpublished analysis by the James Hutton Institute to consider the scope and options for introducing a new cross compliance measure to protect peatlands and wetlands – thereby aligning with the EU's new Good Agricultural and Environmental Condition standard number 2 (GAEC2). **Page 27.**

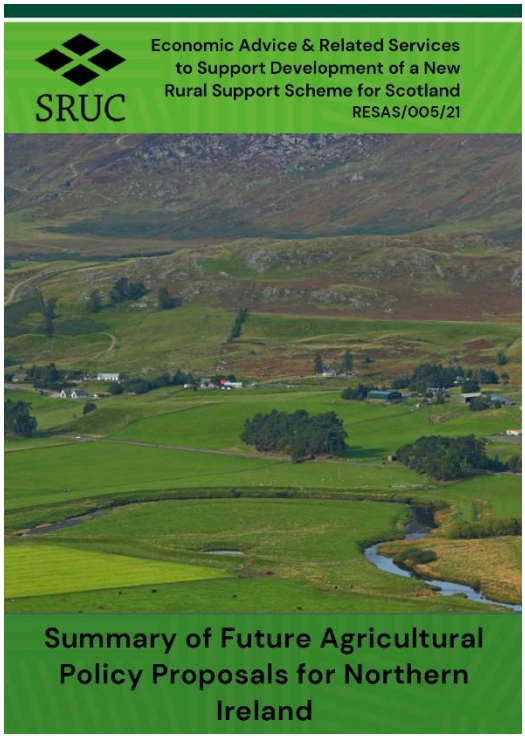
11. **Conceptual delivery approach for Tier 2 enhanced conditionality of agricultural support in Scotland** (Ref: RESAS/005/21 – W11). A conceptual paper that draws attention to the need for policy proposals to be implementable, offering suggestions of how the existing Ecological Focus Area scheme administrative structures could be extended to bring in many of the proposed 'Tier 2' enhanced conditionality measures. **Page 29.**

12. **Key considerations when including biodiversity measures within environmental conditionality** (Ref: RESAS/005/21 – W12). A conceptual report that considers how nature restoration to enhance biodiversity can be delivered under the proposed tiered conditional support framework. **Page 31.**

W1 Summary of Future Agricultural Policy Proposals for Northern Ireland

Authors: Andrew Moxey and Steven Thomson
Ref: RESAS/005/21 – W1
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The emerging policy landscape in Northern Ireland (NI) closely resembles that of Scotland. In particular, an economy-wide 'Green Growth strategy, a '10x Economy vision', and Climate Action Plans set overall ambitions towards which agriculture is expected to contribute. 'Agri-tech' is a priority sector in the 10x Economy vision.

The proposed 'Agriculture Policy Programme' will deliver against four priorities identified by the 'Future Agricultural Policy Framework Portfolio for Northern Ireland'. The four priorities are increased productivity, environment sustainability, improved resilience, and functioning supply-chains, all of which feature in Scottish policy discussions in one form or another.

Similarly, as in Scotland, it is acknowledged that the process of change will be challenging and needs to be achieved through a fair and phased transition. This reflects concerns about the current high degree of dependence upon direct support payments, balanced against a desire to achieve a more economically and environmentally responsive sector. Total support expenditure is expected to be held approximately constant, but its distribution will change.

Many of the specific policy proposals echo discussions and analysis in Scotland. For example, the use headage and area-based payments as a form of safety net or resilience support is proposed, accompanied by increased conditionality requirements intended to incentivise improvements in farm productivity and emissions. Suggested conditionality metrics include calving rates and intervals, the recording of genomic data to inform breeding selection, and collection of soil data. The use of LiDAR is suggested for the latter, which may merit consideration in Scotland.

The potential need for production quotas to counter herd expansion due to increased efficiency and profitability is noted, as it has been in Scotland (albeit not so publicly). In addition, progressive degressivity (not absolute capping) is proposed along with more restrictive eligibility definitions of minimum claim areas

(10ha) and active farming (essentially having livestock). These could be considered in Scotland but would be contentious.

The emphasis on emission savings extends to consideration of the role of on-farm bioenergy and carbon sequestration, including the potential for voluntary carbon markets to provide additional farm income. The scope and requirements of 'farming for carbon' are not discussed in detail, but are attracting increasing attention in Scotland too and merit further consideration.

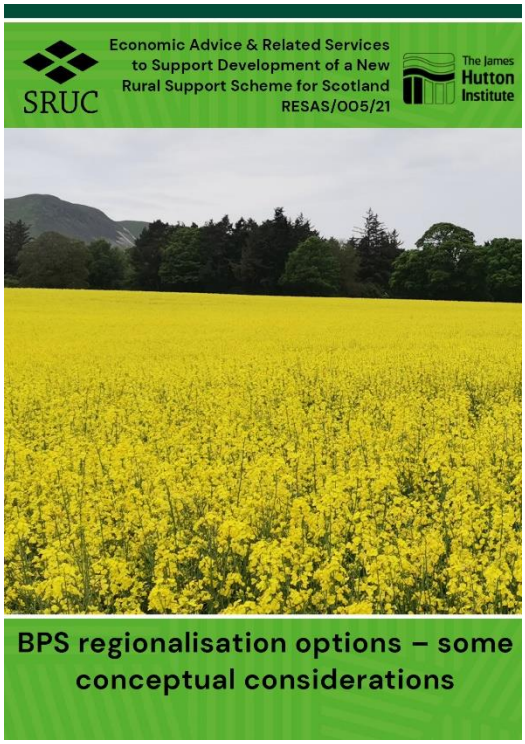
'Farming for nature' beyond just emission savings is acknowledged as important, but scant detail is provided on specific policy measures (although the potential for land sparing productivity improvements is noted). Rather, as in Scotland, only vague aspirations to pay on verifiable environmental outcomes are offered along with suggestions that regulatory controls will also be needed.

The pivotal role of advisory support and grant-capital investments is noted, possibly conditional on undertaking planning and training. Similar discussion points have been raised in Scotland, but more thinking is needed on them.

W2 BPS regionalisation options – some conceptual considerations

Authors: Steven Thomson, Keith Matthews and Andrew Moxey
Ref: RESAS/005/21 – W2
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



From 2014, most Pillar I support under the Common Agricultural Policy had to move towards a regional flat-rate basis for payments. This meant that Scotland had to transition away from the historic basis used since 2005 for the decoupled Single Farm Payment Scheme (SFPS) and which had deliberately largely preserved the distribution of funding seen under previous coupled support schemes.

Unlike some other countries, Scotland did not adopt a single, uniform flat-rate for all land under the new Basic Payment Scheme (BPS) and Greening payments. Rather, after considerable analysis and deliberation of options, a 3-region model with tiered payments was adopted.

Land previously used for arable or improved grassland was classified as Region 1 and received the highest payment rate per hectare. Land previously used for rough grazing was classified as either Region 2 or Region 3 depending on how intensively stocked it was and received lower payments. An additional activity requirement was also imposed.

The 3-region model was chosen because of concerns about other models' practical data requirements but also their potential to redistribute funding – in particular moving support away from areas producing significant agricultural output to those not doing so.

Specifically, very low payment rates for Region 3 were designed to counter the possibility of large areas of land on sporting estates being drawn into the payments system for the first time, thereby diluting funding for existing claimed land.

Coupled payments for sheep and beef activities were introduced and intended to boost support for active farmers/crofters with Region 2 and 3 land, but only partially compensate for low area payments.

Alternative payment models (e.g., different criteria, different payment rates) can, of course, be revisited. However, as evident from previous rounds of policy reform (i.e., introduction of LFASS, SFPS, BPS), choice of payment categories (e.g., regions, business types and sizes) are not made independently from choices on the

gradient of payment rates across them (e.g., do rates slope up or down across categories), nor from practical implementation considerations.

A number of different regionalisation options, each with pros and cons, are summarised in tabular form below. These include: the incumbent 3-Region model; 2 Regions, with a single rough grazing category; 3 Regions - rough grazing delimited by environmental designation; 2 region model– with stocking density delimitations; 3 Regions with land in LCA7 or above a specific elevation excluded; 3 regions with redistributive payments for rough grazing; 3 Region model – with separate small holder scheme; 3 regions with disadvantage uplift embedded in direct support; 3 regional model with coupled support embedded; Single region scheme.

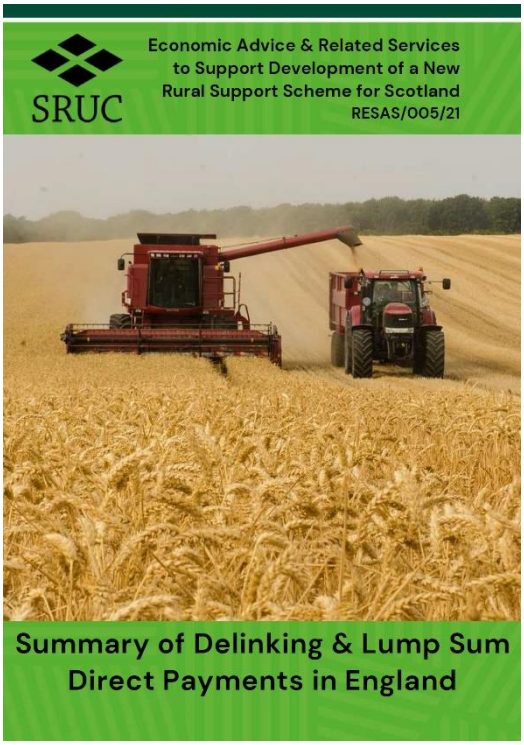
However, unless and until some clarity is achieved with respect to policy objectives and priorities, there is a risk that different options will once again be viewed narrowly through the lens of redistribution, as about winners-and-losers rather than wider outcomes.

For example, Region 1 currently accounts for c.42% of claimed land, but 80% of support payments. Regions 2 and 3 account, respectively, for c.22% and 36% of land but c.8% and 4% of support. Yet whilst this may reflect the distribution of agricultural production, it does not necessarily reflect the distribution of other ecosystem services required to meet policy objectives relating to climate change and biodiversity.

W3 Summary of Delinking and Lump Sum Direct Payments in England

Authors: Andrew Moxey and Steven Thomson
Ref: RESAS/005/21 – W3
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The Basic Scheme (BPS) is being progressively removed in England, with final payments to be made in 2027/8. It is also being 'delinked' from 2024/5.

Recipients will not have to be active farmers, not have to activate entitlements via control of land and not have to observe current conditionality requirements unless undertaking agricultural activities.

The rationale is one of simplification to allow farmers to focus on land management and to remove disincentives to sell/rent land out, thereby facilitating structural change.

Yet if agricultural activities are undertaken, statutory obligations currently within cross-compliance requirements will remain relevant. This means that cross-compliance with be replaced by compliance, which will still require some form of administrative overview and control (i.e., simplification is not guaranteed).

Given that the BPS will have been eliminated by 2028/9 anyway, it is not clear what will be gained by delinking for a few intervening years.

Hence it may perhaps be inferred that the prime motivation for delinking relates to accelerating the facilitation of structural change. Delinking may indeed encourage land mobility between different land managers, which in turn may improve production efficiency and/or environmental performance.

This is consistent with the rationale of the parallel lump sum payments also being offered to encourage farmers to exit from the industry. In this case, farmers can forgo remaining future direct payments in exchange for a one-off, upfront payment. This is, however, capped and seems unlikely to appeal to many.

Delinking and, particularly, lump sum payments, may have been inspired by the idea of transferable (aka Tangermann) bonds proposed periodically in past decades, but not adopted because of practical shortcomings.

If delinking and lump sums were to be considered in Scotland, three issues would need to be addressed:

(i) a reduction in support leverage over at least some land managers (i.e., those least dependent on public payments) and areas of land, thereby potentially weakening influence over environmental performance unless accompanied by new regulatory controls;

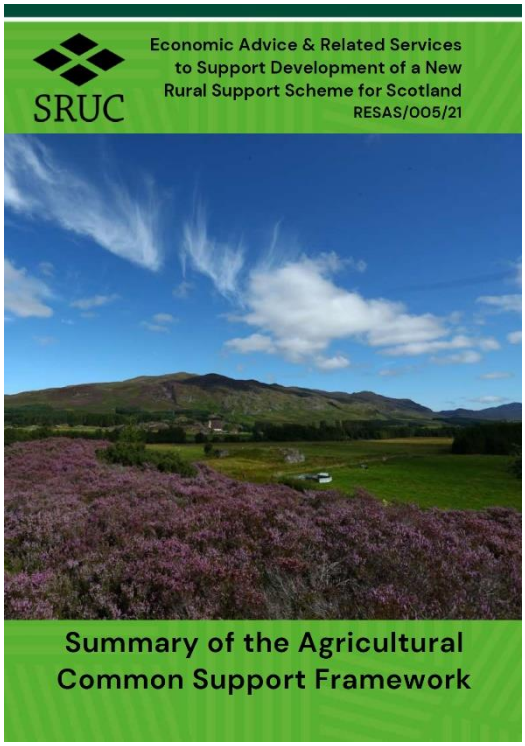
(ii) a need to evolve administrative cross-compliance systems into compliance monitoring and enforcement systems, potentially incurring additional development costs and confusion at same time that other aspects of implementation infrastructure are already changing;

(iii) the compatibility of accelerated structural change with the principles of a Just Transition and commitments to rural communities, and/or the additional non-agricultural support measures that might be needed (e.g., training, housing, transport).

W4 Summary of the Agricultural Common Support Framework

Authors: Andrew Moxey and Steven Thomson
Ref: RESAS/005/21 – W4
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The UK's departure from the EU requires a new governance mechanism to coordinate devolved decision making on agricultural policy, to avoid unacceptable spill-over effects on competitiveness and on international obligations. The provisional 'Agricultural Common Support Framework outline agreement and concordat' published in February represents this.

The Framework essentially sets-out a consensus-based process by which agricultural policy decisions by one part of the UK are notified to, scrutinised by, and approved (or not) by other parts. The intention is to anticipate and avoid policy disputes, and to provide a means for resolution should disputes arise.

Four levels for discussions have been established: the Inter-Ministerial Group for Environment, Food and Rural Affairs (IMG-EFRA), supported by the Senior Officials Programme Board (SOPB), which delegates to the UK Agriculture Policy Collaboration Group (PCG) and UK Agriculture Market Monitoring Group (MMG).

The policy scope is: agricultural spending and associated regulation and enforcement; marketing standards; crisis measures, public intervention (PI) and private storage aid (PSA); cross-border holdings; and, data collection and sharing.

As a formalised process for collective, pan-UK discussions of how devolved agricultural policies may interact, the Framework is a welcome development.

However, the precise decision criteria and relative weightings to be applied are not specified. Consequently, it is not clear what would trigger a disagreement or a dispute, nor how evidence and analysis would be used to seek a resolution.

For example, it is not stated what would constitute sufficient market and/or cross-market effects to cause concern.

Similarly, it is not clear how effects are to be measured in terms of, for instance, specific data sets and counterfactuals to be used and over what time-period. Nor is it clear how academic and anecdotal evidence will be combined.

Whilst the absence of pre-specified decision criteria and evidence metrics may allow for creative negotiations, such ambiguities may also mask the nature of such

negotiations. This is perhaps to be expected and is arguably no different to many other existing pan-UK policy fora.

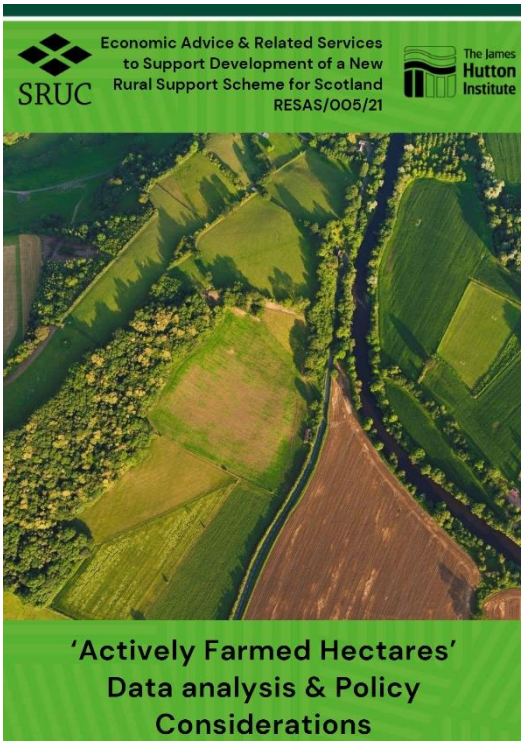
However, the context is now different and more highly politicised, with somewhat different policy visions and preferred support measures across the four home nations.

The effects of events in the Ukraine on the availability and price of agricultural outputs and (especially) inputs in the UK may provide an earlier-than-expected crisis management test of the Framework.

W5 ‘Actively Farmed Hectares’ - Data analysis and policy considerations

Authors: Steven Thomson, Keith Matthews, Douglas Wardell-Johnson, Dave Miller, and Andrew Moxey
Ref: RESAS/005/21 – W5
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



‘Actively Farmed Hectares’ (AFH) is a proposal from NFUS that would replace the current 3-region Basic Payment Scheme model with a single ‘flat rate’ region across Scotland. NFUS’s proposal is that all land eligible for AFH payment must attain 0.8 livestock units per hectare (LU/Ha) and that grazing area is scaled back till the AFH threshold is attained.

3.8 million hectares were used to activate entitlements in 2019. After stacking LUs on scaled back land to attain the AFH threshold it is estimated that 1.7 million hectares would be eligible for payment. 89% of the 2019 rough grazing area would be ineligible for the AFH payment. 74% of 2019 recipients did not meet the AFH LU/Ha threshold.

Assuming a £405 million budget (BPS, Greening, and Financial Discipline – excluding coupled payments and Young Farmer Premium) this would result in a AFH payment rate of £236/Ha for all hectares eligible for support. This would lead to a windfall gain of c. £15/Ha for non-grazing land so if crop payments were kept at £221/Ha and AFH payments only eligible for grazing areas the AFH grazing payment rate would increase to £243/Ha.

There is considerable redistribution between individual farms and crofts. 9,403 businesses gain £59.6m (15% budget) from AFH payments whilst 8,325 businesses lose £59.6m. The smallest businesses lose a disproportioned large proportion of their 2019 budget allocation (-£15.3m or 24% reduction) as does Eileanan an Iar (-£0.8m, -18%) with net gains to Sheep & cattle combined (£8.1m, +17%), Specialist dairying (£4.4m +9.4%), and Specialist cattle - rearing & fattening (£4.1m, +4%). In comparison, the 2014 CAP reforms resulted in c. £233m redistribution over the 2014-2019 period amounting to 51% of the budget.

AFH offers an opportunity to move from the current 3 region BPS model and embed the principles of supporting active farming/crofting, whilst removing the need for SUSSS support. However, the term ‘actively farmed hectares’ may lead to confusion as land ineligible for AFH remains important for grazing and in delivering biodiversity, landscape and climate change objectives.

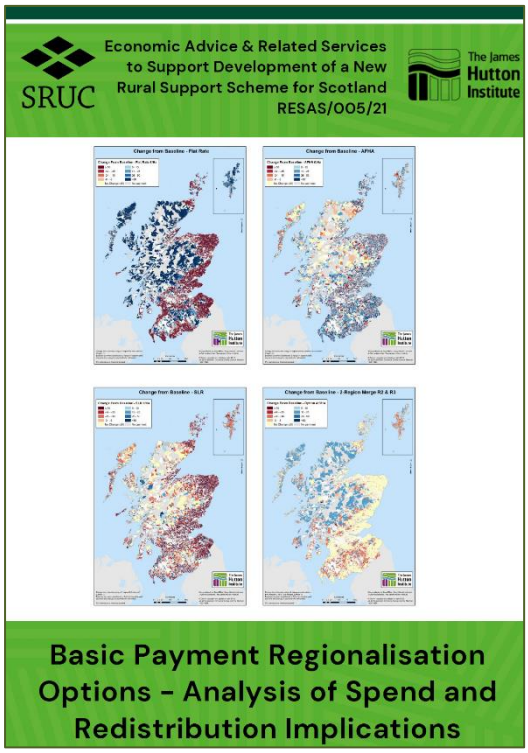
Various unintended consequences would need to be avoided in a AFH scheme. There would be a need to use an under-declaration penalty to remove any incentive for businesses to dispose of ‘ineligible’ hectares to reduce the reach of policy and any compliance burden. Quota may be required for AFH to be considered ‘blue-box’ as there is likely an incentive for some businesses to increase LUs to maximise AFH support payments. Those exceeding 0.8LU/Ha may have incentive to buy entitlements and rent ‘naked acres’ to use ‘excess LUs’ to increase AFH payments.

Stocking densities remain a crude metric. Work on improving LU calculations for contemporary Scottish agriculture is required to mitigate legal challenges that may arise out of policy decisions based on existing metrics.

W6 Basic Payment Regionalisation Options - Analysis of Spend and Redistribution Implications

Authors: Keith Matthews, Douglas Wardell-Johnson, Dave Miller, Steven Thomson, and Andrew Moxey
Ref: RESAS/005/21 – W6
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The current baseline of three payment regions can be modified in various ways. Selected different one, two and three region structures are presented here, with some further variations to budgets and/or payment criteria. The options include: (1) a single flat payment rate across all hectares; (2) a single flat rate payment scaled back to 'actively farmed hectares'; (3) a single flat rate payment based on standard labour requirement; (4) a 2 region model where current R2 and R3 are merged; (5) the 2 regions model with SUSS budget included; (6) a new 3 region model where the current R1 is split into rotational cropland and permanent grass and the current R2 and R3 are merged; (7) Option 6 including SUSS budget.

The relative payment rates for different regionalisation options (including with only 50% of the existing budget) are summarised in Table 1.

Table 1: Budgets, payment rates per region and paid area per Option for 100% and 50% of assumed budgets.

Regionalisation option		100% Budget: £405m			50% Budget: £203M			
		Payment Rates (£/ha)			Payment Rates (£/ha)			Paid Area
No	Name	R1	R2	R3	R1	R2	R3	(M ha)
0	Baseline	£211	£42	£12	£106	£21	£6	3.8
1	1 Region - Flat	£105			£53			3.8
2	1 Region - AFHA	£236			£118			1.7
3	1 Region - SLR	£8,259 per FTE			£4,130 per FTE			3.8
4	2 Region - Merge R2&R3	£211	£24		£106	£12		3.8
5	2 Region - Merge R2&R3 + SUSS	£211*	£27*		£106*	£13*		3.8
		R1a/b	R2/3		R1a/b	R2/3		
6	3 Region – Merge R2&R3 (R3), split R1 into rotational cropland (R1) permanent grass (R2)	£211	£24		£106	£12		3.8
7	3 Region – option 6 +SUSS	£211*	£27*		£106*	£13*		3.8
		*budget £412m			*budget £206m			

Each regionalisation options led to differing distributions of support across regions, farm types and farm sizes. These patterns are complex and best viewed in map, tabular and graphical form (see Appendices), but may be summarised briefly as follows.

One region with a uniform, flat rate payment (£105/ha) is the simplest structure. It leads to significant support redistribution between recipients across regions, farm types and farm sizes. It also increases the budget share to the highest 1% of payment recipients (n=192) from 10% in the baseline to 24%. It also increases the budget share to the highest 1% of payment recipients from 10% in the baseline to 24%.

Restricting single region payments to only 'actively farmed hectares' (defined by an effective stocking rate of 0.8LU/ha with a payment rate of £236/ha) curbs regional redistribution, but still generates significant redistribution within farm types and sizes. The budget share of the top 1% of payment recipients remains at 10%.

Making payments on a labour proxy (£8,239/FTE), rather than land, is a more radical alternative. It leads to significant redistribution towards horticulture, dairy and granivore farms. The budget share of the highest 10% of payment recipients (n=1,929) rises to 55%.

Merging the current R2 and R3 regions (at £24/ha, or £27/ha if SUSS rolled-into budget) leads to more modest redistribution and keeps the budget share of the top 1% of payment recipients at around 10%.

For each regionalisation option Figure 1 illustrates the net budget redistribution (black), budget gains (orange) and budget losses (blue) by size category, farm types and agricultural regions. Here it is apparent that a single region flat payment leads to significant redistribution from those with smaller claim areas to the larger

land holdings that are largely specialist sheep or cattle and sheep businesses – generally located in regions with the highest density of R3 and R2 land. In contrast the single region – labour option has quite large distributions within size classes but large net gains for the specialist (intensive) horticulture, dairying and granivore sectors, with the regions with high densities of these farm types (Tayside, Dumfries and Galloway and Fife) benefiting the most.

Figure 1 reveals that options 4 and 5 (merging R2 and R3 – a combined are of c. 2.1m Ha) would be a simple evolution of the 3 region baseline model with redistribution limited to R2 and R3 lands. Option 6 & 7 would follow similar redistribution as option 4 & 5, with the only difference being delimitation of rotational cropping land including temporary grassland (171k Ha) and permanent grassland (1.03m Ha) that would be supported at the same rate (the benefit is derived from alignment to conditionality options and ease of adjustments to coupled support budgets).

In contrast options 1 and 3 (the single payment rate and labour payment) offer more radical changes to the support distribution model. The active farmed hectares (option 2) sits in the middle – but still would see significant movement of budget between business sizes. The consequences of any redistribution on the ability to engage in conditionality tiers needs consideration – evolution (4&5) versus revolution (1&3) or fairly radical change (3) in terms of redistribution.

Different stocking density and standard labour requirement (SLR) thresholds could be used with the single region model to produce different payment distributions. However, all would encounter implementation complexity and could risk breaching WTO rules on coupled support unless based on historical rather than ongoing resource usage values. Moreover, a single region structure necessarily hinders spatial targeting of support to specific outcome objectives.

It should be noted that none of the options considered materially affect the budget share of the smallest farms, but also that membership of the top 1% of payment recipients differs greatly under different options.

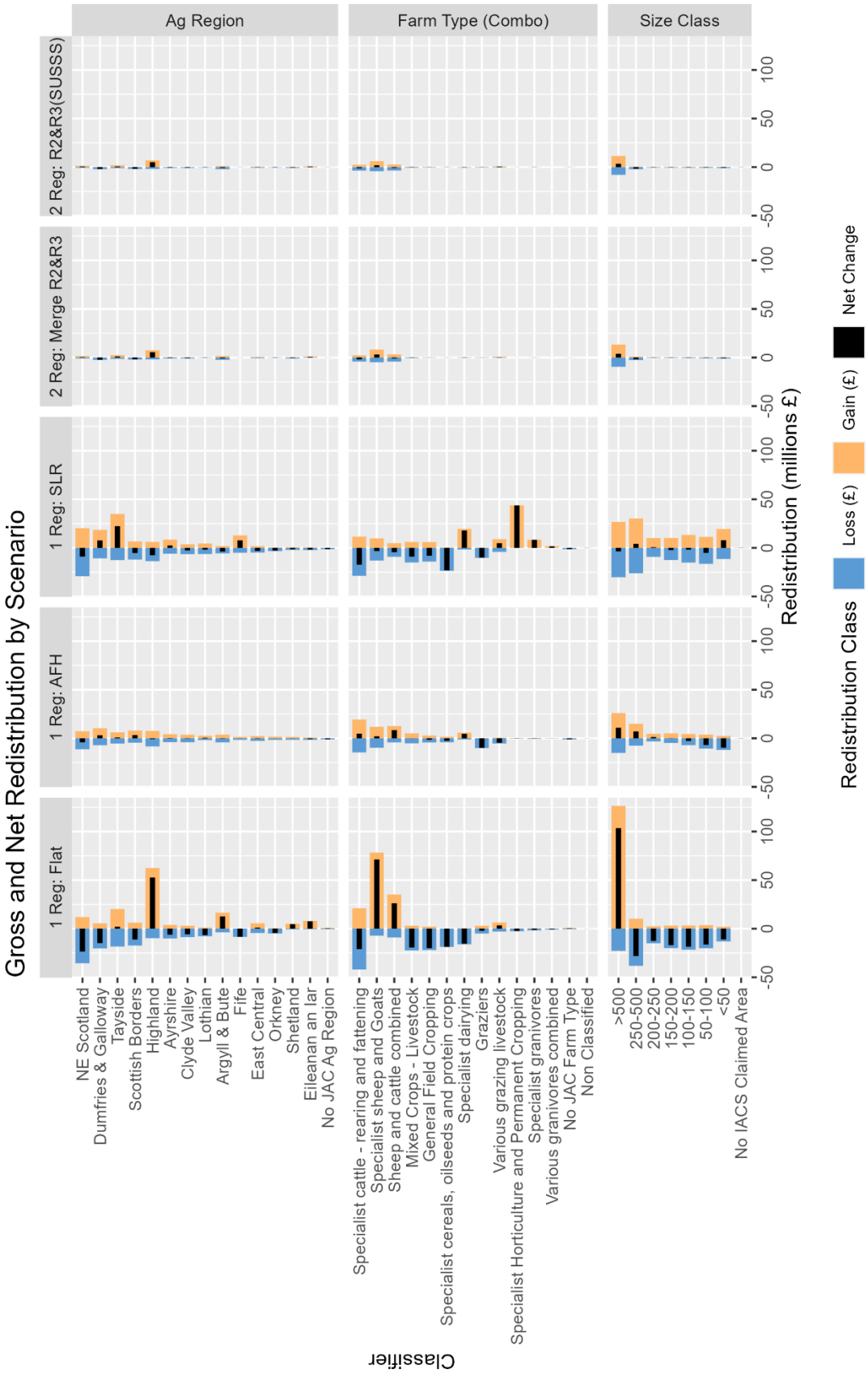
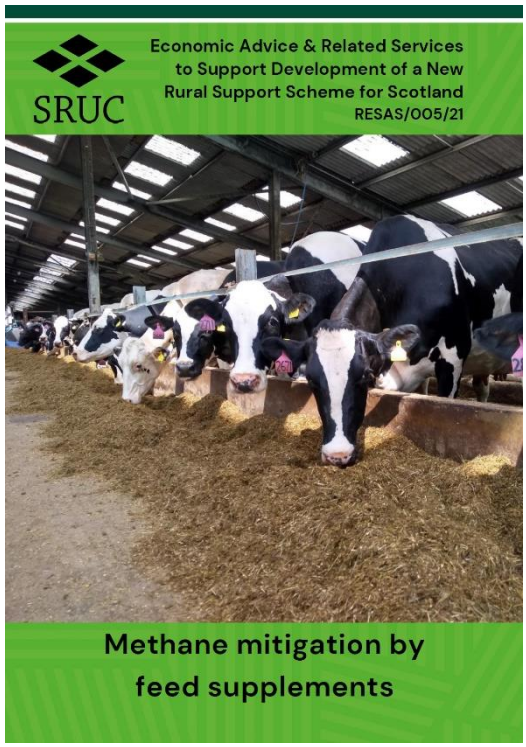


Figure 1 Redistribution (£m) by regionalisation option, showing monetary gains, losses and net impacts by size class, farm type and region

W7 Methane mitigation by feed supplements

Authors: John Newbold, Carol-Anne Duthie, Andrew Moxey and Steven Thomson
Ref: RESAS/005/21 – W7
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/



Key Points

This summary draws on Duthie et al's (2022) report to Defra on Methane Inhibiting Livestock Feed Supplements: Review of Net Impacts, Barriers to Success and Consumer Acceptance.[7]

The potential of feed supplements[8] to reduce emissions intensity by inhibiting enteric methane production from ruminant livestock has attracted considerable attention. A variety of potential supplements have been investigated, varying in their origins and composition. For example, 3-nitrooxypropanol (3-NOP), Essential Oils, Probiotics, Nitrate, and Seaweed.

Widespread adoption of such methane inhibitors will be dependent upon their availability, efficacy, and acceptance by farmers. However, none currently have the necessary regulatory approval, supply-chain infrastructure and appropriate incentives in place for widespread commercial release and adoption.

One (Agolin Ruminant, an existing but rebranded essential oils product) is currently available in the UK – but its regulatory approval does not as yet relate explicitly to its potential for reducing enteric methane.

One other (Bovaer 10, a branded 3-NOP product) is authorised for use to reduce methane emissions from dairy cows in the EU, but is not yet authorised in the UK.

Reported emission reductions vary widely from c.5% to over 50%, reflecting challenges in measurement but also variation across different supplements and farming systems.

Practical difficulties in ensuring individual animals receive correct daily dosages are likely to result in lower emission savings than those achieved under experimental conditions. Inclusion of supplements in pre-mixed concentrate-based feed rations may be feasible for some farming systems, but alternative delivery mechanisms

[7] Duthie, C-A., Vigors, B., Akaichi, F., Miller, G., Newbold, J. and Eory, V. (2022) Methane Inhibiting Livestock Feed Supplements: Review of Net Impacts, Barriers to Success and Consumer Acceptance. A report to Defra.

[8] 'Feed Supplement' is used here as a generic term including products regulated as either Feed Materials or Feed Additives.

(e.g., boluses, feed blocks/tubs/licks) may be required for (especially) forage-based systems.

Most feed supplements designed to reduce methane have little or no beneficial effect on animal performance (and therefore farm revenue). Some may have negative effects on perceived product quality (e.g., taste). Regulation, direct payment and/or subsidy (as well as advice and training) will be required to incentivise adoption.

Cost data are scarce but suggest £0.02 to £0.20 per animal per day. For comparison, typical daily feed costs for dairy cows are currently about £4.00 and for finishing beef cattle the currently range from £2.80 - £4.00 depending on the intensity of finishing system.

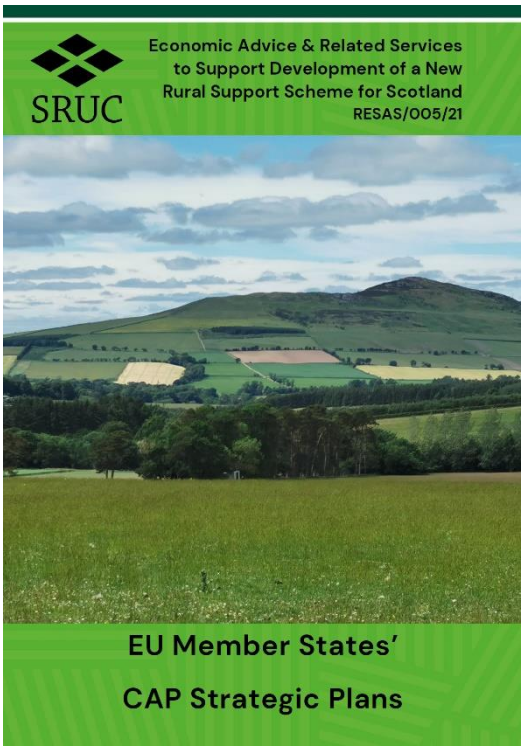
Further research is needed into efficacy, to establish robust verification of emission savings to inform both on-farm and policy decisions, and to counter general scepticism about the accuracy and consistency with which farming's net emissions are portrayed.

Technical, market and regulatory developments in this field are rapidly evolving and hence briefing notes would benefit from regular (e.g., quarterly) updates.

W8 EU Member States' CAP Strategic Plans

Authors: Andrew Moxey, Steven Thomson and John Elliot
Ref: RESAS/005/21 – W8
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



To better reflect variation in local conditions and the principle of subsidiarity, the CAP now allows for greater flexibility in how support is designed and implemented. The rationale for support and how it aligns with EU-wide objectives must be explained by Member States in their Common Agricultural Policy Strategic Plans, which now cover Pillar I as well as Pillar II expenditure.

Individual Strategic Plans vary considerably in their choice of budget allocations within and between Pillars and the design of specific interventions, showing MS are using their greater freedom.

CAP Strategic Plans are designed to be outcome focused, delivering against national and EU targets. Current Scottish agricultural policy proposals are somewhat in line with EU CAP principles and objectives, although some mandatory CAP elements are currently not included in Scottish Government proposals (e.g. internal convergence and redistributive payments).

Income support for active farmers dominates, both via coupled and decoupled payments (the latter including explicit redistribution to smaller farms).

Based on a SWOT analysis and needs assessment MSs must set targets for relevant common result indicators and related milestones, providing sound intervention logic (with a WTO assessment). However, the EC regards many Plans as lacking in environmental ambition and results-based focus.

For example, Good Environmental and Agricultural Condition (GAEC) could be tightened further and the design of eco-schemes (which replace Pillar I Greening) could be bolder in terms of prescriptions and interactions with Pillar II agri-environmental schemes.

Similarly, linkages to wider rural development and support for competitiveness and innovation remain relatively under-developed, and advisory support needs to better address all aspects of sustainability.

Recent leaked letters from DG ENV and DG CLIMA point to "an almost complete lack of effort" by MS "to integrate major recommendations" made by the Commission thus leaving a gap between stated national ambitions and route maps to achieving outcomes. In November 2021 environmental NGOs assessed 32% of

eco-scheme measures and as ‘Bad – concerning’ with a further 9% as ‘Awful – Greenwashing’

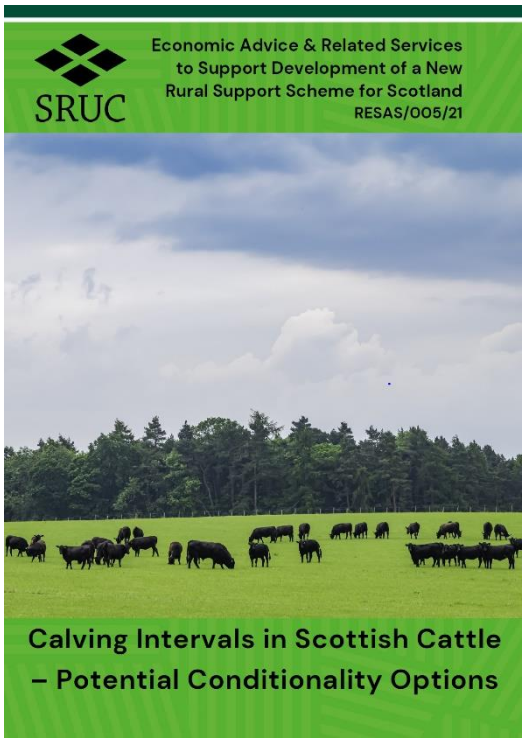
Significant variation across MS means that examples of policy ideas being considered in Scotland already being implemented somewhere in the EU can be found relatively easily. For example, basic income support, coupled payments, conditionality, active farming and supplementary agri-environment schemes. This offers some reassurance that Scottish policy can remain aligned with the CAP.

Moreover, it is also apparent that policy challenges encountered in Scotland apply across the EU too. For example, the specifics of policy prescriptions, the share of budget allocations and the choice of indictors for monitoring. Again, this offers some reassurance that Scotland is not alone in facing challenges and suggests that there is scope to learn from others’ experiences.

W9 Calving Intervals in Scotland's Cattle Population: Conditionality Options

Authors: Steven Thomson, Ian Archibald, Mark Lawson, Tim Geraghty, Andrew Moxey and Mike Coffey
Ref: RESAS/005/21 – W9
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The Scottish Government is committed to developing a future framework of direct agricultural support payments with enhanced conditionality attached. Particular attention is being paid to reducing greenhouse gas emissions from the beef herd.

Calving Interval is a key efficiency metric for beef production, along with heifer calving age, mortality rates, age at slaughter and time to dispose of cows at the end of their breeding life. Longer calving intervals equate to longer periods during which a cow is incurring maintenance costs (e.g., feed, veterinary care) but also emitting greenhouse gases without contributing to actual beef production.

Using CTS data, calving intervals were estimated for all animals in the Scottish beef breeding herd over the period 2015-21. Comparative analysis of calving intervals is presented here in tabular, chart and map form, for different structural and geographical categories.

The mean calving interval across all animals is c.400 days, higher than the median of less than 370 days due to a long tail of longer intervals. For example, the worst 10% of animals have a calving interval of c.480s days. This equates to each of them emitting c.0.9t CO2e more between calvings than the median animal.

Within this national picture, there is considerable variation both within and across categories. For example, herd type and size, region and breed type. Confounding factors (i.e., interactions) are likely to be present, but the estimates nevertheless indicate widespread scope for technical performance improvements to calving intervals and hence to greenhouse gas emissions.

Under current Scottish Suckler Beef Support Schemes the only conditions that farmers have to meet are that a calf has 75% beef genetics and is alive in the business for 30 days from birth. Extending these to include calving interval offers an opportunity to introduce meaningful conditionality, and would help to deliver 50% of support having enhanced conditionality by 2025.

Although headage payments are envisaged as lying within Tier 4 of the proposed 4-tier model of support, they will operate in tandem with Tier 1 and Tier 2 area payments and offer an obvious way of imposing conditionalities on beef production.

However, given variation in current calving intervals, choice of appropriate performance intervals will need careful consideration– not least in the context of the Islands (Scotland) Act 2019.

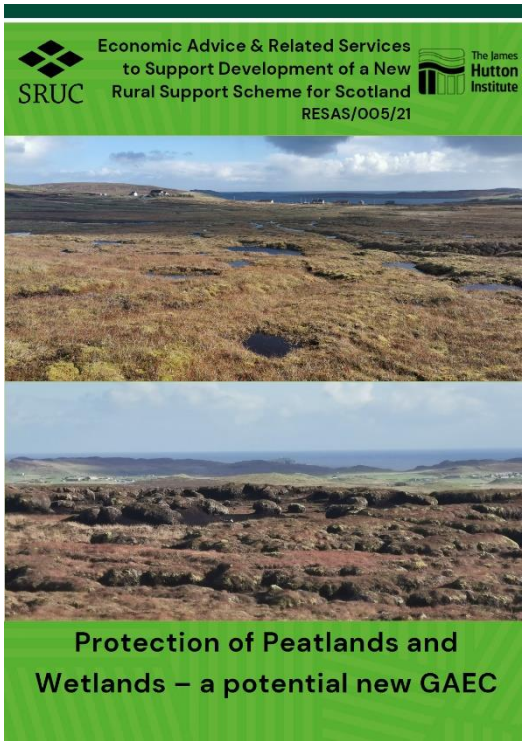
There is scope to 'ramp-up' any introduced calving interval conditionality over time in order to support a 'just transition' whilst targeting support towards this and other technical efficiency measures that can reduce emissions from the suckler breeding herd.

Potential emissions savings from improved calving interval conditionality threshold are difficult to estimate. However, it is estimated that every 5 day reduction in mean calving interval from the 2021 average of 400 days would lead to estimated 39.2kg CO2e per cow (on average) or 12.5kt CO2e (1.25%) being saved from total 2021 cow (excluding heifers) emissions of 996 kt CO2e.

W10 Protection of Peatlands and Wetlands – a potential new GAEC measure for Scotland

Authors: Steven Thomson, Keith Matthews, Dave Miller, Douglas Wardell-Johnson, Zisis Gagkas and Andrew Moxey
Ref: RESAS/005/21 – W10
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The Scottish Government are committed to enhanced conditionality for future agricultural support. As part of the transition to future agricultural support schemes there is an opportunity to help transition towards future schemes by introducing additional conditions (cross compliance) through existing support schemes in 2025.

The protection and enhancement of Scottish wetlands and peatlands offers potentially significant emission reductions and biodiversity improvements. The focus on peatland and wetland emissions has increased since national inventory methodology changes to the LULUCF to account for wetlands and peatlands moved LULUCF from a net sink of 5.4Mt CO2e to a net source of 2.7MtCO2e.

A combination of actions across the proposed 4-Tier policy model could be used to seek protection and enhancement of peatlands, possibly in terms of Bronze/ Silver/Gold standards as suggested by ARE officials to ARIOB.

In particular, Tier 1 cross compliance and Tier 2 conditionalities offer opportunities to enrol a high proportion of relevant land. This reflects the fact that wetlands and peatlands are widely distributed across Scotland, albeit particularly prevalent in the existing Region 3 of the Basic Payment Scheme.

Tier 1 conditionality could take the form of restrictions on cultivation, drainage installation, stocking density, tree planting, conversion of permanent pasture on peatland to cropland, etc could be included. This would mirror inclusion of 'Protection of wetlands and peatland' within the new Good Agricultural and Environmental Condition (GAEC2) applied under the Common Agricultural Policy, thereby helping to maintain alignment with EU regulations.

Tier 2 enhanced conditionality could then include blocking of hill drains, reduced stocking density, moorland management plans, restrictions on cultivations on peatlands used for cropping.

Tiers 3 and 4 could then include support for more capital-intensive restoration actions (e.g., revegetating bare peat) and more demanding on-going management (e.g., intermittent scrub clearance, more radical stock reductions).

In common with other specific policy objectives, the boundaries between different Tiers are not necessarily fixed, meaning that particular measures may switch Tiers over time.

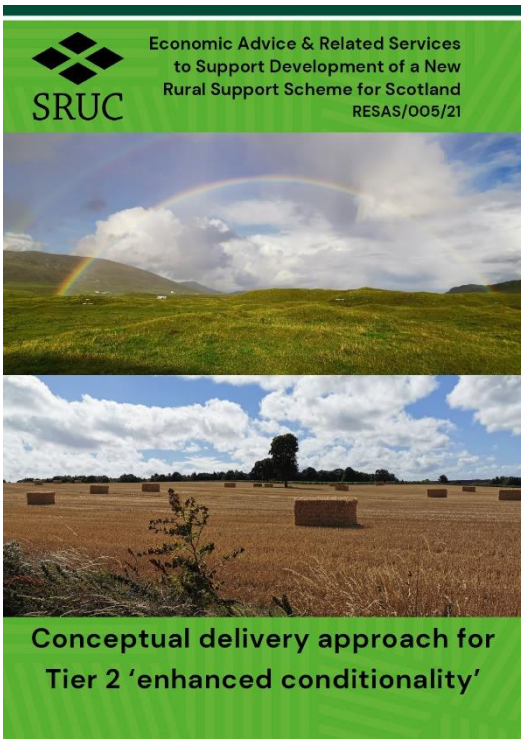
Consideration of effects and potential consequences of any Tier 1 cross compliance or Tier 2 conditionality on common grazing peatland / wetlands would need careful consideration, since individual crofters may not have the capacity or abilities to manage common grazing peatland areas.

There is considerable expertise on peatland and wetlands within the Strategic Research Programme and a body of evidence (definitions, maps, etc) is available within the James Hutton Institute.

W11 Conceptual delivery approach for Tier 2 enhanced conditionality of agricultural support in Scotland

Authors: Steven Thomson and Andrew Moxey
Ref: RESAS/005/21 – W11
Hypertext link to report: http://www.gov.scot/ISBN/9781835211885/documents/

Key Points



The Scottish Government has committed to 50% of direct area payments being attached to enhanced conditionalities under Tier 2 of a 4-Tier model.

The use of conditionalities within a tiered model echoes developments within the EU under the new Common Agricultural Policy (CAP), but also recommendations made previously within Scotland. This serves as a reminder that current deliberations are re-treading familiar policy territory.

For example, the 2019 Griggs Review of Greening plus publications from the National Farmers Union of Scotland and the Scottish Wildlife Trusts all proposed multiple tiers, with non-competitive elements available to all land managers and higher tiers with more demanding requirements but higher payment rates.

Similarly, suggestions for possible measures (and their relative positioning within Tiers) have also been made through various fora, including Farming for 1.5^{o} and the various Farmer-led groups. In all cases, there is a high degree of similarity across recommendations.

Inspection of the types of conditionalities envisaged reveals a distinction between those applicable to cropped land (i.e., arable and temporary grass), improved grassland, and rough grazing (other, generic planning and training actions are less land cover specific). This suggests that Tiered payments should be differentiated across these three broad categories of land cover, to avoid very different requirements being attached to identical payment rates. An obvious way of implementing this would be to revise the current 3-region payment model by merging R2 and R3 into a new, merged rough grazing region and splitting R1 into a cropped land region and an improved grassland region (LFA and Voluntary Coupled Support could be kept separate or folded into such a 3-region model).

Moreover, to reflect the relative prioritisation given to different policy objectives, individual measures could be weighted differentially within each region. This concept is already familiar from Ecological Focus Areas (EFAs) on arable land under the (old) Common Agricultural Policy – and there is existing delivery structure in place within RPID that could be expanded. Extending the approach to other land cover regions would increase opportunities for targeting and on-going adjustment in response to shifting priorities or relative uptake rates of different measures. Although best suited to land management actions, the EFA-approach could also include livestock management measures if translated into equivalent area weights.

Importantly, a 3-region payment model with differentiated payment rates and weighting by relative priority is broadly compatible with current administrative systems as well as being familiar to farmers and crofters.

Implementation would require agreement on relative priorities and the relevance of individual measures. This could entail explicit and transparent scoring of measures but, given that judgements about weightings need to be made in some way, this is arguably better than leaving them as implicit and/or hidden.

W12 Key considerations when including biodiversity measures within environmental conditionality

Authors: Davy McCracken and Steven Thomson
Ref: RESAS/005/21 – W12
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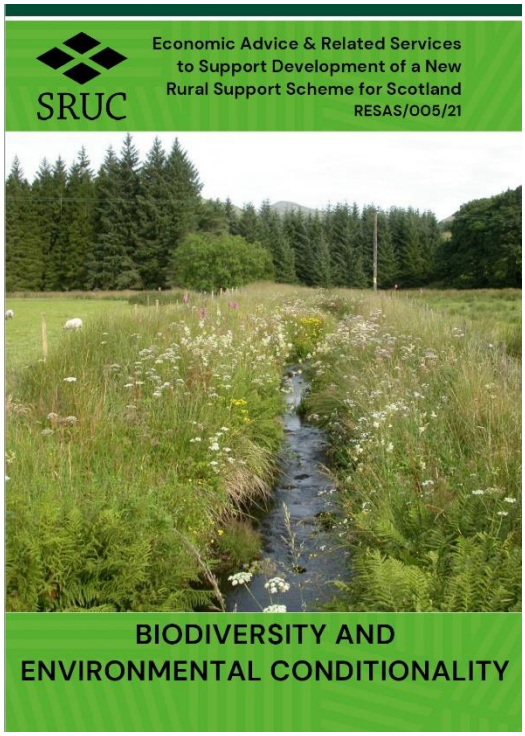
Key Points



Including biodiversity measures within the suite of environmental conditionality being considered for future direct support to agriculture (Tier 2) would help to raise the existing biodiversity bar across all of Scotland's agricultural landscapes. This would also increase the likely effectiveness when more targeted and localised agri-environment actions (Tier 3) are implemented.

The geographical variation in biodiversity needs across Scotland's farmland means that a wide range of appropriate Tier 2 conditional measures will be needed to ensure relevance for principal land uses (cropping, grasslands, rough grazing and importantly woodlands), farming and crofting systems, and localities.

There is a need to ensure that Tier 2 biodiversity conditional measures adopted put as much a focus on maintaining any existing biodiversity value on eligible farm and croft land, as they do on further enhancing that value.

There is a need to fully consider the farmland biodiversity aspirations highlighted within the draft Scottish Biodiversity Strategy to ensure that adopted Tier 2 complement the Strategy's aspirations.

Focussing any test of the implementation of biodiversity conditionality measures within Scotland's National Parks might help identify additional meaningful conditions that can complement the landscape-scale nature restoration aspirations in both Parks.

The number and type of simple, yet effective, biodiversity measures that it would be proportionate to consider within Tier 2 conditionality declines as you move from lowland arable, through permanent grassland to upland landscapes.

Relatively simple biodiversity conditions to implement on rough grazings, the dominant habitat type across Scotland's agricultural land, are more difficult to identify, as in most cases the most appropriate management required varies from site to site.

Nevertheless, it is possible to identify conditionality measures which would be relevant to introduce in upland areas. However, some may not be considered proportionate to introduce as biodiversity conditions in comparison to what is being required on farms elsewhere.

Consideration should be given to how the various measures that constitute RSPB Scotland's HNV indicator could be used as future Tier 2 conditions in grazing areas. The relative biodiversity importance of individual and collective measures that constitute RSPB's metric should be assessed and ground truthed. Embedding such HNV-type conditional measures in the future eligibility criteria associated with the Less Favoured Area Support Scheme replacement should be considered.

It is not necessary nor essential to conduct detailed biodiversity audits before setting biodiversity conditions for farms or crofts to meet. Examples are provided of measures which would be beneficial to implement but which do not require detailed ecological knowledge on farmers' and crofters' part to know where to implement these.

ENDS

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Any enquiries regarding this publication should be sent to us at

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