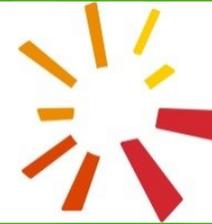




SEFARI

LEADING IDEAS
FOR BETTER LIVES



SRUC

Agricultural Policy Update – an evolving landscape

Steven Thomson

Reader in Agricultural
Economics and Policy & SEFARI
Gateway Knowledge Broker

North East Scotland Agriculture
Advisory Group

23rd May 2023

Busy & Evolving Policy Landscape

- [Land Reform Bill](#)
- [Wildlife Management and Muirburn \(Scotland\) Bill](#)
- [Agriculture Bill \(Autumn 2023\)](#)
- [Energy Strategy and Just Transition Plan](#)
- **Draft Climate Change Plan (2025) – [to be published Nov 2023](#)**
- [Biodiversity Strategy](#)
- [Future Grant Support for Forestry](#) – consultation
- Ongoing [ARIOB discussions](#) on future policy
- **Just Transition Plan** for agriculture and land use – discussion document to be published shortly
- [Food Security Unit](#)



Màiri McAllan MSP
[Cabinet Secretary for Net Zero and Just Transition](#)



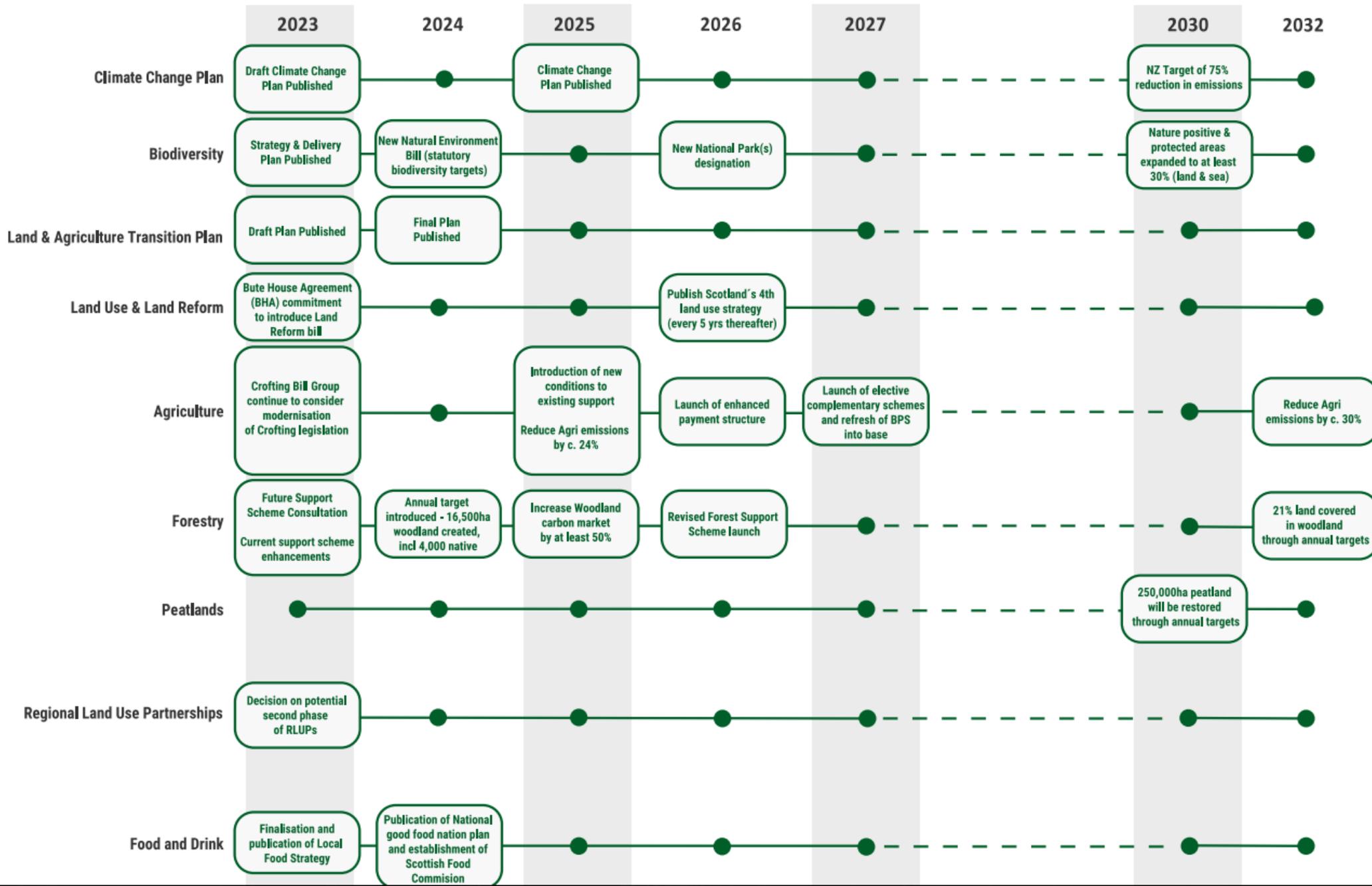
Mairi Gougeon MSP
[Cabinet Secretary for Rural Affairs, Land Reform and Islands](#)

The wider land and agriculture change plan for Scotland

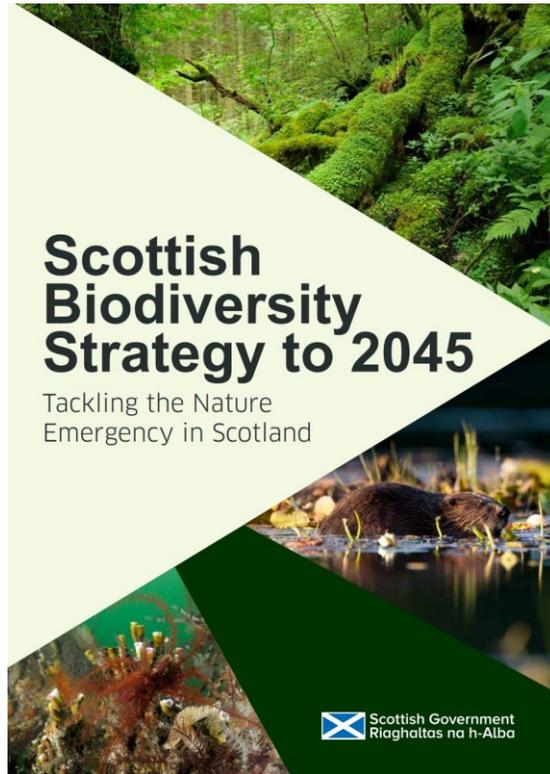


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<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-route-map/>



Biodiversity drivers of agriculture & land use change

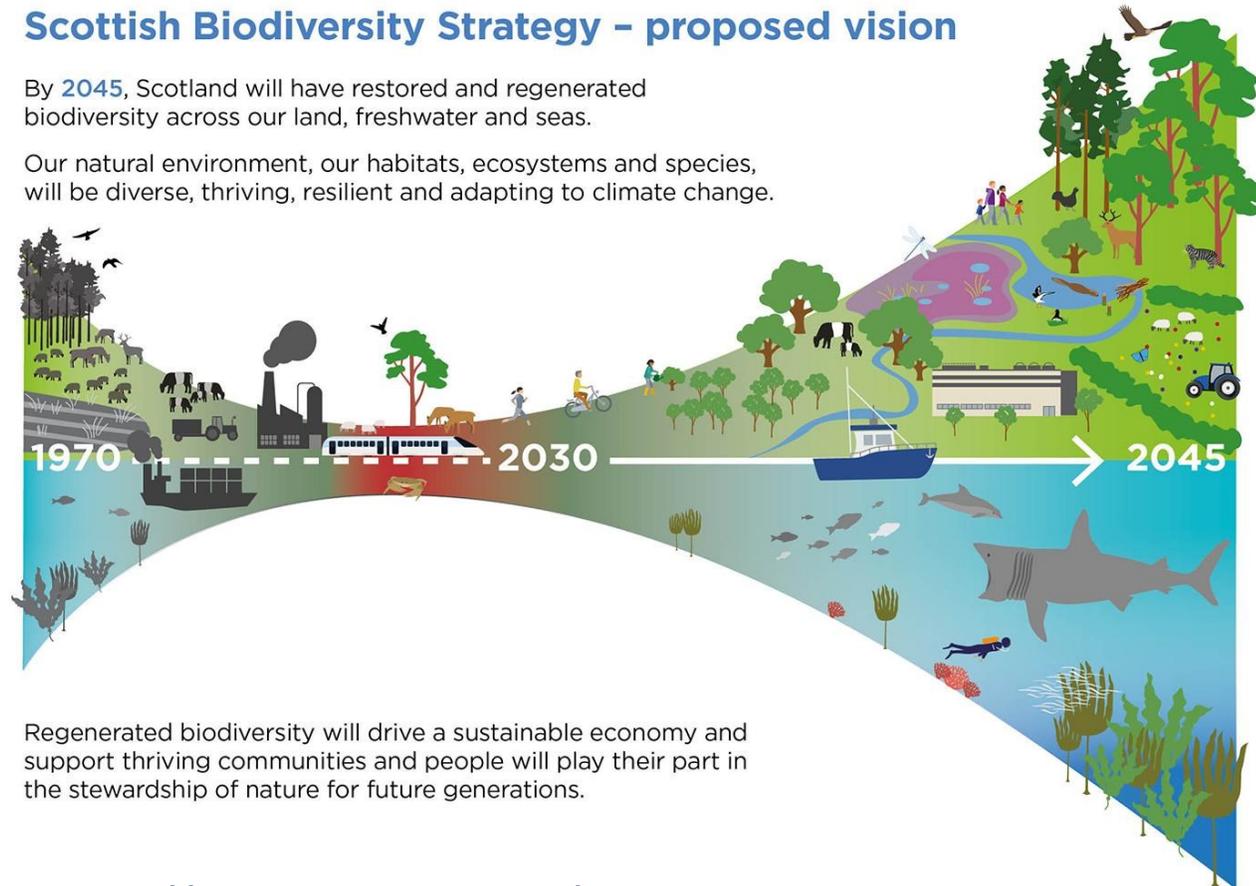


[Supporting documents – Biodiversity strategy to 2045: tackling the nature emergency – gov.scot \(www.gov.scot\)](https://www.gov.scot)

Scottish Biodiversity Strategy – proposed vision

By **2045**, Scotland will have restored and regenerated biodiversity across our land, freshwater and seas.

Our natural environment, our habitats, ecosystems and species, will be diverse, thriving, resilient and adapting to climate change.



Regenerated biodiversity will drive a sustainable economy and support thriving communities and people will play their part in the stewardship of nature for future generations.

<https://www.nature.scot/scotlands-biodiversity-strategy-2022-2045>

Biodiversity Strategy – Farmland

[Scottish Biodiversity Strategy 2022 – Scottish Government – Citizen Space \(consult.gov.scot\)](#)

Towards a nature-rich landscape in the uplands

1. Controlling grazing and fewer deer mean trees, woodland understorey and other vegetation can come back which reduces soil erosion and water flows down the hill
2. Mosaics of habitats instead of a landscape dominated by heather and grass will support more insects, mammals, birds and other animals, plants, fungi and lichens
3. Creating natural open woodlands and scrub at higher elevations brings climate benefits, and a natural and scenic diversity that is currently missing
4. Expansion of deciduous and native trees and other woodland plants support more wildlife, reduce flooding risk and store carbon
5. Healthy peatlands hold vast amount of carbon, support unique plant species, absorb rain water and reduce greenhouse gas emissions



6. Silvopasture such as wood pasture is good for biodiversity, provides shelter to livestock, improves animal welfare and farm productivity
7. A nature-rich landscape can offer diverse livelihood opportunities and support a greater number of people
8. Reintroduced species such as beavers will enhance the range of benefits to people, in terms of water quality and smoothing water flows
9. Riparian woodlands shade and nourish the river helping fish and other aquatic wildlife be more protected from rising temperatures
10. A wilder river that has reclaimed its floodplain supports more wildlife, enhances landscape beauty, and reduces flooding downstream

Towards a nature-rich landscape in the lowlands

1. Restoring lowland raised bogs to a more natural state contributes to a more diverse lowland landscape and delivers climate benefits
2. Mixed forestry sequesters carbon, produces timber, and is more resilient to the changing climate and more beneficial to wildlife than single species plantations
3. Natural open woodlands and scrub at higher elevations bring climate benefits, and a natural and scenic diversity that is currently missing
4. A more nature-rich landscape in the lowlands can improve the well-being of local communities and visitors
5. Species-rich grasslands support scarce plant species, provide food to pollinators and other insects and bring colours to the landscape
6. Hedges wide and tall support more biodiversity, prevent erosion, sequester carbon and connect habitats, enabling wildlife to move through the landscape

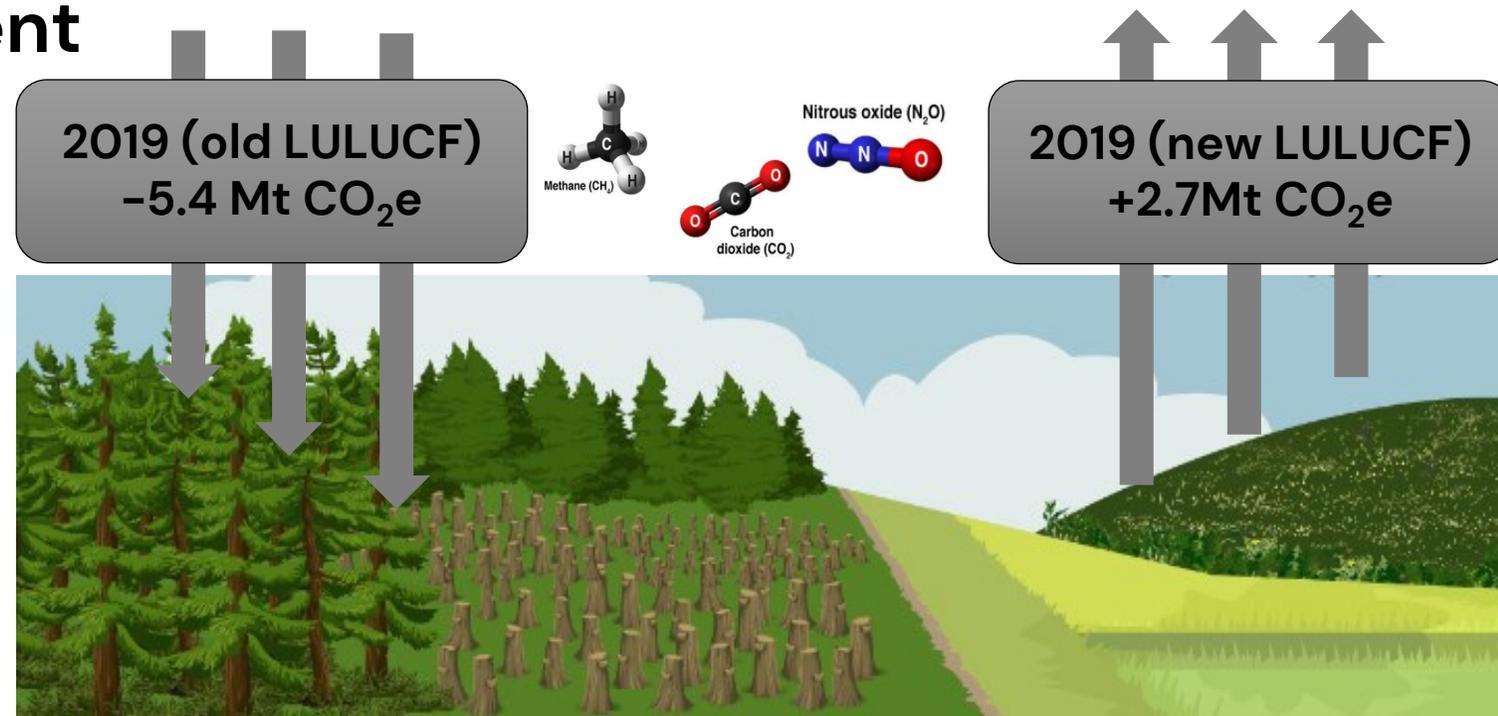


7. Buffer zones of wetland vegetation growing by the side of the river, away from crops and fenced off from livestock, enable the resurgence of wetland plants and animals
8. The integration of trees in grassland or in crops in an agroforestry system can deliver multiple benefits for the environment and for farm productivity
9. A re-naturalised river system that supports wildlife and brings back riverine habitats enhances landscape beauty and reduces flood risk
10. Removing land at the field edge to create or enhance wildlife habitats is important as part of a network of nature-friendly linear features around fields
11. Cover crops, legumes and wild bird cover provide an additional boost to wildlife while reducing soil erosion

Climate Change Drivers

- Peatland/wetland Emissions

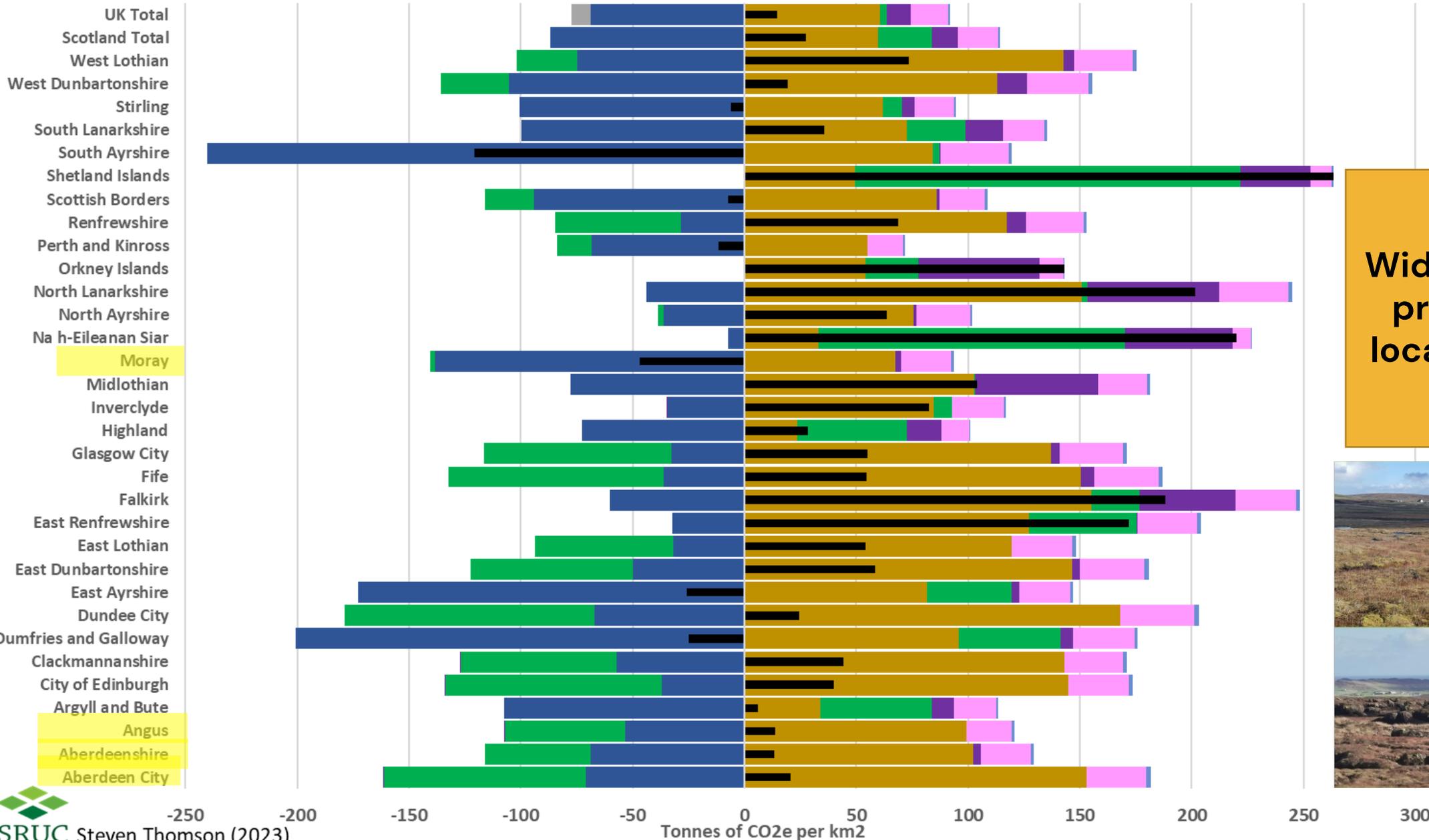
- LULUCF now a **net C source**, not sink
 - Change in methods caused swing $> 8\text{Mt CO}_2\text{e}$
- Peatland restoration a SG priority but **on-going management also needed**
- **Some business opportunities**



LULUCF GHG emissions per km2 by local authority, 2020



- Forest land/km2
- Settlements/km2
- Cropland/km2
- Harvested Wood Products/km2
- Grassland/km2
- Indirect N2O/km2
- Wetlands/km2
- LULUCF Net Emissions/km2



Wide variation in profile across local authorities



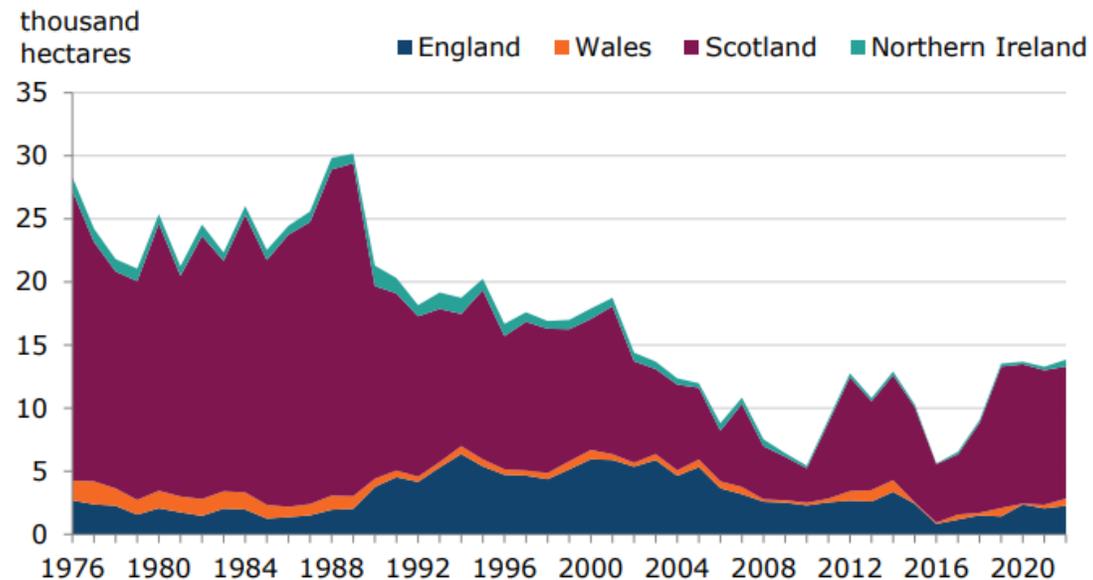
Forestry Targets

- Target of 13,500 Ha new plantings 2021/22



	England	Scotland	Wales	Northern Ireland	UK
New planting by forest type					
Conifers	0.27	6.34	0.18	0.09	6.88
Broadleaves	1.98	4.14	0.40	0.44	6.96
All new planting	2.26	10.48	0.58	0.54	13.84
New planting by ownership					
FE/FLS/NRW/FS ¹	0.00	0.62	0.02	0.01	0.66
Private sector ²	2.25	9.85	0.55	0.52	13.18
All new planting	2.26	10.48	0.58	0.54	13.84

Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service.



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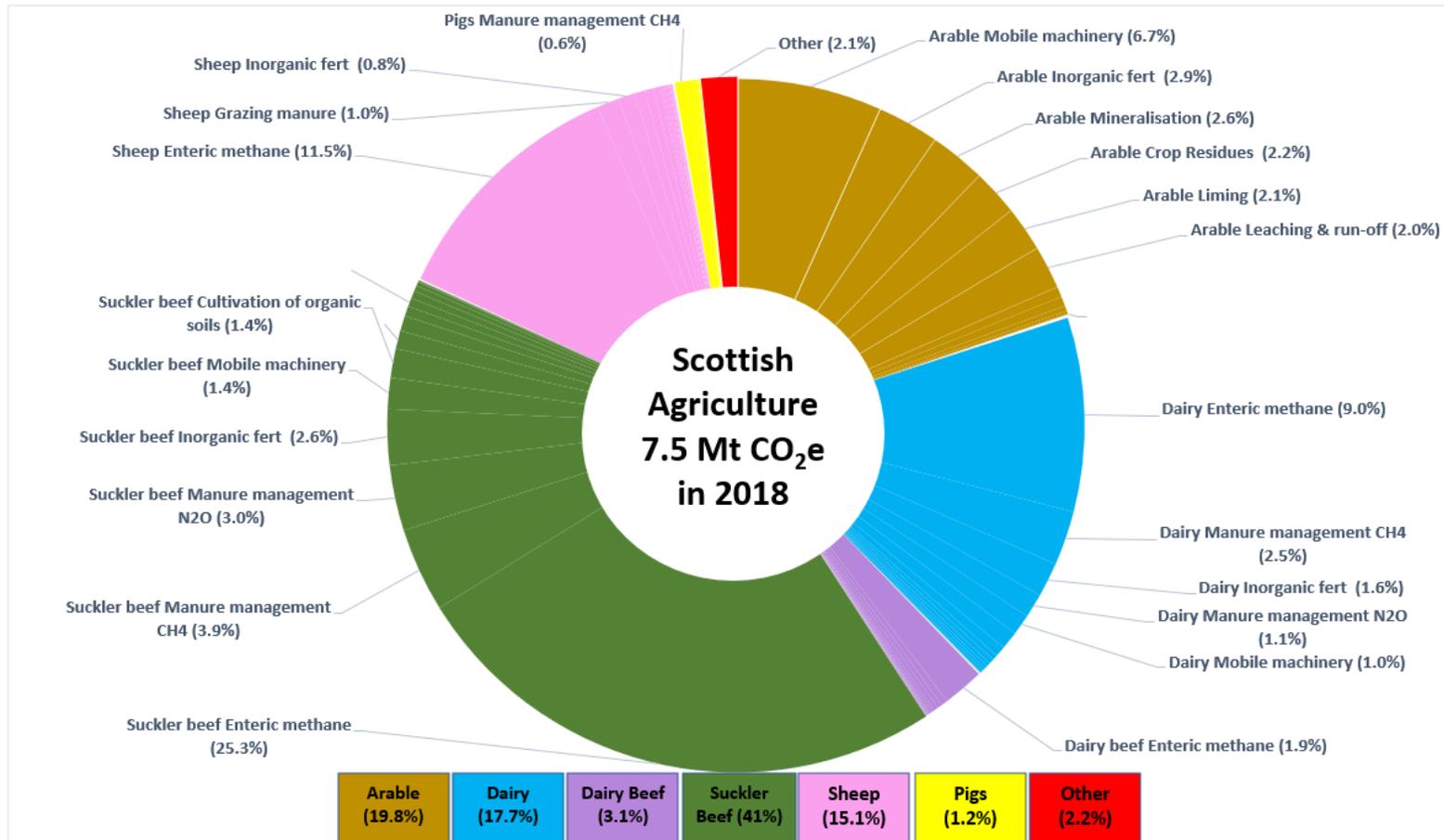
<https://cdn.forestresearch.gov.uk/2022/06/PWS-statsnotice-16jun22.pdf>



<https://www.landcommission.gov.scot/news-events/news/high-demand-and-rising-prices-continue-to-limit-access-to-scotlands-valuable-rural-land>



Climate Change Drivers – Agricultural Emissions



Heavy lifting will need to be done by larger producers and sectors with largest GHG footprints – i.e. ruminant livestock

What are the climate v biodiversity v food v economies v workforce trade offs?

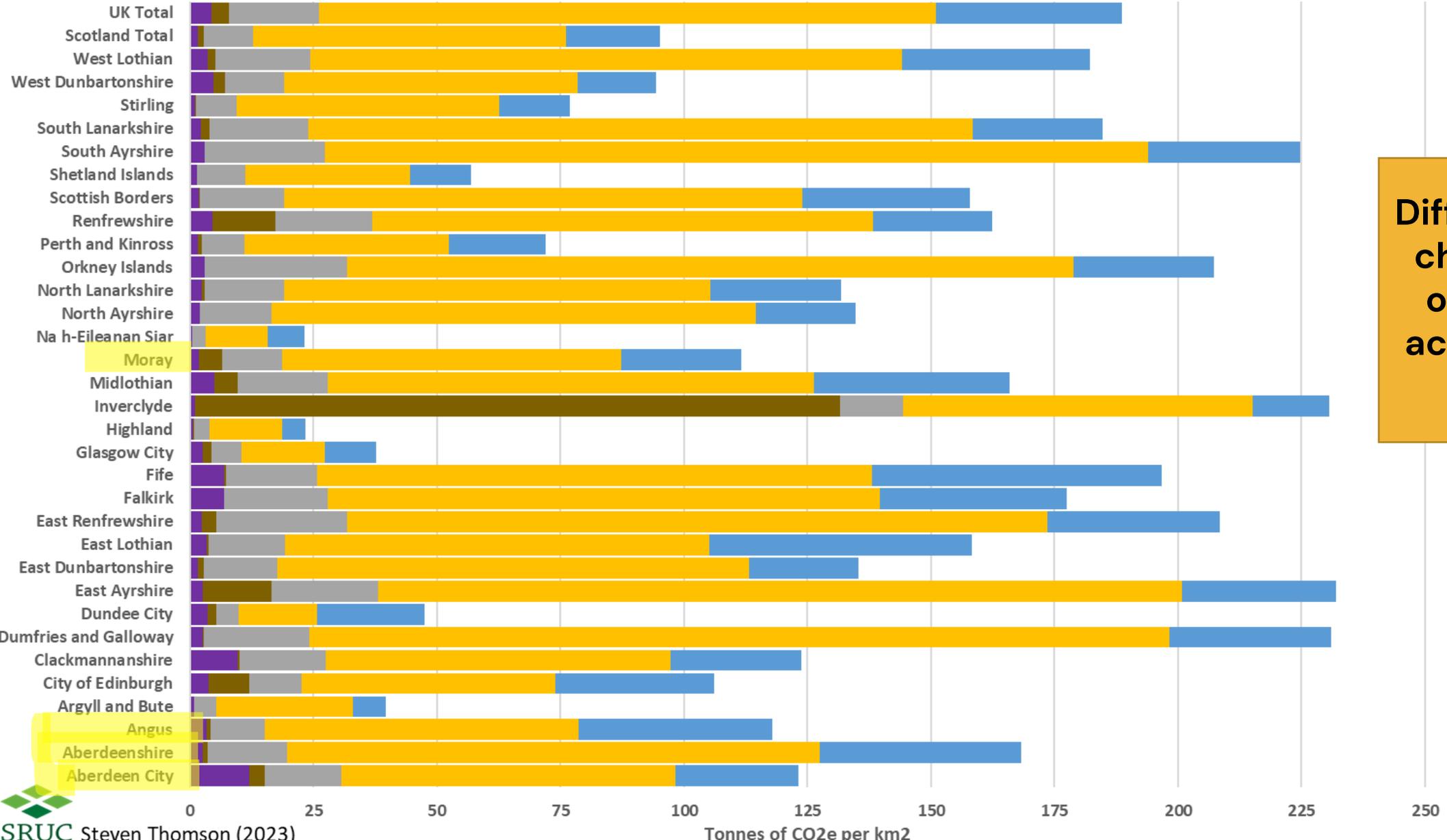
What are the upstream input supply and downstream processing impacts of change?

<https://www.gov.scot/publications/disaggregating-headline-smart-inventory-figures/>

Agriculture GHG emissions per km2 by local authority, 2020

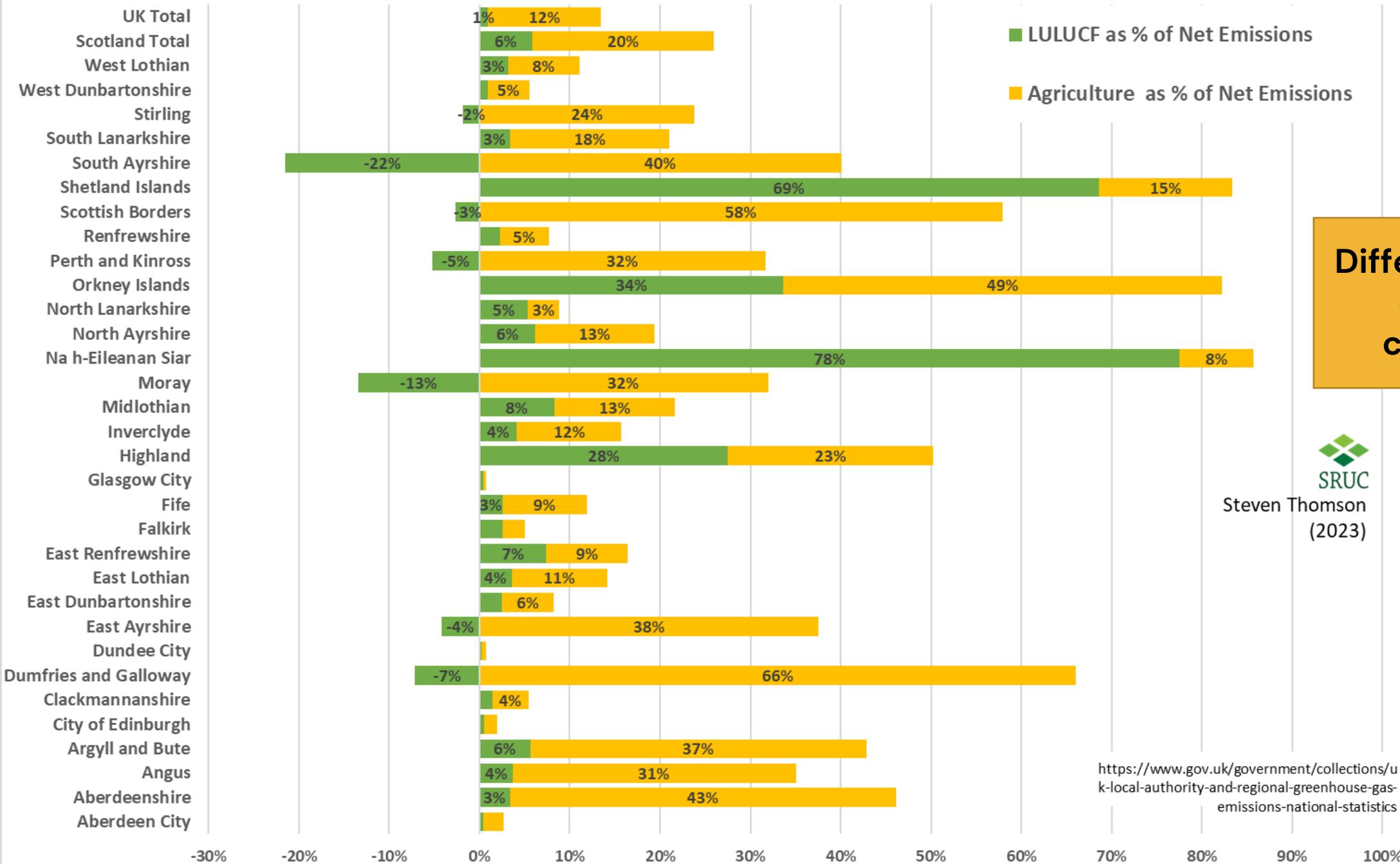


■ Agriculture Electricity/km2
 ■ Agriculture Gas/km2
 ■ Agriculture 'Other'/km2
 ■ Agriculture Livestock/km2
 ■ Agriculture Soils/km2



Different picture, challenges and opportunities across Scotland emerge

Agriculture & LULUCF as % of Net Emissions, by local authority 2020



**Different places,
different
challenges**



Steven Thomson
(2023)

<https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics>

Measures Applicable to tillage and grassland (continued)

Name	Description	Potential for GHG Saving	Uncertainties	Expected Time to market	Main Barriers	Implementation Pathway
Underground Sensors	Soil sensor system distributed under turf	Unknown	No study on underground sensors and GHG savings exist	1-3 years	High capital cost plus subscription-based services for data analysis	Grants for developing open source platforms to make metrics more useful.
Cloud-based bioinformatics	Cloud platforms to link genomic discoveries to plant breeding decisions	Unknown	Only supports GHG reduction indirectly	1-5 years	Lack of infrastructure	Encouragement of skills and training in metrics through training/degrees.
Biological nitrification inhibitors	The natural ability of certain plant species to release nitrification inhibitors.	Trial in New Zealand found reduced nitrous oxide emissions by 50% for the use of plantain within species rich swards.	The mechanism of this effect is not entirely clear	5-10 years	Regulatory compliance; Lack of evidence	More public funded research to trial and measure impacts in field conditions.

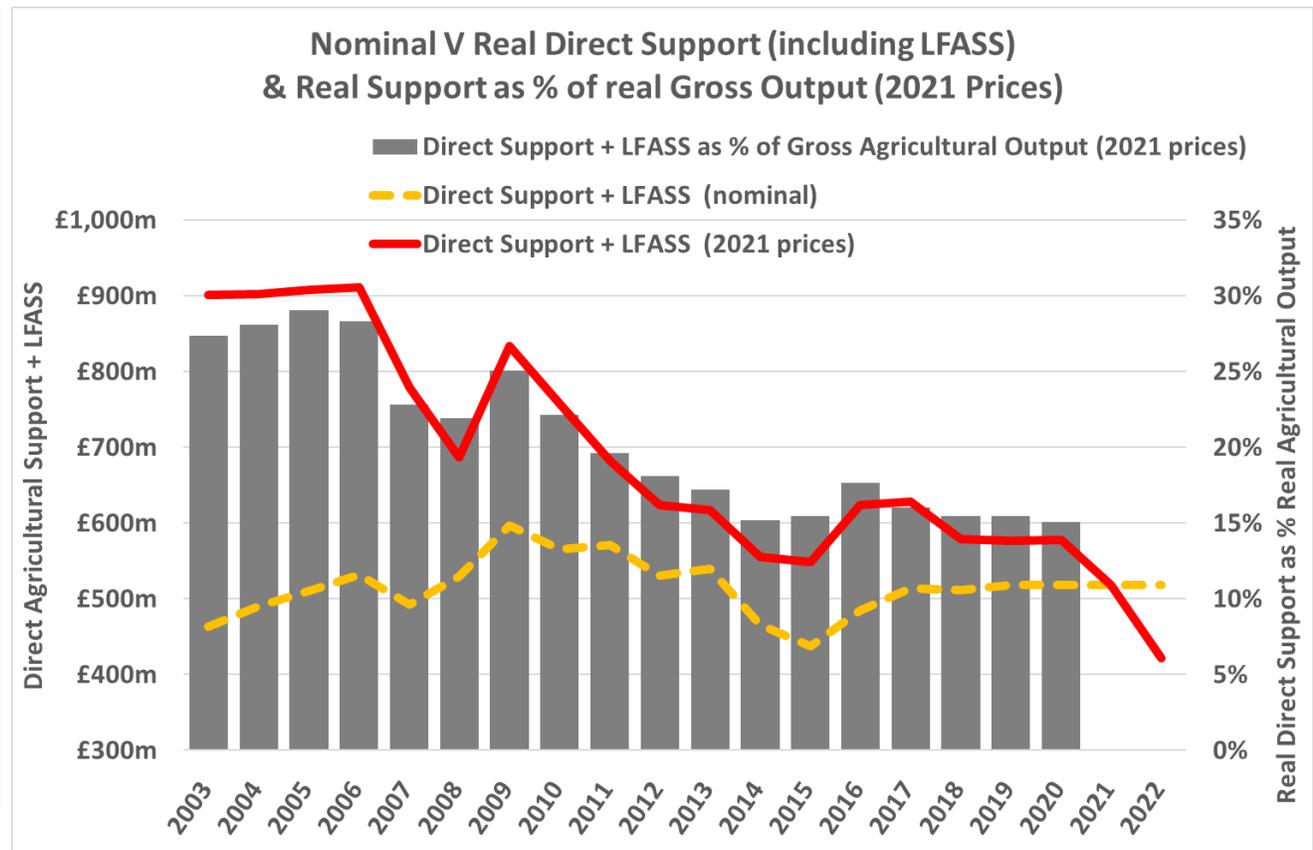
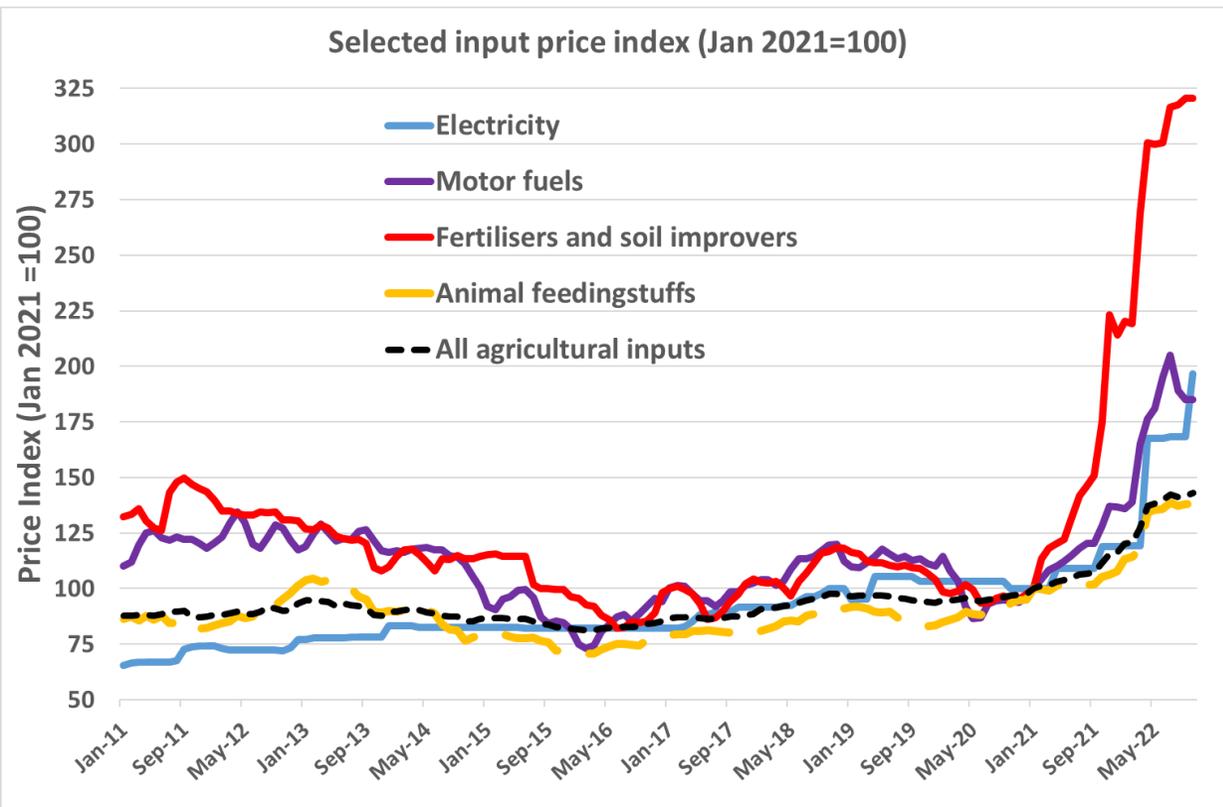
Measures applicable to livestock production (continued)

Name	Description	Potential for GHG Saving	Uncertainties	Expected Time to market	Main Barriers	Implementation Pathway
Genetic profiling/Genomic testing in breeding programme	Marker assisted management (MAM); . Marker-Assisted Backcrossing	Equivalent to an up to 8% reduction in methane emissions per year.	Trials conducted in Scotland	5-10 years	Lack of infrastructure; Costs of sampling and storage	Establishing test stations - similar to Beef Efficiency Scheme - to prove efficacy.
Fluoride and tannin additive to manure	The additive consists of the two naturally occurring substances fluoride and tannins	In pigs: 95% reduction in ammonia emissions, 99% reduction in methane emissions, and 50% reduction in odour.	Studies at lower dosages have not identified any emission reductions.	10-15 years	Cost of product; Regulatory compliance; Low evidence base	Support development work on demonstrating efficacy; Providing a source for usable tannins for the supply chain

Reducing emissions from agriculture - the role of new farm technologies

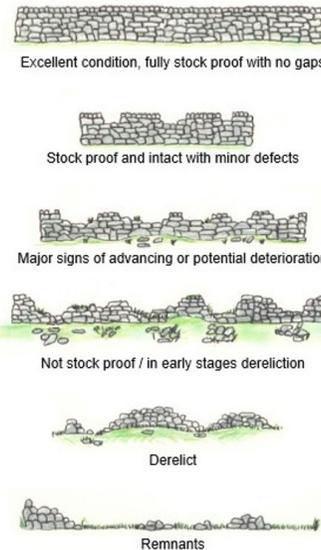
A report for Agricultural Policy Division

Agric Policy – real buying power of policy is falling



What is Conditionality?

- We already have it already!!
 - Cross compliance GAECs & SMRs
 - Greening
 - AECS



[Arable options](#)

[Grassland options](#)

[Upland, peatland, moorland and heath options](#)

[Wetland and bog options](#)

[Farmland habitat and feature options](#)

[Small unit options](#)

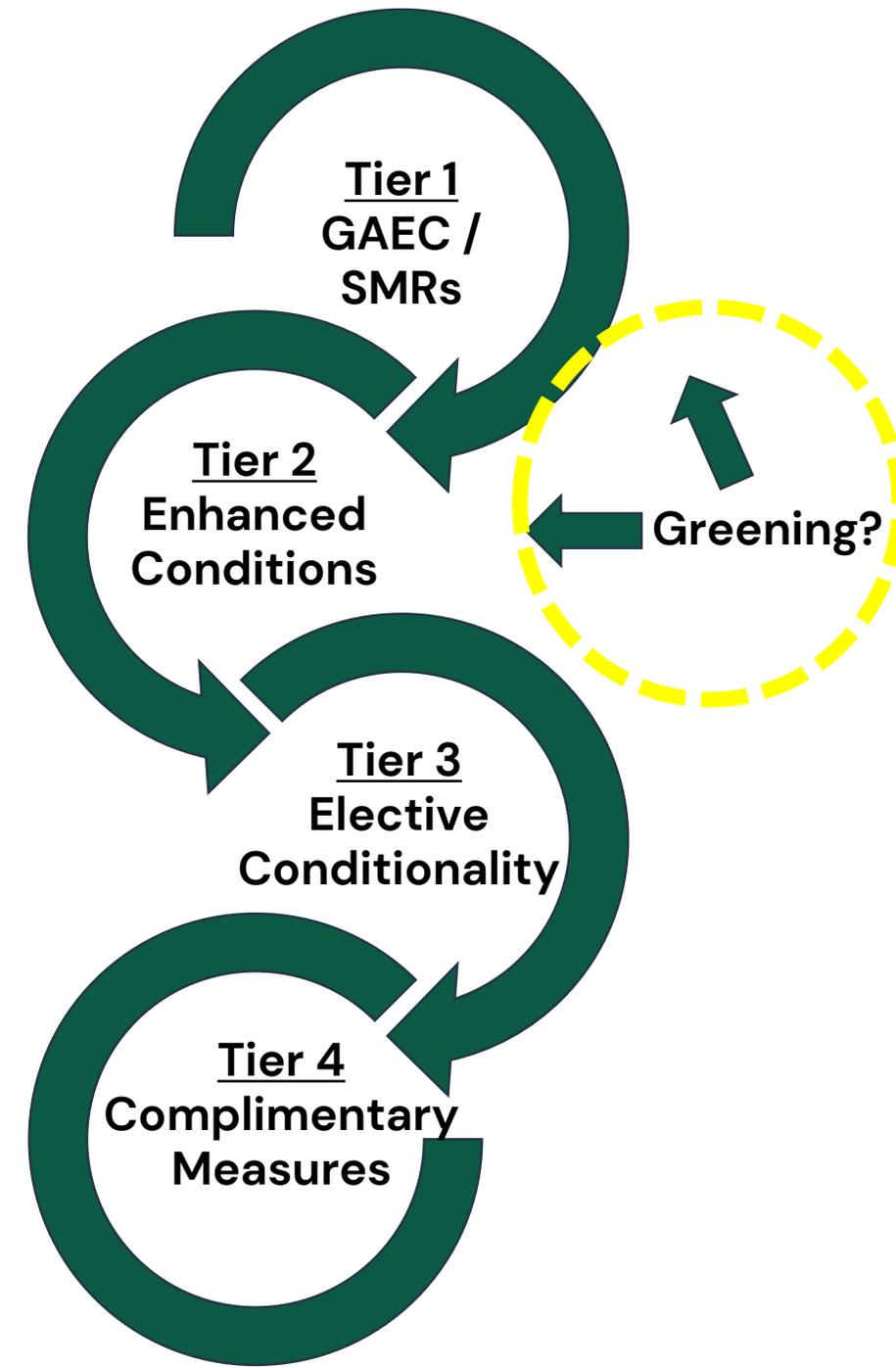
[Control of invasive non-native species options](#)

[Managing water quality and flood risk options](#)

[Organic options](#)

[Improving Public access options](#)

[All capital items \(note that some capital items are suspended or restricted for the 2023 round\)](#)



Existing support schemes

Existing Schemes

2025

2026

Basic Payment Scheme

Continues with some changes from 2025

Base Support

Enhanced Support

Voluntary Coupled Support

Continues with some changes from 2025

Less Favoured Area Support Scheme

Agri-Environment and Climate Scheme

Forestry Grant Scheme

Targeted Capital Support
(for example - Crofting
Agricultural Support Grant
or Agricultural Transformation)

Farm Advisory Service

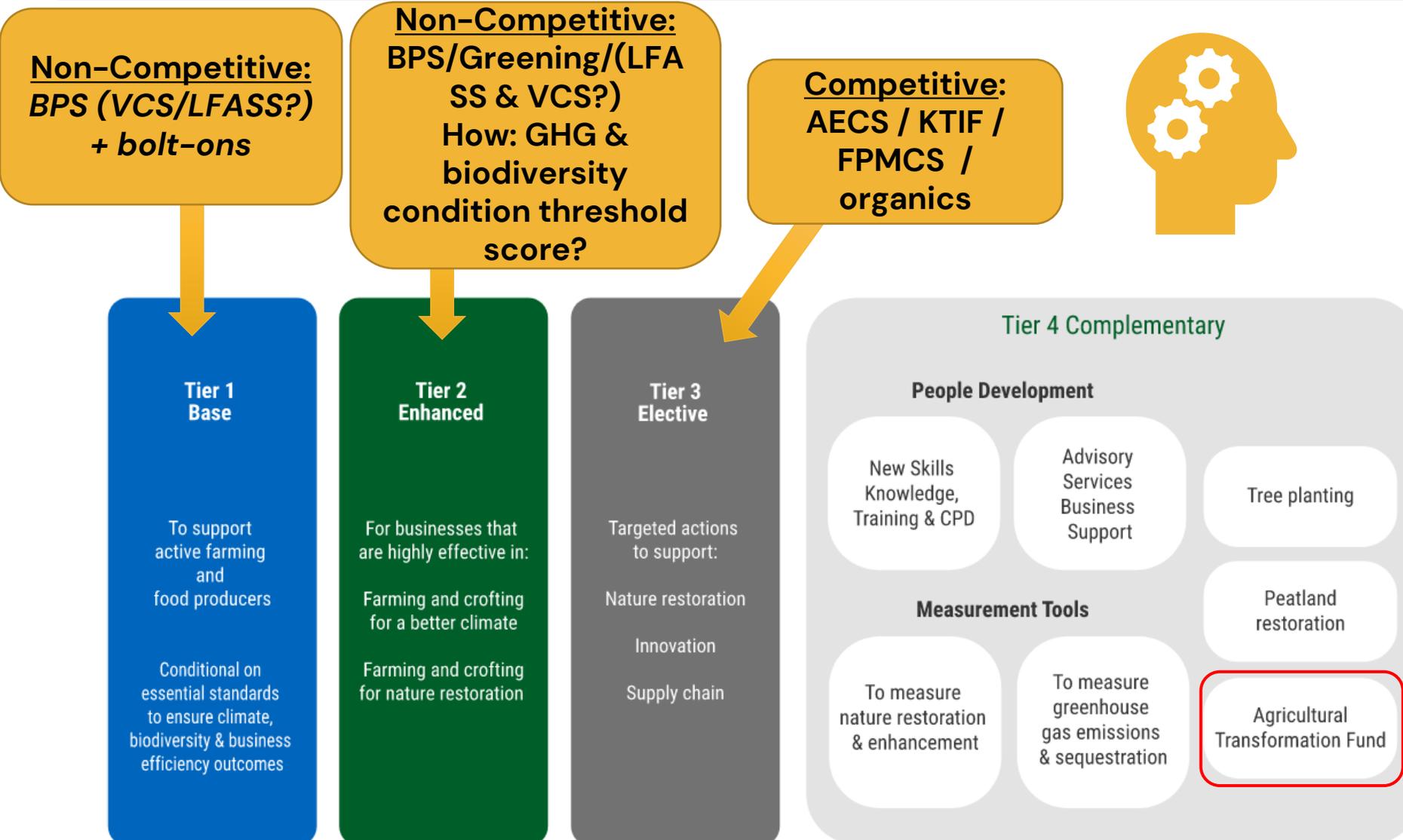
Preparing for Sustainable Farming

Continues until 2026 with
some potential changes
in 2025/2026.
for example - new conditions
or new delivery

<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-route-map/>

Expect some announcement of 2025 conditionality changes in June 2023 with detail to follow Jan 2024

Future Support Structure beyond 2025



- Budget allocation to tiers?
- EU alignment? – redistributive support / internal convergence / 'Lite' smallholder scheme?

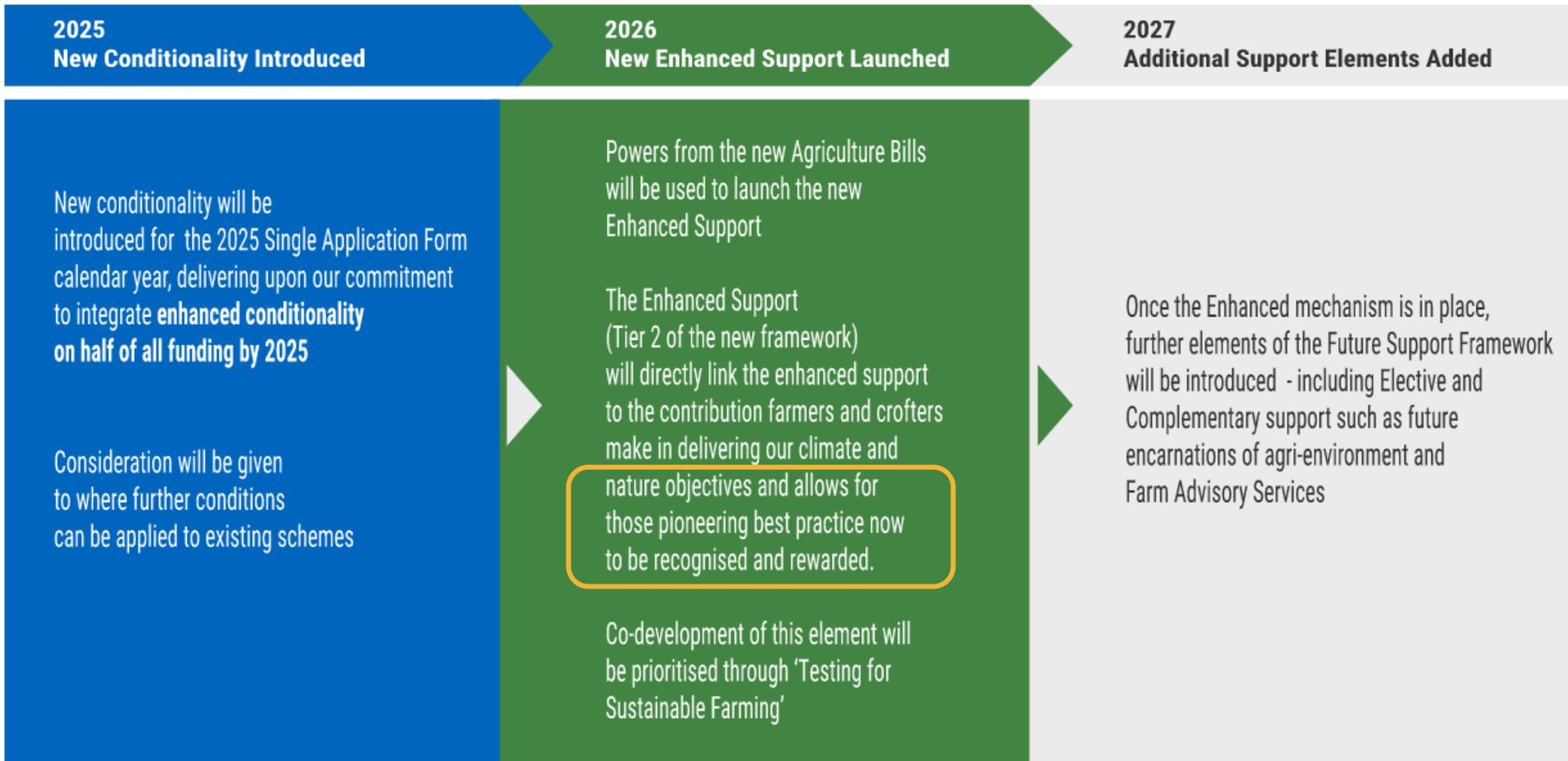
- Are current BPS regions fit for conditionality tier?

<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-route-map/>

Future Support Structure



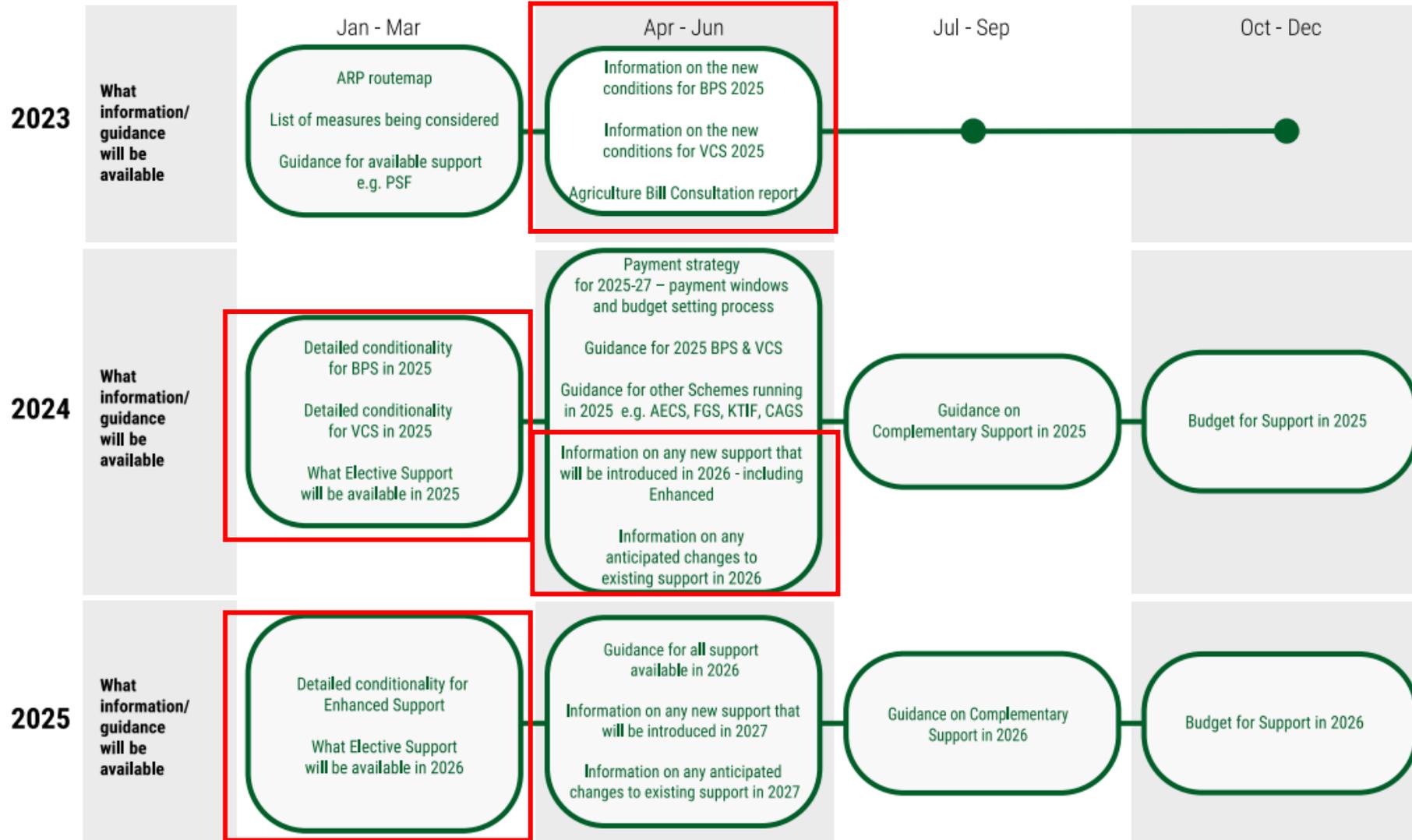
Future Support Framework: a phased approach



<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-route-map/>

The present payment regions will be kept as they are in the early part of the transition. The current three region model will be reviewed to ensure the Tier One 'Base' payment is fit for purpose for the future.

Informing Industry – timeline



<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-route-map/>

Preparing for Sustainable Farming (PSF)



- £500 for an eligible **Carbon Audit** <https://www.ruralpayments.org/topics/all-schemes/preparing-for-sustainable-farming--psf-/>
- £600 per 100 Ha of Region 1 land for **Soil Sampling**
 - £250 **Development Payment** can also be paid with the 1st Soil Sampling claim
- **Knowledge Transfer & Innovation Fund**
- Support for **animal health and welfare** (max £1,250 over 2 years)

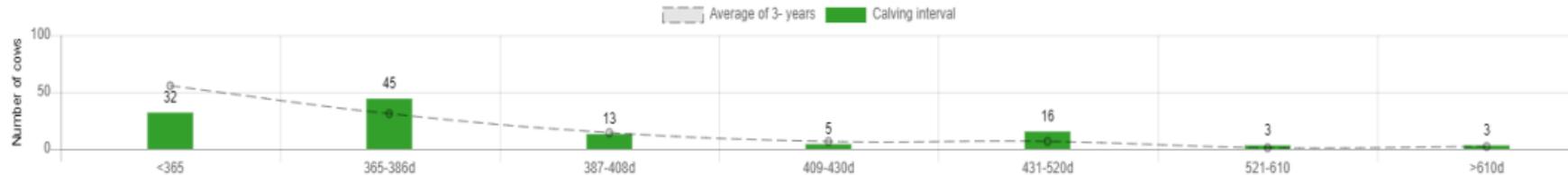
Applicable to cattle or sheep?	Summary of investigations
Cattle	Bull pre-breeding examination to British Cattle Veterinary Association standard
Cattle	Calf respiratory investigation +/- virus screen
Sheep	Screen 12 animals per management group (or all sheep if less than 12 in the flock) to determine sheep scab status of whole flock.
Sheep	Targeted iceberg disease investigation (options: Maedi Visna, Johnes, Border Disease, Contagious Lymphadenitis, lung scanning for OPA). Screen cull ewes prior to sale, selecting animals with low condition scores
Sheep	Flock lameness assessment by vet: identify conditions (including Contagious Ovine Digital Dermatitis) and their prevalence within the flock
Cattle or Sheep	Liver fluke: Faecal Egg Count on sentinel animals and flukicide efficacy testing
Cattle or Sheep	Gastrointestinal parasite (worm) investigation (Faecal Egg Count and wormer efficacy testing)

Preparing for Sustainable Farming (PSF)



- MyHerdStats

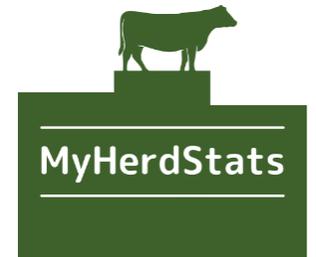
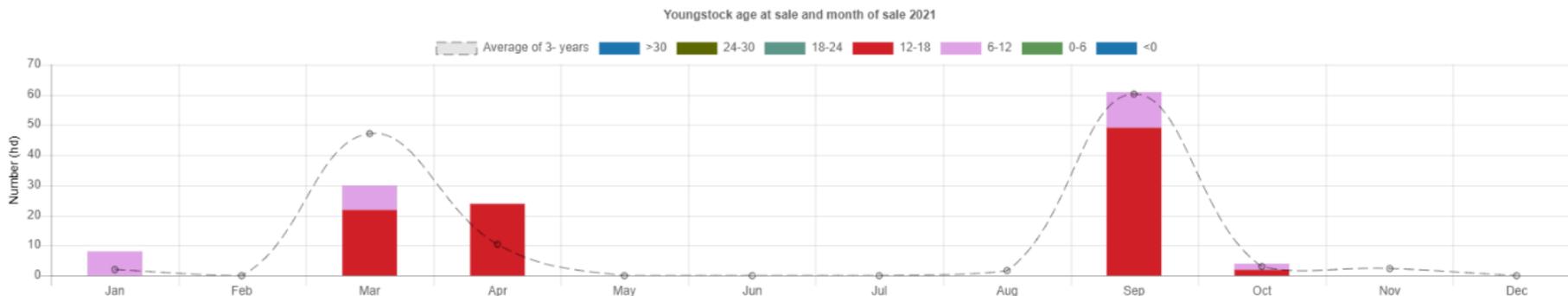
Calving Interval 2021



Youngstock Deaths Profile



Youngstock Sales Profile



https://scoteid.dozuki.com/c/MyHerdStats_Information_Note

Type of Land	Package	Measure
In Field - Cultivated Soils	Continuous Soil Cover	Winter cover
		Minimum/No Till
	Efficient / Reduced use of synthetic inputs	Efficient / Reduced use of inorganic fertilisers and lime
		Efficient / Reduced use of synthetic pesticides
		Use of N fixing crops
	Crop Diversity - arable	Diversify crop rotation and break crop rotation period (esp. for root crop)
		Inter-cropping, under-cropping and mixed cropping (e.g. peas and barley) and avoid monoculture
		Arable/ley rotations (transition from arable to arable/livestock mix)
		Biodiversity cropping and sylvo-arable systems
		Sylvo-arable systems
	Crop Diversity - grassland	Diverse sward species content (legumes-herb-grass mixtures) and use of herbal leys
		Regenerative grazing (mob, strip, adaptive multi-paddock grazing) on permanent improved grassland
		Bird friendly Crop Operations
		Sylvo-pastures
In Field - Margins and Uncultivated Features	Retain and Enhance Field Margins and Permanent Habitat Margins	Arable and Silage/Hay Crop Margins
		Water Margins
		Retain and Enhance In Field Biodiversity Cropping and Features
		Enhance existing Hedgerows
Uncultivated Permanent Habitats	Restore and Manage Existing Nature Rich Habitats	Manage Grazed Habitats
		Retain Traditional Cattle
		Summer Hill Cattle Grazing
		Introduction of Small-Scale Tree and Shrub Planting

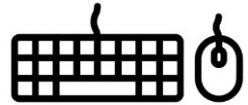
Sector	Package	Measure
Beef	Improving beef cattle nutrition	Supporting and incentivising improved beef cattle nutrition
	Improving beef cattle breeding	Supporting and incentivising genetic improvement of beef cattle
	Improving beef cattle health	Support maintaining and improving beef cattle health
	Methane reduction	Supporting appropriate uptake of feed products which reduce enteric methane emissions in beef cattle
Dairy	Improving dairy cattle nutrition	Supporting and incentivising improved dairy cattle nutrition
	Improving dairy cattle breeding	Support and incentivise genetic improvement of dairy cattle
	Improving dairy cattle health	Support maintaining and improving dairy cattle health
	Methane reduction	Supporting appropriate uptake of feed products with reduce enteric methane emissions in dairy cattle
Sheep	Improving sheep nutrition	Supporting and incentivising improved sheep nutrition
	Improving sheep breeding	Support and incentivise genetic improvement of sheep
	Improving sheep health	Support maintaining and improving sheep health
	Methane reduction	Supporting appropriate uptake of feed products with reduce enteric methane emissions in sheep
All	Nutrient management	Efficient nutrient management

<https://www.ruralpayments.org/topics/agricultural-reform-programme/arp-list-of-measures/>

Acknowledgements



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