

# **Farming and Food Production Future Policy Group Recommendations to Government**

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## Executive Summary

On 10 January 2019 the Scottish Parliament debated on future rural policy and support in light of the uncertainties stemming from the UK voting in 2016 to leave the EU. The motion agreed by Parliament called on the Scottish Government to “convene a group consisting of producer, consumer and environmental organisations to inform and recommend a new bespoke policy on farming and food production in Scotland”. The Scottish Parliament also acknowledged that Scotland’s future farming and food production policy should be founded on key principles, including sustainability, simplicity, innovation, inclusion, productivity and profitability.

As a result, the Farming and Food Production - Future Policy Group (FFP-FPG) was established by the Cabinet Secretary for Rural Economy to develop and make recommendations around the broad principles for the future of farming and food production policy from 2024 onwards with the expectation that future policy focuses on enhancing biodiversity, lowering greenhouse gas (GHG) emissions, growing the rural economy, maintaining populations, tackling poverty and reducing inequalities. The Group recognised the need to put this report in the context of current thinking and policy proposals initiated by industry and government. We met over several days throughout the following year, and heard from a range of contributors across the agricultural, environmental, business, food and land management sectors. Summaries of all meetings (including presentations) are available on the [Scottish Government website](#).<sup>1</sup>

We acknowledged that the climate and environment emergencies require a radical change in approach to the way we manage and use our land, to address the challenges in a way that is effective and maximises the economic opportunity for rural for Scotland. We consider that Scotland has the potential to be one of the most advanced and capable agricultural industries in the world, and build a formidable reputation for quality, skilled and knowledgeable people, underpinned by an enviable research and development base.

We recognised the importance of farming and food production and the crucial role it plays in meeting our basic needs, and the role which land-based economic activities, of which agriculture is one, can play in meeting a range of government objectives: sustainable food production, emissions reductions and carbon sequestration, biodiversity enhancement, and strengthening rural communities. As a result we felt all this needed to be considered in an integrated place-based<sup>2</sup> way. Accordingly, our vision for 2050 is:

### **Vision 2050:**

*Productive land-based businesses contributing to vibrant, thriving and inclusive rural economies, enabling sustainable food production, whilst restoring and protecting Scotland’s environment*

<sup>1</sup> <https://www.gov.scot/groups/farming-and-food-production-group/>

<sup>2</sup> <https://www.gov.scot/publications/place-principle-introduction/>

At the time of writing this report, communities and businesses across Scotland, as with so many other nations, continue to be severely affected by the Covid-19 outbreak. Significant uncertainties remain about the scale of its impact and the nature of the social and economic recovery required as the pandemic continues across the UK and Europe.

We welcome the findings of the Advisory Group on Economic Recovery<sup>3</sup> which found that the key drivers of future economic performance have not fundamentally changed – principally Brexit and climate change. The Advisory Group's findings echo our view of the importance that Scotland's natural capital, land use choices and nature-based solutions can play in the recovery and future economic growth.

We have grouped our recommendations into three broad, but closely interconnected, workstreams through which to achieve the ambition set out in this Report: **business**, **environment** and **people**. Like many others, we recognise the value of piloting new ideas during the transition period to inform decisions on future policy. Designing and implementing pilots should therefore be a priority for each workstream. These pilots should be devised in a way that draws appropriately on all relevant expertise to inform sustainable, achievable and measurable change: change that adheres to the principles of a Just Transition; offers value for money; supports sustainable farming and food production in delivering to our goals of tackling climate change and restoring our environment; and is flexible enough to capitalise on local opportunities and tackle local challenges. It is essential that pilots deliver win/wins and that their impact and effectiveness is assessed across the breadth of the three workstreams, rather than in isolation.

The National Outcomes<sup>4</sup> detailed in the Scottish Government's National Performance Framework<sup>5</sup> set out a range of overarching ambitions for Scotland, together with relevant supporting strategies and initiatives: for the economy, communities, food and drink, diet, health, and the environment, with which all actions should be aligned.

We support the development of specialist sectoral stakeholder groups to work up detailed pilot proposals and policy proposals for individual sectors such as arable and upland farming, based on the identified principles and outcomes within this report, and in line with the work of groups such as the Scottish Government's Suckler Beef Climate Group<sup>6</sup> and the recently released Farming for 1.5 report<sup>7</sup>.

The objectives and challenges we face are played out in a complex system with multiple interactions and the risk of unintended consequences. It will be critical for success that the three workstreams take a systems approach to their work and operate in a closely joined up fashion.

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<sup>3</sup> <https://www.gov.scot/publications/towards-robust-resilient-wellbeing-economy-scotland-report-advisory-group-economic-recovery/>

<sup>4</sup> National Outcomes | National Performance Framework

<sup>5</sup> National Performance Framework | National Performance Framework

<sup>6</sup> <https://www.gov.scot/groups/suckler-beef-climate-group/#:~:text=Suckler%20Beef%20Climate%20Group%20Overview%20The%20Scottish%20Government,legally%20binding%20targets%20to%20reduce%20greenhouse%20gas%20emissions.>

<sup>7</sup> <https://www.farming1point5.org/reports>

## **Business: sustainable, productive, low-emission agriculture**

We want to see in Scotland an agriculture sector and its associated supply chains that produce high quality, nutritious food in a sustainable way, with significantly reduced emissions, improved productivity, and lower environmental impact.

Within the primary production sector, there is a broad spread of performance across both sustainability and productivity measures. More needs to be done to raise the performance of all towards the performance of the best, including where appropriate through risk-based regulation. Industry-wide pilots, including those emerging from the outputs of farmer-led groups such as the Suckler Beef Climate Group and Farming 1.5 should also provide opportunities for testing how farming can meet sustainability objectives. Consideration should also be given to ongoing work that considers the needs of specific regions. For example, the Highlands and Islands Agricultural Support Group (HIASG) have published work on exploring how to address the particular needs of that region to support productive agriculture and positive environmental outcomes in the post-Brexit world<sup>8</sup>.

Primary agricultural production has historically acted at distance from its final market. Increasing the market awareness of primary producers and developing mechanisms to support their operation as a fully integrated part of the food and drink supply chain, where quality is properly rewarded by the market and value fairly allocated along the supply chain, is likely to bring benefits. Food is a market good and it is therefore essential that producers are connected to, and able to respond to, market demands. The Covid-19 emergency has seen a welcome upswing in interest in local provenance and supply chains but there is no doubt that businesses throughout the supply chain will need to capitalise and consolidate on shared resources, data, knowledge and experience to both sustain and expand this demand. Data in particular will be of paramount importance to the supply chain and the opportunity to use data-driven systems, for example the forthcoming Bovine EID, to capture information relevant for both Government and the whole supply chain should be explored.

Productivity and sustainability can, and should, work in partnership and together can develop a marketable product that benefits the supplier, the consumer and the environment. Scottish produce already trades on the positive 'green' image of Scotland but there is scope for industry and producer bodies to do more to support the development of agreed industry standards for a pan-organisational, clearly understood, recognisable and trusted brand that promotes the provenance, quality, green credentials and (where appropriate) high animal welfare quality of Scottish produce.

It is essential to recognise that the emission reductions achievable by decarbonising agricultural production practices will not be sufficient to ensure that Scotland is net zero by 2045. In addition to making these changes, the vast majority of businesses in the agricultural sector will also need to take further environmental actions. The land use changes needed will bring challenges but will also create new job opportunities

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<sup>8</sup> [HIASG-Brexit-Position-2020.pdf \(ruralbrexit.scot\)](#)

and provide opportunities to develop new business models and strengthen the position of the agricultural sector in Scotland to trade on its 'green credentials'.

## **Environment: investing to restore and maintain our natural capital**

We recognise the urgency of tackling the climate and biodiversity crisis through restoring our environmental ecosystems and natural capital assets. These include increased afforestation, peatland restoration and landscape level ecological improvement. There is a strong rationale for using public money to support the provision of public goods and services such as biodiversity, flood mitigation, clean air and water and those which are essential to address climate mitigation. Scotland's landscape is world-renowned and the basis of much of our rural tourism industry: we need to invest in this asset to continue to attract visitors and ensure our rural areas are places which are appealing to people to live, work, and enjoy.

### *Public Goods*

The term public goods is used widely, and needs to be distinguished from other terms such as "ecosystem services" or "public benefits". While some ecosystem services and public benefits are public goods, not all are and the terms are not interchangeable.

A public good is a type of good that is 'non-exclusive': people cannot be excluded from using it, and 'non-rivalrous': one person's use of it does not reduce the amount available for others. As a result, public goods do not tend to be bought and sold on the market.

Natural capital, and the flow of ecosystem services it provides, are not all public goods. Broadly speaking it is regulating, cultural and supporting services, such as biodiversity, that fit the public goods definition. Provisioning services typically provide goods that are valuable to society, can be bought and sold as market goods—and can be extracted to the detriment of other ecosystem services.

Government may intervene to *increase* the provision of public goods for the benefit of wider society (e.g. by increasing biodiversity or reducing greenhouse gas emissions) which would not otherwise be provided by the market. Similarly, government very often supports goods which have public benefit- good for the public but not public goods (e.g. transport infrastructure).

As stated in the Economic Action Plan, investment in these natural assets overall will deliver a healthier and more prosperous Scotland.

We believe that a vigorous and proactive approach to tackling sustainability issues is consistent with realising opportunities for growing further the strong and vibrant Scottish food and farming industry. There are many examples of where productivity goes hand-in-hand with environmental benefits and we propose a series of actions which consider how to build on these.

Pilots should be developed to test how provision and restoration of public goods could be rewarded at farm level, and how far the concept of payments by results can be applied in practice. There is an opportunity to consider how diversification into activities which build on the availability of public goods can bring in business income,

for example, through capitalising on scenic areas and the different types of tourism that brings, or through renewable energy.

The opportunities offered by Regional Land Use Partnerships (RLUPs) to drive large-scale land-use change and landscape level environmental improvement should be tested as part of the existing Scottish Government commitment to establish these partnerships from next year. Clear mechanisms must be established for all stakeholders, including land managers and local communities, to be involved.

Critical to underpinning this and other workstreams is a solid baseline understanding of the state of our natural capital, building on the recommendations of the Natural Capital Committee<sup>9</sup>, and developing appropriate tools and approaches to monitoring and evaluating biodiversity and other environmental outcomes. Testing such methods needs to be embedded into pilots. We also need to develop our understanding of the wider economic benefits of having a healthy natural capital stock in order to better inform opportunities for leveraging private finance to invest in natural capital.

### **People: growing skilled resilient rural businesses and communities**

Fundamentally, change is about people: a significant and rapid cultural shift is needed to realise our vision. In making choices about how we use and manage land we need to balance the needs of people with the needs of nature and the environment. Farmers, crofters and land managers play a vital role in supporting rural populations and rural culture and heritage. By acting decisively, we can realise new opportunities in the 'green economy' for new jobs, income streams and businesses, thereby strengthening rural communities through rural economic growth. This could include diversifying away from traditional farming activities, into areas such as agri-tourism, renewable energy production, forestry, crafts, to create businesses which are resilient and provide regular, year-round employment in addition to traditional seasonal-work.

Our ability to retain local workers will be critical to meeting our Food and Drink 2030 ambition<sup>10</sup> alongside our climate change targets. Although there are many high quality individuals in the industry today, farming and food production are not often the natural first choice for well qualified college leavers. This needs to change – a re-imagining and re-presenting of the industry is needed to change perceptions, based on career progression and earning possibilities, job satisfaction and variety of experience, life style choices and contribution to Scotland's future. An increase in diversification can also mean an opportunity for diversifying the capacity for change within our primary producer workforce. To take advantage of these opportunities, farmers and land managers will need support in re- or up-skilling and in moving to a culture of lifelong learning.

There is a multitude of initiatives within the knowledge and innovation landscape. These can be fragmented and not structured to best meet the needs of users in a coordinated and consistent way, or linked to the wider supply chain needs and business investment requirements. Given the changes ahead, a strong Rural

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<sup>9</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/921414/ncc-advice-environmental-baseline.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921414/ncc-advice-environmental-baseline.pdf)

<sup>10</sup> <https://foodanddrink.scot/resources/publications/ambition-2030-industry-strategy-for-growth/>



Knowledge and Innovation system (RKIS) will be essential for developing the capacity within our people to embrace and embed change both at primary production level and within our wider supply chains. Enhancing knowledge flows and strengthening links between research and practice will be critical if we are to enhance agri-food supply chains swiftly, take environmental and climate action, and strengthen the resilience of rural areas. Government and others should review the current knowledge and innovation landscape with a view to better aligning it with wider supply chain needs and reshaping it to form an integral component of any future support scheme. There is scope for developing pilots which explore and refine optimum methods for providing this advice and knowledge transfer, and testing its effectiveness, and we recommend that this be taken forward as quickly as possible to facilitate a swift transition to new practices and to begin building capacity within our people to embed further business change.

A key challenge is to ensure that succession planning is adopted as a normal part of farm business planning and is another example of the cultural change that is required. To help renew and refresh the workforce, we need new mechanisms to both support and enable current farmers who wish to exit the industry and attract new entrants, promoting diversity, as part of wider work to encourage young people to live and work in rural Scotland. The existing land-matching service could be expanded to support this work.

We are also clear that Scotland's diversity means that a "one-size-fits-all" approach is not appropriate. Scotland's geography means that farming, food production and land use are highly diverse across Scotland, with different balances—and opportunities—across economic, environmental and social outcomes. In some areas rural depopulation is a very significant concern; in others there is more opportunity for carbon sequestration. The common challenge is seeking the best local balance.

We make three clear calls to the Scottish Government:

**Be ambitious:** this is an opportunity to step out from the constraints of the Common Agricultural Policy (CAP) and to learn lessons from a period of crisis and uncertainty. While it is always a challenge to step into the unknown, it is an opportunity for a radical—and positive—rethink. This is our chance to think differently and be bold. We encourage the Scottish Government to be so.

**Be clear:** a stronger sense of our direction of travel is needed. Farmers, land managers and food producers need to know where Scotland's future rural policy is heading in order to prepare for the future and target their investment and activity effectively and efficiently. Achieving our vision needs Government endorsement and support to ensure a shared understanding of collective goals and how these will be achieved.

**Act now:** there is no time to waste. We have not defined the specific details of pilots, but we have set a direction for the Scottish Government to develop them. There are already pilots getting under way: the Scottish Government should develop an overarching programme in order to identify where further pilots may be necessary and develop these with urgency.

We have set out eight principles, upon which a strategic framework can be created and under which every policy and delivery mechanism can be measured. The principles framing the substantive body of our report will be of limited value if they are not taken forward. We set out below how these can be translated into actions that will inform the development of future policy, which needs to be radically different to the present to deliver our ambitions

Our recommendations are grouped under 8 **guiding principles clustered around the following themes:**

- Understanding change and realising outcomes
- A skilled and innovative land-based bioeconomy
- Investment in our natural capital
- Governance and regulation of future mechanisms
- Just Transition

Each of the eight guiding principles comes with a suite of **recommended actions** intended to underpin both the development and implementation of future policy and support.

### **Understanding change and realising outcomes**

1. The objectives that the Scottish Government sets for rural Scotland must be ambitious, coherent, clear and measurable. They must contribute to meeting Scotland's net zero obligations and biodiversity targets, reflecting the need to sustain and enhance natural resources and the public goods we derive from our land.
  - The Scottish Government should clearly set out both the next steps following publication of this Report and its long term direction of travel for future rural policy;
  - Incentivise options for food production systems to become market-oriented and meet climate change and biodiversity targets, through outcome / results based payments and the transformation of business culture and behaviour;
  - Support and enable a shift towards appropriate integrated mixes of alternative land use at the appropriate scale for environmental and economic resilience, e.g. activities such as agroforestry, farm woodland creation, and peatland restoration to meet climate change and biodiversity targets;
  - Create, support and refine tools to support whole farm and landscape planning;
  - Develop improved methods of measuring GHG and ammonia emissions of land-based and non-land based businesses that contribute to the rural economy.
2. Payments and interventions must be directed towards delivery of a clear set of outcomes that meet public policy objectives for food and drink production, society, economy and the environment.

- Public funding should be directed towards delivery of public goods, which are not being delivered through the market, with approaches being flexible, but well targeted;
- Rewards should as far as possible reflect the value of the output delivered and the cost of producing it, not the income foregone from potential alternative activities;
- Develop appropriate tools, techniques and approaches for monitoring and evaluating biodiversity, other environmental and economic outcomes (including productivity).

### **A skilled and innovative land-based bioeconomy**

3. We must be ambitious for Scotland, recognising our inter-dependencies with other Scottish Government public policy goals, with other sectors and with systems of food and farming elsewhere.
  - Strengthen the role of the food producer in the supply chain through targeted investment in skills, business development, innovation, co-operation and collaboration;
  - Define standards for, and invest in the promotion of, a pan-organisational, clearly understood, recognisable and trusted brand which promotes the provenance, quality, green credentials, and where appropriate the high animal welfare quality, of Scottish produce;
  - Strengthen collaboration and strategic, data-driven communication between producers and between constituent parts of the supply chain, including through co-operatives and producer organisations. This will help producers to capitalise and consolidate on shared resources, data, knowledge and experience, and to streamline approaches to production and delivery;
  - Work closely with policy makers elsewhere in the UK, the EU and beyond to develop policy for Scotland that aligns with the policies of others where appropriate;
  - Drive demand for, and deliver, healthy, sustainable food choices, and utilise existing initiatives such as Good Food Nation<sup>11</sup> to help inform and deliver these approaches (e.g. through procurement);
  - Build on the ambitions of successive Scottish Organic Action Plans to realise opportunities for the organic food and drink supply chain;<sup>12</sup>
  - Increase value added business opportunities within Scotland (e.g. processing, manufacturing), retaining more processing capacity within the Scottish economy and within the Scottish food and drink supply chain.
4. Invest in a holistic approach to research, knowledge transfer and innovation to help facilitate the rapid transition to a sustainable rural economy which reflects diversity of land use, enterprise and community.

<sup>11</sup> <https://www.gov.scot/policies/food-and-drink/good-food-nation/>

<sup>12</sup> <https://www.gov.scot/publications/organic-ambitions-scotlands-organic-action-plan-2016-2020/pages/5/>

- Make better use of the knowledge and innovation systems that we already have in place, harnessing the power of existing networks alongside new approaches to facilitate truly transformational change;
- Review current approaches to investment in knowledge and innovation across land use, farming and food supply chains in Scotland and elsewhere with a view to developing a new RKIS for Scotland;
- Ensure the provision of appropriate, high quality technical advice, including around data capture and usage, and make provision for appropriate funding to support rural enterprises to innovate to increase profitability, enhance biodiversity and make a sustainable transition to a low-carbon economy;
- Strengthen links between researchers and practitioners, to support the rapid application of learning, and help communities and businesses to realise opportunities based on solid and reliable information;
- Support the development of higher educational provision that develops a skills-base of knowledge for the future, and encourage the implementation of a Continuous Professional Development (CPD) scheme to upskill those in the rural economy;
- Create opportunities for generational renewal, including support for new enterprises and the provision of an exit route for land managers and food producers.

## **Investment in our Natural Capital**

5. Protect, invest, and restore natural capital (soil, water, air, biodiversity) on which sustainable communities and economies are dependent.
  - Improve our understanding of the best ways to protect, restore and invest in our natural capital and ecosystem resilience in a targeted way, including learning from other countries;
  - Develop a Scottish natural capital census;
  - Invest in skills and people to underpin investment in natural capital;
  - Introduce landscape scale interventions for public goods such as biodiversity, climate mitigation, climate adaptation (e.g. flood alleviation), ecological connectivity (likely to also include large scale land use change e.g. to integrate woodland and forestry into farming, restore peatlands and restore and create other carbon and nature-rich habitats such as saltmarsh and wetlands);
  - Directly link payments to support the delivery of desired measurable outcomes utilising various methods, for example; through mandatory soil testing, carbon audits, vegetation and wildlife surveys;
  - Create a framework for considering new technologies which increase resilience to climate change and enhance productivity, for example through agritech and new plant breeding techniques;
  - Provide support for strategies which recognise the importance of Scotland's landscapes in providing public amenity and develop and underpin our visitor economy.

## **Governance and regulation of future mechanisms**

6. The costs of implementing and regulating any policy measures should be proportionate to societal and economic benefits.

- Develop a robust regulatory baseline which is fit for a net zero future;
- Commit to appropriate and proportionate regulation alongside public investment to enable delivery of outcomes;
- Develop a risk-based approach to penalties and inspections;
- Clearly set out the responsibilities of participants in the implementation of actions and the delivery of outcomes;
- Develop policy frameworks and systems that are resilient and responsive to the dynamic nature of market and real-world demands.

7. Future land use should be informed and guided by collaboratively designed frameworks (e.g. urban-rural interdependencies) intended to marry national ambitions, priorities and targets with local realities, knowledge and aspirations.

- Foster, support and use locally developed collaborative ventures, particularly through RLUPs, to create, develop and deliver flexible, locally delivered and managed policy approaches and support mechanisms that are aligned to a national framework;
- Explore opportunities for leveraging in private finance to invest in natural capital to support desired outcomes.

## **A Just Transition**

8. We must acknowledge that transformation has far-reaching implications for people and the economy, and adhere to Just Transition principles.

- Urgently initiate the start of transition, recognising the action required to meet interim and long term climate and biodiversity targets. Any delay will result in more extreme measures being required at a later date;
- Follow processes to implement significant change in a way that manages disruption to people and economy and creates new jobs, skills, investment and opportunity in order to achieve a more equal and resilient economy;
- Sense-check that delivery of the actions above will achieve the desired outcomes in the timescale available without unintended adverse consequences;
- Front-load activities as appropriate to achieve emissions reductions as quickly as possible;
- Develop and implement wide-reaching communication strategies to keep people informed about what is happening and give them the opportunity to participate in designing policies;
- Develop and implement strategies which support people through the period of change in order to effect a transformation which is locally-led, locally-managed and sustainable.

This report has been arranged in three sections, starting with a look at **emerging priorities**, focusing on land-based bioeconomy, food and drink, climate change, biodiversity and natural capital as well as the development of policies in the EU and the rest of the UK. Section 2 sets out our thinking behind the **recommendations** summarised above, and finally, Section 3 sets out what we think the **next steps** are. Our recommendations are grounded in robust, up-to-date evidence looking closely at farming, food production, land use and rural development with particular emphasis on the current CAP, and we have set that out in the **Annex**.

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# 1 Emerging priorities

This Group was convened to envision what the future of rural Scotland could look like, and what actions should be taken to address the multiple challenges facing farmers. Scotland's landscape is home to a rich tapestry of natural resources. These resources have long been used as the bedrock of the Scottish rural economy, with primary production of a range of products from food and drink, to timber and renewable energy driving job growth and manufacturing industries within the wider economy.

Despite this long-held success, Scotland's primary producers are at a crossroads. Many types of farming system have delivered poor or no financial return for many years now. We have generational stagnation, with the next generation finding few routes in to start farming, while simultaneously some of the current generation of farmers struggle to find an exit route.

The global emergency is a joint climate and environmental one. Halting biodiversity loss and restoring the environment needs to go hand in hand with reducing emissions. Reforming our approach to land use and management will be core to achieving climate change and environment targets. The recent Environment Strategy<sup>13</sup> for Scotland sets out the need for significant action to restore the health and vitality of our natural environment whilst reducing emissions and producing high quality food.

The Covid-19 pandemic presents new unknowns for future economic growth in the medium to longer term. The most significant impacts thus far have come through the restrictions that lockdown and social distancing have caused on the labour market, which is expected to cause some level of disruption across most sectors of the economy. It is likely that any recovery will take time as businesses and consumers grapple with adaptation to the new normal.

During the pandemic however, it is also notable how people in lock-down have turned to nature, greenspaces, gardens and their local countryside as a source of physical and mental well-being. Many people unable to shop as normal have also turned to local food suppliers including farm shops, box schemes and other delivery services. With increasing calls for a green recovery from a range of quarters, there are opportunities to face the future economic challenges in a different way and with new models of sustainable, inclusive economic growth.

All of this, combined with the historic vote in 2016 to leave the EU, has led us to this point where we now have the biggest opportunity in our lifetime to fundamentally renew our farming and food production businesses through development of policies to tackle climate change and biodiversity loss, support sustainable food production, and build thriving rural communities.

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<sup>13</sup> <https://www.gov.scot/publications/environment-strategy-scotland-vision-outcomes/>

## 1.1 Climate Emergency

The Climate Change (Scotland) Act 2009 had a target of a 42% reduction in GHG emissions by 2020, compared with a 1990 baseline. The target reduction was surpassed by 2016<sup>14</sup>. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019<sup>15</sup> introduced new, more ambitious targets in order for Scotland to play its part in keeping global warming below 1.5 degrees, in line with the 2015 Paris Agreement.

The 2019 Act requires the Scottish Government to achieve emissions reductions of 56% by 2020; 75% by 2030; 90% by 2040 and net zero by 2045, consistent with advice from the UK Committee on Climate Change<sup>16</sup> (CCC). In addition there are new annual targets, reporting duties and the requirement to establish a citizens' assembly. The Act also places a duty on the Scottish Government to establish a national nitrogen balance sheet by 23 March 2022. Nitrous oxide is around 300 times more potent than carbon dioxide as a GHG. This is of particular importance for agriculture, as the vast majority of Scotland's nitrous oxide and ammonia emissions come from farming, mostly through fertiliser, manure and slurry<sup>17</sup>. The national nitrogen balance sheet will allow for a better understanding of the flow of nitrogen within the economy, quantifying nitrogen inputs, emissions and removals throughout the whole of Scotland. It can also be used to monitor progress of nitrogen use efficiency across Scotland by any given sector.

The 2030 target of 75% GHG emissions reduction is especially challenging: to meet it, all sectors will need to do everything possible to reduce their emissions over this decade.

It is recognised that there will always be emissions associated with food production and that in a net zero situation, agriculture will be the main source of residual emissions, offset by sequestration elsewhere. Nevertheless, agriculture emissions will need to fall considerably, and at a faster rate than has been the case to date.

The recent report on land use from the CCC<sup>18</sup> sets out the need for immediate and radical action in order to significantly reduce emissions across the UK, including for agriculture. The CCC recommendations for land use include a 20% land use change from agriculture to forestry and at least a 20% reduction in consumption of red meat, to align with a 10% reduction in cattle and sheep numbers by 2050 without offshoring emissions while taking population growth into account. Seeking to reduce emissions without reducing headcount poses real tensions for the supply chain: one of the ways to reduce emissions would be to move from current extensive farming to more industrialised, indoor livestock production, which poses challenges for wider environmental sustainability and animal welfare, and is not what consumers increasingly appear to want<sup>19</sup>.

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<sup>14</sup> <https://www.gov.scot/publications/update-on-scotlands-greenhouse-gas-emissions-in-2016/>

<sup>15</sup> <https://www.legislation.gov.uk/asp/2019/15/contents>

<sup>16</sup> <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

<sup>17</sup> In 2008 Scotland emitted 3.2 MtCO<sub>2</sub>e of nitrous oxide, of which 2.2 MtCO<sub>2</sub>e came from agriculture and a further 0.5 MtCO<sub>2</sub>e from land use, land use change and forestry – see <https://www.gov.scot/publications/scottish-greenhouse-gas-emissions-2018/pages/3/>

<sup>18</sup> <https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/>

<sup>19</sup> <https://www.gov.scot/publications/citizens-forums-attitudes-agriculture-environment-rural-priorities/>



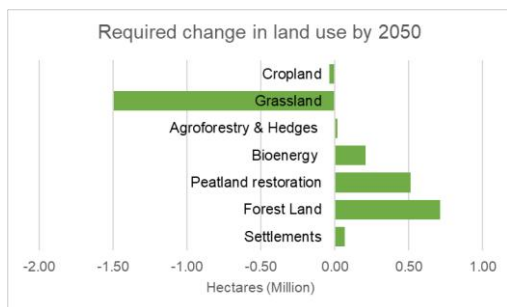


Figure 1: Required change in Land use by 2050 (Committee on Climate Change)

The 2019 Act also embeds the principles of a Just Transition at the heart of Scotland's approach to reaching net-zero: reducing emissions must be achieved in a way which tackles inequality and promotes fair work while leaving no-one behind. In 2018 the Scottish Government established a Just Transition Commission (JTC) to advise Scottish Ministers on how to apply Just Transition principles in Scotland.

The JTC have set out their Just Transition principles, based on those produced by the International Labour Organisation in 2015<sup>20</sup>:

- plan, invest and implement a transition to environmentally and socially sustainable jobs, sectors and economies, building on Scotland's economic and workforce strengths and potential;
- create opportunities to develop resource-efficient and sustainable economic approaches, which help address inequality and poverty;
- design and deliver low carbon investment and infrastructure, and make all possible efforts to create decent, fair and high value work, in a way which does not negatively affect the current workforce and overall economy.

The JTC's interim report<sup>21</sup> states that agriculture needs to be supported to reduce emissions in a way which is fair, and notes that if not accompanied by dietary change then reducing livestock numbers may simply lead to emissions being offshored, which would be a bad outcome all round: for the Scottish economy, farmers, and the global environment.

The JTC also reinforces the view of the CCC that the long-term post-CAP framework should focus on securing emissions reduction from agriculture and incentivising better land use management rather than focus narrowly on food production. Specifically this means:

- Reducing GHG emissions through the adoption of low carbon farming practices;
- Releasing land for other purposes such as expansion of forests, agro-forestry, peatland restoration and bioenergy feedstock production, creating a multi-purpose land use rather than solely being used for the production of food and drink primary products;

<sup>20</sup> [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/documents/publication/wcms\\_432859.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf)

<sup>21</sup> <https://www.gov.scot/groups/just-transition-commission/>

- Extension of regulatory baselines to reduce on-farm emissions.

The Scottish Government is currently in the process of updating its policies and proposals for continuing to drive down emissions under the Climate Change Plan 2018-2032. For agriculture, the broad outcomes<sup>22</sup> are likely to remain the same when the Climate Change Plan is updated, reflecting the greater effort needed to meet the new targets. The current policy outcomes are:

- More farmers, crofters, land managers and other primary food producers are aware of the benefits and practicalities of cost-effective climate mitigation measures and uptake will have increased;
- Emissions from nitrogen fertiliser will have fallen through a combination of improved understanding, efficient application and improved soil condition;
- Reduced emissions from red meat and dairy through improved emissions intensity;
- Reduced emissions from the use and storage of manure and slurry;
- Agricultural land has helped to increase our national carbon sink.

## 1.2 **Biodiversity and Natural Capital**

### **Biodiversity and the economy**

The interim report (2020) of the UK Government's Dasgupta Review on the economics of biodiversity discusses the concepts of natural capital, ecosystem services and biodiversity, and observes that all human economic activity is necessarily embedded within nature.

*"The biosphere's future evolution will be strongly influenced by our choices. Conversely, future opportunities for human prosperity depend on the future of the biosphere."*

The review goes on to show how many traditional economic measurement techniques often do not account for the services provided by nature, and as a result of this we may overuse or fail to conserve nature. As a result, many natural resources are being depleted, resulting in long term negative effects such as climate change and loss of biodiversity.

To counteract this, natural capital and the ecosystem services it provides should be considered in the same way as human and produced capital. Natural capital requires investment (which can be restoration, conservation or simply non-intervention) in order that we can continue to benefit from the ecosystem services (flows of goods) that nature provides to us.

In Scotland, and the UK, natural capital accounts are starting to measure and capture the values of our natural capital and the ecosystem services it provides in a new way. Biodiversity nevertheless remains one of the more difficult aspects of natural capital to measure and value – the review likens this to the difficulty of quantifying levels of trust within society.

<sup>22</sup> <https://www.gov.scot/publications/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/pages/16/>

Our environment is increasingly under threat with both climate and biodiversity intrinsically linked. Scotland also has international obligations and targets to halt the loss of biodiversity (presently under review by the UN Convention on Biological Diversity). Actions taken to address both need therefore to be intimately linked, not only to reduce unintended consequences on one through an undue focus on the other, but also because nature-based solutions have a large role to play in addressing climate change.

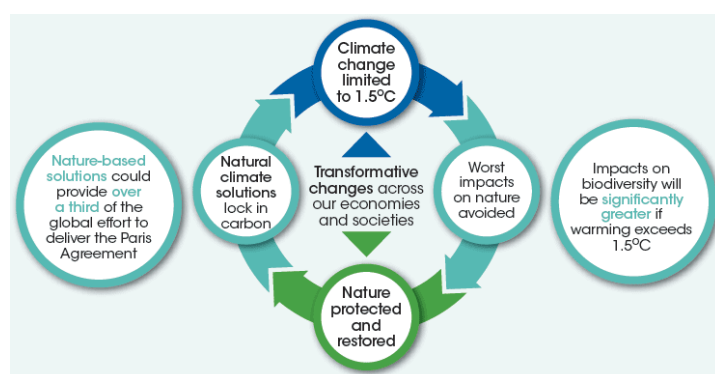


Figure 2: The climate and nature crises are intrinsically linked<sup>23</sup>

The Scottish Government's Environment Strategy makes clear that we need to invest to restore and enhance our natural capital asset base in order to ensure the continued flow of the services it provides and on which we depend. While it is difficult to place a value on natural assets, in 2015, the partial asset value of Scottish natural capital was estimated to be £291 billion, 37% of the UK asset valuation.

<b>Provisioning Services</b>	
Agricultural biomass <sup>1</sup>	£415.14m
Fish caught <sup>2</sup>	£101.52m
Timber <sup>3</sup>	£161.77m
Water abstraction <sup>4</sup>	£63.68m
Minerals <sup>5</sup>	£29.36m
Oil and Gas <sup>6</sup>	£1,078.18m
Renewable energy <sup>7</sup>	£746.14m
<b>Regulating Services</b>	
Carbon Sequestration <sup>8</sup>	£980.13m
Air pollutant removal <sup>9</sup>	£63.99m
<b>Cultural Services</b>	
Recreation <sup>10</sup>	£1,155.66m

The Economic Action Plan<sup>24</sup> also highlights that 'Investment in Scotland's natural assets – air, water, land and nature – will deliver a healthier and more prosperous Scotland'. This reflects and builds upon the commitment in Scotland's Economic Strategy to protect and enhance our natural capital.

Figure 3 (left)<sup>25</sup> shows the annual values of the 10 ecosystem services in 2015 that made up this asset value and although still partial starts to show the significant value derived from wider environmental benefits.

Figure 3: annual value of ecosystem services, 2015

<sup>23</sup> <https://www.gov.scot/publications/environment-strategy-scotland-vision-outcomes/pages/3/>

<sup>24</sup> <https://economicactionplan.mygov.scot/>

<sup>25</sup> <https://www.gov.scot/publications/scottish-natural-capital-ecosystem-service-accounts-2019/pages/10/>

Many of Scotland's revenue-generating sectors, such as leisure and tourism, food and drink, timber and aquaculture, depend on high quality air, land and water and the species that occupy them. Scotland's natural capital lies at the heart of the country's international reputation as a tourist destination with a clean, healthy and unspoiled environment: many visitors come here specifically to enjoy Scotland's iconic wildlife and landscapes. Investing in our natural capital is fundamental to maintaining a

### *Natural Capital*

Natural capital is a term used to describe the habitats and resources of the natural world that combine to provide social, economic and environmental benefits to people. This includes the water, air, soil, plants and wildlife on which we depend. Scotland's natural capital assets are the basis of our quality of life and underpin our economy. It is crucial that they are protected and enhanced so that they can continue to sustain the people of Scotland now and in the generations to come.

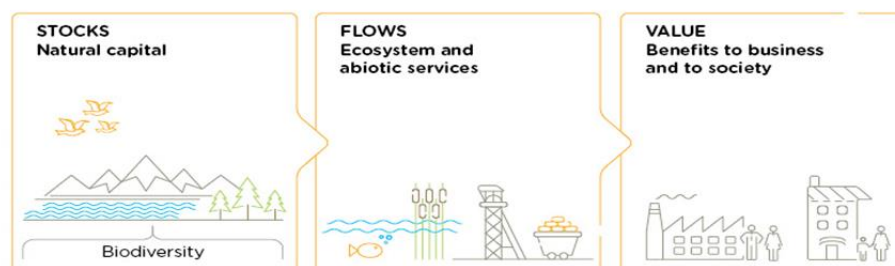
Our natural capital asset base provides a flow of ecosystem services, which are typically grouped into four broad categories:

*Provisioning services* – physical things we can take from the environment such as food, water and timber

*Regulating services* – ensuring we have an environment fit to live in through services like natural flood protection and air filtration

*Cultural services* – the benefits we get from the environment that are perceived by us, such as aesthetic beauty and recreational benefits

*Supporting services* – the processes that ensure that ecosystems are healthy and can continue to supply the benefits above in the long term, for example pollination of crops and wild plants or the creation of healthy soil



healthy and resilient economy<sup>26</sup> as well as our own future and that of future generations, recognising that natural assets are capital assets allows us to quantify some of the benefits of conserving them and the risks of diminishing them. A sustainable business protects the capital assets on which the security of its income depends. For example, unsustainable farming practices may cut costs and increase yields in the short term, but the damage done to the soil will adversely affect outputs in future years.

Natural capital accounting creates a mechanism to estimate the monetary values of our natural resource assets and some of the various ecosystems services that they provide. Seeking to quantify the value of natural capital allows us to better understand the value of the benefits we derive that are not 'paid for'. This demonstrates how

<sup>26</sup> <https://www.gov.scot/publications/scotlands-economic-strategy/>

significant some of these 'free' aspects are, and the extent to which it is economically important that we protect and enhance them. Often this means incentivising and rewarding land uses which safeguard natural capital, or disincentivising and prohibiting land uses which diminish it.

The benefits from different resources are experienced at different scales, and costs and benefits can be distributed very differently. A small woodland will benefit those who live and work the land near it. Clean water will benefit those downstream, and in particular those who depend on it for drinking water, and is best considered at a catchment scale. Carbon sequestration benefits the whole world, with those benefiting most being those most at risk – the billions who live in tropical and coastal regions and those who earn their living from the land. This means that objectives, policies and interventions need to be considered at global, national, regional, local landscape and farm level, and that account needs to be taken of the differential way costs and benefits fall.

Natural capital accounting should not be used to play zero-sum games with natural resources. It is not a measure of the intrinsic value of nature, which can never be expressed in monetary terms, nor should natural capital accounting be used to provide a context to justify unsustainable practices. What natural capital accounting does do is capture values and benefits to society and the economy that are often hidden or not reflected in traditional national accounts. This is of particular importance as we seek a green recovery from the damage of Covid 19: the economy and society that emerges from the crisis must be built on strong and sustainable foundations and we should use the crisis as a catalyst to bring forward actions to nurture our natural resources.

In 2011 Scottish Natural Heritage (now NatureScot) created the Natural Capital Asset Index (NCAI), using data from the year 2000 to create a baseline against which to compare the capacity of Scotland's land-based ecosystems to provide benefits to people. Since 2012 it has been updated yearly making use of the most recent data. The NCAI is a composite index which tracks changes in the capacity of Scotland's terrestrial ecosystems to provide benefits to people. It does not include monetary values but is composed in a way which reflects the relative contribution of habitats to human wellbeing. Historically, Scotland's natural capital deteriorated until the 1990s. Most habitats were declining during this period, especially bogs and grassland. Evidence from the NCAI suggests that Scotland's potential to deliver ecosystem services has grown slightly over the past 15 years and now is at its highest level since 2000, recovering from a low in 2012.<sup>27</sup>

### **1.3 Food and Drink**

Farming and food production are land-based industries which depend on and are intrinsically linked to our natural capital. Future policy should allow the Scottish economy to grow, whilst protecting our physical, human and social assets in our rural communities.

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<sup>27</sup> <https://www.nature.scot/professional-advice/planning-and-development/social-and-economic-benefits-nature/natural-capital-asset-index>

Scotland is a nation producing high quality, rather than high volume, food and drink products. The drivers of climate change and environmental renewal provide us with an opportunity to enhance our national credentials for the sustainable production of food, and add further value for the end consumer.

Scotland Food & Drink and its partners have set industry wide targets of doubling sales from £15 billion currently to £30 billion by 2030. These ambitious targets will only be achieved by strengthening the supply chain, for example, by adding value to the many high-quality food and drink products that we produce in this country, and by looking to expand domestic production and processing of our high quality primary produce, as well as encouraging efficiencies in production.

### Ambition 2030

Ambition 2030<sup>28</sup> represents the joint vision of industry, the Scottish Government and its agencies. The Strategy provides the framework for Scotland to be a model of collaboration and a world leader in responsible, profitable growth. It builds on the collaboration through the Scotland Food & Drink partnership that has driven growth in the sector since 2007. If the food and drink sector is to meet its target of a turnover of £30bn by 2030 then enhancing exports to a wider range of markets is critical, as is greater penetration in UK markets.

For the first Delivery Programme (2017-2020), the industry, Scottish Government and its agencies contributed £10m in funding to support the delivery of the new strategy over its first three years. £1m was allocated to the supply chain development programme (the Market Driven Supply Chain project). The remaining funds (of which £2.5m was from Scotland Food & Drink's industry funds and £6.5m from Scottish Government) enabled a broad range of activities and outputs to be delivered by Scotland Food & Drink, SAOS, Seafood Scotland, and Food & Drink Federation Scotland.

The work has seen the first national sector strategies being launched for food tourism, pigs, fruit and vegetables, venison, brewing and seafood, targeting over £1.8bn in collective growth. These strategies have helped individual sectors to become more closely aligned to Ambition 2030.

Beyond this, there are fundamental underpinning issues which need to be addressed to strengthen the resilience and reputation of the sector and its ability to respond to market opportunity and to the many challenges posed by the UK's exit from the EU, and the need to move to more environmentally friendly production methods. There are opportunities to build value in our food production chain by capitalising on a customer base receptive to paying for goods that help tackle the climate crisis, and boost the local economy.

The Food Tourism Action Plan<sup>29</sup> is an example of the many actions currently being undertaken as part of Ambition 2030. The Action Plan aims to more than double revenue from consumer spend in a tourism setting to £2 billion a year by 2030. The

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<sup>28</sup> <https://foodanddrink.scot/resources/publications/ambition-2030-industry-strategy-for-growth/>

<sup>29</sup> <https://scottishtourismalliance.co.uk/wp-content/uploads/2019/04/FoodTourismStrategy.pdf>



plan seeks to inspire businesses to diversify and expand to meet the needs of visitors. It acknowledges the scale of the opportunity for much greater penetration in hospitality and tourism businesses and innovation to enable easier access to local produce. Above all the plan aims to foster confidence and pride domestically and extol our food, drink and tourism assets.

Complementing the Food Tourism Action Plan as part of the Ambition 2030, is Home Advantage<sup>30</sup> which sets out to further develop the internal (UK) market, Scotland's biggest customer. It sets out a number of initiatives designed to strengthen the relationship between food producer and retailer, with tailored activity and support focussing on key regions and categories in the UK. To develop and grow a reputation for high quality produce, and develop appropriate skills and knowledge, an accreditation development programme is proposed. Post-Brexit it is likely that the UK will continue to be Scotland's biggest market and so developing policies which allow producers to maximise the potential of that market will be essential.

Food for Life Scotland<sup>31</sup> (FFLS) is a Scottish Government-funded programme run by Soil Association Scotland. The FFLS team work with local food producers and suppliers to put more Scottish food on the table in schools across the country. The programme has delivered a huge boost in Scottish spend in school meals through working in partnership with local authorities, Scottish suppliers and industry stakeholders.

The Scottish farming and food industry has a significant role to play in improving the health and wellbeing of the population. The production of high quality food at reasonable prices in Scotland, supported and promoted by Government and industry information programmes and positive action initiatives in schools, colleges and Government establishments can change eating habits over the medium term. This requires commitment over time but is another public good which relies on responsible and viable food producers working with processors and retailers in a concerted effort to promote healthier food habits.

### Covid-19

The extent of the impact of Covid-19 on Scotland's food and drink sector is, as yet unclear, but is likely to exacerbate the impact of the UK's exit from the EU and the uncertainty of future relationships between the UK and other prospective trading partners. Scotland Food & Drink conservatively estimate that the industry is set to lose £3 billion in value over 2020. Covid-19 has also led to labour shortage issues in agriculture in particular due to lack of seasonal migrant labour.

The availability of food has been adequate throughout the Covid-19 pandemic, although the surge in consumer demand at the start of lockdown (with spend on take-home groceries in Scotland increasing at its fastest rate since the early 1990s) exceeded what one might expect at peak periods and led to some short term shortages of some popular items. This was driven in part by redirection of demand from food services and reduced frequency of shopping trips, but also because people were

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<sup>30</sup> <https://www.foodanddrink.scot/media/1864/sfd-uk-development-strategy.pdf>

<sup>31</sup> <https://www.soilassociation.org/our-work-in-scotland/food-for-life-scotland/our-award-holders/west-lothian/>

stockpiling and panic buying. Food supplies rapidly returned to near-normal levels, with the exception of some remote rural and island locations (due to distribution issues).

The Covid-19 pandemic has undoubtedly had an initially severe impact upon tourism and the long term impacts are as yet unknown. There will be opportunities in recovery, for example to capture the current appeal of 'staycations', that farm businesses are well positioned to exploit, providing access to locally produced food and drink and the Scottish countryside.

### A green economic recovery

Early evidence suggests that there has been a surge in consumer demand for local food boxes (including organic vegetable boxes) and deliveries from local producers alongside a new appreciation of domestic food and the importance of farming and food production in the UK<sup>32</sup>. Producers and suppliers have responded swiftly to the changing demands by developing innovative delivery and web ordering services to sell directly to the consumer within relatively short timescales.

This behaviour change is one of those (like an increase in active transport) that it would be beneficial to retain longer term. It offers an opportunity to further strengthen the position of the primary producer in the value chain and recognise the integral role they play in supporting the rural economy. The aim should be to support and accelerate the development of robust, equitable and environmentally sustainable market-driven supply chains. To do so, industry and producers need to work together to identify and implement new collaborative opportunities for Scottish producers, such as Producer Organisations and Co-operatives. Businesses will need to be clear about how they demonstrate the environmental credentials of their food to the consumer. Simple "food miles" is an unrepresentative measure of environmental sustainability<sup>33</sup>: there are a wide range of other factors involved in 'sustainability certification'. Increasing consumer awareness and demand for high quality, healthy and sustainable produce provides opportunities for Scotland to innovate and add value through product differentiation and to capitalise on our reputation in areas such as biodiversity, climate action, health and welfare.

Building robust Scottish sustainability credentials across the food and drink supply chain will require both ongoing investment in our natural capital and the development and collection of accurate data to ensure that growth is truly sustainable (in both an economic as well as environmental sense). Developing robust metrics and sharing of data and good practice should be a priority, alongside peer to peer learning, mentoring and support.

Public sector contracts also provide a good opportunity for Scottish producers to spread their business risk and, over time, increase their scale. Of £150 million expenditure on food by the public sector in Scotland it is estimated almost 50% is Scottish produce (up from 37% in 2008). There is huge potential for the sector to

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<sup>32</sup> <https://www.newfoodmagazine.com/news/108747/consumers-concerned-over-uk-food-security/>

<sup>33</sup> [http://www.foodlinkscommunity.net/fileadmin/documents\\_organicresearch/foodlinks/CoPs/evidence-document-sfsc-cop.pdf](http://www.foodlinkscommunity.net/fileadmin/documents_organicresearch/foodlinks/CoPs/evidence-document-sfsc-cop.pdf)



capitalise on increased interest in locally sourced produce to increase these figures, possibly through the adoption of a Scottish first policy in public procurement contracts.

## 1.4 Land-Based Bioeconomy

The land-based bioeconomy is defined as the production of renewable biological resources and the conversion of these resources and waste streams into value-added products such as food, feed, bio-based products and bio energy. As a result of various drivers including climate change, there is increasing interest in moving towards a circular bioeconomy which includes a focus on increasing the efficiency of resource use and the valorisation of waste products and co-products from the land based sectors, in doing so providing opportunities for new links with non-farm businesses and sectors. The global market for agri-biotechnology is predicted to grow from £22bn in 2016 to £40bn in 2022, bioplastics from £13bn (2017) to £33bn (2022) and industrial biotechnology and bioenergy sectors from £2.9bn to £8.6bn by 2035 (UK Bioeconomy Strategy (BIES 2018))<sup>34</sup> The circular bioeconomy therefore offers new opportunities beyond the traditional drivers of prosperity in rural areas such as food, agriculture, forestry and tourism.

Arguably, the principles of eco-efficiency and circularity will become an essential element in the development of all future business models.



Figure 4: Characteristics of the Bioeconomy<sup>35</sup>

Building on progress to date in terms of Scotland's zero waste and efficiency agendas<sup>36</sup> Scotland's farmers and land managers could be central to this green revolution. It offers Scottish food and farming businesses new opportunities to address the interconnected challenges of climate change, natural resource scarcity, food security and fossil fuel dependency.

Potential benefits include:

- A more secure and resilient food supply through enhanced agricultural productivity;
- Alternative sources of protein for animals/consumers;

<sup>34</sup> <https://www.gov.uk/government/publications/bioeconomy-strategy-2018-to-2030>

<sup>35</sup> [REC-18-002-Bioeconomy-Cover-WORD-Oct2018.indd \(europa.eu\)](REC-18-002-Bioeconomy-Cover-WORD-Oct2018.indd (europa.eu))

<sup>36</sup> <https://www.zerowastescotland.org.uk/>

- Bioenergy opportunities to accelerate the substitution of non-renewable resources;
- Biogas plants (waste from slaughter houses, manure etc.) offer opportunities for better fertiliser, renewable fuels;
- The growth in bio-based products, e.g. bioplastics, medicines and cosmetics;
- Growing alternative crops to produce vaccines.

Businesses across rural Scotland are well placed to deliver substantial material savings throughout the value chains and production processes, generating extra value. However, it will depend upon investment in research and development to identify and unlock economic opportunities, a willingness for those in land based sectors to move away from traditional business models, as well as shifts in consumption and production behaviour to make innovations work at scale.

## 1.5 **Enabling factors for success**

Creating opportunities for production, food and drink supply chains and the land-based bioeconomy means meeting the particular demographic and employment challenges that the people of rural Scotland face. Challenges include: limited population growth; out-migration of young people; an ageing population; underemployment, and differing work patterns from Scotland as a whole.<sup>37</sup>

The importance of enablers such as skills support, housing, transport, childcare, talent attraction, retention and career progression in rural Scotland need to be acknowledged and actioned.

A strong youth population in rural areas enhances rural vitality and paves the way for stronger value chains and rural prosperity. For farming, generational renewal and new entrants are key to improving competitiveness, efficiency and productivity. The importance of young farmers is clear. Their farms are on average in better economic condition than those operated by their older peers. In addition, young farmers and new entrants are more likely to see their farm as somewhere where value can be generated in a variety of ways<sup>38</sup>, for example through alternative agri-food networks, innovation and new business models.<sup>39</sup> Actions stemming from peer-to-peer or mentoring initiatives such as the Agri-tourism Monitor Farm Programme<sup>40</sup>, Women in Agriculture<sup>41</sup>, the Rural Youth Project<sup>42</sup> and the Scottish Land Matching Service<sup>43</sup> will be critical in supporting the development of opportunities for the next generation of entrepreneurs.

<sup>37</sup> <https://www.hutton.ac.uk/sites/default/files/files/research/srp2016-21/RD3.4.1%20Note%20WP1-3%20web%20-%20published.pdf>

<sup>38</sup> [https://www.europarl.europa.eu/RegData/etudes/STUD/2017/602006/IPOL\\_STU\(2017\)602006\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2017/602006/IPOL_STU(2017)602006_EN.pdf)

<sup>39</sup> <https://www.arc2020.eu/rural-dialogues-not-necessarily-money-farm-renewal-intergenerational-considerations/>

<sup>40</sup> <https://agritourism-monitorfarm.com/>

<sup>41</sup> <https://www.womeninagriculture.scot/>

<sup>42</sup> <https://www.ruralityouthproject.com/>

<sup>43</sup> <https://slms.scot/>

Knowledge, advice, innovation and skills, and digitalisation have a wider role to play in helping farmers, rural businesses and rural communities meet new challenges, be market aware, encourage diversification and improve productivity through<sup>44</sup>:

- Harnessing the power of data and inspiring farming businesses to measure performance;
- Bringing co-ordination to our innovation system and ensuring investment in innovation targets key productivity and sustainability constraints;
- Joining up the landscape of knowledge exchange and providing more opportunities for farmers and growers to learn from the best;
- Facilitating investment in capital, skills, training and continuous professional development.

Sharing and building of knowledge and skills in an open way that creates space for everyone to develop ideas is essential to generate accessible innovation where end user needs are better understood and interactive collaboration between parties the norm. Achieving this will rely on a combination of education providers, trainers, policy makers, farmers, entrepreneurs, researchers, advisors, funders and others across a RKIS. While it can be difficult to separate the impacts of management on productivity from impacts such as weather or land quality, evidence suggests that some farm businesses could improve their business management and planning. For example, higher levels of specialist education are associated with higher farm efficiency, and advice shared through the FAS is reported to have a positive impact for farms.<sup>45</sup>

There is significant scope for a RKIS to be integral to the development of the skills base and maximise the potential for capitalising on opportunities to support sustainable inclusive growth across rural Scotland. RKIS should also build on existing actions that are particularly relevant to producers and land based businesses, e.g. those mentioned above as well as RISS, Advisory Services, Rural Leadership Programme, Monitor Farms and Scottish Rural Network.

Digitalisation will improve communication through the integration of data and knowledge to develop simple, adaptable decision support systems with useable information that meets the individual needs of businesses and communities alike. Attention will need to be paid to having commonality of purpose with equity and dialogue maintained between the various actors.

For producers, digitalisation offers opportunities for:

- precision farming (to foster resource efficiency or to make management systems, and thus production, more economically viable);
- strengthening relationships between producers and consumers through digitisation of the agri-food chain e.g. using block chain technology to increase transparency and traceability for quality standards;

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<sup>44</sup> <https://www.fdf.org.uk/publicgeneral/APWG-report-feb20.pdf>

<sup>45</sup> [https://www.ruralbexit.scot/wp-content/uploads/2020/04/Report-on-Scottish-Agricultural-Productivity\\_SRUC.pdf](https://www.ruralbexit.scot/wp-content/uploads/2020/04/Report-on-Scottish-Agricultural-Productivity_SRUC.pdf)

- Supporting a better AKIS, in particular for knowledge exchange, training and supporting advisory services.<sup>46</sup>

For digitalisation to be effective, producers will need to be able to identify a clear added-value when using digital technologies, tools and platforms, especially those (smaller) farms that are not as well placed to make profitable use of precision farming and other digital applications as larger more productive farms.

Effectiveness will also require a robust regulatory framework for producers with standards for data exchange which protect data ownership and privacy, while at the same time allowing business development. Lessons could be learnt from work currently being undertaken by others on COPA-COGECA's EU Code of Conduct on agricultural data sharing by contractual agreement<sup>47</sup>, which aims to put the farmer at the heart of collection, processing and management of agricultural data so that they can develop business opportunities through the application of data driven solutions. There may also be scope to consider how satellite imagery could provide new means of both supporting and regulating farming and land use.

Undoubtedly, changes made at individual farm/land-parcel level will make a difference but significant change relies upon a concerted effort across larger land areas. This is where pooling resources, including blending public and private financing, to make landscape-scale changes can be effective, through, for example, Regional Land Use Partnerships (RLUPs). The Scottish Government has committed to the development of RLUPs and will be piloting them in a number of areas from 2021. It is recognised that they bring an opportunity to balance local priorities with national ambitions and draw together urban and rural stakeholders across geographical areas to develop and contribute to solutions. Care will be needed in establishing a clear remit for these Partnerships, their funding, governance, selection of RLUP Board members, and above all clarity on what the impact of these Partnerships is expected to be.

## 1.6 External influences

We have made much in this Report about the need for Scotland to carve its own path and develop policies addressing its unique requirements. As evidenced throughout this report, however, Scotland is part of wider markets and policies developed elsewhere will undoubtedly have some impact. It is helpful, therefore, to outline briefly some of the external developments likely to impact on Scotland's agricultural and food production policies.

<sup>46</sup> [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key\\_policies/documents/report-preparing-for-future-akis-in-europe\\_en.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key_policies/documents/report-preparing-for-future-akis-in-europe_en.pdf)

<sup>47</sup> [https://www.copa-cogeca.eu/img/user/files/EU%20CODE/EU\\_Code\\_2018\\_web\\_version.pdf](https://www.copa-cogeca.eu/img/user/files/EU%20CODE/EU_Code_2018_web_version.pdf)

## EU Exit

The impact of EU Exit is felt keenly in agriculture due to the continuing uncertainty around what will happen after the end of the Transition Period, particularly in relation to funding and CAP replacement.

There are significant challenges ahead as a result of new but as yet undefined certification and health requirements now that the UK has left both the customs union and single market. This obviously adds to uncertainty for producers and further and immediate clarity on such requirements is needed. Any additional requirements are highly likely to impact on the availability of products and, in turn, consumer demand.

In tandem with that, the proposals within the UK Internal Market Bill have the potential to impact upon existing food and environmental standards – and indeed on what policies can be developed and implemented in Scotland.

## EU: CAP

The EU has committed itself to better care for the environment and climate in the 2021-2027 period, with the policy underpinned by a focus on simplification, fostering innovation, knowledge and digitalisation across agriculture and rural areas. The new CAP has nine objectives covering three broad themes: smart and resilient agricultural sector ensuring food security; bolstering environmental care and climate action; and strengthening the socio economic fabric of rural areas<sup>48</sup>.



Figure 5: The nine objectives of the new CAP

<sup>48</sup> [Key policy objectives of the future CAP | European Commission \(europa.eu\)](https://ec.europa.eu/economy_finance/key-policy-objectives-of-the-future-cap_en)



Key features of the proposals are:

- Capping of area based payments over €100k to individual farms and phased reduction of payments over €60k;
- Strengthened conditionality of receipt of direct payments, requiring a greater level of environmentally friendly activities;
- 30% minimum of Pillar 2 spend being targeted towards the environment and 40% of overall CAP spend (Pillar 1 and 2) targeted towards 'climate action';
- a minimum of 2% of direct support payments for young farmers;
- A drive towards introduction of knowledge transfer, innovation and Big Data;
- The development of an EU-wide platform to help farmers effectively manage risk;
- Switch from 'active farmer' to 'genuine farmer'.

The new CAP proposal is heavily geared towards outcomes, objectives and targets, with CAP Plans at Member State level expected to focus on performance and results with the appropriate assurance and audit regimes in place. The environment is much to the centre. The Farm to Fork Strategy<sup>49</sup> (May 2020) aims to shift to a more sustainable food system, balancing the need to protect human and environmental health with the livelihoods of all actors in the food value chain, especially in the light of the expected economic downturn from Covid-19. The Communication notes the progress made in reducing GHG emissions from the Agricultural sector, but that it still accounts for 10.3% of the EU total emission (70% of which is from livestock). It also stresses the need for urgent action to address climate and environmental challenges to reduce dependency on pesticides and antimicrobials, reduce excess fertilisation, increase organic farming (25% of total farmland in organic management by 2030), improve animal welfare, and reverse biodiversity loss. It also notes the need to, in parallel, help raise global standards, in order to avoid the externalisation and export of unsustainable practices, in part via trade policy.

In keeping with the overall messaging around the European Green Deal being a growth strategy, the Commission highlights continued and new forms of support under the CAP and the EMFF. It also proposes that Member States make use of tax incentives to promote organic farming.

The Commission also plans €10 billion under Horizon Europe (2021-2027) for Research and Investment on food, bioeconomy, natural resources, agriculture, fisheries, aquaculture and the environment as well as the use of digital technologies and nature-based solutions for agri-food.

The Commission also recently launched its EU Biodiversity Strategy for 2030 - Bringing nature back into our lives<sup>50</sup>. The Communication sets out the urgent need for action to protect the EU's biodiversity and restore well-functioning ecosystems. As well as emphasising the clear need to tackle the twin crises of biodiversity loss and climate change, and potential opportunity to achieve emissions reductions through 'nature-based solutions' (enhanced further by healthy and biodiverse ecosystems), the strategy emphasises the importance of nature for our mental and physical well-being,

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<sup>49</sup> [https://ec.europa.eu/food/farm2fork\\_en](https://ec.europa.eu/food/farm2fork_en)

<sup>50</sup> [https://ec.europa.eu/info/sites/info/files/communication-annex-eu-biodiversity-strategy-2030\\_en.pdf](https://ec.europa.eu/info/sites/info/files/communication-annex-eu-biodiversity-strategy-2030_en.pdf)

and for the resilience of our societies – factors made all the more evident during the current pandemic. It sets out the business case for biodiversity, noting opportunities to increase our resilience, reduce the risk of future emergence and spread of disease, stimulate Europe’s economic recovery and create jobs.

## England

The overall ambition in England is to develop innovative, joined-up solutions to challenges and opportunities through a collaborative approach between national, regional, local and community stakeholders, placing responsibility for some investment decisions closer to the people and places involved.

England’s policy proposals for a new Environmental Land Management (ELM) system are underpinned by the principle of the payment of public money for the provision of public goods on a multi annual basis (7 years). The public goods include the delivery of environmental outcomes such as clean air, thriving plants and wildlife, climate change mitigation. The policy is also intended to enhance animal health and welfare beyond the regulatory baseline, where such enhancements are valued by the public but not sufficiently provided by the market.

ELM is intended to be less prescriptive and focus more on outcomes so that farmers and land managers will be able to decide for themselves how they can deliver environmental benefits from their businesses and their land, and how they integrate this into their food, timber and other commercial activities.

It is intended that the introduction of ELM will be phased in alongside the phasing out of direct payments, beginning in 2021 and completed by 2028. Alongside this, the UK Government is scrapping ‘greening’ rules attached to Basic Payments Scheme from 2021 in England, citing complex rules around crop diversification, Ecological Focus Areas and greening permanent grassland and the fact that they had “added little” to environmental efforts<sup>51</sup>. The roadmap towards transition was published in November 2020.<sup>52</sup>

The UK Government’s Agriculture Bill<sup>53</sup> is also aimed at helping farm businesses in England become more resilient, productive and internationally competitive. By reallocating money from direct payments the aim is for any successor to be focused on boosting investment in innovation, research and development.

## Wales

The Welsh Government completed a second consultation on proposals<sup>54</sup> for farm support after Brexit in October 2019. The consultation focused on the main challenges of sustainable food production, responding to the climate emergency and reversing the decline of biodiversity. The intention of the Welsh Government is to adopt a 2 stage

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<sup>51</sup> [https://www.farminguk.com/news/eu-greening-requirements-to-be-scrapped-from-2021\\_56187.html](https://www.farminguk.com/news/eu-greening-requirements-to-be-scrapped-from-2021_56187.html)

<sup>52</sup> [Agricultural transition plan 2021 to 2024 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/agricultural-transition-plan-2021-to-2024)

<sup>53</sup> <https://services.parliament.uk/bills/2019-21/agriculture.html>

<sup>54</sup> <https://gov.wales/sites/default/files/consultations/2019-07/brexit-consultation-document.pdf>

approach to funding farm businesses. The first will be a Farm Sustainability Review (entry level scheme), the second a Farm Sustainability Plan (FSP). The Welsh Government see clear interdependencies between Welsh language/culture and the sheep industry, so for them retaining the sheep sector will be important for cultural reasons, as will upskilling the sector so that they are more competitive.

More recently, the Welsh Government published its response<sup>55</sup> to the consultation. Their response reaffirmed the broad thrust of the approach set out in the consultation: the Welsh Government is clear that farmers are rewarded for enabling the delivery of social and environmental outcomes. The response sets out the need for future policy to encourage farmers to adopt practices that increase the overall sustainability and resilience of farms and enable necessary business improvement. The response was clear that whilst the production of food remains a vital component of a sustainable farming system, food is a market good and production should be rewarded by the market. The Welsh Government intend to publish a White Paper in this term of the Senedd as the precursor to an Agriculture (Wales) Bill.

The proposals for both England and Wales assume that the proposed UK Shared Prosperity Fund will accommodate actions such as community led local development, farm diversification, tourism, services and food manufacturing and therefore fall outwith the scope of any successor to CAP.

### Northern Ireland

The Northern Ireland Executive is constrained by the Northern Ireland Protocol which requires a substantial degree of alignment with Eire (Ireland) on trade and state aid. They are therefore planning to make only one significant change to the current regime, which is to abolish Greening, with funding folded back into the BPS. The three-crop rule (of Greening) was seen as irrelevant to Northern Ireland which has very little cereal production, and in fact caused less cereal to be sown. No decision has been made yet on whether there will be a replacement for Greening.

Like the rest of the UK, we recognise the need to understand interdependencies between funding and policies to ensure complementarity. It remains to be seen how the future direction of funding and policy at UK level will impact on future policy and support across the four nations of the UK.

## **1.7 Where does this take us in the future?**

The issues and evidence outlined above show that there is a clear need to make significant reform of our approach to farming and food production, land use and management to deliver goals and meet societal expectations.<sup>56</sup> Many key issues that

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<sup>55</sup> <https://gov.wales/sites/default/files/consultations/2020-07/our-response-sustainable-farming-and-our-land.pdf>

<sup>56</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2019/06/citizens-forums-attitudes-agriculture-environment-rural-priorities/documents/citizens-forums-attitudes-agriculture-environment-rural-priorities/citizens-forums-attitudes-agriculture-environment-rural-priorities/govscot%3Adocument/citizens-forums-attitudes-agriculture-environment-rural-priorities.pdf?forceDownload=true>



need to be taken into account include environmental impacts, the food and drink industry, and the role of agriculture in rural economies and communities.

### **Current agriculture policy is not working**

The EU CAP schemes have some clear failings: there is good evidence that subsidies have failed to deliver on environmental objectives, with payment levels not always correlating clearly with public benefits. Many farm businesses have been allowed to stagnate and are not aligned with wider supply chain needs. There is significant untapped potential to increase the level of added value processing in Scotland that is currently not being utilised. The climate and biodiversity crisis is of such magnitude and urgency that we need to incentivise production systems that will directly result in delivery of public goods. Furthermore, and most importantly, the CAP has tended not to encourage business resilience. Wide variation in profit across farm types suggests there is scope to improve profitability across sectors with less reliance on support payments.

It is important to recognise that despite the clear failings of CAP, it supports the vast majority of business to make a profit from agricultural activity.

However, in a future where agricultural support is no longer ring-fenced, the case for direct support will need to be made against the many other competing priorities of government.

We will need to be clear about the rationale for public investment and the desired outcomes that any investments will deliver. We will also need to be able to demonstrate that payments offer good value for money as a means of delivering public policy objectives. If not, there is every likelihood that support will become increasingly vulnerable, particularly in times of austerity.

### **What do we care about?**

The evidence set out in the Annex shows that agriculture contributes to the economic success of key sectors such as food and drink, tourism, and to maintaining the fabric of rural communities and the economy. Agriculture has also been a contributing factor in biodiversity decline, air and water pollution and is a significant source of GHG emissions. The recent CCC <sup>57</sup> update recommends that the Scottish Government develop a new rural support scheme that builds towards Scotland's climate goals and accelerates investments in low-carbon and climate adaptation infrastructure to stimulate Scotland's economy, build long-term productive capacity and improve climate resilience. While it is not possible to produce food without emissions, farming needs to make substantial reductions in emissions with residual emissions offset nationally through carbon sequestration. Within this we recognise that farmers across Scotland and the UK need to operate on a level playing field to protect against competition from carbon intensive imports and products produced to lesser standards.

A radical change in our approach is required to ensure we effectively address the challenges identified earlier. However, alongside the challenges, there are real

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<sup>57</sup> <https://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2020-progress-report-to-parliament/>

opportunities for businesses and communities to leverage their environmental assets and boost incomes and local rural economies.

Farmers, crofters and land managers have an essential role in the restoration, maintenance and enhancement of our natural capital, with many of the services and environmental outcomes a by-product of the core function of farming. Their actions will be critical in helping us to reach our national net zero target, through afforestation to sequester carbon and better management of soils, including restoring peatlands, to halt carbon loss. We share the view of many that our farmers and land managers should be rewarded for positive land stewardship that enhances and maintains Scotland's natural capital and the public goods that good land management offer us all.

In addition to sustainability, we also need our farms and food producers to be innovative, efficient and productive, in order to be profitable. Factors such as research and development, implementation of advice, knowledge transfer, learning, technology and digitalisation can all increase the productivity of agriculture, while also providing channels to improve monitoring and evaluation of the industry. Currently, many farms in Scotland operate below optimal efficiency and do not employ the business management techniques needed to understand how to make changes. Some farmers have successfully demonstrated that with a change in approach to farm and land management, farming can be profitable without subsidy. Innovations in maximising output on limited land space using technologies such as vertical hydroponic farming, are being trialled in some parts of the country. Closing the productivity gap is key to strengthening the resilience and competitiveness of agriculture and maintaining the supply of high quality inputs to the food and drink sector in Scotland.

There are also potential new opportunities for land based sectors in the circular bioeconomy, although this is at an early stage of development and will require significant resources, including an enabling environment to support innovation.

## **Direct Payments**

We discussed the future of direct payments at length, with a range of views being expressed, but we were unable to reach consensus on any recommendation.

## 2 Recommendations

In designing a new system to support our vision, we believe it is useful to start with a set of principles to guide the creation of future policy. The new framework should be coherent and have an internal logic, rather than be simply a collection of freestanding schemes each designed to achieve discrete objectives. The Commission, the Welsh Government, and the UK Government for England, have set out the very broad principles that will inform their work. Here we set out our framework for Scotland.

All of these recommendations will directly contribute to the realisation of the original pillars the Food and Farming Group was set to consider: sustainability, profitability, inclusion, innovation, simplicity and productivity.

We grouped our recommendations under 8 **guiding principles clustered around the following five themes:**

- Understanding change and realising outcomes;
- A skilled and innovative land-based bioeconomy;
- Investment in our natural Capital;
- Governance and Regulation of future mechanisms;
- A just transition.

## 2.1 Understanding change and realising outcomes

### **Principle 1**

The objectives that the Scottish Government sets for rural Scotland must be ambitious, coherent, clear and measurable. They must contribute to meeting Scotland's net zero obligations and biodiversity targets, reflecting the need to sustain and enhance natural resources and the public goods we derive from our land.

We consider it beyond question that public funding for any land management activity must also tackle carbon emissions and enhance biodiversity. Public funding must also contribute to achieving our ambitions for food and drink with profitable farming and food production providing a safe, high quality supply that has high animal welfare standards and sustainability at the heart of a thriving agri-food supply chain.

We believe that the Scottish Government has a unique opportunity to be bold and radical in developing a holistic approach to food production, the environment, land management and the rural economy. Ambitious climate change targets, leaving the EU, and the Covid-19 crisis, demonstrate the urgent need for fresh thinking and new joined-up approaches which forge a path to a sustainable long term future for rural Scotland.

### **Recommended Actions**

- The Scottish Government should clearly set out both the next steps following publication of this Report and its long term direction of travel for future rural policy;
- Incentivise options for food production systems to become market-oriented and meet climate change and biodiversity targets, through outcome / results based payments and the transformation of business culture and behaviour;
- Support and enable a shift towards appropriate integrated mixes of alternative land use at the appropriate scale for environmental and economic resilience, e.g. activities such as agroforestry, farm woodland creation, and peatland restoration to meet climate change and biodiversity targets;
- Create, support and refine tools to support whole farm and landscape planning;
- Develop improved methods of measuring GHG and ammonia emissions of land-based and non-land based businesses that contribute to the rural economy.

## **Principle 2**

Payments and interventions must be directed towards delivery of a clear set of outcomes that meet public policy objectives for food and drink production, society, economy and the environment.

Currently, most agri-environment schemes under CAP are management or action-based payment schemes. They generally consist of a set of measures such as planting/maintaining hedgerows or taking field margins out of production.

The objectives of the activity are in most cases specified at the outset, and the farmer is paid on the basis that they have undertaken the activity, with penalties for not having complied the undertaking as agreed. Monitoring and evaluation of the effectiveness of such activity is rarely undertaken, so that the value for money of the actions is poorly understood. In addition, the time-limited and prescriptive nature of contracts do not incentivise lasting change. If measures are not continued at the end of a contract period and positive benefits lapse, this again represents a poor return on the payment. Such schemes are concerned with individual enrolment, there will be a need to move towards collective engagement of land managers given the nature and scale of the natural resources to be protected and/or enhanced.

The Scottish Government and its agencies must ensure that future policies connect the political vision with quantified outcomes. Whatever the policy goals are (food production, reducing carbon emissions, enhancing biodiversity, increasing efficiency and productivity, transitioning to healthier and more sustainable diets), these must be framed in terms which clearly specify the desired outcome. Conditionality should be built into new funding models, clearly setting out the expected results at the outset, allowing the farmer or land manager to identify the specific activities to be taken to deliver these results, and enabling accurate monitoring and measurement against delivery. This approach allows actions to be tailored to the specific delivery setting whilst providing confidence to the public that their investment is meeting objectives.

We are mindful that establishing robust monitoring of outcomes can be challenging, and that monitoring systems must themselves be subject to ongoing review. The Academic Advisory Panel has advised us that, particularly when faced with targets as urgent as our climate changes ones, we should not hold up implementation while seeking to perfect our monitoring. It is likely to be necessary to take an iterative approach to the development of a full set of indicators and to focus initially on the broad benefits.

Results-based payments rely on accurate data. In some areas we have this, but in others there are data gaps that will need to be filled if we are to maximise the effectiveness of future programmes. Setting baselines (e.g. soil C, slurry CH<sub>4</sub> etc.) may be key to this at farm level, however there is a question as to whether this then rewards the worst current actors and penalises those who already have achieved desired outcomes. As such there may be a need for granular benchmarks that allow for current good practice to be rewarded, and future good practice to also be incentivised.

while ongoing poor practice is effectively penalised. Embracing new technology will be key to obtaining accurate data as will adopting procedures that positively incentivise accurate self-reporting. There is a huge opportunity for greater adoption of digital technologies (such as satellites, drones, or geo-tagged photos) to increase the quality of data collection, in terms of volume, velocity, resolution and identification. Building on the work of, and learning lessons from, existing initiatives will be key to informing next steps to effectively map habitats, habitat change, landscapes and land use more generally.

Collecting data is of course only the beginning: open and fully integrated data systems and robust evaluation methodologies are essential to understanding what the data is telling us and using the information intelligently to deliver objectives.

### **Recommended Actions**

- Public funding should be directed towards delivery of public goods which are not being delivered through the market, with approaches being flexible, but well targeted;
- Rewards should as far as possible reflect the value of the output delivered and the cost of producing it, not the income foregone from potential alternative activities;
- Develop appropriate tools, techniques and approaches for monitoring and evaluating biodiversity, other environmental and economic outcomes (including productivity).

## 2.2 A skilled and innovative land-based bioeconomy

### **Principle 3**

We must be ambitious for Scotland, recognising our inter-dependencies with other Scottish Government public policy goals, with other sectors and with systems of food and farming elsewhere.

Scotland has great potential to add value to our food production outputs and grow our bioeconomy. There is an opportunity to build on the actions set out in Ambition 2030, the circular economy strategy for Scotland, the UK Bioeconomy Strategy and the EU's Farm to Fork Strategy. We should be seeking to capture more of the value-add for our land-based outputs in Scotland, creating more high quality jobs and careers in rural Scotland, and strengthening the producers' role in the food and non-food supply chains.

We recognise the range of existing good working relationships between farmers and others through the supply chain. Strengthening the links along these supply chains will be critical both to better align production (supply) with demand, and to drive value back to producers. There is evidence of the power of co-operatives in Scotland. Farmer co-operation (formally or informally) and collaboration along the supply chain is beneficial to farm businesses, can support innovation, productivity, animal health and environment, and leverage the weight of the collective in negotiating prices (for both inputs and all types of outputs including environmental goods).

The right conditions need to be in place to help businesses to agree to join up and to collectively identify a shared aspiration and vision. Having the appropriate independent brokers in place to facilitate the development of partnerships is crucial. Trust on all sides is also critical, e.g. through sharing/using data, sharing good practice, collective learning.

We also need to grow stable and profitable markets for healthy and sustainable food by creating and sustaining demand for food that is climate-friendly, healthy, nutritious and produced as locally as possible to high ethical, environmental and animal welfare standards.

Scotland's brand rests on its green credentials and wonderful natural environment, but we lack comprehensive robust and assured standards for high quality sustainable food and drink produce. The current plethora of overlapping certification schemes is time-consuming, costly, and bureaucratic for producers. It can be frustrating for government agencies, Non-Governmental Organisations (NGOs) and food companies and confusing for consumers, who have no unified means of linking their purchasing power to support sustainable and healthy food production.

The Agricultural Champions report<sup>58</sup> recommended that Government and industry invest in developing a brand which shows taxpayers how their money is invested to produce safe, healthy food from sustainable farmland alongside sequestering carbon, helping adapt to climate change and safeguarding wildlife. Scotland should investigate how we might approach the development of a brand as part of wider work on strengthening the supply chain, building on lessons learnt from other countries, the experiences of industry as well as from approaches underpinned by regulations governing organics, protected names, health labelling and origin labelling.

## **Recommended Actions**

- Strengthen the role of the food producer in the supply chain through targeted investment in skills, business development, innovation, co-operation and collaboration;
- Define standards for, and invest in the promotion of, a pan-organisational, clearly understood, recognisable and trusted brand which promotes the provenance, quality, green credentials, and where appropriate the high animal welfare quality, of Scottish produce;
- Strengthen collaboration and strategic, data-driven communication between producers and between constituent parts of the supply chain, including through co-operatives and producer organisations. This will help producers to capitalise and consolidate on shared resources, data, knowledge and experience, and to streamline approaches to production and delivery;
- Work closely with policy makers elsewhere in the UK, the EU and beyond to develop policy for Scotland that aligns with the policies of others where appropriate;
- Drive demand for, and deliver, healthy, sustainable food choices, and utilise existing initiatives such as Good Food Nation to help inform and deliver these approaches (e.g. through procurement);
- Build on the ambitions of successive Scottish Organic Action Plans to realise opportunities for the organic food and drink supply chain;<sup>59</sup>
- Increase value added business opportunities within Scotland (e.g. processing, manufacturing), retaining more processing capacity within the Scottish economy and within the Scottish food and drink supply chain.

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<sup>58</sup> <https://www.gov.scot/publications/future-strategy-scottish-agriculture-final-report-scottish-governments-agriculture-champions/pages/3/>

<sup>59</sup> <https://www.gov.scot/publications/organic-ambitions-scotlands-organic-action-plan-2016-2020/pages/5/>



#### **Principle 4**

Invest in a holistic approach to research, knowledge transfer and innovation to help facilitate the rapid transition to a sustainable rural economy which reflects the diversity of land use, enterprise and community.

A knowledgeable, skilled rural workforce will be essential to achieving our ambitions. Investment in young people will also be key to enhancing rural vitality and paving the way for stronger value chains and rural prosperity. We need to support the development of rural sectors that offer an attractive career-option that mandates lifelong learning and skills development throughout, and which enables the diversification of enterprise. We also need to invest in appropriate research, knowledge transfer and innovation building capacity to improve business competitiveness, efficiency and productivity.

A strong RKIS can enhance knowledge flows, strengthen links between research and practice, build agri-food supply chains, identify opportunities for new land-based activities, enhance environmental and climate action, strengthening the resilience of rural areas.

The first step to creating a RKIS that is open, evolving, dynamic and responsive to the needs of society and business is to gain a better understanding of what we already have in Scotland. We then need to have the courage to reach out to others as we apply lessons learnt from current approaches (including current CAP) in our design of future RKIS and associated investments for business. In parallel to such scoping, there is scope to make more rapid change within existing programmes of activity and begin to test aspects of a new RKIS in advance of future programmes being put in place.

There is also significant scope to join up more widely, for example with the implementation of the Scottish Government's Skills Action Plan for Rural Scotland and the recommendations of the Climate Emergency Response Group<sup>60</sup>.

#### **Recommended Actions**

- Make better use of the knowledge and innovation systems that we already have in place, harnessing the power of existing networks alongside new approaches to facilitate truly transformational change;
- Review current approaches to investment in knowledge and innovation across land use, farming and food supply chains in Scotland and elsewhere with a view to developing a new RKIS for Scotland;
- Ensure the provision of appropriate, high quality technical advice, including around data capture and usage, and make provision for appropriate funding to support rural enterprises to innovate to increase profitability, enhance biodiversity and make a sustainable transition to a low-carbon economy;

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<sup>60</sup> [https://energysavingtrust.org.uk/sites/default/files/CERG\\_budget%20briefing\\_Jan2020.pdf](https://energysavingtrust.org.uk/sites/default/files/CERG_budget%20briefing_Jan2020.pdf)

- Strengthen links between researchers and practitioners, to support the rapid application of learning and help communities and businesses to realise opportunities based on solid and reliable information;
- Support the development of higher educational provision that develops a skills-base of knowledge for the future, and encourage the implementation of a Continuous Professional Development (CPD) scheme to upskill those in the rural economy;
- Create opportunities for generational renewal, including support for new enterprises and the provision of an exit route for land managers and food producers.

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## 2.3 Investment in our Natural Capital

### **Principle 5**

Protect, invest and restore natural capital (soil, water, air, habitats, biodiversity) on which sustainable communities and economies are dependent.

Our current methods of land use are depleting the stocks of natural capital which are fundamental to societal health and wellbeing and on which the livelihoods of those in farming and many other sectors depend. Future public funding for land management needs to incentivise restoration and improvement. It is also reasonable to expect farmers and other land managers not to diminish natural capital and that regulation should be set accordingly.

Scotland's Environment Strategy sets out the Government's priorities for restoring and protecting our natural capital: these include increasing woodland cover, restoring peatland, halting biodiversity loss, improving water quality and strengthening resilience against climate change. Specific priorities in any given location vary across the country according to factors such as geology, soil and climate, species habitats, historic land use, population density and scenic beauty. Local priorities will also be driven by vulnerabilities to extreme weather events, including flooding, fires and drought, which are becoming more frequent due to climate change. Implementation of the Land Use Strategy<sup>61</sup> through RLUPs has the potential to play a major role in balancing regional, local and national priorities (see Principle 7).

Setting specific objectives will need to involve a thorough and detailed consideration of the evidence and community participation in decision making, so it is essential all parties have confidence in the evidence base. The indicators must be objective, up-to-date and relevant to land use and management. Natural capital requires human capital to protect and restore it. This means that those involved must have the knowledge, skills and access to advice when they need it.

Many schemes and policies that protect and enhance natural capital operate through individual land managers choosing to apply for them. Whilst this single-holding approach works for some objectives, landscape level environmental benefits require coordinated action across multiple landholdings to be successful. RLUPs may offer a mechanism for delivering landscape level interventions, for example natural flood alleviation along a river catchment.

Many of the benefits of a healthy environment are public goods from which we all benefit, and it is part of the role of government to sustain those benefits for us all. There is however a clear role for voluntary and private sector organisations, and scope to engage more of industry in contributing to the upkeep of the environment on which directly or indirectly their businesses depend.

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<sup>61</sup> <https://www2.gov.scot/landusestrategy>

There is no single methodology for protecting and enhancing natural capital, and many of the approaches are still being developed. Whatever approach is adopted farmer buy in is key if we are to ensure that different businesses in different circumstances can achieve sustainability objectives. Agroecology is one approach that may provide solutions, allowing farmers to work with nature and develop their own solutions to problems and produce food in a manner that is sustainable. Another approach which is already well established is organic farming, a system underpinned by regulation, independently inspected and verified with significant consumer recognition.

It is important to remember that in some parts of Scotland, extensive farming has a positive impact on the environment and indeed is critical to maintaining certain rare habitats such as the machair of the Western Isles. This type of High Nature Value (HNV) farming offers lower market returns but should be supported for its environmental benefits. There is now an opportunity to better target support to those who actively maintain and enhance the environment in this way. Doing so would also help to support rural communities in many of Scotland's more marginal farming areas.

### **Recommended Actions**

- Improve our understanding of the best ways to protect, restore and invest in our natural capital and ecosystem resilience in a targeted way, including learning from other countries;
- Develop a Scottish natural capital census;
- Invest in skills and people to underpin investment in natural capital;
- Introduce landscape scale interventions for public goods such as biodiversity, climate mitigation, climate adaptation (e.g. flood alleviation) and ecological connectivity (likely to also include large scale land use change e.g. to integrate woodland and forestry into farming, restore peatlands and restore and create other carbon and nature-rich habitats such as saltmarsh and wetlands);
- Directly link payments to support the delivery of desired measurable outcomes utilising various methods, for example through mandatory soil testing, carbon audits, vegetation and wildlife surveys;
- Create a framework for considering new technologies which increase resilience to climate change and enhance productivity, for example through agritech and new plant breeding techniques;
- Provide support for strategies which recognise the importance of Scotland's landscapes in providing public amenity and develop and underpin our visitor economy.

## 2.4 **Governance and regulation of future mechanisms**

### **Principle 6**

The costs of implementing and regulating any policy measures should be proportionate to societal and economic benefits.

There will always be the need for legislation, monitoring and enforcement to uphold standards and prevent bad practices from occurring.

While there are regulatory requirements for keeping land in Good Agricultural and Environmental Conditions, there are no current regulatory requirements on farmers or land managers to reduce agriculture GHG emissions, although farmers are of course impacted by, for example, vehicle emissions requirements. While much progress can be made towards objectives through incentives and advice, the climate emergency means that regulation must be considered as part of the suite of measures to help us move to net zero by 2045.

Under the polluter pays principle (which is enshrined in EU law), regulation typically carries a cost for those being regulated. In farming these costs have nevertheless often been ameliorated by making public funding available, for example, for slurry storage in Nitrate Vulnerable Zones. It would be appropriate in designing future policy to consider whether a more robust application of the polluter pays principle should be phased in over time through regulation.

Regulation should always be proportionate and a risk based approach be taken to monitoring and enforcement, whereby the level of burden is proportionate to the potential scale of damage. Regulatory processes should be as streamlined and user-friendly as possible, with a focus on regulating for outcomes.

### **Recommended Actions**

- Develop a robust regulatory baseline which is fit for a net zero future;
- Commit to appropriate and proportionate regulation alongside public investment to enable delivery of outcomes;
- Develop a risk-based approach to penalties and inspections;
- Clearly set out the responsibilities of participants in the implementation of actions and the delivery of outcomes;
- Develop policy frameworks and systems that are resilient and responsive to the dynamic nature of market and real-world demands;

## **Principle 7**

Future land use should be informed and guided by collaboratively designed frameworks (e.g. urban-rural interdependencies) intended to marry national ambitions, priorities and targets with local realities, knowledge and aspirations

Scotland's landscape is rich and diverse, and the ways in which it should be managed vary from place to place to reflect that variety. It is neither feasible nor desirable to take an entirely national approach to managing our land. The Scottish Government's wider approach to inclusive economic growth and tackling climate change places regional and place-based leadership<sup>62</sup> at its heart. The Scottish Land Use Strategy and RLUPs are key to this and there is a commitment to enabling these to emerge fully by 2021, and for each of these Partnerships to develop a land use framework by 2023 that identifies where resources can have the biggest impact.

The development of these Partnerships provides a potential pathway for implementation that is sensitive to local needs and objectives, delivering within a national framework to ensure both that each area is contributing in an appropriate way to national targets and that opportunities (such as for investment in natural capital) are also shared appropriately. We consider that RLUPs offer the potential to transform the ways in which government and the private sector invest in our natural capital to support the contribution it makes to a range of economic, societal, climate change and biodiversity outcomes. To have real impact, RLUPs will need a broad and balanced representation including sectoral expertise and those directly involved and affected by land-use decisions.

## **Recommended Actions**

- Foster, support and use locally developed collaborative ventures, particularly through RLUPs, to create, develop and deliver flexible, locally delivered and managed policy approaches and support mechanisms that are aligned to a national framework;
- Explore opportunities for leveraging in private finance to invest in natural capital to support desired outcomes.

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<sup>62</sup> <https://www.gov.scot/publications/place-principle-introduction/>

## 2.5 A Just Transition

### Principle 8

We must acknowledge that transformation has far-reaching implications for people and the economy, and adhere to Just Transition principles

The challenge of tackling the climate emergency creates opportunities to enable fairness and equality but also carries a risk of increasing inequalities. We welcome the Scottish Government's commitment to a Just Transition for all of Scotland. A more equitable scheme would not only be focused on delivering public goods but would also reduce inequalities of income, promote fair work and support gender and racial equity for example.

In developing new rural policies, we need to consider the interests of current farmers and land managers, those aspiring to become farmers and food producers (including young people and women), other rural citizens, consumers, taxpayers, and those who benefit from services (such as carbon sequestration or flood alleviation provided by rural landscapes) but live elsewhere. We also need to be cognisant that many rural land-based businesses rely upon LFASS in order to underpin the viability of rural communities in areas where employment is either heavily or wholly reliant upon rural/agricultural activity and will need support.

We recognise that the JTC will deliver its final report in January 2021, but we offer these recommendations to support a Just Transition as we move from our current support system to a new one.

### Recommended Actions

- Urgently initiate the start of transition, recognising the action required to meet interim and long term climate and biodiversity targets. Any delay will result in more extreme measures being required at a later date;
- Follow processes to implement significant change in a way that manages disruption to people and economy and creates new jobs, skills, investment and opportunity in order to achieve a more equal and resilient economy;
- Sense-check that delivery of the actions above will achieve the desired outcomes in the timescale available without unintended adverse consequences;
- Front-load activities as appropriate to achieve emissions reductions as quickly as possible;
- Develop and implement wide-reaching communication strategies to keep people informed about what is happening and give them the opportunity to participate in designing policies;
- Develop and implement strategies which support people through the period of change in order to effect a transformation which is locally-led, locally-managed and sustainable.



### 3 Next Steps

We believe it is critical that we set a clear direction of travel and provide the agricultural industry with confidence and clarity to allow it to begin to make long term business decisions. Going forward we believe it is essential to co-design the detailed support proposals with rural stakeholders. We recommend further alignment with national policy frameworks, including the National Performance Framework and our national strategy for the food and drink industry, Ambition 2030.

The purpose of this report is to set out what we believe are ambitious yet achievable frameworks for the future of farming and food production policy beyond EU Exit. We believe that the eight principles we have devised, and the recommendations underpinning those, set a direction of travel for policy-makers to begin developing the details of a successor to the CAP.

This Group was convened to envision what the future of rural Scotland could look like, and what actions should to be taken to address the multiple challenges facing farmers, land managers, food producers, and the environment in order to help inform future rural policy in a post-CAP world.

The challenges cannot be overstated:

- The climate crisis demands immediate and radical action. Agriculture contributes significantly to our GHG (and air pollution) emissions and future policies must take that into account;
- Leaving the EU means leaving the framework upon which our rural areas have relied upon for decades. It also introduces uncertainty into our traditional import and export markets and supply chains;
- We need to support a sustainable food production system that delivers on high standards or we risk offshoring our emissions to other areas where the environment is not so highly rated;
- Our biodiversity is in decline, to the detriment of our environment, our wellbeing, the economy and agricultural yields;
- Rural depopulation and shifting demographics remains an issue that future rural policy needs to address;
- Covid-19 has impacted significantly on economies worldwide: together with our exit from the EU and possible future UK trade arrangements, these external shocks may exacerbate the underlying challenges that many rural areas already face.

However, there are positives we can build upon. There have been successful pilots that utilised innovative and cross-cutting partnerships to develop and embed biodiversity-friendly farming practices and ensure sustainable food supply chains. The public is becoming more discerning in its food choices, and more aware of the criticality of our environment and the impact of farming upon that. Even Covid-19 has provided an opportunity for reflection and there is an emerging call for a “green recovery” including actions towards a more circular economy.

We have an existing producer and supply chain base with a global reputation for producing high quality food and drink products. We have world leading research

institutes with the knowledge and research capacity to put us at the cutting edge of sustainable production systems.

The big question is around how we get from where we are now, from the 'known' position of the CAP, to a new system that allows and enables us to meet our public policy goals. There should be robust governance in place to ensure delivery success. We recommend that the Scottish Government establishes a group to draw together the many strands of work planned and agree on organisation, prioritisation, accountability, reporting and quality metrics.

In developing this report we heard from a wide range of sector bodies either already undertaking work that aligns with the direction of travel we set out, or poised to contribute to the delivery of an ambitious rural future. There are also a number of bodies already partnering with the Scottish Government to deliver its National Outcomes. These organisations can provide valuable input to the work of sector-specific groups such as the Suckler Beef Group and we recommend that they are engaged with as early as possible in the policy development process to identify who, and how best, to take forward the activities outlined in our Report.

As a group, piloting multiple areas of work between 2021 and 2024 will provide the opportunity to test new ways of working at scale and allow unforeseen consequences to be mitigated against. It will also allow producers to build confidence in new support systems, enabling long term investment in the rural economy.

We recommend pilots clustered around the three key areas of **Business**, **Environment** and **People**. These industry wide pilots should be taken forward by farmer led or supply chain led taskforces who can work alongside government to co-design schemes from farm up, ensuring that buy in from the wider industry is more likely, thus increasing the rate of rapid embedding of new schemes and support systems. Implementation should be overseen by implementation boards so that industry and government can continue to tackle shared challenges to implementation together.

## **Business**

- We recommend that a sector- based approach is taken to designing new systems and investment that enable rapid emissions reduction within the primary production base. Consideration should be given to where targeted investment in skills and technology is required to renew and upgrade farming practices, and how this interacts with system change. The recently published Suckler Beef Climate Scheme report represents an excellent example of how this could work in practice and should be used as a means for exploring similar approaches for other sectors including arable, dairy, pigs, horticulture, field vegetables, and LFAs.
- We recognise that across every sector and supply chain, the availability of data from farm to fork enables decisions to be made that not only connect consumer choice with production system, but allow supply chain elements to understand critical interactions between each other, and allow benchmarking to take place at farm and national level. We recommend that pilots are undertaken to design whole

system supply chain data systems that are accessible from everyone involved in the production cycle.

- We have a number of support organisations surrounding our food and farming producers, from Non-Departmental Public Bodies (NDPBs) involved in marketing, to environmental NDPB's, to wider membership organisations. Many of these organisations have evolved over the last 25 years but have never been strategically aligned. We recommend that a review of the current support structure around industry is undertaken to ensure that it is fit for purpose.
- Food security is something that has become of critical importance during Covid-19 and the unknown post-Brexit landscape renders it even more so. We should explore how to accurately define, monitor and report on Scotland's food security.
- Pilot public information programmes supported by the entire supply chain to explore what levers encourage more informed and healthier eating, to improve both the nation's health and knowledge of locally produced food, and allow producers to pivot to meet demand.

## **Environment**

- Scotland's rich tapestry of landscape means there is no one size fits all production system, and incentivising the right system, in the right place, is key to our meeting of climate and biodiversity targets whilst also maintaining our ability to meet Scotland Food & Drink's Ambition 2030 targets. We need to test how public goods and services should be paid for at farm level, and model what impact that has on wider farming incomes and the ability for supply chains to deliver critical mass of food products.
- In order to manage the delicate balance between producing food and drink products, and meeting our climate change and biodiversity targets without offshoring them, we need to test a new mechanism for communicating the impacts resulting from changing uses of land on our food and drink supply chain. We recommend that this should be tested via a supply chain led working group submitting a yearly report to the Scottish Parliament on the impact on the food and drink supply chain from changing practices in primary production.
- RLUPs offer a pathway to design place-based landscape scale partnerships that work for communities. These should be piloted to demonstrate their effectiveness and build trust in the mechanism.
- In order to take decisions with confidence and incite action, we require robust datasets of baseline information on biodiversity and carbon emissions to farm level. Methods for establishing, monitoring and reporting these baselines should be piloted so that we have robust systems that stand up to scrutiny. A Sustainability Scorecard for Scotland, using detailed statistical research on where the issues lie could be explored.

## People

- Review the current knowledge and innovation landscape from research level right through to knowledge exchange and knowledge transfer mechanisms.
- Pilot new access qualifications to the farming, land management, food and drink industries, working with schools and colleges to demonstrate where career opportunities exist both now, and in the future.
- Test the linking of CPD style skills and training courses to targeted investment in new farming and food production systems.
- Explore mechanisms for generational renewal and supporting the diversification of business.

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## Conclusions

Throughout the course of our work, it became clear to us that there was a collective recognition that acting in a truly holistic and integrated way across sectors has the potential to overcome the challenges, capitalise on the new or existing opportunities and yield enormous benefits for the economy, society and environment alike.

When developing our overarching principles and the recommendations for action, we held in our minds our Vision for 2050:

*‘Productive land-based businesses contributing to vibrant, thriving and inclusive rural economies, enabling sustainable food production, whilst restoring and protecting Scotland’s environment’*

Our guiding principles underpin that Vision. Ambitious targets which are clearly defined and understood; focussed investment; support for local enterprise; better data and better use of data; and skilled and knowledgeable people, driven by clear, joined-up goals, are essential if we want to bring about changes that will see Scotland’s rural economy and environment thrive. As we have set out, the landscape for farming, food production and the environment is a complex one, and in moving towards a more integrated, place-based approach, the challenges are undoubtedly immense. We nevertheless believe that we have a unique opportunity to make significant positive changes for Scotland, benefitting the public, land managers, and the environment.

We must be ambitious and utilise every lever possible to effect change. This can only be achieved if cross-cutting mechanisms for implementation are developed. Agriculture and land use does not exist in a vacuum, so future policies need to bridge across environment, food and drink, tourism, equalities, transport, energy and others, developing outcomes which are integrated and tangible. As a consequence, these policies need to be radically different to what we have now.

While the recommendations we have proposed will take time to be fully realised, we believe that there is a real urgency to begin this journey of transformation. The activities we suggest are intended to improve our understanding of what is possible and to inform the outcomes achievable. We believe these activities should be taken forward immediately in order to enable those in rural industries to be ready when CAP ends.

We have striven to temper ambition with realism. Our recommendations are informed by the vast collective experience and knowledge of those who participated in and contributed to the Group, not least by the Academic Advisory Group, and grounded in evidence provided by the Scottish Government. We recognise that our recommendations are not wholly definitive but we believe that they form a sensible and achievable framework within which to take forward mapping of a more detailed route to future rural policy in Scotland.

The “next steps” outlined earlier can set us on our way to developing visionary and achievable policies to meet our climate and environment goals and support our food producers, land managers, rural economy and rural population. We trust that the Scottish Government, the Scottish Parliament, industry and others will action our recommendations: we have a unique opportunity here for radical improvement. Let us take it.

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## Annex: Evidence Base

Agriculture will continue to be a significant part of Scotland's future, so it is important to understand its environmental, economic and social impacts, as well as its role in the food and drink sector. Agriculture (in the widest sense of being managed for production) takes place across over 80% of the land mass in Scotland<sup>63</sup> with wide-ranging benefits, and consequences. These include the direct economic and employment impacts and those related to: the wider economy; the food and drink industry; farm diversification; non-food use of agricultural land; social impacts; GHG emissions; impacts on air, soil and water quality; biodiversity; and cultural landscapes. A series of short reviews of agriculture in Scotland by James Hutton Institute (JHI) and Scotland's Rural College (SRUC) explored each of these areas.<sup>64</sup>

Key contributions of agriculture (in its widest sense) identified include:

- **Economic:** In 2018 the Gross Value Added (GVA) of agriculture was c£1.2bn<sup>65</sup>. Output has risen 37% over ten years, comprising 12% of UK agricultural output;
- **Employment:** Agriculture provides up to 10% of employment in some rural areas: across Scotland as a whole, it provides around 2.5% of employment;
- **Food and Drink:** Farming contributes up to 19% of all inputs to food, and 2% of all inputs to drink;
- **Social:** Farming and crofting families form an enduring part of the social fabric of rural communities, and contribute to local culture;
- **Biodiversity:** Biodiversity is heavily impacted by agriculture, and while there are instances of farms having a positive impact by implementing specifically targeted farming practices, overall it is in decline. This is having a long term negative impact on Scotland's environment and has the potential to damage agricultural yields;
- **Climate Change:** Around 18% (7.5 MtCO<sub>2</sub>e) of Scotland's GHG emissions are from agriculture;<sup>66</sup>
- **Air Quality:** Agriculture contributes significantly to air pollution, mainly through ammonia from artificial fertilisers, of which it contributes around 90%<sup>67</sup> of emissions;
- **Water and Soil Quality:** Agricultural practices without mitigation measures negatively affect soil<sup>68</sup> and water quality<sup>69</sup> by causing contamination by pollutants and erosion from poorly managed soil. The impacts from soil erosion alone have been estimated at £50m per year;<sup>70</sup>
- **Flooding:** Soil and land management can lead to an increased flood risk. The removal of trees and hedges, the compaction of soil, bare fields, lack of organic matter and poor agricultural practices all contribute to flooding;

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<sup>63</sup> Including common grazings. Figure based on the Scottish Agricultural Census: June 2019 <https://www.gov.scot/publications/final-results-june-2019-agricultural-census/pages/1/> and UK Standard Area Measurements (SAM) <https://www.ons.gov.uk/methodology/geography/geographicalproducts/otherproducts/ukstandardareameasurementsam>

<sup>64</sup> Prepared by JHI & SRUC using published data

<sup>65</sup> <https://www.gov.scot/publications/total-income-farming-estimates-scotland-2016-18/pages/2/>

<sup>66</sup> <https://www.gov.scot/news/scottish-greenhouse-gas-emissions-2018/>

<sup>67</sup> [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2004151035\\_DA\\_Air\\_Pollutant\\_Inventories\\_1990-2017\\_Issue\\_1.2.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2004151035_DA_Air_Pollutant_Inventories_1990-2017_Issue_1.2.pdf)

<sup>68</sup> <https://soils.environment.gov.scot/soils-in-scotland/state-of-scotland-soils/>

<sup>69</sup> [https://www.sepa.org.uk/media/37765/significant-water-management-issues\\_scotland.pdf](https://www.sepa.org.uk/media/37765/significant-water-management-issues_scotland.pdf)

<sup>70</sup> <https://www.gov.scot/publications/developing-method-estimate-costs-soil-erosion-high-risk-scottish-catchments/>



- **Diversification:** Diversification includes a variety of activities such as retail, recreation, tourism, mobile phone masts, and renewable energies. More than 50% of farmers in 2018-19 had income from diversified activities, with an average income of around £4,600 from these<sup>71</sup>. Output from diversification makes up around 6% of total farm output on average.

## **Land Use**

Land use across much of Scotland takes place within a complex pattern of land ownership and tenure. Who owns and/or manages the land plays a critical role in determining how land is used and the local social, economic and environmental benefits derived from that use.<sup>72</sup>

Scotland's Land Use Strategy is a key commitment of the Climate Change (Scotland) Act 2009 and reflects the value of our land in helping to both mitigate and adapt to climate change. The first Strategy was published in March 2011 and established the Scottish Government's vision and framework for sustainable land use, whilst bringing forward proposals for two RLUP pilots. In accordance with the 5 year cycle set in the 2009 Act, Scotland's second Land Use Strategy was published in March 2016. It built on the experiences gained from the Regional Land Use Pilot projects and set out a range of policies and proposals to be taken forward over the course of its lifetime in areas such as agriculture, forestry, natural capital and more. Scotland's third Land Use Strategy is currently under development and is due for publication in March 2021, with the intention of demonstrating how Scotland's multiple land uses come together to help deliver our sustainable land use vision.

Agriculture and forestry are the most dominant land uses in Scotland. Agriculture accounts for around the same share of land use today as it did a century ago, while land used for forestry in Scotland has steadily increased from around 5% in 1905 to 19% in 2020<sup>73</sup>. There are 20,570 crofts in Scotland with an average of 5ha per croft.<sup>74</sup> Crofting covers around 4% of Scotland's utilisable agricultural area. An additional 600,000ha is common grazing<sup>75</sup>.

Farming directly accounted for 0.8% of GVA<sup>76</sup> in the Scottish economy in 2018, providing 67,000 jobs and incomes, and provides input into other industries that make a significant contribution to our economy (e.g. contributing to supporting a further 17,500 enterprises and 46,000 jobs in the food and drink industry).<sup>77</sup>

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<sup>71</sup> <https://www.gov.scot/publications/farm-business-survey-2018-19-profitability-scottish-farming/>

<sup>72</sup> Impact of diversity of ownership scale on social, economic and environmental outcomes, 2016 <https://www.gov.scot/publications/impact-diversity-ownership-scale-social-economic-environmental-outcomes/pages/7/>

<sup>73</sup> Provisional Woodland Statistics 2020 Edition <https://www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/>

<sup>74</sup> <https://www.gov.scot/publications/survey-economic-conditions-crofting-2015-2018/pages/2/>

<sup>75</sup> <https://www.gov.scot/publications/final-results-june-2019-agricultural-census/>

<sup>76</sup> Agriculture facts and figures: 2019 <https://www.gov.scot/publications/agriculture-facts-figures-2019/pages/2/>

<sup>77</sup> <https://www.gov.scot/publications/growth-sector-statistics/>

Agricultural output is generally dependent on land capability. Large areas of Scotland have limited arable growing conditions and are usually hilly or rocky lands more suitable for livestock. Beef and dairy accounts for 35% of the total value of agricultural output,<sup>78</sup> arable for 34% (including for whisky production). Sheep farming, which forms 7% of the total agricultural output, is particularly important in certain parts of the country, including within the crofting counties and the Highlands and Islands. 2.1% of agricultural land in Scotland is farmed organically<sup>79</sup>.

Areas with limited growing conditions are currently designated as Less Favourable Areas (LFAs) in recognition of:

- the presence of land of poor productivity, which is difficult to cultivate and with a limited potential which cannot be increased except at excessive cost, and which is mainly suitable for extensive livestock farming;
- lower than average production, compared to the main indices of economic performance in agriculture;
- a low or dwindling population predominantly dependent on agricultural activity, the accelerated decline of which could cause rural depopulation.

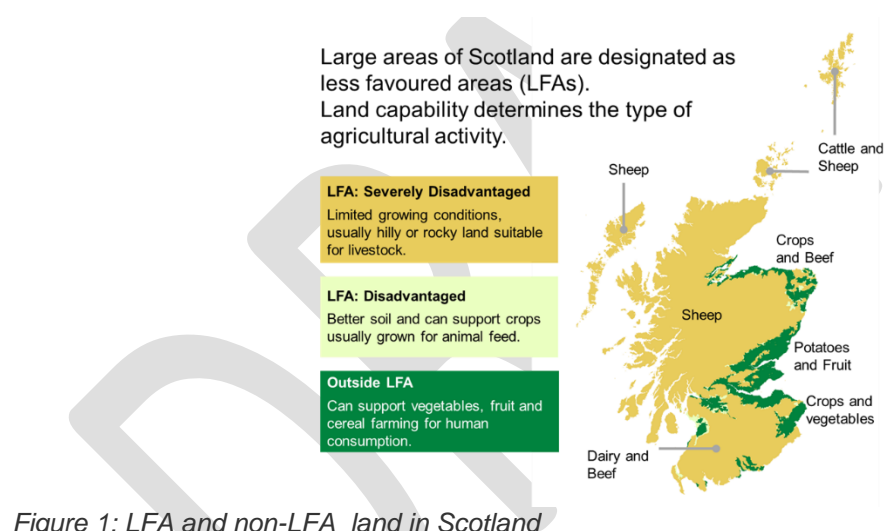


Figure 1: LFA and non-LFA land in Scotland

Around 10% of Scottish agricultural land is used to grow cereals, fruit and vegetables. Barley and wheat are the main cereal crops grown in Scotland, accounting for around 85% of the area of crop-land<sup>80</sup> and much of it goes into whisky production. Indeed, 87% of barley and 50% of wheat requirements of Scotland's whisky production are sourced in Scotland<sup>81</sup>.

<sup>78</sup> Total Income from Farming Estimates for Scotland, 2016-18

<https://www.gov.scot/publications/total-income-farming-estimates-scotland-2016-18/pages/1/>

<sup>79</sup> <https://www2.gov.scot/Topics/Statistics/Browse/Agriculture-Fisheries/TrendOrganicFarming#:~:text=A%20total%20of%20123%2C000%20hectares,organic%20land%20in%20the%20UK.>

<sup>80</sup> Scottish Agricultural Census: June 2019 <https://www.gov.scot/publications/final-results-june-2019-agricultural-census/pages/1/>

<sup>81</sup> [Scotch Whisky Cereals Technical Note: 4th Edition | Scotch Whisky Association \(scotch-whisky.org.uk\)](https://www.scotch-whisky.org.uk/technical-note)

In the last 100 years, forest and woodland cover in Scotland has increased from around 5% to 19%<sup>82</sup>. This percentage is higher than the rest of the UK but is still well below the EU average of 43%<sup>83</sup>. Scotland's forest and woodland area now covers almost 1.47 million hectares (ha), just under a third of which is owned by Scottish Ministers on behalf of the nation, with one million hectares privately or community owned<sup>84</sup>.

The Scottish Government's Climate Change Plan<sup>85</sup> includes ambitious targets for woodland creation, aiming to increase forest and woodland cover to 21% of the total area of Scotland by 2032. This target equates to 12,000ha of new planting per year until 2022, 14,000ha per year from 2022 until 2024, and 15,000ha per year from then onwards.

Forestry makes a substantial contribution to the economy at both national and local levels. In 2015, forestry in Scotland contributed almost £1 billion GVA and employed over 25,000 full-time equivalents<sup>86</sup>. The key economic activities are through the production of timber and other wood fibre, and through the provision of recreation and tourism assets. In 2015, forestry and timber processing contributed £771 million GVA and employed almost 20,000 full-time equivalents, while forest recreation and tourism contributed £183 million GVA and employed just over 6,000 full-time equivalents.

## **Climate Change**

The latest GHG Inventory<sup>87</sup>, shows emissions from agriculture contribute around 18% (7.5 MtCO<sub>2</sub>e in 2018) of Scotland's total annual GHG emissions. The largest source of agricultural emissions is livestock, with 4.2 MtCO<sub>2</sub>e coming from livestock methane emissions alone.

Indicative estimates based on the inventory data suggest that just under 50% (around 3.4 MtCO<sub>2</sub>e) of Scottish agricultural emissions are from the beef sector, most of which is methane. This is around 0.9 MtCO<sub>2</sub>e less than the beef sector emitted in 1990, largely driven by falls in cattle numbers<sup>88</sup>.

Scotland's forests and woodlands make a major contribution to a low carbon and resilient economy. They do this by helping mitigate the impact of climate change through the absorption of substantial amounts of carbon. Many wood products also contribute to climate change mitigation by continuing to store captured carbon after

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<sup>82</sup> Provisional Woodland Statistics 2020 Edition <https://www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/>

<sup>83</sup> Scotland's Forestry Strategy

<sup>84</sup> Provisional Woodland Statistics 2020 Edition <https://www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/>

<sup>85</sup> Climate Change Plan <https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2018/02/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/documents/00532096-pdf/00532096-pdf/govscot%3Adocument/00532096.pdf>

<sup>86</sup> The Economic Contribution of the Forestry Sector in Scotland <https://forestry.gov.scot/forestry-business/economic-contribution-of-forestry>

<sup>87</sup> <https://www.gov.scot/news/scottish-greenhouse-gas-emissions-2018/>

<sup>88</sup> <https://www.gov.scot/news/scottish-greenhouse-gas-emissions-2018/>

harvesting of the timber. The GHG Inventory shows that 9.6 MtCO<sub>2</sub>e was removed from the atmosphere by Scotland's forests and woodlands in 2018.

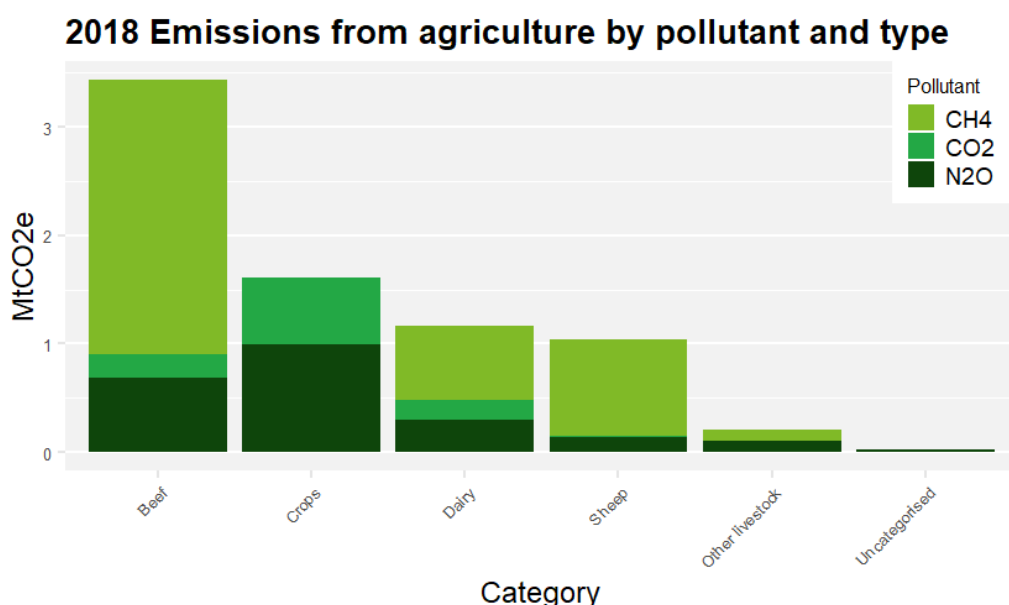


Figure 2: Agriculture emissions (taken from Greenhouse Gas Inventory)

Making changes to agricultural production systems will help in reducing emissions from any farm or croft. But the scale of the overall challenge requires further actions. In particular, significant woodland creation and peatland restoration will be essential if Scotland is to get to net zero by 2045<sup>89</sup>.

## **Biodiversity**

With over 80%<sup>90</sup> of Scotland's terrestrial area managed for production, it indisputably has the potential to significantly impact on biodiversity across large swathes of the country. While attribution of the causes of biodiversity loss is very difficult, there is no doubt that in recent decades agricultural practices have had the biggest single impact upon nature<sup>91</sup>.

The State of Nature Report (2019)<sup>92</sup> catalogues an alarming decline in biodiversity, noting there has been no let-up in the net loss of nature in Scotland with a continued decline in numbers and distribution of terrestrial and freshwater species during the last 10 years. Nevertheless, Scotland is still a stronghold in the UK for many species

<sup>89</sup> <https://www.cielivestock.co.uk/net-zero-carbon-and-uk-livestock/>

<sup>90</sup> Including common grazings. Figure based on the Scottish Agricultural Census: June 2019 <https://www.gov.scot/publications/final-results-june-2019-agricultural-census/pages/1/> and UK Standard Area Measurements (SAM) <https://www.ons.gov.uk/methodology/geography/geographicalproducts/otherproducts/ukstandardareameasurementsam>

<sup>91</sup> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151595>

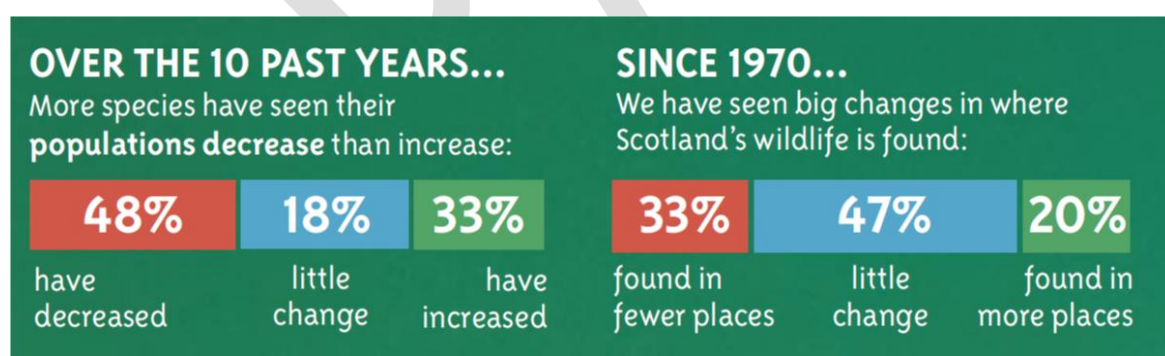
<sup>92</sup> <https://www.nature.scot/state-nature-scotland-report-2019>

associated with farmland and upland habitats, particularly in those parts of Scotland where the farming systems and practices employed are sympathetic to wildlife<sup>93</sup>.

A focus on improving the conservation management of designated sites since 2005 has improved the condition of many habitats within designated areas that are associated with agricultural management. Despite this, some habitats, especially in upland areas, have not achieved the 2016 baseline target of having 80% of features in favourable or recovering condition.

Some actions targeted specifically on particular species of high nature conservation concern have resulted in population increases, such as corncrake and corn bunting, though the ranges of these species have not increased and they remain vulnerable to decline in the face of changes in farming practice. Moreover, whilst targeted single-species interventions are necessary in some instances to maintain priority species, other measures are required in tandem when the goal is one of overall biodiversity increase.

Gains in some aspects have been more than offset by a continuing decline in the quality of much of Scotland's wider countryside, including agricultural land falling outwith designated areas. For example, although the trend for *farmland* birds is positive overall, (with a 14% increase since 1995) the *upland* bird indicator shows a decline of almost 20% over the same period. This is driven largely by continuing falls in numbers of breeding waders such as curlew and lapwing, which have declined by 63% and 62% respectively in the past 45 years. Some species once common across Scotland, such as the corncrake, are now so rare and localised in distribution that their populations cannot be measured by the Breeding Bird Survey and require a bespoke survey. Bird populations are often used as an indicator for wider biodiversity trends.



Successive agri-environment programmes under the CAP have been used in an attempt to address biodiversity declines over the last 20 years. There has been little effective monitoring of the direct impact of individual schemes and actions on many of the specific biodiversity concerns targeted. It has, however, been demonstrated that where agri-environment programmes are combined with targeted advice, then they can yield significant positive results for biodiversity.<sup>94</sup>

<sup>93</sup>

[https://www.sruc.ac.uk/downloads/file/3702/post\\_brexit\\_implications\\_for\\_agriculture\\_and\\_associated\\_land\\_use\\_in\\_the\\_highlands\\_and\\_islands](https://www.sruc.ac.uk/downloads/file/3702/post_brexit_implications_for_agriculture_and_associated_land_use_in_the_highlands_and_islands)

<sup>94</sup> <https://besjournals.onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2664.2011.01958.x>

Agri-environment schemes include measures for the conversion to and maintenance of organic farming. Organic production relies on ecological processes, biodiversity and cycles adapted to local conditions,<sup>95</sup> yielding significant long-term benefits for species richness and biodiversity<sup>96</sup> Organic farming also leads to other wider environmental benefits such as tackling climate change through reducing GHG emissions, improving soils and protecting our air and water<sup>97</sup>.

In Scotland some 443k hectares<sup>98</sup> of the forest resource are classified as native woodland and regarded as being of high value for biodiversity. The proportion of Scotland's protected woodlands in favourable condition in 2020 was 64%<sup>99</sup>. The Woodland Ecological Condition report<sup>100</sup> gave Scotland's non-native woodlands an overall 'intermediate' ecological score, highlighting that they have a positive value for biodiversity in Scotland, and that positive management could improve their contribution further.

### **Scotland's Food and Drink**

Scotland is justifiably renowned for its food and drink: a whole range of delicious, healthy (and not-so-healthy) food is reared, grown, harvested and processed in Scotland. Some produce is considered so unique that it has a designated Protected Geographical Indication (PGI) and can only be produced in Scotland: Stornoway black pudding; Orkney Scottish Island Cheddar; Scotch beef, and of course, Scotch whisky. When we visit farmers' markets, farm shops or the supermarket and select Scottish produce, we are purchasing the result of centuries of knowledge, experience and hard labour of Scottish farmers and producers. As we become more discerning consumers, our demand for an even greater variety of high quality food products is one that Scottish farmers have been consistently rising to meet.

The food and drink sector is one of Scotland's key growth sectors, domestically and internationally, covering a broad range of activities from farming, fishing and aquaculture to the processing, distilling, brewing and manufacturing of food and drink. Combined the sector accounts for around 5% of Scotland's workforce, is made up of 17,590 enterprises and generates annual turnover of around £15bn. As a result, the sector adds £5.6bn to Scotland's economy per year – equivalent to around 3.8% of Scottish GVA in 2018.<sup>101</sup> Of this, around £0.4bn came from fishing and aquaculture; £1.4bn from food manufacturing and £2.5bn from drinks manufacturing. The remaining £1.2bn came from farming itself.

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<sup>95</sup> [http://www.organicworldfoundation.org/organic\\_agriculture.html](http://www.organicworldfoundation.org/organic_agriculture.html)

<sup>96</sup> <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12219>

<sup>97</sup> <http://www.gov.scot/Publications/2011/03/14093552/3>

<sup>98</sup> <https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/what-our-woodlands-and-tree-cover-outside-woodlands-are-like-today-8211-nfi-inventory-reports-and-woodland-map-reports/nfi-woodland-ecological-condition/>

<sup>99</sup> <https://www.nature.scot/information-hub/official-statistics/official-statistics-protected-sites>

<sup>100</sup> <https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/what-our-woodlands-and-tree-cover-outside-woodlands-are-like-today-8211-nfi-inventory-reports-and-woodland-map-reports/nfi-woodland-ecological-condition/>

<sup>101</sup> [Growth Sector Briefing - Food and Drink - The Scottish ... www.gov.scot › food-and-drink › govscot:document \(google.com\)](https://www.gov.scot/publications/growth-sector-briefing-food-and-drink-the-scottish-food-and-drink-sector/govscot:document)



■ Agriculture ■ Fishing and Aquaculture ■ Food Manufacturing ■ Drinks Manufacturing

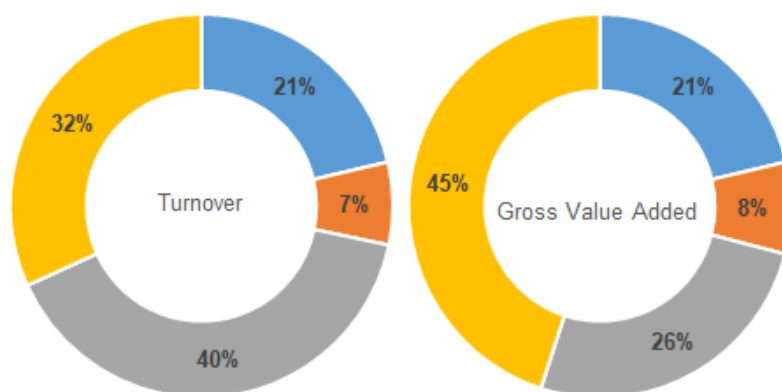


Figure 3: Share of turnover and value added in the Scottish food and drink sector<sup>102</sup>

Growth for the sector over the past 10 years has been driven by food manufacturing which has grown on average by 1.4% per year. Over the same period, drinks manufacturing (particularly that associated with distilling and blending spirits) has grown at a much slower rate.

Food and drink manufacturing is Scotland's second largest export sector. In 2018, over £10bn worth was exported by the industries (£4bn to the rest of the UK and over £6bn overseas).<sup>103</sup> At the same time Scotland imports roughly £2.4bn worth of agricultural produce or finished food and drink products from overseas annually. There will also be significant imports from the rest of the UK (which are also likely to include ingredients from overseas), but reliable data is not currently available.

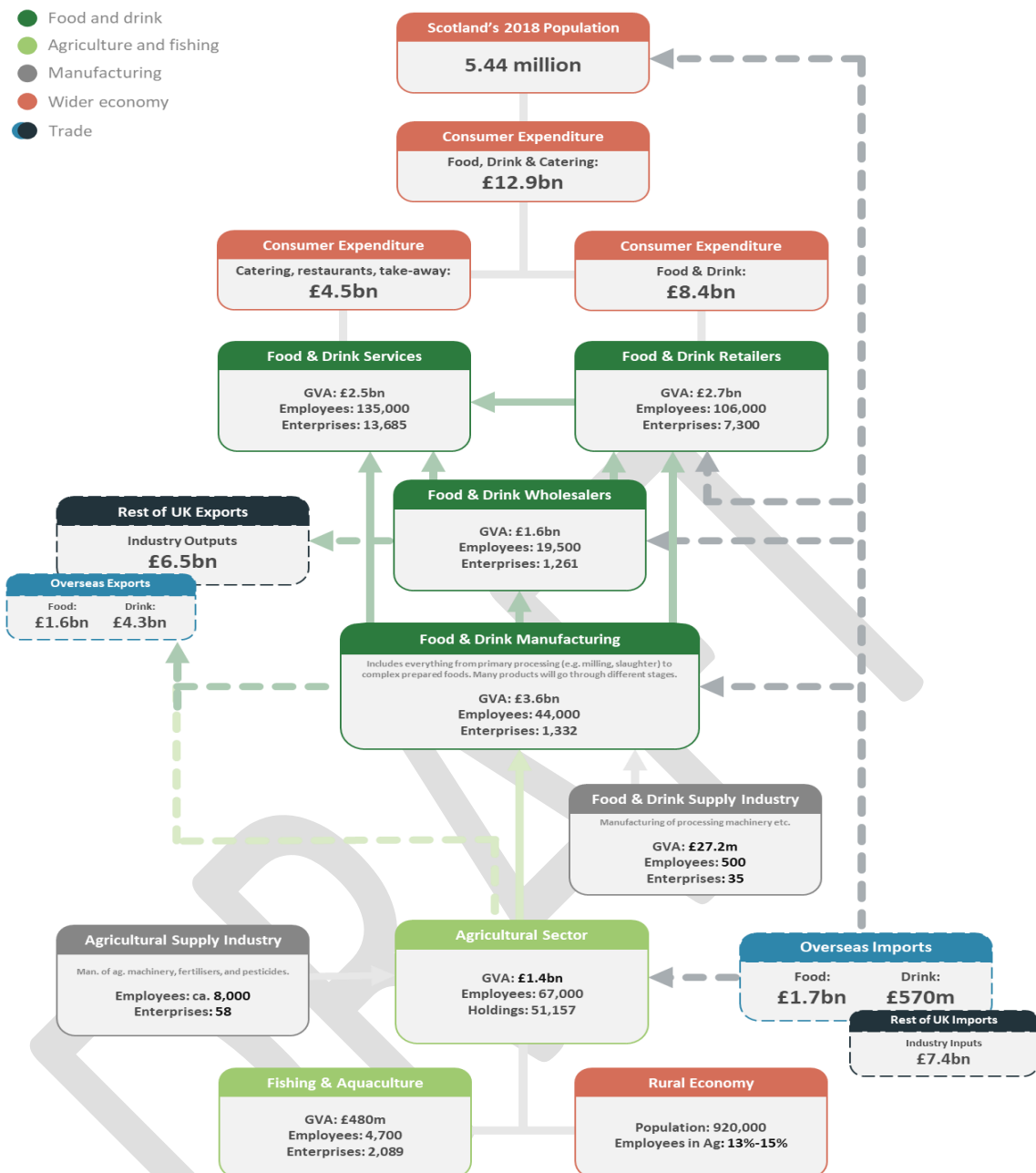
	UK			Scotland		
	Export	Import	Net Balance	Export	Import	Net Balance
Live Animals	569	531	38	52	22	30
Meat & meat preparations	2,058	6,624	-4,565	107	185	-78
Dairy & eggs	1,993	3,326	-1,334	57	100	-42
Fish & seafood	2,002	3,452	-1,450	1,017	252	765
Cereals	2,446	4,238	-1,792	177	235	-58
Vegetables & fruit	1,270	11,457	-10,186	82	432	-350
Sugar & honey	442	1,194	-752	21	74	-53
Coffee & tea	1,532	3,795	-2,264	20	54	-34
Animal feed	1,127	2,430	-1,303	191	353	-162
Other food	2,202	3,443	-1,240	49	104	-54
<b>Total Food</b>	<b>15,641</b>	<b>40,490</b>	<b>-24,849</b>	<b>1,773</b>	<b>1,810</b>	<b>-37</b>
Drink	7,906	5,979	1,928	4,475	570	3,905
<b>Total Food &amp; Drink</b>	<b>23,547</b>	<b>46,468</b>	<b>-22,921</b>	<b>6,247</b>	<b>2,380</b>	<b>3,867</b>

Figure 4 - Scottish & UK trade in Food and Drink, £ million, 2019

<sup>102</sup> Scottish Annual Business Survey, June 2020

<sup>103</sup> Export Statistics Scotland 2018, January 2020





Sources: NRS (2018 Population Estimate), ONS (Family Spending FYE 2017-2019, A35), Rural Scotland Key Facts 2018, SABS 2017, Agriculture Facts & Figures 2018, HMRC RTS 2018, Export Statistics Scotland 2018, Input Output Tables 2016, SABS 2016/2017.

Figure 5 - Economic Summary of the Scottish Food Supply Chain

## Food security

Our food supply systems are extremely complex. Since the creation of the European Single Market in 1992 the sector has been transformed, and consolidation has led to a small number of firms becoming dominant. In terms of supply, we are overall a food secure nation with year-round availability of food and consumers enjoying access to a wide range of reliable, fresh and affordable foods sourced mainly from across the UK and EU.

In 2018, the total amount spent on food and drink in the UK was £226bn<sup>104</sup>. Latest estimates from the Department for Environment, Food and Rural Affairs (DEFRA) show that the UK as a whole currently produces around half (55% by value) of the food it consumes and imports the rest, mainly from the EU<sup>105</sup>.

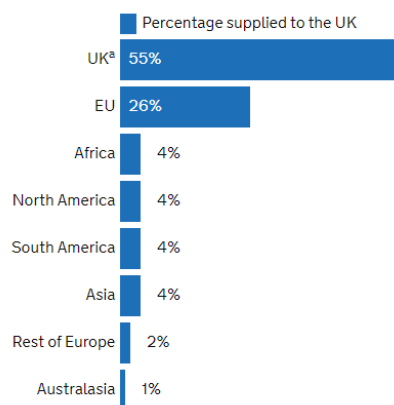


Figure 6: Percentage of food produced domestically

There are a number of factors that limit our own agricultural capability to meet more of this demand from domestic production. The UK lacks the appropriate climate to allow for many foods to be meaningfully produced here (either all year around or at all), and UK consumers have a diversity of tastes which demands overseas varieties (e.g. French cheeses and Italian ham).

Moreover, increasing the percentage of domestically produced food would not insulate the UK or Scotland against disruptions to our own domestic supply chains. Relying entirely on domestically produced food could, instead, increase exposure to already present risks (e.g. adverse weather events, crop failure and animal disease outbreaks). More generally, risks to food security at UK level<sup>106</sup> include climate change, disease, conflict, and economic shocks. Continued access to the quantity, quality and variety of foods that consumers expect will require open, predictable, non-discriminatory and fair international conditions for trade in agriculture and food<sup>107</sup>.

## **Farm Business profile**

The average farm business income<sup>108</sup> in 2018-19 was estimated at £38,700. However, excluding diversification and without farm support through grants and subsidies the average farm is estimated to make a loss of around £9,000.

<sup>104</sup> Consumer Trends, Office of National Statistics (ONS)

<sup>105</sup> [Food Statistics in your pocket: Global and UK supply - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/food-statistics-in-your-pocket-global-and-uk-supply)

<sup>106</sup> <https://commonslibrary.parliament.uk/science/environment/food-security-what-is-it-and-how-is-it-measured/#:~:text=Food%20security%20has%20many%20dimensions,Agriculture%20Bill%202019%2D20%20recognises.&text=Governme nt%20statistics%20in%202018%20showed,for%20the%20past%2030%20years.>

<sup>107</sup> <http://www.oecd.org/agriculture/topics/food-security/>

<sup>108</sup> Farm business income is estimated from the Farm Business Survey (FBS), an annual sample survey of around 500 farms in Scotland. The FBS only includes full time farms (those with a Standard Labour Requirement SLR>0.5) with significant economic activity (at least £21,315 output) and excludes farms predominantly engaged in horticulture, poultry, egg production or pig production. Also ignores non-farm income received.

There are significant differences in farm business income between different farms, across the Scottish agriculture sector and by region:

- Dairy and general cropping are typically most profitable;
- Sheep and beef farms in LFAs have the lowest income and have been historically low compared to other farm types;
- Profitability within farming sectors is very variable. For example, in dairy farming in 2018-19, the bottom 25% of farms lost on average £50,600 while the top 25% had an average farm business income of around £241,000<sup>109</sup>;
- In addition to farm-related activities many businesses generate income through farm business diversification activities and off-farm work, providing more stable sources of additional income<sup>110</sup>;
- More than half of the farms in the Farm Business Survey (FBS) have diversified activities, generating an average of 16% of the level of farm income on these farms. Off-farm income is not included in Farm Business Income (FBI) figures. However, in 2018-19, 66% of farms in the FBS generated additional income through off-farm work. On average, those earning off-farm income generated around £18,000;
- Diversification can consist of a variety of activities including tourism, retail and renewable energies. The average income for farm businesses that engage in diversified activities was around £8,500 in 2018-19;
- The highest income farms are based in the east and south of Scotland, and the lowest in west central Scotland and the Highlands and Islands. This may be related to the high amount of LFA land in the Highlands and Islands;
- Over the last five years, about 30% of farms who took part in the survey every year turned a profit every year. Excluding subsidy, this figure drops to 2.5% of farms.

As shown in Figures 7a and 7b below, FBI data suggests that the inclusion of CAP subsidy does not change the overall distribution of farm profitability, but does mean that more farms turn a profit.

- Without subsidy or diversification, 28% of farms turn a profit;
- With subsidy, 72% of farms turn a profit;
- Including subsidy and diversification, 76% of farms turn a profit.

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<sup>109</sup> <https://www.gov.scot/publications/scottish-farm-business-income-annual-estimates-2018-19/>

<sup>110</sup> <https://www.gov.scot/publications/farm-business-survey-2018-19-profitability-scottish-farming/>

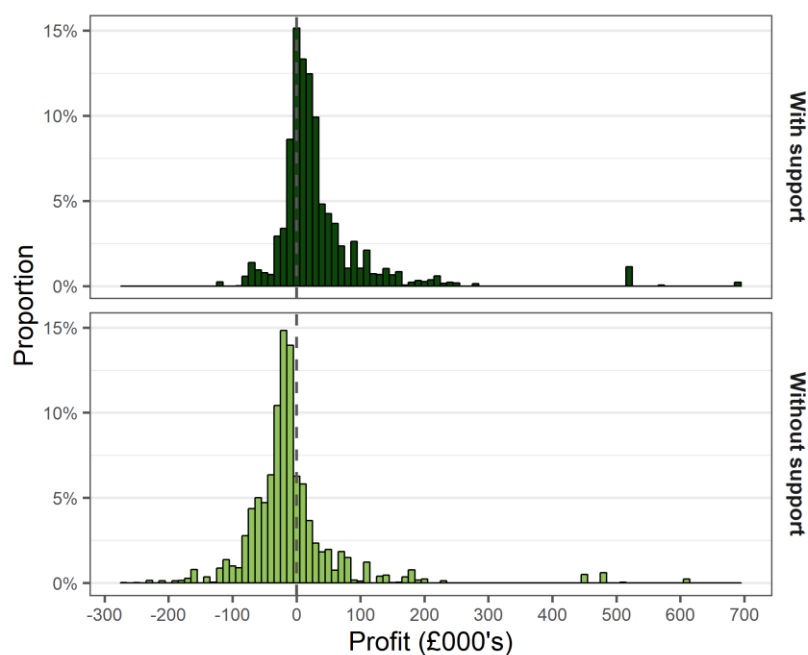


Figure 7a: Income from farming with and without subsidy, 2018-19 (diversification excluded)

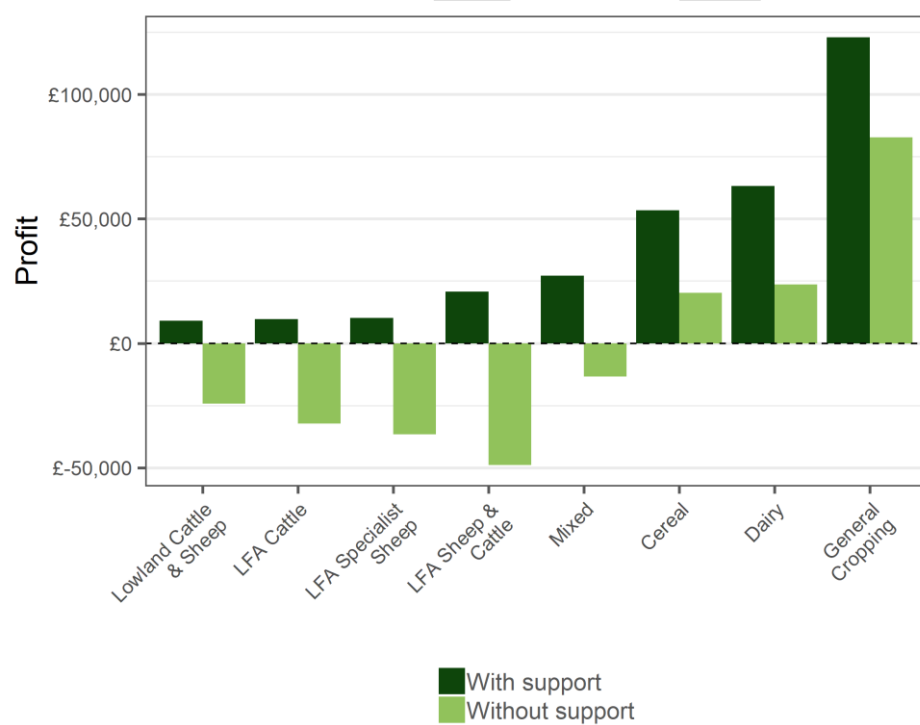


Figure 7b: Average income from farming with and without subsidy, by farm type, 2018-19 (excluding diversification)

Farming has an ageing workforce and over 71% of people in employment in the farming, forestry and fishing industry are aged 50 and over<sup>111</sup>. There is an existing strongly gendered element to farming and succession with women making up only 7% of principle farmers. Women do, however, provide significant background

<sup>111</sup> [https://www.sruc.ac.uk/images/RuralReport\\_2018\\_19\\_EmergingFindings.jpg](https://www.sruc.ac.uk/images/RuralReport_2018_19_EmergingFindings.jpg)

support to farm businesses, and often are responsible for imaginative, if small scale, diversification activities, such as speciality sheep breeding, yogurt making and agricultural environmental schemes. This additional source of support is particularly beneficial in crofting regions<sup>112</sup>. It should be noted that not all farmers or crofters are able to be involved in some types of diversification, such as forestry, as they may be tenants with leases that do not permit it.

## **Farming and Rural Development Policy**

Agricultural policy in Scotland since the Second World War has been largely dictated by a succession of policies and support mechanisms developed initially in the UK and later within the Common Market and its successor the European Union, through the CAP. Article 39 of the European Union Treaty sets out the specific objectives of the CAP:

- To increase agricultural productivity by promoting technical progress and ensuring the optimum use of the factors of production, in particular labour;
- To ensure a fair standard of living for farmers;
- To stabilise markets;
- To ensure the availability of supplies;
- To ensure reasonable prices for consumers.

As a constituent part of an EU Member State for almost 50 years (until UK withdrawal in January 2020), Scotland has received significant funding from successive iterations of the CAP alongside other EU programmes such as European Regional Development Fund, European Social Fund and the European Maritime & Fisheries Fund (EMFF). The CAP has had a significant bearing on how Scotland's land is used with some 80 per cent of Scotland's land area (6.2 million hectares) receiving CAP support (including both agriculture and forestry).

Over time, and in keeping with global trends away from subsidies for food production, payments were decoupled from production and CAP funding was increasingly intended to ensure that farmers deliver public goods. It could be argued that such reforms were driven in part by over-production, leading to the now-infamous wine lakes and butter mountains, and the political need to find new justifications to the rest of society for the spending of many billions of euros on agriculture each year when its economic contribution to society had rapidly declined<sup>113</sup>.

Following a major CAP reform in 2000, two strands to CAP payments were introduced: one for direct income support (Pillar 1) and the second for rural development (Pillar 2). Support for rural development has evolved from earlier structural adjustments within agriculture to broader support that better reflects the role of farming in the wider rural context. Pillar 2 therefore has a greater emphasis on implementing a coherent strategy for rural development with a focus on: the competitiveness of the agricultural and

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<sup>112</sup> <https://www.gov.scot/publications/women-farming-agriculture-sector/>

<sup>113</sup> [https://www.researchgate.net/publication/255586720\\_On\\_The\\_Future\\_of\\_Direct\\_Payments](https://www.researchgate.net/publication/255586720_On_The_Future_of_Direct_Payments)

forestry sector; the environment and countryside; quality of life in rural areas; and diversification of the rural economy.<sup>114</sup>

The current CAP period runs from 2014-20. Under this programming period, about £3.3 billion will have been paid in direct payments (Pillar 1) to farmers and crofters across Scotland. In addition, some £1.3 billion has been invested through the Scottish Rural Development Programme (SRDP) (Pillar 2). Pillar 1 is funded entirely by the EU, whilst Pillar 2 is part financed by the EU and the Scottish Government. Figure 8 illustrates budget profile of CAP in Scotland for 2014-20

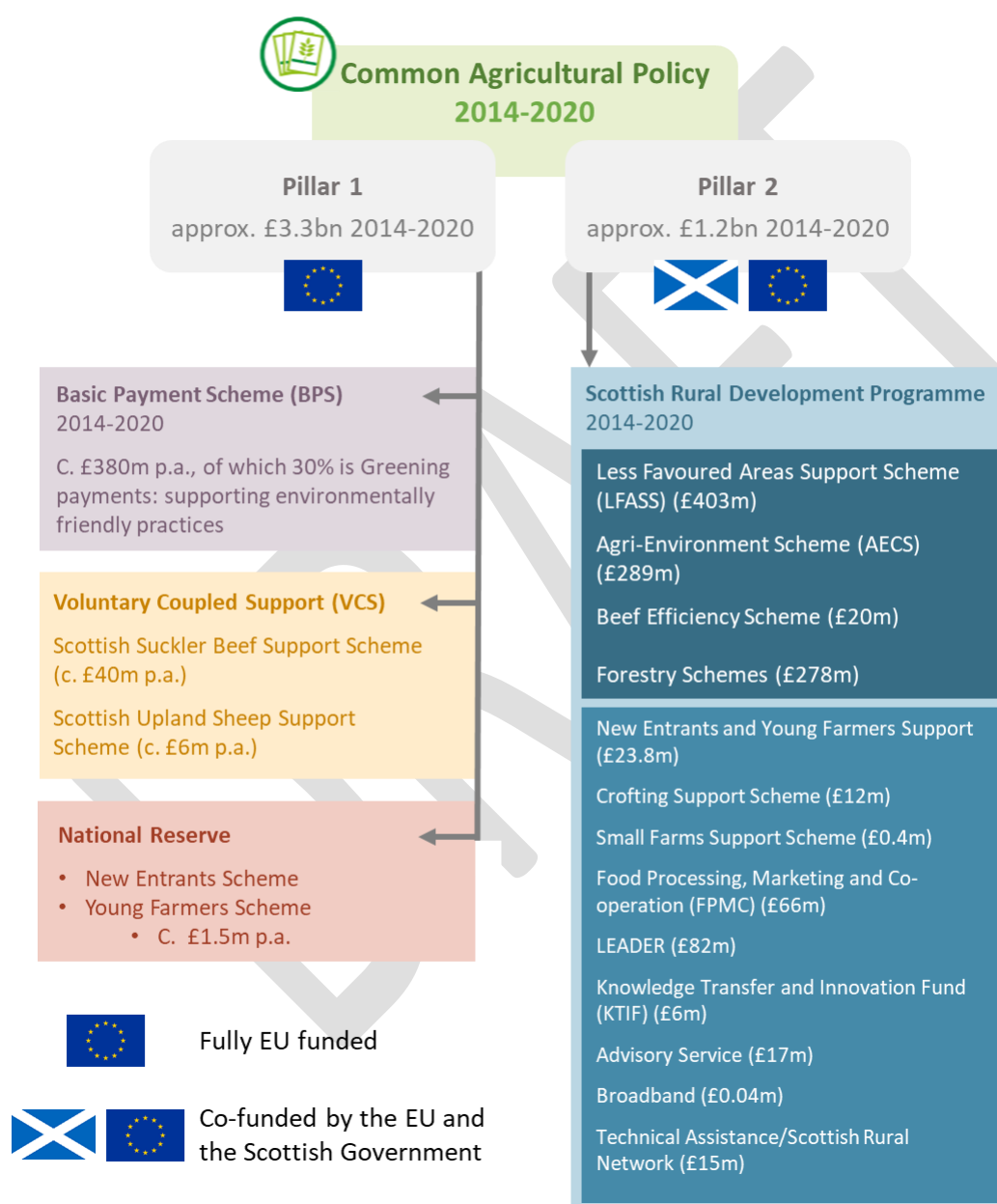


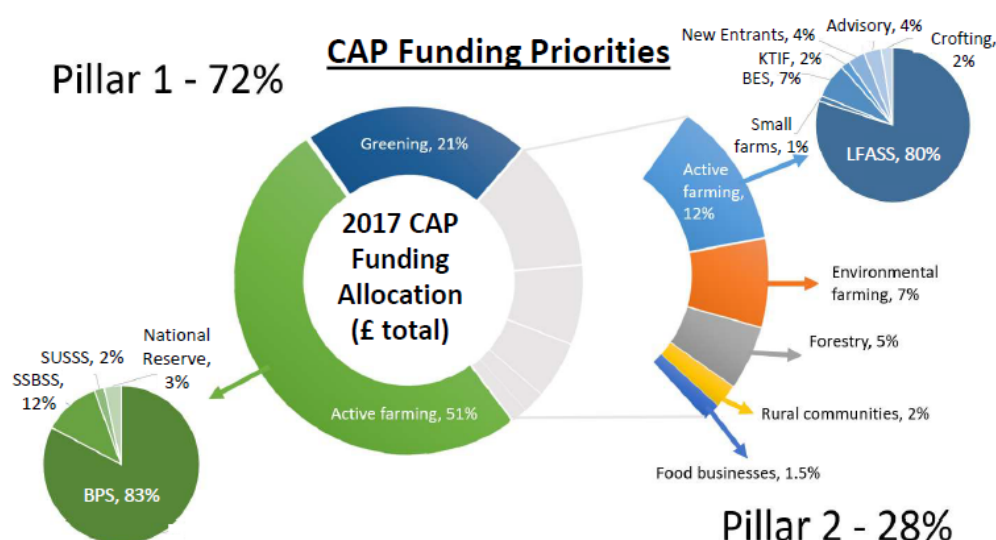
Figure 8: Source: Audit Scotland, 2017; updated by RESAS with data from RPID<sup>115</sup> <sup>116</sup>

<sup>114</sup> [https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/rural-development/previous-rdp-periods\\_en](https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/rural-development/previous-rdp-periods_en)

<sup>115</sup> <https://beta.parliament.scot/chamber-and-committees/debates-and-questions/questions/2019/10/23/s5w25939?qry=S5W-25939>

<sup>116</sup> [https://www.audit-scotland.gov.uk/uploads/docs/report/2016/nr\\_160519\\_cap\\_futures.pdf](https://www.audit-scotland.gov.uk/uploads/docs/report/2016/nr_160519_cap_futures.pdf)

Farmers and land managers are the main beneficiaries of the CAP with over 95% of the budget being utilised to support farming activities, Greening, agri-environment and forestry. The budget profile for 2017 (Figure 9 below) illustrates how funding has been utilised across both Pillars.



	Pillar 1 (£485m)	Pillar 2 (£192m)
Agriculture	<b>BPS (£283m)</b> R1 - arable and pasture, 200€/ha (inc. Greening) R2 - rough grazing 1 (not LFA), 35€/ha R3 - rough grazing 2 (LFA) - 10€/ha <b>SSBSS (£40m)</b> At least 75% beef genetics Mainland 100€/calf, island 160€/calf <b>SUSSS (£7m)</b> >80% of land in LFA cat. A Approx. 70€/ewe <b>National Reserve (£12m)</b> New and young farmers, or natural threat	<b>LFASS (£66m)</b> LFA land; multiple criteria for calculating final payment inc. quality of land, livestock proportions <b>Beef Efficiency Scheme (£6m)</b> <b>Small Farms (£1m)</b> <b>New Entrants (£3m)</b> <b>KTIF (£1.5m)</b> <b>Crofting (£2m)</b> <b>Advisory (£3m)</b>
	<b>Greening (£143m)</b> Active farming, with grassland maintenance, crop diversification, and/or ecological focus in agriculture	<b>Agri-Environment Scheme (£50m)</b> Farmers and land managers with environmental projects
		<b>Forestry Grant Scheme (£36m)</b> Creation or management of woodland
		<b>LEADER (£12m)</b> Multisectoral community-based development <b>Broadband (£1.5m)</b> Community broadband projects
		<b>Food Processing, Marketing and Cooperatives (£10m)</b>
	<i>Figures are estimated</i>	

Information collected from: <https://www.ruralpayments.org/publicsite/futures/topics/all-schemes/>; <https://spice-spotlight.scot/2018/09/03/preparing-for-a-no-deal-brexite-agricultural-policy-and-funding/>

Figure 9 – Budget Profile



## Pillar 1

Pillar 1 provides direct payments to active farmers based on the amount of land a farmer owns or occupies, subsidising their activities, reducing their exposure to fluctuations in the markets and acting as a financial safety net<sup>117</sup>. Under the current CAP there are two main types of direct payment under Pillar 1:

**Basic Payment Scheme (BPS)** (70%) – paid to supplement the income of farmers and crofters. Farmers and crofters must actively farm their land and have been allocated payment entitlements (based on the land farmed in historic CAP iterations and the activity undertaken).

**Greening** (30%) – Greening payments are intended to deliver environmental and other benefits by requiring beneficiaries to meet certain practices and farm in a sustainable way. Greening requirements will vary depending on circumstances. Where relevant they currently cover:

- permanent grassland;
- crop diversification;
- Ecological Focus Areas (EFAs).

Since 2018, BPS and Greening payments have been paid on a Region basis to reflect the variation in land quality across Scotland.

- Region 1 includes better quality agricultural land, used for arable cropping, temporary grass and permanent grass. (*c€249 per hectare, 2019*)
- Region 2 includes rough grazing with an LFA grazing category of B, C, D or non-LFA. (*c€50 per hectare, 2019*)
- Region 3 includes rough grazing with an LFA grazing category A. (*c€15 per hectare, 2019*)

All farmers and crofters must also observe Cross Compliance requirements, which are rules that enforce laws around animal and plant health as well as sustainable agricultural practices.

A third strand, the **National Reserve** helps new and young farmers who do not automatically qualify for BPS.

Pillar 1 also includes the **Scottish Suckler Beef Support Scheme (SSBSS)** and the **Scottish Upland Sheep Scheme (SUSS)**, which collectively are classed as Voluntary Coupled Support (VCS). These support schemes are unique in the UK to Scotland. The SSBSS aims to maintain beef suckler herds at a level that sustains the commercial beef industry in Scotland and supports the environmental and social benefits of extensive beef suckler herds in Scotland (budget €40m per annum). The SUSS makes payments to sheep producers who farm in Scotland's rough grazing areas to help farmers maintain the social and environmental benefits that sheep flocks bring to those areas (budget €7m per annum).

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<sup>117</sup> <https://www.ruralpayments.org/publicsite/futures/topics/all-schemes/basic-payment-scheme/>



There is little evidence to suggest that the intended environmental and social benefits sought by the above schemes have been realised in any broad sense. Undoubtedly there are individual examples where these intended benefits have been realised but it is not possible to say with any certainty that benefits have been delivered at a national level.

## Pillar 2

Pillar 2 funding aims to contribute to growth and jobs by promoting sustainable rural development. Payments also help farmers and crofters improve their businesses and deliver public environmental goods. Rural development policy has six key priorities:

1. Fostering knowledge transfer in agriculture, forestry and rural areas;
2. Enhancing the competitiveness of all types of agriculture and enhancing farm viability;
3. Promoting food chain organisation and risk management in agriculture;
4. Restoring, preserving and enhancing ecosystems dependent on agriculture and forestry;
5. Promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors;
6. Promoting social inclusion, poverty reduction and economic development in rural areas.

In Scotland, Pillar 2<sup>118</sup> (around £1.3bn in total or £200m annually) is implemented through the **Scottish Rural Development Programme** (SRDP) and approved by the European Commission (the Commission). The purpose of the SRDP is to help achieve sustainable economic growth through: enhancing the rural economy; supporting agricultural and forestry businesses; protecting and improving the natural environment; addressing the impact of climate change; and supporting rural communities.

Almost 80% of the programme expenditure has been delivered through three schemes (LFASS, AECS and FGS).<sup>119</sup> Key schemes within the SRDP are as follows (*figures in brackets are global budget plus average annual spend across the seven year programme, the exact spend in any given year fluctuates*):

### **Less Favoured Area Support Scheme (LFASS)** (£460m, c. £66m annually)

The Less Favoured Area Support Scheme (LFASS) is the largest scheme under Pillar 2 and is largely unaltered from that of previous programming periods.

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<sup>118</sup> <https://www.parliament.scot/parliamentarybusiness/28877.aspx?SearchType=Advance&ReferenceNumbers=S5W-25939&ResultsPerPage=10>

<sup>119</sup> <https://www.ruralnetwork.scot/sites/default/files/documents/SRDP%20Brochure.pdf>

<sup>120</sup>LFASS provides income support to farming businesses in remote and constrained rural areas (LFAs) in order to:

- allow farmers and crofters to continue to operate as viable businesses;
- avoid the risk of land abandonment;
- help maintain the countryside by ensuring continued agricultural land use;
- maintain and promote sustainable farming systems.

This supports the viability of land-based businesses which often underpin local communities.

### **Agri-Environment Climate Scheme (AECS) (£350m, c. £50m annual average)**

The Agri-Environment Climate Scheme promotes land management practices which protect and enhance Scotland's natural heritage. AECS allows farmers, crofters and land managers to contribute to:

- management of vulnerable and iconic species and habitats, strengthening ecological networks, controlling invasive non-native species and enhancing the condition of protected sites;
- reducing GHG emissions from agriculture and securing carbon stores in peatlands and other organic soils;
- improving water quality under the EU Water Framework Directive by reducing diffuse pollution;
- controlling flooding through natural flood risk management;
- organic farming;
- preservation of the historic environment;
- improvements to public access.

### **Forestry Grant Scheme (FGS) (£250m, c. £36m annual average)**

The Forestry Grant Scheme supports the creation of different types of forestry and woodlands, including small scale woodlands for agricultural pasture or forage land. The scheme also supports the harvesting and processing of timber as well as the sustainable management of existing woodlands, e.g. habitat enhancement and public access. Collaboration through landscape scale projects is also supported under the FGS.

### **LEADER (£86m, c. £12m annual average)**

LEADER supports multi-sectoral, locally-based development, allowing individuals, communities and businesses to come together to identify local needs that improve the economic performance and sustainability of rural areas through the design and implementation of Local Development Strategies.

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<sup>120</sup> <https://books.google.co.uk/books?id=Rksa8P81i0C&pg=RA1-PA148&lpg=RA1-PA148&dq=lfass+2007+-14&source=bl&ots=nreOMEAuwm&sig=ACfU3U2kdx-Ll4hRggcWKXoH24d3S6tkQw&hl=en&sa=X&ved=2ahUKEwilv7KRt4vpAhVLPcAKHUyoB1kQ6AEwBHoECAoQAAQ#v=onepage&q=lfass%202007%20-14&f=false>

The LEADER approach stimulates collaboration, co-operation and networking through the development and strengthening of local, national and international links between local people and so building social and economic capital. Twenty-one Local Development Strategies are currently being implemented across rural, coastal and island Scotland utilising funding from the SRDP and EMFF. Each Local Action Group (or Fisheries Local Action Group) have adopted their own approaches to supporting local development and social inclusion.

Investments cut across all the priorities for rural development. Many hundreds of projects have been heavily concentrated around local services, enterprise (including food and drink collaboration, tourism, farm diversification) and community development.

### **Food Processing, Marketing and Co-operation (£70m, c. £10m annually)**

This scheme provides support to suppliers and producers who are able to contribute to making Scotland healthier, wealthier and smarter and support the goal of becoming a Good Food Nation, where it is second nature to produce, buy, serve and eat fresh, healthy food. Food processing businesses can apply for start-up or development grants to invest in new or existing food processing facilities. Businesses can also seek funding for marketing, co-operatives and supply chain efficiency. Almost all funding to date has been used for capital investment in food and drink processing/manufacturing with particular emphasis on adding value to primary produce. Projects have included: meat processing, vegetable packing, brewing, distilling, egg packing, refrigeration and dairy.

A small percentage of funding has been used to support non-capital items such as attendance at trade shows, feasibility studies and graduate placements. A recent evaluation of the scheme concluded that work on a successor scheme should look at the scope for upfront payments, better guidance, better targeting of business, a joined up approach to application assessment revision of applicant type and should put in place more robust data capture.<sup>121</sup> The evaluation did not explore the architecture for and implementation of the co-operation elements of the scheme.

The remaining 9% of the SRDP (c. £18m annually) is made up of a cluster of smaller programmes for crofting, small farms, croft houses, new entrants and beef efficiency, skills, innovation, and advice.

### **Knowledge Transfer and Innovation**

Knowledge transfer and innovation is an important cross cutting theme of the SRDP. This aspect of CAP continues to be a key priority for the EU where Agriculture Knowledge and Innovation Systems (AKIS) are deemed critical to boosting business productivity, efficiency or delivering environmental outcomes<sup>122</sup>.

The ambition of the EU was for AKIS to be integrated and to meet the challenges and opportunities present in each region through the structuring of knowledge exchange

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<sup>121</sup> <https://www.gov.scot/publications/evaluation-food-processing-marketing-co-operation-fund-2014-2020/pages/3/>

<sup>122</sup> <https://plaid-h2020.hutton.ac.uk/>

and the fostering of innovation processes that would speed up innovation, avoid duplication of efforts, save costs, and strengthen the impact of research and innovation funding.

It is widely acknowledged that the agricultural sector has considerable, yet under-used innovation capacity with available knowledge fragmented and insufficiently applied<sup>123</sup>.

In the context of the SRDP, Knowledge Transfer and Innovation has principally been implemented through:

- Farm Advisory Service (FAS);
- Knowledge Transfer and Innovation Fund (KTIF);
- Scottish Rural Network (Rural Innovation Support Service).

#### Farm Advisory Service (£20m, c. £3m annual average)

Scotland's national Farm Advisory Service provides information and resources aimed at increasing the profitability and sustainability of farms and crofts. The FAS does not provide advice on food and drink marketing (provided by Seafood Scotland, Scotland Food & Drink, Scottish Agricultural Organisation Society (SAOS) and SAC Consulting under Connect *Local*<sup>124</sup>).

There are two components of the FAS service: a national one-to-many FAS function which includes a website, advice line and a range of articles and publications; and a one-to-one FAS function that has four components:

- Integrated Land Management Plan (ILMP) – whereby an advisor undertakes a confidential assessment of the business and helps develop plans for the future;
- Specialist Advice – as part of the ILMP an advisor can help a business to develop a specialist advice plan on a range of topics;
- Carbon Audits – whereby an experienced agricultural consultant will help the business to establish their carbon footprint, identify the sources of emissions and (through comparison to others) help identify areas for improved operational efficiency;
- Mentoring for New Entrants – providing up to four days advice and support from a personal mentor.

A recent report on the quality, focus and effectiveness of FAS<sup>125</sup> concluded that FAS was performing a range of functions in giving farmers ideas for action, a better understanding of which actions to take, their potential benefits and how to do so (with greater confidence).

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<sup>123</sup> <https://proakisinventory.eu/>

<sup>124</sup> <https://connectlocal.scot/>

<sup>125</sup> <https://www.gov.scot/publications/farm-advisory-service-enhanced-monitoring-evaluation/pages/2/>

### Knowledge Transfer & Innovation Fund (£6m, c. £1m annual average)

The knowledge transfer elements of KTIF are initiatives aimed at improving skills and transferring knowledge in the agricultural sector. These activities can include workshops, training programmes, coaching, demonstration activities, information activities and other group events.

To foster innovation the scheme strengthens the links between agriculture and research through support for farmer led partnerships to deliver projects that:

- introduce new processes and utilise new technologies and techniques in the agricultural sector;
- test new ideas that adapt existing techniques/practices to new geographical/environmental contexts;
- apply research findings to agricultural projects, testing viability and evaluating the degree to which productivity and/or sustainability benefits can be achieved, e.g. through continued support for new Monitor Farm projects.

### Rural Innovation Support Service (RISS) (<£1m, < £250k annually)

The *Rural Innovation Support Service*<sup>126</sup> (RISS) is part of the Scottish Rural Network (£4m budget under SRDP including RISS)<sup>127</sup> and integral to *Make Innovation Happen*, a collaborative platform of public and private sector organisations that support innovation across the farming-food supply chain. RISS is led by Soil Association Scotland in conjunction with Scotland Food & Drink, SAOS and SAC Consulting. RISS promotes farmer-led collaborative innovation. Farmer-led innovation is a challenge- or opportunity-led process through which farming practices are developed on farm using practical knowledge, science input and creativity. Concrete proposals are then taken forward by the relevant partnerships for implementation, either with their own resources or through investment from funding programmes such as KTIF. RISS groups have included:

- Planting Scottish orchards and reintroducing Scottish heritage varieties for the Scottish consumer;<sup>128</sup>
- Growing the UK's first organic oil seed rape crop for the animal feed supply chain on a commercial scale to shorten a protein feed supply chain that currently reaches as far as China;<sup>129</sup>
- Growing lemons on Lewis;<sup>130</sup>
- Work with a data company to build a distributed ledger platform that will assure the traceability of gluten-free oats for consumers;<sup>131</sup>

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<sup>126</sup> <https://www.innovativefarmers.org/welcometoriss/>

<sup>127</sup> <https://www.ruralnetwork.scot/>

<sup>128</sup> <https://www.innovativefarmers.org/news/2020/april/29/bringing-apple-orchards-back-to-scotland/?search=apple&daysago=90&sort=popular>

<sup>129</sup> <https://www.innovativefarmers.org/news/2019/may/16/innovation-in-organic-livestock-feed/>

<sup>130</sup> <https://www.innovativefarmers.org/news/2020/april/29/growing-lemons-on-lewis-new-opportunities-for-crofters-in-the-outer-hebrides/?search=lemons&daysago=90&sort=popular>

<sup>131</sup> <https://www.innovativefarmers.org/news/2019/september/16/farmers-use-blockchain-to-assure-gluten-free-oats/>

- Development of a Land Matching Service, after RISS brought together the National Farmers Union Scotland (NFUS), Scottish Land and Estates (SLE), the Scottish Land Commission (SLC) and the Farming Opportunities for New Entrants (FONE) groups to link up new entrants to farming with those who have access to land.<sup>132</sup>

## Scotland's Main Research Providers

The Scottish Government's main research providers, Scottish Environment, Food and Agriculture Research Institutes (SEFARI), who deliver the Strategic Research Programme, have also collaborated<sup>133</sup> as part of *Make Innovation Happen* providing research and intellectual support to the RISS initiative, helping to ensure that companies were able to focus on evidence based solutions.

The main research providers have supported the implementation of CAP more generally through the Scottish Government funded Strategic Research Programme<sup>134</sup>, leveraging significant financial and intellectual resource through a variety of funders including United Kingdom Research and Innovation (UKRI) and EU Research and Innovation programmes such as Horizon2020. Under Horizon2020 projects have been SEFARI led, or enjoyed SEFARI participation in applied research with their counterparts alongside policy makers and practitioners, including farmers from across Europe and further afield. Examples include SALSA<sup>135</sup>, SIMRA<sup>136</sup> NEFERTITI<sup>137</sup> and ReMIX<sup>138</sup>.

## Regulation

There are three main purposes of regulation of land-based businesses: protecting health, safety and the environment; protecting animal health and welfare; and protecting public money. The Doing Better Initiative to Reduce Red Tape in Agriculture: Interim Report<sup>139</sup> stated the importance of farmers, crofters and other land managers recognising that regulation is required in these areas. Society also expects, and Government requires, value for money with respect to public expenditure.

Much of the architecture of current regulatory practice is a requirement of CAP. Given the scale of EU spend on CAP (35% to 40% of total EU budget), minimising fraud and ensuring proper use of this money has been a high priority for the EU. The very real threat of significant disallowances imposed by the EU has tended to drive regulatory and enforcement practices across Member States. The total value of cumulative disallowance penalties incurred under CAP 2007-13 across the UK was £661 million.<sup>140</sup>

<sup>132</sup> <https://www.innovativefarmers.org/news/2018/november/28/matchmaking-scottish-farmers-with-land/>

<sup>133</sup> <https://sefari.scot/about-us>

<sup>134</sup> <https://www2.gov.scot/Topics/Research/About/EBAR/StrategicResearch/strategicresearch2016-21/srp2016-21>

<sup>135</sup> <http://www.salsa.uevora.pt/>

<sup>136</sup> <http://www.simra-h2020.eu/>

<sup>137</sup> <https://nefertiti-h2020.eu/>

<sup>138</sup> <https://www.remix-intercrops.eu/>

<sup>139</sup> [Doing Better Initiative to Reduce Red Tape in Agriculture: Interim Report \(2014\)](#)

<sup>140</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/547296/defra-annual-report-2015-2016-web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/547296/defra-annual-report-2015-2016-web.pdf)



Around 80% of Scotland's land is managed by farmers and crofters<sup>141</sup> and they care for millions of animals, meaning that farming has an unparalleled potential to impact on animal welfare and the environment: issues of great concern to the wider public. In addition, consumers at home and abroad need to have confidence in the safety of the food we produce: for example that it is free from human health risks and is not creating plant health risks that could damage crops.

The burden of regulation can be difficult to manage for farm businesses, which are mostly managed by one or two people. The UK Government's Farm Inspection and Regulation Review<sup>142</sup> in 2018 found 141 pieces of primary or secondary legislation affecting farms. The above-mentioned Doing Better Initiative found that there are 105 regulations affecting farm business in Scotland. Many of these are generic to all business (such as employment law) but 34 regulations that are specific to agriculture, affect the operation of farming businesses and are within the Scottish Government's remit were identified. Compliance with all 34 regulations is assessed through on-farm inspection, with 31 obliging on-farm record keeping, 22 requiring livestock management rules to be followed, 13 needing licences or permits and 13 requiring land management rules to be followed. These inspections are carried out by a web of agencies including Scottish Government, Scottish Environment Protection Agency, Nature Scot, and local authorities, with follow-up audit inspections also taking place.

Attempts have been made at EU level and domestically to improve the efficiency of regulation. In Scotland this has come through initiatives such as the Doing Better Initiative, and more recently in the Simplification Task-Force<sup>143</sup>. The European Commission published its first action plan on CAP simplification in 2006, the start of a process that has been through several reviews since.

### **Assessment of the impact of CAP**

There are a range of evaluations and studies available providing assessment of elements of the CAP, some for Scotland, others at a European level. Bringing these together can help start building a picture of how effective CAP has been in delivering its current objectives.

Despite being a key objective of CAP, biodiversity across the EU has continued to decline especially in agricultural habitats, primarily due to farming improvements, specialisation and intensification. A recent evaluation of the impact of CAP<sup>144</sup> across the EU on habitats, landscapes and biodiversity found that implementation choices by Member States have primarily been driven by socio-economic, financial and administrative factors, with biodiversity and other environmental objectives being often a secondary concern. Nevertheless the evaluation concluded that some CAP instruments and measures are contributing significantly to biodiversity goals,

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<sup>141</sup> Excludes common grazings. Figure based on the Scottish Agricultural Census: June 2019 <https://www.gov.scot/publications/final-results-june-2019-agricultural-census/pages/1/> and UK Standard Area Measurements (SAM)

<sup>142</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/764286/farm-inspection-regulation-review-final-report-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/764286/farm-inspection-regulation-review-final-report-2018.pdf)

<sup>143</sup> <https://www.gov.scot/groups/rural-funding-simplification-taskforce/>

<sup>144</sup> [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key\\_policies/documents/ext-eval-biodiversity-exe-sum\\_2020\\_en.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key_policies/documents/ext-eval-biodiversity-exe-sum_2020_en.pdf)

particularly where they maintain semi-natural habitats, support High Nature Value (HNV) farming systems and contribute to Natura 2000 areas<sup>145</sup>. A more recent European Court of Auditors' (ECA) report<sup>146</sup> concluded that the CAP as delivered did not achieve adequate safeguard or enhancement of biodiversity (despite good progress in relation to Natura sites and some other measures). The ECA report made four main recommendations that could help to improve the important contribution that the CAP and agricultural management makes to protecting and enhancing biodiversity. These are:

- to improve the co-ordination and design of biodiversity and agricultural policies;
- to enhance the contribution of direct payments to farmland biodiversity;
- to increase the contribution of rural development (Pillar 2) payments to farmland biodiversity;
- to develop reliable indicators.

Overall the evidence suggests that Greening, which accounts for around £1bn of spend in Scotland, is not delivering, and is not likely to deliver, the intended improvements in environmental performance<sup>147</sup>. This is largely because many businesses are exempt or already meeting the minimal criteria and so Greening has done little to *change* practices for the better. In particular the ECA<sup>148</sup> concluded that Greening has no clear environmental targets; carries significant deadweight; has inadequate justification for the budget; and is essentially an income support scheme.

Payments remain very much influenced by the objective of the CAP to support incomes and employment in agriculture. Nearly 50% (around £2bn) of CAP funding in Scotland is made as a basic payment to support the income of farmers. Farm Income data suggests many farmers have become heavily reliant on it. The recipient is required to comply with Statutory Management Requirements in force for public health, animal and plant health, environmental protection and animal welfare. The system is potentially missing the opportunity to achieve other important objectives and acting as a barrier to new entrants, innovation and therefore to a more productive sector<sup>149</sup>. It has been argued that higher farm level subsidy leads to lower efficiency or productivity<sup>150</sup>. In many cases the effect of direct payments was mostly negative with support reducing farmers' efforts and changing their attitude to risk-taking<sup>151</sup>. However, subsidies may help farmers overcome financial constraints that impede efficient restructuring or modernisation<sup>152</sup>.

Direct support also increases land values. Studies have found that between €0.06 and €0.94 per additional Euro of direct income support payment is capitalised in land values in EU-15 countries (including the UK).<sup>153</sup> Scotland is likely to be on the higher

<sup>145</sup> [https://ec.europa.eu/environment/nature/natura2000/index\\_en.htm](https://ec.europa.eu/environment/nature/natura2000/index_en.htm)

<sup>146</sup> <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=53892>

<sup>147</sup> <https://www.gov.scot/publications/cap-greening-group-discussion-paper/>

<sup>148</sup> [https://www.eca.europa.eu/Lists/ECADocuments/INSR17\\_21/INSR\\_GREENING\\_EN.pdf](https://www.eca.europa.eu/Lists/ECADocuments/INSR17_21/INSR_GREENING_EN.pdf)

<sup>149</sup> <https://www.ruralbexit.scot/resource/boosting-productivity-growth-in-scottish-agriculture-report-for-the-scottish-government/>

<sup>150</sup> [https://www.ruralbexit.scot/wp-content/uploads/2020/04/Report-on-Scottish-Agricultural-Productivity\\_SRUC.pdf](https://www.ruralbexit.scot/wp-content/uploads/2020/04/Report-on-Scottish-Agricultural-Productivity_SRUC.pdf)

<sup>151</sup> Jean Joseph Minviel & Laure Latruffe, 2017. "Effect of public subsidies on farm technical efficiency: a meta-analysis of empirical results," Applied Economics, Taylor & Francis Journals, vol. 49(2), pages 213-226, January.

<sup>152</sup> [Report-on-Scottish-Agricultural-Productivity\\_SRUC.pdf](https://www.ruralbexit.scot/wp-content/uploads/2020/04/Report-on-Scottish-Agricultural-Productivity_SRUC.pdf) ([ruralbexit.scot](https://www.ruralbexit.scot/))

<sup>153</sup> [https://www.europarl.europa.eu/RegData/etudes/STUD/2013/495866/IPOL-AGRI\\_ET%282013%29495866\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2013/495866/IPOL-AGRI_ET%282013%29495866_EN.pdf)



end of this range as it has continued to follow payments based on historic patterns, (although generally lower land values may mitigate this).

Scotland currently enjoys one of the highest rates of direct support per farm in Europe, and the highest payments per farm in the UK<sup>154</sup>. This average hides the fact that direct support is not evenly distributed, for example the Highlands and Islands account for half of all Scottish farmland but receive only 16% of Pillar I support and 38% of Pillar 2.<sup>155</sup> A significant proportion of Pillar 2 has been utilised to address these disparities through additional income support under LFASS for businesses in LFAs.

Year	Member State	Total subsidies per farm
2018	Scotland	£41,307
2018	NI	£25,840
2018	England	£35,100
2018	Wales	£29,600 <sup>156</sup>

Figure 1: Comparison of average direct support per farm across the UK

Various studies, including a 2016 evaluation of LFASS<sup>157</sup> (some £469m budget) commissioned by the Scottish Government, have challenged the rationale for LFA payments. These studies have suggested that such payments are at best a weak and blunt tool for influencing land management, with minimal economy-wide effects, and are unlikely to be delivering on stated policy objectives. Evidence suggests that LFASS payments have not reduced or prevented farmland abandonment in Less Favoured Areas of Scotland. The 2016 evaluation also suggested that LFASS has had little leverage on the occurrence or intensity of management activities or the hoped-for positive knock-on effects with respect to production, retaining jobs and skills or delivering environmental benefits. The report was also clear that a focus on compensating for biophysical disadvantage alone is insufficient to calculate the “appropriate level of support” through additional cost/income foregone calculations. LFASS has come in for criticism by the Commission, for being a highly complex scheme which uses grazing categories and payment rates that result in the majority of support being distributed to the better quality land within the LFA as opposed to the more marginal farmland<sup>158</sup>.

Evaluations of the LFA measure across the EU undertaken for the Commission and by the ECA have been equally critical of this measure, its failures and misuse by some Member States<sup>159</sup>.

<sup>154</sup> <https://cap-payments.defra.gov.uk/Download.aspx>

<https://agridata.ec.europa.eu/extensions/FADNPublicDatabase/FADNPublicDatabase.html>

<sup>155</sup>

[https://www.sruc.ac.uk/downloads/file/3702/post\\_brexit\\_implications\\_for\\_agriculture\\_and\\_associated\\_land\\_use\\_in\\_the\\_highlands\\_and\\_islands](https://www.sruc.ac.uk/downloads/file/3702/post_brexit_implications_for_agriculture_and_associated_land_use_in_the_highlands_and_islands)

<sup>156</sup> Each nation's published FBS data

<sup>157</sup> <https://www.gov.scot/publications/evaluation-less-favoured-area-support-scheme-lfass-development-areas-natural/>

<sup>158</sup> Rural Development Operating Committee, SRDP

<sup>159</sup> [https://ieep.eu/uploads/articles/attachments/cd7c77fb-a873-4267-a650-7c3bed409998/LFA\\_evaluation\\_report\\_full\\_text\\_en.pdf?v=63664509706](https://ieep.eu/uploads/articles/attachments/cd7c77fb-a873-4267-a650-7c3bed409998/LFA_evaluation_report_full_text_en.pdf?v=63664509706)

A series of evaluations<sup>160 161 162</sup> carried out for Scottish Government on other Pillar 2 schemes broadly found positive benefits. However, consistent themes for improvement were identified around complexity of application process, clarity of intervention logic/guidance and the quality and nature of data for monitoring.

These findings reflect the fact that policy choices have been primarily driven by socio-economic, financial and administrative factors such as improving agricultural production and maintaining the viability of farming in remote areas. Very often biodiversity, other environmental objectives have been a secondary concern despite funding for such objectives making up around a third of CAP. This funding could be much more effectively targeted towards environmental priorities than at present. The Scottish Government's agricultural champions also recognised this conclusion, recommending that direct payments be reduced with an element of basic income support, but at much lower levels and with funding instead investing in a menu of schemes to boost efficiency, improve skills and enhance natural capital and biodiversity.<sup>163</sup>

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<sup>160</sup> [Scottish Rural Network: evaluation - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/process-evaluation-leader-2014-2020/pages/2/)

<sup>161</sup> [Evaluation of less favoured area support scheme - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/farm-advisory-service-enhanced-monitoring-evaluation/pages/2/)

<sup>162</sup> [https://www.gov.scot/publications/process-evaluation-leader-2014-2020/](https://www.gov.scot/publications/process-evaluation-leader-2014-2020/pages/2/) <https://www.gov.scot/publications/farm-advisory-service-enhanced-monitoring-evaluation/pages/2/>

<sup>163</sup> <https://www.gov.scot/publications/future-strategy-scottish-agriculture-final-report-scottish-governments-agriculture-champions/pages/2/>