

# Consultation on Future Agricultural Policy Proposals for Northern Ireland



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Department of  
**Agriculture, Environment  
and Rural Affairs**

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Four of the photos are courtesy of Alan Hopps.  
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## Ministerial Foreword



It gave me great pleasure to publish the Future Agricultural Policy Framework Portfolio for Northern Ireland earlier this year. It seeks to chart a way forward to a future agricultural policy which better meets the needs of Northern Ireland.

At that time I said, that a public consultation on the more detailed policy proposals emerging from the Framework Portfolio would follow in the autumn.

As we build out that future portfolio, I want to ensure that farmers are supported and equipped with the right tools to continue producing high quality, nutritious food whilst importantly, also reducing their environmental impact.

Going forward, I want to devise support schemes that provide opportunities for all of Northern Ireland's farmers. Schemes and support are needed to help farmers develop their businesses, no matter where they farm, to become more efficient and profitable and to maximise the sustainable returns they can achieve from the assets at their disposal.

Consumers will continue to demand high environmental, animal welfare and food safety and integrity standards, with an increased focus on transparency, traceability and provenance along the food chain.

Our food producers should have confidence in their future whilst delivering multiple public benefits. We need to invest time, money and effort in recreating and refining our support schemes and tools.

With appropriately designed policy interventions and innovation, all of this can be achieved without compromising the economic viability of the sector. If we get it right, the benefits to our rural economy can be substantial.

My priority is to introduce new policies and systems to ensure that we have a sustainable agricultural industry and that all farmers are supported on an equitable basis - this includes a smooth transition carried out in collaboration with those in the industry to ensure an adequate timeframe to adjust.

It was against an even more challenging backdrop that farmers made their decisions 100 years ago and we can be truly proud of what has been achieved in agri-food over this period. In this, Northern Ireland's Centenary Year, I want to build on that success and provide a solid foundation for the next 100 years of farming.

The recently published draft Northern Ireland Green Growth Strategy has a unique approach that aims to tackle climate change by balancing climate action with a clean environment and a thriving economy through the creation of green jobs. It is my belief that these issues must be dealt with together for us to have a chance of achieving any set target of greenhouse gas emissions reductions.

Not all of the elements of the Framework Portfolio will move forward in unison. This transition will be phased and the transfer of funding to other areas will be timed to match the capacity of these other measures to absorb the monies released.

I am now delighted to present the future Northern Ireland agricultural policy proposals for public consultation and I look forward to hearing your views.

I encourage you to respond to this consultation and hope that, with your support and input, we can take full advantage of this opportunity to develop a future sustainable agricultural industry.

A handwritten signature in black ink, appearing to read 'Edwin Poots', is centered on the page. The signature is fluid and cursive, with the first name 'Edwin' written in a larger, more prominent script than the last name 'Poots'.

**Edwin Poots MLA**

*Minister of Agriculture, Environment and Rural Affairs*

## Part 1 Introduction

Before the UK's exit from the EU, Pillar 1 of the EU Common Agricultural Policy (CAP) provided approximately €327m per annum of direct support to Northern Ireland farmers. All of this has been paid out as decoupled support on a per hectare basis. However, while this support was not linked to current production, it, nevertheless, had a very significant influence on the economic viability of the industry and its competitive position relative to that in other regions (especially where there are no barriers to trade). For example, over the last five years, direct CAP support (Pillar 1) amounting to £1.3 billion has accounted for 87% of the cumulative total net income<sup>1</sup> of the Northern Ireland agricultural industry. In two of these years, the industry as a whole would have been in a loss-making position without this support. This illustrates the importance in recent years of these payments in sustaining the industry and underpinning its competitive trading position. However, it equally highlights a highly vulnerable position, and long term viability must be secured by taking steps to reduce over time the extent to which the industry has to continue to rely on this level of government income support. The agri-food sector, with the help of this support, continues to provide high quality, safe, traceable food at affordable prices to consumers. It is part of a supply chain that has been estimated to sustain 113,000 jobs in Northern Ireland and is vitally important to the rural economy.

The actions of many generations of farmers and growers have shaped the appearance of Northern Ireland's landscape, our natural environment and the biodiversity that it supports. The health of the natural environment and the integrity of the historic environment that are passed to future generations will be critically influenced by the choices that we make now. We need to play our part alongside other sectors to ensure that excess nutrients do not seep into our waterways, that ammonia emissions are reduced to restore the health of vulnerable habitats, that agriculture plays its fair share in our journey to net zero carbon and that biodiversity loss is halted and reversed. With appropriately designed policy interventions and innovation, all of this can be achieved, while maintaining our heritage for current and future generations without compromising the economic viability of the sector.

In 2018, the Department, in conjunction with key food, farming and environmental stakeholders, identified four key desired outcomes that together constituted the long term vision for the Northern Ireland agricultural industry. Subsequently DAERA undertook an engagement exercise on a draft framework<sup>2</sup> setting out how policies could be developed to deliver these four outcomes. In total, there were 1,277 responses<sup>3</sup>. Reflecting the responses received during that process, DAERA refined the identified outcomes and vision for the agricultural industry as outlined in the Future Agricultural Policy Framework Portfolio for Northern Ireland<sup>4</sup> published in August 2021.

1 <https://www.daera-ni.gov.uk/publications/statistical-review-ni-agriculture-2007-onward>

2 <https://www.daera-ni.gov.uk/consultations/northern-ireland-future-agricultural-policy-framework>

3 <http://www.daera-ni.gov.uk/publications/stakeholder-responses-northern-ireland-future-agricultural-policy-framework-stakeholder-engagement>

4 [Future Agriculture Framework final V2.PDF \(daera-ni.gov.uk\)](#)

Based on the four key outcomes of increased productivity, environmental sustainability, improved resilience and an effective functioning supply chain (Box 1), it charts the way forward for a future agricultural policy which better meets Northern Ireland's needs.

## Box 1: Outcomes and vision for the agricultural industry in Northern Ireland

1. An industry that pursues **increased productivity** in international terms as a means to sustained profitability, closing the productivity gap which has been opening up with other major suppliers.
2. An industry that is **environmentally sustainable** in terms of its impact on, and guardianship of, air and water quality, soil health and biodiversity, while making its fair contribution to achieving net zero carbon targets. This outcome is an integral part of the new Green Growth Strategy and associated Climate Action Plan which will be the Department's initial route map to climate action, green jobs and a clean environment.
3. An industry that displays **improved resilience** to external shocks (such as market and currency volatility, extreme weather events, etc.) which are ever more frequent and to which the industry has become very exposed.
4. An industry which operates within an integrated, profitable, efficient, sustainable, competitive and **effective functioning supply chain**, with clear transmission of market signals and an overriding focus on high quality food and the end consumer.

These outcomes are synergistic and improvement in one outcome can provide a positive effect on one or more of the other outcomes. For example, the reward of greater productivity is more efficient use of finite resources and a lower environmental footprint. Producing higher value products through product innovation can increase profit margins, resilience and environmental sustainability. In moving forward, care will be taken to avoid situations where gains in one of these areas is achieved at the expense of detrimental effects in others. If we get it right, the benefits to our rural economy can be substantial.

The Framework Portfolio also highlighted that 'business as usual' for many farms will not be an option and that the future is about delivering both food and environmental outcomes in a sustainable way. Most importantly, the future policy tools which DAERA will develop need to join up farm economic activity with our environmental ambitions.

Moving forward, the focus of future agricultural policy is primarily upon the factors that fall within the control of individual producers, where substantial gains can be achieved, rather than external influences over which no control can be exerted (but the latter must be recognised through



appropriate business planning and risk management). Regardless of the farming enterprise, the objective is an industry that is efficient, profitable, adaptable, responsive to market demands, environmentally responsible, resilient in times of crisis, and uses knowledge and evidence as primary tools to deliver sustained success.

Over the coming decades, the agri-food industry is facing many significant developments, from the impacts of changes to our climate, changing international markets and trading relationships, consumer demand and technological advances. This will bring a number of challenges, but it also presents significant opportunities for Northern Ireland, which through collaborative working, can be developed to ensure the farming sector is sustainable, resilient, productive and profitable. Failure to take advantage of such opportunities, which will also be available to competitors, will undermine the viability of the Northern Ireland agriculture sector. We know that economic development must not come at the cost of environmental degradation. The UK Government has set a target that the UK will be carbon neutral by 2050, and whilst we do not yet have a target in legislation for Northern Ireland, it will come and agriculture will need to play its fair part in meeting that obligation. The UK Government has also signed up to ambitious targets<sup>5,6</sup>, to deliver a nature positive future, with a clear role for agriculture to manage and restore our natural ecosystems and landscapes.

Within the Department, an overarching strategic programme for future agricultural policy development, the Agricultural Policy Programme (the Programme), has been established to develop the portfolio of measures and cross cutting initiatives required to address the four key outcomes identified within the Framework Portfolio.

The move from the previous support regime, largely based on the EU requirements under the CAP, to a new policy agenda will need to happen over a number of years in order to deliver a managed transition. This progression will be well sign-posted to provide greater certainty and clarity to farm businesses and land managers.

## 1.1 Purpose of the Consultation

The purpose of this consultation is to seek stakeholder views on the policy proposals for the portfolio of measures, actions and cross cutting initiatives that are being developed under this Programme.

## 1.2 Structure of the Consultation Document

This consultation document is structured to seek the views of stakeholders on the policy proposals of each of the Programme workstreams.

<sup>5</sup> [Leaders\\_Pledge\\_for\\_Nature\\_27.09.20-ENGLISH.pdf \(leaderspledgefornature.org\)](#)

<sup>6</sup> [First draft of the post-2020 global biodiversity framework \(cbd.int\)](#)

**Part 1** provides the introduction and background information.

**Part 2** presents the portfolio of policy proposals, measures, actions and cross cutting initiatives that are being developed to address the Programme's desired outcomes. For each workstream, it provides a consideration of the main issues, policy proposals and design principles and seeks views on these through a series of questions.

**Part 3** presents a summary of the impact assessments that have been carried out to consider the potential impacts of the Programme's proposals and seeks views in respect of these assessments.

**Part 4** explains how you can respond to the consultation questions and the closing date for responses.

## 1.3 Background

The Agricultural Policy Programme is the overarching strategic programme in DAERA for the development of future agricultural policy to achieve the Department's vision for a future agricultural regime that promotes productive, efficient practices through greater innovation and capacity, whilst protecting the environment, animal health and welfare and public health. The Programme seeks to deliver the outcomes identified by the Framework Portfolio and oversee the transition from the existing schemes to new approaches and support systems which better address the needs of Northern Ireland agriculture, the environment and rural communities.

To achieve this vision, collaborative effort with industry and stakeholders is needed in the co-development and design of new measures and interventions, using evidence to inform policy decisions, encouraging uptake of innovation, science and technology, encouraging knowledge and education exchange and ensuring these policies are supported by an appropriate framework of regulation.

## 1.4 Strategic Context

The Programme's approach to future policy development is cognisant of other already established and developing Strategies and Plans, and recognises that agricultural support policy is a **KEY** tool to deliver many aspects of their ambitions. These are outlined below and policy development is interacting and aligning with these as necessary. It is also the case that policy development cannot stand still. As we monitor progress towards the objectives/outcomes of these higher level strategies (as well as for this policy), the design of our agricultural support policies and schemes will evolve over time to ensure that this policy lever is used to good effect to deliver, not only on our legal and governance responsibilities, but on what is important to society more generally.

## 1.4.1 Programme for Government

The Northern Ireland Executive is currently developing a new strategic, outcomes-based Programme for Government (PfG). Public consultation on the draft Framework<sup>7</sup> closed on 22 March 2021 and responses are currently being considered.

Two of the key outcomes in the draft PfG that are most relevant to agricultural policy are: *‘an economy that is globally competitive, regionally balanced and carbon neutral’*; and *‘that we live and work sustainably - protecting the environment’*.

Key priority areas have been identified as:

- Providing the tools under a future agricultural policy to increase productivity, enhance environmental sustainability, improve resilience and supply chain integration of the agri-food industry; and
- Protecting and enhancing biodiversity and the natural environment, supporting sustainable practices and resource use in the energy, agri-food, fishing and forestry sectors and ensuring human, animal and plant health.

## 1.4.2 10X Economy - An Economic Vision

In May 2021, the Department for the Economy launched its economic vision for the next 10 years, called 10x Economy - an economic vision for a decade of innovation. The concept embraces innovation to deliver a ten times (10X) better economy with benefits for all the people of Northern Ireland. Ten guiding principles have been identified to underpin this vision and a number of these are central to agriculture, such as delivering positive economic, environmental and societal outcomes; supporting a greener, sustainable economy; positioning Northern Ireland amongst the most competitive small advanced economies in the world; and focussing on increasing innovation in high value-added areas and priority clusters. *“Agri-Tech”*<sup>8</sup> has been identified as one of the priority sectors.

<sup>7</sup> <https://www.northernireland.gov.uk/programme-government-pfg>

<sup>8</sup> The application of innovation and enabling technologies to build competitive advantage and transition to net zero across the primary and secondary processing sectors, including genomics, traceability of food, advanced packaging, plant and animal health specialisms, and the application of artificial intelligence to new agricultural methods.

## 1.4.3 DAERA Strategic Plan

The Department of Agriculture, Environment and Rural Affairs Plan to 2050 - *Sustainability for the Future*<sup>9</sup> published in May 2021 notes the following strategic priorities:

- To enhance our food, forestry, fishery and farming sectors using efficient and environmentally sustainable models which support economic growth;
- To protect and enhance our natural environment now and for future generations whilst advocating its value to and wellbeing for all;
- To champion thriving rural communities that contribute to prosperity and wellbeing; and
- To be an exemplar, people focused organisation, committed to making a difference for the people we serve.

Future agricultural policy has a significant role in delivering against these priorities and underpins our Departmental purpose of '*Sustainability at the heart of a living, working, active landscape valued by everyone*'.

## 1.4.4 Green Growth Strategy

The Agricultural Policy Programme has been developed as a Foundation Programme under the umbrella of the draft Green Growth Strategy for Northern Ireland<sup>10</sup>. Green Growth is an over-arching, multi-decade Strategy which sets out the long-term vision and a solid framework for tackling the climate crisis by balancing climate action with the need for a clean, resilient environment and economy. It has been developed by all Ministers and Government departments working together, in collaboration with external stakeholders from local government, the private sector, voluntary and community sectors and others.

The cross-cutting strategy will be delivered through a series of Climate Action Plans, which will set out the actions to meet sector-specific greenhouse gas (GHG) emission targets to deliver a cleaner environment rich in biodiversity; delivering a more efficient use of resources within a circular economy; and green jobs. An 8 week period of public consultation began on the Green Growth Strategy<sup>11</sup> on 21 October 2021.

<sup>9</sup> [SUSTAINABILITY FOR THE FUTURE DAERA'S - PLAN TO 2050.PDF \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/consultations/consultation-draft-green-growth-strategy-northern-ireland)

<sup>10</sup> <http://www.daera-ni.gov.uk/consultations/consultation-draft-green-growth-strategy-northern-ireland>

<sup>11</sup> <https://www.daera-ni.gov.uk/consultations/consultation-draft-green-growth-strategy-northern-ireland>

## 1.4.5 Food Strategy Framework

DAERA has been leading on the development of a Northern Ireland Food Strategy Framework. This Framework has been developed collaboratively with officials across Northern Ireland Departments and other interested parties and is complementary to the Agricultural Policy Framework, extending issues relating to food production and consumption out into other areas of government policy. The draft Food Strategy Framework recognises the interconnectedness between food, health, the economy and the environment. It proposes a new strategic food systems approach for Northern Ireland, and sets out a long-term vision, high level principles and areas for strategic focus. The vision is a transformed food system that protects natural resources for future generations, is economically and environmentally sustainable and provides safe, nourishing, accessible food to people, who make informed healthy choices. DAERA launched a public consultation on 24 September 2021<sup>12</sup> to seek stakeholders' endorsement of the proposals.

## 1.4.6 Environment Strategy

The Environment Strategy will set out Northern Ireland's environmental priorities for the coming decades and will be a key pillar of Green Growth. It will be used to form the basis for a coherent and effective set of interventions that can deliver real improvements in the quality of the environment. A draft Environment Strategy<sup>13</sup> was published for public consultation on 11 November 2021.

## 1.4.7 Financial Context

HM Treasury Spending Review and Autumn Budget<sup>14</sup> announced that the Northern Ireland Executive would be provided with almost £1.0 billion for farmers and land managers over the next three financial years. This approach adopted by Treasury is designed on the basis that the level of funding per annum, when combined with remaining EU monies being drawn down under the Northern Ireland Rural Development Programme, will be maintained in cash terms until the end of March 2025.

## 1.4.8 Legal Context

Primary powers to implement future schemes in Northern Ireland are in UK retained law or provided by the UK Agriculture Act 2020<sup>15</sup>, specifically Schedule 6. The operation of schemes will require affirmative statutory rules to be taken forward through the Northern Ireland Assembly. Primary powers are also contained in the Agriculture Act (Northern Ireland) 1949<sup>16</sup> and the Department may draw on these enabling powers as necessary. In the longer term, it is likely that

<sup>12</sup> <https://www.daera-ni.gov.uk/consultations/northern-ireland-food-strategy-framework>

<sup>13</sup> <https://www.daera-ni.gov.uk/consultations/environment-strategy-consultation>

<sup>14</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1028835/261021\\_Regional\\_fact\\_sheets\\_v4\\_Tuesday\\_230pm.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1028835/261021_Regional_fact_sheets_v4_Tuesday_230pm.pdf)

<sup>15</sup> <https://www.legislation.gov.uk/ukpga/2020/21/contents/enacted/data.htm>

<sup>16</sup> <https://www.legislation.gov.uk/apni/1949/2/contents>



the Department will wish to consolidate these various legal instruments into one overarching legislative vehicle.

The Agricultural Policy Programme will, in finalising the policy proposals detailed within this document, have due regard to the implications of the existing environmental legislative framework, including the requirements of the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995 (as amended), the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017, the Water Environment (Floods Directive) Regulations (Northern Ireland) 2009 (as amended), the Environmental Liability (Prevention and Remediation) Regulations 2009 (as amended), and other relevant guidance and policy that protects the wider environment.

Further refinement to the policies and their implementation will include for appropriate consideration of the potential effects upon UK National Sites (SACs and SPAs) and upon broader aspects of the environment, as identified within the SEA and HRA assessments carried out in respect of this Programme. These assessments are intended to serve as a guide for the appropriate implementation of the derivative policies and projects, and to identify a framework for delivery of the appropriate mitigation measures to ensure that no preventable adverse effects occur upon the integrity of any UK National Sites, and to maximise the potential for positive effects and minimise the potential for negative effects on the wider environment.

## 1.4.9 State Aid/Subsidy Control

The maximum overall level of agricultural support that can be paid in Northern Ireland without further recourse to State Aid mechanisms is set at £382.2 million per annum. A minimum of 83% of this needs to comply with the WTO Green Box classification<sup>17</sup>. These support payments will not be subject to the UK Subsidy Control Regime<sup>18</sup>.

## 1.5 The Agricultural Policy Programme Workstreams

The portfolio of measures and cross cutting initiatives being developed under the Programme to deliver the Framework's four strategic outcomes comprises fourteen workstreams established to collate evidence, identify gaps, and develop design principles and policy proposals. An overview of the Programme's workstreams, and how they link, is included at Figure 1.

It is vital that these workstreams are not viewed individually as "standalone" policy instruments. Given the scale of the environmental and other challenges facing the agriculture sector, and the significant aspirations of other DAERA strategies, **the agricultural support framework is a KEY tool to drive the behavioural change** needed to achieve the four strategic outcomes. It is also an important tool for helping DAERA address the key aims of many of its strategies **specifically where changes in agricultural practices are required to make a significant difference.**

<sup>17</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/840230/Revised\\_Protocol\\_to\\_the\\_Withdrawal\\_Agreement.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840230/Revised_Protocol_to_the_Withdrawal_Agreement.pdf)

<sup>18</sup> <https://publications.parliament.uk/pa/bills/cbill/58-02/0135/210135.pdf>

Not all of these workstreams will move forward and be implemented at the same pace, but will transition into a new support regime to deliver the four outcomes identified above.

Eight main product workstreams constitute the primary components of the Programme in the foreseeable future. These include:

- 1. (a) A Resilience Measure.** It is intended that this will be a relatively easy to administer area based income payment to provide a basic safety net, but set at a level which does not blunt innovation or productivity. Initially, this measure will have the majority of the budget allocated to it (as it follows on from the current direct support payment arrangements). However, over time, and in line with the capacity for delivery and uptake of new measures discussed below, its budget will reduce to a much lower level as funding is released to the other measures. In effect, it will be a “gateway” support scheme, and those wishing to apply to most of the other farm and farm environmental support measure, must first meet the criteria of this Scheme. Its eligibility criteria will include compliance with a new set of Farm Sustainability Standards which will be the proposed replacement for current Cross Compliance requirements (i.e. Statutory Management Requirements (SMR) and Good Agricultural and Environmental Condition (GAEC)). There will be other related obligations, such as a requirement to undertake certain activities, e.g. soil sampling and nutrient planning, data provision, etc. The range of issues that will feature within Farm Sustainability Standards and obligations are likely to evolve over time as progress is made and priorities change;
- 1. (b) A Crisis Framework** setting out the key principles on how DAERA should respond in a crisis, matched with an expectation that farm businesses must proactively build risk management and resilience into their business models. Future arrangements for public intervention and private storage aid are also discussed. Any funding required for crisis management will be provided by top-slicing the agricultural budget or via a separate funding bid, at the appropriate time, with evidence of need;
- 2. A Headage Sustainability Package** with a Measure for suckler cows and a Beef Transformation Measure which will drive better economic and environmental performance, again with obligations for eligibility that are in addition to those for the Resilience Payment. This will be funded by the immediate redirection of up to 17%<sup>19</sup> of the overall farm support budget away from an area based distribution;
- 3. A Farming for Nature Package** of support. It is envisaged that there will be a number of bespoke support schemes e.g. general farmland, non-protected high nature value land, protected high nature value land, etc. Over time, increasing levels of funding will move from the Resilience Payment to this package as momentum builds and it will form the central plank of agricultural support with the aim of ensuring that the environment

<sup>19</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/840230/Revised\\_Protocol\\_to\\_the\\_Withdrawal\\_Agreement.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840230/Revised_Protocol_to_the_Withdrawal_Agreement.pdf)

becomes both an enterprise and a profit centre on farms. This package will evolve and expand as we move forward, to ensure that impact, scalability and deliverability are achieved;

4. **Farming for Carbon Measures** which will assist and incentivise farmers to adopt carbon reduction actions into their management are also central to this future policy. We are seeking to ensure that as many of the policy interventions as possible help drive down the carbon footprint of the agricultural industry. This will evolve over time as baselines and reduction targets are established. However, there are relatively simple measures that can assist all farm businesses now to begin to reduce their carbon footprint and the initial focus of this measure will be on ensuring that farmers have correct information and training to enable this to progress;
5. An **Investment Measure** to support innovation and new technologies that will drive increased productivity, better nutrient management and reductions in carbon, ammonia and nitrates emissions, improved water quality, improved farm safety, etc. We are mindful, however, of the burden of capital overheads that the sector already carries, so careful consideration of investment measures to support these objectives will be a key consideration;
6. **Knowledge Measures** will be deployed to underpin much of the change and improvements that we are seeking to drive. These measures will be designed to secure the capacity and capability to enable the industry to invest in continuous professional development as a means to delivering against the four strategic outcomes. Measures will seek to build on the success of the Business Development Group model and embed a knowledge component in as wide a range of other measures as possible;
7. A **Generational Renewal Measure** to facilitate the acceleration of the transition of farming businesses to those with better training and skills, who are more open to innovation and change and who have a longer investment horizon, which will help drive the outcomes we are seeking to achieve. A comprehensive approach to this challenge is needed and a programme of work is proposed to take this forward; and
8. **Supply Chain Measures** will help deliver better strategic outcomes. The focus will be on what the Department can do, in relation to the position of farmers and growers, to encourage collaboration and support fairer supply chain. We are mindful of the key role that industry has in addressing supply chain functionality and will encourage industry to explore opportunities to make improvements to meet the specific needs in Northern Ireland. Supply chain measures will link across to the parallel Northern Ireland Food Strategy Framework that is under development.

As well as these eight primary components, there are five additional cross cutting elements that will underpin the achievement of the objectives/outcomes comprising:

- I. Soil testing and LiDAR<sup>20</sup>;
- II. Livestock Genetics and Data initiative;
- III. Controls and Assurance;
- IV. Metrics, Monitoring and Evaluation; and
- V. Environmental Assessments.

There is also a Horticulture Measure (the only sectoral element within the programme) that is exploring options on how best to unlock some of the potential in a sector that could deliver significantly more for Northern Ireland agriculture and which is well aligned with emerging market developments.

## 1.6 Stakeholder Engagement

Pro-active consultation with key stakeholders remains central to DAERA's Agricultural Policy Programme and it is essential that stakeholders are engaged appropriately through the life of the Programme. Therefore, a stakeholder group has been established under the Programme, bringing together representatives across food, farming and the environment. This forum provides a valuable source of industry input and expertise as DAERA continues to develop the policy proposals necessary to deliver the four desired outcomes of the Framework Portfolio.

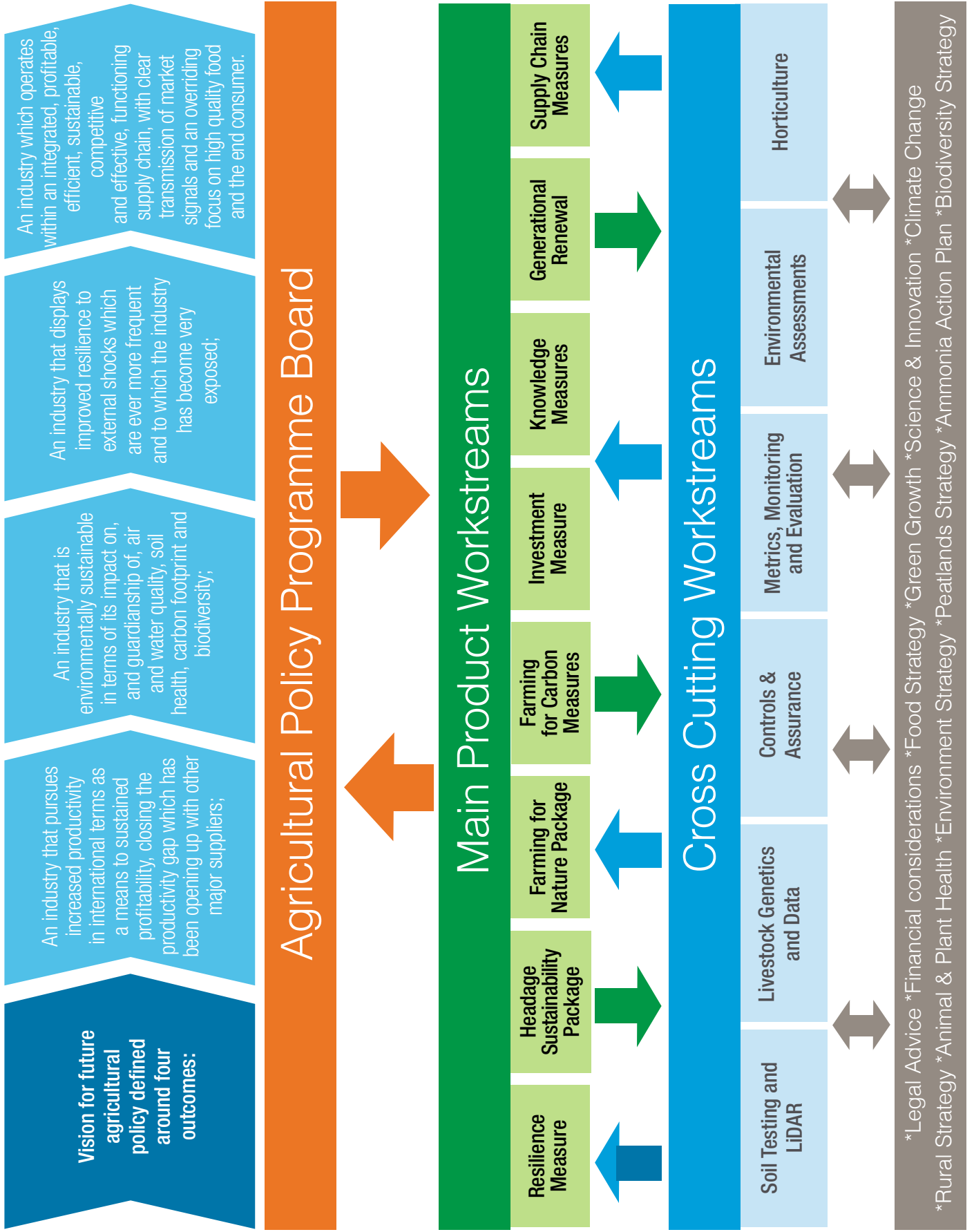
Discussions with the stakeholder group have been welcome and the input received beneficial and constructive to the further development of policy proposals. Comments and suggestions have been considered in the development of the workstream proposals presented in Part 2 of this document.

Further detailed stakeholder engagement on the specifics of scheme design will be undertaken in parallel to this consultation process.

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<sup>20</sup> Light Detection and Ranging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.

**Figure. 1. Overview of the Programme’s workstreams and how they link**





# Part 2 Future Agricultural Policy Proposals for Northern Ireland

## 2.1 Introduction

The objective of the proposed new agricultural support regime is to enable farmers to become more efficient, recognising the need to meet current and future demand for agricultural products, while maintaining and improving the natural environment on individual farms and at landscape level, for the benefit of all. Farmers need a range of tools to maximise the sustainable returns they can achieve from the assets at their disposal. These assets include the environmental assets on the farm, and all farms are well placed to play a major role in delivering more of the environmental outcomes that we owe future generations.

This section presents the main issues, policy proposals, design principles, measures, actions and cross cutting initiatives for 13 of the 14 Agricultural Policy Programme workstreams that are being developed to address the Framework Portfolio's desired outcomes and seeks your views on each through a series of questions. The fourteenth workstream is 'Environmental Assessments', comprising both a Strategic Environmental Assessment and a Habitats Regulation Assessment and will be the subject of a parallel consultation exercise.

For information, the Current Support Regime for the agricultural industry in Northern Ireland is outlined in the paper Current Support Regime for the agricultural industry in Northern Ireland published alongside this consultation.

The following policy proposals are intended to enable the delivery of future support payments that are tailored to the specific needs of the Northern Ireland agricultural industry and addressing the four strategic outcomes identified. Some of the policy proposals are more developed than others but each will evolve over time to ensure that a coherent package of measures, actions and schemes is developed to deliver against the four key outcomes of increased productivity, environmental sustainability, improved resilience and an effective functioning supply chain.

## 2.2 Cross-linkages between Programme Workstreams

DAERA's future policy interventions will be judged in terms of their ability to contribute to their achievement of the Framework Portfolio's four outcomes. As indicated earlier, the desired outcomes are synergistic and consequently the workstreams being developed are inter-related. Improvement in one outcome can provide a positive effect on one or more of the other

outcomes. Metrics are being developed around each of these outcomes and they will form the yardsticks against which the success of all future policy interventions will be judged.

An overview of the cross-linkages between the workstreams presented in this consultation is outlined in Table 1. Cross-linkages are further highlighted within the individual workstream sections that follow.

**Table 1. Cross-linkages between the Agricultural Policy Programme Workstreams.**

	Resilience Measure	Headage Sustainability Package	Farming for Nature Package	Farming for Carbon Measures	Investment Measure	Knowledge Measures	Generational Renewal	Supply Chain Measures	Soil Testing and LiDAR	Livestock Genetics and Data	Controls and Assurance	Metrics, Monitoring and Evaluation	Horticulture
Resilience Measure		●		●		●		●	●	●	●	●	
Headage Sustainability Package	●			●		●		●		●	●	●	
Farming for Nature Package				●	●	●		●			●	●	
Farming for Carbon Measures	●	●	●		●	●		●					
Investment Measure			●	●		●		●				●	●
Knowledge Measures	●	●	●	●	●		●	●	●	●	●	●	●
Generational Renewal						●						●	
Supply Chain Measures	●	●	●	●	●	●	●			●	●	●	●

Main product workstreams  Cross Cutting Workstreams  Sectoral Workstream

## 2.3 Programme Design Principles

Across the Programme, future agricultural policy and support interventions will take account of the following design principles:

- Abide by UK World Trade Organisation and other international obligations;
- Avoid unacceptable market distortions within the UK;
- Be tailored to the specific needs of Northern Ireland;
- Complement other DAERA policies, programmes and their interventions;
- Be reflective of a co-design and co-delivery approach;
- Provide value for money;
- Be communicated in a manner which ensures they are easily understood by industry;
- Be as simple and straightforward as possible, without undermining impact, and be flexible and scalable;
- Avoid the creation of perverse behaviours;
- Include robust monitoring and evaluation and the ability to review and refine policy interventions; and
- Be compliant with the requirements of the existing framework of environmental legislation, including the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995 (as amended), implemented to ensure that no preventable adverse impacts upon UK National Sites (SACs and SPAs) occur; as well as existing legislation that protects the wider environment, such as the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017, the Water Environment (Floods Directive) Regulations (Northern Ireland) 2009 (as amended), and the Environmental Liability (Prevention and Remediation) Regulations 2009 (as amended).

## 2.4 Resilience Measure



### 2.4.1 Background

In 2020, there were 25,900 farms in Northern Ireland<sup>21</sup> predominantly made up of Less Favoured Area (LFA) cattle and sheep (15,100), lowland cattle and sheep (5,200) and dairy (2,600) farms. Just over 1 million hectares (ha) of agricultural land is farmed in Northern Ireland with an average farm size of 40 ha. Around 92% of farms (approximately 23,900) receive a direct payment under the current agricultural support arrangements averaging £12,200 per farm and £306 per hectare (the primary rationale of this payment designed under the CAP was the provision of income support). The agricultural sector as a whole generated a gross output of £2.2 billion in 2020 with a gross value added of £674 million<sup>22</sup>.

### 2.4.2 Stakeholder Support for Resilience

DAERA, in conjunction with key food, farming and environmental stakeholders, identified improved resilience to external shocks as one of the key desired outcomes for the Northern Ireland agricultural industry. The responses to the stakeholder engagement exercise in 2018 on a Northern Ireland future agricultural policy framework showed a strong support for the concept of a resilience payment.

### 2.4.3 Need

Resilience in agriculture is important as the sector is particularly prone to uncertainty, which can arise from issues such as fluctuating input costs and farm gate prices, extreme weather events, animal and crop diseases, changes in international trading patterns, geopolitical shocks, etc.

<sup>21</sup> [Agricultural Census 2020 Publication.pdf \(daera-ni.gov.uk\)](#)

<sup>22</sup> [Key statistics from 2007 onward | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](#)

A farm business, therefore, needs to be resilient to persist over the long term in the face of unpredictability and change. Resilience can be defined as the ability to ‘bounce back’ (return to a previous state) in response to temporary shocks; and also to ‘bounce forward’ (transform to a new state) in response to system shifts. Planning to mitigate the impact of market disturbances and other setbacks must become a more prominent feature of the business of farming. Therefore, moving forward, farm businesses will need to have a much greater focus on business planning and risk mitigation strategies.

## **2.4.4 Disadvantages of the current area based support regime in terms of promoting resilience**

Income support payments at the current level can undoubtedly help to improve farm resilience but conversely, can act to slow agricultural productivity growth by masking technical inefficiency - reducing the drive to innovate and delaying structural adjustment. The current system falls short on delivering for the environment too. Perversely, high support payments of this nature can encourage unwarranted risk taking and reduce the incentive to manage risk within the farm business. Therefore, a balance needs to be struck between providing a safety net which helps a farm business withstand those shocks that are beyond the ability of the business to manage effectively, and dampening the incentive to be efficient, competitive and to manage risk proactively.

## **2.4.5 Analysis of Farm Incomes**

The current system of direct payments is decoupled from agricultural production and linked to the amount of land that is farmed. This form of payment is less trade distorting than linking payments to production and is considered more efficient at ensuring that subsidies translate into farm income instead of being capitalised into higher input costs or causing a reduction in market prices. However, as noted earlier, this comes at the expense of blunting the drive to efficient production, meeting market demands, pursuing environmentally sustainable practices and managing risk. In some cases, it also encourages types of marginal farming activity where the aim is primarily to qualify for the subsidy, or to help maintain a farm status in order to qualify for taxation, planning permission or other benefits. Analysis provided in the Background Evidence Paper sets out the level of reliance of Northern Ireland farms on direct payments. It shows that:

- In general, farms in Northern Ireland obtain a large proportion of their net income from direct payments. This can exceed 100%, particularly in years of low market prices;
- Cattle and sheep farms are very dependent on direct payments and, on average, do not generate a positive farm business income (FBI) in their absence;
- In years of particularly low prices, dairy farms can also struggle to generate a positive FBI without direct payments. In most years, FBI is negative on cereal farms without direct payments;



- On average over the 2014/15 - 2017/18 period, FBI becomes negative for specified farm types under the following reductions to direct payments:
  - Cattle and sheep LFA - 60% reduction;
  - Cattle and sheep lowland - 70% reduction;
  - Cereals - 80% reduction;
  - All farm types - 100% reduction; and
- Small farms are more dependent on direct payments than larger farms on average.

This analysis is, of course, based on average farm performance and the position on the best performing farms will be considerably better, with much less reliance on farm support. It is recognised that the beef and sheep sectors face particular challenges in terms of their economic resilience, viability and exposure to volatility. Therefore, sitting alongside the (reducing) area based payment, there will be a Headage Sustainability Package (Section 2.5) in the beef sector. However, these payments will seek to deliver more than a safety net - they will encourage and incentivise improvements in productivity and environmental performance in keeping with the broader policy agenda and so will have their own set of conditions.

## 2.4.6 Policy Proposals

Going forward, it is proposed that farm resilience will be addressed primarily via

- (i) A Resilience Measure; and
- (ii) A Crisis Framework.

It must also be noted that the Headage Sustainability Package (Section 2.5), Knowledge Measures (Section 2.9) and Supply Chain Measures (Section 2.11) will also be important in building farm resilience.

Knowledge will be a significant tool in increasing resilience. Risk management for a farmer is a critical factor in ensuring the long term sustainability of a farm business. In order to succeed, farmers need to generate more profit and become competitive. They must have a good understanding of the farming environment and be skilled at managing risk. By dealing with risk more effectively, better farming opportunities arise. Farmers will be encouraged to build risk management into their business model, as well as improving their productivity (and thus reducing their reliance on farm support and a safety net). Building risk management and risk mitigation into a business will help to build the resilience necessary to 'bounce back' and 'bounce forward' when shocks occur. DAERA will actively promote and deliver knowledge programmes which will assist farmers adopt farm practices to mitigate risk.

## (i) Resilience Measure

It is proposed that there will be a relatively simple area based Resilience Payment to provide a basic safety net, whilst also delivering foundation environmental outcomes. It will form the 'gateway' support platform for most of the future agricultural support framework. In other words, those wishing to apply to many of the other farm support measures must first meet the criteria and be accepted into this Scheme. Other arrangements will apply to non-farming landowners (who will not be eligible for the Resilience Payment) to enable them to avail of certain Farming for Nature measures.

The level of funding allocated to this measure will be lower than under the current Basic Payment Scheme, both to mitigate the negative consequences noted above and to enable funding to be diverted to the other agricultural policy measures. After the initial transfer of funding to the Headage Sustainability Package, this transfer from the Resilience measure to other measures will be phased in over time to assist farm transition, and it will be timed to match the capacity of these other measures to absorb and spend the monies released.

To be eligible for the Resilience Payment, a farm will need to meet certain standards and undertake certain basic environmental management actions. The standards are referred to as Farm Sustainability Standards and are a revised version of current Statutory Management Requirements (SMRs) and Good Agricultural and Environmental Condition Requirements (GAEC) that make up Cross Compliance (see Section 2.14). The environmental management actions proposed at this stage, which will contribute to air and water quality and carbon sequestration and identify those areas on individuals land parcels most at risk to creating nutrient leakage to waterways, include:

- Participation in soil testing, including Light Detection and Ranging (LiDAR) to be updated on a regular basis\* (Section 2.12);
- Over time, preparing a nutrient management plan based on the Soil Testing and LiDAR information\*; and
- Recording of sire data on APHIS/NIFAIS of all calves born for both dairy and beef herds (to assist the implementation of the planned Livestock Genetics and Data programme - Section 2.13).

\*(excluding farmed high nature value (HNV) land and peatland areas as appropriate)

Both Farm Sustainability Standards and environmental management requirements are likely to evolve over time to meet emerging challenges and needs.

The detail of the Resilience Payment that still needs to be finalised relates to:

**Sectors Eligible** - The options for which sectors should be eligible are discussed in the Background Evidence Paper. The current proposal is all land based agriculture and horticulture.

**Area based** - It is proposed that the Resilience Payment will continue to be **area based and use entitlements**. Current Basic Payment Scheme entitlements would be carried forward into the new regime (i.e. there would be no rebasing of entitlements, which was last carried out in 2015 under the last reform of the CAP).

**Land Eligible** - The options for the type of land that should be eligible are discussed in Section 2.14. The current proposal is broadly that **all farmland, except for hard features, will be eligible**. This would extend the area of eligible land by approximately 40,000 ha or 4% compared with the current position.

**Active Farmer Definition** - The options proposed to revise the definition of active farmer are discussed in the Background Evidence Paper. The current proposal is that, within the sectors identified as eligible, funding will be directed to “active farmers” defined as applicants who have the decision making powers, benefits and financial risks of the agricultural activity being undertaken on the land concerned. The Department is also considering restricting the allocation of entitlements for Resilience Payment to farm businesses which met the following criteria during a reference period which would be a historic year or years (to be defined);

- Had cattle or sheep registered on APHIS; and/or
- Had at least 3 ha of an arable or horticultural crop.

The aim is to **remove grass selling businesses and those maintaining land in GAEC as their sole activity**.

**Capping of Payments** - The options for the maximum support available to any farm business are discussed in the Background Evidence Paper. The proposal is that **progressive capping of Resilience Payments will apply above £60,000**. A progressive approach to capping, with a percentage reduction within each band, increasing gradually over a period of time, rather than an absolute cut off imposed with little lead-in time should reduce the incentive for businesses to split to minimise the impact of the cap and also allow time to adjust to a reduced payment.

**Minimum Claim Size** - Farms which are farming small areas of land typically have very low levels of agricultural activity. Their level of outlay on agricultural activity, and exposure to risk is likely to be low (although there are a few exceptions<sup>23</sup>) and, therefore, it is questionable whether such farms, in keeping with the policy rationale, require a resilience payment as a safety net.

<sup>23</sup> Even where a business has a significant level of activity and turnover on a small area of land, such as a horticulture enterprise, the justification for a resilience payment is weak as this area based payment would, by definition, be very small relative to the turnover of the business and thus unlikely to provide any meaningful safety net.

The impact of increasing the minimum claim size from the current 3 ha to 5 ha, 7.5 ha or 10 ha is discussed in the Background Evidence Paper. The Department is proposing **increasing the minimum claim size to 10 ha**.

***Flexibility to lease, transfer or sell resilience support entitlements*** - The proposal is that the **current arrangements will continue** to enable entitlements to be leased, transferred or sold.

It is important to note that any change to the upper and lower thresholds for claiming the Resilience Payment will be signposted in advance of implementation to enable affected farm businesses to consider the options available to deal with any excess entitlements they hold. Farm businesses which hold entitlements below the minimum required will have the opportunity either to acquire more land to meet this new minimum size requirement or sell/lease their entitlements.

## **(ii) Crisis Framework**

Currently there are no principles applied consistently to crisis situations to guide any Departmental response (i.e. a crisis framework). As we look to the future, there will inevitably be those more extreme events which may require the government to step in to help stabilise the industry.

Public Intervention (PI) and Private Storage Aid (PSA) are two of the main market intervention mechanisms under the EU CAP for supporting market prices. Both relate to the removal of commodity products from the market when prices fall below certain thresholds. Following EU Exit, EU legislation related to PSA and PI schemes has become UK retained law via the European Union (Withdrawal) Act 2018. Defra considers these schemes are not an efficient form of market support and have a weak economic rationale. Therefore, it intends to bring forward legislation to either abolish or amend PI and PSA schemes in England in due course. Defra will engage with its stakeholders about this, and DAERA officials will undertake a parallel engagement with Northern Ireland stakeholders on the future of PI and PSA in Northern Ireland.

A key objective of DAERA's approach moving forward is to encourage farm businesses to better manage risk within their own businesses. This will require new knowledge in many instances and the Knowledge Measures described in Section 2.9 will seek to ensure each farm business in receipt of farm support has an awareness of the need to manage risk appropriately. Consideration will also be given moving forward to require farm businesses to have a risk management plan as a conditionality for a Resilience Payment.

A new Crisis Framework will enable the Department to assess potential risks and determine both when intervention is necessary and the most appropriate form of intervention for a specific crisis. This would involve setting out trigger points (such as scale of impact or market price reductions) to inform the operation of this framework.

The following principles are proposed in the development of a Crisis Framework:

- **Threshold** - Farmers will be required to do as much as they can to build resilience into business practices. Government action will only be considered at a certain trigger point/ threshold and when there is no immediate prospect for the market to recover or adapt without intervention, i.e. failure to achieve a defined price threshold over a defined period of time;
- **Targeted** - If action is required, this must be in a targeted way with consideration given to the extent to which the whole or only part of the sector is impacted; and
- **Temporary** - Any action must be temporary; if it goes beyond a certain period of time, it is then considered market realignment rather than disturbance and intervention should cease.

Prior to government action the following criteria could be considered:

- i. The sector is facing significant negative impacts due to market disruption (inputs and/ or outputs) This would be an economic shock large enough to threaten the viability of (otherwise viable) businesses or that significantly reduces the available output of the sector to the detriment of consumers and businesses in the supply chain over a reasonable timeframe.
- ii. All other options for the affected businesses to 'ride out' the temporary market upheaval have been exhausted. For example:
  - a. Business own internal resources;
  - b. Commercial bank loans/finance;
  - c. Other UK level HM Government/public sector schemes;
  - d. Regulatory easements/other easements; and
  - e. Internal sector flexibilities (i.e. contractual revision/storage).
- iii. Targeted support is the most appropriate and effective way for government to respond.
  - a. Are there significant sector-wide implications?
  - b. Does the proposed intervention align with the long-term vision and economic fundamentals of the sector?
  - c. Will support be temporary, avoiding on-going support dependency for business continuity?
- iv. There will be disproportionate harm to the economy or society if the sector is not supported. Will/can intervention provide value for money and be effectively targeted?

## Consultation Questions

<p><b>1.</b></p>	<p><b>The proposal is that payment will continue to be area based, use entitlements and that funding will be directed to active commercial farm businesses.</b></p> <p><b>(i) Do you agree that income support is needed in the form of a Resilience Payment set at an appropriate level? Explain your answer.</b></p> <p><b>(ii) Do you agree that farm businesses that solely produced grass/grass silage for sale during a historic reference period should not be eligible to claim the Resilience Payment? Explain your answer.</b></p> <p><b>(iii) Do you agree that businesses that maintained land in a state suitable for grazing or cultivation but undertook no further agricultural activity during a historic reference period should not be eligible to claim the Resilience Payment? Explain your answer.</b></p> <p><b>(iv) To give effect to the proposals relating to grass selling businesses and those maintaining land in GAEC, do you agree that an historic year or years should be used to restrict the allocation of entitlements for Resilience Payment to farm businesses which met the following criteria: a) had cattle or sheep registered on APHIS; and/or (b) had at least 3 ha of an arable or horticultural crop during the reference period in an historic year or years? Explain your answer.</b></p>
<p><b>2.</b></p>	<p><b>The proposed conditionalities outlined to be eligible to claim the Resilience Payment are aimed at environmental improvement.</b></p> <p><b>(i) Participation in soil testing, including Light Detection and Ranging (LiDAR) - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.</b></p> <p><b>(ii) Preparing a Nutrient Management Plan (NMP) based on the soil testing and LiDAR information - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.</b></p> <p><b>(iii) Recording of sire data on APHIS/NIFAIS for all calves born on both dairy and beef herds - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.</b></p>
<p><b>3.</b></p>	<p><b>The proposal is that progressive capping of the Resilience Payment will apply above £60,000 and that the minimum claim size should be increased to 10 ha.</b></p> <p><b>(i) Do you agree with the proposal that progressive capping of the Resilience Payment will apply above £60,000? Explain your answer.</b></p> <p><b>(ii) Do you agree with the proposal to increase the minimum claim size threshold to 10 ha? Explain your answer.</b></p>



**4. The proposal is that there will be a new crisis framework that will enable the Department to assess potential risks and determine the most appropriate intervention for a specific crisis.**

**(i) Do you agree with the principles proposed in the development of a Crisis Framework? Explain your answer.**

## 2.5 Headage Sustainability Package



### 2.5.1 Background

The Department is seeking to explore how a future support regime could, in particular, support suckler cow producers (and potentially breeding ewe producers if a need is identified) and the earlier slaughter of beef-bred and dairy-bred animals. The argument for special support for these enterprises and how this could support the achievement of better productivity, environmental performance and resilience is included in the Background Evidence Paper. DAERA is examining how a Livestock Genetic Improvement and Data Programme (Section 2.13) could be linked with this measure to accelerate the rate of improvement in the economic and environmental performance of the suckler herd and whether support could be used to incentivise farmers to join such a programme.

Prior to 2005, direct payments under the CAP were linked (coupled) to production for the suckler cow and sheep sectors. Coupled support, at that stage, was defined as the provision of payment to a sector involved in agricultural production that requires support to maintain those levels of production.

Payment was made either on a headage basis (number of cattle or sheep), or on the area of arable crops grown. In 2005, almost all direct payments to farmers under Pillar I of the CAP were decoupled from production and combined into the Single Farm Payment (SFP). SFP was entitlement based (1 entitlement was allocated for every hectare farmed in 2005) and while the land which was used to claim SFP had to be used for agricultural activity, there was no production requirement.

Now that we have left the CAP, DAERA is exploring how a Headage Sustainability Package could be introduced to drive better economic and environmental performance. It must be noted that this is not just another means of allocating payments to farmers nor is it being explored for the purposes of increasing production. A **Headage Sustainability Package** would aim to ensure the future viability of the beef sector, help the sector to keep pace with, or surpass, the productivity growth of its competitors, improve profitability, resilience and environmental sustainability. In particular, it would seek to reduce emissions and the carbon footprint by calving cows more regularly, calving heifers at a younger age and by slaughtering animals at an earlier age. Specific attention will be paid to avoiding risks of over grazing sensitive areas that was a criticism of coupled payments under old CAP schemes.

## 2.5.2 Need

The beef and sheep sector is a viable but vulnerable sector. While the predominant agricultural activity on Northern Ireland farms is cattle and sheep farming, and as such is a large contributor to agricultural output, it produces the lowest output per farm of all the Northern Ireland farm sectors (Background Evidence Paper).

As highlighted in the analysis of farm incomes under the Resilience Measure, the sector is very reliant on direct payment subsidies, to the extent that, on average, the sector depends on the payments to produce a 'positive' net farm income, that is, to not be a loss making business. This dependence means that proposals to replace existing direct payments with a lower Resilience payment, could have a particular impact on the viability of this sector and its ability to maintain positive incomes.

Efficiency (and hence profitability) rely on a farm being able to identify and address areas of weaknesses. For example, in order to know whether the suckler herd is performing well and detect any underlying management or animal-specific issues, cattle performance needs to be monitored, and relevant performance data captured in order to be analysed to make informed decisions about the general cattle management and breeding strategy.

Intervention measures in the suckler cow sector, designed to drive productivity and performance efficiency, could help address sector vulnerabilities by increasing profitability and thus underpin viability and sustainability for an efficient cattle breeder. Good breeding management and herd fertility are a key profit driver. Reducing the amount of time animals spend on-farm in an unproductive state will also reduce emissions and the carbon footprint of the whole farm.

Research evidence has examined the carbon savings that can be realised through multiple management changes. It has been shown that significant savings are easily and quickly achievable by improving a number of areas incrementally and enable reductions in carbon across the entire life cycle<sup>24</sup>. Further information on the carbon savings is provided in Sections 2.5.5 and 2.5.6.

<sup>24</sup> <https://stabiliser.co.uk/industry-information/carbon-efficient-cattle/>

## 2.5.3 Financial Limitations

Funding for this measure will be taken from what previously would have gone towards funding the Basic Payment Scheme. DAERA will also need to ensure that any future Headage Sustainability Package does not conflict with the UK's WTO obligations.

The minimum percentage of agriculture expenditure that must comply with the requirements of the WTO Green Box (i.e. non or minimally trade distorting support) is 83%<sup>25</sup>. Therefore, a maximum of 17% is available to fund any future Headage Sustainability Package, which equates to around £50 million per annum. This support will not be subject to the UK Subsidy Control Regime<sup>26</sup>.

## 2.5.4 Policy Proposals

It is proposed that support will be made available to:

- (i) Suckler cows which meet the conditions set out at Section 2.5.5; and
- (ii) Clean beef animals slaughtered in accordance with a Beef Transformation Scheme which meet the conditions set out at Section 2.5.6.

This will increase productivity and performance efficiency and help reduce the carbon footprint of these animals.

Payments will be in addition to payments made under other measures and will not be subject to minimum or maximum thresholds. However, to be eligible for these payments, applicants must be in receipt of the Resilience Payment.

## 2.5.5 Suckler Cow Measure

**Eligibility** - it is proposed that all farm businesses with suckler cows can apply.

**Payment Quotas** - to ensure that there is no incentive for individual producers to increase their number of animals in order to secure a larger share of the overall budget, and to lessen the risk of any negative environmental impact from over stocking, it is proposed that payment **quotas calculated on an individual farm level** based on a historic reference period (to be determined) will apply. Payment will only be made where a claimant holds payment quota. It is also proposed that quota may be traded between businesses under certain conditions (to be determined) to allow for farm and structural adjustments and that usage rules (to be determined) will apply.

**Stocking density** - in the past, coupled support schemes for livestock were accompanied with stocking density restrictions. These were applied at the overall holding level and thus failed to

<sup>25</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/840230/Revised\\_Protocol\\_to\\_the\\_Withdrawal\\_Agreement.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840230/Revised_Protocol_to_the_Withdrawal_Agreement.pdf)

<sup>26</sup> <https://publications.parliament.uk/pa/bills/cbill/58-02/0135/210135.pdf>

protect sensitive habitats within the farm. They also often led to perverse behaviours, such as seeking additional land at inflated prices for the sole purpose of meeting the stocking density test (hence circumventing the objective of the stocking density restriction). Therefore, it is not proposed to introduce a stocking density limit at this stage but this issue will be kept under continuous review. The implementation of payment quotas at individual holding level based on a historic reference period will remove the incentive to increase livestock numbers to unsustainable levels. However, this issue will be kept under review and closely monitored to ensure that the measure does not inadvertently lead to behaviours that would have a negative impact on the environment or deliver other unwanted behaviours.

### **- Proposed Additional Conditions**

Initially two conditions are being proposed which are considered to have the potential to improve both productivity and reduce the carbon footprint for the sector.

It is recognised that a phased approach to introduction will be needed to avoid unintended consequences from these actions.

**1. Reducing the age of first calving** - claimants will have to take a series of managed steps to reduce the age of first calving for heifers towards the ideal of 24-26 months. The proposed pace of phased implementation is presented in Table 2.

**Table 2. Pace of Phased Implementation for Age of First Calving**

Year of Scheme	Maximum age at first calving
1	30 months
2	29 months
3	28 months
4	27 months

Cows that first calve at an earlier age are more productive over their lifetime compared with those first calved at an older age. In addition, reducing the first calving age can act as a helpful management tool to reduce mature cow size<sup>27</sup>, which in turn can improve profitability as less feed is required to maintain a smaller cow. Smaller cows can also provide environmental benefits through GHG emission reductions. Research has also shown that a reduction in first calving age from 36 to 24 months can reduce GHG emissions intensity by up to 6.9%<sup>28</sup>.

**2. Reducing the calving interval** - claimants will be required to take managed steps to reduce the calving interval towards the ideal of 365 days. The pace of phased implementation is presented in Table 3.

<sup>27</sup> Scottish Rural College Suckler Beef Climate Scheme Final Report - October 2020 <https://www.gov.scot/publications/suckler-beef-climate-scheme-final-report-2/pages/18/>

<sup>28</sup> Bell J., Beaton C., Young M., Hill G., Stout D., Sellars A., Thomson S., Spencer M., Moxey A. (2020). Suckler Beef Climate Change Group - Farm Carbon Case Studies. Edinburgh: SRUC.

A reduced calving interval means less time spent on farm by ‘empty cows’ which will improve profits by reducing feeding costs. Both earlier first calving and shorter calving intervals will highlight fertility issues to farmers at an earlier stage and enable those less fertile cows to be replaced sooner rather than later.

**Table 3. Pace of Phased Implementation for Calving Interval**

Year of Scheme	Maximum calving interval
1	400 days
2	390 days
3	380 days
4	370 days

For farms that sell calves as weanlings, those born to a 365 day cycle will be consistently older at the time of sale, have a higher liveweight and, therefore, more likely to achieve a higher sale price and margin. A shorter calving interval also delivers environmental benefits and lowers the carbon footprint as it reduces the time spent as unproductive animals.

A **retention period** would apply whereby the suckler cows subject to claim must be present in that herd for at least 6 months of the year, both to ensure that payment can only be claimed only once for each cow and to direct the support payment towards the good management practice that enabled the suckler cow to meet the eligibility requirements described above.

Full payment would only be made on suckler animals that give birth to **live calves** that are registered with DAERA and meet the targets for first calving and calving interval. DAERA is considering how DNA tagging could be utilised moving forward with this Measure and also the Livestock Genetics and Data Programme (Section 2.13).

Alongside the introduction of any such measures, appropriate **knowledge interventions** will be offered to help farmers.

## 2.5.6 Beef Transformation Measure

Outside of dairy and beef cows and breeding bulls, 2020 data indicates that there were approximately 150,000 cattle over 24 months of age present on Northern Ireland farms at the June census. This amounts to almost 10% of total cattle numbers. The presence of cattle of this age is unnecessary and unproductive and a significant proportion could be finished at an earlier age through improved breeding, health interventions and herd management without impacting on the output of beef.

Cattle which are finished at an earlier age to reach their slaughter weight by no later than 24 months can help drive both improved productivity and environmental performance. Earlier finished cattle use a higher percentage of their lifetime diet for growth rather than maintenance,



which, therefore, increases overall efficiency of production<sup>29</sup>. In addition, cattle that are kept beyond their target slaughter weight or take longer to reach slaughter weight can lead to unnecessary GHG emissions<sup>30</sup>.

Research has shown that reducing the finishing time for steers from 23 months to 18 months can create a carbon saving of 10%<sup>31</sup>.

This means that, broadly speaking, every month reduction of age at slaughter results in a 2% carbon saving<sup>32</sup>.

**Eligibility** - Support will be confined to finished clean beef animals born and bred in Northern Ireland and registered on APHIS.

**Reducing the age at slaughter** - claimants would have to take measured steps to reduce the age of slaughter for clean beef animals to 24 months. The pace of phased implementation is presented in Table 4.

**Table 4. Pace of Phased Implementation for Age at Slaughter**

Year of Scheme	Maximum Age at Slaughter
1	30 months
2	28 months
3	26 months
4	24 months

**Minimum age of slaughter** - to be eligible for payment, a minimum slaughter age of 12 months is proposed. However, this may be reviewed if, for example, there is evidence that cattle (in particular young bulls) are finished within a shorter timeframe, in which case the minimum slaughter age could perhaps be overridden if a minimum slaughter weight is also achieved by these young animals.

**Tiered approach** - consideration is also being given to the possibility of a tiered approach to the maximum age of slaughter, whereby the earlier the finished slaughter age the higher the payment.

Consideration may also be given at a later stage to introducing a “negative subsidy” on over age (i.e. over 24 months) cattle presented for slaughter if there is insufficient movement towards the earlier finishing of cattle.

<sup>29</sup> [https://pure.sruc.ac.uk/ws/portalfiles/portal/37015670/low\\_carbon\\_beef\\_case\\_study.pdf](https://pure.sruc.ac.uk/ws/portalfiles/portal/37015670/low_carbon_beef_case_study.pdf)

<sup>30</sup> [https://pure.sruc.ac.uk/ws/portalfiles/portal/37033783/estimated\\_suckler\\_beef\\_climate\\_scheme\\_effects\\_within\\_national\\_ghg\\_smart\\_inventory.pdf](https://pure.sruc.ac.uk/ws/portalfiles/portal/37033783/estimated_suckler_beef_climate_scheme_effects_within_national_ghg_smart_inventory.pdf)

<sup>31</sup> <https://stabiliser.co.uk/wp-content/uploads/2021/12/Stabiliser-Carbon-Reduction-Press-Release.pdf>

<sup>32</sup> <https://stabiliser.co.uk/wp-content/uploads/2021/12/Stabiliser-Carbon-Reduction-Press-Release.pdf>

## **- Additional Design Principles**

In keeping with the Programme design principles, this measure would:

- Be monitored to ensure that adverse environmental behaviours, particularly on HNV land, are not incentivised; and
- Be delivered in parallel with appropriate knowledge interventions to enable farmers to achieve the high husbandry standards that will be required to meet the scheme conditions.

## **2.5.7 Further Elements**

A number of further elements are being considered and may come on stream at a later stage.

DAERA has no proposals to introduce a breeding ewe headage payment at this stage. The ability to use this mechanism to drive productivity and reduce emissions is less obvious. However, this could be reconsidered at a future date, particularly if a headage payment was linked to participation in a sheep element of a Livestock Genetics and Data Programme and associated data recording.

## Consultation Questions

<b>5.</b>	<p><b>Do you agree that payments under the Headage Sustainability Package will be made only to businesses in receipt of payments under the Resilience Measure? Explain your answer.</b></p>
<b><i>Suckler Cow Measure</i></b>	
<b>6.</b>	<p><b>The proposals and conditions outlined for any Headage Sustainability Measure for suckler cows are aimed at driving productivity to make the sector more efficient and environmentally sustainable.</b></p> <p><b>(i) Reducing age of first calving - do you agree with this measure and the pace of phased implementation proposed? Explain your answer.</b></p> <p><b>(ii) Reducing the calving interval - do you agree with this measure and the pace of phased implementation proposed? Explain your answer.</b></p> <p><b>(iii) Do you agree payment should be made only to qualifying suckler cows where live calves are registered with DAERA? Explain your answer.</b></p> <p><b>(iv) Do you agree that payment quotas will apply to the suckler cow measure and be calculated on an individual farm basis based on historic reference data? Explain your answer.</b></p> <p><b>(v) Do you agree that the payment quota may be traded and usage rules will apply? Explain your answer.</b></p> <p><b>(vi) Do you agree that there should be a retention period of at least 6 months? Explain your answer.</b></p> <p><b>(vii) Do you agree that in the future, claimants under this measure will be required to provide data [to be determined] to support a genetics programme? Explain your answer.</b></p>
<b><i>Beef Transformation Measure</i></b>	
<b>7.</b>	<p><b>Do you agree on the proposal to slaughter clean beef animals at 24 months to make the sector more productive and environmentally sustainable?</b></p>
<b>8.</b>	<p><b>Do you agree that only animals born and bred in Northern Ireland should be eligible for support under the Beef Transformation Measure?</b></p>
<b>9.</b>	<p><b>Do you agree with the proposed pace of phased implementation to reduce the age of slaughter to 24 months? Explain your answer.</b></p>
<b>10.</b>	<p><b>Do you agree a single minimum slaughter age of 12 months for all cattle? Explain your answer.</b></p>

11.	<b>What are your views on a single maximum slaughter age of 24 months for all cattle - should there be different maximum slaughter ages for bulls, steers and heifers? Explain your answer.</b>
12.	<b>Have you any other specific suggestions to provide support for other parts of the beef sector? Explain your answer.</b>
<i>Possible Sheep Measure</i>	
13.	<b>Do you have any specific suggestions for incentivising productivity in breeding ewes? Explain your answer.</b>

## 2.6 Farming for Nature Package



### 2.6.1 Background

The environmental challenges that need to be tackled in Northern Ireland are substantial. They range from deteriorating water and air quality, habitat and biodiversity loss and fragmentation, to the wide ranging impacts of climate change. The agricultural sector is vital to our food security and underpins our rural communities, but some agricultural practices have detrimental impacts on our environment. There is, however, significant potential for farmers and land managers to make vital positive contributions to tackling these environmental impacts head on and to be properly recognised by society for doing so.

Previous and current agri-environment policy was implemented through schemes developed under Pillar 2 of the CAP that aimed to deliver environmental improvements on farmland. The current Environmental Farming Scheme provides farmers and landowners the opportunity to implement a range of funded actions to deliver environmental improvements through a five year agreement. Since 2017, there have been five annual intake tranches and over 5,000 participants in the wider and higher elements of the scheme. A sixth tranche is planned for 2022.

We now have an opportunity to design a Farming for Nature policy that better delivers on environmental outcomes and creates the right conditions to build an agricultural industry that is environmentally sustainable. Responses to the 2018 stakeholder engagement exercise on future agricultural policy recognised the environmental benefits that could be achieved through farming practices and acknowledged the relationship between a healthy environment and productive, profitable farming.

## 2.6.2 Need

With over 70% of land in Northern Ireland under agricultural management, our environment is heavily influenced by farming practices. Improved grassland makes up around 40% of our farmland area and this, coupled with changing farm practices over many decades, has resulted in habitat and biodiversity losses across our farmed landscape. The extent and condition of semi-natural habitats and hedgerows has significantly diminished and become fragmented. This is due to the conversion of semi-natural habitats to more productive, less species-diverse agricultural grassland<sup>33</sup> coupled with hedge, dry stone wall and stone bank removal and deterioration, reducing the diversity and range of rich habitats for species<sup>34</sup>. Semi-natural habitats are also sensitive to nitrogen enrichment. Between 2015 and 2017, nutrient nitrogen critical loads were exceeded at 84% of the nutrient sensitive habitats in Northern Ireland<sup>35</sup>. Habitat connectivity, which describes the ability of species to move through the landscape between areas of habitat, is reduced when habitats are lost or fragmented<sup>36</sup>.

Declines in species numbers and diversity have been recorded. Increasing numbers of species have been added to the list of species of conservation concern<sup>37</sup>. Agricultural practices contribute to air pollution and climate change through emissions of ammonia and GHGs<sup>38</sup>. Many of our water bodies are not meeting the standards to be classified as being at good status, and nutrients from agriculture are part of the problem<sup>39</sup>. The Background Evidence Paper published alongside this consultation summarises the current state of knowledge on environmental issues.

## 2.6.3 Future Approach and Policy Proposals

It is proposed that a Farming for Nature Package will be used to support farmers across all land types to make substantial contributions to environmental improvements and sustainability, while continuing to pursue increased productivity, improved resilience and operating within an effective functioning supply chain. A Farming for Nature Package will need to be complemented by appropriate, proportionate, properly communicated and enforced environmental regulation to ensure that unwarranted farming practices do not cause unacceptable environmental consequences.

33 <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/AE1%2016%20462719%20%20R%26D%2009%2006%20Northern%20Ireland%20Countryside%20Survey%202007%20%20Broad%20Habitat%20Change%201998-2007.pdf>

34 <https://www.daera-ni.gov.uk/sites/default/files/publications/dae/land-report-northern-ireland-countryside-survey-2007-field-boundary-summary-report-2012.pdf>

35 [http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/2019%20TRENDS%20report\\_corrected.pdf](http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/2019%20TRENDS%20report_corrected.pdf)

36 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/925418/3\\_Habitat\\_Connectivity\\_in\\_the\\_wider\\_countryside\\_2020\\_accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925418/3_Habitat_Connectivity_in_the_wider_countryside_2020_accessible.pdf)

37 <https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-Northern-Ireland-summary.pdf>

38 <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/ni-environmental-statistics-report-2021.pdf>

39 [https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%203rd%20cycle%20River%20Basin%20Management%20Plan%20for%20Northern%20Ireland%202021-2027\\_0.PDF](https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%203rd%20cycle%20River%20Basin%20Management%20Plan%20for%20Northern%20Ireland%202021-2027_0.PDF)



Providing the right information at the right time through the Knowledge Measures (Section 2.9) will be essential in underpinning the positive behavioural change amongst farmers and land managers and providing them with the necessary skills that will enable them to deliver the environmental outcomes being sought. Past environmental measures have not invested sufficiently in human capital as a means of growing our natural capital.

The following principles are proposed in the development of a Farming for Nature Package of support:

- **Landscape Scale** - Schemes that are scalable and strategically focussed in terms of their objectives, delivering environmental outcomes at a landscape scale, recognising the interconnectedness of habitats and water bodies. Therefore, schemes must be applicable to all areas, land types and farms and be capable of delivering transformational change at a landscape level.
- **Eligibility** - Receipt of the Resilience Payment will not be a gateway requirement to be able to access the Farming for Nature Package. It is proposed that all farm businesses in receipt of Resilience Payment, and other land managers will be eligible for schemes under the Package.
- **Minimum land area** - A minimum land area of 3 ha is proposed for farm businesses and other land managers to be eligible for the Farming for Nature package.
- **Financial incentives** - Environmental payments will, as far as possible, seek to recognise and reward the public goods provided by farmers and land managers who achieve a verified level of environmental performance through delivery of identified outcomes. This approach aims to encourage the environment to be seen as another on-farm enterprise with the potential to become a profit centre within an overall sustainable farming model and to assist farmers and land managers to make an economic return on the environmental assets that they create and manage appropriately. It is proposed that an individual business cap on the level of payment available under the Farming for Nature Package would not be imposed.
- **Outcome based** - Schemes will be designed to be delivered by farmers using the knowledge and expertise that they have acquired and will acquire, to achieved the desired outcomes, though activity based prescription will still have a place in future scheme design, where appropriate.
- **Time Horizon** - An appropriate time horizon will be adopted, recognising that environmental improvements take time to materialise and must be sustained. The rigid, short term, start/stop nature of previous interventions should not be repeated.

- **Collaborative Participation** - Where possible, participants in schemes will be incentivised to work collaboratively with other farmers and land managers, with assistance from facilitators and advisers. Incentives will be designed to encourage large scale uptake of targeted measures designed to achieve specific, demonstrable environmental outcomes at a landscape/catchment scale.
- **Monitoring and Evaluation** - Robust monitoring and evaluation of scheme performance will be essential to ensure that the desired outcomes are being achieved, and where they are not, or where evidence suggests that further improvements are possible, then policy will be amended accordingly.

All of this will require co-design of schemes and substantially redesigned partnership delivery models to meet the necessary ambition in terms of industry buy-in, scale of uptake and scheme success.

Many of the current and planned policy instruments aimed at protecting the environment include measures designed to address agricultural pressures on water and air quality, reduce GHG emissions, and support improvements in carbon sequestration, as described below, and are linked to improving biodiversity.

- The Nutrients Action Programme<sup>40</sup> was established to meet the requirements of The Nitrates Directive, and aims to improve the use of nutrients on farms, contributing to improved water quality;
- The Draft 3rd Cycle River Basin Management Plan (2021-2027)<sup>41</sup> takes an integrated approach to water management, classifying the status of water bodies and setting objectives and a programme of measures to help improve those water bodies that are classified as below good status;
- The draft Environment Strategy for Northern Ireland<sup>42</sup> will be the basis for a coherent and effective set of interventions that can deliver improvements in the quality of all aspects of the environment, including water and air quality, biodiversity, and climate mitigation and adaptation;
- The Ammonia Strategy (in draft) sets targets for 2030 and beyond and proposes three pillars as part of a strategic approach to addressing ammonia:
  - An ambitious and verifiable ammonia reduction programme for implementation on farms;
  - A programme of restoration and management of our most valuable habitats to alleviate the symptoms of ammonia and nitrogen exceedance; and

<sup>40</sup> <https://www.legislation.gov.uk/nisr/2019/81/contents>

<sup>41</sup> [https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%203rd%20cycle%20River%20Basin%20Management%20Plan%20for%20Northern%20Ireland%202021-2027\\_0.PDF](https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%203rd%20cycle%20River%20Basin%20Management%20Plan%20for%20Northern%20Ireland%202021-2027_0.PDF)

<sup>42</sup> <https://www.daera-ni.gov.uk/consultations/environment-strategy-consultation>

- A revised Operational Protocol for the assessment of impacts from atmospheric nitrogen pollution.
- The ammonia reduction element of the strategy will build on the significant support provided for low emissions slurry spreading equipment in the recent tranche of Tier 1 of the Farm Business Improvement Scheme (FBIS) - Capital;
- Northern Ireland Peatland Strategy<sup>43</sup> - The recent consultation document outlines a range of strategic objectives and actions considered necessary to ensure that semi-natural peatlands are conserved and restored to functioning ecosystems. The restoration of peatlands falls outside the scope of future agricultural policy, however, the maintenance of peatland (when restored) falls within the remit of this policy;
- Special Area of Conservation (SAC) Management Plans<sup>44</sup> are being prepared for 54 SACs, covering a range of habitats and rare or protected species. The plans will include an assessment of site condition, identification of key pressures and threats, and identify practical measures to address them;
- A new Biodiversity Strategy for Northern Ireland is being developed to take account of draft international targets to be agreed during the UN Convention of Biological Diversity meeting (COP15) in May 2022. The draft international targets embrace the UN's Leaders Pledge actions for Nature, announced at their summit in September 2020. The targets commit DAERA to consider actions on a number of important issues, including protecting 30% of land and sea for biodiversity (30x30 target), restoration of damaged natural ecosystems, reducing pollution to levels which do not harm biodiversity, increasing ecological connectivity, sustainable food production, ending the illegal wildlife trade and implementing nature-based solutions for tackling climate change and reversing biodiversity loss to create a nature positive future by 2030;
- Resilience Measure (Section 2.4) conditionality, in particular, soil testing, nutrient management planning and LiDAR will contribute to air and water quality and carbon sequestration and identify those areas on individuals land parcels most at risk of creating nutrient leakage to waterways, and other measures to safeguard biodiversity;
- Investment Measure (Section 2.8) aimed at delivering environmental improvements; and
- Farming for Carbon (Section 2.7).

Given the scale and complexity of the challenges involved, DAERA recognises that there is a need to prioritise actions to achieve a positive environmental impact and assist in meeting environmental obligations and commitments. There is significant scope for influencing

<sup>43</sup> [Northern Ireland Peatland Strategy 2021-2040. Consultation Document.pdf \(daera-ni.gov.uk\)](#)

<sup>44</sup> <https://www.daera-ni.gov.uk/articles/conservation-management-plans-northern-irelands-special-areas-conservation>

biodiversity, and the habitats that support it, through agricultural practices. The UK has committed to addressing the drivers of biodiversity loss and to putting nature and biodiversity on the road to recovery by 2030, as set out in the UN Leaders' Pledge for Nature<sup>45</sup>.

Productive farming systems can include important wildlife habitats (such as wild bird cover and pollinator mix margins), and some agricultural management practices, such as low-intensity grazing and hedgerow creation, can deliver benefits for some species<sup>46</sup>. DAERA proposes that the initial focus of the Farming for Nature Package should be on reversing the trends in nature decline through retaining, maintaining, restoring and creating habitats that are important for species diversity and improving connectivity between habitat areas. By restoring wildlife rich habitats, corridors and stepping stones in the wider countryside and enabling wildlife populations to grow and travel between them we also aim to help safeguard those small, isolated extents of high nature value land and other areas of priority habitats.

The environmental assets already present on farms require active management to ensure that they are capable of making the best possible contribution to biodiversity. In order to deliver quick-wins for the environment, it is proposed that initial consideration should be given to creating a baseline and undertaking actions in the habitats/measures listed below.

**Hedgerows**, when managed appropriately, can be rich in biodiversity. Extending to approximately 113,000 km<sup>47</sup>, hedges are a significant part of Northern Ireland's farming landscape. They provide habitat and feeding corridors for over 36 bird species that rely on them for breeding, shelter and feeding purposes. A further 10 bird species occasionally use hedges as well as 9 species of bat, 1400 species of moth, 25 species of butterfly and over 99 species of bee. Hedges also provide movement corridors and feeding and nesting sites for mammals such as hedgehog, pygmy, shrew and pine marten. In conjunction with other features, such as field margins, wetlands, woodlands and riparian strips, they link isolated patches of habitat and allow wildlife to move freely and safely, reducing threats from predators or traffic. A network of well-connected and appropriately managed hedgerows and other linear features, such as rivers, within a landscape can, for example, allow many bat species to extend their foraging and roosting capacity. For butterflies, hedges provide shade and shelter even as weather conditions change<sup>48</sup>.

Hedgerows can also help to protect water quality. They can reduce diffuse pollution reaching rivers and streams by slowing overland flow of runoff and sediment. At ground level, hedges present a physical barrier to soil movement. Hedges can act as a windbreak and so can help to reduce the amount of fine soil particles being blown off field surfaces. There is evidence to suggest that hedges across slopes can capture eroding soil, leading to increases in soil

45 [Leaders\\_Pledge\\_for\\_Nature\\_27.09.20-ENGLISH.pdf \(leaderspledgefornature.org\)](#)

46 [Nature Positive 2030 Evidence Report \(jncc.gov.uk\)](#)

47 <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/natural-plan-habitat-action-species-rich-hedgerows.pdf>

48 <https://www.teagasc.ie/environment/biodiversity--countryside/farmland-habitats/hedgerows/>

organic carbon for up to 60 m uphill<sup>49</sup>. Carbon sequestration by hedges can occur above and below ground in woody growth and in the soil. **Hedge creation and management plans** will ensure that hedges across the farmed landscape can deliver against a range of environmental issues, including biodiversity and habitat connectivity, water and air quality and climate change mitigation and adaptation.

**Restoration of dry stone walls and stone ditches** will provide important niche habitats for lichens, mosses, ferns and invertebrates, as well as corridors and shelter for small mammals and birds. They are also important heritage features demarcating townland and parish boundaries.

**Field margins** - In more intensive farming systems, biodiversity is often pushed to the periphery of fields and the tendency to maximise land use has led to many field margins becoming non-existent, with crops and grass grown right up to the field border. With livestock and crops utilising this space, little room is left for wildflowers, pollinators and other insects, birds and mammals. Where this habitat still exists, it can be in poor condition due to pesticide, slurry and fertilisation applications.

Established and well maintained field margins can be rich food sources and offer shelter and winter refuges for invertebrates, birds and small mammals. The thick vegetation they provide are good nesting sites for bird species such as yellowhammer and willow warbler. Small mammals, such as field mice, rats and pygmy shrews occur most frequently in this habit and are food sources for barn owls and kestrels. Further biodiversity benefits are achieved through field margins providing connectivity between habitats. In arable settings, both grass and uncropped margins can be used for this purpose with uncropped margins an important seed source during the winter hunger gap.

**Pollinator strips** can be used in conjunction with field margins in both pasture and arable fields to enhance biodiversity. Changes in farming practices have led to decreases in the abundance of wildflowers in hay meadows, along lanes and in field margins and corners due to the use of chemical spraying to control weeds and increased areas of improved grassland. This reduction in wildflowers has contributed to a serious decline in pollinators which are vital for crop pollination and food production. Simple changes in management, such as reducing fertiliser and pesticide use and reducing applications close to field managers, the use of clovers, peas, beans or herbal leys, and leaving areas of long, tussocky grass can allow wildflowers to flower and reseed.

**Riparian buffer strips** adjacent to rivers, lakes and bodies of surface water can protect water quality by intercepting sediment and nutrients transported via overland flow, stabilise banks and provide habitat for wildlife. River corridors help to connect habitats and can contribute to carbon storage.

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<sup>49</sup> [https://www.researchgate.net/publication/230500737\\_The\\_effect\\_of\\_hedgerows\\_on\\_soil\\_organic\\_carbon\\_storage\\_in\\_hillslopes](https://www.researchgate.net/publication/230500737_The_effect_of_hedgerows_on_soil_organic_carbon_storage_in_hillslopes)

**Winter stubble** and provision of wild bird cover can provide an abundant supply of grains, seeds and insects over the winter months as well as ground cover for birds such as skylark, meadow pipit, goldfinch, reed bunting and yellow hammer. Seed-eating birds are very dependent on winter stubble, and seed provision crops. Volunteer cereals from the previous crop can provide valuable seeds from July to the following March/April. Unsprayed winter stubble can assist in the prevention of soil erosion and nutrient leaching and green cover can sequester carbon..

Appropriate management of field margins, pollinator strips, riparian buffer strips, wild bird cover and winter stubble in combination with adjacent boundary features, such as hedgerows in particular, can create the complex habitats needed for birds, invertebrates and many small mammals to flourish.

**Native trees** planted and integrated across the farmed landscape can deliver further biodiversity improvements. Native trees can support an abundance of insects which in turn attract birds and foraging bats. Trees integrated into hedgerows also provide song posts for certain bird species. Targeted tree planting and woodland creation can improve habitat connectivity and movement of species. Trees can slow the flow of water and sediments, and so can help reduce water pollution through removing phosphates and reducing nitrates in runoff. The biodiversity benefits from native woodland creation are particularly enhanced when native trees are established around and extends ancient woodland. Native trees planted alongside rivers give shade that helps to maintain water temperatures suitable for fish spawning, while tree roots are a good habitat for invertebrates, a source of nutrition for fish, and provide shelter for fish species. Trees are an important part of the carbon cycle with growing trees sequestering carbon dioxide from the atmosphere. Carbon is stored for the lifespan of the tree and this can be extended if the wood is used as a material in, for example, construction or furniture making. Trees are an important part of the carbon cycle with growing trees sequestering carbon dioxide from the atmosphere. Carbon is stored for the lifespan of the tree and this can be extended if the wood is used as a material in, for example, construction or furniture making.

**Ancient woodlands** are the most valued woodland for nature conservation. They can contain large, veteran trees that may be several hundreds of years old and are often comprised of pedunculate and sessile oak, with an understorey of hazel, wych elm and ash. The rich biodiversity associated with ancient woodlands includes mosses, ferns, lichens and woodland birds. Ancient and long-established woodland account for less than 10,000 ha (0.7% of the Northern Ireland landscape), much of which is degraded by the planting of conifers and/or invasive species such as laurel and rhododendron.

**Parkland** is a mosaic habitat known valued for open-grown trees, particularly veteran and ancient trees, and the species it supports. Grazing animals are fundamental to the existence of this habitat as they create open space around individual trees and prevent successional changes that would result in a closed canopy woodland. Open-grown trees have large girths, hollow



trunks and significant amounts of standing and fallen dead wood. This, combined with the higher light levels found in parklands compared with closed canopy woodlands, provides habitat for a wide range of lichens, fungi and invertebrates, some of which are rare and specialist species.

**Tree plantations around livestock yards**, in addition to improving biodiversity benefits and carbon sequestration, can reduce the impact of emissions by capturing ammonia. When appropriately designed and sited, these plantations can capture 15 to 25% of ammonia emissions from livestock housing and 10 to 20% from slurry lagoons.

**Integration of trees within crop or livestock farming systems** (agroforestry) can deliver a wide range of ecosystem services. The biodiversity and production benefits include:

- Enhanced biodiversity resulting from increased abundance of birds, invertebrates, beetles, spiders and snails;
- Improved water quality as leached nutrients are captured by the deeper roots of trees;
- Carbon sequestration;
- Drier swards which can increase the length of grazing seasons;
- Controlled water flow and reduced risk of flooding;
- Prevention of soil erosion; and
- Shade and shelter for livestock and crops.

**Semi-natural grasslands** are generally unimproved and species-rich being characterised by mixtures of grasses, herbaceous plants, sedges, mosses, flowering species and lichens. Each grassland has its own community of plant species which can be grouped into different types based on location, underlying geology, soil pH and management history. The main types are lowland meadows, upland hay meadows, lowland calcareous grassland, upland calcareous grassland, lowland acid grassland, and purple moor-grass and rush pastures and include coastal floodplains.

The benefits of restoring or creating species-rich grassland include support of many threatened species of plants, invertebrates and birds. These grasslands promote healthy, carbon-rich soils, prevent soil erosion, and can provide habitat connectivity to other patches of species-rich grassland or habitats, allowing wildlife to move across the landscape.

**Improved grasslands and croplands** can provide refuges for over-wintering swans and wildfowl as well as breeding habitats for some ground-nesting birds. The potential use of diverse grass, herb, legumes and wildflower swards for aiding diversity, pollinators, soil health, carbon sequestration and animal health may be considered.

**Non-native species** pose both threats to native species and to the structure and integrity of buildings, roads and commercial land values. Consideration will be given to the integration of the control and eradication of identified non-natives on the farm with other management measures.

**Ponds** support a diverse flora and fauna, and can support a similar number of plant species as lakes and more large invertebrates than rivers. They are found naturally in areas where the water table is seasonally high and are an important habitat for birds, amphibians, beetles and flowering plants.

## **Lessons from past interventions and other regions**

The biodiversity gains attributed to measures carried out under previous agri-environment schemes have tended to be small and localised, and set against a background of overall declines in biodiversity and habitat loss. A review of agri-environment schemes suggests that greater positive trends for a range of biodiversity measures, including birds, invertebrates and plants, can be achieved when actions are targeted and implemented at sufficient scale within a particular area<sup>50</sup>. There is evidence to suggest that managing even moderate areas of land (5-10%) in lowland areas can have significant positive impacts on biodiversity<sup>51,52</sup>. Across Europe, it is proposed that at least 10% of agricultural area should be managed for biodiversity, including measures to establish and maintain buffer strips, hedges, non-productive trees and ponds to provide more space for nature<sup>53,54</sup>. A recent European Innovation Project in the Republic of Ireland, BRIDE (Biodiversity Regeneration in a Dairying Environment)<sup>55</sup> demonstrates that this level of biodiversity management can be readily accommodated within intensive farm businesses. It is proposed that participants in Farming for Nature schemes will be incentivised to work towards managing at least 10% of their land under biodiversity measures.

## **Protected areas for biodiversity**

Our designated sites represent the very best of our natural landscapes, biodiversity and geodiversity, and form the cornerstone of nature conservation by supporting plants, animals and habitats that are rare or unique. Approximately 9% of the Northern Ireland land area is protected and designated as Special Areas of Conservation (SAC), Special Protection Areas (SPA), RAMSAR and Areas of Special Scientific Interest (ASSI). Many of these areas are not in good condition and it was recently reported that 54% of ASSIs designated for biological features are in unfavourable condition<sup>56</sup>.

50 [The future of agri-environment schemes: biodiversity gains and ecosystem service delivery? - Whittingham - 2011 - Journal of Applied Ecology - Wiley Online Library](#)

51 <https://www.sciencedirect.com/science/article/pii/S0167880915000225>

52 [http://ww2.rspb.org.uk/Images/morris\\_bailey\\_winspear\\_gruar\\_dillon\\_2010\\_tcm9-254868.pdf](http://ww2.rspb.org.uk/Images/morris_bailey_winspear_gruar_dillon_2010_tcm9-254868.pdf)

53 [gov.ie](http://gov.ie) - Food Vision 2030 - A World Leader in Sustainable Food Systems ([www.gov.ie](http://www.gov.ie))

54 EU Biodiversity Strategy 2030 - <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380>

55 <https://www.thebrideproject.ie/>

56 <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/ni-environmental-statistics-report-2021.pdf>

**Conservation Management Plans** are currently being prepared for the 54 terrestrial and freshwater SACs in Northern Ireland. Farmers and land-managers will have a key role in delivering the bespoke management actions detailed within the Plans and success will depend on targeted, collective action at scale. It is proposed that **a tailored approach, including**

**innovative partnership delivery models and incentivisation of collective action within and around SACs** is explored to encourage uptake of measures at a sufficient level to produce demonstrable improvements in conservation status of these protected areas.

Maintenance and restoration measures will be required across the suite of designated sites and priority habitats to deliver a more resilient, inter-connected landscape for nature, while safeguarding and restoring existing areas of priority habitat and key areas that support priority species. These measures will build on those described above for the wider farming landscape to achieve a nature positive Northern Ireland and realisation of 30x30 targets.

## **Peatland restoration and management**

The restoration of peatland is a key environmental objective to mitigating climate challenges. Peatlands are valuable habitats in their own right and confer a wide range of ecosystem services, such as flood risk alleviation, drinking water supplies, etc. Due to complexities of peatland restoration, the level of technical expertise required, the timescales involved and the level of capital investment required, it is proposed that peatland restoration is not included in the Farming for Nature Package at this stage but rather is taken forward as a separate programme of work. It is anticipated that farmers and land managers would have a significant role in ongoing management of peatland, and this on-going maintenance will be considered for integration into the Farming for Nature Package.

### **2.6.4 Additional Design Principles**

Any future agri-environment policy must be underpinned by adherence to principles listed within the UK Environment Act (2021)<sup>57</sup> as listed below:

- The precautionary principle;
- The principle of preventative action to avert environmental damage;
- Rectification of environmental damage at source;
- Polluter pays; and
- Sustainable development.

<sup>57</sup> [Environment Act 2021 - Parliamentary Bills - UK Parliament](#)

## 2.6.5 Test and Learn Pilots

To help us to identify solutions and recommendations that will inform the development of robust policy and future agri-environment schemes, DAERA proposes to begin a series of **‘Test and Learn’** pilots. Initially, DAERA proposes to develop pilots focused on the maintenance, restoration and creation of the habitats listed above in the farmed landscape, many of which support rich species diversity in the countryside and help provide a range of ecosystem services such as food, water, carbon storage and flood alleviation. A major challenge in tackling environmental pressures is being able to focus the right measures in the right place and at sufficient scale to meet our desired environmental outcomes. Initial relatively small steps in the correct direction are vital if we are to deliver scalable impact. Insufficient uptake of the actions required to realise the necessary environmental improvements have limited the success of some previous agri-environment measures. Therefore, careful design involving the key actors (farmers, land managers and environmental stakeholders) will be essential to creating effective interventions that represent an attractive option to potential participants.

The pilots will test new delivery and reward models that will facilitate large scale adoption and the deployment of modern control and assurance technologies.

These ‘Test and Learn’ pilots will inform our thinking and understanding of:

- Hybrid approaches to combining actions with outcome and results based measurements;
- How to target appropriate and effective measures (including the best physical location of natural infrastructure to achieve maximum benefit);
- Methodologies to assess and evaluate environmental outcomes, including self-assessment by farmers and land managers, and the use of remote sensing and geotagging technologies;
- Approaches that could be used across different farm types and land types;
- The scale at which actions are most beneficial;
- Potential new delivery models working with external partners;
- Ways to improve participation and the incentives required to encourage collaborative working;
- How best to embed learning and knowledge transfer opportunities that will be essential to outcome based initiatives; and
- Ways to value the better management of existing environmental assets on farm.

Lessons learned through the Test and Learn pilots will provide the flexibility needed to enable the Farming for Nature Package to evolve and expand, with impact, scalability and deliverability being key considerations. During this transition period, access to current agri-environment schemes and support will be available to facilitate a smooth transition to the Farming for Nature Package.

## Consultation Questions

14.	What are your views on the suggested policy proposals and environmental principles to be incorporated within the Farming for Nature Package?
15.	What are your views on proposals to prioritise actions through environmental improvements to reverse the trends in nature decline by creating and restoring habitats that are important for species diversity?
16.	Do you agree with the proposed eligibility criteria and minimum claim size proposals? Explain your answer.
17.	Do you agree with focusing on the habitat management actions listed as an initial mechanism to kick start improved awareness and capacity to manage environmental assets? Explain your answer.
18.	Do you have specific suggestions for other quick win management actions?
19.	What are your views on proposals to introduce 'Test and Learn' pilots?
20.	Have you specific suggestions for other components that could be incorporated into 'Test and Learn' pilots?
21.	What needs to be in place to support delivery of an outcome-focused approach? Explain your answer.
22.	Have you specific suggestions for partnership delivery models that will encourage collaborative working?

## 2.7 Farming for Carbon Measures



### 2.7.1 Background

The UK Climate Change Act<sup>58</sup> commits the UK Government by law to reducing GHG emissions by at least 100% of 1990 levels (net zero) by 2050. This includes reducing emissions from the devolved administrations (Scotland, Wales and Northern Ireland), which combined accounted for 23% of total UK emissions in 2018. The 100% target was based on advice from the UK Climate Change Committee (CCC)<sup>59</sup> 2019 report, ‘Net Zero - The UK’s contribution to stopping global warming’.

The UK Climate Change Act requires the UK Government to set legally-binding ‘carbon budgets’ to act as stepping stones towards the 2050 target. A carbon budget is a cap on the amount of GHGs emitted in the UK over a five-year period. Budgets must be set at least 12 years in advance to allow policy makers, businesses and individuals sufficient time to prepare. The CCC advises on the appropriate level of each carbon budget. The budgets are designed to reflect a cost-effective way of achieving the UK’s long-term climate change objectives. Once a carbon budget has been set, the Climate Change Act 2008 places an obligation on the UK Government to prepare policies to ensure the budget is met. It is implicit under this Act that Northern Ireland contributes fairly to the five yearly UK carbon budgets, and to the UK net zero target.

In January 2020, the ‘New Decade, New Approach’ document<sup>60</sup> indicated that Northern Ireland Executive would review its strategies to reduce carbon emissions and that it would bring forward climate change legislation to give environmental targets a strong legal underpinning.

58 <https://www.legislation.gov.uk/ukpga/2008/27/contents>

59 The UK Climate Change Committee (CCC) is the independent, statutory body responsible for advising the UK and devolved governments on emissions targets and progress made in reducing GHG emissions.

60 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/856998/2020-01-08\\_a\\_new\\_decade\\_a\\_new\\_approach.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/856998/2020-01-08_a_new_decade_a_new_approach.pdf)

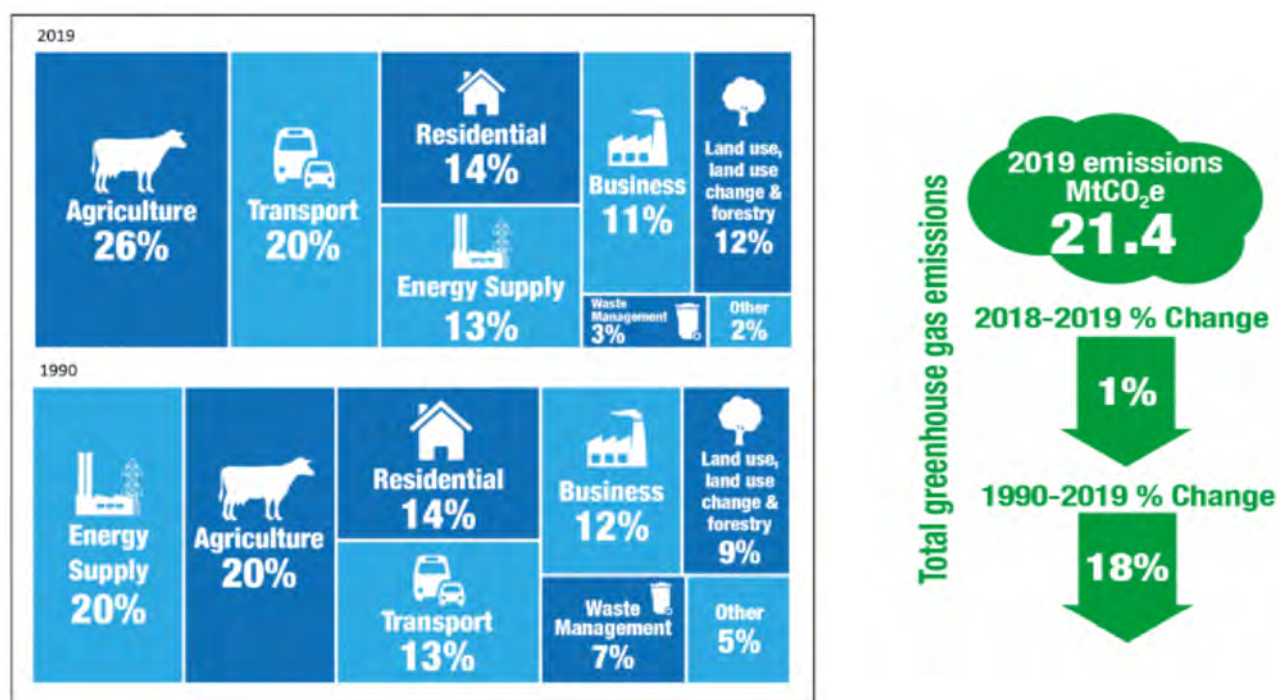


To meet the commitment in the New Decade, New Approach agreement, DAERA developed a draft Executive Climate Change Bill and the DAERA Minister gained approval from the Executive to its policy content. The Bill was introduced to the Northern Ireland Assembly on 5 July 2021 and it is being progressed through the Northern Ireland Assembly’s legislative process.

## 2.7.2 Need

The agriculture sector accounted for 26% of the total CO<sub>2</sub>e emissions in Northern Ireland in 2019. This is significantly higher than the proportion of the CO<sub>2</sub>e emissions attributable to agriculture for the other parts of the UK. In England, Wales and Scotland the proportions stood at 8.4%, 13.8% and 16.3% respectively. This reflects the different composition of the Northern Ireland economy and emitting sectors and the fact that agriculture in Northern Ireland is much more skewed towards livestock production and ruminant livestock in particular (which is the principal source of methane in Northern Ireland - a potent GHG).

**Figure 2. Northern Ireland Greenhouse Gas Statistics 2019**



GHG emissions from the IPCC Inventory for agriculture (Figure 2)<sup>61</sup> in Northern Ireland fall under the main sector headings (see Background Evidence Paper). While total GHG emissions in Northern Ireland have fallen by 18%, compared with the 1990 base year, the agricultural sector emissions have risen by 7.7%. This increase has been due mainly to increases in emissions from enteric fermentation (methane) and from increases in emissions from manure management.

<sup>61</sup> [https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2019\\_2.pdf](https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2019_2.pdf)

The majority of Northern Ireland food and drink sales<sup>62</sup> go to external markets, with Great Britain (~50%) and Republic of Ireland (~15%) the two main destinations. However, GHG emissions are allocated to production and not where the products are consumed. Taking all of this together, the much higher contribution of agriculture to Northern Ireland's GHG emissions footprint is primarily a structural issue. That places Northern Ireland in a uniquely challenging position when compared with the rest of the UK. However, the fact remains that Northern Ireland's success in contributing to UK net zero under the UK Climate Change Act will be influenced by the ability of agriculture to reduce its net emissions. Deep emissions reductions will be required from all sectors of Northern Ireland to achieve this UK-wide target.

The total cattle numbers in Northern Ireland<sup>63</sup>, at over 1.61 million in 2020, are somewhat lower than the numbers in 1990. In both the beef and dairy sectors, AFBI research and CAFRE demonstration projects have clearly demonstrated the financial and productivity benefits of calving replacement heifers by 24 months of age and of slaughtering beef cattle by 24 months of age or earlier (see Background Evidence Paper). In addition there are opportunities to increase dairy cow productive life through selective breeding for increased lifespan or through crossbreeding programmes. Reducing dairy cow replacement rates to 20% from current levels typically 28%<sup>64</sup> would reduce the required numbers of replacement dairy heifers and benefit not only productivity and profitability, but also GHG emissions.

The CCC, in its advice on reducing GHG emissions in Northern Ireland in February 2019, December 2020 and April 2021, recognised that there are limited options currently available to reduce agricultural GHG emissions. The policy measures recommended by the CCC<sup>65</sup> include:

- Low carbon farming practices: crops and soil management; livestock breeding, health and diet improvement; manure management; and fuel efficiency;
- Higher levels of afforestation;
- Agroforestry - integrating trees within grassland or arable land; and
- Peatland restoration from a carbon source to sink through re-wetting and control of nitrogen deposition.

The future use of land is highlighted by the CCC as critical to the UK transition to net-zero by 2050. Policies on land use for forestry, agroforestry and the management of peatlands in Northern Ireland need to be considered in relation to meeting GHG emissions and carbon reduction targets that will be set by a future Northern Ireland Climate Change Bill once enacted.

<sup>62</sup> <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Northern%20Ireland%20Food%20and%20Drink%20Processing%20Report%202019%20Final.pdf>

<sup>63</sup> <https://www.daera-ni.gov.uk/publications/agricultural-census-northern-ireland-2020>

<sup>64</sup> <https://www.daera-ni.gov.uk/publications/agricultural-census-northern-ireland-2020>

<sup>65</sup> <https://www.theccc.org.uk/publication/reducing-emissions-in-northern-ireland/>

## 2.7.3 Ongoing Global Emission Reduction Research

Technological solutions to reduce agricultural GHG emissions are being researched globally, nationally and locally. Research is ongoing into feed additives, cattle and sheep genetic selection for reduced direct enteric methane emission, slurry additives, urease and nitrification inhibited fertilisers, proprietary nitrogen fixing bacteria to replace nitrogen fertiliser, soil carbon sequestration, a move away from full soil inversion tillage and numerous additional areas. The results of such research applied in years to come will help to reduce substantially agricultural emissions and boost carbon capture.

## 2.7.4 Specific Outcomes - CCC Balanced Pathway to UK Net Zero

In developing its 6th Carbon Budget<sup>66</sup> the CCC explored a number of pathways and scenarios and set out a recommended pathway for the UK as a whole termed the 'Balanced Pathway' (see Background Evidence Paper). This 'Balanced Pathway' envisages that Northern Ireland as a whole will reach at least 82% net reduction in all GHGs by 2050 compared with 1990, with a trajectory of a 48% net reduction in all emissions by 2030 and a 69% net reduction by 2040. As part of this, it is envisaged that Northern Ireland will achieve net zero CO<sub>2</sub> emissions by 2050. In order to achieve this overall reduction of 82%, agriculture is required to reduce its GHG emissions by 34%. Land Use and Land Use Change and Forestry (LULUCF) is required to achieve a net reduction of 97% over the same period.

### Forests

Northern Ireland has a lower proportion of forest area (8.7%) compared with the UK as a whole (13%)<sup>67</sup>. The Northern Ireland Woodland Register<sup>68</sup> data indicates that the local forest area amounts to approximately 118,000 ha. The forest area is classified as 46% conifer, 32% broadleaf and 12% mixed tree species. Approximately 53% of the total forest area is managed by the Northern Ireland Forest Service. The CCC 6th Carbon Budget assumes 15,000 ha of new afforestation per year across the UK. The target of the Northern Ireland Forests for our Future initiative is 9,000 ha of new plantings by 2030. The CCC Balanced Pathway for Northern Ireland includes a net increase from new forest plantings of over 2,000 ha each year to 2050.

### Agroforestry

The principle of agroforestry is to increase carbon sequestration by increasing the amount of permanent vegetation on agricultural land while maintaining agricultural production. Agroforestry in this context means silvopastoral or silvoarable systems, integrating narrow strips of economically valuable woodland with grassland or arable cropping. Long term experimental trials

<sup>66</sup> <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

<sup>67</sup> Forestry Research (2018) Woodland Area, Planting and Publicly Funded Restocking: 2018 Edition.

<sup>68</sup> <https://www.daera-ni.gov.uk/articles/woodland-register>

at AFBI Loughgall indicate that silvopastoral agroforestry has the potential to sequester 90+% of the carbon sequestered in conifer forests, while still maintaining 90+% of grassland productivity after 15 to 20 years.

## Peatlands

Around 18% of the Northern Ireland land area is peatlands, accounting for over 240,000 ha. Active peatland in a natural state can continuously accumulate carbon under waterlogged conditions. However, of more significance to the carbon agenda is the fact that degraded or damaged peatland will release significant amounts of carbon into the atmosphere. The majority of peatlands in Northern Ireland are in unfavourable condition, either degraded or modified, most of which are not designated for protection.

The UK IPPC GHG Inventory in 2019 included a major methodological change to improve estimates of emissions and removals from drainage and rewetting of inland organic soils (peatlands). The net effect of these changes relates to the recording of additional emissions that had not been previously included in the GHG inventory. The GHG time series 1990-2019 has been fully revised to take account of this new methodology and will continue going forward.

The CCC has recommended ambitious targets for UK peatland restoration, both to reduce emissions and to increase the potential for carbon sequestration in these important areas for carbon and biodiversity.

The objectives of the proposed Northern Ireland Peatland Strategy 2021-2040 include:

- By 2040, all peatlands supporting semi-natural vegetation being managed for their peatland biodiversity and ecosystem function;
- By 2030, degraded peatland habitats prioritised for restoration to favourable conservation status;
- By 2040, all high priority degraded peatlands are under restoration management; and also
- By 2040, that high priority degraded peatlands in Northern Ireland are under sustainable management.

## 2.7.5 Future Approach

In the context of GHG emissions reduction and increased carbon sequestration, and the land use changes envisaged by the CCC, increased productivity must be achieved by producing our agricultural output with considerably lower carbon/GHG emissions from a reduced area of land. To achieve these outcomes, we need to explore the opportunities of encouraging the farming of carbon.

Agricultural land can act as a very significant carbon sink (carbon sequestration). The carbon sequestration potential of a range of carbon farming actions are listed in Table 5. The actions range from peatland rewetting, land and soil management techniques, and increased woodland and hedgerow planting. These actions also assist in farms becoming more climate change resilient and adaptable to the climate change into which we are already locked.

For these potential carbon farming practices to improve the sustainability of agriculture in Northern Ireland, the impacts of these practices must be verifiable through recognised and accredited processes. The Soil Testing and LiDAR measure (Section 2.12) will establish the baseline carbon storage capabilities in agricultural soils and in above ground biomass in hedgerows and tree cover. The Woodland Carbon Code (WCC) is the quality assurance standard for woodland creation projects in the UK, generating independently verified carbon storage data. Scotland’s Rural College (SRUC) has recently been awarded funding to conduct a feasibility study for a UK Farm Soil Carbon Code.

Independent verification of the impact of carbon farming practices presents the opportunity for farmers to fully realise the value of carbon sequestration on their farms as another on-farm enterprise. This will become increasingly important if the value of carbon credits increased in line with CCC projections indicated in Table 6.

**Table 5. Potential carbon farming practices to sequester/store carbon**

Carbon farming action	t CO <sub>2</sub> /ha/yr
Broadleaf woodlands	9.35
Conifer forest	14.45
Agroforestry	13.50
Hedgerows (1.0m width)	1.04 (per km)
Grassland soils (no slurry)	1.28
Grassland soils (medium level of cattle slurry)	2.02
Grassland soils (limed)	4.13
Feed additive 30% reduction in dairy cow enteric methane	1.9

Source: CAFRE Sustainable Land Management Branch

**Table 6. Projected value of carbon**

Year	CCC Projected Carbon Value (£/t CO <sub>2</sub> e)
2030	72
2035	181
2050	241

Source: SRUC (2020) Non-CO<sub>2</sub> abatement in the UK agricultural sector by 2050

## 2.7.6 Policy Proposals - Low carbon Farming Practices

Initial policy proposals being considered to reduce carbon/GHG emissions are outlined below. However, it is recognised that these represent simply the start of the carbon reduction journey for Northern Ireland agriculture. As science and knowledge expands, new possibilities will open up which will guide future new policy initiatives.

**Reducing numbers of non-productive livestock** - Section 2.5.6 has already described the GHG benefits of reducing age at slaughter for beef cattle and reducing non-productive periods for breeding stock. Achieving earlier age at slaughter and first calving will in practice involve increased emphasis on selective breeding for animal health and performance traits and improved health management planning and practice on farms.

Therefore, land that may be released by reducing the numbers of unproductive animals - plus other measures to increase grassland productivity (see Section 2.12 on soil nutrient management) - must be made available and attracted into alternative remunerated uses. This would be in line with the pathway suggested by the CCC. These alternative uses could include land managed for environmental outcomes, forestry and bioenergy feedstocks. All of these issues are under active consideration and will be the subject of further policy development and stakeholder engagement.

**Feed additives** - there is ongoing worldwide research into feed additives to reduce enteric methane from ruminant livestock. A number of feed additive products are either commercially available or undergoing regulatory approval. Consideration is being given to the development of a challenge fund model to test these additives in Northern Ireland conditions and, if successful, and the market for these products matures sufficiently, taking necessary steps to make sure enteric methane reducing feed additives are routinely incorporated in ruminant concentrate diets.

**Breeding** - enteric methane emissions are subject to genetic variations. Ongoing research across Europe suggests that animal selection for reduced enteric methane production has the potential to directly reduce enteric methane emissions by up to 25%. This is an area where industry can take a lead in directing genetic selection programmes to drive a reduction in the carbon footprint of ruminant livestock.

**Urease inhibitor fertilisers** - research carried out locally by AFBI has shown that urea fertiliser treated with a urease inhibitor significantly reduces N<sub>2</sub>O emissions compared to the most commonly used fertiliser in Northern Ireland, calcium ammonium nitrate (CAN). Urease inhibitor treated fertilisers are already commercially available in Northern Ireland.

**Timing of fertiliser and slurry applications** - research carried out locally by AFBI has shown that an interval of at least 5 days between fertiliser and slurry applications significantly



reduces N<sub>2</sub>O emissions compared to application of both fertiliser and slurry on the same day. Consideration is being given to how such practices could be encouraged.

**Legumes and herbs (including peas and beans)** - the natural fixation of nitrogen from the atmosphere through the action of symbiotic bacteria species associated with clovers and a range of herbs included in grass swards can lead to considerable reductions in the quantities of inorganic nitrogen fertiliser used on farms. In addition, ongoing research is indicating the possibility of increased carbon sequestration in soils managed to optimise the growth of mixed species swards. The soil nutrient status data made available to farmers through the Soil Testing and LiDAR Measure will assist farmers to manage soils to retain optimum clover levels in swards.

**Farming carbon** - work to establish and refresh baseline data on carbon stored in agricultural soils and above ground biomass is proposed through the Soil Testing and LiDAR Measure (Section 2.12). As the baseline levels of soil carbon and research supporting further soil carbon sequestration are validated to enable carbon accumulations to be credited in the GHG Inventory, DAERA will engage with stakeholders on the design of possible schemes to incentivise the farming of carbon as a business enterprise.

**Peatland rewetting** - the objectives of the Northern Ireland Peatland Strategy have been stated above. To support the objectives of the strategy, a scheme to encourage and facilitate the re-wetting and sustainable management of peatlands is likely to be co-developed with stakeholders under the umbrella of that Strategy and funded outside of future agricultural policy.

**Biomethane and hydrogen** - there is growing interest in the potential to use anaerobic digestion to generate biomethane for injection into the Northern Ireland gas grid and/or to produce hydrogen as a power source for the heavy goods transport sector using a combination of manures from livestock farms, waste streams from food processing and energy crops grown on land diverted from conventional agricultural uses. These developments have the potential to contribute to the decarbonisation of the agriculture, domestic heating and road transport sectors. Combining this with technologies to capture and recycle nutrients from the digestate that would otherwise be land spread could also help address nutrient loading and water quality problems. Work is ongoing with industry stakeholders to explore the potential development of these circular economy initiatives.

The Carbon Reduction programme will be complemented by several other streams within the policy programme, as outlined below:

- Resilience Payment - conditions attached to the Resilience policy measure include the requirement to participate in the Soil Testing and LiDAR measure via the Soil Nutrient Health Scheme which will assess soil carbon and above ground carbon in farm hedges and trees;

- The Farming for Nature Package that will focus initially on habitat and biodiversity will help create the conditions for greater carbon sequestration through the expansion of tree cover, hedgerow management, unfarmed margins and buffer strips, etc;
- Knowledge Measures - where possible, future agricultural policy interventions will include a strong education, training and knowledge exchange component that should focus on improving productivity, environmental performance and sustainability, including a reduction in the carbon footprint;
- Generational Renewal - bringing younger farmers into a controlling position on farm businesses should help drive the adoption of new and innovative agricultural technologies that will improve productivity, reduce carbon intensity and create the conditions that will allow land to be released to other uses while sustaining agricultural production;
- Livestock Genetics and Data - the Livestock Genetics and Data policy proposal will produce information and genetic evaluations to drive improvement in livestock productivity, health and welfare and thus reduce GHG emissions. It will also open up the possibility of breeding directly for reduced enteric methane emissions;

The Farming for Carbon Measure will also be supported by complementary DAERA policy measures, notably in relation to woodland creation. The Forests for Our Future Programme<sup>69</sup>, launched in 2020, has the objective of planting 9,000 ha of new woodland by 2030. The Small Woodland Grant Scheme<sup>70</sup> provides grant aid for woodland planting area between 0.2 and 5.0 ha; with an establishment grant and annual premia.

## 2.7.7 Design Principles

The farm carbon reduction measures should be:

- Scientifically and independently verifiable;
- Co-designed with industry stakeholders;
- Cognisant of the need to engage the upstream and downstream sectors to help drive improvements;
- Designed to encourage large scale uptake; and
- Complemented by appropriate, proportionate regulation.

<sup>69</sup> <https://www.daera-ni.gov.uk/news/forest-our-future-forest-expansion-scheme-reopens>

<sup>70</sup> <https://www.daera-ni.gov.uk/publications/small-woodland-grant-scheme-information-booklet>

## Consultation Questions

23.	<b>Do you agree with the proposals identified for low carbon emission farming practices? Explain your answer.</b>
24.	<b>Do you agree with the principle of encouraging the Farming of Carbon as a business enterprise. Explain your answer.</b>

## 2.8 Investment Measure



### 2.8.1 Background

Support for on-farm capital investment is one potential way for government to help deliver the four key desired outcomes identified in the Framework Portfolio. These can take the form of capital grants and financial instruments, (such as loans or loan guarantees). Future capital support policy should also continue to align with broader emerging business priorities across DAERA including developments on Green Growth.

In designing capital interventions, DAERA will draw on assessment of previous Northern Ireland schemes and information from other jurisdictions. The most recent capital support scheme for the agriculture sector has been the Farm Business Improvement Scheme - Capital (FBIS-C), which to date has offered more than £43m support for capital investment. An independent evaluation of the FBIS-C scheme is being undertaken by the Agri-Food and Biosciences Institute (AFBI). Interim reports on scheme outcomes have been produced and the final report will be available in April 2023. These will be used to inform future development.

### 2.8.2 Need

In line with government requirements on the use of public money, financial support for capital investment can only be justified where there is evidence of “market failure” i.e. where markets are not working efficiently to achieve desired societal outcomes.

For example, certain forms of investment can have benefits for the environment, in terms of thriving wildlife, flood mitigation, carbon capture etc. However, such investments are not incentivised or rewarded through the market price paid for the food produced, and so there is a rationale for government to intervene to address this “market failure”. One way of doing that is to incentivise farmers and growers to make on-farm investments to deliver such public goods.

## 2.8.3 Guidelines

In considering future capital support, a number of guidelines will be followed:

- **Certain investments are more likely to need capital support.** DAERA will explore if certain types of investment need capital support more than others. It is possible that securing finance is more difficult for investments that are: cutting edge or innovative with limited information on risks or payback; cooperative investments shared among groups of producers; for new entrants with limited track record of borrowing or collateral; and for making environmental improvements (so called public goods<sup>71</sup>) where market prices are not rewarding the provision of such goods. Investments to improve efficiency and production that involve limited risk and known payback are more likely to be supported by banks and other financial institutions and less likely to warrant government support;
- **Capital support may not always be the first lever for support.** Providing capital assistance may not be the first response to needs within the agriculture and horticulture sectors. Other measures, such as assistance for succession planning, knowledge transfer or business planning skills may be more appropriate, or may be a precondition for capital support;
- **Overcapitalisation of Northern Ireland farms should be avoided.** Capital investment adds to the on-going overhead costs of a farm business. The agricultural production sector is fragmented with approximately 25,000 enterprises, each having their own equipment and buildings, which leads to a high cost of fixed capital in the sector. The agricultural production sector's 'depreciation of fixed capital' cost is three times larger than that for the entire food and drinks processing sector. DAERA wants to ensure that farmers are not being incentivised to taking on more investment than can be justified; and
- **Collaboration should be promoted, where possible.** In any future capital support scheme DAERA will consider how collaboration could be promoted, particularly for environmental and innovation investments, or to help deliver improved supply chain functionality, and increased productivity through a co-operative working approach.

## 2.8.4 Specific outcomes should be clearly identified

The provision of appropriate, evidence based capital investment support to the agriculture and horticulture sectors (e.g. through grants or loan incentives) will be targeted to contribute to the achievement of the four desired outcomes of the Framework Portfolio. The benefits achieved will be realistic and measurable so that the impact of spending public money can be clearly seen.

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<sup>71</sup> Public Goods are commodities or services that benefit all members of society.

## 2.8.5 Policy Proposals

Capital investment is not a policy objective in its own right. The purpose of any capital support is to enable or facilitate the achievement of other policy goals.

## 2.8.6 Design Principles

The following draft design principles will help determine what should and should not be supported by capital assistance under the Measure.

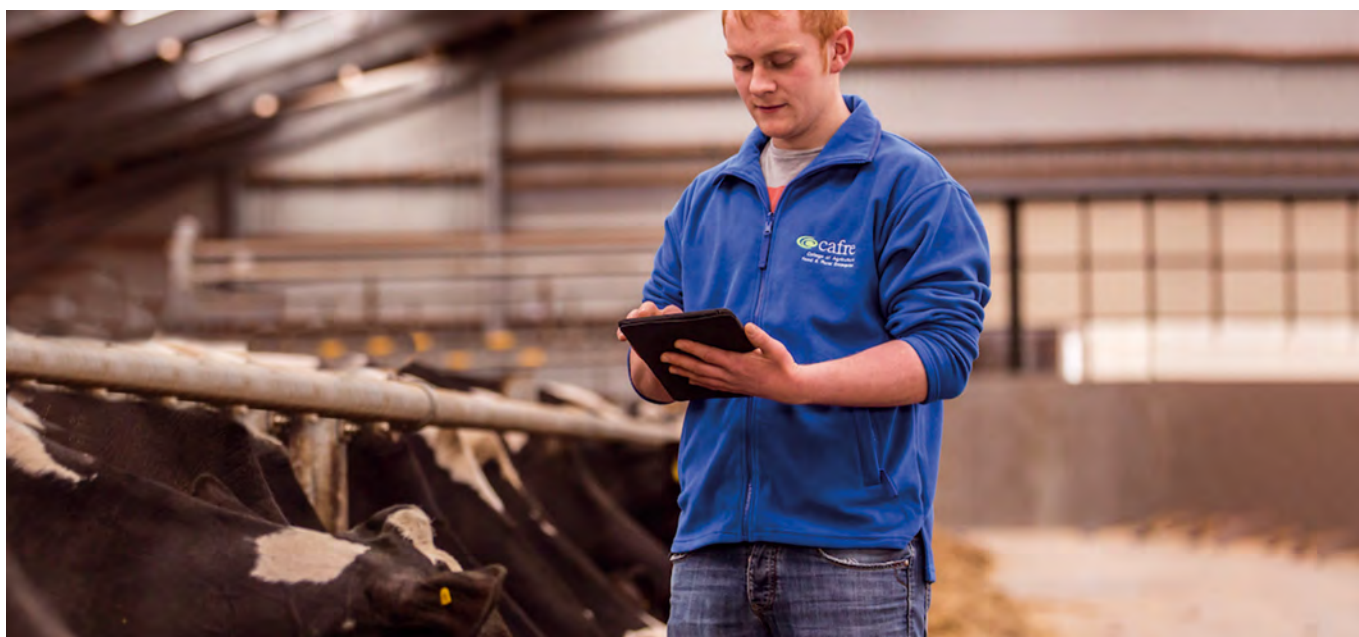
- **Evidence of Market Failure** - Consider evidence for where capital support may be required to address market failures before DAERA considers support and designs schemes;
- **Measures to Address Causes of Market Failure** - Consider the cause of any problems rather than just the symptoms. Look at a range of measures for any assistance, such as developing skills, increasing access to information, etc. rather than progressing to capital support as the primary response. Measures should be tailored to what DAERA is trying to achieve;
- **Addressing Key Environmental and Societal Issues** - Use capital support to deliver the outcomes of Northern Ireland Executive/DAERA policies and address key environmental and societal issues, and not be driven by popular demand from the sector;
- **Alignment with DAERA Policy Objectives** - Investments with no pure economic return that align well with DAERA's policy objectives, in areas such as environment, resilience, animal health and welfare, biosecurity and health and safety should be given priority for support;
- **Type of Support** - Avoid displacing the normal financial support provided by banks and other lenders. Consideration needs to be given to the most appropriate form of support, for example, grant aid may be more appropriate for non-productive investments, while loan access incentives may be more suitable for investments with a narrower economic return;
- **Realistic Achievement** - Be able to show the link between the support and the intended outcomes, i.e. benefits that can be measured and evaluated. DAERA needs to consider what can realistically be achieved;
- **Measuring Outcomes to Achieve Public Good** - Be capable of demonstrating value for money - measurable outcomes for support provided; and
- **Careful Scheme Design** - Incorporate monitoring and evaluation as a basic design requirement. Where there may be uncertainty in regard to expected benefits or if the scheme design is novel (e.g. increasing co-operative investments), DAERA may wish to adopt a pilot approach before full commitment to any support options.



## Consultation Questions

25.	<b>Do you agree the guidelines when considering future capital support? Explain your answer.</b>
26.	<b>Do you agree the draft design principles when considering future capital support? Explain your answer.</b>
27.	<b>Have you any suggestions on the capital assistance that might support the agriculture and horticulture sectors? Explain your answer.</b>

## 2.9 Knowledge Measures



### 2.9.1 Background

The future success of the Northern Ireland agri-food industry, like any other industry, will be determined largely by the ability of its people to acquire, assimilate and deploy knowledge that equips them to prosper in changing markets and trading conditions and how quickly and efficiently they can do this in comparison with competitors in other regions.

The DAERA Knowledge Framework<sup>72</sup>, sets out the rationale for DAERA's involvement in education, knowledge and skills, what the Department seeks to achieve and the nature of its interventions. It aims to ensure that individuals, organisations, and businesses within the agri-food industry have access to high quality, relevant and accessible education, training and technology exchange to improve productivity, resilience, environmental performance and sustainability. The framework is underpinned by five key principles. It focuses on the education, training and technology exchange requirements of the agriculture, horticulture and food sectors and any other land based sectors that are determined and shaped by Departmental priorities. It will encourage lifelong learning that is flexible and wherever possible will allow progression. It will partner and collaborate with other education providers and those in the research sector. It will also ensure that all education and training is delivered to the relevant quality standards and that any investment in knowledge is targeted to deliver the best possible returns in terms of achieving DAERA's objectives.

The Knowledge components in the future Agricultural Policy Framework Portfolio follow the guidelines in the Knowledge Framework to help achieve its objectives.

<sup>72</sup> [DAERA Knowledge framework | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/knowledge-framework)

The attainment of an agricultural qualification early in a farming career is insufficient to maintain a high level of professional competence for an entire working life. A long-term commitment to, and investment in, Continuous Professional Development (CPD) is relevant to all farmers, land managers, workers and those supporting the industry, regardless of what stage they are at in their career or of the level of formal qualification held.

Currently, several knowledge transfer and innovation programmes are being delivered by DAERA's College of Agriculture, Food and Rural Enterprise (CAFRE), through the Northern Ireland Rural Development Programme (NIRDP). These include:

- **Business Development Groups (BDGs) Scheme** - this uses a group training approach that allows peer to peer learning and sharing of knowledge, over several years, with the aim of improving the technical efficiency, profitability and environmental sustainability of farm businesses;
- **Farm Family Key Skills (FFKS) Scheme** - this provides a flexible mechanism for the training of farmers and farm family members on a number of key areas, for example, improved awareness of anti-microbial resistance, health and safety;
- **Farm Innovation Visits (FIVs)** - this seeks to increase farmers' awareness and understanding of the benefits of investing in innovation, through showcasing successful innovative projects, in order to increase the adoption of new technologies. The FIVs scheme enables groups of farmers to visit regions outside Northern Ireland to learn about the benefits that have arisen from the adoption of specific innovations by farm and horticulture businesses;
- **Innovation Technology Evaluation Demonstration Scheme (ITEDS); Technology Demonstration Farms (TDFs)** - these seek to support farmers to better understand the benefits of investing in innovation, through showcasing successful innovative projects, in order to increase the adoption of new technologies; and
- **European Innovation Partnership Scheme (EIP)** - EIPs bring together advisers, researchers and businesses to work in partnership with farmers and through knowledge exchange, innovation and cooperation consider how practical solutions might be developed to address an identified problem or opportunity for the agri-food industry.

Further details on the Knowledge and Innovation Schemes currently being delivered are provided in the Background Paper.

## 2.9.2 Need

The agri-food industry is becoming increasingly complex with ongoing technological advances and business demands. The future success of the industry will be determined largely by the ability of its people to acquire, assimilate and deploy the knowledge that equips them to prosper in changing markets and trading conditions.

Participation levels in existing Knowledge and Innovation programmes have demonstrated a demand and recognition by the industry of the benefits of knowledge and skills development to drive the adoption of innovation and the long-term sustainability of businesses. Farmers participating clearly demonstrate financial and personal benefit<sup>73</sup> and there is a real opportunity to increase participation in future Knowledge and Innovation programmes.

While existing Knowledge and Innovation schemes focus on farmers, land managers and workers, it is vital that those professionals interfacing with these individuals, for example, veterinary practitioners, sales representatives, also develop and maintain their technical knowledge and skills. DAERA will work with other providers to commission and deliver research and facilitate and encourage uptake of this research through continuous professional development programmes. This will help ensure that they are well equipped to provide ongoing help and support to the development of their clients' businesses.

## 2.9.3 Specific Outcomes Being Sought

DAERA wishes to encourage the continuous life-long learning and professional development of those working in the agriculture and horticulture industry focused on harnessing innovation to drive improved productivity, resilience, environmental performance and the sustainability of farm and horticulture businesses.

## 2.9.4 Future Approach

DAERA proposes the development of a suite of knowledge transfer and innovation programmes that build on the strengths and success of the existing provision, enable continuity, provide reach and access to land managers, farmers and the workforce and deliver additional positive impact on the productivity, environmental sustainability and resilience of Northern Ireland's agri-food industry.

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<sup>73</sup> [Agriculture | Free Full-Text | Assessing the Impact of Participatory Extension Programme Membership on Farm Business Performance in Northern Ireland \(mdpi.com\)](https://doi.org/10.3390/agriculture10050101)

## 2.9.5 Policy Proposals

The key principles for the development of new Knowledge Transfer (KT) and Innovation measures are that the programmes developed must be:

- Aligned with the Department's policy position and principles set out in the Knowledge Framework;
- Evidence-based and informed by the evaluation of current NIRDP Knowledge Transfer and Innovation schemes being delivered by CAFRE;
- Focused on delivery of an improvement of productivity, environmental sustainability, resilience and supply chain integration;
- Integrated to ensure other DAERA programmes/schemes have a strong knowledge and innovation link, for example, the Livestock Genetics and Data Programme (Section 2.13) to aid in the achievement of desired outcomes; and
- Effectively targeted.

## 2.9.6 Design Principles

Future Knowledge Transfer and Innovation measures must:

- Build on the evidence obtained and success of existing Knowledge Transfer and Innovation programmes currently being delivered through the NIRDP;
- Support the continuous professional development of professionals working within businesses that support the agri-food sector enabling their access to high quality knowledge and innovation updates, crucial to the development of sustainable growth within Northern Ireland's agri-food sector;
- Provide access to global innovations which are appropriate for local adoption;
- Encourage cooperation and partnership;
- Embed peer learning and sharing of best practice in the delivery model;
- Use flexible, focused and targeted approaches to achieve measurable outputs; and
- Utilise technology through the use of both face to face and online delivery.

## Consultation Questions

28.	What are your views on the approach to Knowledge Transfer and Innovation for land managers, farmers and workers set out in this document?
29.	Have you specific views on how best to encourage the participation of land managers, farmers and workers in Knowledge Transfer and Innovation programmes?
30.	Have you specific views on how best to encourage the adoption of innovation by land managers, farmers and workers?
31.	Are there gaps in the current provision Knowledge Transfer and Innovation programmes that need to be addressed?



## 2.10 Generational Renewal



### 2.10.1 Background

Accelerating the transition of farming businesses to those with better training and skills, who are more open to innovation and change and who have a longer investment horizon could help drive the policy outcomes being pursued under this Framework Portfolio. Past initiatives have sought to encourage generational renewal with simple financial incentives. However, the issues involved are more complex than that approach would imply, as this may not only require planning for succession but also planning for restructuring of the business and addressing sensitive family and social issues arising from the transfer of the farm to the next generation.

The transfer of the farm business from one generation to the next is multifaceted with three distinct but related processes: succession, retirement and inheritance. Succession is the process of gradually handing over managerial control. Retirement occurs when the owner ceases to have participation in the business of the farm, and inheritance is the legal transfer of all the business assets to the new owner.

### 2.10.2 Need

Traditionally in Northern Ireland, it has been normal practice for both the succession and the inheritance of family farms to take place together after the death or ill health of the older generation, with planned retirement and transfer seldom being a consideration. This widespread lack of expectation of retiring and unwillingness to retire has led to a farming population whose median age has been steadily rising over the past number of decades. According to 2018 DAERA equality indicators statistics<sup>74</sup>, 36% of managers of a family farm in Northern Ireland are over the age of 65, and only 8% are under the age of 40.

<sup>74</sup> [Equality indicators Report | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/equality-indicators-report)

There are many younger people actively involved in farming, but the ageing principal farmer population in agriculture highlights two major problems for the industry, namely difficulties experienced by the younger generation in assuming the leadership role within farming businesses, and difficulty in relinquishing it by the older generation of farmers. Younger farmers are more likely to be trained and to be motivated to adopt new and innovative agricultural technologies, making them more competitive in the current marketplace and securing them as key players in safeguarding the future of food production and protecting the environment and rural landscapes<sup>75</sup>. More efficient and more highly skilled farmers are crucial to the success of the Northern Ireland agri-food industry in meeting modern food production demands and sustaining vibrant rural communities and landscapes. The ability of farmers to adjust and plan for the longer term has become more pressing, yet succession planning is an issue that is often underrated and avoided by farmers.

A recent report commissioned by NFU Mutual and undertaken by the Duchy College Rural Business School and University of Exeter Centre for Rural Policy Research entitled "*Farm Succession and Inheritance in England, Scotland and NI, July 2020*,"<sup>76</sup> identified the main challenges for the industry in this area as; how to provide successors with the opportunity to develop the skills, knowledge, experience and attributes of business leaders; and how to get succession planning adopted as a normal part of farm business planning.

DAERA has undertaken work previously on succession planning through the Farm Family Options Mentoring Programme, delivered as part of the NIRDP (NIRDP) 2007-2013. This programme highlighted that succession planning and associated legal/financial issues are areas of concern for many farmers where support and guidance is needed. Of approximately 2,200 farm businesses mentored as part of the NIRDP, only 50% of businesses had made provision for even a basic Will. This indicates that many businesses are not adequately prepared for the transfer of either the business as a going concern or the associated assets, and do not have the plans in place that will ensure a smooth transition to the next generation and underpin long term success.

DAERA recognises that there are a number of barriers linked to social, emotional and financial issues that prevent many farmers discussing the topic of succession planning<sup>77</sup>. These concerns and an uncertain future for the farm can be the source of much stress and anxiety and lead to sub-optimal outcomes.

Women contribute greatly to the operation of family farms in Northern Ireland. However, fewer than one out of ten farmers in Northern Ireland are female<sup>78</sup>. The population of females who have chosen a career in farming also has an older age profile than their male counterparts. In recent years, there has been a significant shift toward more females studying and working in agriculture

<sup>75</sup> [ResearchGate www.researchgate.net/publication/228714403\\_Innovation\\_Adoption\\_in\\_Agriculture\\_Innovators\\_Early\\_Adopters\\_and\\_Laggards](https://www.researchgate.net/publication/228714403_Innovation_Adoption_in_Agriculture_Innovators_Early_Adopters_and_Laggards)

<sup>76</sup> [Inheritance and succession\\_Final report for NFUM 29.07.20 \(exeter.ac.uk\)](https://www.exeter.ac.uk/research/centres/centre-for-rural-policy-research/research-projects/farm-succession-and-inheritance-in-england-scotland-and-ni-july-2020/)

<sup>77</sup> [Conway et al post print.pdf \(teagasc.ie\)](https://www.teagasc.ie/publications/conway-et-al-post-print.pdf)

<sup>78</sup> <https://www.daera-ni.gov.uk/publications/equality-indicators-report>

across the UK. However, they still remain underrepresented in the industry as a whole. DAERA is cognisant of the need to encourage females in farming and to eliminating any perceived barriers to accessing the industry as a viable career path. Future policy measures will help to promote and inspire the next generation of farmers, both male and female.

### **2.10.3 Specific outcomes being sought**

A well-developed succession plan that evolves with the farm business and charts the gradual change of management control from one generation to the next, not only provides support and long term direction and stability for the incoming farmer, but also supports the outgoing farmer in terms of certainty of income and confidence in their successor.

Delayed (perhaps for many years), unplanned and disorderly transfer of the farm business can lead to underperformance in economic and environmental terms over a protracted period and an unnecessary degradation of its physical and natural capital. The outcome being sought is a timely, planned and orderly transfer of farm businesses to a new generation that will enable the businesses to continue to develop unchecked under new leadership that is more receptive to new ideas, emerging technology, with an appetite for long term investment and a readiness and capacity to address the challenges that farming will face over the coming decades.

### **2.10.4 Future Approach**

DAERA proposes the development and delivery of a Generational Renewal Programme which comprises policy interventions around knowledge and incentives. The programme will provide farming families with the knowledge and skills to help them plan the successful transfer of the management and leadership responsibility and the legal inheritance of the farm business to a properly qualified (or training to be) successor, with the transfer occurring within the optimum time period for that successor to drive the business forward and where the needs and aspirations of the retiring farmer have been properly considered.

### **2.10.5 Policy Proposals**

The policy proposes a Succession Planning Facilitation Service which would bring together a range of services/providers who have an important role to play in Generational Renewal and would include:

- Development and delivery of a three phased programme to include:
  - Phase 1 - planning for succession;
  - Phase 2 - development of the successor;
  - Phase 3 - maintaining support for both generations;

- Education to ensure the successor has an appropriate level 3 qualification;
- Capacity building for the successor with a particular focus on leadership, technical, environmental and business training;
- Appropriate incentives<sup>79</sup> when agreed actions/objectives are met;
- Access to support and guidance for future-proofing the business; and
- Links to other support services, particularly for the retiring farmer.

## 2.10.6 Design Principles

In order to design a programme that best meets the needs of the industry whilst achieving the objectives of the Department, a number of design principles are proposed in addition to the Programme design principles.

These are:

- Long term strategy, with various entry points;
- Holistic approach, addressing the issues and concerns of both the older and younger generations;
- Multi-faceted approach, co-designed with stakeholders;
- Maintain flexibility to make scheme adjustments as necessary;
- Segmented engagement according to specific needs e.g. part time, full time, sector groups, similar family circumstances;
- Appropriate incentives/rewards provided when agreed actions/objectives are met; and
- Compatible with/linked to other future agricultural policy programmes.

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<sup>79</sup> For clarity, DAERA is not considering the introduction of a retirement scheme for farmers. Evidence from previous research and from such measures implemented elsewhere indicates that this approach provides limited benefit and poor value for money.

## Consultation Questions

32.	Do you agree that there is a need to encourage longer-term planning for farm businesses? Explain your answer.
33.	What are your views on a Generational Renewal Programme and the proposed three phase approach?
34.	Do you agree with the inclusion of knowledge and skills development within the Generational Renewal Programme? Explain your answer.
35.	Do you agree that incentives should be provided to those participating on the Generational Renewal programme on achievement of specific objectives or on progress made? Explain your answer.



## 2.11 Supply Chain Measures



### 2.11.1 Background

An effective functioning supply chain will play a key role in delivering increased productivity, improved resilience and an industry that is environmentally sustainable. The focus of supply chain measures within the Framework Portfolio will be primarily upon the factors that fall within the control of individual producers and growers, where substantial gains can be achieved. The supply chain component of the Framework will also provide a bridge across to the parallel Northern Ireland Food Strategy Framework that is also in the early stage of development.

DAERA is currently delivering a number of areas to address information, education, incentivisation and regulation to help deliver a more efficient, competitive supply chain.

These include:

- **Market transparency/information** - There are systems in place for a number of key products to seek to ensure that farmers have access to timely pricing and cost of production information. These systems give an important overview of price trends and economic performance. There is also scope to modify the existing systems and the Department is open to engagement with stakeholders on this issue. For example, a consultation on the possible introduction of mandatory carcass classification and price reporting for sheep in Northern Ireland was launched on 8 November 2021. The information gathered will help to inform the Department's decision on the way forward, or whether, and how, to replace the existing voluntary arrangements;



- **Education and Knowledge Transfer** - DAERA's education and knowledge programmes provide access to up to date, timely and accessible knowledge and innovation. CAFRE (in partnership with Ulster University) has introduced supply chain modules within the new degree level provision for both agriculture, horticulture and food technology that commenced delivery in September 2021. The Sustainable Agriculture Honours degree includes a Sustainable Supply Chains Level 6 module that provides the opportunity to gain an insight into the skills and attributes necessary to successfully understand and prepare a supply chain. The Honours Degree programme in Horticulture includes a Marketing and Supply Chain Development Level 6 module that provides an insight into how supply chain and marketing principles can improve the potential for business development, examines the factors influencing their success and provides an overview of the challenges which may be encountered in horticulture;
- **Incentivisation: DAERA's Agri Food Cooperation Scheme (AFCS)** - The AFCS seeks to reduce fragmentation and improve competitiveness and sustainability within the supply chain through improved market information flow, new knowledge and skills, improved product specification, consistency and marketing. The scheme is currently open. It provides groups with skilled facilitation support and relevant business management tools over a two year period, to collectively develop a wide range of skills specific to the group such as marketing, innovation, product design and management information systems. For example, one group has developed a Management Information system to share timely information on crop performance and quality between oat growers and the processors. Another group has availed of specialist facilitation and mentoring to support a network of artisan producers in a local area to market their products collectively to enhance sales and profitability;
- **The aid scheme for Producer Organisations in the fruit and vegetables sector (under the current UK National Strategy for Sustainable Operational Programmes)** - This aid scheme provides opportunities for groups of growers to collectively negotiate better prices, terms and conditions, and improve their position in the supply chain. They may also work together to reduce costs and achieve sustainable environmental outcomes. Producer Organisations may also be formed in other sectors; and
- **Regulation** - Competition law is a reserved matter within the UK. There are existing mechanisms for regulating unfair trading practices. The UK Government set up a Groceries Code Adjudicator (GCA) in 2013 to enforce the Groceries Supply Code of Practice and ensure supermarkets treat their suppliers lawfully and fairly. The GCA has an important role to play in changing the behaviour of supermarkets. The UK Government continues to develop its position on supply chain matters such as recognition of Producer Organisations and mandatory contracts to address unfair trading practices and DAERA is engaged in this process to ensure that Northern Ireland's interests are fully recognised.

## 2.11.2 Need

Evidence suggests that efficient and competitive supply chains:

- Are transparent with effective flows of robust, credible data along the entire chain. Enhanced transparency assists in better, market-led decision making and trusted working across all stages of the supply chain;
- Are characterised by skilled and knowledgeable workforces that are innovative, strategic and market-focused; and
- Tend to have high levels of cooperation and collaboration, integration and partnership working.

There is a range of supply chain structures in the industry in Northern Ireland - from the highly vertically integrated to the extremely fragmented. The key characteristics that indicate efficient and competitive supply chains, as set out above, are not uniformly evident across all sectors in Northern Ireland.

Analysis of information, which was gathered through informal engagement across a wide range of sectors, discussions and desk research, indicates variability within sectors. There is evidence of fragmentation, mistrust (which is lack of information), inconsistent transmission of market signals, and some lack of common purpose or strategic alignment. These issues could hinder sectors' ability to address the big overarching challenges we are facing (such as responding to climate change and sustainability issues).

Whilst the operation of food supply chains is primarily a matter for the market, government can play a role in helping sectors to address challenges and in supporting better functioning supply chains. The ways of doing that are to help address information, education, incentivisation and regulation matters to reduce fragmentation and improve competitiveness and sustainability within the supply chain.

To help deliver the key desired outcomes set out in the Framework Portfolio, DAERA is seeking to establish a robust evidence base for any future supply chain measures in the agricultural and horticultural production sectors, drawing on assessment of previous Northern Ireland schemes, information from other jurisdictions on existing and future approaches, and taking account of the Department's strategic priorities. DAERA is also seeking to ensure that issues particular to Northern Ireland are identified and taken into account in any UK-level initiatives that are reserved matters.

## 2.11.3 Specific outcomes being sought

The provision of appropriate, evidence based supply chain support to the agriculture and horticulture sectors to contribute to the key desired outcomes of the Framework Portfolio - *“an industry that operates within an integrated, profitable, efficient, sustainable, competitive and an effective functioning supply chain, with clear market signals and an overriding focus on high-quality foods and the end consumer”*.

## 2.11.4 Future Approach

In a rolling programme of work, DAERA will review existing measures and systems, will remain open to engagement with stakeholders on these issues, and will explore opportunities to make improvements to meet the specific needs of Northern Ireland supply chains. In any areas where supply chain matters in Northern Ireland intersect with reserved matters within the UK, DAERA will be fully engaged in the process to ensure that Northern Ireland’s interests are fully recognised.

Supply chain consideration will be an integral part of developing, adopting, implementing or revising any agricultural policy. DAERA will seek to develop ways to help overcome supply chain fragmentation, support effective flows of robust data and the development of a skilled and knowledgeable workforce, and encourage greater collaboration to deliver a more efficient supply chain. Future policy measures will include information, education, incentivisation (if necessary), and consideration of the role of codes of practice and regulation.

## 2.11.5 Policy Proposals

It is envisaged that policy proposals will fall under the following three broad headings:

- **Improving information flow and transparency** - helping to create the information infrastructure that drives transparency, confidence and the effective transmission of market signals amongst supply chain partners;
- **Addressing Fragmentation** - providing support, where needed, to help sectors address blockages to collaboration and cooperation between supply chain actors. Providing the tools (education, mechanisms to encourage cooperation, regulation) to help sectors improve supply chain integration and co-ordination; and
- **Using the supply chain to achieve better strategic outcomes** - encouraging the supply chain to identify, agree and align behind the achievement of strategic objectives, such as a sustainability agenda for Northern Ireland agri-food which is supported by all actors in the food chain and which creates a positive narrative for the industry as it responds to social and market drivers.

## Consultation Questions

36.	<b>What are your views on the scope and effectiveness of existing supply chain measures (market transparency/information, education and knowledge transfer programmes, incentivisation schemes and regulation) to help deliver a more efficient, competitive supply chain?</b>
37.	<b>Do you agree with the three proposed policy areas when considering future supply chain measures? Explain your answer.</b>
38.	<b>Are there specific gaps in the approach that you feel need to be addressed? Explain your answer.</b>
39.	<b>Are there specific early actions that you would like the Department to take to support supply chain development in the agriculture and horticulture sectors? Explain your answer.</b>

## 2.12 Soil Testing and LiDAR



### 2.12.1 Background

Soil health is a fundamental element of sustainable farming practice. An Expert Working Group commissioned by DAERA developed a report on *“Delivering Our Future, Valuing Our Soils” A Sustainable Agricultural Land Management Strategy (SALMS) for Northern Ireland*<sup>80</sup>. The SALMS Report included a number of key recommendations designed to improve soil health and the sustainability of land management. Central to this was a soil sampling and analysis programme of all agricultural land in Northern Ireland along with training on nutrient management planning for farmers. The SALMS also recommended a full LiDAR scan of Northern Ireland to pinpoint areas of overland nutrient flow risk and to assist in measuring carbon stocks in above ground biomass (AGB) - primarily in our hedgerows and farm trees. LiDAR (Light Detection and Ranging) is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth<sup>81</sup>.

DAERA supported AFBI soil scientists to pilot the soil sampling, analysis and LiDAR run-off risk mapping between 2017- 2019, over three water catchments plus one open element which was available across Northern Ireland. The evaluation of the pilots highlighted a number of key findings. These included:

- (i) The provision of individual field information for farmers helped to drive behaviour change in relation to nutrient management practices;
- (ii) Applying nutrients to meet crop need is a central tenet of why soil testing and nutrient management planning (NMP) are important;

<sup>80</sup> [Sustainable Land Management Strategy final amended.PDF \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/sites/default/files/2020-09/SALMS%20final%20amended.pdf)

<sup>81</sup> <https://www.americangeosciences.org/critical-issues/faq/what-lidar-and-what-it-used>



- (iii) Improved nutrient management can contribute to improved water quality and can also have economic benefits for farmers; and
- (iv) A Northern Ireland wide programme could provide government with invaluable baseline information for prioritising future interventions.

Based on these findings, DAERA has announced<sup>82</sup> that it will roll out a Soil Nutrient Health Scheme (SNHS) for Northern Ireland. The SNHS will be open to all farms and will include soil testing and analysis to establish a Northern Ireland spatial soil and carbon baseline. The Scheme will include a LiDAR survey and provision of individual farm nutrient, water run-off and AGB maps. The AGB maps will detail the extent and location of hedgerows, farm trees and woody biomass, along with an estimation of the existing carbon stocks within them, for participating farms.

## 2.12.2 Need

There is currently no database of soil nutrient and carbon status or nutrient run-off risk on a Northern Ireland wide basis so identification of areas that require corrective action is not available. CAFRE and a number of private providers facilitate soil sampling for those farmers who wish to soil test at their own expense, but the fact remains that the vast majority of agricultural land in Northern Ireland is farmed with no knowledge of its pH, nutrient status or carbon content, nor with any knowledge of where nutrient run-off risks are greatest, or of the extent of the AGB carbon stocks. Without this basic information, productivity will be compromised, nutrients will be applied inappropriately and progress towards carbon farming curtailed.

The establishment of a Northern Ireland soil and carbon baseline represents the creation of a strategic policy platform that will enable the development of policy instruments that will contribute to the following:

- (i) UK commitment to net zero carbon - 2050;
- (ii) GHG Emission reduction targets in future Northern Ireland climate change legislation;
- (iii) The Green Growth Strategy - a pathway to climate action, green jobs and a clean environment;
- (iv) Better quantification of the agriculture sector's current and potential GHG emissions and sequestration;

<sup>82</sup> <http://www.daera-ni.gov.uk/news/farm-businesses-already-playing-their-part-tackling-climate-change-pools>



- (v) A better understanding of the storage of carbon in soils, woody plant material, and hedgerows;
- (vi) The accurate application of nutrients to meet crop requirement/need;
- (vii) Identifying optimum soil phosphorus (P) and high risk hydrologically sensitive areas;
- (viii) Improvements in water quality P levels; and
- (ix) A baseline of soil nutrient status to enable targeting of appropriate measures, at field, farm and catchment scales.

## 2.12.3 Specific outcomes being sought

Establishing baseline data on soil nutrient status and soil carbon modelling across all Northern Ireland farms will:

- Inform future DAERA agriculture policy development and evaluation;
- Provide a platform for the design of targeted site specific land management interventions which will contribute to improved biodiversity, air, water quality, soil health, carbon capture (sequestration) and/or GHG emissions reduction (mitigation);
- Form the foundation for monitoring and evaluating future schemes;
- Potentially act as a key building block for a future carbon trading schemes when baselines are known;
- Provide a resource for technology transfer across the agricultural industry;
- Form a key element of future educational programmes, aimed at increasing awareness of nutrient management planning and encouraging meaningful nutrient management planning thus driving positive behavioural change amongst farmers; and
- Provide a recurring baseline could allow DAERA to monitor important long term trends in soil, carbon footprint and water quality.

## 2.12.4 Future Approach

The SNHS is an important first step to behaviour change in relation to nutrient management practices and help reduce GHG emissions and sequester carbon.

A baseline of soil nutrient and carbon status has the potential to inform, shape and monitor the range of targeted, spatially dependent, government interventions over time, and help to drive key environmental improvements.

## 2.12.5 Policy Proposals

- DAERA has announced that it will run a Soil Nutrient Health Scheme to provide a baseline on soil nutrient health and carbon stocks and it will be a condition of the Resilience payment that farmers will participate in this Scheme when offered to them.
- The Scheme will include Northern Ireland-wide soil sampling and analysis on farms and a LiDAR survey of Northern Ireland. The resulting data will be processed to produce field level nutrient and run-off maps and quantify the amount of carbon stored in soils and in above ground biomass hedgerows, trees etc.). A key objective of this work is to baseline the existing store of soil and above ground carbon in our farmed landscape.
- The baseline data will provide a unique benchmark with the potential to inform, shape and monitor the development of:
  - (i) Future agricultural policy;
  - (ii) A knowledge transfer tool to encourage positive behaviour change on farms in relation to nutrient management and tree and hedge management;
  - (iii) More precisely targeted spatially dependant environmental interventions that could result in more efficient improvements across several key environmental indicators; and
  - (iv) A carbon baseline from which to inform future policy development.
- The data generated will provide a valuable resource for farmers, enabling them to make informed management decisions which will benefit productivity, e.g. grass yield, quality and resilience.
- The information will also facilitate improvements to our water environment (public money for public good): including cleaner, healthier rivers and lakes that benefit anglers, walkers and wildlife interest groups. Tourism and recreation businesses could benefit and water treatment costs may reduce.
- The data generated will assist the achievement of environmental sustainability, including the scope for agricultural land to contribute to the reduction of GHG emissions and increase carbon capture.

## Consultation Questions

40.	<b>What are your views on the proposed uses for data provided via the proposed Soil Nutrient Health Scheme?</b>
41.	<b>Do you agree that in order to maximise future support payments, applicants should have to demonstrate that they have a current (updated regularly) Nutrient Management Plan? Explain your answer.</b>
42.	<b>Have you further specific suggestions for how the data provided by the Soil Nutrient Health Scheme could be used or promoted by government?</b>

## 2.13 Livestock Genetics and Data



### 2.13.1 Background

Genetic improvement is achieved as a result of breeding from the best performing animals within a population. This requires the identification of those animals with the most desirable traits. Genetic improvement produces long term beneficial changes to the output, productivity and quality of animal products. In addition, genetic improvement in ruminant livestock can contribute significantly to achieving the target reductions in GHG emissions per unit of output.

In ruminant livestock sectors, accurate and up-to-date performance data (e.g. milk yield and liveweight gain) linked to both dam and sire identification and genetic information is absolutely key to identify the best animals from which to breed. It is proposed that an industry led Livestock Genetic Improvement and Data Programme will collect and collate the necessary performance data, from various sources and produce genetic evaluations from which producers can make informed bovine breeding decisions to improve the genetic merit of their livestock. It will also provide physical benchmarking reports at enterprise level to inform producers of how their businesses are performing relative to their peers and identify areas for further investigation and improvement.

The sheep sector also wish to increase the rate of genetic improvement. However, at this stage, the best approach for achieving this has yet to be decided.

## 2.13.2 Need

Currently, Northern Ireland ruminant farmers are predominately making breeding decisions in the absence of performance data. Informed estimates indicate that only 30% of cows in the dairy herd, 2% of cows in the suckler herd and less than 1% of sheep flocks are performance recorded. Therefore, the majority of cattle and sheep farmers in Northern Ireland do not have access to genetic evaluations from which to make informed breeding decisions. This represents a considerable brake on the ability of the ruminant sector, and the red meat sector in particular, to make rapid advances in areas such as productivity, animal health and welfare and environmental footprint.

Estimates from Abacus Bio have identified potential gains from a livestock genetic improvement and data programme in the order of £25m per annum.

Better informed and more accurate breeding decisions requires the use of science-based measurements known as Estimated Breeding Values (EBV). Farmers need the knowledge, understanding and confidence to use these tools. Therefore, while the first step is to initiate a programme to ensure EBV data is available on a much wider scale than at present, it is also critically important to develop an effective knowledge transfer and research element in future breeding programmes.

## 2.13.3 Specific outcomes being sought

The ultimate long-term aim of this industry-led programme is to increase the annual rate of genetic gain in the ruminant livestock sectors to drive productivity, resilience, animal health and welfare and environmental gains. The Department is seeking to be supportive and therefore, considering pump priming the initiative and encouraging the industry to participate in it. The Department's involvement in this way will provide space to allow policy recognition and policy support, but the ownership of the Livestock Genetic Improvement and Data Programme will be for industry itself.

The specific outcomes of the ruminant genetics programme are:

### ***Short/medium term:***

- The provision of tools and information to enable dairy, beef and sheep farmers to identify and breed from the better performing animals in the population;
- The provision of tools and information to enable dairy, beef and sheep farmers to identify and cull the poorer performing animals in the population; and
- The provision of enterprise level physical benchmarking data to enable farmers to assess their performance relative to their peers and identify areas for improvement.

## **Long term:**

- Increased productivity, through genetic improvement, to reduce the amount of feed resources required per unit of milk, beef and sheepmeat produced;
- Through genetic improvement, reduced GHG emissions in livestock production per unit of milk, beef and sheepmeat produced (indirectly through improved efficiency of production and directly through reduced methane emissions);
- Increased disease resistance to increase the productivity, survivability and welfare of dairy and beef cattle and sheep; and
- Increased disease resistance to reduce the use of animal health pharmaceuticals.

## **2.13.4 Future Approach**

The following key tasks necessary from the future Agricultural Policy Programme have been identified to help this industry-led initiative achieve the outcomes described above:

- Within the Resilience Payment (Section 2.4) - a requirement to register the sires of all calves born;
- Within the Headage Sustainability Package (Section 2.5) – a future requirement to provide specified data from suckler cows (still to be agreed) to the Livestock Genetic Improvement and Data Programme;
- Establish knowledge transfer programmes, e.g. discussion groups and demonstration farms, to educate and inform producers of the benefits of using livestock genetic merit information as a management tool in their farm business; and
- Assist farm businesses to utilise the data coming from the Livestock Genetic Improvement and Data Programme to drive better economic and environmental performance from their ruminant enterprises.

The ruminant genetics and data programme will complement several other work streams within the Programme, as outlined below:

- **Carbon** - a reduction in methane emissions of up to 26% is possible over 10 years by breeding more productive animals, assuming ruminant numbers remain constant<sup>83</sup>. Therefore, the genetic improvement programme can make a significant contribution to achieving government targets for the reduction in GHG emissions;

<sup>83</sup> Pickering et al. (2015). Animal board invited review: genetic possibilities to reduce enteric methane emissions from ruminants. *Animal* 9:9, 1431-1440.



- **Resilience** - improved economic performance, particularly in the redmeat sectors, will do much to reduce heavy reliance on ongoing safety net funding and vulnerability to volatility;
- **Environmental sustainability** - better performing, healthier animals will require lower inputs per unit of output, reduce nutrient loadings, lower the need for pharmaceutical interventions, reduce the risks of anti-microbial resistance and release of pharmaceuticals to the environment
- **Supply Chain** - better sustainability and productivity through the use of genetically superior livestock will provide a market advantage but could also be encouraged by milk and meat processors working with their supply base to promote uptake of the Livestock Genetic Improvement and Data Programme.

## Consultation Questions

43.	<b>Do you agree that the Department should pump prime the initiation of an industry led Livestock Genetics and Data Programme?</b>
44.	<b>Do you agree that farmers should be required to provide data for the Livestock Genetics and Data Programme as an eligibility condition of future support payments? Explain your answer.</b>
45.	<b>Do you agree with the proposal to develop knowledge transfer programmes to support farmers to adopt genetic improvement technologies? Explain your answer.</b>

## 2.14 Controls and Assurance



### 2.14.1 Background

DAERA has carried out a review of Cross Compliance and Land Eligibility in response to the 2018 Stakeholder Engagement. That engagement identified these as elements of the CAP direct support regime that could carry through to the new Agricultural Policy Framework Portfolio but should be reviewed to exclude requirements that are not particularly relevant or worthwhile in Northern Ireland.

There are two parts to this section:

- (1) Compliance; and
- (2) Land Eligibility.

### 2.14.2 Compliance

DAERA has four main avenues of compliance control available to it within the sphere of agriculture - Cross Compliance, legislative enforcement, Official Control Regulations and civil sanction. In simplifying Cross Compliance, DAERA remains conscious of the need to ensure that farm businesses that are, in the future, not in receipt of area-based scheme payments remain compliant with legislative requirements on animal, plant and human health, animal welfare and the environment. DAERA is, therefore, investigating the implications of enforcement of these requirements through means other than the successor to Cross Compliance. This goes hand in hand with a review of penalty system and the legislation.

The most recent version of Cross Compliance has been in place since the review of the CAP in 2015 but the basic elements - the requirement for farmers to comply with Statutory Management Requirements (SMRs) and maintain their land in Good Agricultural and Environmental Condition (GAEC) - have been in existence since 2005.

Cross Compliance refers to the regulatory baseline that all farmers must meet to receive Basic Payment Scheme (BPS) or Rural Development support. It lays the foundation upon which farmers can produce food and provides an important mechanism to protect and safeguard the environment. Cross Compliance requirements listed in former EU legislation are now retained in domestic law<sup>84,85</sup>. The current Cross Compliance requirements are set out in the Background Evidence Paper.

## 2.14.3 Need

There is significant public money invested in farm schemes to deliver public goods and farm businesses are effectively in a 'contract' with DAERA to deliver those goods. Therefore, it is appropriate that farm businesses are asked to meet certain requirements to ensure they are adequately protecting the environment, animal or human or plant health, and animal welfare.

Since 2015, four of the Cross Compliance standards have had no recorded infringements and nine of the standards have had very low levels of non-compliance recorded in that period. More significantly, there are consistently five areas of greatest non-compliance. The incidence of non-compliance has either increased or there has been limited improvement in the past five years across all of these five controls.

*SMR1 - Protection of water against nitrates pollution*

*GAEC7 - Retention of landscape features;*

*SMR4 - Food and feed law;*

*SMR13 - Protection of animals kept for farming purposes; and*

*SMR7 - Cattle ID and registration.*

There is a need to address non-compliance in these areas and improve the understanding by farm businesses of the benefits of these controls.

The verifiable standards and associated control points at inspection also need to be rationalised to reduce complexity and make the standards more locally relevant and understandable.

<sup>84</sup> <https://www.legislation.gov.uk/ukpga/2020/2/contents>

<sup>85</sup> <https://www.legislation.gov.uk/uksi/2020/90/contents/made?regulation-15-5>

DAERA has also identified gaps and overlaps in the current system. For example, there is inadequate protection for small valuable habitats (less than 2 ha) as they fall outside the current GAEC requirements, and the inspection control points for SMR1 and GAEC1 are almost identical and, therefore, overlapping.

Future Cross Compliance requirements also need to fit in with other conditionality requirements for future schemes.

## 2.14.4 Specific outcomes being sought

DAERA proposes to replace the current Cross Compliance SMR/GAECs with a simplified system of **Farm Sustainability Standards**, with the current verifiable standards re-written as a set of underlying requirements to better meet local needs.

It is anticipated that the simplified system of Farm Sustainability Standards will apply to the Resilience Measure (Section 2.4) as it will act as the 'gateway' to most other support schemes for farm businesses, and to the Farming for Nature measures.

Through this DAERA seeks to achieve the following outcomes:

- Protect the integrity of the industry and encourage good practice behaviours that underpin the four key desired outcomes of the Programme;
- Compliance by claimants with relevant minimum legislative requirements;
- An industry achieving Farm Sustainability Standards where there is no statutory baseline; and
- Implement Standards which complement and underpin the policy objectives across other parts of the Agricultural Policy Framework.

In pursuing these outcomes, the Department will incorporate lessons learned from previous experience of the CAP Cross Compliance regime.

## 2.14.5 Design Principles

The process of developing this new approach is distilled into three main principles:

- **Principle 1** - undertaking a managed phasing out of SMRs under Cross Compliance towards reliance on the original legislation for enforcement, except where there is very good reason to retain the status quo;

- **Principle 2** - developing a flexible and responsive replacement for the GAEC standards that meets current and emerging environmental issues; and
- **Principle 3** - building in proportionality and responsiveness to the penalty system, with a much greater emphasis on securing compliance without recourse to penalty.

DAERA's overall aim is to make the new Farm Sustainability Standards system simpler, more flexible and more responsive to meet the challenge of current and emerging issues, whether environmental or related to animal health and welfare, food safety or plant health. To support this, a further principle is the use of remote sensing and administrative controls by default (where appropriate) and the development and use of educational and communication resources to better inform farmers and improve their understanding of their responsibilities and the sanctions they may face if they don't meet those responsibilities. DAERA also understands the need to have a system where the standards and requirements are capable of being adhered to and evidenced by the farmer.

To simplify the system, DAERA proposes to exclude the following SMRs/GAECs from the 'Farm Sustainability Standards' principally because there have been either no or minimal non-compliances against these standards since 2015.

- SMR4 - Food and Feed Law (except TB);
- SMR5 - Restrictions on the Use of Substances Having Hormonal or Thyrostatic Action and Beta-agonists in Farm Animals;
- SMR6 - Pig Identification and Registration;
- SMR10 - Restrictions on the use of plant protection products;
- GAEC1 - Establishment of buffer strips along water courses;
- GAEC2 - Irrigation authorisations, and
- GAEC3 - Protection of ground water against pollution.

DAERA proposes the new Farm Sustainability Standards presented in Table 7.

**Table 7. Proposed Farm Sustainability Standards**

Code	Farm Sustainability Standard	Proposed High Level Requirements with Comments
FSS1	Protection of Waters from Pollution	To include: <ul style="list-style-type: none"> <li>• Protection of soil as a resource by preventing soil erosion and nutrient leaching; and</li> <li>• Protection of waters from pollution caused by agriculture sourced nitrates and phosphates - nutrients.</li> </ul>
FSS2	Protection of Habitats and Biodiversity	To include: <ul style="list-style-type: none"> <li>• Protection of designated;</li> <li>• Protection of wetlands for their biodiversity and carbon storage importance;</li> <li>• Protection of semi-natural habitats and smaller habitats (&lt;2 ha); and</li> <li>• Prevention of encroachment by invasive species.</li> </ul>
FSS3	Protection of Landscape and Heritage	To include: <ul style="list-style-type: none"> <li>• Protection of landscape features (such as hedgerows and dry stone walls); and</li> <li>• Protection of archaeological features.</li> </ul>
FSS4	Livestock food and feed/ herd and flock health and biosecurity	To include: <ul style="list-style-type: none"> <li>• TB testing;</li> <li>• Risks posed to human and animal health by certain transmissible spongiform encephalopathies (TSEs); and</li> <li>• Bovine Viral Diarrhoea (BVD) eradication programme and legislation (BVD Order 2016) may also be included.</li> </ul>
FSS5	Welfare and Protection of Farmed Livestock (including Transport)	To include: <ul style="list-style-type: none"> <li>• Protection of the welfare of <b>farmed animals</b>;</li> <li>• Farm transport of farm animals; and</li> <li>• Protection of welfare of small non-commercial poultry flocks may be included.</li> </ul>
FSS6	Livestock Identification and Traceability	To include: <ul style="list-style-type: none"> <li>• Identification and registration of <b>cattle</b> to facilitate their traceability; and</li> <li>• Identification and registration of <b>sheep and goats</b> to facilitate their traceability.</li> </ul>

**Note:** The exact make-up of the proposed 'Farm Sustainability Standards' and the underpinning requirements (replacing the current Verifiable Standards) has not yet been determined. Work is on-going in this area and will be discussed in detail during focussed discussions with stakeholders.



## Penalty System

DAERA is also seeking to ensure that its penalty system for non-compliance with the new Farm Sustainability Standards is effective but fair.

Current Cross Compliance is an administratively straightforward mechanism for applying penalties, rather than through the Courts. However, the proportionality of the penalties gives some cause for concern, particularly where different farmers are penalised the same percentage of their payment for similar breaches but the amount of money may be very different depending on the monetary value of that payment.

DAERA is seeking to simplify this system and is considering using other tools to both ensure compliance with standards and process non-compliances fairly where they do occur. In particular, there is a need to move away from the 'penalty culture' and use knowledge/education to better explain the reasons why compliance is important. In future, the focus of penalties will be on the repeat offenders and where significant harm has been done to, for example, the environment. An approach to include issuing of appropriate warnings, and more guidance by the inspector on how to comply, will assist farm businesses to build a better understanding of the requirements and, ultimately, better compliance.

The Department is also considering the introduction of Fixed Penalty Notices which would not duplicate other Farm Sustainability Standard penalties. For example, for livestock identification where the business exceeds the threshold for late notification, businesses could be required to pay a standard fixed penalty instead of a calculated percentage penalty on the basis that failure to report the death of a single animal presents the same risk to the food chain whether in a small herd or a large herd.

There is also a link to broader knowledge and skills where, as with a traffic speeding fine, for example, attendance at a training course instead of a monetary penalty may be offered and bring benefits in future understanding and compliance. An extension of this idea could be the requirement for all applicants to complete an online training course on Farm Sustainability Standards, similar to the application requirement under the Environmental Farming Scheme. Scheme payment would only be made after confirmed completion of the course by the applicant.

Discretion by the DAERA inspector could also allow room for guidance of farm businesses, rather than just levying a penalty in all instances of non-compliance. Advice could be provided on compliance for minor non-compliances, rather than immediate imposition of a penalty, taking into account the risks and potential 'harms' to animal health, plant health, human health and/or the environment in the determination of the course of action.

DAERA also proposes to review and revise the penalty matrices and the concepts of severity, extent, permanence, reoccurrence and intentionality/negligence under the future penalty system. The application of negligence against some non-compliances means that the penalty applied is low and appears out of step where significant damage has been caused to the environment or where animal health or welfare have been compromised. Negligence in terms of Farm Sustainability Standards must not relate to a farmer's negligence to familiarise himself/herself with the rules. It must be applied on the basis of whether the action was due to negligence - or perhaps in layman's terms: was it accidental. DAERA considers that where a farmer has undergone training in Farm Sustainability Standards, which could be required when signing up to a scheme, he has gained a knowledge of the standards required as part of the 'contract' for payment and, therefore, even a first breach of those rules could be considered 'Intentional'.

## 2.14.6 Land Eligibility

The most recent version of DAERA's Guide to Land Eligibility 2021<sup>86</sup> explains the land eligibility rules for the:

- Basic Payment Scheme;
- Young Farmers' Payment;
- Environmental Farming Scheme; and
- Protein Crops Scheme.

These rules are based on previous CAP regulatory and audit demands and there is now scope to redefine these to reflect a new policy agenda.

## 2.14.7 Need

One of the fundamental rules for receiving payment under the current Direct Payments schemes has always been that payment can only be made on eligible agricultural land. However, this has been based on a 'activity' rather than 'outcomes' view of land eligibility, which has driven farmers to increase their eligible land in order to maximise their payments. This means that control of certain vegetation, in particular rush, heather or bracken through burning, spraying or by mechanical means can have unintended consequences, i.e. a detrimental effect on biodiversity and water quality.

There is also a perception of conflict between the current land eligibility rules and the agri-environment rules, in particular, around the control of temporary ineligible features like scrub and rush, but also in upland management and fertilisation of marginal land.

<sup>86</sup> <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Update%20July%202021%20Guide%20to%20Land%20Eligibility.pdf>

## 2.14.8 Future Approach and Policy Proposals

DAERA proposes to make all agricultural land eligible for payment except for hard features (e.g. buildings, yards, laneways, etc.) under future area based schemes.

The aims of this approach are to:

- Make any future land eligibility rules simpler to administer;
- Avoid the unintended consequences of the previous approach, which led to problems such as habitat degradation and water contamination;
- Bring areas of agricultural land currently out of scope within the protective framework of Farm Sustainability Standards; and
- Encourage sustainable land management and the maintenance of active farming and habitat development.

## 2.14.9 Design Principles

The following design principles will apply:

- DAERA wishes to introduce changes that are practical, easily understood by all farm businesses and are efficiently enforced;
- Land eligibility for schemes will be defined to ensure objectives and targets on environmental sustainability, water quality, biodiversity and climate change are met;
- Any changes will seek to avoid unintended consequences such as land abandonment or the undermining of the impact of future schemes;
- Land eligibility rules will be relevant to sustainable land management in Northern Ireland; and
- Value for money considerations will be built into the administration of future area based schemes.

## Consultation Questions

46.	<b>Do you agree with the proposal to replace the current Cross Compliance system with the simplified 'Farm Sustainability Standards'? Explain your answer.</b>
47.	<b>Have you specific suggestions for how compliance with the proposed Farm Sustainability Standards should be controlled? Explain your answer.</b>
48.	<b>Do you agree with the proposal that the current land eligibility rules should be revised to make all agricultural land (except hard features) eligible for direct payment under future area based schemes? Explain your answer.</b>

## 2.15 Metrics, Monitoring and Evaluation



### 2.15.1 Background

Monitoring and evaluation are fundamentally important elements underpinning the success of any policy framework. The Agricultural Policy Programme has overarching objectives captured in the four outcomes around productivity, sustainability, resilience and an effective functioning supply chain. Therefore, there is a need for a number of high level metrics that capture these outcomes and against which progress can be measured. This will involve establishing baselines and underlying trends, monitoring progress and, where appropriate, benchmarking this progress against other regions. Early comparisons have shown that the metrics proposed below are similar to those already used globally and progress against those metrics has been shown to be challenging. For example, in Organisation for Economic Cooperation and Development (OECD) countries (where agricultural land equates to 26% of the world's agricultural area with 448 million livestock units) agricultural GHG emissions increased by 3% between 2005-07 and 2015-17. However, progress was demonstrated in reducing both ammonia emissions and nitrogen balances (-4% between 2005-07 and 2015-17) and median phosphorus balance in OECD countries declined by 47% in the same period. Monitoring and evaluation will enable the Department to take corrective action through altering intervention levels or revising policy to ensure sufficient progress in achieving the desired outcomes within the desired timescales.

The metrics developed need to adhere to the principles of metrics used for monitoring and evaluation and should be:

- Outcome focussed and relevant;
- Simple to understand;

- Meaningful to stakeholders;
- Consistent and comparable with metrics used elsewhere to enable benchmarking;
- Based on transparent and robust methodology that can establish the statistical significance of changes;
- Not subject to long lags so that corrective actions can be timely;
- Have a frequency of measurement that is at least annual; and
- Subject to quality assurance by professional statisticians.

The monitoring and evaluation programme for the Programme will include a wide range of metrics within a hierarchy. Therefore, as well as high level crosscutting metrics that reflect the four Programme outcomes, there will be appropriate metrics developed within each workstream. It is proposed that there would be an annual report which presents updates for each of the high level metrics (that cross cut the various work-streams) as well as those developed within the various workstreams and are, for the most part, specific to those workstreams. This section of the consultation document will concentrate on a small number of high level metrics that reflect the main outcomes of the new agricultural policy.

It is efficient to use existing metrics where possible, but there is a need to recognise that new metrics might need to be developed where appropriate metrics do not exist or do not adhere to the principles above.

## 2.15.2 Productivity

Productivity is a measure of the efficiency with which businesses turn inputs into outputs, indicating the economic competitiveness of a sector. The two main ways of measuring this are total factor productivity and labour productivity.

Total factor productivity (TFP) is the ratio of total outputs to inputs used in production. A farm that produces more output from the same level of inputs as another farm is more productive. Equally, a farm that produces the same amount of output using fewer inputs is also more productive. An increase in output/input ratios over time is referred to as productivity growth. Therefore, productivity growth is not the same as production growth, and it is the former that is one of the four strategic outcomes sought by this policy programme. TFP in UK agriculture increased 0.7% per year since 1981 compared to 1.5% per year for Northern Ireland.

Labour productivity is a partial measure of productivity, defined as the average net value added (at basic prices) per each unit of labour. An increase in average production per unit of labour over time is also referred to as labour productivity growth. Unlike TFP which takes account of all factors of production, labour productivity focuses on a single factor of production, i.e. labour.



Labour productivity of the Northern Ireland agriculture sector has increased 10.4% per year on average since 1981. Although the annual percentage change is high, this is expected given the ongoing substitution of labour with capital in the agricultural sector.

**Which metric:** TFP provides a more comprehensive measure of productivity as it covers all inputs not just labour.

## 2.15.3 Sustainability

### - *Climate Change*

Net greenhouse gas (GHG) emissions from agriculture and land use change associated with agriculture, peatlands and forestry.

GHG emissions measured in millions of tonnes of carbon dioxide equivalent emitted from all sectors are measured each year for Northern Ireland. In 2019, Northern Ireland's GHG emissions were estimated to be 21.4 million tonnes of carbon dioxide equivalent. This was a decrease of 1% compared with 2018. The longer term trend showed a decrease of 18% compared with the base year in 1990.

In 2019, Northern Ireland's GHG emissions attributable to the agriculture sector were estimated to be 5.6 million tonnes of carbon dioxide equivalent. This was an increase of 1% compared with 2018. The longer term trend showed an increase of 8% compared with the base year in 1990.

In 2019, Northern Ireland's GHG emissions attributable to the Land Use, Land Use Change and Forestry (LULUCF) sector were estimated to be 2.5 million tonnes of carbon dioxide equivalent. This was unchanged from 2018. The longer term trend showed an increase of 9% compared with the base year in 1990.

**Which metric:** For the purposes of monitoring the performance of the new agricultural policy framework, it is proposed that the appropriate metric is net emissions (millions of tonnes of carbon dioxide equivalent) from both agriculture and those elements of land use change that are associated with agriculture, peatlands and forestry.

### - *Biodiversity and quality of the natural environment*

There are a range of biodiversity indicators that apply to the UK and Northern Ireland as a whole. Given agricultural land makes up approximately 75% of land in Northern Ireland, these indicators are considered meaningful and relevant to measuring agricultural land biodiversity. These include measures of the extent and condition of habitats and protected areas, distribution and abundance of species and air and water pollution affecting biodiversity<sup>87</sup>. These will be increasingly reported at the individual country level and for the purposes of reporting to the Office for Environmental Protection.

<sup>87</sup> <https://jncc.gov.uk/our-work/uk-biodiversity-indicators-2021/>

Distributional data on species in the wider countryside is variable, and often deficient for particular taxonomic groups. Population trend data on species is also limited, but can be drawn for certain groups such as butterflies (decreasing), bats (increasing) and breeding birds (variable). Annual Breeding Bird Survey data focuses on 41 widespread species, which by definition are relatively common and successful, and are increasing in average abundance. It does not highlight declines in more specialist species (per Birds of Conservation Concern Ireland) which may be present on farmland, and data collection is being commissioned for these.

The Northern Ireland section of the last EC Habitats Directive (Article 17) report, published in 2019, indicated that only one of the 42 terrestrial European priority habitats present in Northern Ireland was assessed as being in favourable condition. For the next Programme for Government, DAERA has proposed a new biodiversity indicator that will measure the condition of features found in the protected site network (ASSI, SAC, SPA, Ramsar) rather than just assessing whether the site is under favourable management. This is based on the existing protected sites monitoring programme, whereby condition assessment data is collected and analysed on a rolling programme for monitoring and reporting purposes. The new indicator will be published annually and will include both terrestrial and marine features. However, it will mainly be the terrestrial features that will be of interest as a metric for the new Agricultural Policy Framework Portfolio, although those marine features affected by agricultural pollution will be of interest.

Information is already published in the Environmental Statistics Report<sup>88</sup> on the condition of the 394 ASSI protected sites. ASSIs account for the majority of the protected site network in Northern Ireland covering 111,000 ha. ASSIs are designated and protected for their nature conservation and earth science value under the Environment (Northern Ireland) Order 2002<sup>89</sup>. They are selected based on specific qualifying features which include earth science features, habitats and species. The condition of these features is assessed over a six year monitoring programme. The first full cycle of monitoring was completed in March 2008. In 2020, 61% of the features were in favourable condition with 36% in unfavourable condition. When this is broken down into biological and earth science features assessed, 54% of biological features were in favourable condition, compared with 97% of earth science features in favourable condition, reflecting the pressures on the natural environment.

Going forward, biodiversity metrics and monitoring requirements will be reviewed to ensure fitness for meeting global United Nations Convention on Biological Diversity targets, local Biodiversity and Environment Strategy outcomes, including adopting a natural capital and ecosystem accounting approach.

## **- Nitrogen and phosphorus balances**

A Phosphorus balance is a sector level measure that provides an indication of the status of phosphorus (P) on agricultural land (kg P per hectare per year). It also provides trends on phosphorus inputs and outputs on agricultural land over time. The indicator is based on

<sup>88</sup> <https://www.daera-ni.gov.uk/articles/northern-ireland-environmental-statistics-report>

<sup>89</sup> <https://www.legislation.gov.uk/nisi/2002/3153/contents>

calculated input and output of phosphorus and not on soil sampling. Agricultural land within the phosphorus balance is defined as the total area of crops and grass (excluding rough grazing).

A Nitrogen balance is a sector level measure that provides an indication of the status of Nitrogen (N) on agricultural land (kg N/ha/year). It also provides trends on nitrogen inputs and outputs on agricultural land over time. The indicator is based on calculated input and output of nitrogen and not on soil sampling. Agricultural land within the nitrogen balance is defined as the total area of crops and grass (excluding rough grazing).

Both balances indicate the total potential risk to the environment (air, water and soil) from surplus or unused N and P which remains in the environment causing detrimental impacts, especially to waterways.

### **- River water quality**

Soluble Reactive Phosphorus (SRP) is a plant nutrient, which, when present in rivers and lakes in elevated concentrations, can lead to accelerated growth of algae and other plants. The impact on the composition and abundance of plant species can have adverse implications for other aspects of water quality, such as oxygen levels, and for the characteristics of freshwater ecology. These various changes can cause undesirable disturbances to populations of water species, such as invertebrates and fish.

In 2020, SRP was measured at 93 surveillance rivers across Northern Ireland giving an average concentration of 0.067 mg/l of phosphorus in river water. From a low of 0.047 mg/l reported in 2012, levels of soluble reactive phosphorus in the 93 Surveillance Rivers have increased to 0.067 mg/l in 2020. This metric is also included as a Northern Ireland Programme for Government indicator and is updated annually.

### **- Ammonia emissions from agriculture**

The UK National Atmospheric Emissions Inventory (NAEI) provides information on ammonia emissions in Northern Ireland and can identify those emissions associated with agriculture. Recent estimates from NAEI<sup>90</sup> show that agriculture produced 96 per cent of ammonia emissions in Northern Ireland. From 2005 to 2019, ammonia emissions<sup>91</sup> from Northern Ireland agriculture increased by 7.8% (from 29.5kt to 31.8kt). This rise in ammonia emissions was due to a trend of increasing livestock numbers in some sectors, greater use of indoor housing systems and insufficient uptake of ammonia reduction measures. Sustained and tangible reductions in ammonia are required to protect nature, to meet Northern Ireland's legal obligations and to ensure a sustainable agri-food sector.

<sup>90</sup> [https://naei.beis.gov.uk/reports/reports?section\\_id=8](https://naei.beis.gov.uk/reports/reports?section_id=8)

<sup>91</sup> [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2109270949\\_DA\\_Air\\_Pollutant\\_Inventories\\_2005-2019\\_Issue1.1.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2109270949_DA_Air_Pollutant_Inventories_2005-2019_Issue1.1.pdf) p124

Much of Northern Ireland's biodiversity is exposed to damaging levels of ammonia emissions and associated nitrogen deposition. Critical levels (C. Le) of ammonia relate to the concentration of the pollutant in the atmosphere above which direct adverse effects may occur. The critical levels of ammonia are set at  $1 \mu\text{g}/\text{m}^3$  for the most sensitive species and  $3 \mu\text{g}/\text{m}^3$  for other plant species. The impacts of the resulting nitrogen deposition are determined using Critical loads (C. Lo) which relates to the quantity of a nitrogen deposited from the air to the ground below which significant harmful effects do not occur. C. Lo are habitat specific, and based on empirical evidence, mainly observations from experiments and gradient studies.

UK metrics are reported annually on ammonia and nitrogen deposition exceedance on sensitive habitats (UK Trends Report<sup>92</sup>) which will illustrate trends over time, and the effectiveness or otherwise of agricultural policy measures to address impacts from agriculture on biodiversity.

### **- Prevalence of key indicator species**

There are certain species of flora and fauna that are indicative of the health of the environment, such as birds, insects (butterflies) and plants of the wider countryside. Work is ongoing within the Department to identify what the best indicator species are in Northern Ireland and also to ensure the data collected is robust.

**Which metric:** All these metrics are important and will be measured. However, to demonstrate and measure the pressures on biodiversity from farming and the health of the environment, the metrics such as N and P balances, ammonia emissions from farming and key indicator species are suggested as the most appropriate overarching metrics. The use of further metrics including measures of habitat connectivity and the area of land protected and managed for biodiversity will also be important going forward. These metrics are proposed as they reflect progress at Northern Ireland level rather than being site specific.

## **2.15.4 Resilience**

Resilience is a complex issue which is difficult to capture in a single metric. To some extent, farm business resilience is closely related to sustainable productiveness, which means for many farms an improving TFP index would indicate better resilience, as would a greater number or proportion of farmers having been educated and trained to, for example, Level 3 in National Vocational Qualifications. However, it could be argued that resilience is more complex than this, and covers not just the ability of farm businesses to maintain the status quo in response to adverse circumstances but also the ability to adjust to economic, environmental and social pressures. In this respect, long term production trends may be of interest. The resilience of the farm owner-manager is also of interest. A declining dependence on income support payments over time may indicate increasing resilience but care will need to be taken on the analysis of this metric as it will be influenced by policy decisions on the type and amount of support payments and short term changes in market prices which may be different from the long term trend.

<sup>92</sup> [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2106241035\\_Trends\\_Report\\_2021.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2106241035_Trends_Report_2021.pdf)

Therefore, net farm income derived from the market (total income from farming (TIFF) in the absence of the income support payments) is an indicator of the degree of resilience and sustainability of the industry, i.e. its ability to generate a profit without the benefit of an income support payment.

**Which metric:** Net Farm income derived from the market

## 2.15.5 Effective Functioning Supply Chain

Supply chain responsiveness is another complex issue that is difficult to capture in a single metric. There are many signs that a supply chain is effective such as change to meet increasing consumer demand for, say, longer shelf life, lower carbon footprints reduced plastic usage in packaging or greater convenience. Ultimately, a more effective functioning supply chain should be a more successful supply chain and that should be reflected in the long run in greater value added.

**Which metric:** It is proposed that gross value added from both agriculture and food processing would reflect the success of a significant proportion of the entire food chain and would be a suitable high level overarching metric representing an effective functioning supply chain.

## 2.15.6 Proposed High Level Overarching Metrics for the Agricultural Policy Programme

- (i) TFP for Northern Ireland Agriculture;
- (ii) Net GHG emissions for Northern Ireland Agriculture and LULUCF;
- (iii) Nitrogen and Phosphorus balances;
- (iv) Ammonia emissions from farming;
- (v) Indicator species;
- (vi) Net Farm income derived from the market; and
- (vii) Gross Value added from agriculture and food processing.

## Consultation Questions

49.	Do you agree with the principles against which metrics should be developed?
50.	What are your views on the high level overarching metrics proposed?
51.	What suggestions do you have for additional high level overarching metrics that need to be adopted or developed?
52.	What other metrics do you suggest are included in the suite of metrics but that would sit below or play a supporting role to the high level overarching metrics?



## 2.16 Horticulture



### 2.16.1 Background

The Northern Ireland production horticulture sector makes an important contribution to the economy, the environment and human health. DAERA statistics for 2019 indicate that horticulture holdings in Northern Ireland occupy 3,000 ha, equivalent to 0.3% of the total farmed land area, but have an estimated output of £101.3m or 5% of the total gross output of Northern Ireland agriculture.

The UK is currently highly reliant on imports of horticulture products (fruit, vegetables and ornamental crops) to meet growing consumer demand. Defra estimates the value of imports to the United Kingdom of these products in 2019 to be almost £8 billion. A number of these imported products could be grown successfully in Northern Ireland.

The lifestyle trend market signals highlight the growth in the plant-based foods market and people selecting to eat less meat, adopting a flexitarian diet. Increasing fruit and vegetable consumption forms part of a number of Government initiatives including 5/7-a-Day and tackling childhood obesity. Plant-based foods grown and consumed within a region are associated with a lower carbon foot-print and this is an important consumer purchasing choice. In addition, production horticulture has the opportunity to contribute positively to climate change policies.

A Production Horticulture Programme would assist the industry to achieve economic, environmental, and health and wellbeing benefits, by focusing on the four desired outcomes of the Future Agricultural Policy Framework Portfolio.

## 2.16.2 Need

The horticulture sector is fragmented, with a diverse range of production enterprises impacting on scale of production and consistency of supply for some sub-sectors. There is limited availability of robust statistical and economic data for the sector, including number and scale of businesses and the costs and returns of production. Historically, there has been limited successful cooperation within the sector, even though this would represent a clear opportunity to address the weaknesses arising from its fragmented structure. The challenge is to develop solutions to build capacity (including that for cooperative capacity) and supply chain integration for the sector to address current problems of scale, consistency and continuity of supply of product.

The sector also has a significant productivity challenge and coupled with constrained access to labour, focus is needed on how to produce more with the same resource or the same with less resource, crucially without negatively impacting the environment. The sector needs the know-how to use advanced technology, robotics and automation as a pre-requisite for its investment to address issues such as labour availability, productivity and sourcing lower cost energy supply.

The provision of quality market intelligence and consumer insight data is needed in an appropriate format for use by the industry on an on-going basis. To deliver impact, new knowledge and skills are needed in areas such as how to improve productivity, apply the principles of lean production, decision-making, using data effectively, ability to assess investment in new technology/systems that match the needs of the business/sector, and understanding of environmental footprint and greener options.

## 2.16.3 Specific outcomes being sought

A Horticulture Industry that is:

- Making an improved contribution to the Northern Ireland economy through a Production Horticulture Programme aiming to secure a two-fold increase in the output of the sector from £100m to £200m+ over the next 5-7 years;
- Seeking to increase horticulture's contribution to Northern Ireland Agriculture Output from the current 5% to 10% over the next 5-7 years;
- Collaborating and co-operating with each other and government to secure sustainable growth and development;
- Operating within an integrated, efficient, sustainable, competitive and an effective functioning supply chain;

- Knowledge-driven, understanding the market in which it operates, the supply chain, its values and customer buying motivations at each point in the supply chain;
- Data-driven, using 'high-value' data to make decisions, securing and using market intelligence information and benchmarking the sector against industry standards;
- Innovative and knowledge-led, engaged with science, knowledge and new technology with the capability to adopt and embed knowledge and technology;
- Environmentally sustainable, reducing environmental impact and assisting the agri-food industry meet climate change obligations;
- Professional - continually seeking new knowledge and skills; and
- Demonstrating leadership and collective effort to co-operate, build scale and reduce barriers along the 'route to market'.

## 2.16.4 Future Approach

DAERA proposes an integrated approach to supporting the improved productivity, sustainability and resilience of the Northern Ireland production horticulture sector, incorporating knowledge, innovation, capital, supply chain integration, collaboration and data.

## 2.16.5 Policy Proposals

- The focus will be on production horticulture, defined as plant propagation and cultivation to produce food/edible crops, ornamental crops and other crops (i.e. those grown for use as pharmaceutical plant products or as plant based ingredients in processed foods);
- Developing programmes through a collective process involving key stakeholders, other government departments and social partners;
- Creating improved supply chain integration through incentivising collaboration and cooperation within the supply chain where fragmentation exists and scale is a supply barrier;
- Assisting in building collaborative partnerships to access Research and Development and Innovation that will benefit production horticulture growers from wherever this is available;
- Providing access to cutting-edge knowledge transfer and innovation support programmes to ensure those working in the industry have the required knowledge and skills to enable them to maximise market opportunities, and deliver the desired outcomes of the Framework Portfolio;

- Facilitating learning from others through industry/supply chain visits and supporting clusters for shared/peer learning;
- Optimising precision of data used in decision making tools/models through data projects and incentivised high value data collation; and
- Supporting businesses transition through knowledge and support for adoption of new technology.

## 2.16.6 Design Principles

Future agricultural policy and interventions must:

- Focus on where there is strong evidence of market failure limiting the achievement of government’s policy objectives;
- Support the transition towards a low carbon economy; and
- Provide policy cohesion - linking of existing and future strategies, policies and actions that can deliver climate, environment and sustainable economic growth - a policy portfolio approach.

### Consultation Questions

53.	<b>What are your views on the proposed outcomes regarding the Northern Ireland production horticulture sector?</b>
54.	<b>Do you agree with the policy proposals, regarding production horticulture? Explain your answer.</b>
55.	<b>Do you agree with the design principles regarding production horticulture? Explain your answer.</b>
56.	<b>Have you specific suggestions for how success can be measured regarding production horticulture?</b>

## Part 3 Impact Assessments

Screening of equality, regulatory and rural needs considerations has been carried out for the Programme as a whole.

All of the screening documents are available on the DAERA website as part of this wider consultation exercise. The Department welcomes views on these screening exercises as part of this consultation process.

Full screening processes will be undertaken as the policy strands are developed following this stakeholder consultation exercise, and these will be issued for public comment.

### 3.1 Rural Needs Considerations

DAERA has a statutory duty to implement the statutory requirements of the Rural Needs Act. A Rural Needs Impact Assessment has been completed and determined that no specific design features are required, at this stage, to address rural issues. It is published alongside this document on the DAERA website.

**57. Are there any rural needs comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.**

### 3.2 Equality Considerations

An Equality and Disability Duties Screening Template has been completed for the Programme. We welcome any comments or views you may have in respect of our assessments published alongside this document on the DAERA website.

It has demonstrated that there will not be a differential impact because of an individual's religious belief, national identity, racial group, age, marital status, sexual orientation, gender, disability or whether or not he/she has dependants, therefore, the options are screened out from a full EQIA at this stage.

**58. Are there any equality comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.**

## 3.3 Regulatory Impact Assessment (RIA)

A Regulatory Impact Screening has been carried out and is published alongside this document on the DAERA website. We welcome any comments or views you may have in respect of the RIA screening.

It shows that there would be minimal additional compliance or administrative burdens placed on farm business from the Programme. Northern Ireland would not be placed at a disadvantage compared with other businesses elsewhere in the UK, nor would it have and special advantages which might breach anti-discrimination rules on free movement of goods and services. For these reasons, a full Regulatory Impact Assessment has been screened out.

**59. Are there any regulatory impact comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.**

## 3.4 Strategic Environmental Assessment (SEA)

There is no legislative requirement to have an Agricultural Policy Programme in Northern Ireland, however, in line with good practice, DAERA has engaged a skilled external contractor to complete the environmental assessments.

The SEA process is helping DAERA to consider how to deliver the programme to achieve better environmental outcomes.

SEA Screening<sup>93</sup> and SEA Scoping<sup>94</sup> documents have been completed and the SEA Environmental Report is nearing completion and will be issued for a period of public consultation in the next few weeks.

## 3.5 Habitats Regulations Assessment (HRA)

DAERA is undertaking an HRA on the Programme. An Appropriate Assessment will be issued for a period of public consultation in the next few weeks. The outcome of the Appropriate Assessment will be incorporated into the SEA Environmental Report.

**60. Are there any environmental impact comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.**

<sup>93</sup> [https://www.daera-ni.gov.uk/sites/default/files/publications/daera/IBE1930\\_DAERA%20APP\\_SEA%20Screening\\_F01\\_210917.pdf](https://www.daera-ni.gov.uk/sites/default/files/publications/daera/IBE1930_DAERA%20APP_SEA%20Screening_F01_210917.pdf)

<sup>94</sup> [https://www.daera-ni.gov.uk/sites/default/files/publications/daera/DAERA\\_Agricultural%20Policy%20Programme%20-%20SEA%20Scoping%20Report.PDF](https://www.daera-ni.gov.uk/sites/default/files/publications/daera/DAERA_Agricultural%20Policy%20Programme%20-%20SEA%20Scoping%20Report.PDF)



# Part 4 Capturing Stakeholder Views - Next Steps

DAERA welcomes responses and comments from stakeholders on the questions outlined in this consultation document to help develop the policy proposals for future agricultural policy. A full list of the questions in this document can be found in **Annex A**. You can choose to respond to all questions or select those that are of most interest to you.

## 4.1 How to Respond

Responses are invited online via the NIDirect consultation hub - Citizen Space at:

<https://consultations2.nidirect.gov.uk/daera/daera-app>

You can save and return to your responses while the consultation is still open.

By email via: [NIFutureAgriPolicy@daera-ni.gov.uk](mailto:NIFutureAgriPolicy@daera-ni.gov.uk)

or by post to: Department of Agriculture, Environment and Rural Affairs

Room 419  
Dundonald House  
Upper Newtownards Road  
Ballymiscaw  
Belfast BT4 3SB

Telephone: 028 9052 4398

We would encourage an online response in order to limit any environmental impact.

## 4.2 Acknowledgement of Responses

An acknowledgement will be sent to confirm receipt of each response.

When responding please provide the following information:

- Your name;
- Contact details (preferably e-mail); and
- Organisation you represent (if applicable).

If you submit a response to the consultation through Citizen Space a receipt for your response and a copy of your responses will be emailed to the address you provide on Citizen Space from the address [nidirect2@mail1.citizenspace.com](mailto:nidirect2@mail1.citizenspace.com) with the subject "Response received - Response ID: XXXX-XXXX-XXXX-X". If it does not appear in your inbox within a couple of minutes, please check your "spam" or "junk" folder.

If you submit a response to the consultation by email via [NIFutureAgriPolicy@daera-ni.gov.uk](mailto:NIFutureAgriPolicy@daera-ni.gov.uk) an acknowledgement will be emailed to the address you provide.

If you submit a response to the consultation by post an acknowledgement will be posted to the address you provide.

## 4.3 Timetable

The closing date for responses is **23.59, 15 February 2022** Please ensure your response is submitted by that date.

## 4.4 Privacy, Confidentiality and Access to Consultation Responses

The Department takes data protection and the security of your personal data seriously. It takes care to ensure that any personal information received from you is dealt with in a way which complies with the requirements of the UK General Data Protection Regulation and the Data Protection Act (2018).

The Department intends to publish a summary of responses following the closing date for receipt of views. Your response, and all other responses to this publication, may be disclosed on request. The Department can only refuse to disclose information in exceptional circumstances. Before you submit your response, please read the paragraphs below on the confidentiality of responses and they will give you guidance on the legal position about any information given by you in response to this publication. Any confidentiality disclaimer generated by your IT system in e-mail responses will not be treated as such a request.

Section 8(e) of the Data Protection Act 2018 permits processing of personal data when necessary for an activity that supports or promotes democratic engagement. Information provided by respondents to this stakeholder engagement exercise will be held and used for the purposes of the administration of this current exercise and subsequently disposed of in accordance with the provisions of the Data Protection Act 2018 and the UK General Data Protection Regulation.

For more information and to view the DAERA Privacy Statement please go to:  
<https://www.daera-ni.gov.uk/publications/daera-privacy-statement-document>

The Freedom of Information Act gives the public a right of access to any information held by a public authority, namely, the Department in this case. This right of access to information includes information provided in response to a stakeholder engagement exercise. The Department cannot automatically consider as confidential information supplied to it in response to a stakeholder engagement exercise. However, it does have the responsibility to decide whether any information provided by you in response to this stakeholder engagement exercise, including information about your identity, should be made public or be treated as confidential. If you do not wish information about your identity to be made public, please include an explanation in your response including any harm you believe such a disclosure might cause.

This means that information provided by you in response to the stakeholder engagement is unlikely to be treated as confidential, except in very particular circumstances. The Lord Chancellor's Code of Practice on the Freedom of Information Act provides that:

- The Department should only accept information from third parties in confidence if it is necessary to obtain that information in connection with the exercise of any of the Department's functions and it would not otherwise be provided;
- The Department should not agree to hold information received from third parties "in confidence" which is not confidential in nature; and
- Acceptance by the Department of confidentiality provisions must be for good reasons, capable of being justified to the Information Commissioner.

For further information about confidentiality of responses please contact the Information Commissioner's Office (or see web site at: <https://ico.org.uk/global/contact-us/>)

## Annex A List of Questions

- 1. The proposal is that payment will continue to be area based, use entitlements and that funding will be directed to active commercial farm businesses.**
  - (i) Do you agree that income support is needed in the form of a Resilience Payment set at an appropriate level? Explain your answer.**
  - (ii) Do you agree that farm businesses that solely produced grass/grass silage for sale during a historic reference period should not be eligible to claim the Resilience Payment? Explain your answer.**
  - (iii) Do you agree that businesses that maintained land in a state suitable for grazing or cultivation but undertook no further agricultural activity during a historic reference period should not be eligible to claim the Resilience Payment? Explain your answer.**
  - (iv) To give effect to the proposals relating to grass selling businesses and those maintaining land in GAEC, do you agree that an historic year or years should be used to restrict the allocation of entitlements for Resilience Payment to farm businesses which met the following criteria: (i) had cattle or sheep registered on APHIS; and/or (ii) had at least 3 ha of an arable or horticultural crop during the reference period in an historic year or years? Explain your answer.**
- 2. The proposed conditionalities outlined to be eligible to claim the Resilience Payment are aimed at environmental improvement.**
  - (i) Participation in soil testing, including Light Detection and Ranging (LiDAR) - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.**
  - (ii) Preparing a Nutrient Management Plan (NMP) based on the soil testing and LiDAR information - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.**
  - (iii) Recording of sire data on APHIS/NIFAIS for all calves born on both dairy and beef herds - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.**
- 3. The proposal is that progressive capping of resilience payments will apply above £60,000 and that the minimum claim size should be increased to 10 ha.**
  - (i) Do you agree with the proposal that progressive capping of the Resilience Payment will apply above £60,000? Please Explain your answer.**
  - (ii) Do you agree with the proposal to increase the minimum claim size threshold to 10 ha? Explain your answer.**

4. The proposal is that there will be a new crisis framework that will enable the Department to assess potential risks and determine the most appropriate intervention for a specific crisis.
- (i) Do you agree with the principles proposed in the development of a Crisis Framework? Explain your answer.
5. Do you agree that payments under the Headage Sustainability Measure will be made only to businesses in receipt of payments under the Resilience Measure? Explain your answer.
6. The proposals and conditions outlined for any Headage Sustainability Measure for suckler cows are aimed at driving productivity to make the sector more efficient and environmentally sustainable.
- (i) Reducing age of first calving - do you agree with this measure and the pace of phased implementation proposed? Explain your answer.
- (ii) Reducing the calving interval - do you agree with this measure and the pace of phased implementation proposed? Explain your answer.
- (iii) Do you agree payment should be made only to qualifying suckler cows where live calves are registered with DAERA? Explain your answer.
- (iv) Do you agree that payment quotas will apply to the suckler cow measure and be calculated on an individual farm basis based on historic reference data? Explain your answer.
- (v) Do you agree that the payment quota may be traded and usage rules will apply? Explain your answer.
- (vi) Do you agree that there should be a retention period of at least 6 months? Explain your answer.
- (vii) Do you agree that in the future, claimants under this measure will be required to provide data [to be determined] to support a genetics programme? Please Explain your answer.
7. Do you agree on the proposal to slaughter clean beef animals at 24 months to make the sector more productive and environmentally sustainable?
8. Do you agree that only animals born and bred in Northern Ireland should be eligible for support under the Beef Transformation Measure?
9. Do you agree with the proposed pace of phased implementation to reduce the age of slaughter to 24 months? Explain your answer.
10. Do you agree a single minimum slaughter age of 12 months for all cattle? Explain your answer.
11. What are your views on a single maximum slaughter age of 24 months for all cattle - should there be different maximum slaughter ages for bulls, steers and heifers? Explain your answer.

12. Have you any other specific suggestions to provide support for other parts of the beef sector? Please outline these and explain your reasoning.
13. Do you have any specific suggestions for incentivising productivity in breeding ewes? Please outline these and explain your answer.
14. What are your views on the suggested policy proposals and environmental principles to be incorporated within the Farming for Nature Package?
15. What are your views on proposals to prioritise actions through environmental improvements to reverse the trends in nature decline by creating and restoring habitats that are important for species diversity?
16. Do you agree with the proposed eligibility criteria and minimum claim size proposals? Explain your answer.
17. Do you agree with focusing on the habitat management actions listed as an initial mechanism to kick start improved awareness and capacity to manage environmental assets? Explain your answer.
18. Do you have specific suggestions for other quick win management actions?
19. What are your views on proposals to introduce 'Test and Learn' pilots?
20. Have you specific suggestions for other components that could be incorporated into 'Test and Learn' pilots?
21. What needs to be in place to support delivery of an outcome-focused approach? Explain your answer.
22. Have you specific suggestions for partnership delivery models that will encourage collaborative working?
23. Do you agree on the proposals identified for low carbon emission farming practices? Explain your answer.
24. Do you agree with the principle of encouraging the Farming of Carbon as a business enterprise. Explain your answer.
25. Do you agree the guidelines when considering future capital support? Explain your answer.
26. Do you agree the draft design principles when considering future capital support? Explain your answer.
27. Have you any suggestions on the capital assistance that might support the agriculture and horticulture sectors? Explain your answer.
28. What are your views on the approach to Knowledge Transfer and Innovation for land managers, farmers and workers set out in this document?
29. Have you specific views on how best to encourage the participation of land managers, farmers and workers in Knowledge Transfer and Innovation programmes?



<b>30. Have you specific views on how best to encourage the adoption of innovation by land managers, farmers and workers?</b>
<b>31. Are there gaps in the current provision Knowledge Transfer and Innovation programmes that need to be addressed?</b>
<b>32. Do you agree that there is a need to encourage longer-term planning for farm businesses? Explain your answer.</b>
<b>33. What are your views on a Generational Renewal Programme and the proposed three phase approach?</b>
<b>34. Do you agree with the inclusion of knowledge and skills development within the Generational Renewal Programme? Explain your answer.</b>
<b>35. Do you agree that incentives should be provided to those participating on the Generational Renewal programme on achievement of specific objectives or on progress made? Explain your answer.</b>
<b>36. What are your views on the scope and effectiveness of existing supply chain measures (market transparency/information, education and knowledge transfer, incentivisation) to help deliver a more efficient, competitive supply chain?</b>
<b>37. Do you agree the three proposed policy areas when considering future supply chain measures? Explain your answer.</b>
<b>38. Are there specific gaps in the approach that you feel need to be addressed? Explain your answer.</b>
<b>39. Are there specific early actions that you would like the Department to take to support supply chain development in the agriculture and horticulture sectors? Explain your answer.</b>
<b>40. What are your views on the proposed uses for data provided via the proposed Soil Nutrient Health Scheme?</b>
<b>41. Do you agree that in order to maximise future support payments, applicants should have to demonstrate that they have a current, (updated regularly) Nutrient Management Plan? Explain your answer.</b>
<b>42. Have you further specific suggestions for how the data provided by the Soil Nutrient Health Scheme could be used or promoted by government?</b>
<b>43. Do you agree that the Department should pump prime the initiation of an industry led livestock data and genetics programme?</b>
<b>44. Do you agree that farmers should be required to provide data for the genetic improvement and data programme as an eligibility condition of future support payments? Explain your answer.</b>

<p>45. Do you agree with the proposal to develop knowledge transfer programmes to support farmers to adopt genetic improvement technologies? Explain your answer.</p>
<p>46. Do you agree with the proposal to replace the current Cross Compliance system with the simplified 'Farm Sustainability Standards'? Explain your answer.</p>
<p>47. Have you specific suggestions for how compliance with the proposed Farm Sustainability Standards should be controlled? Explain your answer.</p>
<p>48. Do you agree with the proposal that the current land eligibility rules should be revised to make all agricultural land (except hard features) eligible for direct payment under future area based schemes? Explain your answer.</p>
<p>49. Do you agree with the principles against which metrics should be developed?</p>
<p>50. What are your views on the high level overarching metrics proposed?</p>
<p>51. What suggestions do you have for additional high level overarching metrics that need to be adopted or developed?</p>
<p>52. What other metrics do you suggest are included in the suite of metrics but that would sit below or play a supporting role to the high level overarching metrics?</p>
<p>53. What are your views on the proposed outcomes regarding the Northern Ireland production horticulture sector?</p>
<p>54. Do you agree with the policy proposals, regarding production horticulture? Explain your answer.</p>
<p>55. Do you agree with the design principles regarding production horticulture, are there others you would like to see included? Explain your answer.</p>
<p>56. Have you specific suggestions for how success can be measured regarding production horticulture?</p>
<p>57. Are there any rural needs comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.</p>
<p>58. Are there any equality comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.</p>
<p>59. Are there any regulatory impact comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.</p>
<p>60. Are there any environmental impact comments that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so can you describe the evidence and provide a copy.</p>

## Annex B Glossary/List of abbreviations

Term or abbreviation	Meaning/definition
Active Farmer	The person enjoying the decision making power, the benefits and the financial risks in relation to agricultural activity being carried out on the land.
AFBI	Agri-Food and Biosciences Institute
AFCS	Agri Food Cooperation Scheme
AGB	Above Ground Biomass
Agricultural Policy Programme	The overarching strategic programme in DAERA for the development of future agricultural policy.
APHIS	Animal and Public Health Information System
Arable land	Land cultivated for crop production or areas available for crop production but left lying fallow (including set aside) in the current year or within the previous five years.
ASSI	Area of Special Scientific Interest
BBS	Breeding Bird Survey
BDG	Business Development Group
BPS	Basic Payment Scheme
BVD	Bovine Viral Diarrhoea
CAFRE	College of Agriculture, Food and Rural Enterprise
CAN	Calcium Ammonium Nitrate
CAP	Common Agricultural Policy
CCC	Climate Change Committee
C.Le	Critical Levels
C.Lo	Critical Loads
Citizen Space	NIDirect Consultation Portal
CO <sub>2</sub>	Carbon Dioxide
COP 15	Convention of Biological Diversity
Coupled support	A payment directly linked to the volume of output of a specific agricultural product.
CPD	Continuous Professional Development
Cross-cutting Workstreams	Workstreams that are inter-linked to other workstreams.

Term or abbreviation	Meaning/definition
DAERA	Department of Agriculture, Environment and Rural Affairs
Defra	Department for the Environment, Food and Rural Affairs
EBV	Estimated Breeding Value
EFS	Environmental Farming Scheme
EIP	European Innovation Partnership
Eligible land	Broadly speaking, land is eligible under the Basic Payment Scheme if it is arable, permanent grassland or pasture or permanent crops, but exceptions apply.
Entitlements	These form the basis of payments to farmers under the Basic Payment Scheme - once activated each entitlement will have a value and can be used by a farmer to claim payment each year, subject to meeting the relevant scheme rules.
EQIA	Equality Impact Assessment
EU	European Union
FBI	Farm Business Income
FBIS-C	Farm Business Improvement Scheme - Capital
FFKS	Farm Family Key Skills
FIVs	Farm Innovation Visits
Future Agricultural Policy Framework Portfolio	Framework that charts the way forward for a future agricultural policy which better meets Northern Ireland's needs based on four key outcomes of increased productivity, environmental sustainability, improved resilience and an effective functioning supply chain.
GAEC	Good Agricultural and Environmental Condition
GCA	Grocery Code Adjudicator
GHG	Greenhouse Gas
Green Growth	A globally recognised concept about working together to value environmental assets; grow these assets and grow the economy.
Green Growth Strategy	A route map to ensure climate action, environmental improvement and sustainable economic and social growth.
HNV	High nature value - HNV farming describes low-intensity farming systems which are particularly valuable for wildlife and the natural environment.

Term or abbreviation	Meaning/definition
Headage	A payment per head
HRA	Habitats Regulations Assessment
IPPC	Integrated Pollution Prevention and Control
ITEDS	Innovation Technology Evaluation Demonstration Scheme
KT	Knowledge Transfer
LESSE	Low Emission Slurry Spreading Equipment
LFA	Less Favoured Area - areas of poorer agricultural land which qualify for special aid under EU Schemes.
LiDAR	Light Detection and Ranging
LULUCF	Land Use, Land Use Change and Forestry
N	Nitrogen
NAEI	National Atmospheric Emissions Inventory
NIFAIS	Northern Ireland Food Animal Information System
NIRDP	Northern Ireland Rural Development Programme
NMP	Nutrient Management Plan
OECD	Organisation for Economic Cooperation and Development
P	Phosphorus
PCS	Protein Crops Scheme
Permanent grassland (including permanent pasture)	Land used to grow grasses or other herbaceous forage naturally (self-seeded) and through cultivation and that has not been included in the crop rotation of the holding for five years or more. Member States/regions may include other land which can be grazed and which forms part of established local practices where the grasses and other herbaceous forage are traditionally not predominant in grazing areas (e.g. grazed heather under certain conditions).
PfG	Programme for Government
PI	Public Intervention
Productivity	Productivity is a measure of the efficiency with which businesses turn inputs into outputs, indicating the economic competitiveness of a sector.
PSA	Private Storage Aid
Ramsar	Convention of Wetlands of International Importance

Term or abbreviation	Meaning/definition
Resilience	The ability to 'bounce back' (return to a previous state) in response to temporary shocks; and also to 'bounce forward' (transform to a new state) in response to system shifts.
RIA	Regulatory Impact Assessment
SAC	Special Area of Conservation
SALMS	Sustainable Agricultural Land Management Strategy
SEA	Strategic Environmental Assessment
SFP	Single Farm Payment
SPA	Special Protection Area
SMR	Statutory Management Requirements
SNHS	Soil Nutrient Health Scheme
SRP	Soluble Reactive Phosphorus
SRUC	Scotland's Rural College
TDF	Technology Demonstration Farm
TFP	Total Factor Productivity
The Framework	The Future Agricultural Policy Framework Portfolio
The Programme	The Agricultural Policy Programme
TIFF	Total Income From Farming
TSE	Transmissible Spongiform Encephalopathies
WCC	Woodland Carbon Code
Withdrawal Agreement	European Commission Draft Withdrawal Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community.
Workstreams	Workstreams represent the key policy areas in the Department that will be responsible for developing future agricultural policy.
WTO Green Box Status	World Trade Organisation subsidies that must not distort trade, or at most cause minimal distortion. They have to be government-funded and must not provide price support.





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