

# Science Strategy Framework

## Public Consultation



*August 2019*

*A living, working, active landscape valued by everyone.*



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

[www.daera-ni.gov.uk](http://www.daera-ni.gov.uk)



**INVESTORS  
IN PEOPLE**

**This document is also available [here](#) on the DAERA website**

This document can be made available in alternative formats including:

- Paper Copy
- Large Print • Audio CD/MP3
- Braille
- Computer Disk
- Other languages

To request an alternative format, please contact:

DAERA Science Evidence and Innovation Policy Division  
Department of Agriculture, Environment and Rural Affairs  
Room 643  
Dundonald House  
Upper Newtownards Road  
Ballymiscaw  
Belfast  
BT4 3SB

Or, alternatively by:

E-mail: [STPMO@DAERA-NI.gov.uk](mailto:STPMO@DAERA-NI.gov.uk)

Tel: (028) 90378389

# Contents

## Section 1

1. Preface.....	5
1.1 Purpose of Document.....	6

## Section 2

2. Introduction.....	7
----------------------	---

## Section 3

3. Strategic context .....	8
Section 3 Question.....	15

## Section 4

4. Key Science Functions and Applications.....	16
Section 4 Question.....	18

## Section 5

5. Vision and Mission.....	19
Section 5 Question.....	19

## Section 6

6. Principles.....	20
Section 6 Question.....	21

## Section 7

7.1 Goals of the Strategy.....	22
7.2 Providing effective science leadership.....	22
7.3 DAERA understands its science needs.....	22
7.4 DAERA optimises its investment in science.....	23
7.5 DAERA works with high quality scientists.....	24
7.6 DAERA has fit-for-purpose science infrastructure.....	24
7.7 DAERA maximises the use of IT and Data for science.....	25
7.8 DAERA has effective oversight of its science use.....	25
7.9 DAERA knows the impact of its science investment.....	25
Section 7 Questions.....	26

<b>Section 8</b>	
8. Key Enablers.....	27
Section 8 Question.....	27
<b>Section 9</b>	
9. Objectives to achieve goals.....	28
Section 9 Question.....	30
<b>Section 10</b>	
10. Benefits.....	31
Section 10 Question.....	32
<b>Section 11</b>	
11. Rural Needs Considerations.....	33
Section 11 Question.....	33
<b>Section 12</b>	
12. Equality Considerations.....	34
Section 12 Question.....	35
<b>Section 13</b>	
13. Capturing stakeholder views – next steps.....	36
<b>Annex A</b>	
Questions.....	39

## SECTION 1

### 1. Preface

The Department of Agriculture, Environment and Rural Affairs (DAERA) invests around a quarter of its annual budget on science services. These services include monitoring and surveillance testing and research and development. Science outputs are used to inform policy development, meet statutory obligations, measure outcomes, provide advice and information, promote innovation, manage risks to society and the environment, and support rural affairs. In the context of the UK leaving the EU, the importance of the science evidence DAERA uses to support policy development and underpin statutory requirements is increased.

DAERA is implementing a Science Transformation Programme. This programme aims to ensure that the science DAERA secures and uses is innovative, collaborative and transformative and will support a healthy and sustainable economy, environment and rural community, including delivering on Programme for Government outcomes.

As part of the Science Transformation Programme a DAERA Science Strategy Framework is being developed. This will guide how DAERA can optimise its use of science to help deliver Departmental and Programme for Government objectives.

The proposed Science Strategy Framework outlines a Vision for DAERA science; defines high level principles to be adopted; describes the desired end-state goals to be achieved in terms of providing leadership, understanding needs, optimising investment in resources and having effective governance. It then defines objectives to reach the goals in terms of providing better leadership for science; becoming more intelligent customers of science; better targeting of science funding; pursuing value for money; and ensuring impact of science products.

## **1.1 Purpose of this document**

This consultation exercise gives you the opportunity to make known your views on whether you consider the proposed DAERA Science Strategy Framework to be relevant and appropriate for your organisation / sector's perspective. This exercise will inform the direction of the DAERA Science Strategy Framework and the Department encourages you to consider this proposed strategy and share your views with us.

## SECTION 2

### 2. Introduction

- 2.1 This framework outlines a set of high level, long-term principles for DAERA to optimise its use of science to help deliver Departmental and Programme for Government objectives. It also outlines key actions for DAERA to better identify, prioritise, commission and evaluate scientific services required, so that we optimise the value gained from our investment in science.
- 2.2 Following a review of how to better engage with stakeholders to inform the scientific services required, and on how they should be prioritised, DAERA intends to carry out an engagement exercise and subsequently publish its short, medium and longer term science priorities as “operational strategies”. We expect to publish innovation, monitoring and surveillance, research and development operational strategies during 2020, and thereafter update them at least every 5 years.
- 2.3 There will also be a review of the organisation of science resources, to identify the optimal organisational structure for the science services we need to directly control, and a review of the science estate to ensure it is fit for the purpose of delivering these science services over the next 15 years. Both these reviews will be directed by this new Science Strategy Framework. We estimate the former to be published by early 2022 and a subsequent plan for science estate development to be published no later than January 2023.

## SECTION 3

### 3. Strategic Context

3.1 DAERA was established in 2016, bringing functions from the former DARD, DOE, DCAL and OFMDFM into a single Department. DAERA has responsibility for certain aspects of food, farming, environmental, marine and fisheries, forestry and sustainability policy and regulation and the development of the rural sector in Northern Ireland.

3.2 The Department assists the sustainable development of the agri-food, environmental, fishing and forestry sectors of the economy, having regard for the needs of consumers, the protection of human, animal and plant health, the welfare of animals and the conservation and enhancement of the environment. It has four strategic outcomes it is seeking to achieve:

- **Sustainable agri-food, fisheries, forestry and industrial sectors**, helping to improve the economic and environmental performance of the wider business sectors in keeping with the principles of sustainable development, but with particular focus on land-based, marine and food processing sectors;
- **A clean, healthy environment, benefitting people, nature and the economy**, through developing and implementing policy and legislation to educate, incentivise and regulate organisations, businesses and individuals to protect and improve the environment;
- **A thriving rural economy, contributing to prosperity and wellbeing**, through working to ensure the needs of rural communities are clearly identified, recognised and addressed across government;
- **A well-led, high performing organisation focused on outcomes**, investing in its people to develop new and more efficient means of delivering its services and meeting its strategic objectives.



3.3 DAERA recognises the strategic importance of science in addressing the wider economic, environmental and social challenges associated with growing and re-balancing the NI economy. It wants to support a knowledge based bio-economy<sup>1</sup> which will help agriculture and agri-food businesses become economically, environmentally and socially sustainable; support economic growth in rural areas; and assure the protection and enhancement of the environment to safeguard wellbeing and health.

### **Political**

3.4 The NI Executive's draft Programme for Government (PfG) 2016 – 2021 outlines priorities to be delivered in Northern Ireland for the purpose of “improving wellbeing for all – by tackling disadvantage and driving economic growth”. This includes a range of priorities relevant to DAERA, including those focused at achieving a strong, competitive, regionally balanced economy (Outcome 1); living and working sustainably – protecting the environment (Outcome 2); enabling the enjoyment of long healthy lives (Outcome 4); becoming an innovative, creative society, where people can fulfil their potential (Outcome 5) and creating a place where people want to live and work, to visit and invest (Outcome 10). DAERA is a joint owner of Outcome 2, which relates to protecting the environment.

3.5 The Northern Ireland Economic Strategy – Priorities for sustainable growth and prosperity (2012) identified five strategic themes aimed at rebalancing the local economy. Stimulating innovation, Research & Development (R&D) and creativity is one of these themes. The strategy also recognises agri-food as one of the areas in NI with greatest potential for growth.

3.6 Innovate NI – the Innovation Strategy for Northern Ireland 2014 – 2025 takes forward the ‘Stimulating innovation, Research & Development and creativity’

---

<sup>1</sup> The bioeconomy is all economic activity derived from bio-based products and processes which contribute to sustainable and resource-efficient solutions to the challenges faced in food, chemicals, materials, and energy production; and in health and environmental protection.

theme identified in the NI Economic Strategy 2012. This aims to stimulate a step change in innovation across the economy. It also outlines that skills, design and collaboration between sectors locally, nationally and internationally are essential for innovation.

- 3.7 The draft Economy 2030 – Industrial Strategy for Northern Ireland (2017) outlines five ‘Pillars for Growth’ including ‘Accelerating innovation and research.’ The strategy provides priorities under this pillar and also identifies agri-food as one of the six broad sectors of the economy where Northern Ireland has world class capabilities.
- 3.8 As part of its Brexit preparations, DAERA has developed [a draft Future Agricultural Policy Framework](#)<sup>2</sup> for Northern Ireland. This recognises that science and innovation are important drivers of long term productivity growth; and that science assists in anticipating and mitigating the unintended consequences of innovation associated with the past intensification of production systems. The draft policy framework places an increased emphasis on the use of science to support higher productivity growth which is compatible with environmental sustainability and delivering high animal health and welfare standards. DAERA has also initiated work on Northern Ireland’s first Environment Strategy. This will form the basis for a coherent and effective set of evidence based interventions intended to deliver real improvements in the quality of the environment and thereby improve the health and well-being of citizens, create economic opportunities and contribute to protecting the global environment for future generations.
- 3.9 A range of other strategies, which address food, agriculture, the environment, marine and fisheries, forestry, sustainability and the rural sector in the UK, Ireland and further afield (see [DAERA Science Strategy Evidence Base](#))<sup>3</sup>,

---

<sup>2</sup> Draft DAERA Future Agriculture Policy Framework for Northern Ireland: <https://www.daera-ni.gov.uk/consultations/northern-ireland-future-agricultural-policy-framework>

<sup>3</sup> DAERA Science Strategy Evidence base [www.daera-ni.gov.uk/publications/science-strategy-evidence-base](http://www.daera-ni.gov.uk/publications/science-strategy-evidence-base)  
Note: This evidence base is a live document and will be added to as we develop the Science Strategic Framework and associated operational strategies.

identify the importance of using science to support the development of the sectors and the sustainable use of resources.

- 3.10 To summarise, science and innovation are identified as key drivers to support the development of a strong, competitive, sustainable economy and the sustainable use of resources.

### **Economic**

- 3.11 Agriculture makes an important contribution to the Northern Ireland economy accounting for 1.4% of Gross Value Added (GVA) compared to 0.5% across the UK. It is a significant profession, with 16,964 full-time and 13,721 part-time self-employed farmers in Northern Ireland in June 2018. A further 3,411 people were employed as farm workers on a full-time basis and 4,340 on a part-time basis.
- 3.12 The food and drink industry had a projected gross turnover of £4,952 million in 2018. It is a major employer, accounting for a projected 24,818 employees in 2018. Some 75.7% of NI produced food and drink was sold outside NI in 2017 representing total sales of £3,641m. This sector is one of the most strategically important sectors to the NI economy, so its development is of significant importance to the economic strength of the region.

### **Social**

- 3.13 DAERA as rural champion, seeks to ensure the needs of rural communities are recognised and addressed across government. Building on the 'rural vision' as articulated in the Executive's Rural White Paper Action Plan, the Rural Needs Act (NI) 2016, supports DAERA's advocacy role providing a statutory duty on public authorities to have due regard to rural needs when developing, adopting, implementing or revising a policy, strategy or plan and when designing or delivering a public service.

- 3.14 Under the NI Rural Development Programme 2014 – 2020, DAERA is currently implementing a number of measures that support rural society including LEADER – an initiative for assisting rural communities in improving the quality of life and prosperity in their local area; and a Rural Tourism scheme, which is investing in natural and built heritage projects that can act as key drivers for encouraging rural tourism and particularly out of state visitors whilst preserving the natural assets of the rural community.
- 3.15 DAERA manages and implements the Tackling Rural Poverty and Social Isolation (TRPSI) Programme which aims to tackle poverty and isolation in rural areas by implementing a broad range of innovative initiatives in collaboration with both central and local government, statutory providers and voluntary and community sector partners. The policy Framework was underwritten by a robust evidence base utilising the Agri-Food and Biosciences Institute (AFBI) social science research.
- 3.16 An overview of urban / rural comparisons for key social parameters statistics, along with data on the 10 most affected rural SOAs (Super Output Areas) for multiple deprivation issues is given at:-

[https://www.daera-ni.gov.uk/sites/default/files/publications/daera/DeprivationRural\\_0.docx](https://www.daera-ni.gov.uk/sites/default/files/publications/daera/DeprivationRural_0.docx)

<https://www.daera-ni.gov.uk/publications/northern-ireland-rural-urban-statistics>

DAERA also provides venues for social interaction and activity through its Forest and Country Parks.

## **Technological**

- 3.17 DAERA seeks to collect and manage the data it holds in line with its statutory obligations and best practice. Technology is a key enabler for exploiting the value of science and there are strategic drivers to optimise its use in this regard.

- 3.18 The General Data Protection Regulation (GDPR) EU Regulation 2016/679 replaced the Data Protection Directive 95/46/EC in May 2018. It has been designed to harmonise personal data privacy laws across Europe. Non-compliance with this directive may result in significant fines.
- 3.19 International Organisation for Standardisation – ISO/IEC 27000 ensures organisations keep information assets secure. The standards provide an outline specification for an information security management system (ISMS).
- 3.20 The DAERA Digital Transformation Programme aims to provide efficient, highly available, usable, accessible, cost-effective and secure digital and data services to internal and external users, making it easy to interact with our digital services and providing a best in class user experience and meet the DAERA digital requirements of the Regulatory Transformation Programme. This will be achieved through exploiting high impact datasets and making these available through innovative digital solutions that span across organisational boundaries to support evidence-based policy making and increased operational service delivery effectiveness.
- 3.21 A range of other Northern Ireland Civil Service (NICS) and Departmental strategies also apply, including the DAERA Knowledge Framework, the NICS ICT Strategy 2017-2021; NI: Implementing Joined-Up Governance for a Common Purpose, Organisation for Economic Co-operation and Development (OECD), 2016; Open Data Strategy for Northern Ireland 2015-2018, Making Lives Better – A Strategy for Digital transformation of Public Services 2017-2021; NI Direct and NICS Citizen Contact Strategy; and DAERA Digital Strategy 2017-2021.

## **Legal**

- 3.22 DAERA currently delivers services under a legislative and regulatory framework comprising some 3,105 separate pieces of legislation, ranging across its full remit, including food and farming, animal and plant health, veterinary,

environmental, marine and fisheries. Many of these require DAERA as the competent authority to provide assurance of compliance with regulatory standards through monitoring and surveillance science functions.

## **Environmental**

- 3.23 The environment is an important asset which needs to be valued in a holistic sense. Clean air, water and healthy land are fundamental to the wellbeing of human, animal and plant health. Biodiversity, the variety of all living organisms in land, sea and water, is critical as it provides our planet's life support. It maintains the balance of our ecosystems, for example natural recycling and storing nutrients or protecting water resources. Biodiversity provides biological resources such as food for humans and animals, timber / fibre production and pollination services. A pleasant, natural environment also provides recreational and relaxation facilities which can maintain and assist physical and mental well-being.
- 3.24 It is important that we have policies in place to assure the protection and enhancement of the environment to safeguard wellbeing and health. The desire and need to protect and enhance the environment is reflected in the suite of statutory controls and international conventions which address a wide range of environmental issues including water, waste, habitats, birds and air quality. EU environmental directives are currently in place. Post Brexit, these protections will be implemented through relevant UK transposing regulations.
- 3.25 "A Green Future: Our 25 Year Plan to Improve the Environment" (Defra, 2018) identifies actions the UK Government will take to help the natural world regain and retain good health in England and Wales. It aims to deliver cleaner air and water, protect threatened species and provide richer wildlife habitats. It will also tackle the effects of climate change. As noted previously DAERA, is currently developing an Environmental Strategy, tailored to the conditions and needs of Northern Ireland.

## Summary of the Strategic Context

- 3.26 The environment and sectors for which DAERA has responsibility are of fundamental importance to the environmental, economic and social well-being of Northern Ireland and its inhabitants. DAERA uses science to support its responsibilities as a key enabler for informing policy development, meeting statutory obligations, measuring outcomes, providing advice and information, promoting innovation, managing risks to society and the environment and supporting rural areas, thus supporting DAERA to further its vision for a *“Living, Working, Active, Landscape, Valued by Everyone”*. As the Government competent authority, DAERA science underpins trade in NI agri-food products, through assuring the health and compliance with export standards of NI animal, plant and derivative products. DAERA is also the Government competent authority for the environment and nature conservation and protection under a range of legislation applicable in NI. Consequently, it is important that DAERA has a coherent strategy and associated policies for how it will use science to further its policy aims / meet its statutory duties and optimise the value it achieves from its investment in science, to deliver positive impacts for the agri-food industry and its sectors, the wider rural economy and the environment as a whole.
- 3.27 DAERA spends circa £63million on science services annually. This equates to approximately 25% of the Department’s annual budget.
- 3.28 DAERA science services are currently undertaken directly by DAERA staff in the Department, including in the Northern Ireland Environment Agency (NIEA); provided by the Department’s Arms-Length science Body, the Agri-Food Biosciences Institute (AFBI); and by a range of other science providers.

## Section 3 Question

- Q1 What are your views on the strategic drivers identified?

## SECTION 4

### 4. Key Science Functions and Applications

- 4.1 There is a clear need for DAERA to commission (i) **monitoring and surveillance** science, which supports important government functions such as technical standards setting and regulation, and important government policies in the areas of public, animal, plant and environmental health and animal welfare; and (ii) applied **research and development** science. These two key science functions are defined as follows:

#### Monitoring and Surveillance

- 4.2 This includes routine scientific and technological activities, such as informing the provision of education and training, the provision of information, general purpose data collection, patent and licence development, routine software development and feasibility studies, surveys, monitoring, surveillance, mapping, testing, analytics, diagnostics, advice and representation.
- 4.3 Approximately two thirds of DAERA's annual investment in science is in Monitoring and Surveillance services.

#### Research and Development

- 4.4 Research and Development (R&D) is defined in the Frascati manual<sup>4</sup> as 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. Applied R&D is original investigation to acquire new knowledge directed primarily towards a specific practical aim or objective.

---

<sup>4</sup> Frascati Manual, OECD 2002



4.5 These functions provide results which feed into DAERA's 4 key **science applications**. These are:

- a. the development, implementation and evaluation of evidence-based strategies and policies;
- b. the assurance of compliance with statutory requirements;
- c. the management of risk, including emergency response capability; and
- d. promotion of innovation.

**a. Development, implementation and evaluation of evidence-based strategies and policies**

Science evidence is used by policy makers and strategy developers to inform the development of policies and strategies and to inform the evaluation of their impact / relevance. It is also used to support their implementation.

All relevant evidence includes findings from existing research and development and monitoring and surveillance science results, as well as from newly commissioned research and development where there are gaps in the knowledge / evidence base.

**b. Assurance of compliance with statutory requirements**

DAERA is the competent authority for assuring the health and compliance of NI animal, plant and derivative products with export standards; and also for protection and conservation of nature and the environment. As such, DAERA has a responsibility to implement regular, ongoing monitoring and surveillance science testing regimes to assure compliance with statutory standards (that is standards which are applicable by law). Research and Development updates and supports this assurance.

**c. The management of risk, including Emergency Response Capability**

DAERA needs to ensure there are sufficient contingencies and resources in place to provide the necessary scientific support (such as analysis of samples and diagnostic assistance) to any serious environmental emergency or to a widespread outbreak of any serious animal, plant or fisheries disease in NI, or in response to a

serious threat to the integrity of the NI animal food-chain. This relates to risk management, and is referred to as Emergency Response Capability.

#### **d. Promotion of innovation**

Innovation is a process ‘which proceeds from the conceptualisation of a new idea to a solution of the problem and then to the actual utilisation of a new item of economic, environmental or social value’.<sup>5</sup> DAERA’s strategic drivers (see Section 3) provide a context for a significant focus on encouraging and supporting innovation by DAERA and the agri-food, environmental, fishing, forestry and rural sectors to achieve economic benefit across the breadth of DAERA’s remit.

These are the key functions and applications considered within the DAERA Science Strategy Framework.

### **Section 4 Question**

Q2. What are your views on the types and applications of science that DAERA uses?

---

<sup>5</sup> S Meyers and DG Marquis, Successful Industrial Innovations. National Science Foundation, 1968

## SECTION 5

### **Vision**

5.1 The science secured and used by DAERA will be innovative, collaborative and transformative. It will support a healthy and sustainable economy, environment and rural community; help deliver the Programme for Government outcomes and contribute to a living, working, active landscape valued by everyone.

### **Mission**

5.2 To commission<sup>6</sup> relevant, fit-for-purpose science efficiently, from high quality, impartial scientists and maximise the value achieved from it, facilitated by fit for purpose infrastructure and robust governance mechanisms.

### **Section 5 Question**

Q3. What are your views on the 'Vision' and 'Mission' DAERA has proposed for its Science Strategy Framework?

---

<sup>6</sup> Specify, order and / or authorise the production of work

## SECTION 6

### Principles

#### What

- 6.1 Science funded by DAERA will support the development and implementation of strategies and policies across the DAERA remit.**
- 6.2 It will optimise the value of the investment we make in science to inform policy development, meet statutory obligations, measure outcomes, promote innovation and manage risks to society.

#### Why

- 6.3 Science provides robust and impartial evidence. Scientists provide expertise and capability to inform decision-making.**
- 6.4 Science enables the development and evaluation of evidence based strategies and policies; assurance of compliance with statutory requirements; the development of innovative applications; and the management of risk.

#### How

- 6.5 DAERA will seek to optimise the value of its investment in science through always:**
- Providing effective science leadership;
  - Engaging with stakeholders to inform a comprehensive and accurate understanding of its future-proofed science needs and becoming a more intelligent customer for science;
  - Adopting a collaborative approach for commissioned science wherever practical;
  - Applying effective governance mechanisms to all DAERA-funded science;
  - Commissioning science evidence on the basis that data and findings will be accessible and usable, with results made available as early and as widely as possible;
  - Evaluating science investment through assessing the impact of science outcomes on the industry / sectors / environment;
  - Seeking to exploit science outputs for innovation; and

- With respect to Research and Development, prioritising science funding primarily on innovative Applied and Experimental Development research activities to deliver on our strategic policy objectives. This will not preclude the undertaking of more basic research and development if there is a sound argument for doing so and a local benefit can be identified.

## **Section 6 Question**

Q4. What are your views on the principles behind what, why and how DAERA will use science?

## SECTION 7

### Goals of the strategy

7.1 The desired end-state of how DAERA will manage and operate science after the implementation of this strategic framework is outlined as a series of goals in this section. These are:

#### 7.2 Providing effective science leadership

- a. DAERA's investment in science is prioritised and targeted to align with its remit and the strategic priorities of the NI Executive (currently defined in the draft Programme for Government) and the Department.
- b. DAERA publishes its priorities and its strategic aims for science.
- c. DAERA works in concert with other NICS Departments, UK Government, Devolved Administrations, where relevant on an all-island basis and EU institutions to collaborate where appropriate and optimise the value from science investment across Government.
- d. DAERA has effective links with relevant regional, national and international science funding bodies, influencing the direction of their science interest and optimising NI-relevant opportunities to collaborate and draw down funding.

#### 7.3 DAERA understands its science needs

- a. DAERA has a holistic and forward-looking, evidence-based understanding of its science needs, driven by its strategic objectives, including the services that need to be undertaken locally and under its control.
- b. DAERA is informed by a good understanding of past, current and future science investment by all other relevant bodies / parties, via linking into effective co-ordination and horizon-scanning mechanisms and by undertaking meaningful engagement with relevant scientific, industry and sector stakeholders.

#### **7.4 DAERA optimises its investment in science**

- a. DAERA commissions science services from the most appropriate provider in terms of mitigating risk, obtaining quality, relevance, delivering efficiently, value for money and meeting DAERA's needs effectively. Having identified the science it needs to be undertaken locally (that is in Northern Ireland) and under its control, this has informed its requirement for specialised scientific staff resources and facilities.
- b. Wherever practical, DAERA engages in collaborative science programmes, to optimise the synergies and value achieved through investment in science, avoid duplication and holistically address issues.
- c. Where appropriate a problem-solving based approach (i.e. grand challenges) is adopted to ensure multi-disciplinary teams define and address science needs relating to the environment, society and industry.
- d. DAERA optimises leveraging of funding from others, such as charities, businesses and other private and public funders, where appropriate, maximising the additional impacts achieved from scarce public funding<sup>7</sup>.
- e. An effective and efficient end-to-end knowledge generation / knowledge exchange process is in place, which facilitates effective two-way communication and optimises transfer of knowledge from science to the agri-food, environmental and rural sectors.

---

<sup>7</sup> The general principles determining funding considerations are: – there will be a greater reliance on public funding when science primarily provides an evidence base for government policy, or wider societal or public good benefits, or is high risk, and therefore, unlikely to be progressed by industry; – there will be more of a focus on leveraging private funding when science provides benefits to industry e.g. increased market access / industry growth or profitability; The public sector will aim to ensure that it does not crowd out, displace or duplicate private science provision. Rather, all opportunities to use public funding to leverage private investment in science (i.e. where this would not otherwise happen) will be explored.

- f. DAERA's future Innovation Strategy<sup>8</sup> currently in development, will encourage and support innovation through fostering an enabling environment for knowledge generation, exchange and exploitation, including adopting an appropriate risk appetite.

## **7.5 DAERA works with high quality scientists**

- a. DAERA has access (both internally and externally) to appropriately skilled staff to effectively direct, govern and evaluate its use of science and science outcomes; to undertake science; to provide expert scientific advice and specialist opinion; and to manipulate and analyse data to optimise the learning DAERA derives from scientific data.
- b. Science excellence is promoted through commissioning science from providers who assure the quality of their scientists and science through peer review arrangements and adherence to best practice quality standards.
- c. Science excellence is encouraged, through fit for purpose recruitment and continuous professional development programmes.
- d. Common structures and systems facilitate communication, collaboration and flexibility between science teams.
- e. Team leading scientists have the appropriate "standing", experience and expertise to assure the necessary objectiveness and robustness of science evidence.

## **7.6 DAERA has fit-for-purpose science infrastructure**

- a. Modern and fit-for-purpose infrastructure to accommodate those science functions that are identified as needing to be undertaken locally and under the control of DAERA are in place.

---

<sup>8</sup> DAERA's Innovation Strategy is currently in development



- b. DAERA science infrastructure is designed and resourced to maximise collaboration and co-operation between scientists and science functions and optimise flexible use of science staff resources.

#### **7.7 DAERA maximises the use of IT and Data for science**

- a. DAERA has systems in place which facilitate the appropriate and efficient collation, handling, management, access to and control of data; which optimise the efficient storage, sharing, use and exploitation of data in line with Departmental priorities. This includes within the DAERA family and externally across Departments, sectors, stakeholders and the public.
- b. DAERA will make science data available as early and widely as possible, in line with the [Open Data Strategy for Northern Ireland](#)<sup>9</sup>.

#### **7.8 DAERA has effective oversight of its science use**

- a. DAERA has governance mechanisms in place which optimise investment in its priorities and facilitate commissioning from the most appropriate provider in terms of meeting its science needs effectively, obtaining quality science evidence (assured through use of peer review), mitigating risk and delivering efficiently.

#### **7.9 DAERA knows the impact of its science investment**

- a. DAERA knows and communicates the outcomes of its investment in science in as visible and accessible a manner as possible to science, industry and sector stakeholders.
- b. DAERA optimises the application and implementation of science outcomes through dissemination, education, competence development and support programmes, including through the [DAERA Knowledge Framework](#)<sup>10</sup>.

---

<sup>9</sup> At time of writing, Open Data Strategy has been prepared for the 2015-18 period.

<sup>10</sup> DAERA Knowledge Framework: <https://www.daera-ni.gov.uk/publications/daera-knowledge-framework-document>

- c. DAERA measures the impact of its investment in science at industry and sector level and on environmental metrics; benchmarks this where possible with other regions and countries, and adjusts its approach to improve its performance.

## **Section 7 Questions**

- Q5 From your perspective, are these goals appropriate?
- Q6 From your perspective, is there anything missing?
- Q7 From your perspective, are there any of these goals which are more important than others? If yes, which are they?

## SECTION 8

### Key Enablers

8.1 DAERA will focus on the enablers outlined in the table below to implement the goals of this strategy.

Enabler	Function
Funding	Maximising additionality, and targeted in line with DAERA's priorities
Skills	Assuring DAERA is using the highest quality scientists
Infrastructure	Having modern, fit-for-purpose facilities
IT / Data	Maximising the use of IT and Data for science and innovation
Governance	Having effective oversight of its science use and demonstrating value for money
Dissemination / Impact	Promoting end-to-end knowledge transfer / exchange and assessment of impact and value for money

### Section 8 Question

Q8 What are your views on the enablers identified for DAERA to implement the Science Strategy?

## SECTION 9

### Objectives to achieve goals

#### 9.1 Becoming a more intelligent customer

- a. **Stakeholder Engagement:** By September 2020, to identify and establish new stakeholder engagement mechanisms to facilitate DAERA having a holistic insight on the current and future issues which could impact the environment and agri-food and rural sectors in NI, to inform its science identification, prioritisation, and commissioning.

#### 9.2 Providing leadership and prioritisation

- a. **Encourage Joining Up of NICS and UK Government Science:** From January 2020, DAERA to engage at Senior Civil Service level to develop a co-ordinated approach to science across NI Government Departments, UK Government and Devolved Administrations, so that the value of investment in science is optimised.
- b. **Priority Setting Framework:** By September 2020, to establish and apply a Framework of principles to guide investment in and use of science by DAERA, in line with its remit and the strategic priorities of the NI Executive; the principle of prioritising Research and Development funding towards Innovative Applied and Experimental Development research activities to deliver on our strategic policy objectives; and to identify the science DAERA needs undertaken locally (that is in Northern Ireland) and under its control.
- c. **Publishing Operational Science Priority Strategies:** To establish and publish appropriate operational strategies for monitoring and surveillance, research and development, emergency response capability and innovation, that are fit for the purpose of implementing this strategy during 2020.

#### 9.3 Protecting the investment in science and pursuing Value for Money

- a. **Intellectual property (IP) and Contract Design:** By September 2020, to ensure DAERA becomes an intelligent customer for science, including by

securing expert IP and contract design advice to continue to ensure there are clear accountabilities in place to maximise the benefits of science to the NI (and UK) economy.

- b. **Commissioning:** By June 2023 to commission science services directed by new operational strategies from the most appropriate provider in terms of mitigating risk, obtaining quality, delivering efficiently and meeting DAERA's needs effectively.
- c. **Skills investment:** Where science needs to be undertaken locally and under DAERA control, to ensure a People Strategy by the end of March 2022 assures appropriately skilled scientific resources are in place to facilitate the necessary quality, objectiveness and robustness of science evidence.
- d. **Infrastructure Investment:** By no later than early 2023, to agree a development programme to deliver modern and fit-for-purpose facilities for science that needs to be undertaken locally and under DAERA control.
- e. **Information / Data management:** By March 2023, to develop and deliver a centralised, science management information environment and associated function, which effectively and efficiently facilitates the collation, storage, handling, management and analysis of scientific information across the DAERA family, including supporting integration and collaboration between internal and external science teams.

#### 9.4 Ensuring Impact

- a. **Knowledge Exchange:** By no later than March 2023, to review the Knowledge Framework<sup>10</sup> governance mechanisms so they are fit for the purpose of implementing this strategy; and to develop and deliver a strategic approach for the systematic dissemination of DAERA scientific data and findings as appropriate within DAERA and externally across Departments, sectors, stakeholders and the public.

- b. **Reporting:** From the end of June 2024 to establish and publish an Annual Report outlining the impact of the DAERA science investment in science on the industry and sectors; and to engage with counterpart Departments across the UK to agree an approach to benchmarking the impact of science investment at industry and sector level by the end of September 2023.

## Section 9 Questions

- Q9 What are your views on the objective to enhance stakeholder engagement?
- Q10 What are your views on the objective to encourage joining up of NICS and UK Government science?
- Q11 What are your views on the priority setting framework to guide prioritisation and investment in DAERA science priorities?
- Q12 What are your views on the plan to publish Operational Strategies for Research and Development, Monitoring and Surveillance science and Innovation?
- Q13 What are your views on the plan for DAERA to enhance its understanding of intellectual property and have clear accountabilities in place to maximise the benefits of science to the NI and UK economy?
- Q14 What are your views on the plan to commission science from the most appropriate provider in terms of mitigating risk, obtaining quality, delivering efficiently and meeting DAERA's needs effectively?
- Q15 What are your views on the plan for DAERA to assure it has appropriately skilled scientific staff in place to facilitate the necessary quality, objectiveness and robustness of science evidence that DAERA identifies needs to be undertaken locally and under its control?
- Q16 What are your views on the plan to invest in modern, fit-for-purpose facilities for science that needs to be undertaken locally and under DAERA control?
- Q17 What are your views on the plan to develop a science management information environment that effectively and efficiently collates, stores, manages and facilitates the use of DAERA science data to support integration and collaboration between internal and external science teams?
- Q18 What are your views on the plan to develop and deliver a strategic approach for the systematic dissemination of DAERA scientific data and findings both within and external to DAERA?
- Q19 What are your views on the plan to establish and publish an Annual Report outlining the impact of DAERA investment in science at industry and sector level?

## SECTION 10

### Benefits

Benefit name	Description
Improved science performance and management	<p>Benefits in <b>external impact</b> such as:</p> <ul style="list-style-type: none"> <li>- Better targeted and more effective policies to tackle challenges to our agri-food, forestry and fishing industries, environment and rural society; and the expansion of human knowledge, e.g. new scientific discoveries, solutions to problems;</li> <li>- Wider exploitation of new technologies and the development of new products or processes, which will promote economic prosperity and sustainability.</li> </ul> <p><i>Benefits to <b>internal management of DAERA</b>, such as:</i></p> <ul style="list-style-type: none"> <li>- Improved strategic alignment to key objectives, more effective internal management processes re science needs identification, prioritisation, commissioning, result generation and sharing; including feed-through to knowledge and technology transfer and performance evaluation, with a greater focus on science excellence and delivery against needs.</li> </ul>
Improved collaboration and strategic alliances	<p><i>Benefits in <b>use of networks</b> such as:</i></p> <ul style="list-style-type: none"> <li>• Improved collaboration both internally and externally, building brand as a trusted partner in NI and across UK/Europe/Globally; improved skills transfer and development.</li> </ul>
Improved value for money	<p><i>Benefits in <b>use of public money</b>, such as:</i></p> <ul style="list-style-type: none"> <li>• Increased investment (due to collaboration and attracting external co-funding partners and more effective budget utilisation), including better and more targeted outcomes (tracking benefits, return on investment, reach and impact of investment).</li> </ul>
Improved customer service	<p><i>Benefits to <b>customers</b>, such as:</i></p> <ul style="list-style-type: none"> <li>• Service excellence; quicker response to queries, improved organisational resilience to customer needs, maintenance of emergency response, maintenance of compliance with statutory obligations, improved policy development and advice.</li> </ul>

Improved staff experience	<p><i>Benefits to <b>staff</b> such as:</i></p> <ul style="list-style-type: none"> <li>• Increased staff flexibility, increased productivity, better integration, improved staff morale, better working environment and ways of working, improved investment in training and competence development, making DAERA Science a great environment to work within.</li> </ul>
Improved utilisation of estate	<p><i>Benefits to <b>estate</b> such as:</i></p> <ul style="list-style-type: none"> <li>• Enhanced estate planning and management, future proofing of (modern and fit-for-purpose) facilities and lower running costs, resulting in more efficient and effective service provision.</li> </ul>

## Section 10 Question

Q20 What are your views on the proposals for how we can measure benefits delivered from the implementation of this strategy?



## SECTION 11

### Rural Needs Considerations

- 11.1 DAERA has a statutory duty to screen decisions to consider the likely impacts of proposed decisions on rural areas.
- 11.2 A rural needs assessment has been completed and is available [here](#).
- 11.3 While potential impacts of the strategy on rural areas have been identified, the rural needs assessment template is a living document and therefore any additional views you may have on how the strategy could impact rural areas are welcome.

### Section 11 Question

- Q21 Are there any considerations on rural needs you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so, please describe the evidence and provide a copy.

## SECTION 12

### Equality Considerations

- 12.1 Section 75 of the NI Act 1998 (the Act) requires public authorities, in carrying out their functions relating to Northern Ireland, to have due regard to the need to promote equality of opportunity and regard to the desirability of promoting good relations across a range of categories outlined in the Act. DAERA commits to having effective internal arrangements in place for ensuring our effective compliance with the Section 75 statutory duties and for monitoring and reviewing our progress.
- 12.2 In the context of Section 75, 'policy' is very broadly defined and it covers all the ways in which we carry out or propose to carry out our functions. In making any decision with respect to a policy adopted or proposed to be adopted, we take into account any assessment and consultation carried out in relation to the policy.
- 12.3 DAERA uses the tools of screening and equality impact assessment to assess the likely impact of a policy on the promotion of equality of opportunity and good relations. Screening is completed at the earliest opportunity in the policy development/review process. Policies which we propose to adopt will be subject to screening prior to implementation. For more detailed strategies or policies that are to be put in place through a series of stages, we will screen at various stages during implementation.
- 12.4 A High Level Impact Assessment has been completed for this Science Strategy to evaluate the equality issues as set out in the Section 75 equality legislation. Once this strategy is finalised and published then all policies that will cascade from this strategy will be equality screened and where necessary a full Equality Impact Assessment will be completed by the project manager. This is in line

with the DAERA Equality Scheme. We welcome any information you may have about relevant equality aspects in consideration of this Science Strategy during this consultation.

## **Section 12 Question**

Q22 Are there any considerations on equality that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so, please describe the evidence and provide a copy.

## SECTION 13

### 13 Capturing stakeholder views – next steps

DAERA welcomes responses and comments from stakeholders on the questions outlined in the document to help develop proposals for future support arrangements.

#### How to respond

A full list of questions in this document can be found at **Annex A**

When responding please provide the following information:

Your name;

Contact details (preferably e-mail); and

Organisation you represent (if applicable).

Responses should be sent to:

**By e-mail to:** [STPMO@daera-ni.gov.uk](mailto:STPMO@daera-ni.gov.uk)

**By post to:**

Science Evidence and Innovation Policy Division  
Department of Agriculture, Environment and Rural Affairs  
Room 643  
Dundonald House  
Upper Newtownards Road  
Ballymiscaw  
Belfast  
BT4 3SB  
Telephone: (028) 90378389

#### Deadline for responses

The closing date for responses is **22 October 2019**. Please ensure your response is submitted by that date.

## **Publication of responses**

At the end of the engagement, 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. 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 General Data Protection Regulation.

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.

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](https://ico.org.uk/). (<https://ico.org.uk/>)

### Questions

- Q1. What are your views on the strategic drivers identified?**
- Q2. What are your views on the types and applications of science that DAERA uses?**
- Q3. What are your views on the 'Vision' and 'Mission' DAERA has proposed for its Science Strategy Framework?**
- Q4. What are your views on the principles behind what, why and how DAERA will use science?**
- Q5. From your perspective, are these goals appropriate?**
- Q6. From your perspective, is there anything missing?**
- Q7. From your perspective, are there any of these goals which are more important than others? If yes, which are they?**
- Q8. What are your views on the enablers identified for DAERA to implement the Science Strategy?**
- Q9. What are your views on the objective to enhance stakeholder engagement?**
- Q10. What are your views on the objective to encourage joining up of NICS and UK Government science?**
- Q11. What are your views on the priority setting framework to guide prioritisation and investment in DAERA science priorities?**
- Q12. What are your views on the plan to publish Operational Strategies for Research and Development, Monitoring and Surveillance science and Innovation?**
- Q13. What are your views on the plan for DAERA to enhance its understanding of intellectual property and have clear accountabilities in place to maximise the benefits of science to the NI and UK economy?**
- Q14. What are your views on the plan to commission science from the most appropriate provider in terms of mitigating risk,**

**obtaining quality, delivering efficiently and meeting DAERA's needs effectively?**

- Q15. What are your views on the plan for DAERA to assure it has appropriately skilled scientific staff in place to facilitate the necessary quality, objectiveness and robustness of science evidence that DAERA identifies needs to be undertaken locally and under its control?**
- Q16. What are your views on the plan to invest in modern, fit-for-purpose facilities for science that needs to be undertaken locally and under DAERA control?**
- Q17. What are your views on the plan to develop a science management information environment that effectively and efficiently collates, stores, manages and facilitates the use of DAERA science data, to support integration and collaboration between internal and external science teams?**
- Q18. What are your views on the plan to develop and deliver a strategic approach for the systematic dissemination of DAERA scientific data and findings both within and external to DAERA?**
- Q19. What are your views on the plan to establish and publish an Annual Report outlining the impact of DAERA investment in science at industry and sector level?**
- Q20. What are your views on the proposals for how we can measure benefits delivered from the implementation of this strategy?**
- Q21. Are there any considerations on rural needs you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so, please describe the evidence and provide a copy.**
- Q22. Are there any considerations on equality that you wish to raise at this point? Do you have any evidence that would be useful to the Department? If so, please describe the evidence and provide a copy.**



ISBN: 978-1-83887-033-1

*A living, working, active landscape valued by everyone.*



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

[www.daera-ni.gov.uk](http://www.daera-ni.gov.uk)



**INVESTORS  
IN PEOPLE**