



Agri-Tech

Sectoral Action Plan for 2024-2027

JUNE 2024

Introduction

1. In February 2024, Minister Conor Murphy set out his vision for the economy, with a focus on four key priorities - **raising productivity; promoting regional balance; good jobs;** and, **reducing carbon emissions.**
2. In line with the Minister's priorities and DfE's Departmental Business Plan for 2024/2025, the Agri-Tech Sectoral Action Plan has been developed. The Action Plan sets out a number of key activities to be taken forward by the Department and its key delivery partners that will help grow the Agri-Tech Sector and deliver the Minister's vision for the economy.
3. Our Action Plan will also support and contribute to other Departmental strategies and action plans that are helping to deliver against the Minister's priorities. This action plan also complements and draws on the work of the Independent Strategic review of Agri-food (ISRAF)¹. Indeed, the Agri-Tech sector is one of seven clusters/sectors where the North of Ireland has established strengths in research and/or industrial capability and the potential to be globally competitive; if not already. Other priority sectors are Advanced Manufacturing; Life and Health Sciences; Fintech; Software; Cybersecurity; Screen Industries; and, Low Carbon including Green Hydrogen. Action Plans have also been developed for these sectors.

1 [Independent Strategic Review of the Northern Ireland Agri-food Sector](#)

Agri-Tech Sector Overview

4. The Department commissioned KPMG to prepare independent research² to facilitate a broader understanding of our Agri-Tech capability, and future windows of opportunity. The research indicated that NI has had highly innovative and successful businesses producing goods and services for the Agri-Food supply chain for decades and, as the need for innovation across the supply chain has increased, the number of companies has increased to a small but growing sector in our economy with clear opportunities for innovative growth in the future.
5. However, there is no single or standardised definition of Agri-Tech. The KPMG research has reviewed several definitions, identified commonalities and based on research suggested the following:

“The “Agri-Tech sector” is defined as consisting of the businesses providing Agri-Tech related solutions (products and services) to a range of end users across six Agri-Tech sub-sectors. The Agri-Tech sub-sectors include advanced materials and supply chain; agri engineering; food processing; information and communications technology (ICT); life sciences; and, nutrition and animal feeds.”

6. The definition of Agri-Tech is considered with a wide lens to include technologies that range from traditional/current solutions to emerging/novel solutions. The sector plays a key role in improving productivity for both primary agriculture and the processing sector.
7. The KPMG report provided a non-exhaustive illustrative summary of NI’s Agri-Tech ecosystem, see figure 1 on the next page.

² [Understanding Northern Ireland’s Food Supply Chain/Safety and Agri-Tech capability, and future windows of opportunity | Department for the Economy \(economy-ni.gov.uk\)](#)

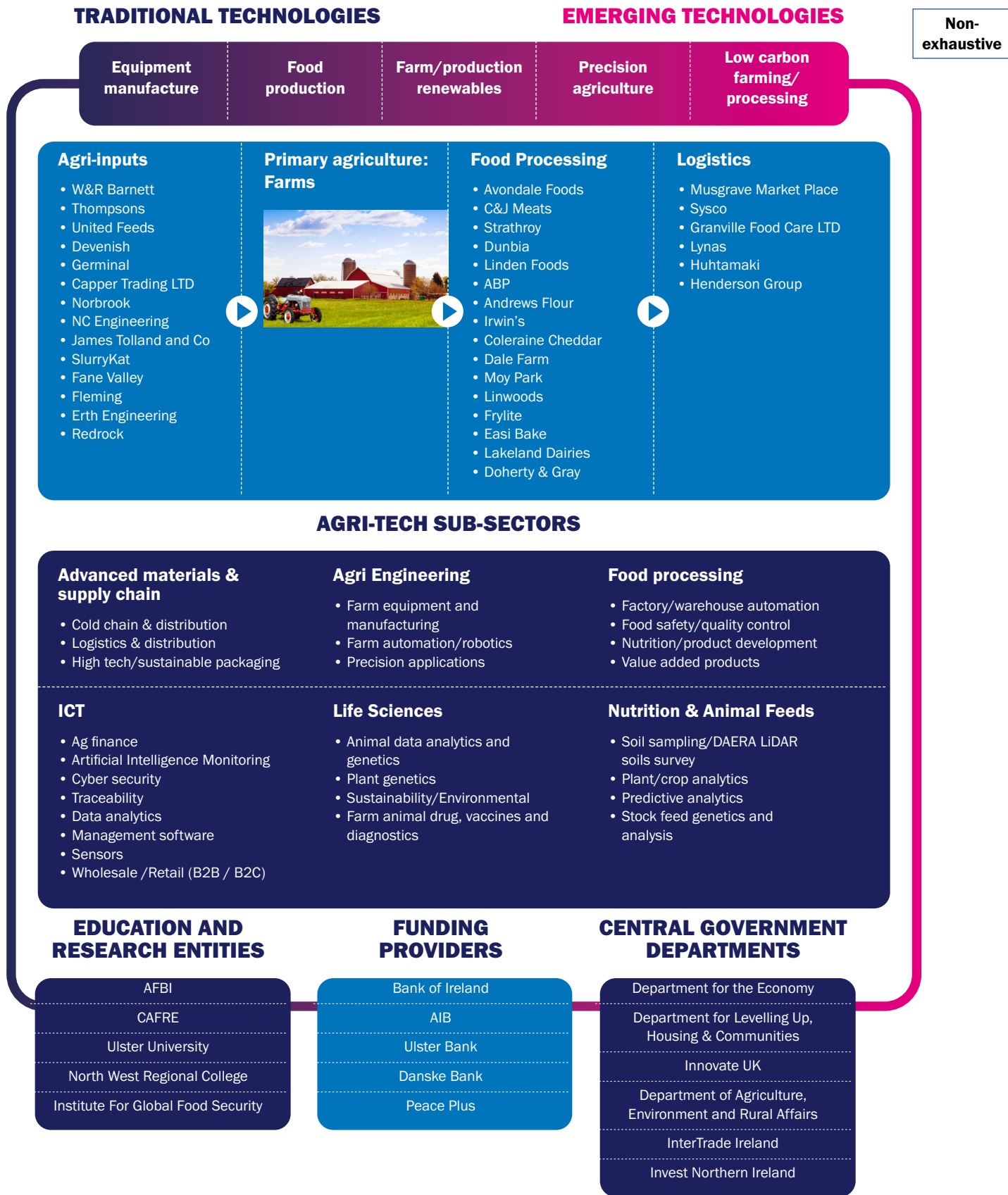


Figure 1: NI Agri-Tech Ecosystem

8. We have formal published statistics for the food and drink processing sub-sector and for the remaining Agri-Tech businesses we have estimated figures and so the following figures are set out separately.
9. In 2021³ (the latest data available), food and drink processing:
 - generated £6.0bn sales, equivalent to 39% of the total sales from our manufacturing industry;
 - generated £1.1bn in GVA, equivalent to 18.9% of all GVA from our manufacturing industry, and 2.4% of all GVA;
 - supported 25,116 FTE employees, 30.1% of all our manufacturing employment.
10. Based on the available data and KPMG assumptions, it is estimated that the remaining Agri-Tech companies account for:
 - £813 million in annual revenue;
 - 4,380 full time employees;
 - between 97 and 107 businesses;
 - direct GVA impact of between £145 million and £160 million accruing from expenditure by Agri-Tech businesses in the sector (e.g. purchase of component inputs); and
 - spill over/value chain impacts in terms of indirect and induced impacts range between £195 million and £210 million, giving an estimated total contribution to GVA of between £340 million and £370 million.
11. The sector is also an important source of employment and economic activity across NI's communities and places, and particularly its rural areas. The Independent Strategic Review of the NI Agri-Food Sector⁴ highlighted its critical role in our rural economy. Research⁵ by Ernst & Young in 2021, commissioned by the Northern Ireland Food and Drink Association, identified that the wider NI food and drink supply chain provides employment to 113k people and that 86% of businesses were located outside Belfast City Council area. In 2023, KPMG⁶ estimated that 85% of wider Agri-Tech businesses were located outside Belfast City Council area.

3 [Northern Ireland Food and Drink Processing Report 2021 \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/northern-ireland-food-and-drink-processing-report-2021)

4 [Independent Strategic Review of the Northern Ireland Agri-food Sector | Department for the Economy \(economy-ni.gov.uk\)](https://www.economy-ni.gov.uk/independent-strategic-review-of-the-northern-ireland-agri-food-sector)

5 [Food for thought - The Food and Drink industry, an inclusive sector at the heart of Northern Ireland](https://www.economy-ni.gov.uk/food-for-thought-the-food-and-drink-industry-an-inclusive-sector-at-the-heart-of-northern-ireland)

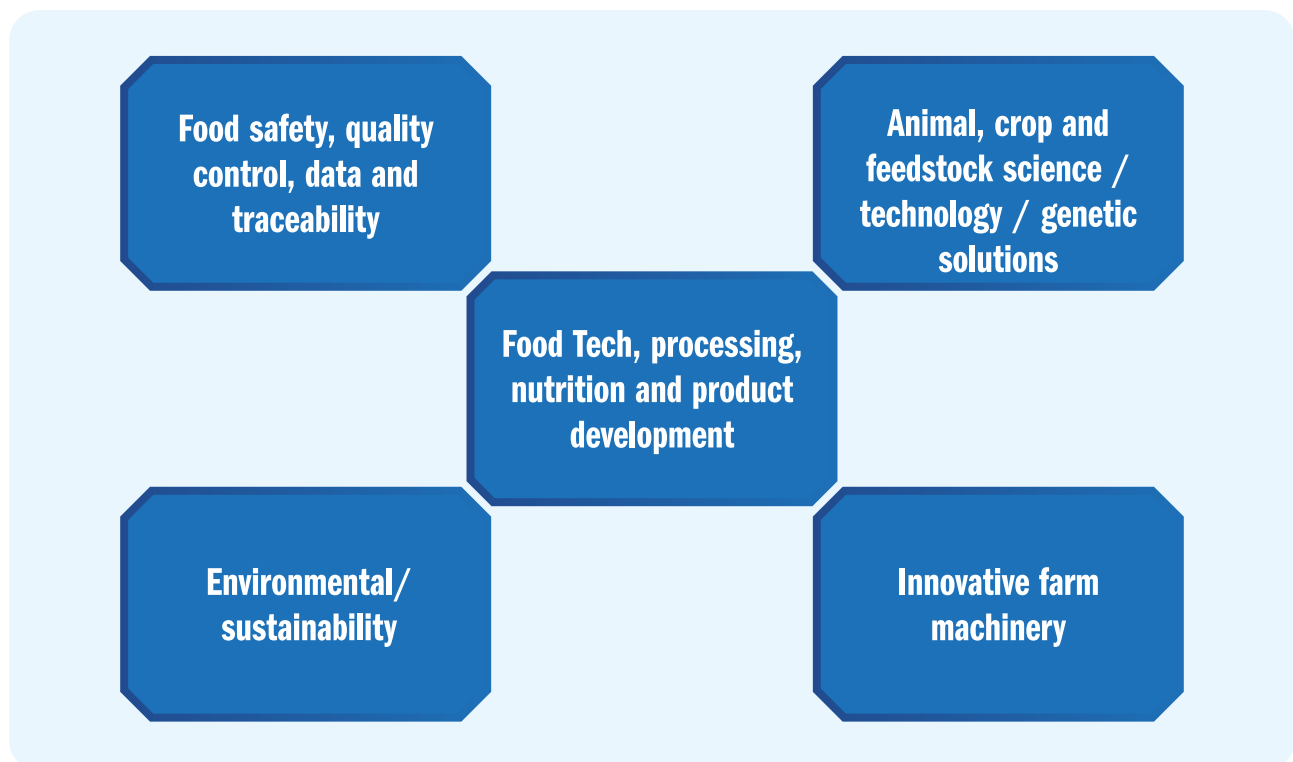
6 [Understanding Northern Ireland's Food Supply Chain/Safety and Agri-Tech capability, and future windows of opportunity | Department for the Economy \(economy-ni.gov.uk\)](https://www.economy-ni.gov.uk/understanding-northern-ireland-s-food-supply-chain-safety-and-agri-tech-capability-and-future-windows-of-opportunity)

Challenges and Opportunities

12. The Department's independent research which included peer benchmarking of the Agri-Tech ecosystems in Australia, Israel, the Netherlands, New Zealand, and the South of Ireland, and our ongoing stakeholder engagement, has identified several challenges and opportunities for the Agri-Tech sector, in the context of the NI ecosystem and value chain.
13. High competition, skills, inflation, lack of capital support and sustainability readiness were identified as the top issues facing the sector. While collaboration, product development, data regulations, quality control and sustainability technologies have been identified as key opportunities for the sector. Much of this aligns with the findings in the ISRAF report.

Technology Strengths

14. The Department's independent research provided a shortlist of technologies for the Agri-Tech sector which were tested and refined through ongoing stakeholder engagement and a public consultation. In addition, the consultation identified four crosscutting technologies across the seven sectors: Artificial Intelligence, Data capture/analytics, Software applications, and Robotics/automation.
15. The final list of technologies for the Agri-Tech sector is presented below. It is important to note however that the technologies and USPs listed are not definitive and may be subject to future amendment to reflect the changing technological landscape globally and in NI and will be reviewed in the coming years.



Innovation & Research Strengths

16. Northern Ireland's Agri-Tech research strengths primarily flow from the work of a number of key education and research entities, including Queen's University Belfast, Ulster University, the Agri-Food & Biosciences Institute (AFBI), and the College of Agriculture, Food and Rural Enterprise (CAFRE) in respect of Knowledge Transfer. Each of these entities plays a valuable role in supporting the development of NI's Agri-Tech sector. The research infrastructure and support streams are well-established and they develop and support some world-leading innovations. NI's technology and research strengths align with NI and international windows of opportunity.

Agri-Tech Action Plan

17. Following extensive research and stakeholder engagement, including a public consultation on the wider approach to technologies and clusters, the Department has developed the following Action Plan to develop the Agri-Tech sector in the next three years.
18. The Action Plan seeks to make the most of the opportunity to focus on key technologies and use science and innovation to lead and guide change for the wider ecosystem. The Action Plan sets out a range of activities that aim to support the growth of the sector to provide high quality, high productivity jobs across the region. These can be classified under the following four broad themes:



What's Next?

19. The Department and its delivery partners will aim to take forward these actions over the next three years. We will review and update the Action Plan on an ongoing basis. This may include adding new or removing actions in response to the needs of the sector. Updated versions of this Action Plan may be published as required over the next 3 years.
20. A key Ministerial priority is the need for a more regionally balanced economy. Although this Action Plan will help support this important objective, further work will be needed to achieve this. To deliver this, the Department will publish a Sub-Regional Economic Action Plan in Autumn 2024 that will set out interventions to address strategic priorities for each region complementing existing Council-led plans. Value propositions will be co-designed with Councils, the private sector, local enterprise agencies, community partners and Invest NI. Within that plan, actions and targets will be included for key sectors at sub-regional level.
21. We thank our colleagues in Invest NI, DfE, DAERA, CAFRE, AFBI, InterTradelreland, the Universities, Industry representative bodies and to all the individual companies we have engaged with in developing this plan, we are extremely grateful for your time and your valued contributions.

Theme 1: Collaboration

Objective: To promote growth within the Agri-Tech sector through increased collaboration.

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
1	<ul style="list-style-type: none"> • High Productivity • Regional Balance • Reduce carbon emissions 	<p>Cluster Support - Work with partners to consider the benefit of a dedicated cluster policy in driving forward growth in the Agri-Tech sector, as part of a wider DfE cluster policy.</p> <p>Explore the potential for further Collaboration or Clustering in this Sector and support its development through Collaborative Growth and Clusters support.</p> <p>Example - the Advanced Food and Drink Network, supported by Invest Northern Ireland through its Collaborative Growth support.</p>	Invest NI, DfE, Industry, Universities & CAFRE	Commencing 2024
2	<ul style="list-style-type: none"> • High Productivity • Regional Balance • Reduce carbon emissions 	<p>Rol/GB/EU/International Networks/Clusters - Look for opportunities to collaborate with wider Rol/GB/EU/International Networks/Clusters.</p> <p>Investigate opportunities to collaborate with other sectors to bring diverse perspectives together, fostering innovation and creative problem-solving.</p>	<p>DfE, Invest NI, Industry, AFBI, Universities</p> <p>Industry, Industry Bodies, Universities DfE, Invest NI, AFBI</p>	Commencing 2025

Theme 1: Collaboration (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
3	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	<p>Agri-Food/Tech related City and Growth Deals - Maximise collaborative activity with the Agri-Food/Tech related City and Growth Deals, via existing Agri-Food Growth Deal Working Group. Likewise, the potential for cross sector collaboration with AMIC, Momentum One Zero etc.</p>	<p>Growth Deals, Industry, Universities DfE, CAFRE, Invest NI, AFBI</p>	Commencing 2025
4	<ul style="list-style-type: none"> • High Productivity • Regional Balance • Reduce carbon emissions 	<p>Sustainability Body for Agri-Food - Demonstrate the sector's sustainability through the development of the Industry-led Sustainability Body for Agri-Food in NI.</p> <p>The Sustainability Body will promote NI food on its evidenced sustainability credentials by linking up with the relevant DAERA data projects as that work progresses.</p>	<p>Sustainability Body supported by DAERA & DfE</p> <p>DAERA, Sustainability Body, Industry</p>	Action Commenced
5	<ul style="list-style-type: none"> • High Productivity • Regional Balance • Reduce carbon emissions 	<p>Northern Ireland Diamond - Creation of a Northern Ireland Diamond to foster collaboration between the Agri-Food Industry, Research Institutions, NGOs and Government to identify gaps in environmental sustainability research and agree research priorities.</p>	<p>Industry, QUB, UU, AFBI, NGOs, Invest NI, DAERA, DfE</p>	Action Commenced

Theme 2: People and Skills

Objective: Objective: To ensure a future facing and inclusive skills pipeline to nurture talented people with the right skills to support the Agri-Tech sector at all levels, with good jobs and increased productivity across the sector.

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
6	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance 	<p>Skills pipeline - Provide a stronger pipeline of graduates/apprentices to increase the availability of labour, from farmers to inventors, with the requisite skills and upskilling of existing workers in Food and Drink processing and other Agri-Tech companies, including actively promoting widening participation from underrepresented groups.</p> <p>Further focus on need for STEM (science, technology, engineering and mathematics).</p>	<p>DfE, DE, Industry HE/FE Institutions, CAFRE, Apprenticeships & Invest NI, as appropriate</p>	<p>Action Commenced</p>
7	<ul style="list-style-type: none"> • High Productivity • Good Jobs 	<p>Careers awareness in the Agri-Tech sector - Further focus on careers attractiveness and raising awareness of career potential in this sector.</p> <p>The sector must work together to promote the attractiveness of the sector. Assessing and understanding the demographic of the sector, both those studying for relevant qualifications and those working in the sector, to identify any groups who are particularly underrepresented and develop appropriate actions to encourage wider participation.</p> <p>Learn from research and recommendations arising from Women in STEM Action Plan. Contribute to the proposed cross-cutting work on Widening Participation/Women in High Tech Sectors.</p>	<p>DfE, Industry, HE/FE Institutions, CAFRE</p>	<p>Action Commenced</p> <p>Commencing 2024</p>

Theme 3: Innovation

Objective: To support R&D, entrepreneurs, start-ups and scale ups while promoting net zero and the adoption of innovation and smart data practices across the sector.

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
8	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	Expand capital grants to improve productivity for food and drink processors - Boost investment by food and drink processing businesses to improve productivity, as recommended by Sir Peter Kendall's Independent Strategic Review of Agri-Food and subject to the necessary approvals and funding allocations.	Invest NI, DfE	TBC
9	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	Productivity boosting investment - Encourage wider Agri-Tech companies to apply for productivity boosting investment through existing support mechanisms.	Invest NI	Commencing 2024
10	<ul style="list-style-type: none"> • High Productivity • Good Jobs 	Encourage the adoption of smart data practices - Encourage Agri-Tech businesses to capture data, analyse it and incorporate within the business.	Invest NI, CAFRE	Action Commenced

Theme 3: Innovation (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
11	<ul style="list-style-type: none"> • Good Jobs • Reduce carbon emissions 	<p>Develop environmental and sustainability metrics - Support the development of environmental and sustainability metrics, for example via the Food Futures platform.</p> <p>Maximise NI input to the Food Data Transparency Partnership (FDTP) and also potentially UKG Net Zero Strategy.</p> <p>This links to monitoring and reporting on the Climate Action Plan, but the defining metric will be our reported emissions. However, others can help us understand what are the influences impacting our emissions.</p>	<p>Sustainability Body, DAERA, AFBI</p> <p>DAERA</p> <p>DAERA</p>	Commencing 2024
12	<ul style="list-style-type: none"> • Reduce carbon emissions 	<p>Embrace sustainability reports - Encourage businesses to develop and implement sustainability reports.</p>	Invest NI	Action Commenced

Theme 3: Innovation (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
13	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	<p>Technology Adoption - Further promote technology adoption by the primary agricultural sector and food and drink processors through CAFRE.</p> <p>CAFRE to continue to promote knowledge transfer, with the launch of a new suite of Knowledge Transfer and Innovation schemes planned for early 2025.</p> <p>Use Agri-Tech businesses to demonstrate appropriate new technology at CAFRE knowledge transfer or other events.</p>	CAFRE	Action Commenced
14	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	<p>Robotics, Automation and Packaging Innovation Centre - Progress the CAFRE robotics and automation pilot to improve productivity using virtual modelling in real time via the proposed CAFRE Robotics, Automation and Packaging Innovation Centre (RAPIC) at Loughry Campus Growth Deal.</p>	CAFRE	Pilot extended in 2024 with aim for RAPIC to be launched and operating virtually by 2025, in advance of completion of RAPIC building.

Theme 3: Innovation (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
15	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Reduce carbon emissions 	<p>Encourage R&D and support the commercialisation of research - including exploring any potential to exploit quick wins which are readily available in this sector due to existing clusters of research in areas such as AI, nanotechnology and Data Analytics.</p> <p>Planned launch of 5th phase of Connected, the collaborative HE/ FE knowledge exchange programme to support SMEs to carry out research and innovation.</p>	<p>NI Diamond, Universities, FE Collages, CAFRE, Invest NI, Industry, DfE</p>	Commencing 2024
16	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance • Reduce carbon emissions 	<p>Innovation hubs/ incubators/ accelerator programmes - Explore the potential to establish innovation hubs/ incubators/ accelerator programmes to enable start-ups and established businesses to get involved in the R&D process. For example, the current DAERA/Digital Catapult Net Zero Accelerator programme.</p>	<p>DfE, DAERA, AFBI, Universities, Invest NI, UK Agri-Tech Catapult, Agri-Tech centre, City/Growth Deals.</p>	Commencing 2024

Theme 3: Innovation (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
17	<ul style="list-style-type: none"> • High Productivity • Regional Balance • Reduce carbon emissions 	<p>Prototype technology in partnership with farmers - Explore the potential for prototype technology in partnership with farmers.</p> <p>Agri-Tech Catapult could potentially play a role, in partnership with AFBI Hillsborough and/or AgriSearch Farms to test in real world environment before scaling up.</p>	<p>DAERA, AFBI, Universities, Agri-Tech centre, Industry, AgriSearch</p>	Commencing 2024
18	<ul style="list-style-type: none"> • High Productivity • Good Jobs 	<p>Support high potential startups - Supporting high potential startups by promoting the importance of business innovation and encourage companies to participate in the Innovate NI Innovation Framework to support successful innovation.</p>	<p>Invest NI, DfE</p>	Action Commenced
19	<ul style="list-style-type: none"> • High Productivity • Good Jobs 	<p>Agri-Tech Catapult or Launch Pad - Engage with Innovate UK to investigate the possibility of an Agri-Tech Catapult or Launch Pad in NI.</p> <p>Maximise the synergies between AFBI and any potential Agri-Tech Catapult.</p>	<p>ABC Council, Invest NI, DfE, AFBI</p>	Commencing 2024

Theme 3: Innovation (continued)

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
20	<ul style="list-style-type: none"> • High Productivity • Reduce carbon emissions 	<p>Biomethane production in Northern Ireland - Issue a call for evidence on the options for supporting biomethane production in Northern Ireland:</p> <ul style="list-style-type: none"> • Establish the costs for producing biomethane and present potential options to develop the industry in Northern Ireland. • Collaboration with DAERA to optimise feedstocks for biomethane production. • Work with Utility Regulator to monitor developer interest in injection of biomethane into the gas network and to assess the treatment of network costs. <p>Progress SBRI Phase 2 Nutrient Management Project, subject to approval.</p>	<p>DfE</p> <p>DfE</p> <p>DfE, DAERA</p> <p>DfE, Utility Regulator</p> <p>DAERA</p>	<p>Action Commenced</p> <p>Commencing 2024</p>

Theme 4: Trade and investment

Objective: To support indigenous businesses to grow through access to finance and export support while promoting regional balance and increased productivity by ensuring all parts of Northern Ireland have the support needed to grow.

Action No.	Delivery against Minister priorities	Detail	Delivery partners	Timescale
21	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance 	<p>Grow the NI Agri-Tech sector's global footprint - through targeted export and trade promotion activity, including facilitating their attendance at Trade Shows, 'meet the buyer' events and exposing our indigenous firms in these sectors to new ideas and a larger customer base to increase market penetration, and so these companies can maximise the opportunities offered by dual market access.</p> <p>Research sector messaging/USPs on the Food & Drink Processing and Agri-Tech sectors in relation to the overseas trading opportunities.</p>	Invest NI, Industry and DfE	Commencing 2025 Commencing 2025
22	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance 	<p>Grow exports - Grow external and export sales of food & drink through the informed application of consumer insights and/or market information.</p> <p>Capability development within Food & Drink and wider Agri-Tech businesses seeking to export.</p>	Invest NI, Industry	Action Commenced
23	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance 	<p>Maximise uptake of alternative funding sources - Promote alternative funding sources by companies and the public sector for example, UKG (e.g. Innovate UK funds), Rol (e.g. DAERA Science Transformation Programme or Shared Island Fund), and EU funds (e.g. Horizon Europe fund).</p>	DfE, Invest NI, DAERA, Universities, AFBI	Commencing 2024
24	<ul style="list-style-type: none"> • High Productivity • Good Jobs • Regional Balance 	<p>Signpost existing support - Better signpost the existing support available for primary producers and Agri-Tech / Food and Drink processing companies. Recognise that smaller businesses may need more hand holding when applying for support.</p>	Invest NI DAERA DfE	Action Commenced