KPMG

Balancing Act

Assessing current sustainability opportunities and challenges for the Northern Ireland Food & Drink Sector

November 2023

KPMG Sustainable Futures in collaboration with the Northern Ireland Food and Drink Association

KPMG Sustainable Futures

NORTHERN IRELAND FOOD & DRINK

Contents

1.0 Report Summary

This report is a collaboration between KPMG and the Northern Ireland Food and Drink Association (NIFDA). The objective of this report is to outline the high-level challenges and opportunities currently facing the food and drink sector in Northern Ireland in relation to the sustainability[1] and the Environmental, Social and Governance (ESG) agenda, from which future actions and policies can be assessed. As part of this work, a survey was sent to all NIFDA members to understand the sector's progress, challenges, views, and concerns in relation to sustainability. A total of 35 responses were received from across almost every sub-sector and the results and insights are included throughout this report. A small number of members' sustainability initiatives are also included to provide a snapshot of some of the innovations and actions underway across Northern Ireland.

1 'Sustainability' in this report is considered in its widest terms - fulfilling the needs of current generations without compromising the needs of future generations, while ensuring a balance between economic growth, environmental and social well-being.

2.0 Executive Summary

The food and drink sector has been one of Northern Ireland's (NI) real success stories, delivering employment, economic growth, and exporting high-quality produce to the rest of the UK and further afield[2]. However, the continued success of the sector is predicated on securing the long-term health of NI's natural environment. There is a recognition in the sector that it needs to transition to a more sustainable operating model, reducing greenhouse gas (GHG) and ammonia emissions, improving water and soil quality, and reducing packaging and food waste, among other measures.

NI's food and drink sector currently benchmarks well against many other jurisdictions, and there is a strong argument - at least in the short-term - that reductions in NI food production would increase global emissions by pushing production into less sustainable locations.[3,4,5,6] However, absolute emissions remain inconsistent with NI's legally binding net zero commitments and in the medium - to - long-term it is very likely that other countries will develop new, sustainable production methods which could diminish NI's international competitiveness unless the sector also transitions. Aside from competitiveness, diminishing environmental conditions (e.g. water and soil health) within NI will ultimately constrain the sector unless more urgent action is taken.

Unlike some other sectors, agriculture does not currently benefit from a clear decarbonisation pathway. KPMG and the Centre for Innovation Excellence in Livestock (CIEL) analyses[7,8], indicates that proven technologies currently available to the sector achieve only limited reductions in emissions. This presents a threat to the industry and illustrates why the food and drink sector, even more than others, needs to drive a programme of real innovation and new technologies to allow NI to decouple[9,10], food production from GHG emissions and other environmental impacts.

Encouragingly, our survey indicates that NIFDA members are committed to - and consider themselves prepared for - responding to these sustainability challenges. We have observed many strong examples already underway - from scaling up resourcing and expertise, investing in renewable energy and setting science-based targets, to innovations in food labelling, sustainable intensification, and nature protection. Furthermore, members have shown a willingness to engage in collective solutions through the NI Carbon Steering Forum and the Expert Working Group on Sustainable Land Management amongst others.

2 DAERA officials estimated that in 2019, the Northern Ireland agricultural sector produced an estimated 182,000 tons of edible protein that would meet the needs of the equivalent of 10m people. Using an alternative dietary energy approach, DAERA estimated that the output from the Northern Ireland agricultural sector could meet the energy requirements of 4.7m adult equivalent. FactCheckNI, 2021

3 FAO (2022). FAOSTAT Emissions Intensities.

4 Teagasc (2018) An Analysis of Abatement Potential of Greenhouse Gas Emissions in Irish Agriculture 2021-2030

5 World Resources Institute (2020) Comparing the life cycle greenhouse gas emissions of dairy and pork systems across countries using land-use carbon opportunity costs

6 Irish Examiner (2022) European farmers urged to follow Irish model

7 KPMG (2021) Ireland's 2030 Carbon Emissions Targets — An Economic Impact Assessment for the Agriculture Sector

8 Net Zero and Livestock Bridging the Gap Report by Centre for Innovation Excellence in Livestock, July 2023

9 The IPCC defines 'decoupling' (in relation to climate change) as where economic growth is no longer strongly associated with consumption of fossil fuels. https://www.ipcc.ch/sr15/chapter/glossary

10 OECD (2023) "Decoupling greenhouse gas emissions from agriculture production: How does the EU fare?" https://www.oecd.org

Despite the sector's current initiatives and positive engagement, current emissions trajectories suggest that tangible environmental sustainability and decarbonisation progress is not proceeding at the pace necessary to meet legally binding targets and the sector therefore needs to do more, and faster. This agenda cannot however be looked at in isolation. The sector is already facing numerous other headwinds (including supply chain pressure, cost inflation, and continued political and regulatory uncertainty), and as such decarbonisation and wider environmental sustainability must therefore be balanced with the achievement of food security and access to affordable and healthy nutrition.

Our survey found that while 83% of respondents have dedicated resources focused on sustainability, only 14% feel the region itself is well prepared to meet the market and regulatory pressures of sustainability. There is a widespread view that the sector needs proactive support in the transition, including consistent policy direction, common standards and measurement as well as financial support. It was noted that other jurisdictions have access to dedicated innovation capital funding, training and transition support, and that the NI food and drink sector will be at a comparative disadvantage to close neighbours, such as the Republic of Ireland (ROI), that benefits from stronger government policy and financial support.

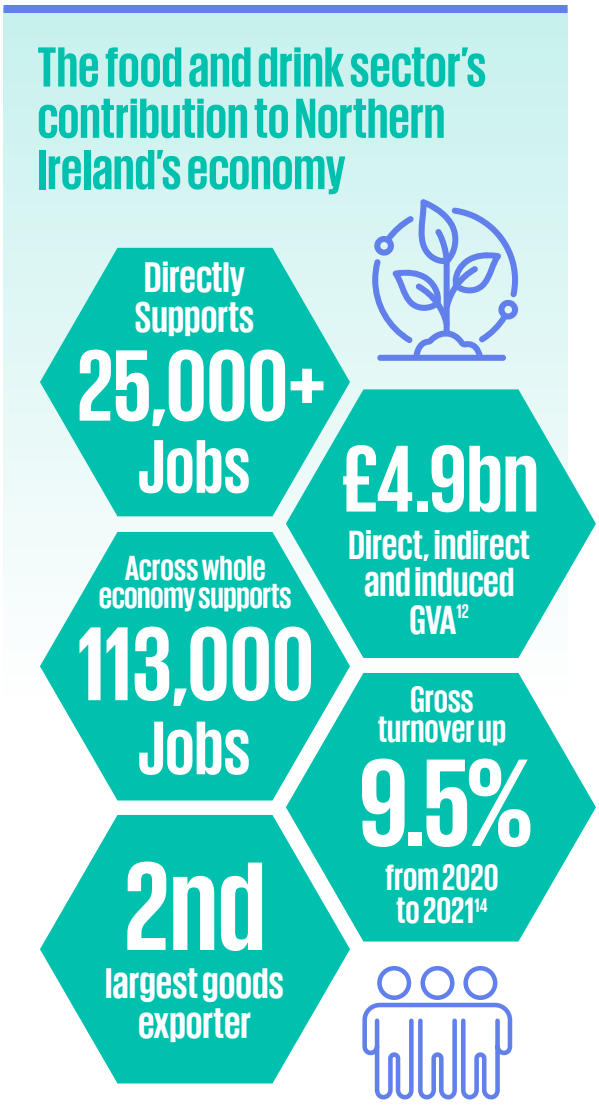
NI has a fantastic track record and international reputation for food production. Its climate is optimally suited to the agricultural output it produces and global food demand continues to grow. Within this context, it is hard to see how a good outcome for society would be to meet emission targets by simply reducing NI's food and drink output. The sector's objective must be to develop world-leading technology and sustainable innovation that allows NI to continue its proud heritage of food production, while leading the world in showing how it can be achieved in harmony with the natural environment.

3.0 Overview of sector and challenges

3.1 Sector Overview and Success

The food and drink sector is a core component of Northern Ireland's (NI) economy, supporting 25,000 jobs directly and up to 113,000 jobs through its operations, its purchases and the spending it generates.[11] This economic contribution has a ripple effect across almost every other sector in NI's economy, with a Gross Value Added (GVA) contribution of £2.6bn effective throughout the supply chain and a total impact of an estimated £4.9bn.[12] Furthermore, the sector plays a fundamental role in the rural economy with over 70% of land in NI farmed.[13]

The significant economic and social value of the food and drink sector is not limited to the region. The sector is export-intensive, with over 77% of its products sold to Great Britain and further afield.[12] Moreover, the sector is the second largest goods exporter for NI's economy. Of the total £9.1bn in exports to regions outside of the UK in 2019, approximately 21% (£1.9 bn) came from food, live animals, and beverages.[12]



A vibrant food and drink sector is vital to maintaining the economic and social fabric of NI, due to its scale, economic contribution, regional development impacts, role in food security, health and its capacity to innovate. Of particular importance has been the sector's proven resilience to deliver in the face of economic, social, and geo-political crises - such as the COVID-19 pandemic and the ongoing war in Ukraine's effect on cereal feed inputs. The sector's resilience to external shocks when under pressure indicates that it can adapt to changing conditions and overcome threats. This adaptability will be critical for responding to and thriving as economies transition to a low carbon, nature positive future.

11 NIFDA (2016). Brexit: Challenges and Opportunities for Northern Ireland Food and Drink.

12 NIFDA & EY (2021). Food for thought The Food and Drink industry, an inclusive sector at the heart of Northern Ireland

13 DAERA Consultation on Future Agriculture Policy Proposals for Northern Ireland

14 DAERA (2023). Northern Ireland Food and Drinks Processing Report 2021

What do we mean by sustainability?

The United Nations defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."[15]

The acronym ESG (Environment, Social, Governance) and the term sustainability are often used interchangeably. In the context of this report, we use sustainability to refer to the practices that aim to ensure the long-term viability and health of the NI food and drink sector while minimising negative environmental, social, and economic impacts. It involves promoting environmentally friendly agricultural practices, reducing food waste, conserving natural resources, supporting local communities, and reducing harmful emissions such as carbon dioxide, methane, nitrous oxide, and ammonia. By integrating sustainable practices, the food and drink sector can go further in providing nutritious and healthy products that meet current needs without compromising the ability of future generations' needs.

3.2 Sector sustainability challenges

The 'Green Revolution' of the mid-20th Century was exemplary in terms of collective action and innovation – delivering massive increases in global food production and helping to feed a rapidly growing population. However, the success in increasing yields has come at a significant environmental cost. The world's food system is responsible for over 30% of total global greenhouse gas (GHG) emissions[16] and has been a driver of deforestation and land conversion - with over 50% of all habitable land now used for agriculture.[17] The scale of impacts from the agri-food sector globally also poses a risk to the resilience of the sector itself - through the degradation of the operating environment from the loss of a stable climate and supporting ecosystem services.[18]

Decarbonisation pathways

The food and drink sector faces an immense challenge transitioning to a low carbon pathway and identifying ways to reduce emissions across scopes 1, 2 and 3. For food and drink processors and retailers, much work is already underway to reduce or remove emissions across direct operations through sourcing or generating renewable energy, switching to electric vehicles and machinery and by innovations in processing and packaging. However, the biggest challenge for the sector lies in tackling its supply chain or scope 3 emissions – associated with farming and agriculture in particular. As agriculture does not currently have a clear proven decarbonisation pathway the success of the sector will be dependant on collaboration with government and actions, strategies and revised policies that consider the sector's many cultural and social factors.

What are scope 1, 2, and 3 emissions?

The GHG Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Source: The GHG Protocol

15 Brundtland Commission (1987) Brundtland Report: Our common future.

16 FAO (2021). Food systems account for more than one third of global greenhouse gas emissions

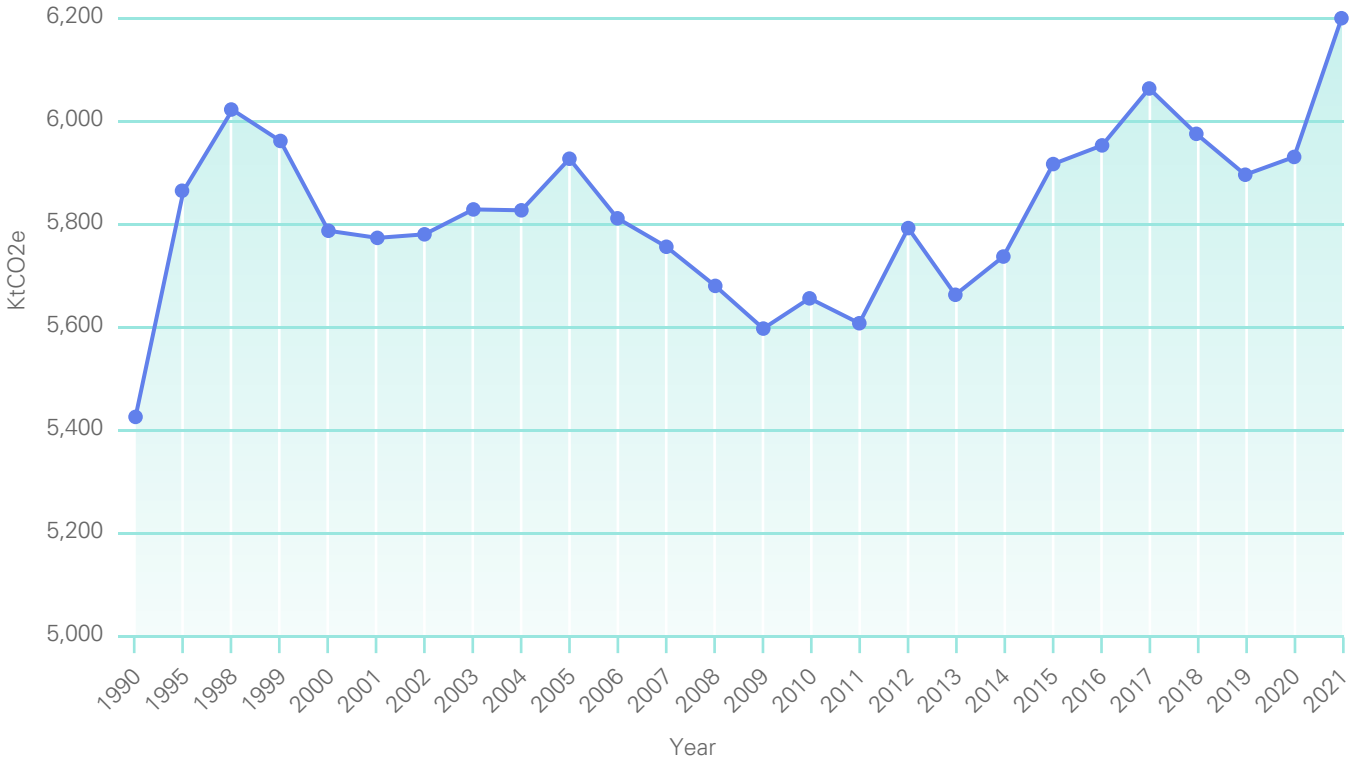
17 Irish Linen Centre & Lisburn Museum (2020). The War-Time Economy

18 Ecosystem services are "the benefits to people from ecosystems, such as timber, fibre, pollination, water regulation, climate regulation, recreation, mental health, and others" Natural Capital Protocol, 2021.

Agriculture is currently NI's highest-emitting sector - responsible for 28% of all emissions.[19] In 2021, these emissions continued to rise, as illustrated in Figure 1.[19] In Figure 2 we can see during this same period the increase in value added to the economy by NI food and drinks processing sector. Over this period, the sector has demonstrated notable improvements in the carbon intensity of milk production. DAERA's carbon intensity indicators[20] show that the total emissions (excluding carbon sequestration) related to milk production have decreased from an average of 1,927 grams of CO_2 equivalent per kilogram of Energy Corrected Milk (ECM) in 1990 to 1,215 grams in 2020. According to DAERA figures, milk production across the dairy sector has increased by 85% since 1990 whilst increasing the number of dairy cows by 13% - demonstrating that the improvements in carbon footprint have been driven by significant increases in milk yield per cow. Notwithstanding this, the upward trajectory in emissions is incompatible with NI's legislated climate target of net-zero by 2050 and a 46% reduction in methane emissions.[21] While 74% of NIFDA members surveyed for this report noted that decarbonisation is the biggest sustainability priority for their business, there remains a tension between balancing emissions reductions with sector growth and food security.

The deep-rooted challenges for the sector in meeting national decarbonisation targets have been highlighted by the UK Climate Change Committee (CCC). In its 2023 advice report to NI, the UK CCC indicated that even with ambitious agricultural decarbonisation, including a herd reduction of almost a third, widespread adoption of low carbon farming practices and improved farm efficiency, net zero is not achievable by 2050 without relying on a radical ramp up of GHG removals or more extreme herd reductions.[22] The UK CCC's advice for DAERA's carbon budget and interim target development is based on scaling additional GHG removals.

Figure 1 Northern Ireland Agricultural greenhouse gas emissions 1990-2021, NISRA



19 NISRA (2021). Northern Ireland Greenhouse Gas Emissions: Sustainability at the heart of a living, working, active landscape valued by everyone.

20 DAERA (2022) Carbon Intensity Indicators published

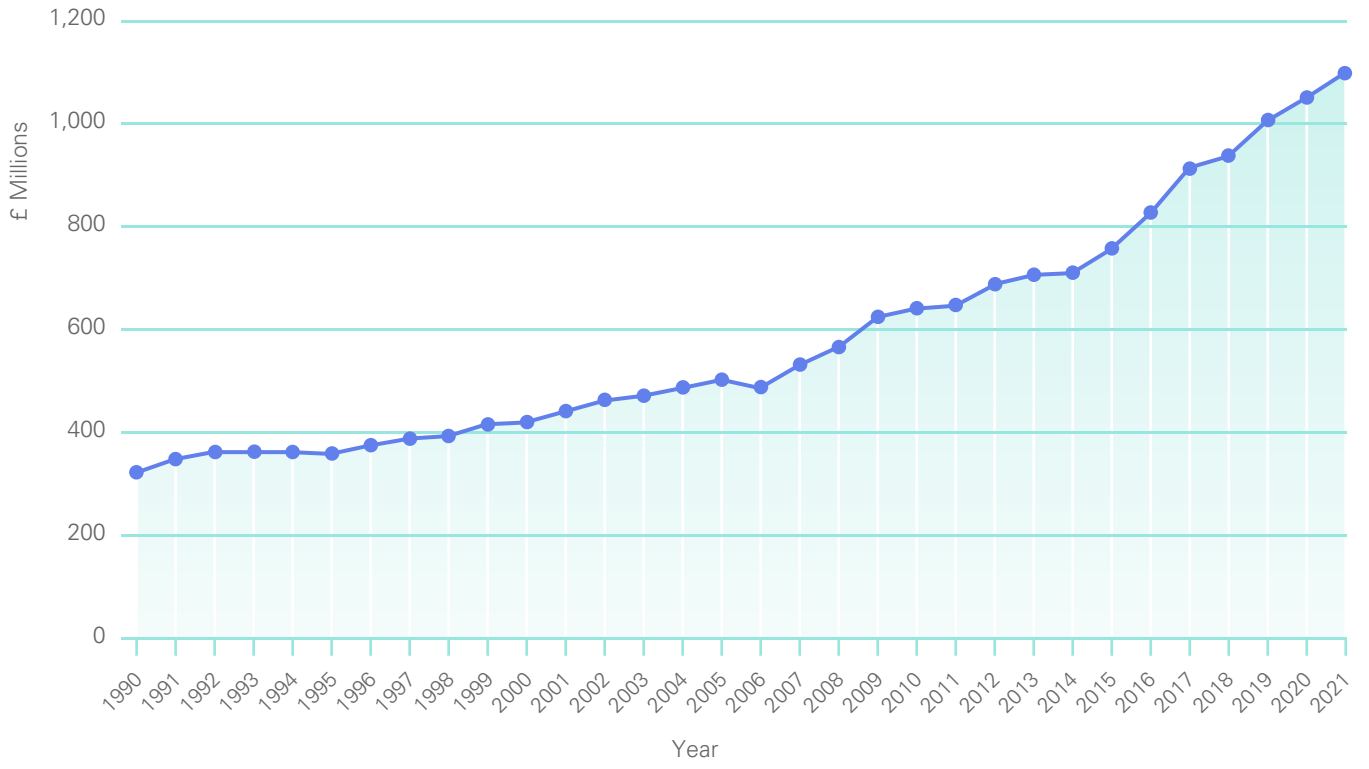
21 DAERA (2021). Amendments to Climate Change Bill

22 Climate Change Committee (2023). The path to a Net Zero Northern Ireland

Therefore, for the NI food and drink sector to support the achievement of national decarbonisation targets it will need to implement more radical and innovative solutions to reduce its GHG footprint and scale up removals. This will require upfront investment, both public and private, alongside education and training for all stakeholders within the agri-food supply chain – most crucially at the farm-level.

In terms of technical solutions available for agricultural decarbonisation, such as improved breeding measures and feed additives, KPMG analysis for the Irish Farmer's Journal estimated that these measures combined would reduce agricultural emissions by less than 20% and would leave a significant shortfall.[24] This finding is mirrored by CIEL research which found that current technology and practices could only deliver a 24% reduction and further decarbonisation for the sector requires new innovations.[25] Further research conducted by KPMG on behalf of various farming representative bodies, including the Dairy Council for Northern Ireland assessed the potential economic impact of a 2045 net zero target for the agriculture sector in NI, assuming a limited abatement potential of technical solutions and included herd reductions. The scenario modelled resulted in a potential herd reduction of 86% for the beef, dairy and sheep sub-sectors and 11% for pig and poultry sub-sectors. The negative impact of these herd cuts on economic output varied by sector, ranging from -8% to -66%. In absolute terms, the greatest reductions in economic output occurred for the dairy sector (-£495 million) and beef sector (-£375 million). Over the period 2021-2045 the modelled scenario quantified a total aggregate 'lost' economic output of approximately £11 bn and a 54% reduction in farm employment.[26] This scenario is an extreme case and it's impossible to see such drastic herd cuts taking place in reality given the impact on the sector and economy - but it does indicate the scale of emissions reductions required and the need for innovation and profitable diversification options for farmers and the wider sector.

Figure 2 Value Added in Northern Ireland Food and Drinks Processing Sector 1990-2021, NISRA[23]



23 Components of total value add per NISRA statistics include wages and salaries, depreciation charge, net profit, and interest paid. https://www.daera-ni.gov.uk *Northern Ireland Food and Drinks Processing Report 2021*

24 KPMG (2021) Ireland's 2030 Carbon Emissions Targets — An Economic Impact Assessment for the Agriculture Sector

25 https://cielivestock.co.uk/wp-content/uploads/2023/07/Net-Zero-Livestock-Bridging-the-gap-July-2023-compressed-1.pdf

26 KPMG Climate Change Bill Impact Assessment

Given the transboundary nature of GHG emissions, NI must consider its climate policies and impacts in a UK and global context and the importance of producing local food close to market. In this regard, the region's agricultural production methods benchmark well against many other jurisdictions on a relative basis.[27, 28, 29, 30] Notwithstanding this, absolute emissions for the sector remain inconsistent with NI's legally binding commitments and in the medium to long term, the industry recognises that it is very likely that other countries will develop new, sustainable production methods which could significantly diminish NI's international competitiveness unless the sector also transitions. Aside from competitiveness, diminishing environmental conditions (e.g. water, air, ammonia and soil health) within Northern Ireland will ultimately constrain the sector unless more urgent action is taken by government to support industry efforts to rapidly transition.

> **"Northern Ireland industry has the potential to be well placed but despite the rhetoric, the regulatory framework within which we operate is not fit for the purposes of decarbonisation, with policies across departments acting as a drag on the ability of business to implement change"**
>
> Source: Survey respondent

Beyond decarbonisation

Whilst decarbonisation is critical, it is only one part of a wide spectrum of interconnected environmental challenges.

NI's natural environment upon which the sector and the economy depend is under sustained pressure from a range of drivers. Front of mind for many in the food and drink sector are the increasing effects of ammonia and nitrate emissions. The majority of ammonia arises from the natural decomposition of manure, plants and animals. Man-made sources of ammonia stem from fertilisers, power plants and other manufacturing emissions. Nitrates are formed through the oxidation of ammonia and serve as an essential form of nitrogen for plants. However, excessive nitrogen deposition can lead to adverse impacts on nature through the loss of plant species and changes in ecosystem structure and function. It can also lead to nitrogen run-off which pollutes water bodies, often leading to eutrophication and harmful algal blooms. Lough Neagh, which supplies 40% of NI's water is a case in point. According to the Agri-Food and Biosciences' Institute, the green layer on Lough Neagh is an algal bloom caused by the rapid growth and accumulation of blue-green algae. The algal bloom has been attributed to a range of factors, but the problem intensified due to a period of unseasonably warm weather.[31]

Most of NI, including designated sites and other priority habitats, are receiving levels of nitrogen significantly above their 'critical load' - the concentration at which ecological damage occurs. This presents an ongoing challenge for the sector and the region, particularly in meeting obligations under UK regulations and international treaties.[32]

Moreover, NI is responsible for 12% of UK ammonia emissions, despite only having 3% of the UK's population and 6% of the land area.[33] This relatively high contribution reflects the size of the agriculture sector to the economy.

More broadly, the state of nature and biodiversity in NI is in decline and has been for many decades. The 2023 State of Nature Report found that farmland birds have decreased by 43% since 1996, across 17 monitored species and 891 plant species have declined on average by 14% between 1970 and 2019.[34] The cause of this decline is deep rooted and driven by multiple compounding human activities, but it is the operating environment within which the NI food and drink sector currently operates and continued declines will further impact the future resilience of the industry unless government and industry work together to rapidly develop a new and sustainable business model for agri-food.

27 FAOSTAT Emission Intensities

28 Teagasc (2018) An Analysis of Abatement Potential of Greenhouse Gas Emissions in Irish Agriculture 2021-2030

29 World Resources Institute (2020) Comparing the life cycle greenhouse gas emissions of dairy and pork systems across countries using land-use carbon opportunity costs

30 Irish Examiner (2022) European farmers urged to follow Irish model

31 Agri-Food and Biosciences Institute (2023). Why has Lough Neagh been going green in the sun?

32 ENJN (2020). Ireland Ammonia Pollution in Northern Ireland

33 DAERA (2023). Ammonia emissions in Northern Ireland - https://www.daera-ni.gov.uk

34 RSPB (2023) State of Nature Report - https://www.rspb.org.uk

Supply chain and labour market disruption

The food and drink sector in NI is also navigating a range of border and trade complexities as a result of Brexit and global supply chain issues and cost increases, initially sparked by COVID-19 and followed by the war in Ukraine. A recent report by Barclays found that goods with a total value of over £1.2bn have been held up in manufacturers' warehouses across NI due to supply chain delays - with the food and drink sector being particularly impacted.[34] Labour shortages have also adversely impacted the food and drink sector - threatening food security, animal welfare and the mental health of those working in the industry. This is compounding existing pressures and driving food prices higher and increasingly impacting choices for consumers.[35]

Political stasis of Stormont Assembly

The ongoing stalemate between political parties in NI since 2022 has had a multitude of impacts for many parts of the economy. While senior civil servants in government departments can take certain decisions which would ordinarily be taken by Ministers under the provisions of the Northern Ireland Act 2022, new policies and strategies cannot necessarily be published without a functioning Executive, especially where they are cross-cutting.[36] In several cases, sustainability-focused initiatives have been drafted and submitted for public consultation but are not yet published as final versions as they await sign-off.

The absence of governance by the Northern Ireland Assembly has had notable consequences for the food and drink sector - with 86% of NIFDA members indicating there is a lack of necessary funding support and incentives to deliver on sustainability initiatives.

86% of NIFDA survey respondents do not think there is sufficient funding support in Northern Ireland to deliver on industry sustainability initiatives.

> "The scale of Northern Ireland should make it ideally placed to take advantage of sustainability opportunities, but it is currently held back the slow pace of change and a lack of joined-up thinking, resulting from the absence of a regional assembly"
>
> Source: Survey respondent

35 Barclays (2022). Chain Reaction: How UK manufacturers are adapting to supply chain challenges

36 House of Lords (2022). Northern Ireland (Interim Arrangements) Bill

The Windsor Framework

Following protracted negotiations between the British Government and the EU Commission, the announcement of the Windsor Framework provided some clarity for NI and its food and drink sector. Whilst the Framework has brought about changes in regulations and trade dynamics, its direct impact on sustainability may vary depending on factors such as new trade agreements, environmental policies and industry practices. Changes in trade relationships and potential disruptions in supply chains may impact the sector's ability to source sustainable ingredients, particularly if there are increased barriers to trade or reduced access to other markets. However, the Framework should at a minimum maintain opportunities for lower-carbon, sustainably-focused companies to continue trading into the EU, a critical export market with high environmental standards, and help to protect NI industry from lower cost higher carbon competitors.

Nearly half 43% of members are 'unsure' if the Windsor Framework/ Brexit will have a positive or negative impact on the sustainability initiatives/strategy of their organisation

> "Regulatory divergence is an ongoing threat and challenge as businesses try to understand and adapt to the differing requirements they must meet..."
>
> Source: Survey respondent

Our survey of members would suggest that the impacts of the Framework on their company's sustainability strategy and actions are not yet clear, and that questions remain. Is there a genuine opportunity to leverage the Windsor Framework and increase the position of NI as a leading food-producing economy in the UK and Europe? The long-term impacts of Brexit on the sustainability of the food and drink sector will depend on how various stakeholders including government, organisations and consumers adapt to the changing landscape and whether they prioritise sustainability in decision-making processes.

> "Brexit has created the opportunity for and reality of policy divergence and uncertainty. It also placed the trading relationship between NI and EU in jeopardy. Windsor goes part way towards addressing this and is a large step in the right direction. However, we will continually face debate on how EU law is implemented in Northern Ireland. Environmental issues remain an area of considerable focus and one where the EU has competence in law. We can, therefore, expect this to be an area where there will be considerable activity."
>
> Source: Survey respondent

Sustainability reporting and 'transition planning'

For most food and drink businesses, there has been a step change in non-financial reporting expectations from stakeholders and there is a broader move from voluntary to mandatory sustainability disclosures. In the UK, the Department for Business and Trade has published initial plans to roll out the UK Sustainability Disclosure Standards (SDSs) by July 2024. The SDSs will set out corporate disclosures on the sustainability-related risks and opportunities that companies face. They will form the basis of any future requirements in UK legislation or regulation for companies to report on risks and opportunities relating to sustainability matters, including risks and opportunities arising from climate change.[37] Complementing the SDSs is the work of the government-mandated Transition Plan Taskforce (TPT). The TPT defines 'transition plans' as publicly available corporate action plans setting out a company's "objectives and priorities for responding and contributing to the transition towards a low GHG emissions, climate-resilient economy. It also sets out whether and how the entity is pursuing these objectives and priorities in a manner that captures opportunities, avoids adverse impacts for stakeholders and society, and safeguards the natural environment."[38] It is expected that the publication of these transition plans will become mandatory and in time will have far reaching implications on how companies (large and SME) develop and report on their sustainability plans and their progress against targets.

The EU's Corporate Sustainability Reporting Directive (CSRD) and accompanying European Sustainability Reporting Standards (ESRS) are expected to be significant drivers of increased corporate sustainability reporting and disclosure. The CSRD is expected to impact 50,000 companies across Europe, including many multinational food and beverage companies.[39] Under the CSRD requirements, companies must report on their material sustainability-related risks, impacts and opportunities throughout their supply chain as part of their annual reports and increasingly through climate and biodiversity transition plans. These new disclosures are expected to impact standards far beyond the European Union's borders directly and indirectly.

ESG reporting and transition planning is already increasing the expectations of disclosure and transparency from stakeholders such as investors and customers. The expectation is that this will increase the number of companies setting out publicly how they will transition their business model and investments to support net zero, nature positive and just transition[40] outcomes.

37 UK Government (2023). UK Sustainability Disclosure Standards

38 Transition Plan Taskforce (2023), Disclosure Framework

39 European Commission (2023). Corporate Sustainability Reporting Directive

40 A Just transition seeks to ensure that the benefits and burdens of the transition of economies to a low carbon trajectory are shared and taking into account locally relevant cultural, social and economic factors.

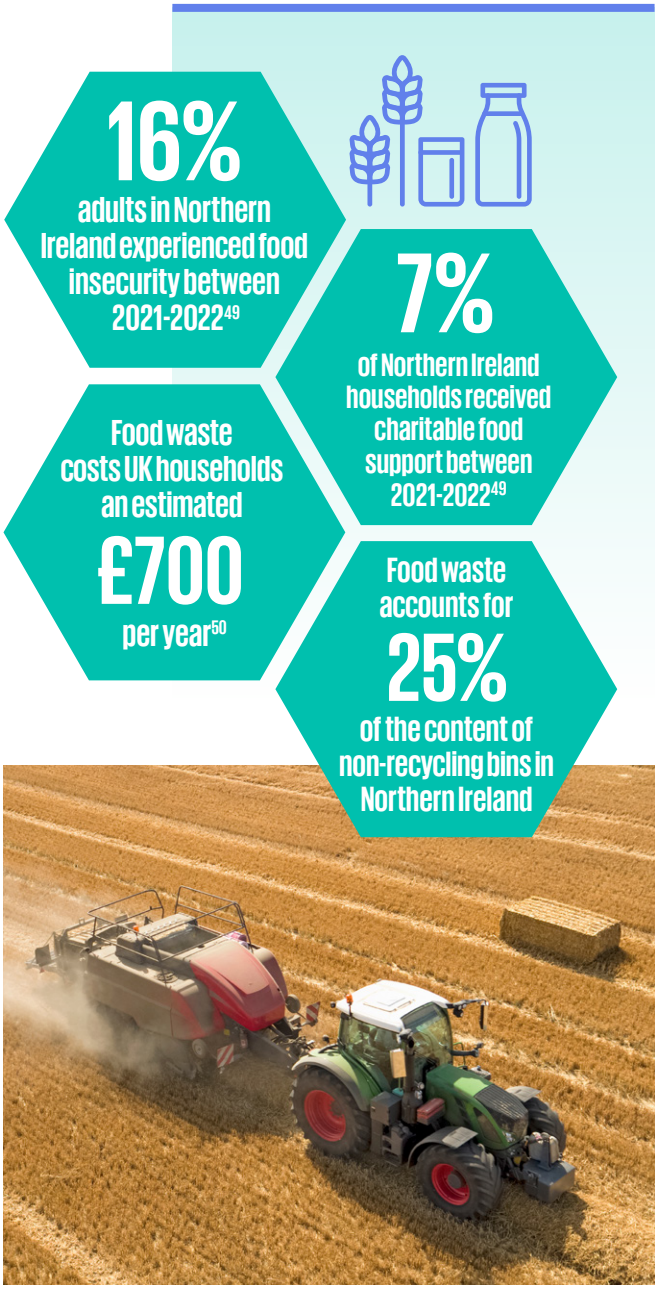
Changing consumer diets, food poverty and food waste

The food and drink sector is faced with the essential task of delivering healthy, affordable food with lower environmental impacts, while also responding to and supporting consumer behaviour and dietary changes. How can these competing challenges stack up and how can the sector embrace the opportunities that are coming?

Whilst alternatives to meat and dairy are growing from a very low base, their increasing popularity, especially amongst younger consumers, is expected to rise significantly. A recent survey by Safefood found that 41% of consumers in NI consume plant-based products, with 11% always choosing a dairy alternative and 30% sometimes choosing them.[41] This growing trend presents both a challenge and opportunity for food and drink companies to innovate and invest in the development of new product lines.

Furthermore, there is a growing expectation to respond to the complexity of food related social issues. For example, lower-income households in NI are increasingly struggling to buy healthy foods as the impact of inflation sees the cost of their weekly food shop account for almost half of their total income.[42] A recent report by SafeFood on the cost of a healthy food basket revealed that some families spend up to £169, almost half of their take-home income, on food.[43] Furthermore, over one quarter of families living with a child under 16 had worried about running out of food.[43]

While food insecurity across the region has increased,[44] food waste also remains a significant challenge. This is not unique to NI, with around one third of food produced globally being wasted, equating to approximately 1.3 billion tonnes per year.[45] Food loss and waste undermine the sustainability of food systems.[46] When food is wasted, the resources used for its production, processing, transport and storage (including water, land, energy, labour and capital) are also wasted. In addition, the disposal of food in landfills further intensifies the sector's contribution to climate change. According to WRAP's latest food waste statistics, by weight, household food waste makes up 70% of the UK post-farm-gate total, with manufacturing at 16%, hospitality and food service 12% and retail 3%.[47] While there has been limited research conducted across NI regarding the carbon impact of food waste, a recent study estimated the whole-life carbon impact of household food waste in Belfast at 77,709 tonnes CO2e in 2020.[48] It is clear that a whole-of-value-chain approach is needed, in particular with increased efforts to influence household behaviours to reduce such losses.



41 SafeFood (2022). Plant-based dairy alternatives: Products Available in Supermarkets on the Island of Ireland, and Consumer Behaviours and Perceptions

42 The Trussell Trust (2023). Hunger in the UK: UK Policy Briefing

43 SafeFood (2021). What is the cost of a healthy food basket in Northern Ireland in 2020?

44 Food Standard Agency (2023). Food Standards Agency's (FSA) Food and You 2 surveys

45 FAO (2011). Global Food Losses

46 UN (2023). Reducing food loss and waste: Taking Action to Transform Food Systems

47 Food Surplus and Waste in the UK Key Facts December 2022.pdf (wrap.org.uk)

48 ACR (2023). The Carbon Footprint of Waste

49 The Trussell Trust (2023). Hunger in the UK

50 WRAP UK (2020). Food waste falls by 7% per person in three years

3.3 Summary

The challenges facing the food and drink sector are far reaching and deep rooted, with a range of intersecting economic, social and environmental issues. NIFDA members are already responding and playing a leading role in delivering the change needed. Our survey found that 57% of members indicated that they are well prepared or extremely well prepared to meet the sustainability challenges for their company.

However, beyond the entity level, only 34% of members surveyed said they believe that NI as a region is well placed or extremely well placed to take advantage of the opportunities arising from the sustainability agenda. The lack of preparedness cited by NIFDA members has been largely attributed to insufficient government action and support. This will be crucial to further support and deliver innovations and resilience within the sector.

> **"NI is well placed to take advantage of the opportunities because there is good industry collaboration and willingness to address the sustainability challenges. However, the lack of a functioning government is hampering the clear policy direction that is needed to support and champion the sustainability efforts of the local agri-food sector"**
>
> Source: Survey respondent

4.0 How the Sector is responding

In August and September 2023 KPMG surveyed NIFDA's 119 members. The purpose of the survey was to get a snapshot of the membership's work on sustainability and uncover insights to help outline the sustainability challenges and opportunities the sector is facing at a company level. Almost 30% (n.35) of the NIFDA membership businesses responded, with representation across nearly all sub-sectors (Stat 1).

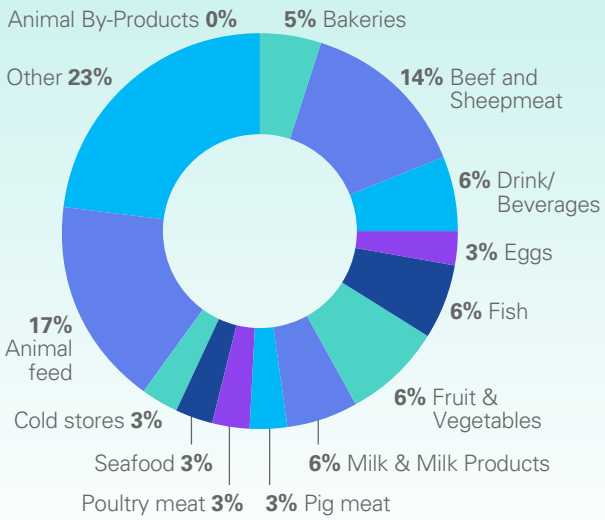
4.1 Insights

It is clear that NIFDA members are taking action on sustainability across a broad spectrum of areas – with decarbonisation emerging as a top priority, followed by waste reduction and circular economy, and water quality. The primary motivation for these initiatives varied significantly across NIFDA's membership, however emerging regulatory pressure represented the most cited factor. This was followed by Corporate Social Responsibility (CSR) related drivers, indicating that members are aware of their duty to operate in ways that enhance rather than degrade society and the environment. Interestingly, no members noted employee expectations as a key driving factor behind the adoption of sustainability initiatives in their business. This finding runs counter to the prevailing trend which has shown a clear appetite among employees to work in a sustainable company.[51]

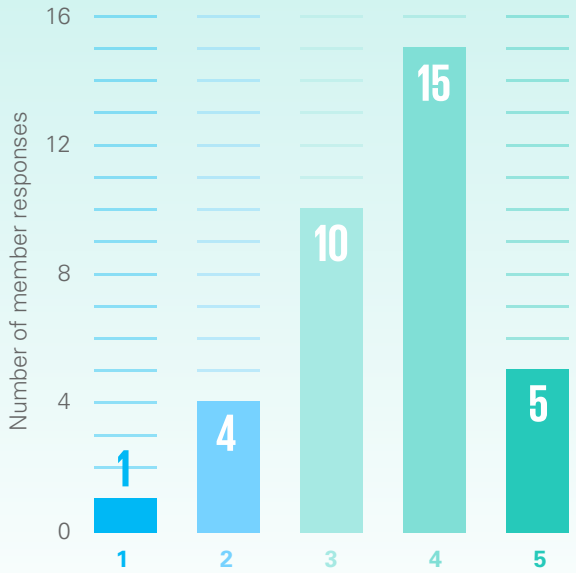
NIFDA members are already taking initial steps within their companies to help with strategic planning and futureproofing through additional resourcing. The survey showed that 83% of members have a dedicated team or individual in their organisation to lead the response to the sustainability agenda, mobilising on internal initiatives despite the many obstacles (Stat 3).

Some of the key findings from the survey are summarised in the following pages

Stat 1 Respondents – By industry area



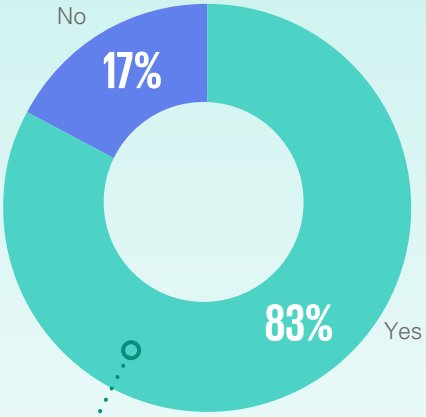
Stat 2 In your opinion, how well prepared is your organisation in responding to the sustainability agenda?



1 being not prepared, 5 being extremely well prepared

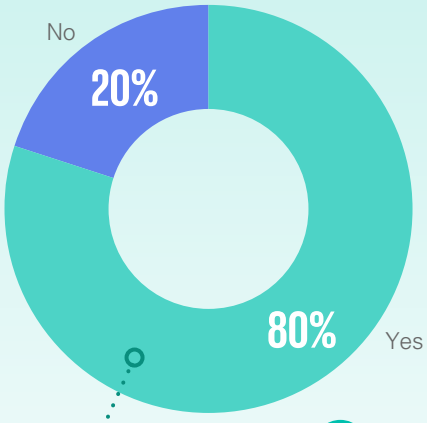
51 IBM (2022). Balancing Sustainability and Profitability

Stat 3 Do you have a dedicated team or individual in your organisation to lead the response to the sustainability agenda?



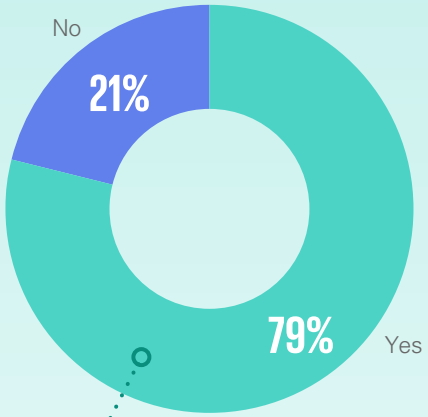
83% of members have a dedicated team or individual in organisation to lead the response to the sustainability agenda

Stat 4 Do you currently measure the carbon footprint of any element of your supply chain?



80% of members are measuring elements of the carbon footprint of their supply chain

Stat 5 Do you use a 3rd party carbon calculator?

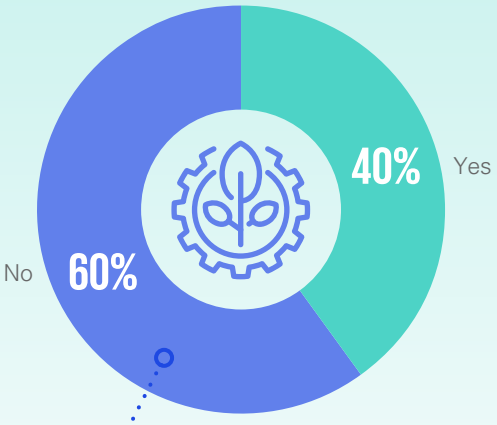


79% of the members currently measuring their carbon footprint use a 3rd party calculator

What are the barriers preventing you from measuring the carbon footprint of your supply chain?

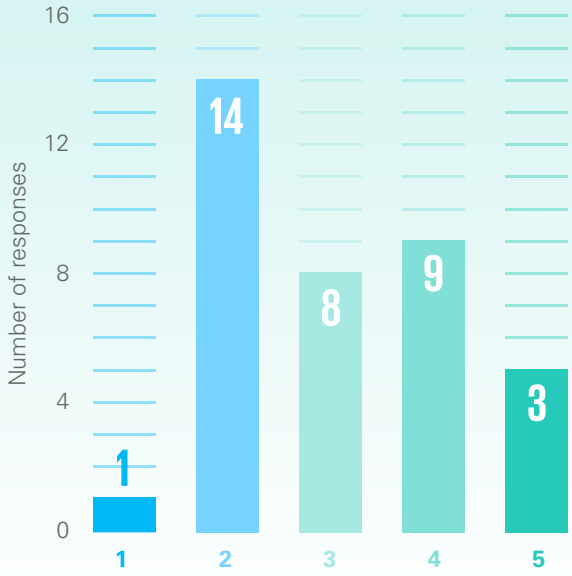
- Data collection and measurement
- Knowledge, time, and resources
- Insufficient time to spend on carbon measurement
- Time required to collect relevant information
- Data gathering
- Lack of resources/knowledge

Stat 6 Do you publicly report any sustainability metrics?



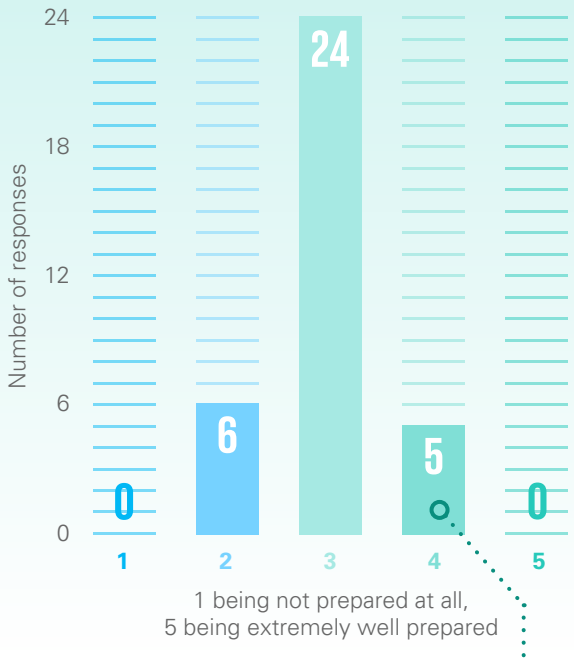
60% of members surveyed don't publicly report on sustainability metrics

Stat 7 Do you think Northern Ireland in general is well placed to take advantage of any opportunities that may arise from the sustainability agenda?



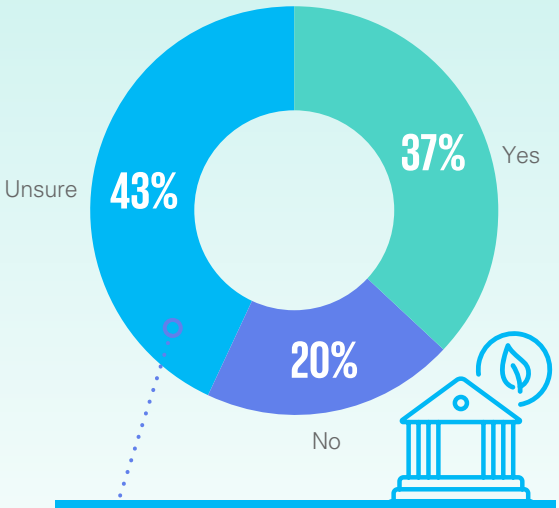
1 being not well placed, 5 being extremely well placed

Stat 8 How prepared is the Northern Ireland food & drink industry to meet market and regulatory pressures on the sustainability agenda?



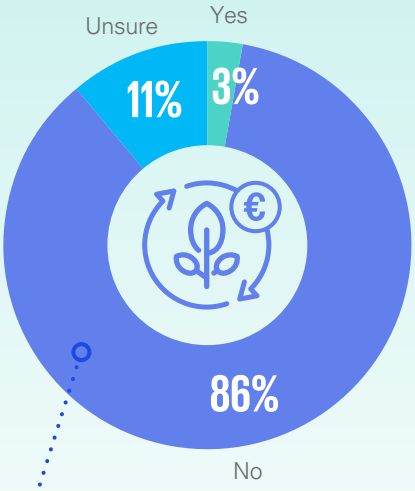
Only 14% of members believe NI is well prepared and no members surveyed believe that Northern Ireland food & drink industry is extremely well prepared to meet market and regulatory pressures on the sustainability agenda.

Stat 9 From your perspective will the Windsor Framework/Brexit have an impact in relation to sustainability initiatives/ strategy of your organisation?



Nearly half 43% of members are 'unsure' if the Windsor Framework/Brexit will have an impact in relation to sustainability initiatives/ strategy of their organisation

Stat 10 Do you think there is sufficient funding support in Northern Ireland in relation to sustainability for your industry?



86% do not think there is sufficient funding support in Northern Ireland in relation to sustainability for their industry.

57%

of members surveyed said 'Regulation' is in the top 3 driving factors behind the adoption of sustainability initiatives in the business. Closely followed by 'CSR' (54%), and 'Retailer Pressure' (49%)

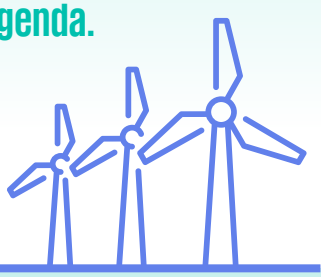
77%

of members believe the food & drink industry could better respond to the sustainability agenda by having 'clear direction of policy / regulation.

49%

included 'lack of suitable funding' as being one of the greatest challenges facing NIFDA members in responding to the wider sustainability and decarbonisation agenda.

74%



of members surveyed say decarbonisation is the highest sustainability priority for their business followed by waste reduction and circular economy

> "We have no government that can put pressure on central government and because we are a small and thorny community, central government tends to ignore us"
>
> Source: Survey respondent

> "Investment in innovation for addressing the sustainability agenda is currently hindered by a lack of a functioning government to make decisions and provide funding for initiatives that address sustainability"
>
> Source: Survey respondent

> "Climate change has no respect for borders. We are lucky in that we have time and resource as a nation to change. Other parts of the world do not and it's often within the poorest parts of the world where communities are suffering the most. It is frustrating as we are such a small region, if we could all get our act together across all industries we could make a real difference and become a really green hub "
>
> Source: Survey respondent

4.2 NIFDA member initiatives

Although NIFDA members are grappling with a multitude of environmental, economic and political challenges, there are many examples of on-the-ground activities either underway or planned that illustrate the sector's response.

The following examples represent a snapshot of sustainability initiatives underway - including renewable energy, biodiversity conservation, science-based target setting, food labelling, and carbon measurement and management. By actively implementing and promoting these initiatives, the sector is taking strides to address the environmental concerns associated with food and drink production and consumption and is helping to forge a path towards a more sustainable future.

ABP Case Study

In 2019, ABP became one of the first agrifood businesses to commit to science-based climate targets. Since then, the company has embarked on a number of projects with a view to reducing its scope 1,2 and 3 emissions. One example is the company's landmark Programme for the Improvement of Sustainability in (red) Meat (PRISM 2030). PRISM is driving change across the industry with 350 UK farmers (50 from NI) working through the Programme to calculate, monitor and reduce their farm carbon emissions whilst improving production efficiency, biodiversity, soil quality, water and animal health and welfare.

Those participating in the Programme initially have their farm assessed and are provided with a confidential benchmark from which they will improve overall emissions over a three-year period. They then receive tailored recommendations on how to progress, from the professional farm consultants Andersons and Harper Adams University. Some of the suggested improvements include planting herbal leys, implementing rotational grazing, reducing nitrogen, reducing vehicle fuel use, improving fertility and calving rates.

The successes, challenges and learnings of working through PRISM 2030 are being shared with other farmers through grazing events held on-farm and discussion meetings online and case studies from the farmers are shared through monthly newsletters and social media, to help support other farmers on their journey towards greater sustainability.

Explaining his decision to take part in PRISM, the Kircubbin-based beef farmer and ABP supplier Sam Chesney said *"We have a duty as farmers to help dispel some of the myths about how beef is produced here in the UK. Farmers are a major part of the solution, as potential carbon mitigators, and the PRISM process will enable us to demonstrate and measure that potential. While British beef and lamb is too often broad-brushed with the rest of the world, the green lands of the UK are second to none when it comes to supporting high animal welfare, boosting biodiversity, and producing low carbon beef."*

The outcomes from the PRISM project will be made available to the wider industry with a view to helping deliver a real step-change in sustainability within the UK beef and lamb sectors.

Sam Chesney and George Mullan, ABP

Moy Park Case Study

Moy Park recognises the importance of meeting the food and nutritional needs of a growing global population in a sustainable manner and that we must all do more with less - by maximising the efficient use of natural resources and incorporating the latest technologies, innovations, and best practices across food production systems.

To decarbonise its business and supply chain, Moy Park is investing in a variety of programmes from research to on-farm technologies. Learnings from these projects will be implemented in its evolving net zero strategy that is rooted in an ability to use its size and scale for good, while also supporting producers on their operations.

In addition, Moy Park's efforts to protect nature and biodiversity have been recognised with 'Platinum' level accreditation in an independent Business and Biodiversity Charter, delivered by Business in the Community Northern Ireland (BITCNI) in partnership with Ulster Wildlife. The Charter recognises organisations that are committed to enhancing and protecting biodiversity and have taken action to address their impact on all living things, from ecosystems to individual organisms. The top rank was awarded in recognition of their focus on protecting and enhancing the environment through a range of nature-focused initiatives including schools' outreach and community engagement, along with strategic partnerships and investments to enhance biodiversity at their sites across NI.

In 2023, Moy Park will resubmit its existing Science Based Targets initiative (SBTi) approved emissions reduction targets for revalidation in accordance with SBTi's Forests, Land, and Agriculture (FLAG) Science-Based Targets Setting Guidance released in September 2022.

Moy Park's work to decarbonise its business and supply chain involves collaboration and partnership. To support its efforts, it is taking the following steps:

- Facilities: Invest in upgrading Moy Park's facilities and equipment to reduce scope 1 and 2 emissions.
- Value chain: Invest in research and development projects to drive scope 3 reductions.
- Set mid-term targets: Reduce emissions intensity in all Moy Park's facilities by at least 30% by 2030.
- Convert to renewable energy: Use 100% renewable electricity by 2025.

> "At Moy Park, sustainability is embedded throughout our business and provides the opportunity to leverage our scale, influence, and expertise to help agriculture innovate, create and be part of the climate solution. We are lowering our emissions and supporting producers, suppliers, and customers to continue improving their environmental footprint."
>
> Kirsty Wilkins, HR & Performance Director, Moy Park

Moy Park team tree planting

Dale Farm Case Study

This autumn Dale Farm is launching its Sustainability Programme 'Future Strong'. The initial focus will be climate change but will broaden through time to address all facets of sustainability. The Programme was presented at 15 meetings during September to their farmer members across NI, explaining Dale Farm's plans and the requirement of their farmers. Dale Farm's targets are in line with the requirements of the Science Based Targets Initiative (SBTi) and will include at least a 30% reduction in the carbon footprint of their milk by 2030 and at least a 50% reduction in emissions from their processing activities.

The value of hosting this series of meetings with its members throughout NI cannot be over-estimated. Buy-in to challenging programmes can only be obtained through effective open communication, explaining both the requirements and rationale of change management.

Flagship Sustainability Programme

A 5MW solar farm was also constructed at the boundary of the Dale Farm Dunmanbridge factory near Cookstown. The solar farm is over 30 acres in size and contains 15,000 individual solar panels, with all the power generated used on the Dunmanbridge site, rather than being exported to the electricity grid. The solar farm contributes up to 23% of the site's requirements, resulting in an annual saving of approximately 2,400 tonnes of carbon dioxide.

Due to the complexity of the planning system, project development time took longer than anticipated. However, with the increasing familiarity with solar renewable projects within NI, it is anticipated that if the project was to be repeated today, it could be executed in much shorter lead-times.

> "A strong credible approach to sustainability is now simply a condition of business within the Dairy sector. We in Northern Ireland have a positive story to share, but we need the scientific data to tell it correctly and that's one of the drivers of our Future Strong programme"
>
> Nick Whelan, CEO, Dale Farm

Solar farm, Dale Farm

Foyle Food Group Case Study

As a responsible business, Foyle Food Group is conscious of the environmental challenges the industry faces, the growing emphasis on climate change and the need to meet challenging GHG emission reduction targets. Having already achieved significant environmental milestones, a new longer-term approach encompassing all areas of sustainability is essential. In 2019 the business launched its sustainability strategy 'Shaping our Future'.

The initial challenge was data gathering to complete the whole supply chain carbon footprint for the business. It was a time-consuming task but vital to understand the baseline, the challenge ahead, and to help shape the targets set. Foyle Food Group published these within its report to operate transparently with their stakeholders and communicate how the business will achieve these targets. With sustainability listed as a priority for many key customers, understanding and supporting customers is pivotal in their sustainability pathway, contributing to future sustainable business growth.

Within Foyle Food Group's operations, projects are in place to reduce scope 1 and 2 emissions aligned with the SBTi, for example in 2022 it moved all its sites to 100% renewably sourced electricity. The implementation of ISO50001 Energy Management Standard at both Foyle Food Group sites in NI provides the framework for resource efficiency and continuous improvement.

As an agri-food business, it is important to support the rural economy for their suppliers and employees. One way in which Foyle Food Group does this is to share its skills and expertise throughout the supply chain and showcase the research carried out at the Foyle Farms of Excellence.

The Foyle Farms of Excellence (Cookstown, Co Tyrone) is researching and demonstrating sustainable best practices to its supplying farmers, young farmer organisations and aligned industry groups. This includes promoting animal welfare, soil health, multi-species swards, regenerative agricultural practices as well as the use of superior genetics within the suckler herd to improve lifetime performance. It is a key priority for the business to support and inform its producers of the latest innovations and demonstrating these practices allow them to be practically efficient and continue to deliver best environmental practices at farming level and reduce carbon emissions from agriculture.

> "We are fully aware of the challenges within our sector, of the need for immediate action and of the need for adaptability as we transition to a sustainable future. At Foyle Food Group, we are committed to being part of the solution and that commitment has driven us towards doing things differently and being innovative in our efforts across all parts of the business."
>
> Terry Acheson, CEO, Foyle Food Group

Foyle Farms of Excellence farmer presentation, Foyle Food Group

Mash Direct Case Study

Mash Direct has partnered with non-profit organisation, Foundation Earth to launch a range of ecological packaging. The initiative will allow customers to make more sustainable choices whilst shopping, helping to drive change in the industry. The packaging displays a traffic light system of how ecologically sustainable the product is and gives an overall 'grade' to provide an at-a-glance score. Several other companies have also signed up to this pilot scheme, hoping to drive awareness and lead change within the food and drink sector and to share a vision for the future encouraging more environmentally friendly innovation from food producers and sustainable buying choices. The scoring system is designed to analyse the whole life-cycle of an individual product, such as mashed potato, as opposed to using secondary data to estimate the environmental impact of an entire product group. This will allow customers to directly compare the sustainable credentials of two competitor products to make an informed decision whilst they do their grocery shopping.

The Foundation Earth product grading scores are shown on five products: Mash Direct's Mashed Potato, Champ, Carrots & Parsnips, Mashed Turnip and Colcannon. The scoring system is based on the individual product's Carbon Output (g CO2 eq), Water usage, Water Pollution and Bio-diversity impact. The brand aims to roll out the packaging to other products, as part of the company's wider sustainability ambitions

> "For Mash Direct, this is not a choice between commercial success and environmental sustainability. It is the soil, air and water in its corner of County Down that gives its vegetables their fantastic flavours and the current trajectory shows that we are facing a climate emergency.
>
> As a family-owned business, Mash Direct is able to take a genuinely long-term view on this rather than solely focusing on short-term profit. At the same time, it understands that it needs to keep doing the simple things that it does well: keeping supply chains short and getting vegetables from its farm to consumers' tables in the shortest and most convenient ways."
>
> Jack Hamilton, CEO, Mash Direct

Eco labelling, Mash Direct

5.0 Collectively moving forward

It is clear that NIFDA members are demonstrating ambition and commitment to addressing sustainability challenges. Whilst there is no silver bullet, innovation and collaboration, ensuring a farmer-centric model, and supportive government policies and incentives will be key to delivering the change that is needed.

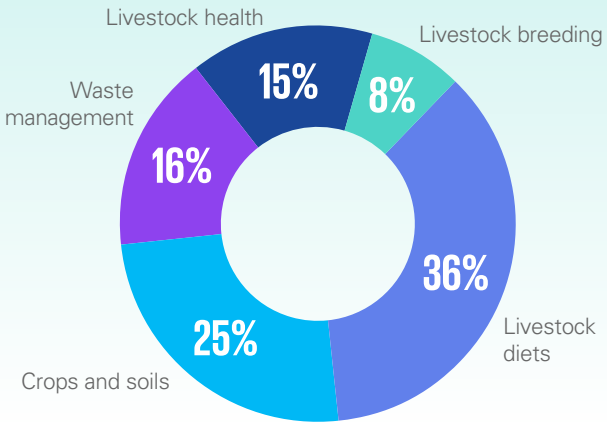
5.1 Innovation

The NIFDA member survey shows that the sector is taking action across a range of areas, is building out resources and capabilities, and is investing in innovations and new business practices. However, do these initiatives represent the region's best efforts to meet the immense challenges facing the sector? What more can be done to drive collaboration and innovation for collective benefit and mutual long-term resilience and profitability?

As discussed in section 3.2, the sector has shown its ability to reduce the carbon intensity of production but it needs new innovations that support sustainable intensification and achieve effective decarbonisation. Research conducted by the UK CCC and the Centre for Innovation Excellence in Livestock (CIEL) both demonstrate that current technologies and practices have limited decarbonisation potential for the sector. To bridge the decarbonisation gap, new innovations in technology and management practices are needed. The contribution to emissions reduction from the sector requires action across the value chain, in particular changing farming practices and consumer behaviour and releasing agricultural land for uses that reduce emissions and sequester carbon. The UK CCC Sixth Carbon Budget report[52] and CIEL research[53] identify a range of impact-based technologies and practices that can support the sector's decarbonisation:

- **Soil measures:** such as cover cropping to minimise soil erosion and maintain soil carbon, and multi-species swards to support soil carbon sequestration. Further measures to improve crop yield such as crop rotation and improved crop nutrition can release land for other uses to increase carbon sequestration.
- **Livestock:** breeding measures and genomics to select animals with improved health and fertility. Improving animal health such as vaccination against endemic disease. Diet and feed innovations to reduce enteric methane emissions in cattle and sheep and for monogastrics, improving feed conversion efficiency. Improving grassland utilisation through grazing at the right time and with the right amount of livestock, for example, can free up additional land to be used for carbon sequestration purposes.
- **Waste and manure management:** such as covering slurry tanks, plasma treatment of slurry and constructing anaerobic digestion (AD) plants for the production of biomethane and biofertiliser.
- **Energy:** efficiencies in stationary and mobile machinery, switching to low or zero carbon options, use of biofuels and hydrogen.
- **Eliminating food waste:** with measures focusing on behaviour change campaigns, procurement efficiencies, education, production planning, scaling up business-to-consumer (B2C) marketplaces for surplus food and improved product labelling.

Figure 3 Abatement potential of low carbon farming practices, UK CCC Sixth Carbon Budget report



52 UK CCC Sixth Carbon Budget Agriculture and land use, land use change and forestry

53 Net Zero and Livestock Bridging the Gap Report by Centre for Innovation Excellence in Livestock, July 2023

Changing agricultural practices

In the medium term there are a range of innovations and carbon removals that can be developed such as regenerative agriculture, paludiculture (wet-farming) and low intensive farming, changing how we use existing lands or freeing up marginal land for planting of trees, hedgerows and natural meadows which increase biodiversity, improve soil health and sequester carbon.

Dietary change

The increase in more sustainable consumer buying habits is an important enabler for food system transformation. Shifting towards lower carbon diets can support decarbonisation and lower the environmental footprint of the sector. While the climate and environmental benefits of shifting to lower-carbon diets are understood, these changes rely on significant increases in consumer demand, which can be challenging to achieve in practice and have yet to be seen at the pace and scale that is required. Official UK data suggest that the proportion of the UK population that is vegetarian or vegan has increased from 1.6% in 2009/10 to 2.5% in 2015/6.[52] However, more recent survey data suggests higher figures and a willingness to eat less meat in the future. The full implications for the sector are not yet clear, but the longer-term trend should not be underestimated.

Innovation will be key for the sector to improve its sustainability. In line with the development of new technologies, the uptake of these measures must be encouraged across the sector through education, peer-to-peer learning and government support. It is equally as important that regulators, including the Food Standards Agency work collaboratively with the sector to ensure that innovation is not hampered by regulation and that it does not compromise food safety and public health.

5.2 Ensuring a farmer-centric model

There has been a seismic transformation in global food systems over the last 50 years, ushering in a new era of scientifically bred seeds, synthetic fertilisers, agrochemicals, heavy machinery and increased irrigation. Farmers and producers have achieved extraordinary gains in productivity, making food more accessible to a rapidly growing global population. However, as production has boomed, so have the inputs required to maintain this demand, with adverse impacts for the climate and nature. As the climate and nature crises intensify, increased productivity is no longer the primary measure of success.

Fundamentally, farmers and producers are increasingly being asked to shift on-the-ground practices that have been in place for decades. We know that changing ingrained ways of working and transitioning to more sustainable practices cannot happen overnight. It requires a complex combination of education, financial incentives, research and collaborative efforts to support farmers and enable the adoption of innovative and sustainable farming techniques. Overcoming these challenges demands localised approaches that consider the unique circumstances and socio-cultural complexities. There is a significant burden already placed on farmers to thrive in a challenging market. As such, there will need to be a step change in incentives and investments for the sector to fully embrace its role as a driving force to deliver on the ground sustainability initiatives.

A meaningful and equitable transformation of NI's food system must therefore be farmer-centric. Transformation must draw on the knowledge of those who act as the guardians of food production and have had a singular and enduring relationship with land for generations. Farmers are typically best placed to co-design sustainable farming practices such as conservation tillage, improved nutrient management and managing farm by-products. These practices are crucial to drive the necessary reductions of GHG emissions whilst safeguarding and improving soil health.

NIFDA members are already closely connected to farmers and rural communities, but where can they go further to deliver change across landscapes and collectively support farmer-producers through the transition? How will the sector and members balance the tension between the need for increasingly urgent action with the need to work sensitively and collaboratively within the communities most affected?

5.3 Sector collaboration

No one company or sector can tackle or solve the wide range of sustainability challenges facing Northern Ireland. Sector collaboration is underway through forums such as NIFDA, the NI Carbon Steering Forum and others. Broadly there is evidence of sector willingness to work together and innovate, but going forward there is a need for further private sector investments in deeper collaborations and partnerships to deliver science-based sustainability outcomes. For example, the WWF's Retailers' Commitment for Nature-Climate Action has brought together Tesco, Sainsbury's, Co-Op, Waitrose and M&S pledging to halve the environmental impact of average UK shopping baskets by 2030.[54] In one of the most competitive sectors, retailers have come together to align around measurable efforts to decarbonise and achieve nature positive outcomes, while also committing to healthy, nutritious diets for all. These are highly ambitious goals and there is no guarantee of success, but they demonstrate collective responsibility.

Developing and implementing a comprehensive collective action and investment plan for the NI food and drink sector will require the support of government and concerted and measurable efforts to deliver landscape-scale and impact-driven sustainability initiatives.

What insights can be learned from other comparable agri-food producing countries?

All leading agri-food producing countries face immense challenges. Whilst no one country has solved the issue, we can take learnings from regions such as the Republic of Ireland and the Netherlands

Republic of Ireland

Looking south of the border, Ireland's Food Vision 2030[55] and Bord Bia's Origin Green programme (made up of 53,000 farms and 324 companies) has been working to position the Republic's agri-food sector as sustainable and responding to the climate and nature crises.[56] Although this has been to varying levels of success, food system transformation and cross-sector collaboration to drive sustainability sits at the heart of its short- and long-term strategy. More broadly Ireland's Climate Action Plan 2023 includes actions to support land use diversification options for livestock farmers, such as anaerobic digestion, forestry and tillage, to incentivise voluntary livestock reductions.[57]

The Netherlands

Despite its dense population and relatively small land area, the Netherlands is regarded as one of the leading nations when it comes to sustainable food production. The Country's success as a global food exporter can be largely attributed to innovation and

use of technology - from precision agriculture, indoor farming, integrated pest management systems and use of renewable energy and circular economy systems.[58] By investing heavily in new farming techniques and infrastructure, the Country's agri-food sector has been able to substantially increase production yields while also reducing inputs – such as energy, fertilisers and pesticides, at the same time.[59] The agri-food sector still places a significant burden on the country's natural systems - but what sets the Netherlands apart is a concerted focus on practical innovations and investment in order to reduce impacts and be more efficient than its competitors.

54 WWF (2022). WWF's Retailers Commitment for Nature – Climate Action

55 Government of Ireland (2023). Food Vision 2030 – A World Leader in Sustainable Food Systems (www.gov.ie)

56 Bord Bia (2022). Statement of Strategy

57 Government of Ireland (2023) Climate Action Plan 2023

58 The Borgen Project (2023). Sustainable Agriculture in the Netherlands

59 World Economic Forum (2019). The Netherlands is a leader in sustainable agriculture

5.4 Government policy and support

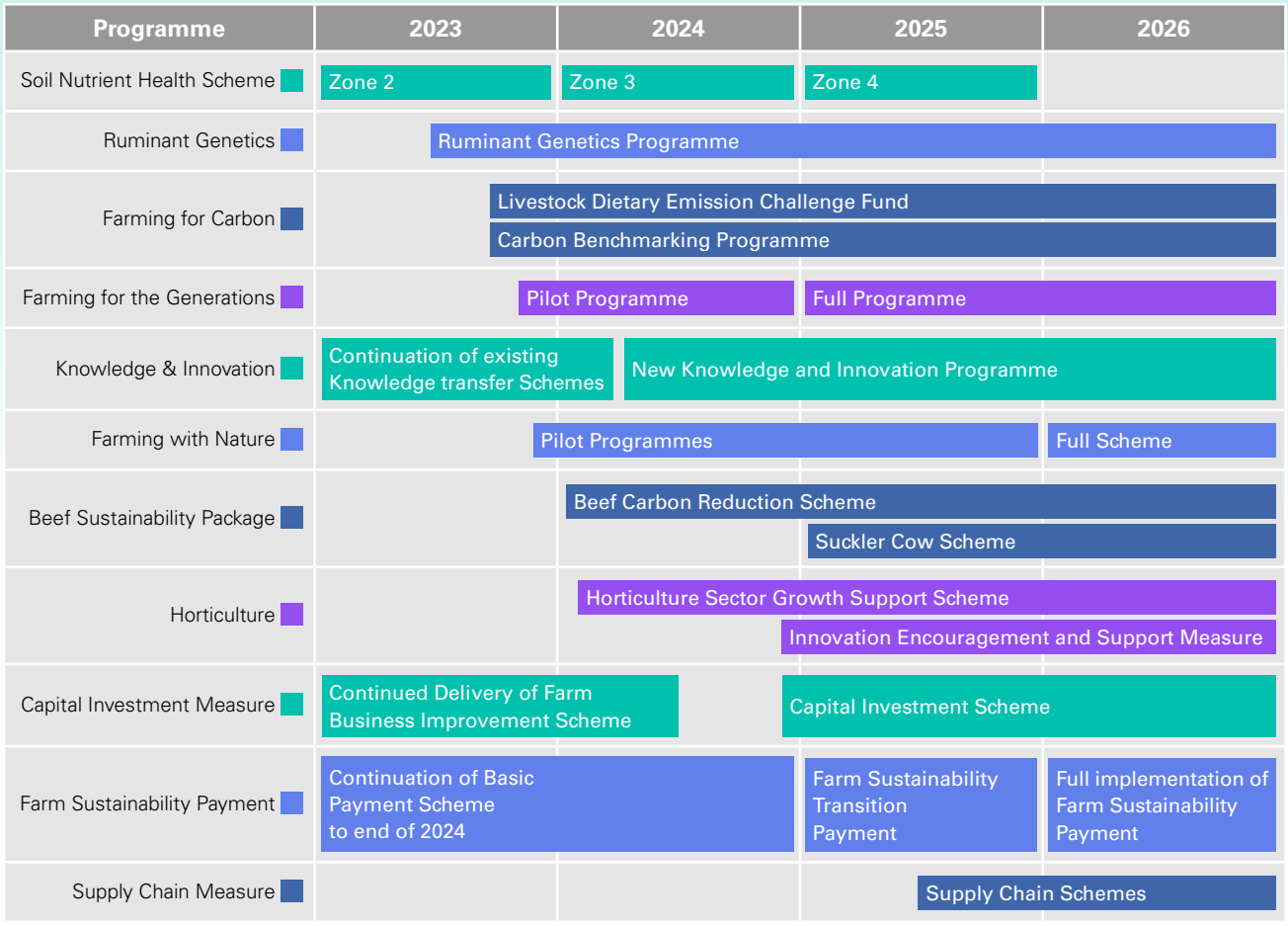
As noted, NI has demonstrated its commitment to ambitious climate action by legally committing to a net zero target. Whilst NI is yet to set its interim climate targets and carbon budgets, it is clear that all sectors must play their part in the transition.

The results of our survey indicate that the most common barrier to action for the NIFDA members is a lack of government funding. This message is not unique – a recent industry survey of renewable investors highlighted that the majority (37%) stated a lack of government support was also the main barrier to renewables development in NI.[60]

With an agreed target in place, it is now essential that the NI Government moves from ambition setting to action and implementation and provides the necessary support and funding for the sector to develop and deliver the critical solutions and change required to achieve decarbonisation targets.

While effective and fit-for-purpose government support remains a challenge, it would appear that calls from the sector are bearing fruit with the recent announcement by DAERA of a new programme of Farm Support and Development. This is being designed in consultation with the NI agricultural industry and other key stakeholders and will be introduced on a phased basis over the coming years.[61] Additional schemes and measures such as the Soil Nutrient Health Scheme, Ruminant Genetics Programme, the Livestock Dietary Emission Challenge Fund (LDECF), and the Farming for the Generations Programme are expected to directly support the sector in meeting statutory obligations under the Climate Change Act (NI) 2022, with a focus on a 'just' transition for the sector and its communities.

Figure 4 DAERA Farm Support and Development Programme Timeline



59 RenewableNI (2023). Accelerating Renewables in Northern Ireland

60 Farm Support and Development | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)

Increased support from DAERA and the NI government is welcome, but it remains to be seen if these initiatives will translate talk to action and level the playing field on both sides of the border, and provide the targeted finance to scale up the investments needed. By way of comparison, the ROI Government has delivered a €100m package under the Capital Investment Scheme for the Processing and Marketing of Agriculture products.[62] Most recently, €32m was allocated to ensure the delivery of 12 important capital projects in primary food plants across the country and when the investment scheme is complete, it will have backed 34 projects with total public and private investment of more than €420m.

Similar support from central government and across key departments and sector bodies will be vital for delivering the transition and resilience of the food and drink sector in NI.

> **"We need clear direction, timelines and objectives outlined by government as to the expectation and requirements of their sustainability agenda which aligns with consumer/retailer expectations - so everyone is pulling in the same direction. Following this there will need to be financial support to educate and support all stakeholders in the chain."**
>
> Source: Survey respondent

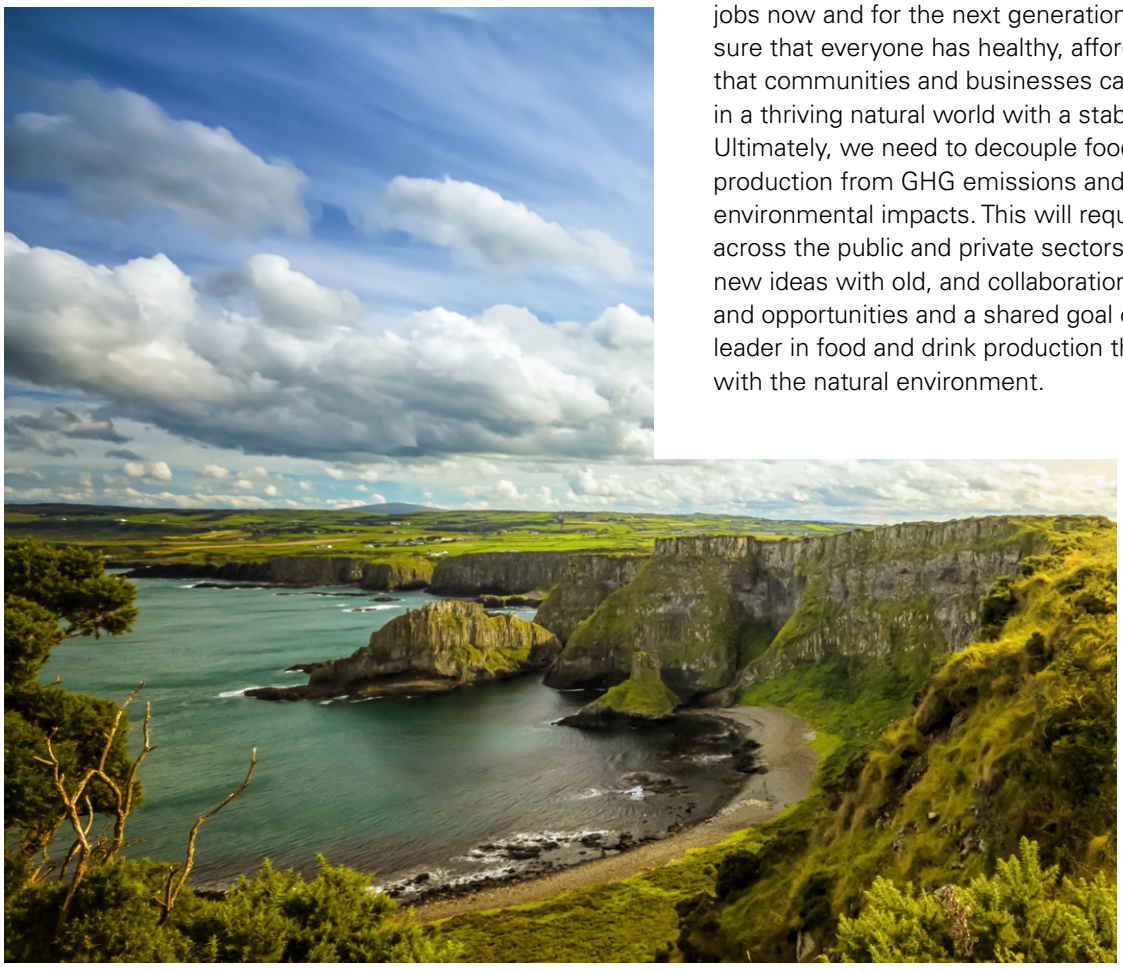
62 Enterprise Ireland (2023). State investment in Agri-Food sector announced by Government

6.0 Conclusion

It is clear that the NI food and drink sector has been a success story for the country, forming the backbone of the economy and an essential source of employment. The sector also has a fantastic track record and international reputation for food production which must be supported and enhanced.

Putting the sector on a genuine pathway to sustainability is a continuous balancing act. Balancing food security against environmental and climate impacts; cheap food against food poverty and fair wages; deep rooted cultural and social connections to the land and traditional farming practices against new ways of farming and managing landscapes. We know that farmers and producers will be fundamental to the transition – holding a critical position in that they can both mitigate and adapt to climate change.

This is about future-proofing the sector, securing jobs now and for the next generation, but also making sure that everyone has healthy, affordable food, and that communities and businesses can live and operate in a thriving natural world with a stable climate. Ultimately, we need to decouple food and drink production from GHG emissions and other adverse environmental impacts. This will require investments across the public and private sectors, the merging of new ideas with old, and collaborations to find consensus and opportunities and a shared goal of being a world leader in food and drink production that is in harmony with the natural environment.



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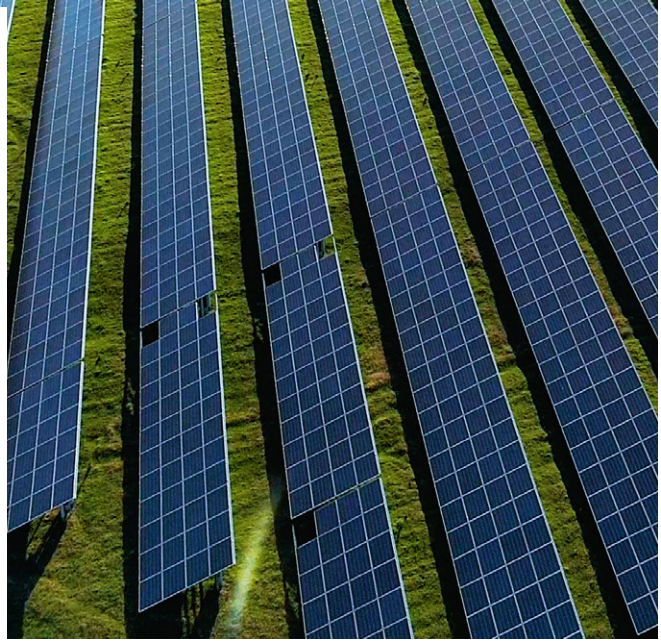

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