

Greenhouse Gas and Ammonia Emissions in Agriculture in Northern Ireland

Policy overview

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The Challenges for Agriculture

- Balancing multiple objectives – sustainable growth, food security and climate and environment impacts
- Implications for agriculture of recent and future agreements and targets (COP 21, CEP 2030, NECD)
- GHG emissions from agriculture have more limited mitigation potential than other sectors
- Agriculture dominates local economy - agri-food sector performing well as a whole but significant economic pressures at farm level

Northern Ireland Agri-Food Sector

Concentrations of
agri-food sustainable jobs

- Farms
- Processors

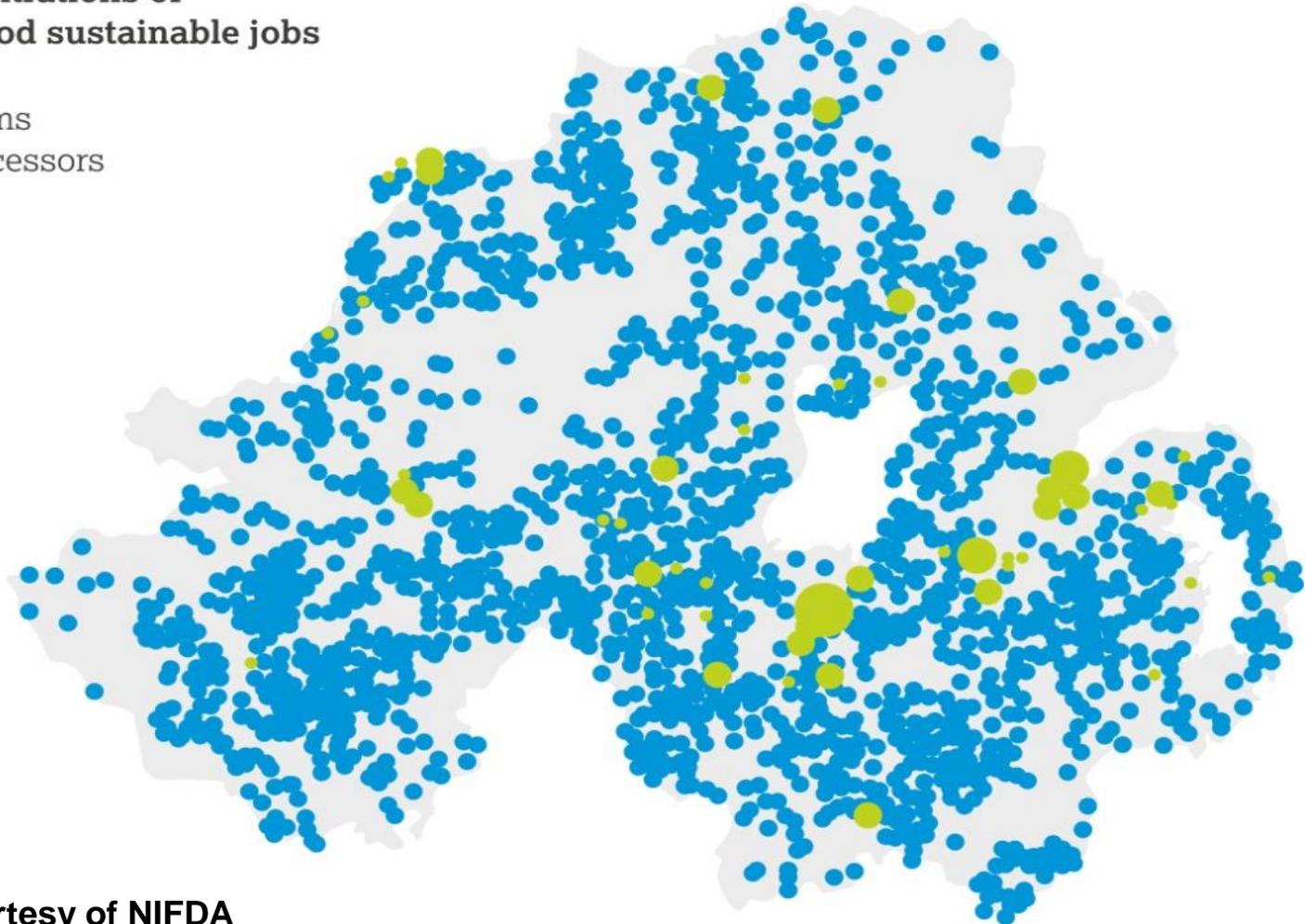


Image courtesy of NIFDA

Agri-food sector NI

- 'Cornerstone' of NI economy

Agriculture

- Around 75% of land in agricultural use
- 24, 900 farms
- 48,000 Total labour force
- Gross Value Added £351m

Food and Drinks Processing

- 22,000 FTE Employees
- Gross Turnover £4,772m
- Gross Value added £718m
- 73.3% of sales exported

Going for Growth Targets

Vision:

'Growing a sustainable, profitable and integrated agri-food supply chain, focused on delivering the needs of the market'

Agri Food Strategy Board

Targets:

| | |
|---------------------|----------------|
| Grow sales by | 60% to £7bn |
| Grow employment by | 15% to 115,000 |
| Grow External Sales | 75% to £4.5bn |
| Grow GVA by | 60% to £1bn |



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Sustainable growth

- Encompassing economic, environmental, social sustainability
- Nutritious, safe, high quality products
- Resource efficiency to deliver sustainable growth
 - Profitability and better returns
 - Delivering better environmental outcomes (climate, water, air, land, biodiversity)
- Avoid displacing production to less efficient regions

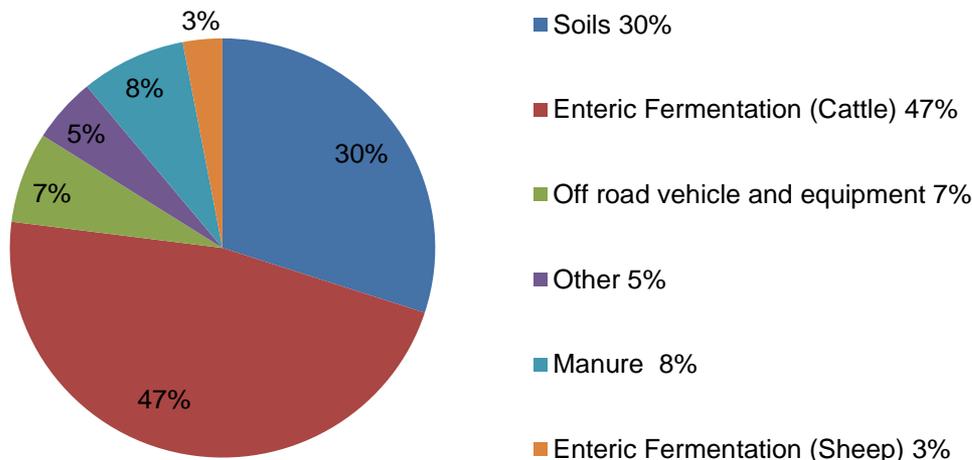
Summary of Key Policies

| | |
|--|--|
| United Nations Framework Convention on Climate Change | <ul style="list-style-type: none"> • Series of international agreements, most recently Paris 2015 (COP 21) • Sets binding commitments via Internationally Determined Contributions (INDCs) to: <ul style="list-style-type: none"> ○ limit global temperature rises to under 2°C, with efforts to hold temperature rise to 1.5 ○ improve adaptive capacity and protect food security |
| EU Climate and Energy Package (CEP) 2030 | <ul style="list-style-type: none"> • Builds on 2020 Package • EU wide target of 40% reduction in GHG emissions by 2030 (forms basis of EU INDC) • 30% reduction required across non Emissions Trading Sector (ETS), including agriculture. • Effort Sharing Decision (burden sharing) to be agreed for individual Member States for non ETS sectors (currently 16% for the UK) • LULUCF to be integrated into CEP 2030 – subject to formal proposals and negotiations |
| National Emissions Ceilings Directive (NECD) | <ul style="list-style-type: none"> • Part of the Clean Air Package to improve air quality – currently subject to negotiations • Proposed to set new emission ceilings for a range of harmful gases including Ammonia (NH3) • Methane included in original proposal, subsequently removed. Not yet clear what final position will be. • Initial target of 24% proposed for reduction in UK ammonia emissions, subject to negotiation |
| UK Climate Change Act 2008 | <ul style="list-style-type: none"> • Extends to Northern Ireland • 80% reduction in GHG emissions by 2050, and at least 34% in the period 2018-2022 |
| Northern Ireland Programme for Government (Draft) | <ul style="list-style-type: none"> • Proposed Environmental and GHG emissions indicators and measures |
| European 7th Environment Action Programme (EAP) 2013-2020. | <ul style="list-style-type: none"> • Identifies three key objectives: to protect natural capital, transition to a resource-efficient low-carbon economy, to safeguard health from environment-related pressures • ‘Enabling framework’ for suite of related environmental directives and legislation (e.g. on Water Quality, Habitats, Biodiversity, CEP, Waste etc) |
| Common Agricultural Policy | <p>The new CAP aims to achieve three sustainable development objectives of the European Union: to make agriculture more competitive; more environmentally sustainable and; to keep agriculture and rural areas vital</p> <ul style="list-style-type: none"> • Pillar I - ‘Greening’ requirements • Pillar II (Rural Development Programming) <ul style="list-style-type: none"> • Climate and Environment Objectives – 30% RDP budget to be directed to climate objectives. • Resource efficiency is a priority, with Focus Area on GHG and Ammonia Reduction |

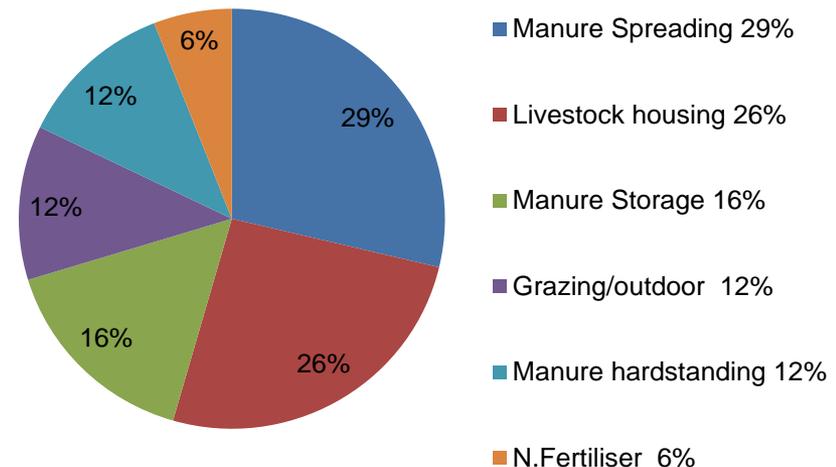
GHG and Ammonia Emissions in NI

- **Total** GHG emissions in NI account for **4%** of UK total
- Agricultural GHG emissions account for **29%** of NI total or 6,495 tonnes of CO₂e
 - Methane 58%; Nitrous Oxide 34%; Carbon dioxide 8%
- 5% reduction in Agri GHG emissions from 1990
- 11% reduction from peak GHG production in 1998
- **92%** of NI's ammonia emissions relate to agriculture, accounting for 11% of the UK total

NI Agriculture GHG emissions by source 2013



NI Agriculture Ammonia Emissions by source 2013



Tackling GHG emissions from agriculture in NI

- **Greenhouse Gas Implementation Partnership** - voluntary local partnership between industry, government, science and environment organisations
- **“Efficient Farming Cuts Greenhouse Gases”** strategy launched in December 2011 to promote on-farm efficiency for improved business performance and GHG reduction.
- Focus on **CARBON INTENSITY** and technical farm efficiencies
- Measures underpinned by robust, scientific evidence
- Phased approach:
 1. Raise awareness, build capability and increase evidence base for measures and reporting (2012 – 2015)
 2. Wider scale implementation (2016 – 2020)
- NIRD 2014 – 2020 key delivery mechanism for wider scale implementation

Final thoughts...

- Growth ambitions are potentially at risk if action is not taken to address the environment and climate challenges we face
- Finding ways to balance increased productivity, while protecting and conserving natural resources is therefore essential
- Better nutrient and fertiliser management is a key way in which the agriculture sector can be more resource efficient, reducing emissions and costs to the farmer
- The findings of the Teagasc/ AFBI research project on sustainable fertiliser use plays an essential part in establishing future mitigation potential for agriculture
- On behalf of DAERA and the GHGIP, I'd like to thank the research teams for their work and look forward to hearing their presentations today

Thank you