An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
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Reducing GHG emissions in Irish Agriculture

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Growing pressure for greater sustainability

- European Green Deal – ‘Climate neutral Europe’. Net zero GHG’s by 2050
    - Farm to fork strategy – ‘Green and healthier agriculture’
- Pressure from industry commitments, consumers and advancements in technology
- Consumer trends will shape the future strategy, policy and initiatives for the Irish Food & Drink industry.
- Ireland among the most GHG-efficient producers of beef and dairy in EU - **but needs to protect it’s green credentials for the consumer**

Countries and larger food companies are becoming Carbon neutral

Valio – Carbon neutral 2030.

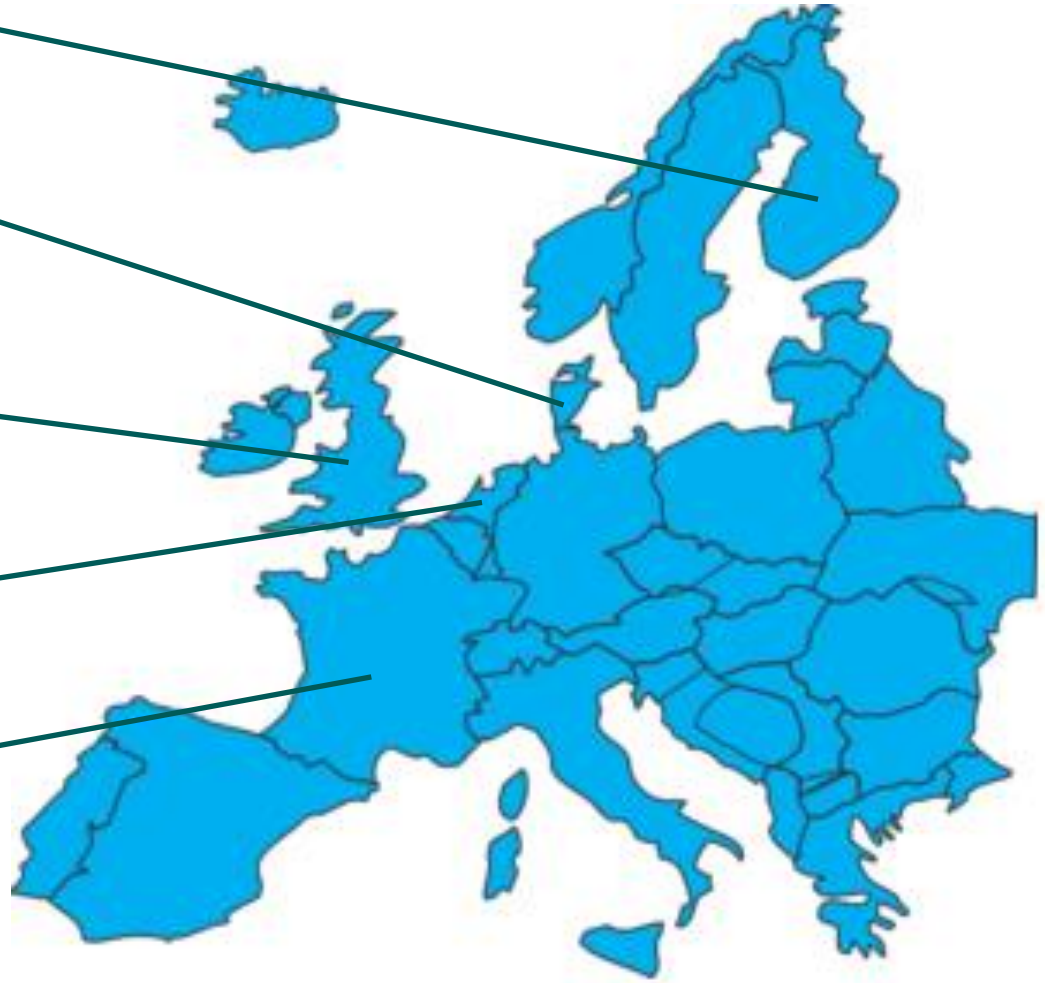
Arla – Carbon neutral milk 2050. Green testing model for farm C footprint.

Tesco – Carbon neutral 2050. Reduce emissions by 60% 2025.

Friesland Campina – Carbon neutral 2050. Sustainable line launch 2018.

Danone – Carbon neutral 2050. Reduce emissions by 50% 2030.

Tyson – Reduce emissions 30% 2030.



UK – Carbon neutral 2050

Finland – Carbon neutral 2035

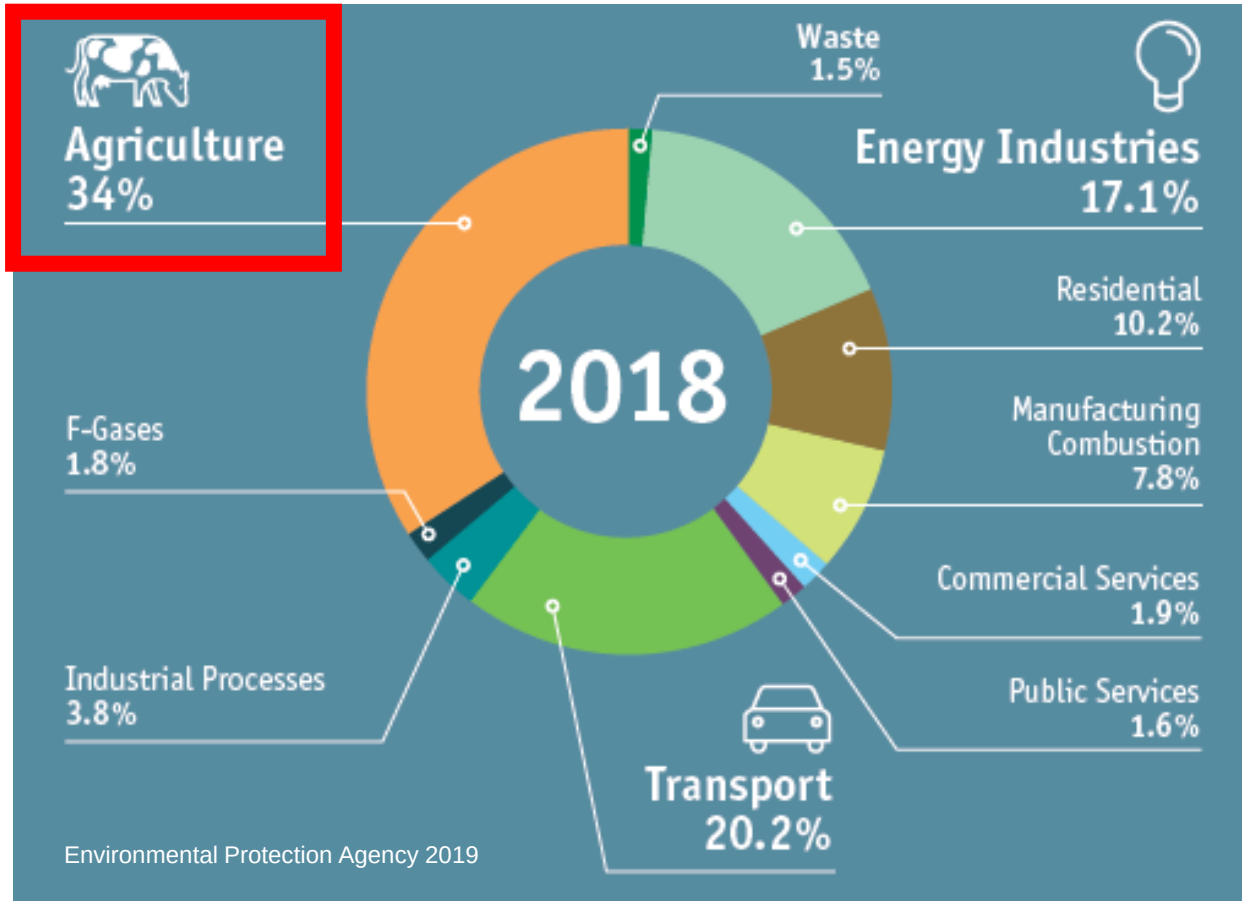
Norway – Carbon neutral 2030

Netherlands – Dairy target to reduce 0.8 MtCO2e by 2030

Ireland is the second country to declare a National CLIMATE Emergency

Timeframe	Percentage Change	Absolute Change, CO_2 eq.
2005-11	-9.5%	-1.9 Mt
2011-17	12.8%	2.3 Mt

- Agriculture largest contributor to GHG emissions in Ireland
- Agriculture has impacted climate change
- Sources of emissions:
- Methane (CH4)
- Nitrous Oxide (N2O)
- Primary contributor for Ammonia



Climate Action Plan – Sectoral Targets

Key Sectoral Targets	
Electricity	50-55%
Transport	45-50%
Built Environment	40-45%
Enterprise	10-15%
Agriculture	10-15%

- Identifies how Ireland will achieve its 2030 targets for carbon emissions, and puts us on a trajectory to net zero by 2050.
- Sustainability Dialogue held June 2018 & the Citizen's Assembly & Joint Oireachtas Report provided a solid foundation for development of this plan.
- First all of Government approach
- Ambitious economy wide emissions reduction targets
  - Apportioned to each sector
  - New legislative and Governance structure

Ambitious Targets for Agriculture

2017 Provisional Emissions		2030 Projected Emissions based on NDP	2030 Required Emissions Based on MACC
20 Mt	→	21 Mt	17.5 – 19 Mt

Emissions Reductions:

- Achieve between **16.5–18.5 $MtCO_2eq$** cumulative abatement for Methane and Nitrous Oxide

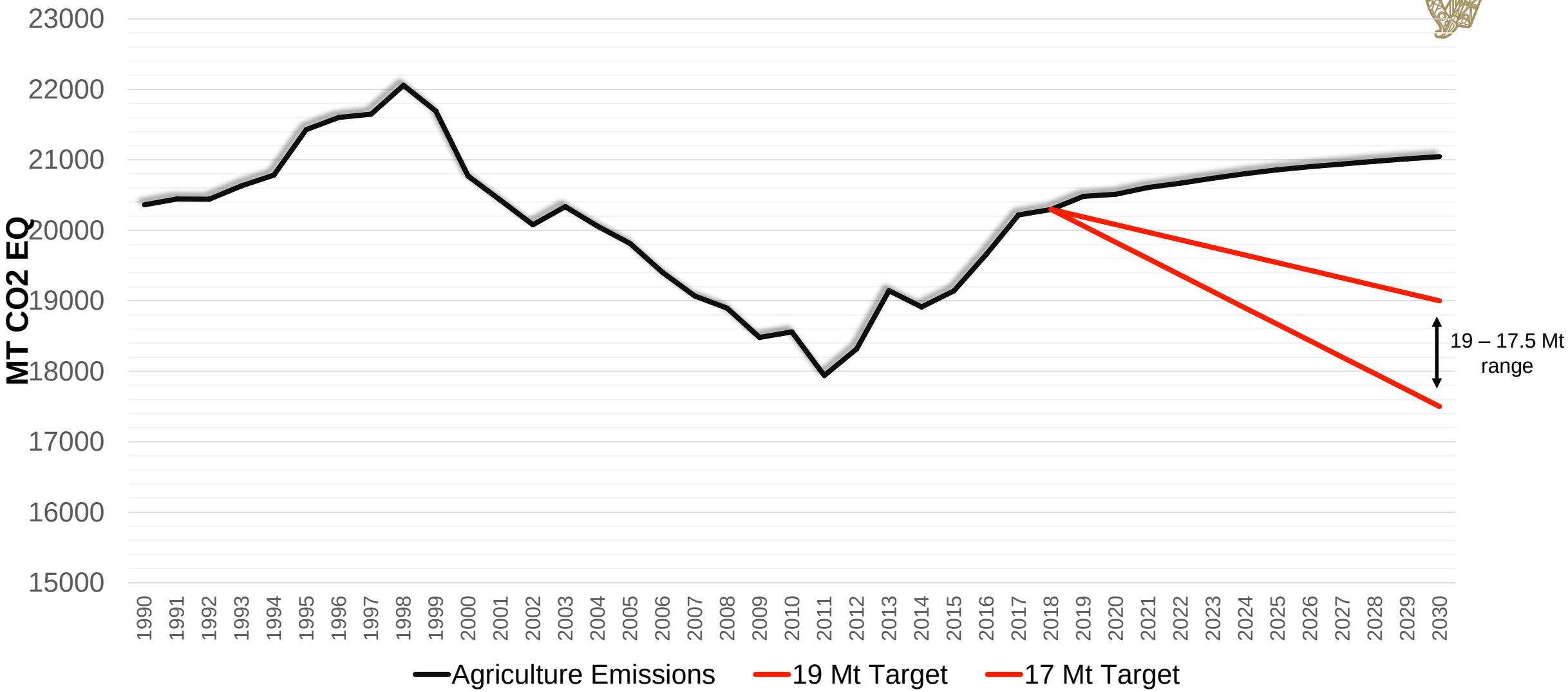
Carbon Sequestration:

- Achieve **26.8 $MtCO_2eq$** abatement through LULUCF actions by enhancing removals through afforestation and sustainable land management;
  - **Average 8,000 ha/annum new forestry**
  - **At least 40,000 ha/annum reduced management intensity on drained organic soils**
  - **Better management of grasslands, tillage land and non-agricultural wetlands**

Displacement of Fossil Fuel Use:

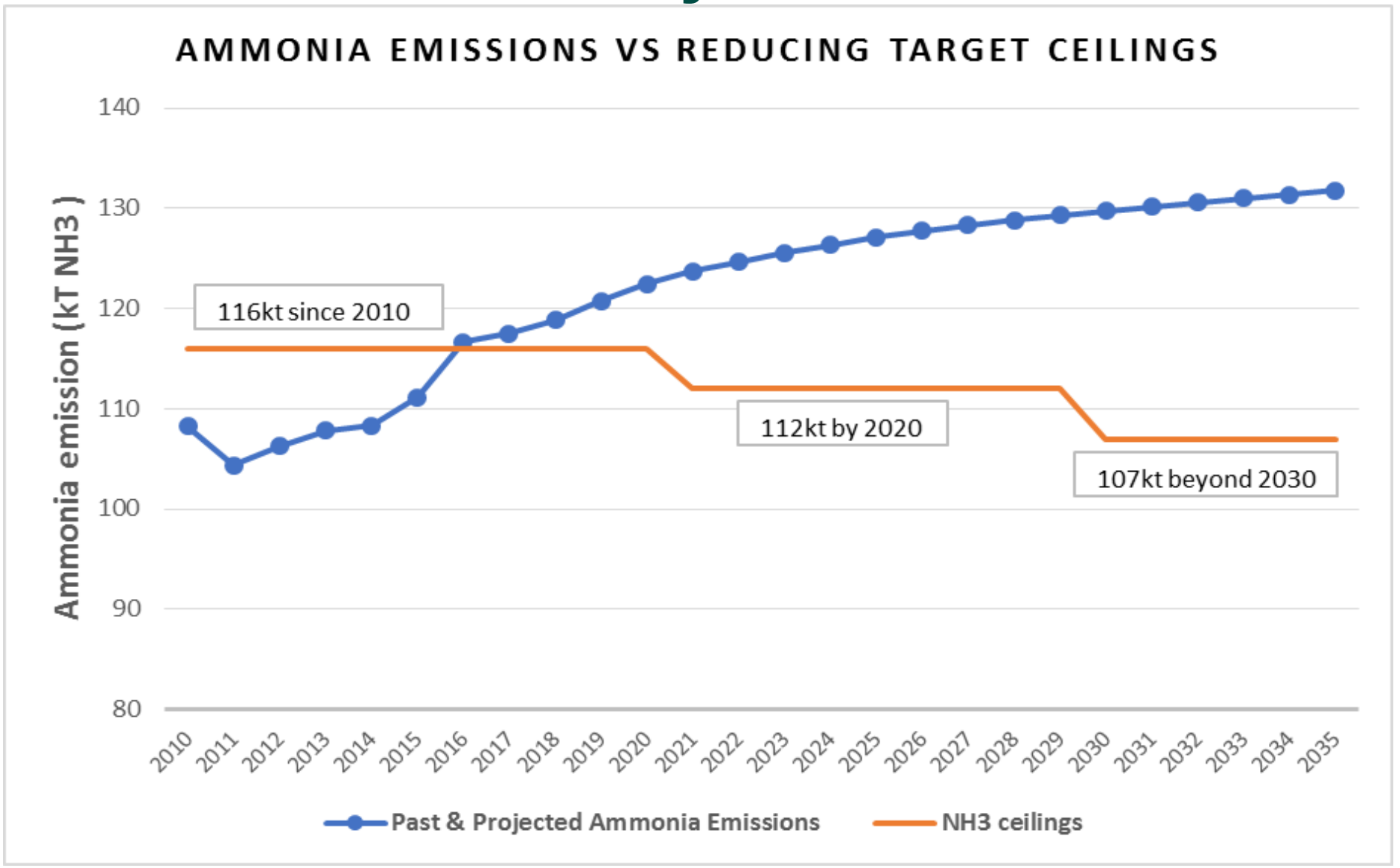
- Set a target for the level of energy to be supplied by indigenous injection in 2030

Current Agriculture Emissions Projections VS Targets



Source: EPA 2019

Ammonia Projections with no measures

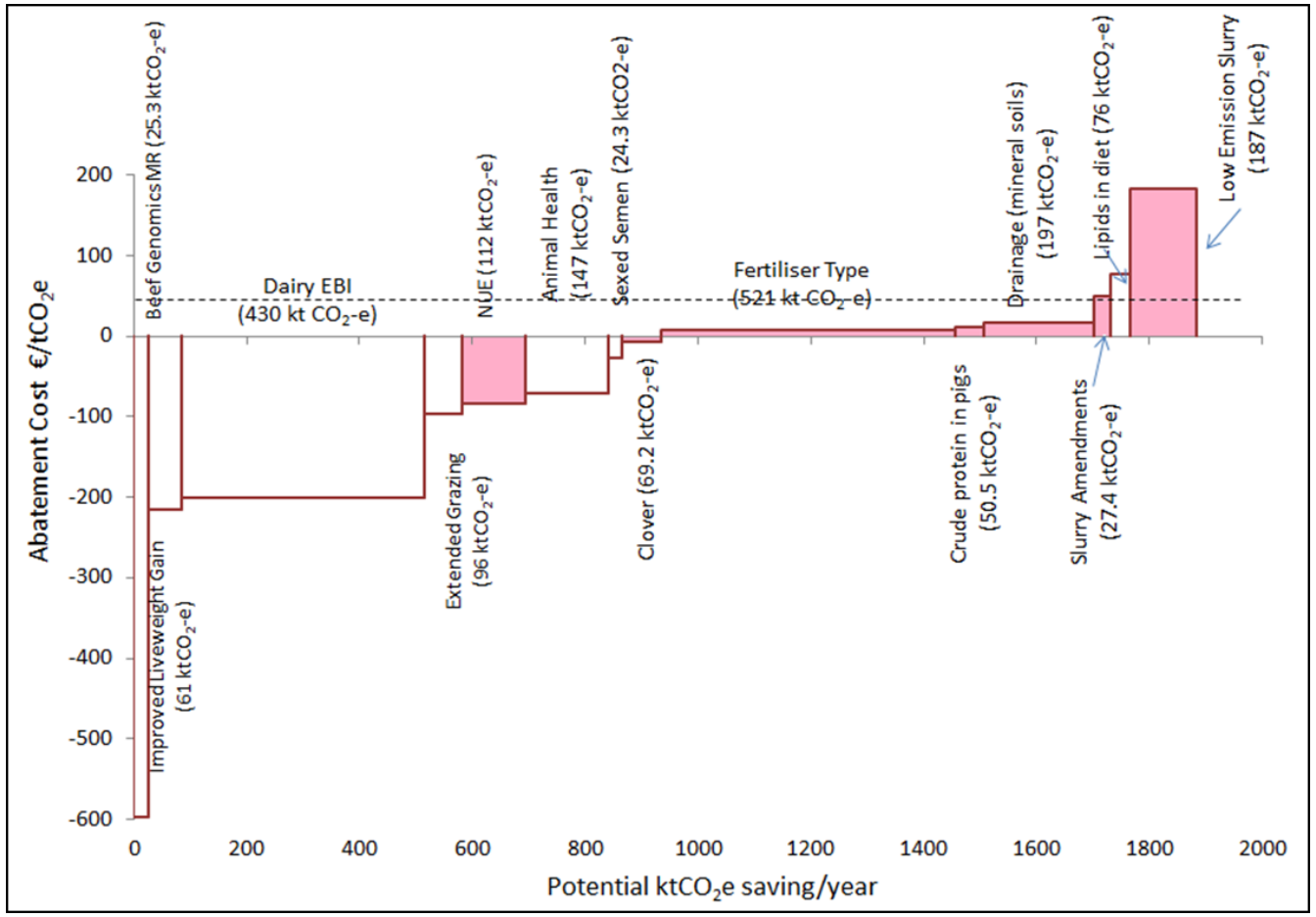


National Emissions Ceiling Directive (NECD) Targets:

1% below 2005 levels by 2020

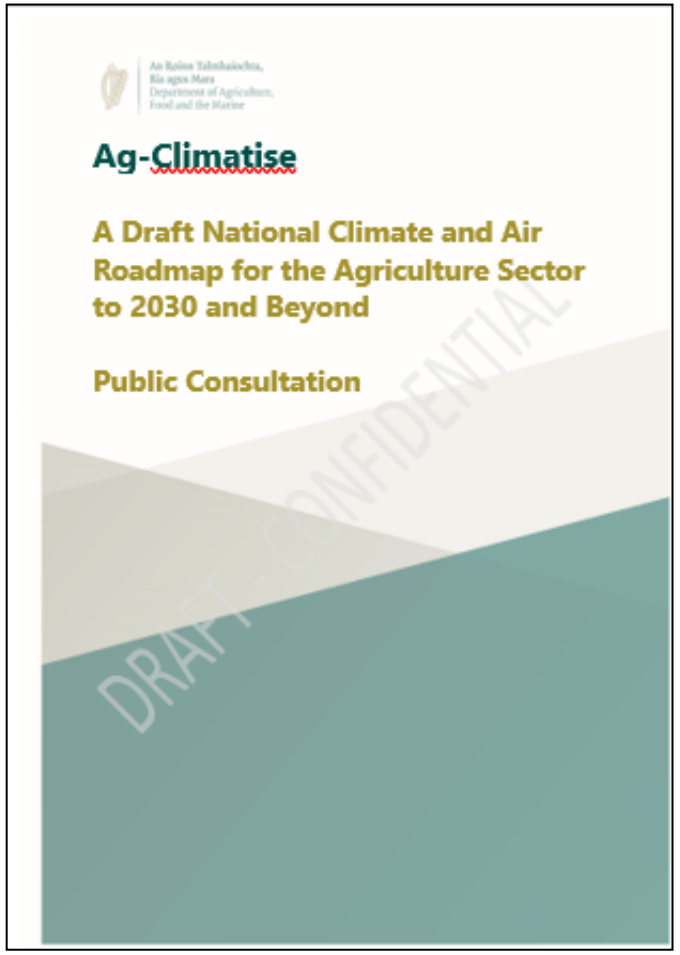
5% below 2005 levels by 2030

Emission Reduction Opportunities



- Focus on the Teagasc MACC
- Address the drainage of peatlands
- Increase afforestation rates
- Support additional research into these
- Further stakeholder engagement to ensure just-transition
- Effective Knowledge Transfer
- Verification and monitoring of our “green” credentials

Ag-Climatise is composed of 3 elements;



I. Implementing Changes Now

- *Ensuring necessary actions become an operational reality for farmers.*

II. Acting in Partnership

- *Involving all stakeholders from farm-to-fork.*

III. Preparing for the Future

- *Using best available science to inform policy and strategic choices.*

Step up in ambition

Key Metrics	2017	(2022)	2025	2030
Replacing CAN fertiliser, %	1%		(50%) 40%	50%
Trailing-shoe slurry spreading, %	~10%	(60%)	(75%) 40%	(90%) 50%
Increasing EBI and animal health, EUR/cow	€70		€180	€230
Afforestation, ha p.a.	~5,500[1]		6,500	10,000
Rewetting organic soils, ha	0	(40,000)	40,000	40,000
Improving grassland management, ha	0		225,000	450,000

The six guiding principles of AgClimatise:

1. Agricultural Mitigation
2. Land use mitigation
3. Sustainable resources
4. Responsible, transparent and collaborative development
5. Building resilience
6. Invest in R&D and knowledge transfer to drive innovation and adoption of best practice

Examples of Collaboration

BRIDE Project
Farming with Nature

Smart Farming
Improving farm returns.
Enhancing the environment.

EIP-BRIDE

- Biodiversity Regeneration in a Dairying Environment
- Conserve, enhance and restore habitats in lowland intensive farmland
- Results based

ASSAP

- Gov. & Industry
- 5000 farms, 30 advisors
- Improve water quality
- Sustainable farm practice and nutrient management

IFA Smart Farming

- Collaboration between organisations, research & industry
- Ag & Envi experts working with farmers
- Reducing costs and protecting the environment

Fodder Crisis 2018

- 2013 collaboration to avert a crisis
- 2018 fodder crisis mimicked this
- Same can be done to avert the climate crisis.

Agclimatise Evolution

Sustainability dialogue – June 2018
Agclimatise consultation – 18th Nov to 10th Jan 2020,
- >400 surveys completed
- >100 written submissions

Stakeholder workshop 12th Feb
- further deep dive into actions

Soil fertility and Nutrient Efficiency

95.75% said important

Positives

- Improving soil fertility through better NMP and NUE
- LESS 60% 2022, 75% 2025
- Cover external stores
- Clover incorporation

PROTECTED UREA:

- Best to focus on replacing Urea first
- Risk that too much emphasis on protected N compared to reducing N use.

PRIORITIES for Soil Carbon:

1. Reduce emissions - 40,000ha reduced management intensity
2. Removals - Optimising 450,000ha soil pH for soil fertility
3. 50% arable spring crops growing cover crops

Challenges

- Slurry/FYM within 12 hrs arable
- Promoting grass measuring software
- Blueprint for near/zero N use and C trading

Breeding and Feeding Strategies

Mixed messages

EBI; Beef genomics; DBI

More Achievable:

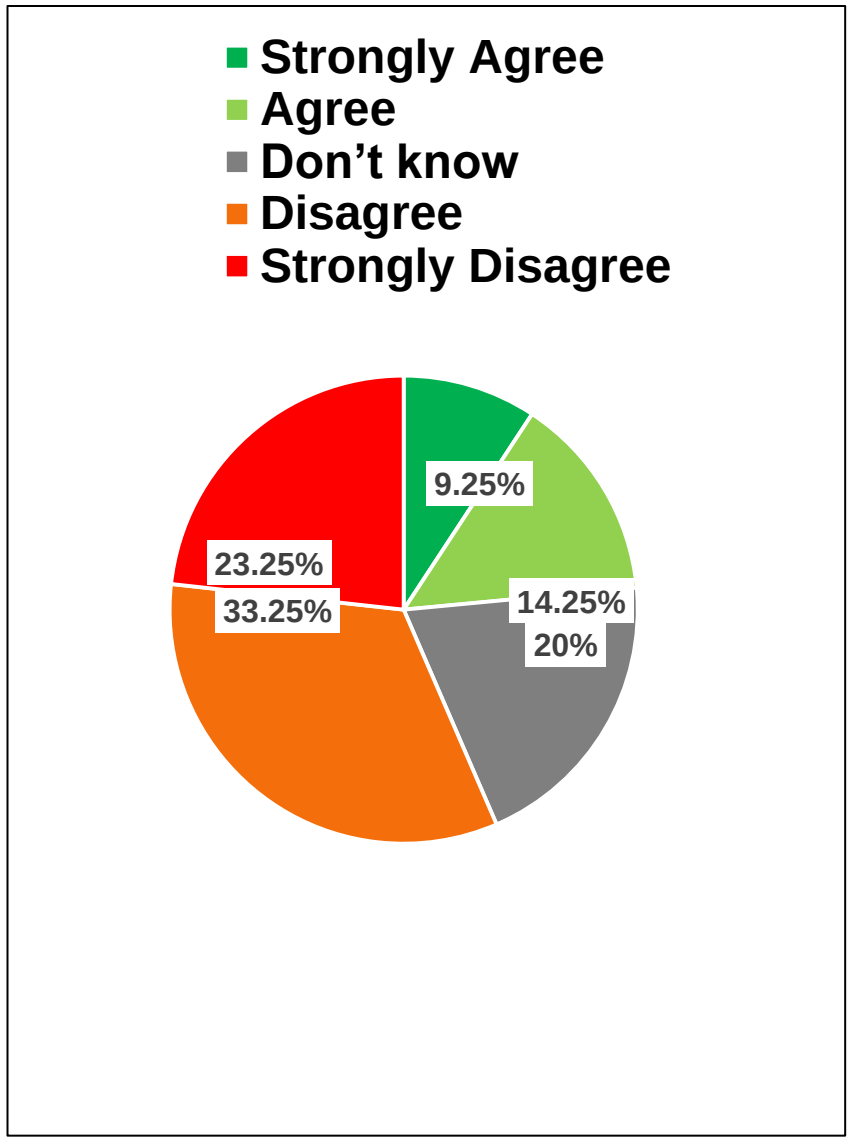
Dairy herds milk recording 50% to 75% Improvements in age at first slaughter and first calving for both herds

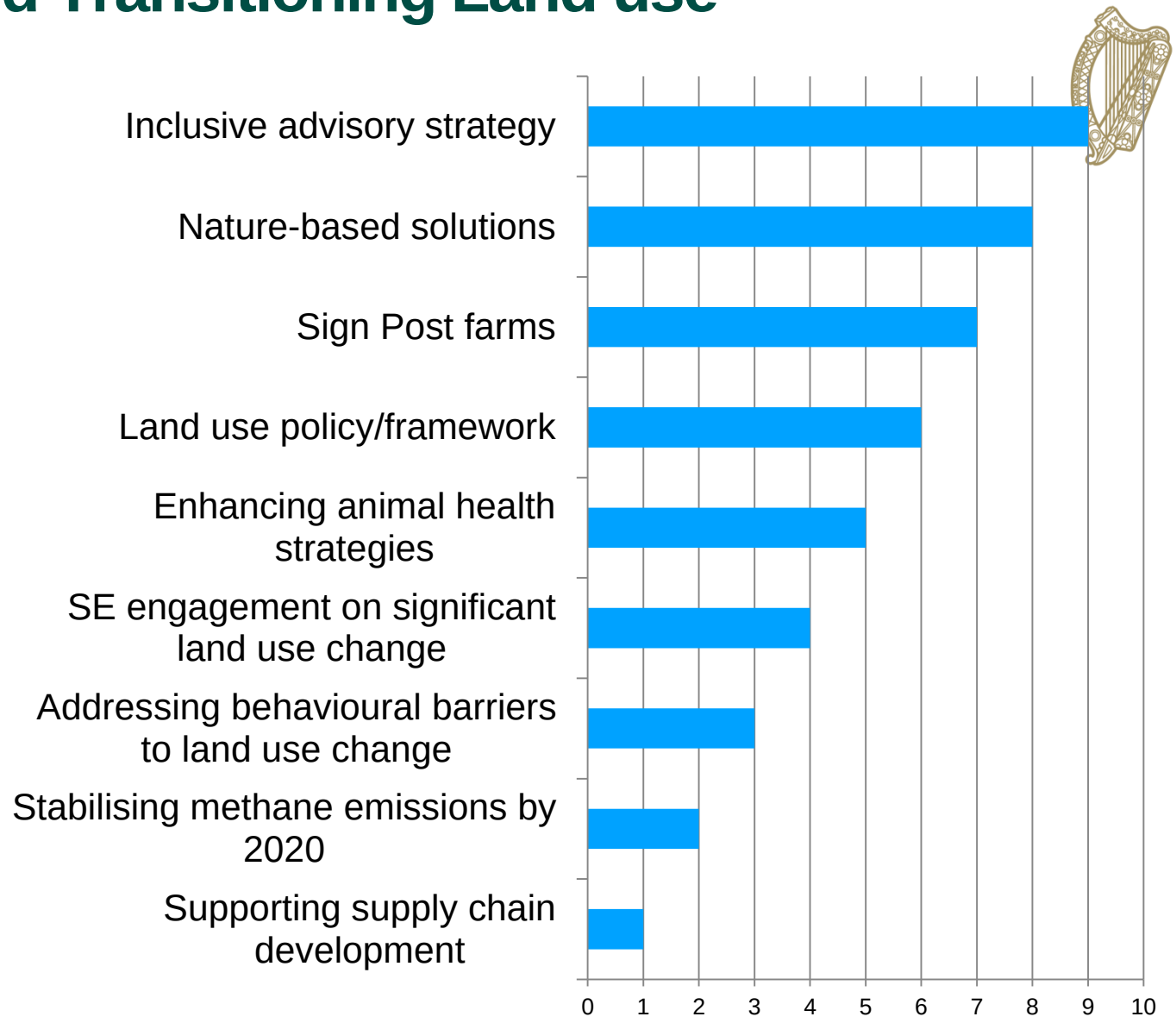
Feeding strategies

Encourage low crude protein diets and inclusion of native grain and proteins

Further research necessary into advanced feed additives

Afforestation and Transitioning Land use





Sustainable Energy

General consensus that RE was necessary to offset residual agri emissions and could provide opportunities for land diversification and manure processing

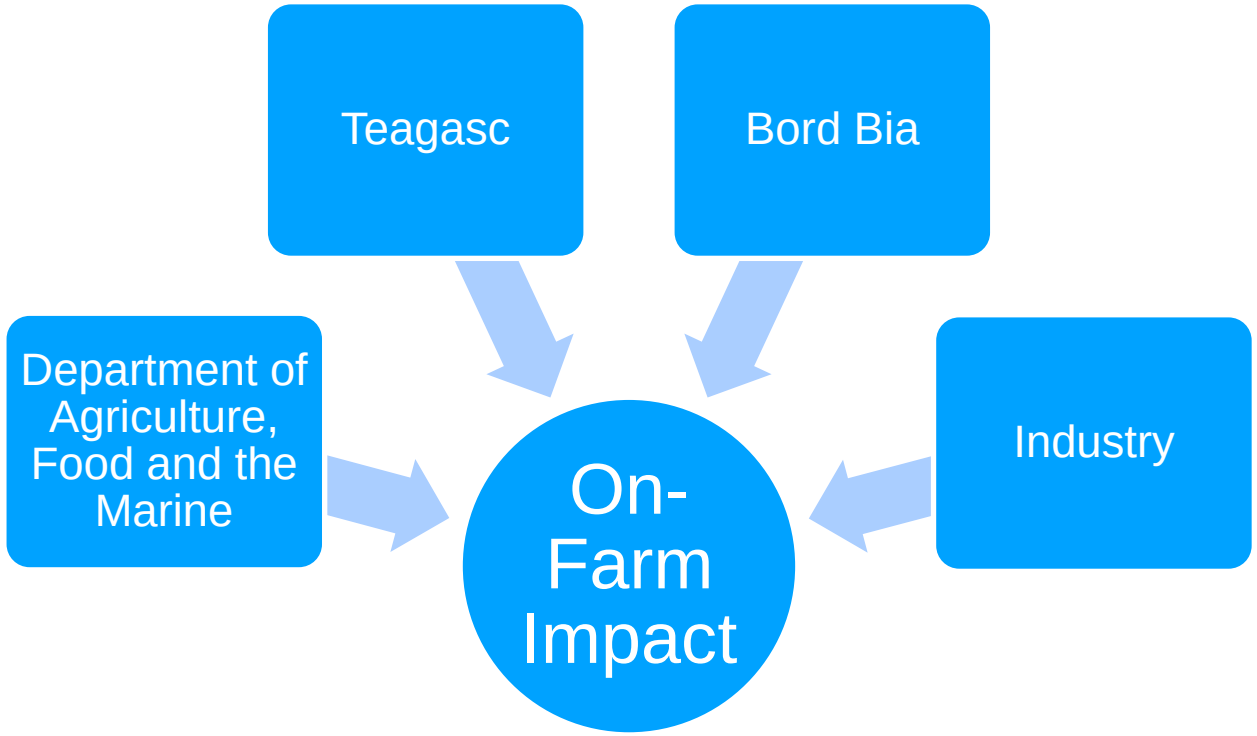
However main barriers:

1. Access to grid infrastructure – electricity and gas
2. No means to sell surplus electricity
3. It is very costly leaving a very low return on investment
4. Uncertainty about future and where to target investments

Opportunities

1. Raise awareness of farm level opportunities
2. Formal incentives to encourage training and advisory

Pathway to Delivery is Challenging – Collaboration is essential



Preparing for the future:

- CAP is seen as default delivery mechanism - But funding!!
- Role of market – Origin Green. Market benefit of sustainable supply chains
- Role of regulation
- Role of advisory

Thank for your attention!

"The country needs and unless I mistake its temper the country demands bold persistent experimentation. It is common sense to take a method and try it If it fails admit it frankly and try another. But above all try something."

— Franklin D. Roosevelt