Climate Change Policy

Industry GHG Training Day

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Climate Change and Bioenergy Policy Division
Overview

- Climate Change and Agriculture
- Ammonia
- Policy Overview
- Common Agricultural Policy Reform
Climate Change & Greenhouse Gases

**Climate Change**: The change in global and regional climate patterns attributed to human emissions, particularly from burning fossil fuels and food production.

**Greenhouse Gases (GHG)**: The compounds which contribute to the Greenhouse Effect whereby the sun’s warmth is more easily trapped in the atmosphere.
Greenhouse Warming

Increased concentrations of heat-trapping greenhouse gases has increased the amount of energy being trapped in the climate system.

(Source: EPA 2019)
WORLDWIDE EXTREME WEATHER EVENTS

Natural catastrophes worldwide - number of events

Meteorological events: Tropical storm, extra-tropical storm, convective storm, local storm
Hydrological events: Flood, mass movement
Climatological events: Extreme temperature, drought, forest fire

Source: © 2017 Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatsService (January 2017)
Impact of climate change

In Ireland

- Average annual national rainfall has increased approx. 5%
- Average annual temperature increased approx. 0.8°C

On Irish Agriculture

- Higher risk of disruption of agricultural activities
- Precipitation may occur in more intense downpours
- Agriculture’s vulnerability to seasonal extremes have been highlighted in the past e.g. extreme flooding and fodder crisis
- Extreme events are likely to increase in intensity
- Agricultural management systems may need to adapt to future climatic trends
Role of Agriculture in our emissions

- Agriculture largest contributor to GHG emissions in Ireland
- Main source of Ireland’s agricultural GHG’s is methane from ruminant digestion (enteric fermentation).
- Nitrous oxide also plays a big role

Ireland's Greenhouse gas emissions by sector for 2017 (Source: EPA 2019)
Animal numbers

Herd summary

- Total herd 7.4m (June ‘18)
- Increase in 0.9m in the National Herd over the last 7 years (+13.2%)

Cow summary

- 2.53m cows (1.48m Dairy and 1.05 Suckler)
- Growth driven by growth in dairy cows (+30%)
N – 408,495 t in 2018 (10.6% increase)
P – 46,387 t in 2018 (10.7% increase)
K – 120,267 t in 2018 (10.6% increase)

Stabilised urea sales in 2018 were 3,241 t which is less than 1% of total N fertiliser sales
The Climate Change Challenge

GHG Emissions:
> 30% of GHG emissions from Agriculture
EU agricultural emissions are approx. 10%

GHG Targets:
20% emissions reduction by 2020; 30% by 2030
Both GHG and ammonia emissions projected to increase by 2030

Sustainability is Key:
Ambition to increase agriculture production while mitigating GHG emissions
FW2025 and feeding an increasing world population

Adaption challenges (livestock):
Diseases; Changes to grazing season and protocols; Stress to livestock; Temporary or urgent movement of livestock;
Increased meal/silage requirements; Limited/poorly conserved or damaged silage and grass utilisation; Difficult harvesting conditions and reduced harvesting windows
Water shortages
Greenhouse Gas Emissions

2005 reference value 47099.24 Kt

Ammonia is a colourless gas and its deposition affects;

- loss of biodiversity, eutrophication of surface waters and soil acidification
- negative impact on human health including short-term irritation of the eyes and lungs
Ammonia emissions – The Challenges

Agricultural activities account for over 99% of the national ammonia (NH3) emissions.
Trends in NH$_3$ emissions 1990-2016

Projected: 128kt (2030); Target 107kt

~117kt (2017)

Source: EPA (2018)
Agricultural Policy

‘an approach to carbon neutrality which does not compromise the capacity for sustainable food production’
Reducing Emissions from Agriculture

Abatement
- On Farm Efficiencies/Measures
  - Use of LESS, protected urea, enhanced NMP, precision agriculture
  - Animal feed and breeding strategies

Sequestration
- Afforestation (av. 8000ha/year needed)
- Reduced management intensity of C rich soils (peat) & better soil fertility

Displacement/Substitution
- Energy Efficiencies/Biomass
  - Set a target for the level of energy to be supplied by indigenous biomethane injection in 2030

Reduced emissions from Agriculture
National Climate Policy

April 2014: Ireland’s National Policy Position on Climate Action and Low Carbon Development

2014 2015 2016 2017 2018

July 2017: National Mitigation Plan

February 2018: Project Ireland 2040

June 2019

September 2019

Climate Action and Low Carbon Development Act, 2015

January 2018: National Adaptation Framework

Annual Transition Statement 2017

CLIMATE ACTION PLAN 2019
To tackle Climate Breakdown

Sustainable Development Goals National Implementation Plan 2019-2020

Sectoral Adaptation Plans and Local Adaptation Strategies

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Sectoral Adaptation Plans and Local Adaptation Strategies
Objectives of the DAFM Adaptation Plan

- To **raise awareness** of the consequences of climate change in the agriculture, seafood and forest sector
- Have a **joined up approach** to adaptation within the agriculture, forest and seafood sector
- **Reduce vulnerability** and **increase resilience**
- **Embed** adaptation planning in sectoral policies
All-of-Government Climate Action Plan

- First all-of-government plan with sectoral targets
- Amendment to Climate Action Bill to make it legally binding
- Establishment of Oireachtas Climate Action Committee-Ministers and public bodies accountable
- 183 actions, 34 for agriculture (120 sub-actions)
- Quarterly reporting to new Climate Action Delivery Board D/Taoiseach
- Updated annually – Climate Plan 2020
### Sectoral Targets

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<tr>
<th>Key Sectoral Targets</th>
<th>Carbon Pricing &amp; Cross-cutting Policies</th>
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<tr>
<td>Electricity</td>
<td>50-55%</td>
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<td></td>
<td>▪ Carbon tax of €80 per tonne</td>
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<td>▪ Mobilise 26.8mt CO2 credits from land use</td>
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<td>▪ Reform Public Spending Code to increase the shadow price of carbon</td>
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<td>▪ Mobilisation of finance</td>
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<td>▪ Capacity &amp; Capability building in research and development</td>
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<tr>
<td>Transport</td>
<td>45-50%</td>
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<tr>
<td>Built Environment</td>
<td>40-45%</td>
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<tr>
<td>Enterprise</td>
<td>10-15%</td>
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<tr>
<td>Agriculture</td>
<td>10-15%</td>
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Gap to Target

101.6 MT CO₂ eq
Targets for Agriculture

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<th>2017 Provisional Emissions</th>
<th>2030 Projected Emissions based on NDP</th>
<th>2030 Required Emissions Based on MACC</th>
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<td>20 Mt</td>
<td>21 Mt</td>
<td>17.5 – 19 Mt</td>
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Equivalent to **16.5-18.5 MtCO₂eq.** cumulative abatement

Achieve **26.8 Mt CO₂eq.** abatement through LULUCF actions over the period 2021 to 2030, comprised of:

- 8,000 ha per annum of newly planted forest, and sustainable forest management of existing forests (21 MtCO₂eq. cumulative abatement)
- at least 40,000 ha of reduced management intensity of grasslands on drained organic soils (4.4 MtCO₂eq. cumulative abatement)
- better management of grasslands, tillage land and non-agricultural wetlands (1.4 MtCO₂eq. cumulative abatement)

Set a **target for the level of energy to be supplied by indigenous biomethane injection** in 2030.
1. Improved Beef Maternal Traits
2. Beef Genetics: Optimised live-weight gain
3. Dairy EBI
4. Extended grazing
5. Nitrogen-use efficiency
6. Improved animal health
7. Sexed Semen
8. Inclusion of Clover in pasture swards
9. Fertiliser Type (Reducing N emissions)
10. Reduced crude protein in pigs
11. Draining wet mineral soils
12. Slurry amendments
13. Adding Fatty Acids to dairy diets
14. Low-emission slurry spreading*

* Double dividend as it also reduces ammonia emissions
9 Specific Objectives for CAP post-2020

- Increase competitiveness
- Ensure viable income
- Knowledge & innovation
- Respond to citizens' concerns in terms of food & health quality
- Vibrant rural areas
- REbalance power in food chain
- Climate change action
- Environmental care
- Preserve landscapes & biodiversity
- Support generational renewal
Reform of the CAP:

- One national CAP Strategic plans to cover all interventions; Pillar I and Pillar II
- Move to performance management approach
- Developing of annual indicators and targets
- Failure to meet targets may result in Commission seeking action plan
- Enhancing environmental and climate ambition
- 40% of CAP’s budget is expected to contribute to climate action
Pathway to Delivery is Challenging
Collaboration is essential

- CAP is seen as default delivery mechanism
- Role of regulation
- Role of market – Origin Green
- Others?

Teagasc
Bord Bia
Industry

Department of Agriculture, Food and the Marine

Advisory 137,000 Farmers

On-Farm Impact
Immediate, urgent, rapid and swift actions required to meet GHG targets for agriculture

- Sustainability credentials
- National Herd
Evolving Climate Policy Landscape

Ag-Climatise

- Roadmap for delivering climate and air targets
- Have your say - public consultation open till 10th January 2020
Thank you

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https://www.agriculture.gov.ie/ruralenvironment/climatechange/