

Greenhouse Gas emissions from Agriculture

Bernard Hyde
Scientific Officer,
Environmental Protection Agency,
Regional Inspectorate,
Monaghan Town

Exploring the Benefits of SRC Willow
Planting for Water Quality Protection and
Waste Water Management
Crowne Plaza Hotel, Dundalk 5/3/2020

Presentation Overview

- What we do and why
- Data providers and stakeholders
- Agriculture GHG emissions
- Emission Drivers
- Current and Future trends
- Actions required

What do we report?

- Greenhouse Gas Inventories
- Inventories on **CO₂**, **CH₄**, **N₂O**, HFCs, PFCs and SF₆, NF₃ annually (15th Jan & 15th March to EU and 15th April UNFCCC)
- National Inventory Report (UNFCCC 15th April)
- Emission projections under the MMR

- Air Pollutant Inventories (15th February annually CLRTAP & NECD)
- Main pollutants; **NO_x**, SO₂, **NMVOG**, **NH₃** and CO
- Particulate matter; **TSP**, **PM₁₀** and **PM_{2.5}**
- Heavy metals; Pb, Cd, Hg (priority) As, Cr, Cu, Ni, Se and Zn (additional)
- Persistent Organic Pollutants; Dioxins (PCDD/PCDF), PAHs, **HCB** (mandatory) PCBs (voluntary)
- Informative Inventory Report (15th March annually)
- Emission projections also reported

Data Providers

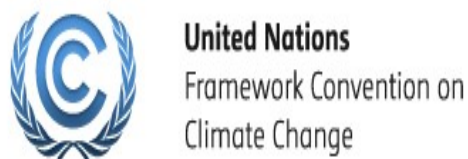


Illustration by Chris Gash

Stakeholders



CLIMATE
CHANGE
ADVISORY
COUNCIL



European Environment Agency



Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoil
Department of Communications,
Climate Action & Environment



Agriculture
34%



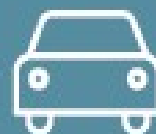
Energy Industries
17.1%

Residential
10.2%

Manufacturing
Combustion
7.8%

Commercial Services
1.9%

Public Services
1.6%



Transport
20.2%

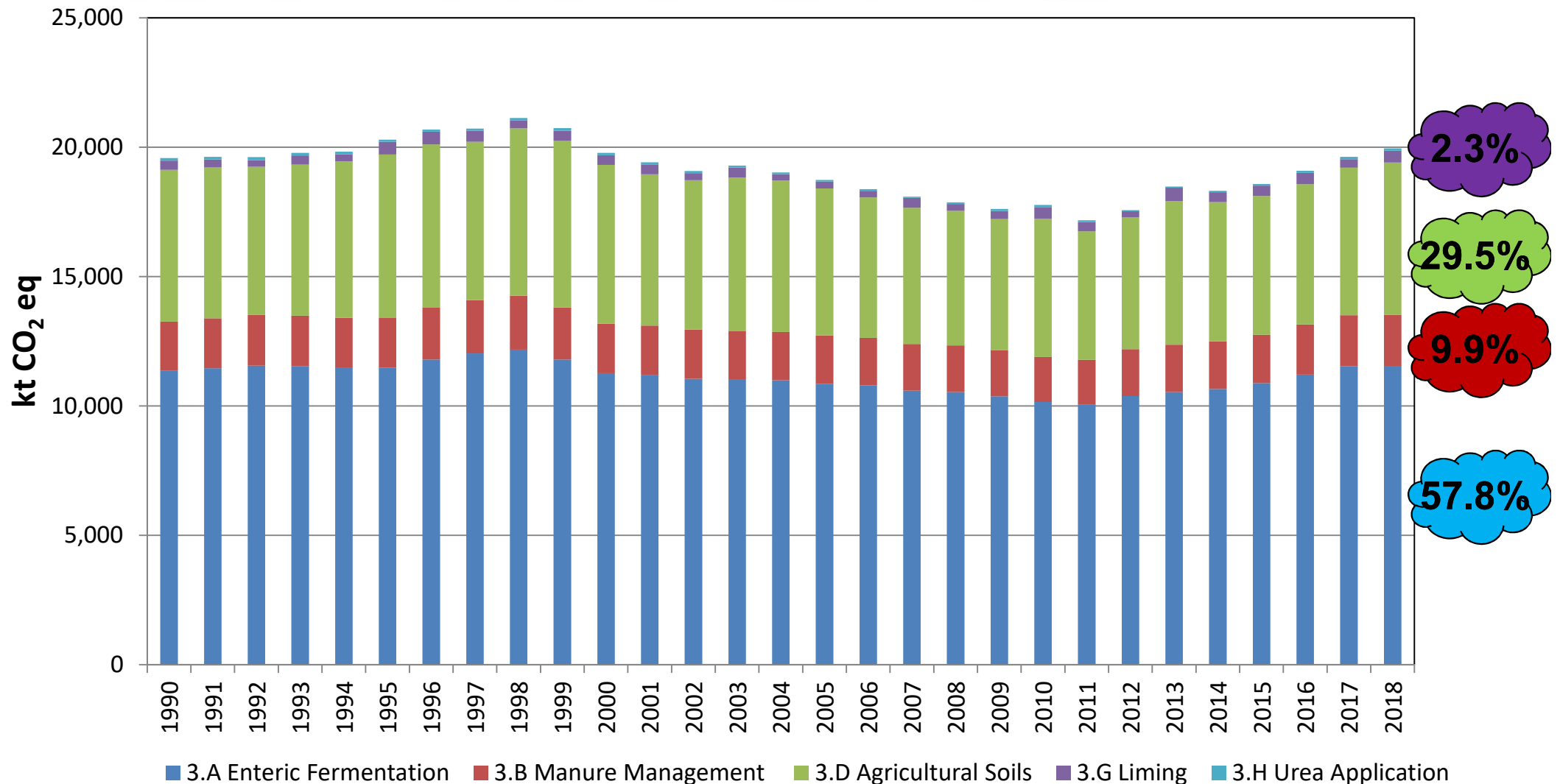
F-Gases
1.8%

Industrial Processes
3.8%

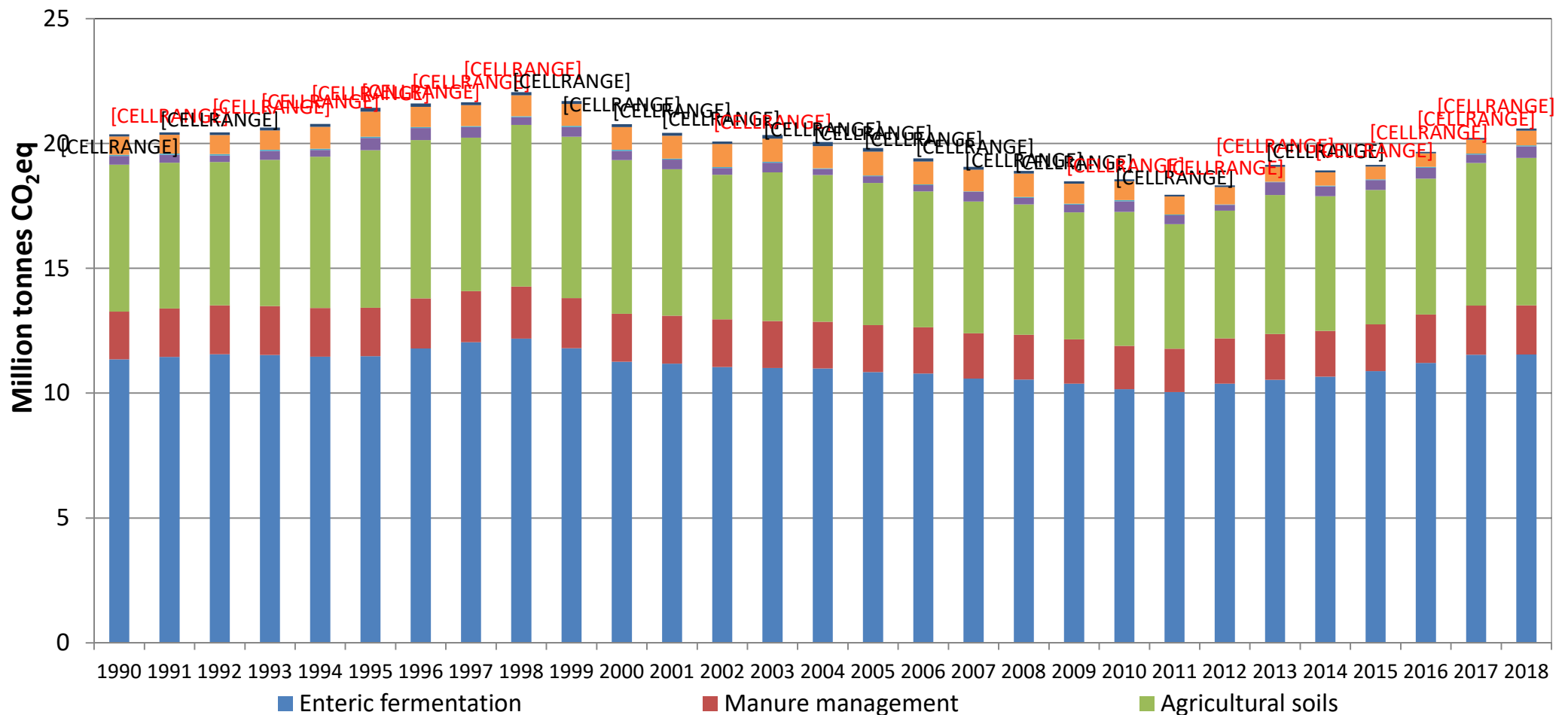


2018

Agricultural emissions - sources



Agriculture Provisional GHG emissions 1990-2018



Agricultural GHG emissions - the facts

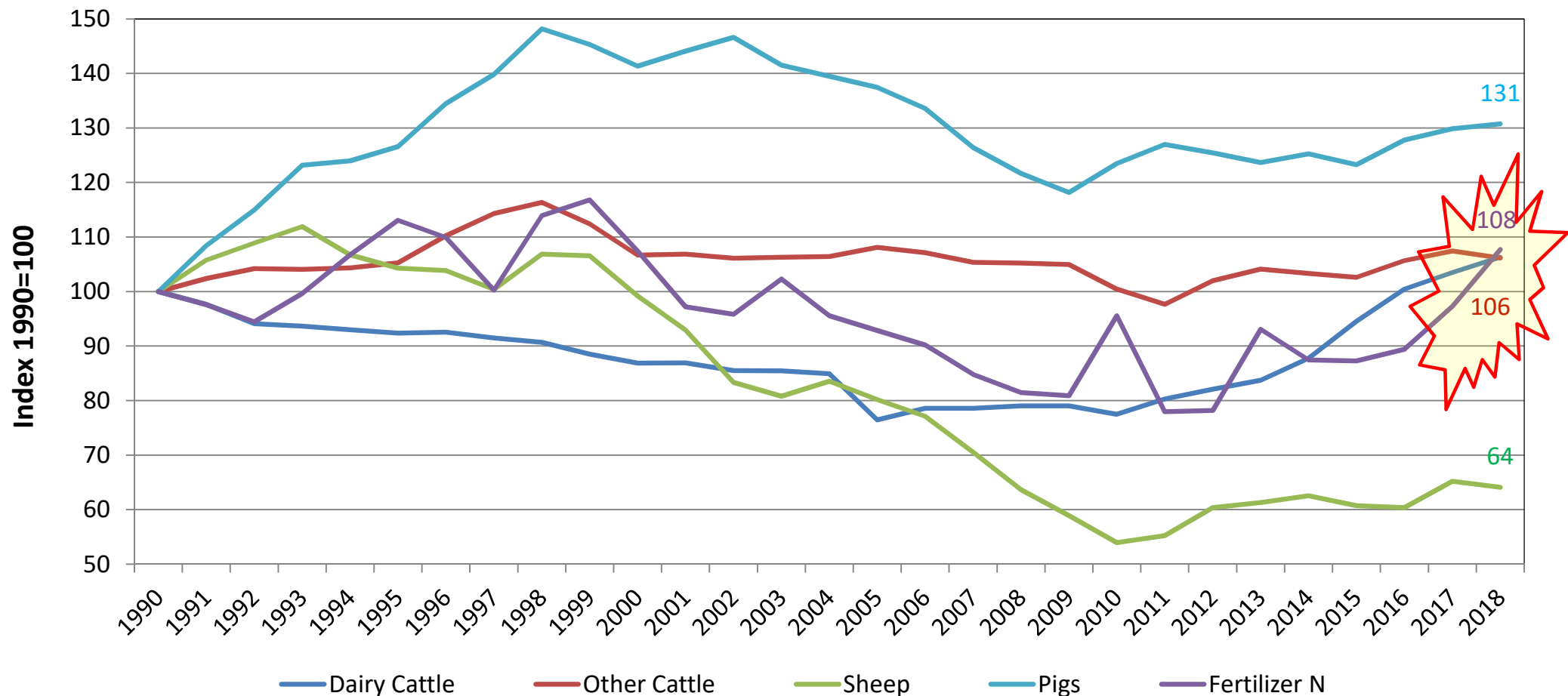
- Agricultural CH_4 = 93% of national CH_4
 - National Cattle herd = 90%
 - Dairy cows = 33% of cattle total

- Agricultural N_2O = 93% of national N_2O
 - N fertilizer = 45% of ag contribution
 - Grazing (urine & dung) = 25%
 - Landspreading = 14%
 - Management cultivation of organic soils = 13%

- Agriculture ~ one third of the key categories

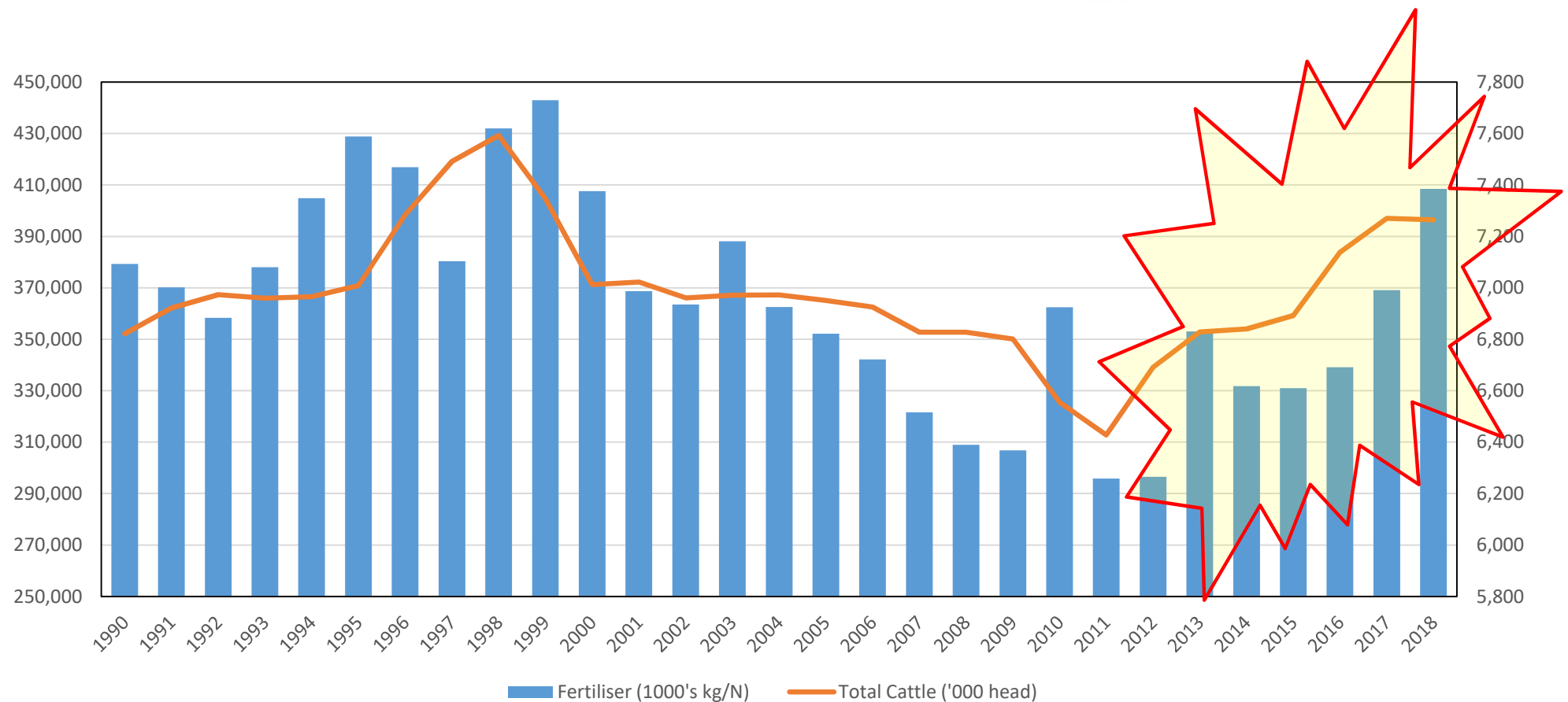
Drivers in Agriculture

Livestock population (relative trend)



Dairy cow population and Fertilizer N increase in recent years





Fertilizer use and herd size

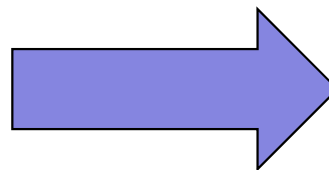


26% increase in dairy cow numbers between 2012-17, 27% to 2018
24% increase in fertilizer N use since 2012-17, 37% to 2018










Share of GHG emissions 2018 and 2030

2018

Agriculture		34%
Transport		20%
Energy Ind.		17%
Residential		10%
Other		18.4%



2030

Agriculture		38%	
Transport		22%	
Energy Ind.		16%	
Residential		8%	
Other		16%	

Actions required

- Significant uptake of abatement options needed at farm level required
 - Climate Action Plan: 16.5-18.5 Mt CO₂ eq reduction in the period 2021-2030
 - Teagasc MACC, AgClimatise, CAP Reform

- Ability to capture nationally representative data
 - How can we capture abatement options in national inventories

- In breach of NECD – NH₃
 - 2010 NECD to 2020, FW2025 in the context of 2020 & 2030 targets
 - 2020 (1%) vs 2030 (5%) reduction on 2005 emission level

- LULUCF Regulations & Effort Sharing Regulation
 - Accounting for land use actions

<http://www.epa.ie/ghg>

Ireland's Environment

Licensing and
Permitting

Enforcement

Monitoring and
Assessment

Research and
Education

Publications and
Downloads

You are here: Home > Greenhouse Gas Emissions

**CURRENT
SITUATION**

**FREQUENTLY
ASKED
QUESTIONS**

**INDICATORS/
TARGETS**

**DOCUMENTS /
REPORTS**

KEY HIGHLIGHTS

ENERGY INDUSTRIES

RESIDENTIAL

TRANSPORT

AGRICULTURE



Greenhouse Gas
EMISSIONS



WASTE



**PUBLIC/COMM
SERVICES**



**MANUFACTURING &
INDUSTRY**



LULUCF



SUMMARY BY GAS

