



Climate Action Sustainability

Copenhagen
October 2019

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ASA President

Overview

Global Climate Change

Irish Agriculture Overview

Ireland's National Sustainability Programme

Embracing Science

How can we effect positive outcomes globally



The supreme reality of our time is the vulnerability of our planet

John F Kennedy

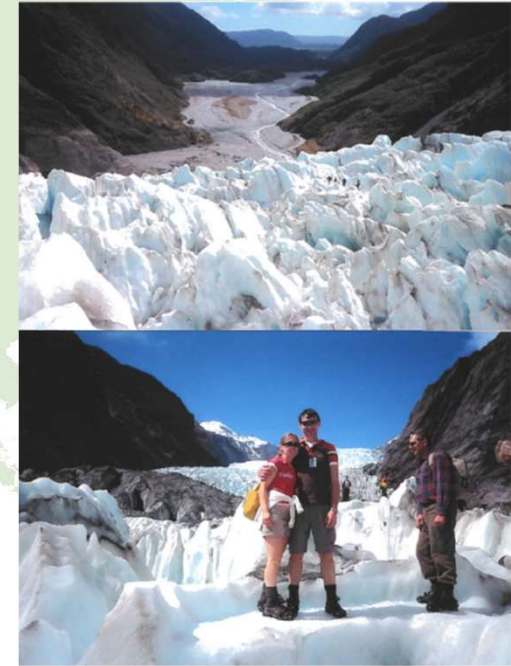
The Stark Reality for families of today



USA not recognising Climate change reality



Cowboys deforestation and ranching



Glaciers retreating, and palm oil



Dad, Will Greta Thurnberg
be there ?

• Climate Change Questions

- Will climate Change ruin my future
- What was I doing about it in Dairygold and In ASA
- Why don't governments stop when they know it is wrong
- Will there be glaciers and polar bears when I grow up ?
- Why wont Donald Trump listen ?

• **It is so simple a child can see it**

Some Facts about Irish Agriculture & The World of Climate Change around us



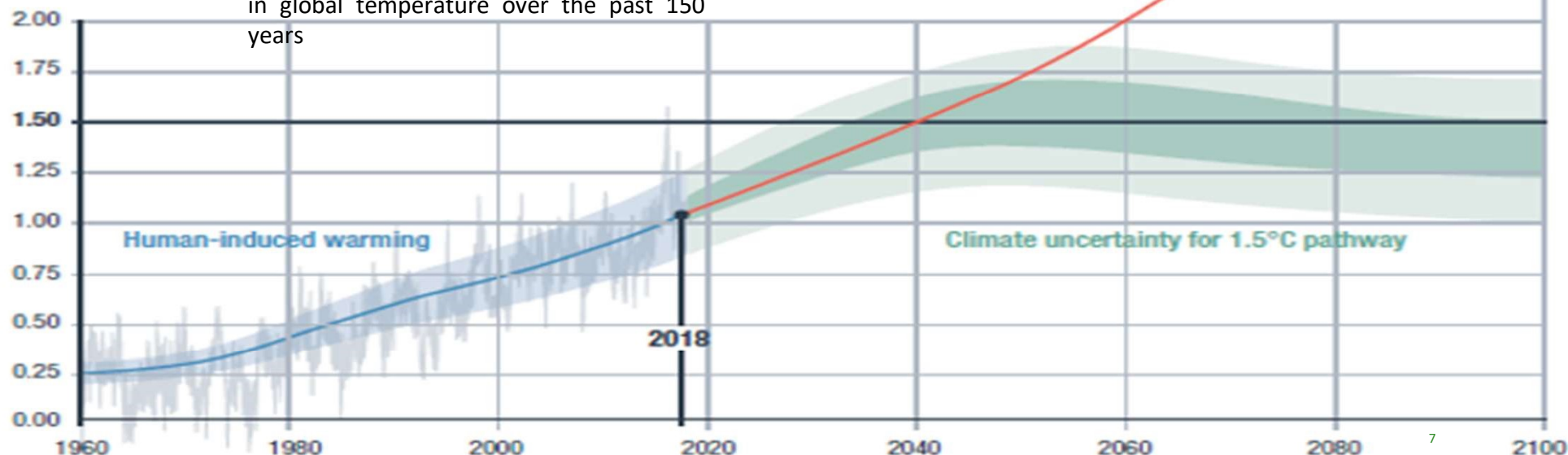
These are the Facts

2018 WAS THE **42ND** CONSECUTIVE YEAR WITH A GLOBAL TEMPERATURE ABOVE THE 20TH CENTURY AVERAGE

Global warming is **likely to reach 1.5°C** between 2030 and 2052, based on current warming rate.

Human activities have **caused a 1.0°C rise** in global temperature over the past 150 years

Global temperature change relative to 1850 - 1900 (°C)



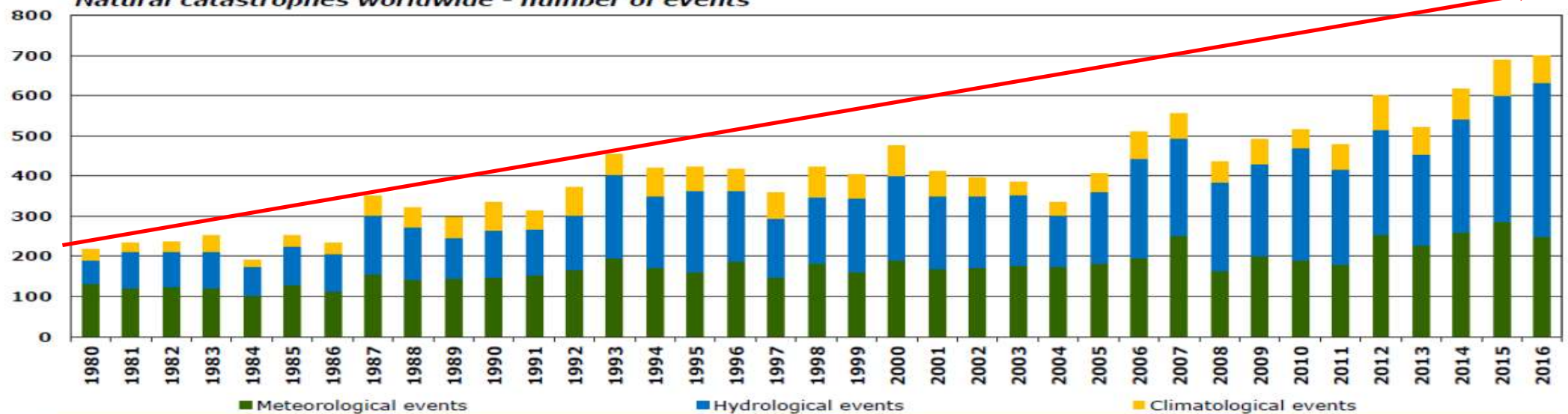
Human-induced warming reached approximately 1°C above pre-industrial levels in 2017. At the present rate, global temperature would reach 1.5°C around 2040.

Adapted from the Special Report on Global Warming of 1.5°C (IPCC)

These are the Facts - What are we learning ?

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, NatCatService (January 2017)

The Fact is :

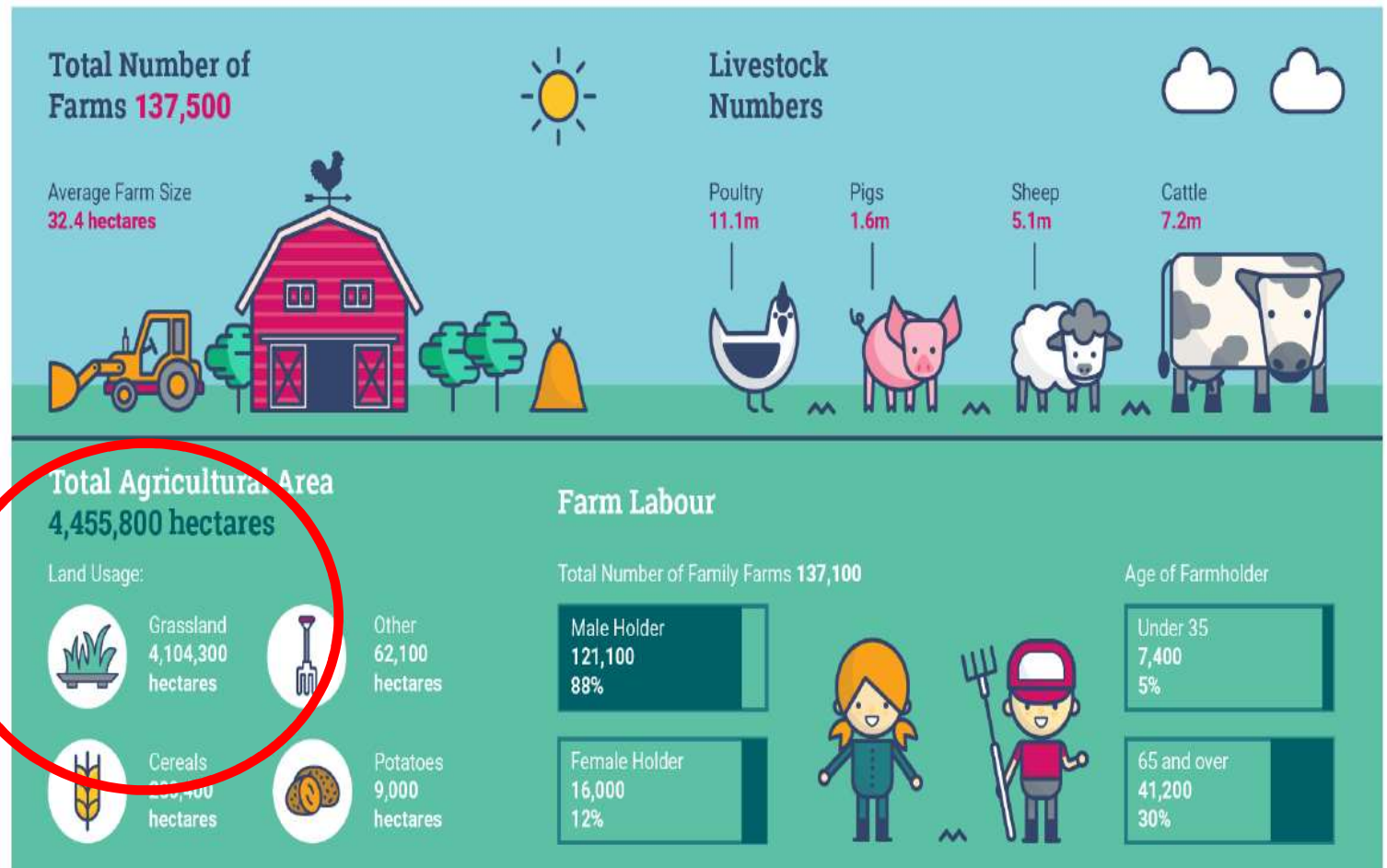


‘Each degree matters, each year matters and each decision matters: **not acting today is adding to the burden of the next generation** [.....]. Limiting global warming to 1.5oC is not impossible, but requires strong and immediate policies.’

Valérie Masson-Delmotte, Co-Chair of the IPCC’s Working Group
(08 October 2018 – Address to the French Senate)

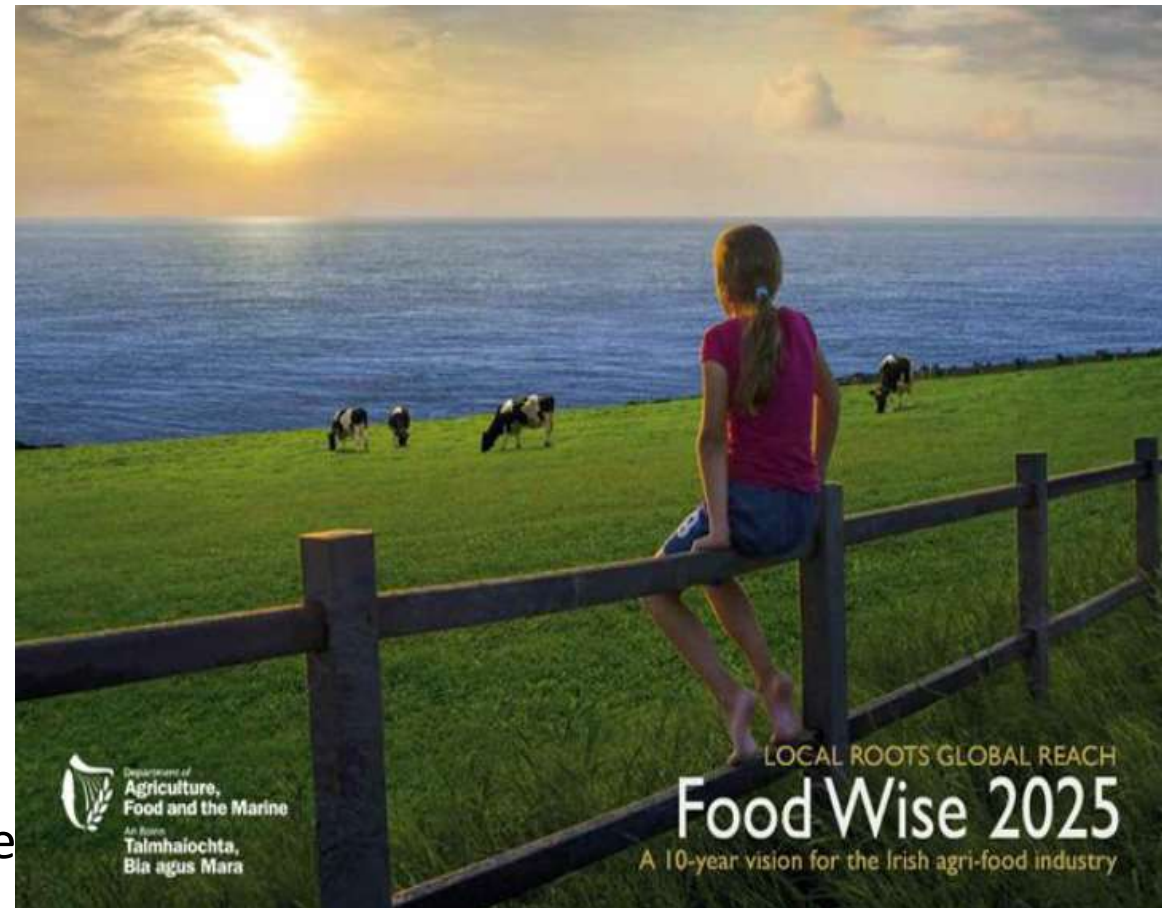
- A **transformational shift** is required.

Irish Agriculture Overview



Food Wise 2025 – Irish Agri-Food Strategy

- 85% increase in all food exports to €19bn
- 65% increase in primary production value to €10bn
- Creation of 23,000 additional jobs along the supply chain
- 427 enabling actions
- 78 related to sustainability/climate change



Source: DAFM, 2018

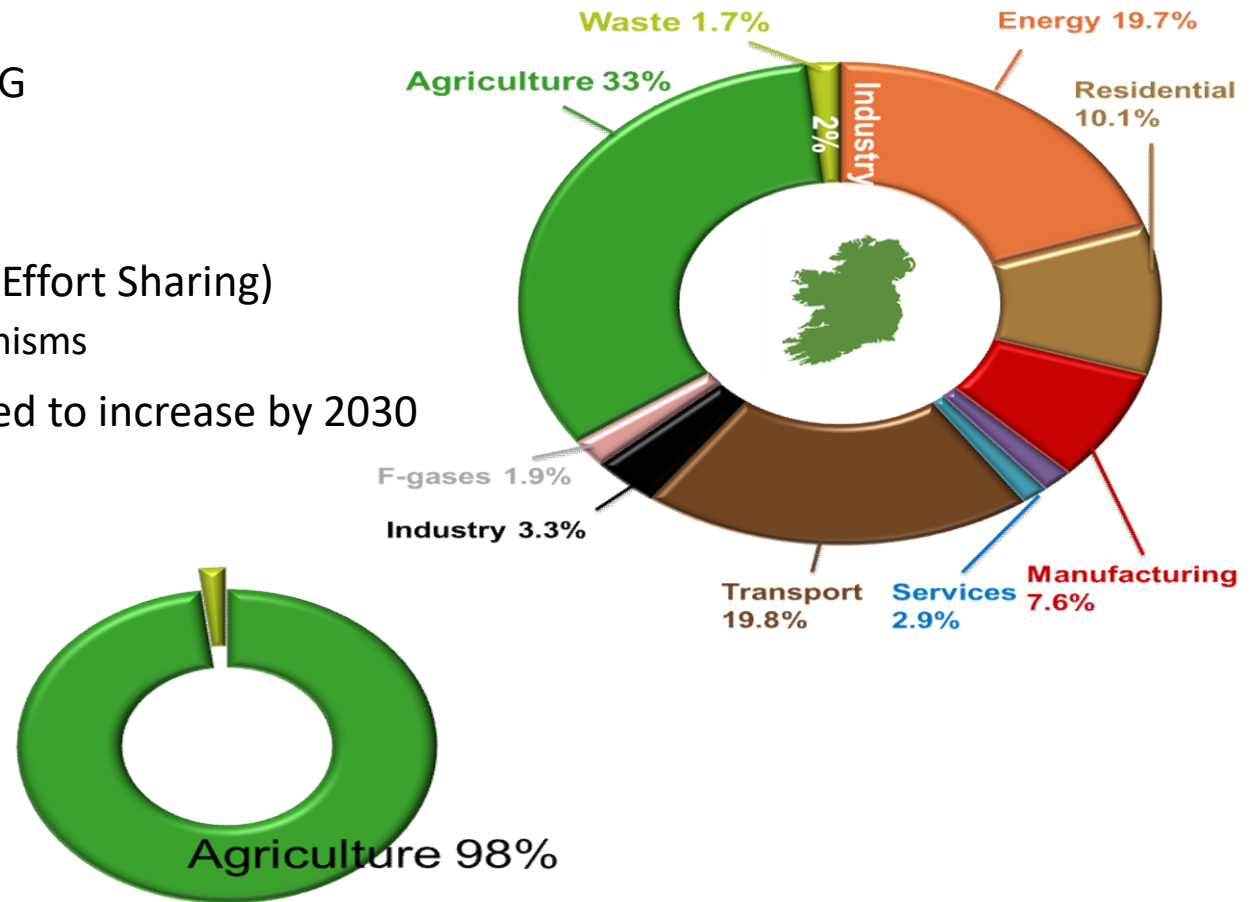
Some of the Irish Statistics



Green House Gases (GHG) – The Challenges to Irish Agriculture

- Irish agriculture comprises 45% of total GHG
- **GHG national targets:**
 - 20% emissions reduction by 2020
 - 30% non-ETS reduction by 2030 (2030 Effort Sharing)
 - with 10% allowable to flexible mechanisms
- Both GHG and ammonia emissions projected to increase by 2030

- **Ammonia targets:**
- 98% of ammonia emissions from Ag
 - 1% reduction to 2030
 - 5% from 2030 onwards



Source: Teagasc, 2018

We have made a start In Ireland – Is it Enough ?

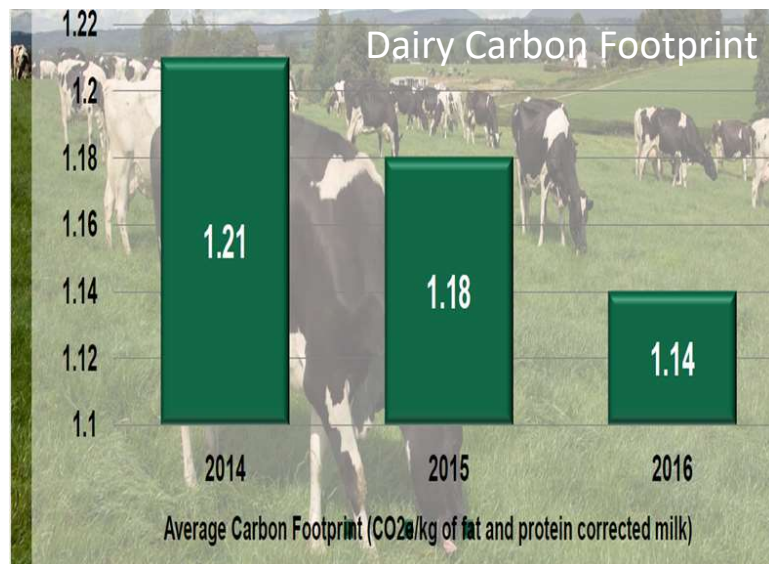
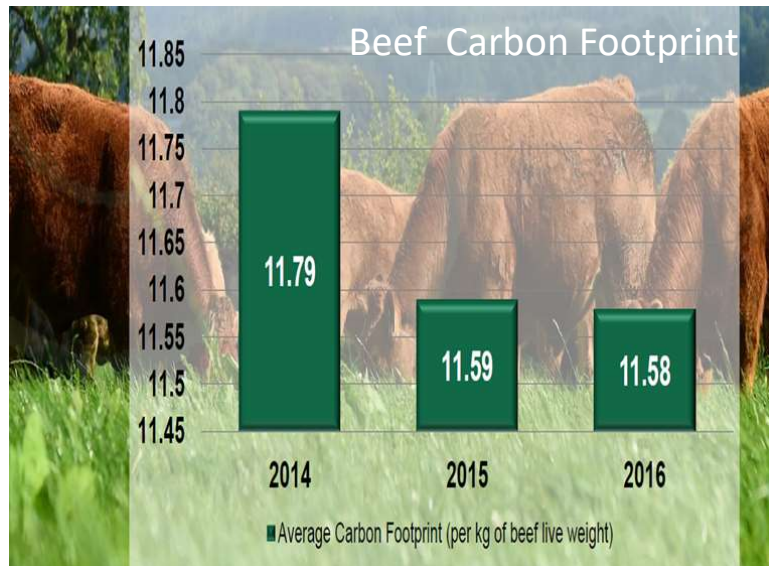




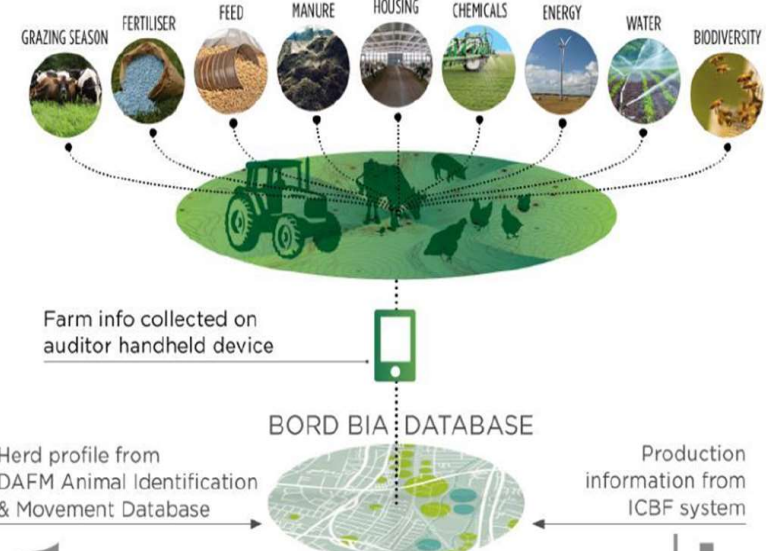
Origin Green – Ireland's National Sustainability Programme



- 6 years on.....
- Still the only national sustainability programme for agri-food in the World
- The only country carbon footprinting farms at scale
- Unique private-public collaboration – continuous improvement
- Climate Change Parameters central
- 200,00 farms audited every 18 months
- Covers 90% of Irish Food Exports



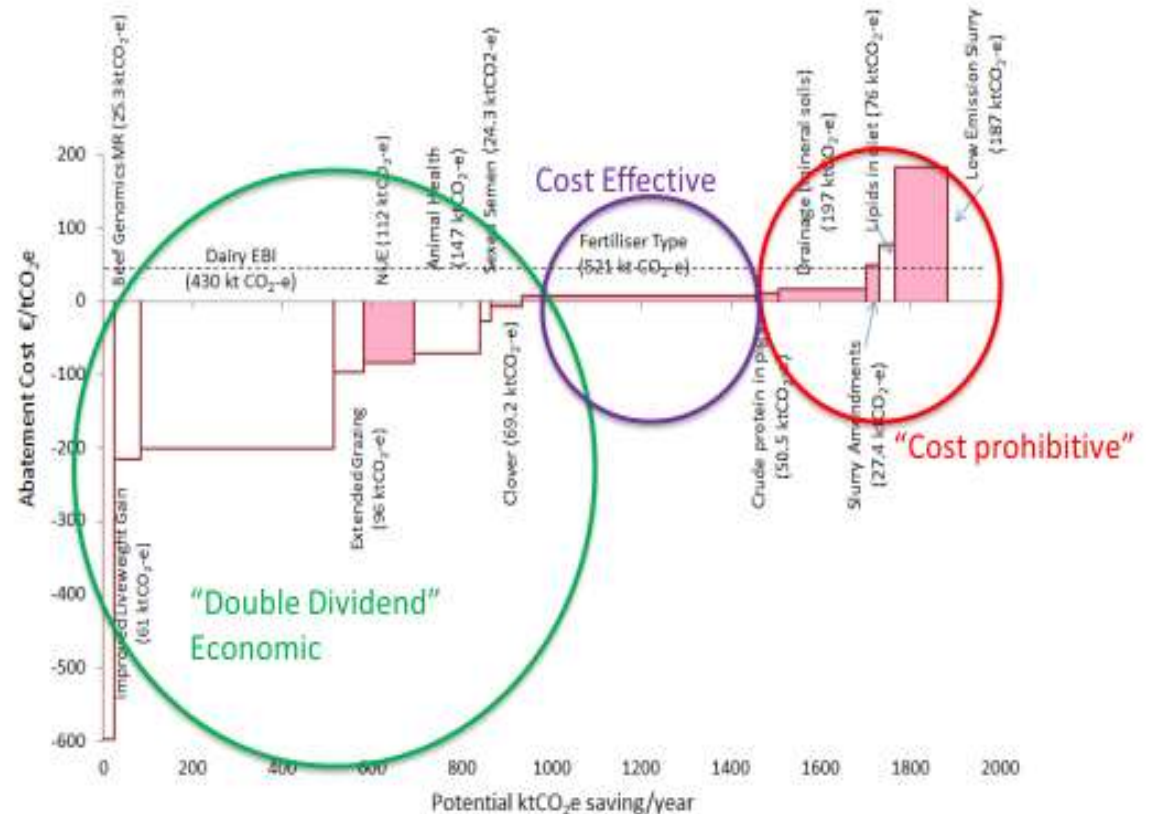
Bord Bia Farm Audits



Continuous Improvement
Feedback loop to all
Stakeholders

Embracing Science and converting to practical easy steps at farm Level

Green house Gas Abatement measures at Farm Level – Cost & Benefit



- The Marginal Abatement Carbon Cost Curve **denotes the most cost effective pathway to reduce emissions** in line with Ireland's decarbonization targets

7 Steps to Improving Farm Sustainability



7. Using the ASSAP advisors to help improve water quality



6. Incorporating forestry and hedgerows on farm



5. Improved energy efficiency and renewable energy



4. Reducing losses from slurry



3. Changing to protected area



2. Substituting clover for chemical fertiliser



1. Improved EBI and extending the grazing season



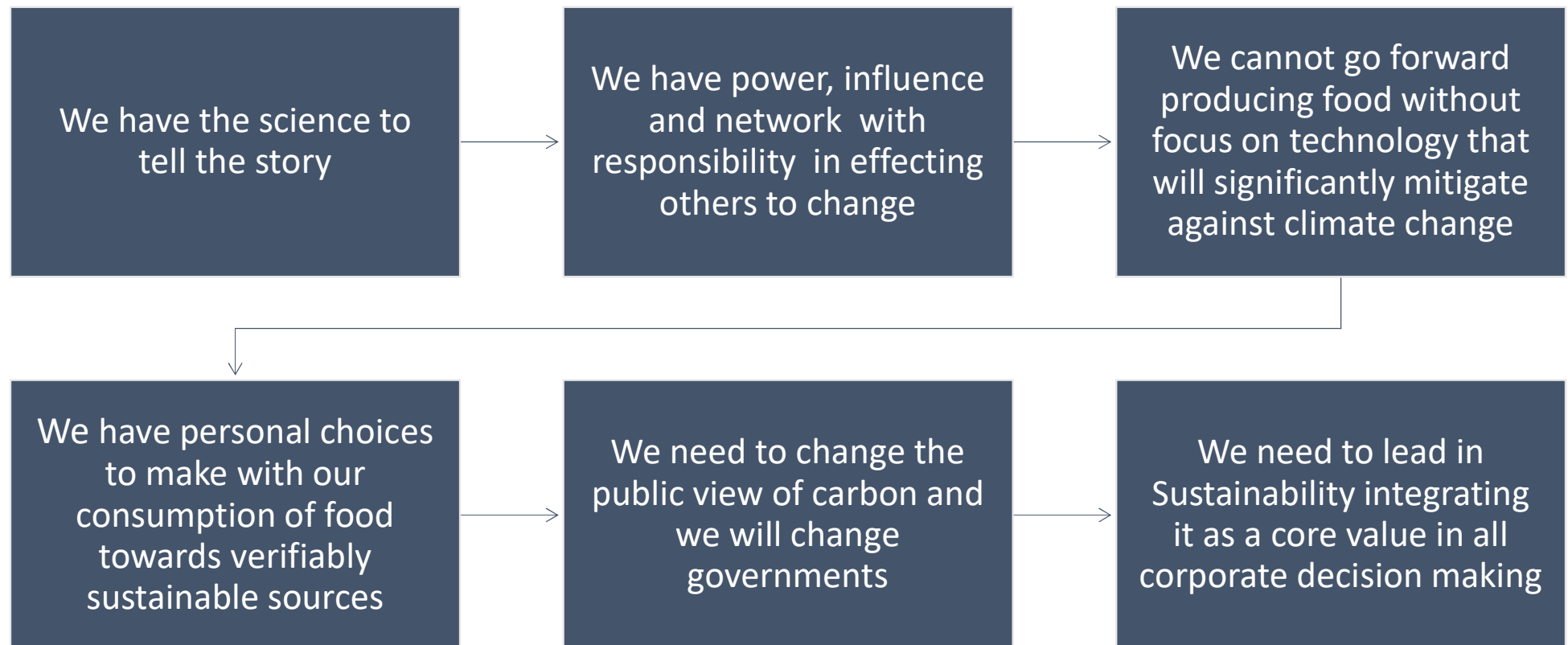
Improving Farm Sustainability

Practical tools for farmers



7 Steps to improving farm sustainability & tackling climate change

Conclusion – We need to lead in climate change mitigation





Dad, Will Greta Thurnberg
be there ?

- **In Her Words:**
 - We have a climate change choice
 - Our house is burning down
 - It is Black and white
 - We either stop and prevent the 1.5 degree rise or we don't
- **It is so simple a child can see it**

THANK YOU



Our Climate Change Strategy at Dairygold Co-op (a dairy processing co-operative)





Soil sampler

ERALL:

Improved Breeding Index:
milk yield, animal health, fertility

Grassland Management:
maximises grass growth and grass utilisation in the diet.

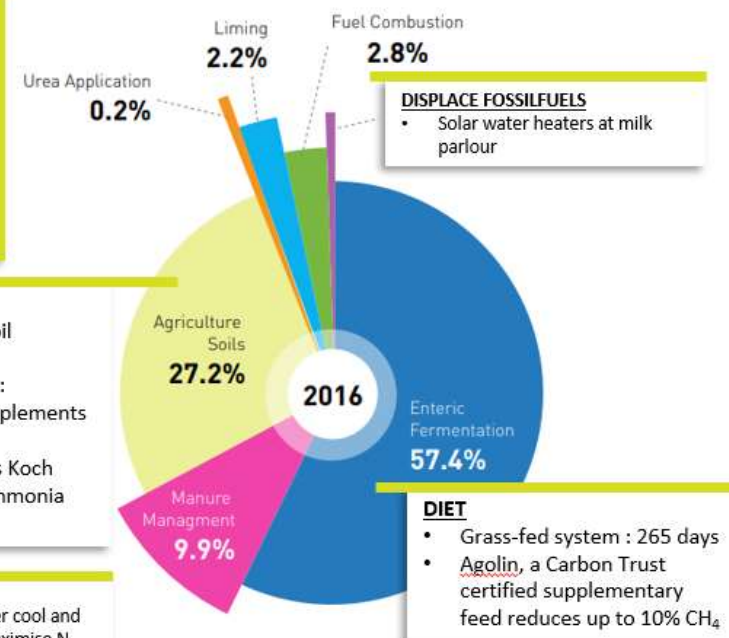
Soil Nutrient Programme

SOIL FERTILITY PROGRAMME

- Soil Fertility Programme: soil sampling
- Nutrient Management Plan: Prescribed soil nutrient supplements based on soil profile.
- Protected fertilizers such as Koch KaN reduces carbon and ammonia losses

MANURE MANAGEMENT

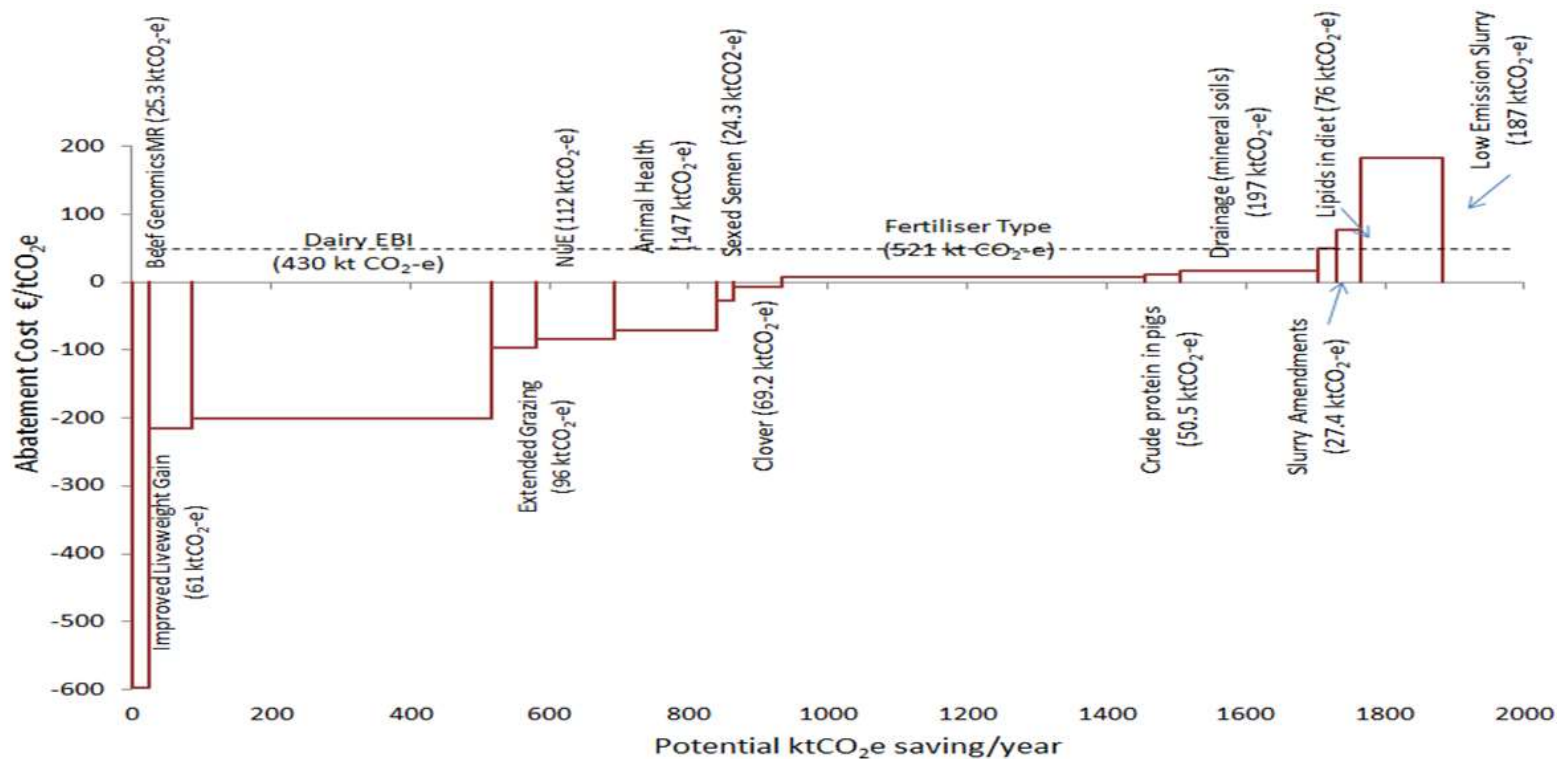
- Apply slurry in spring time under cool and moist weather conditions to maximise N recovery.
- Low Emission Slurry Spreading (LESS) systems: dry injection & trailing shoe instead of splash plate



Taking a Holistic approach at a Dairy co-op level with initiatives in key priority areas

MACC – Agricultural Abatement

Marginal Abatement Cost Curve for agriculture for 2021-2030 (direct methane and nitrous oxide abatement). Values are based on linear uptake of measures between the years 2021-2030.



Source: Teagasc, 2018

ASSAP

Agricultural Sustainability Support & Advisory Programme (2018-2021)



ASSAP Aim:

Improve Water Quality & Farm Sustainability

Why?

- Protect water as a natural resource
- Protect the nitrates derogation

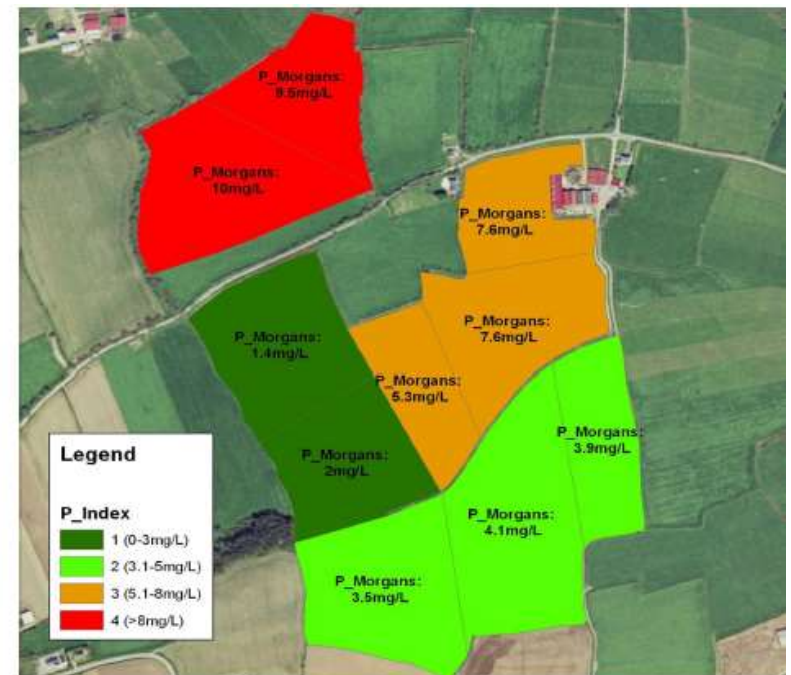
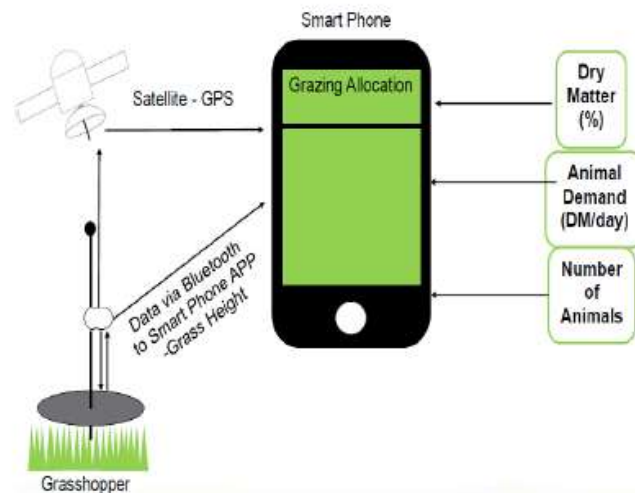
Reduced nutrient losses = Improved farm profit

How?

- Practical 1:1 confidential advice
- Improved nutrient management
- Develop mitigation strategies

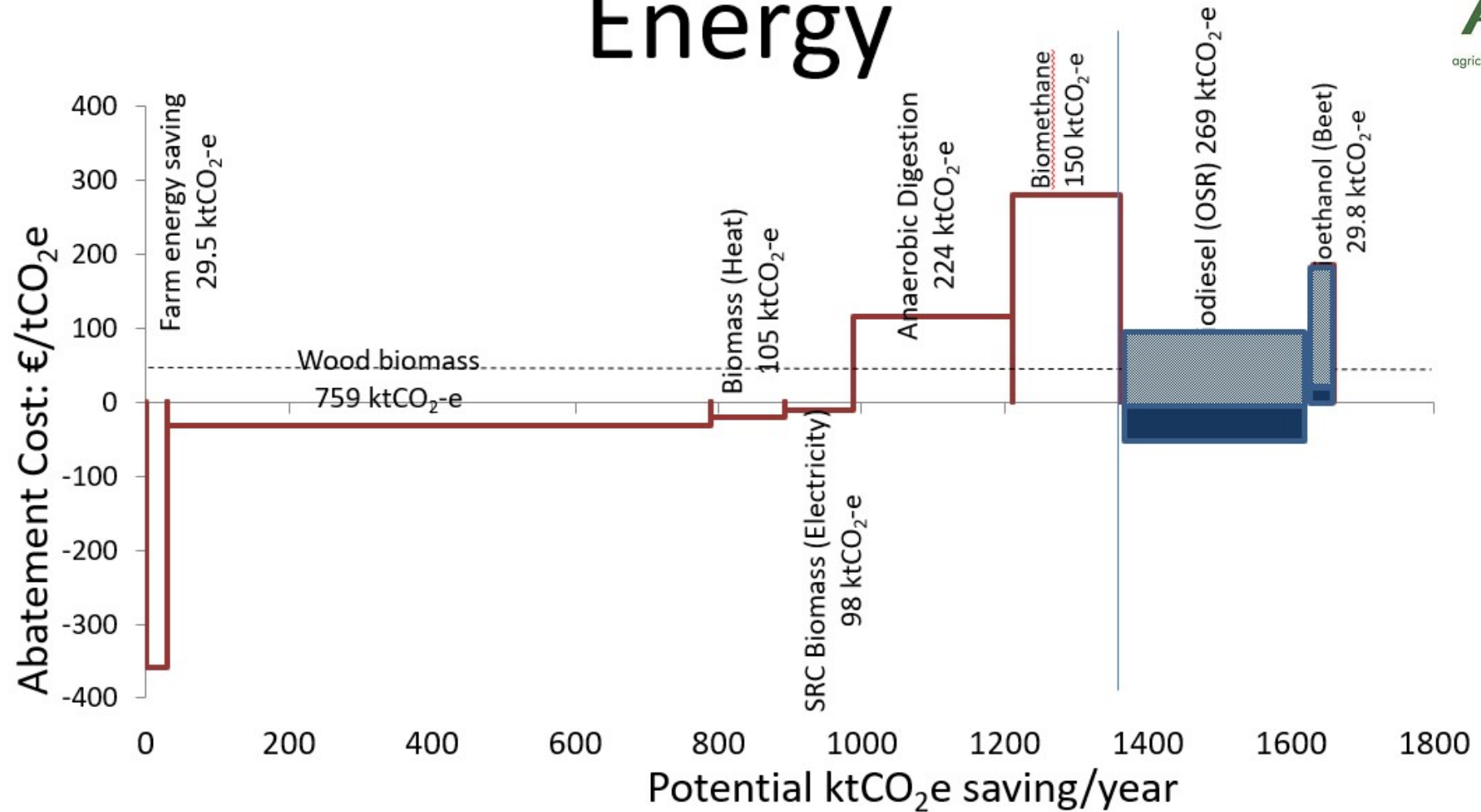


Farm Management



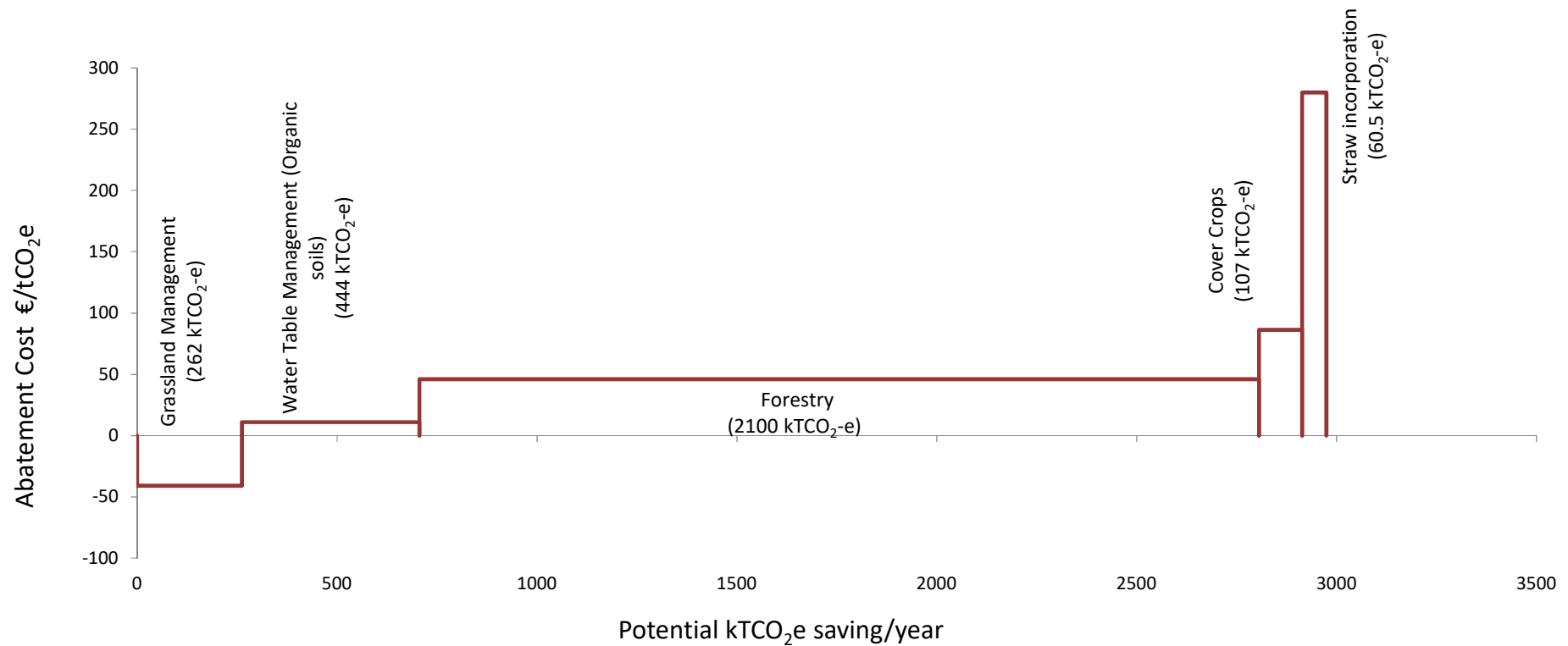
Source: DAFM, 2018

Energy



Source: Teagasc, 2018

Land-use Measure



Source: Teagasc, 2018