High Level Overview

All of Government Action Plan to Tackle Climate Disruption

Sept 2019

John Muldowney

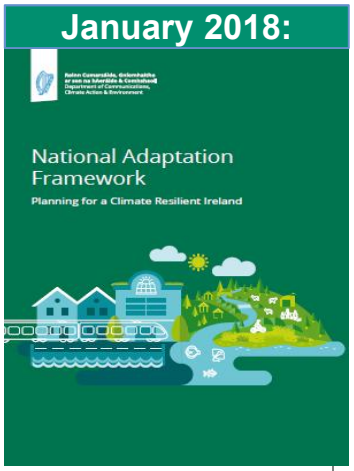
Climate change and Bioenergy Policy division

National Climate Policy

All of Government Action Plan

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

January 2018:



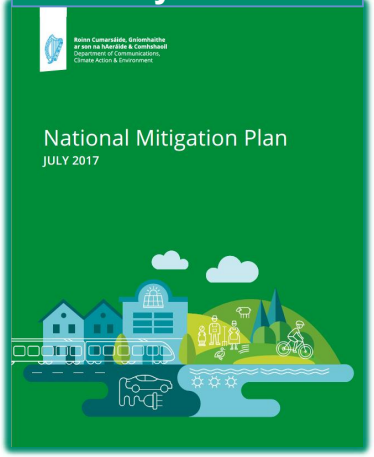
September 2019

Sectoral Adaptation Plans and Local Adaptation Strategies

2014 2015 2016 2017 2018 2019

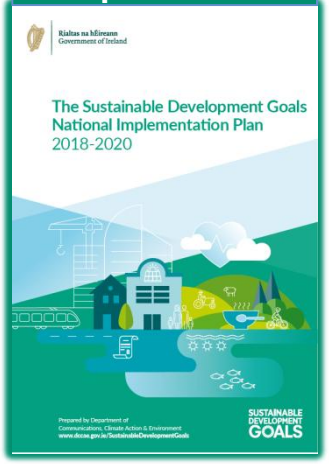
Climate Action and Low Carbon Development Act, 2015

July 2017:

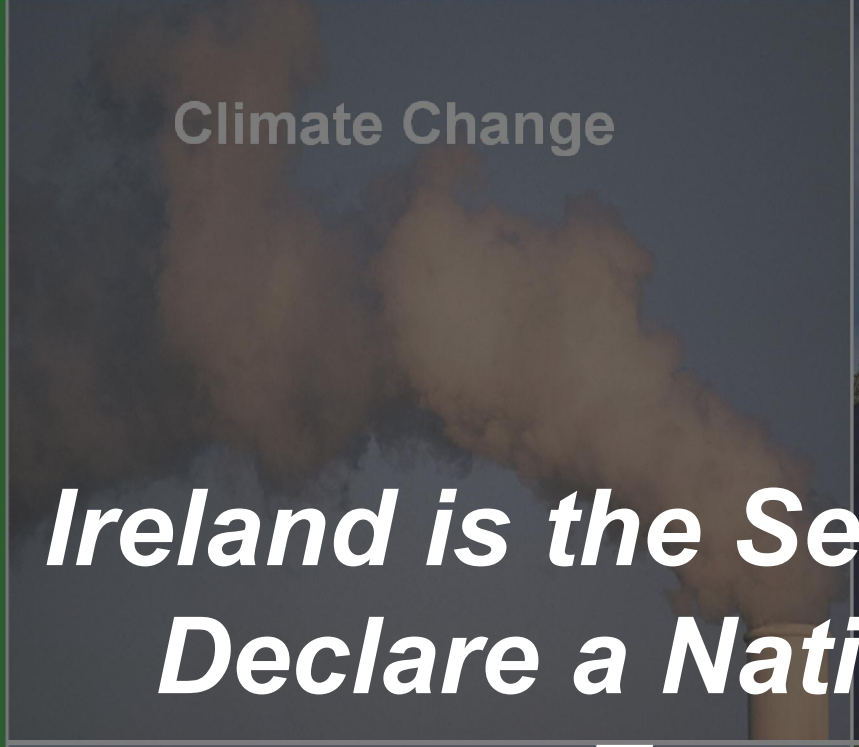


February 2018:

April 2018:

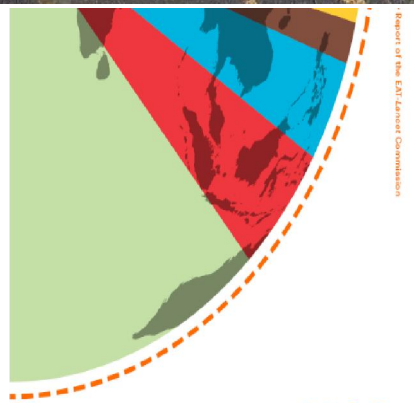


INDUSTRY CHALLENGES



Ireland is the Second Country to Declare a National CLIMATE Emergency

INDUSTRY CHALLENGES



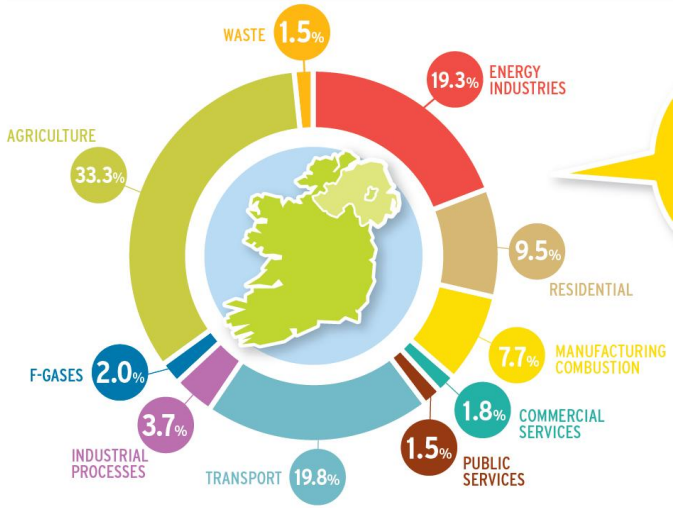
Healthy Diets From Sustainable Food Systems

Food Planet Health

Lancet Report EAT

Ireland's Greenhouse Gas Emissions Projections 2018-2040

- Total Emissions = 60.75 Mt
- Ag Emissions = 20.2 Mt
- Compliance = -5% to -6%
  - Compared to -20%



2030: 30% reduction on 2005 levels		
	Overall Gap to Target	**ETS & LULUCF Flexibilities**
Low Oil prices	86-101 Mt CO_2 eq	40-56 Mt CO_2 eq
High Oil Prices	52-67 Mt CO_2 eq	7 -22 Mt CO_2 eq
Emissions in 2030= 33 Mt CO_2 eq		

Governance of the Plan

Oversight of Government	Monitoring and Reporting

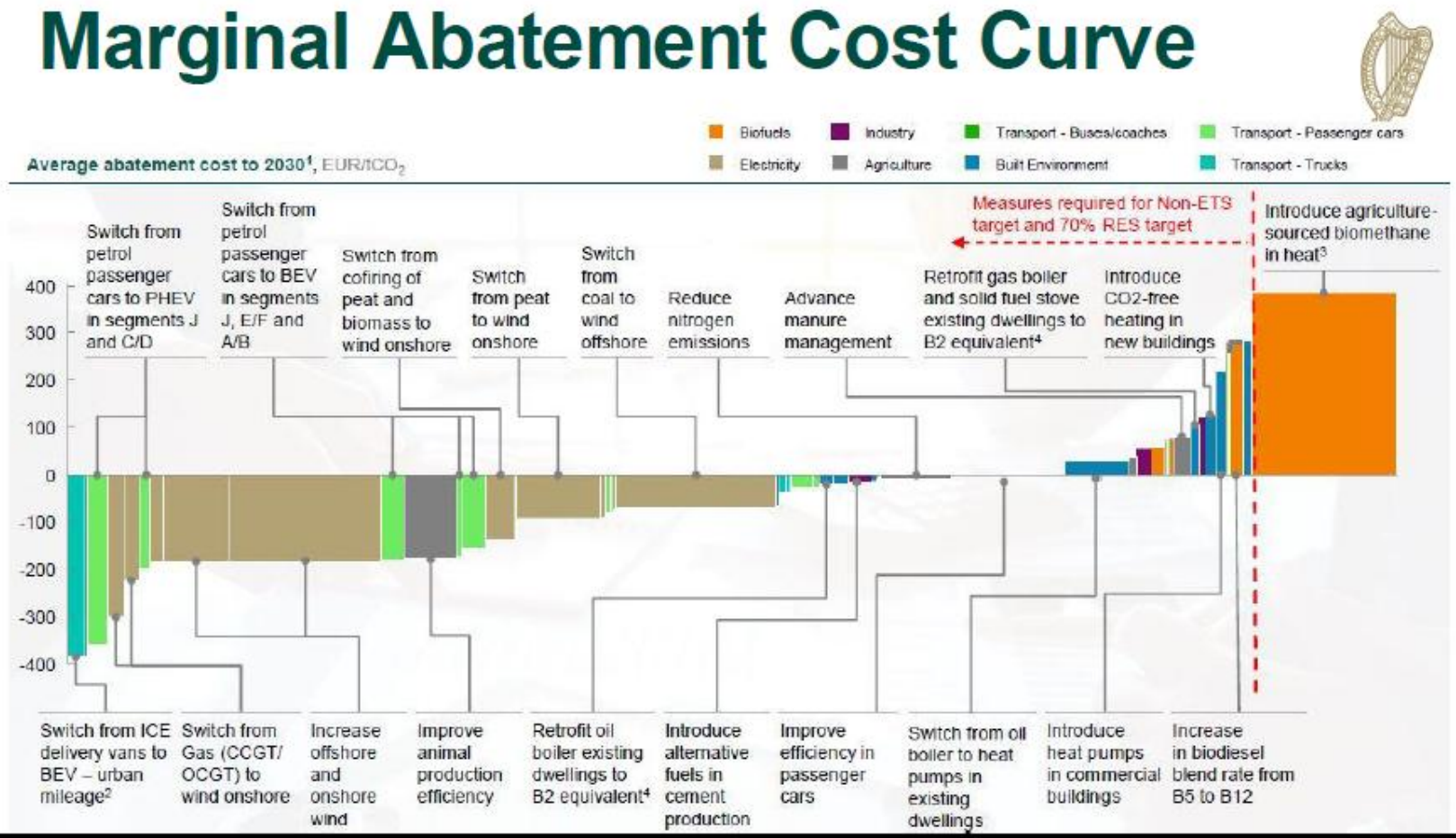
▪ **Climate Action** (Amendment) **Bill**
  ▪ a legal requirement
  ▪ Decarbonisation target range for each sector
  ▪ Establish the Climate Action Council
  ▪ Adoption of 5 yr Carbon Budgets
▪ **Oireachtas Climate Action Committee**
▪ **Carbon Proofing** of Government Policy
	▪ Monitored quarterly and updated annually
	▪ **Climate Action Board** within D/Taoiseach
	  ▪ Reporting to CC and Cabinet
	  ▪ Published quarterly reports
	▪ **Just Transition Monitoring and Review Group**
	  ▪ Reporting to Climate Action Board and publishing a rolling 3 -year Just Transition Strategy

Overview of the Climate Action Plan

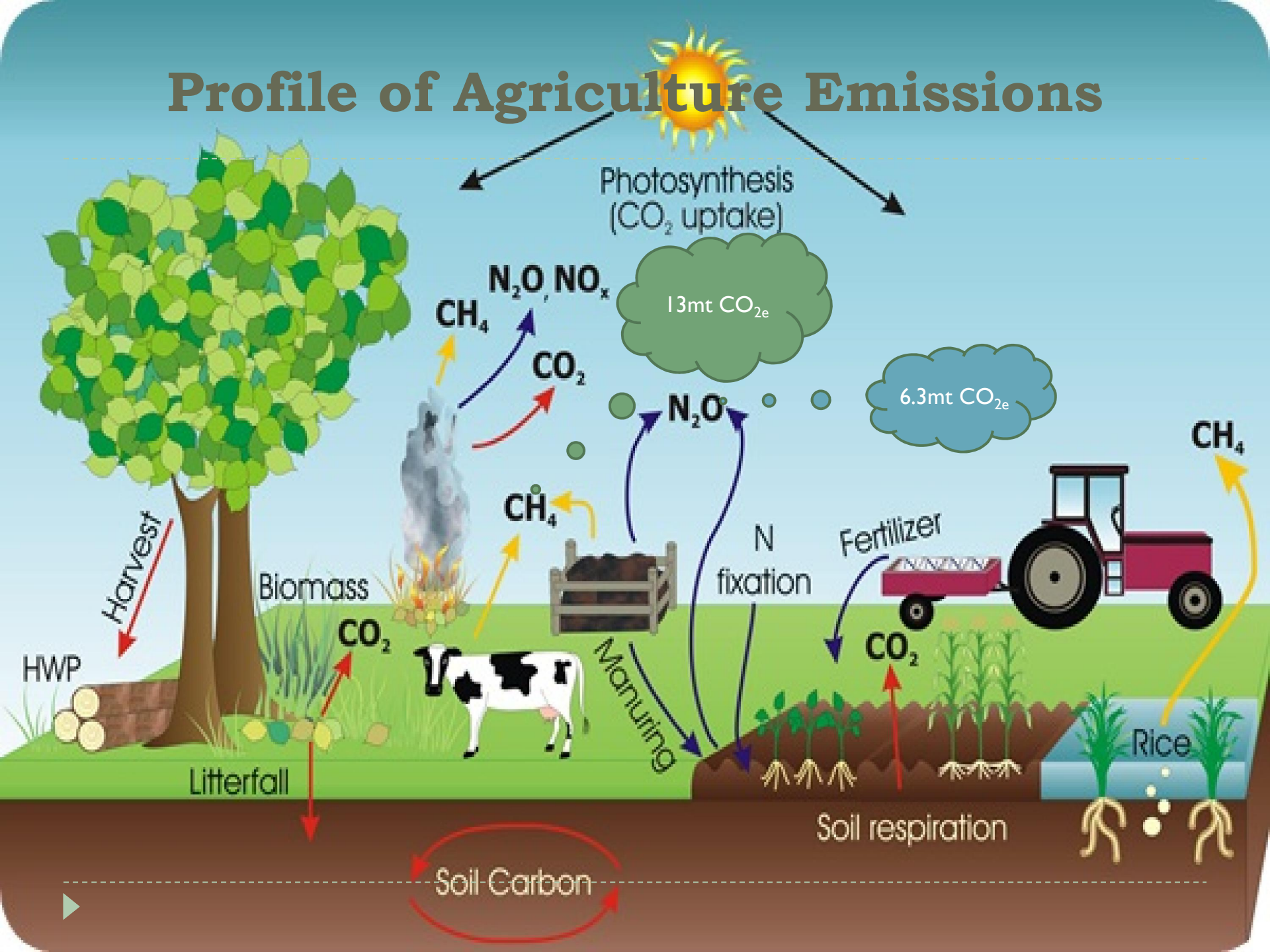
- Citizen's Assembly & Joint Oireachtas Report providing a solid foundation for development of this plan.
- Gap to target = **58.4 Mt CO_2 eq** (after LULUCF & NDP measures)
- A total of 183 Actions and associated sub-actions

Key Sectoral Targets		Carbon Pricing & Cross-cutting Policies
Electricity	50-55%	▪ Carbon tax of €80 per tonne ▪ Reform Pubic Spending Code to increase the shadow price of carbon ▪ Mobilisation of finance ▪ Capacity & Capability building in research and development
Transport	45-50%	
Built Environment	40-45%	
Enterprise	10-15%	
Agriculture	10-15%	

Marginal Abatement Economy-wide Cost Curve



Profile of Agriculture Emissions



Targets for Agriculture

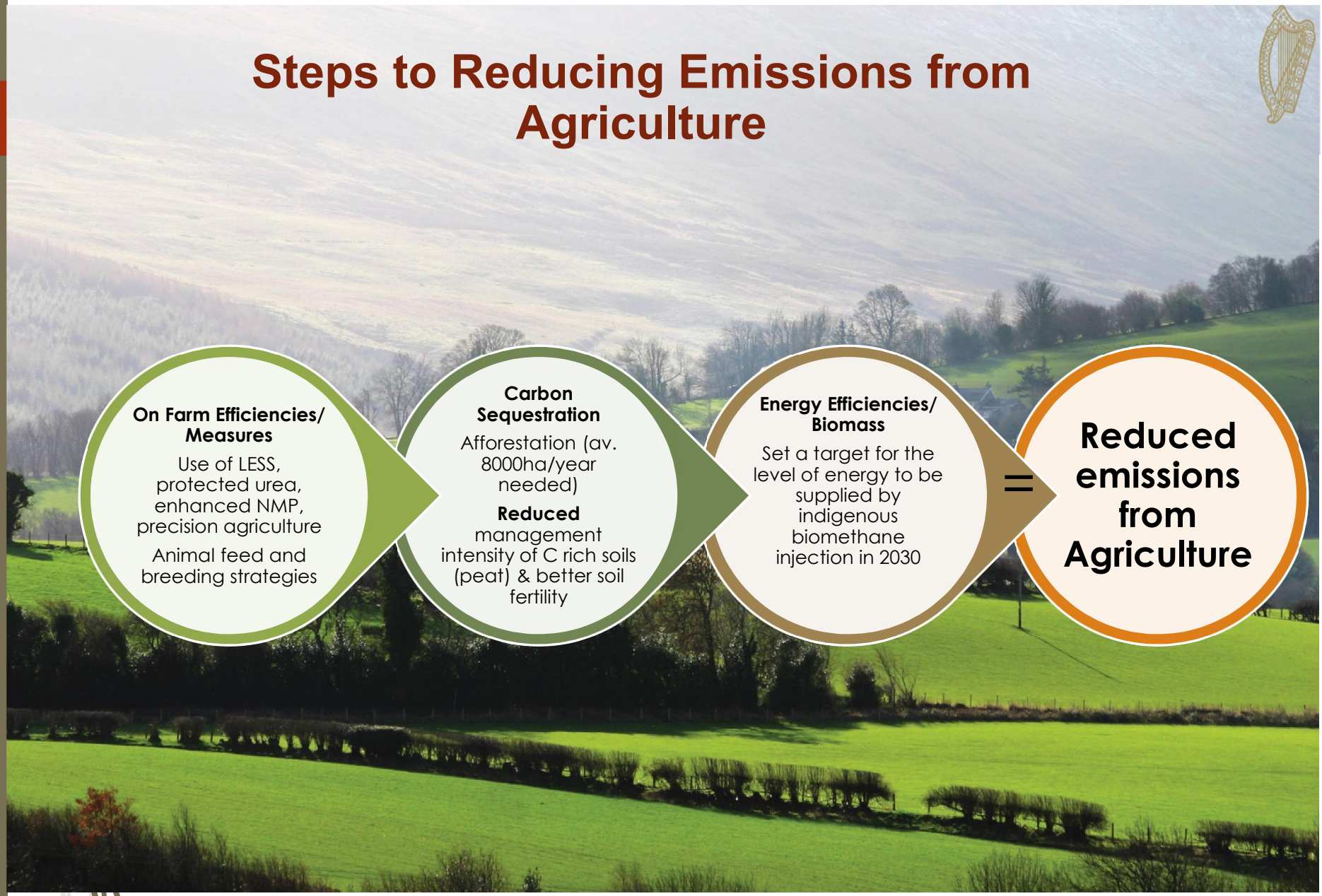
2017 Provisional Emissions	2030 Projected Emissions based on NDP	2030 Required Emissions Based on MACC
20 Mt	21 Mt	17.5 – 19 Mt

- Equivalent to **16.5-18.5 $MtCO_2eq$.** cumulative abatement

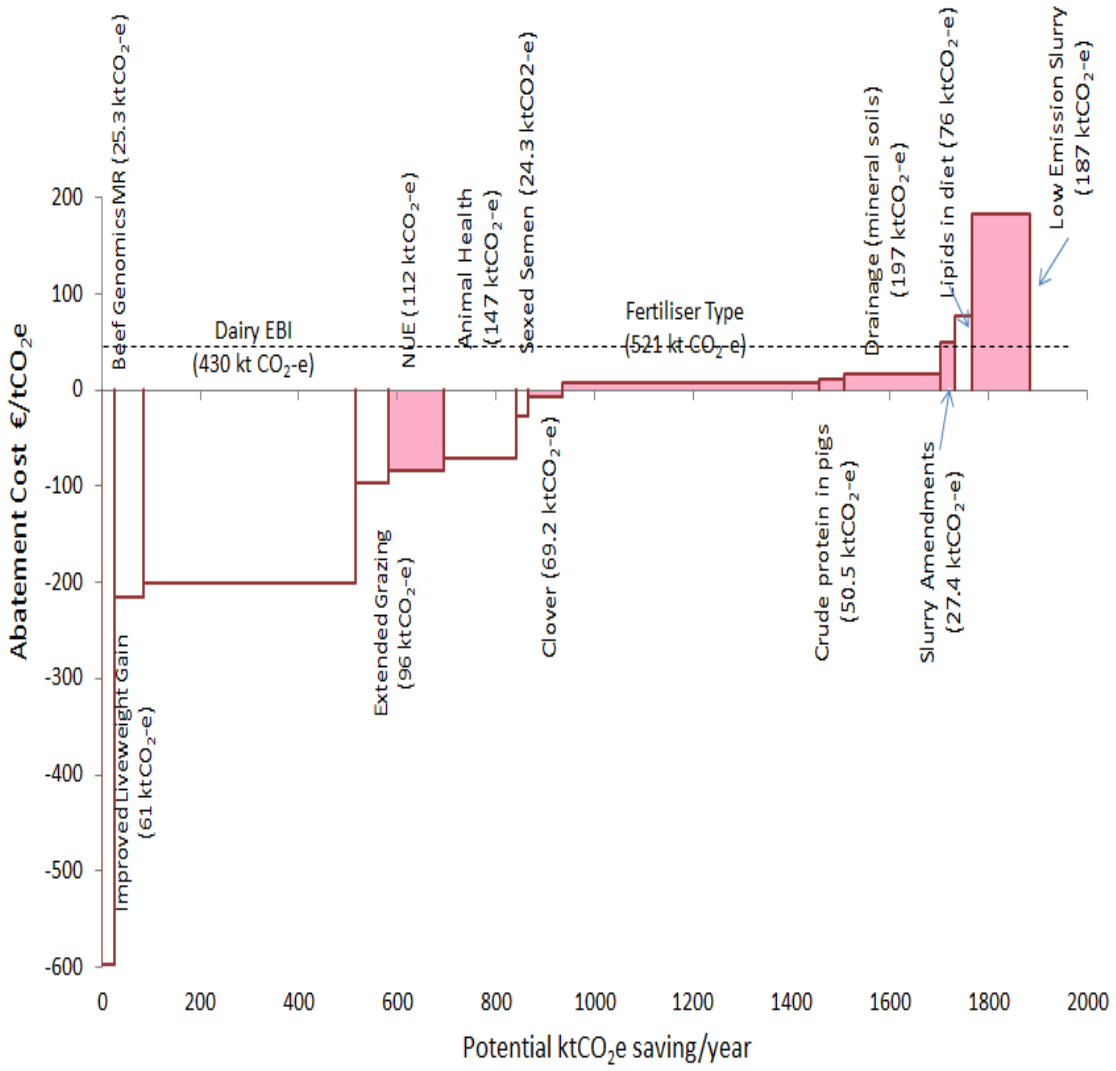
- Achieve **26.8 Mt CO_2eq**. abatement through LULUCF actions over the period 2021 to 2030, comprised of:
  - an average of 8,000 ha per annum of newly planted forest, and sustainable forest management of existing forests (21 $MtCO_2eq$. cumulative abatement)
  - at least 40,000 ha per annum of reduced management intensity of grasslands on drained organic soils (4.4 $MtCO_2eq$. cumulative abatement)
  - better management of grasslands, tillage land and non-agricultural wetlands (1.4 $MtCO_2eq$. cumulative abatement)

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

Steps to Reducing Emissions from Agriculture



What does this mean for Agriculture - Teagasc MACC



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***

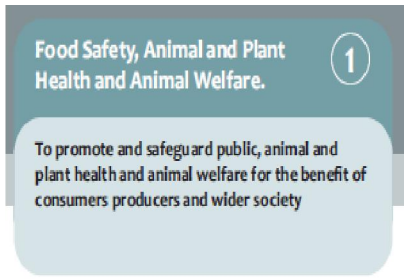
* Double dividend as it also reduces ammonia emissions

Resource Intensive Measures

- Bring forward proposals for the introduction of measures to **implement the full suite of options** as set out in the Teagasc MACC
- Develop **advisory strategy** on GHG reduction with core targets
- Review **effectiveness of Teagasc options program** which covers promotion of organics and farm income diversification options
- Commission a **review of Teagasc MACC** including updating
- **JOC Recommendations**
  - NESC diversification forum June 2019
  - AD strategy by end 2019
  - CAC to review land use policy Q1 2020

Adaptation Planning

- Non-statutory Adaptation Planning Document for the agriculture and forest sector published in 2017
- New statutory Adaptation Plan aligned with the relevant Strategic Goals from the Department's Statement of Strategy



1. Animals,
2. Plants (including Forestry)
3. Food Safety

4. Seafood

Objectives of the DAFM 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

Potential Climate Change Impacts

All aspects of Irish agriculture will be affected by climate change, the main impacts will result from increased levels of atmospheric CO_2, changes in air and soil temperatures, changes in rainfall patterns and extreme events.

Level of atmospheric CO_2 are projected to increase markedly from current average levels (400 ppm) to 600 ppm by 2100.

Spring is expected to occur earlier, extending the length of the growing season.

Average temperature changes of 1 - 3 °C by 2100.

Increases in the occurrence of heatwaves and droughts is likely.

Wetter winters are likely and this may result in difficulties in accessing land.

Potential Climate Impacts - Seafood

Understanding the effects of climate change on marine ecosystems remains a challenge but the three major effects of climate change identified for Ireland's marine sector are rising sea levels, increased sea surface temperatures, oxygen depletion and acidification.

In-line with global changes, the seas around Ireland are expected to continue warming over the coming decades.

The biogeographical range of fish stock are expected to change, shifting northward.

In combination with increasing sea levels, the frequency and intensity of coastal storms are projected to increase.

Projected decreases in levels of precipitation in summer will result in decreased runoff during the summer months.

Cross-Sectoral Engageme

- Statement of Strategy objectives:
  - Maintain standards and target improvements in animal and plant health including forestry
  - Safeguard public health, food safety and authenticity
  - Safeguard the welfare of animals
  - Promote a sustainable, profitable and self reliant seafood industry that protects and enhances the social and economic fabric of rural costal communities
- Identify cross sectoral issues to help achieve objectives

Next Steps

- Need a Balance between Production and Environment/Climate
  - Consider all pathways to carbon neutrality
  - Consider and prioritise potential abatement opportunities
- Credibility of sustainable production only as strong as weakest link
- Policy actively engaging with agricultural stakeholders
  - Need a balance between creating an enabling environment & regulation
- Identify how measures should be implemented and who is best placed to deliver them
- Need for transparency in developing fair and enhanced action