



Policies, programmes and strategies addressed in Ireland's Climate-Smart Agriculture case study

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Presentation overview

- Location, climate and landscape
- Land use and agriculture
- Emissions profile
- Policies, measures and practices
- Challenges to implementing CSA practices in Ireland
- Recommendations
- Q & A

Location and climate

Grassland Area	
Ireland	Europe
80%	40%



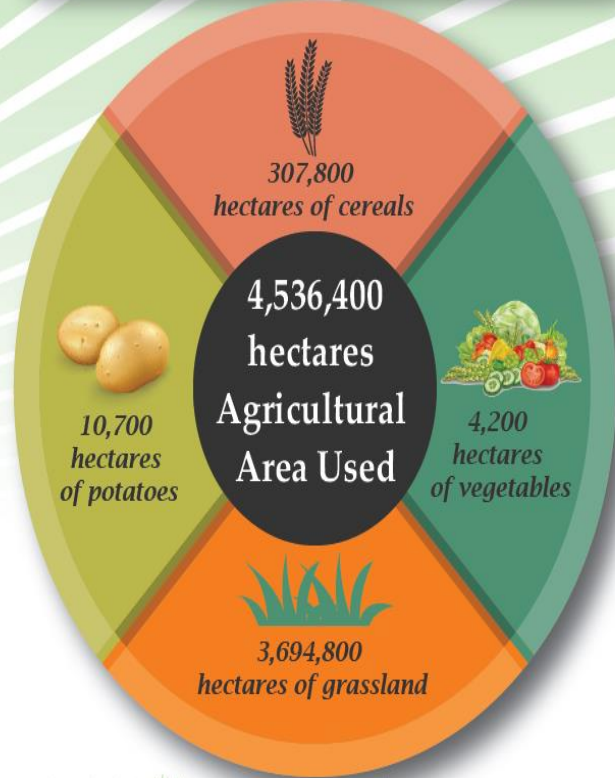
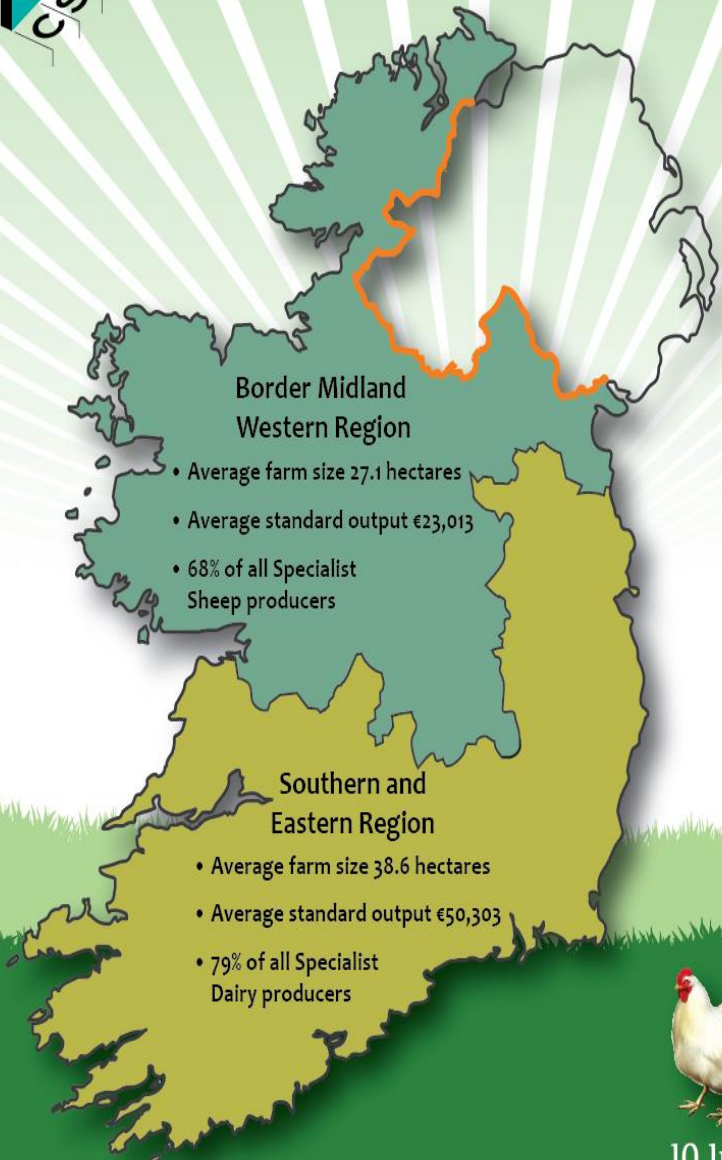
GULF STREAM



An Phríomh-Oifig Staidrimh
Central Statistics Office

Structure of Farming in Ireland

Total Farms - 139,600
Average Farm Size - 32.5 hectares



4.9m



6.9m



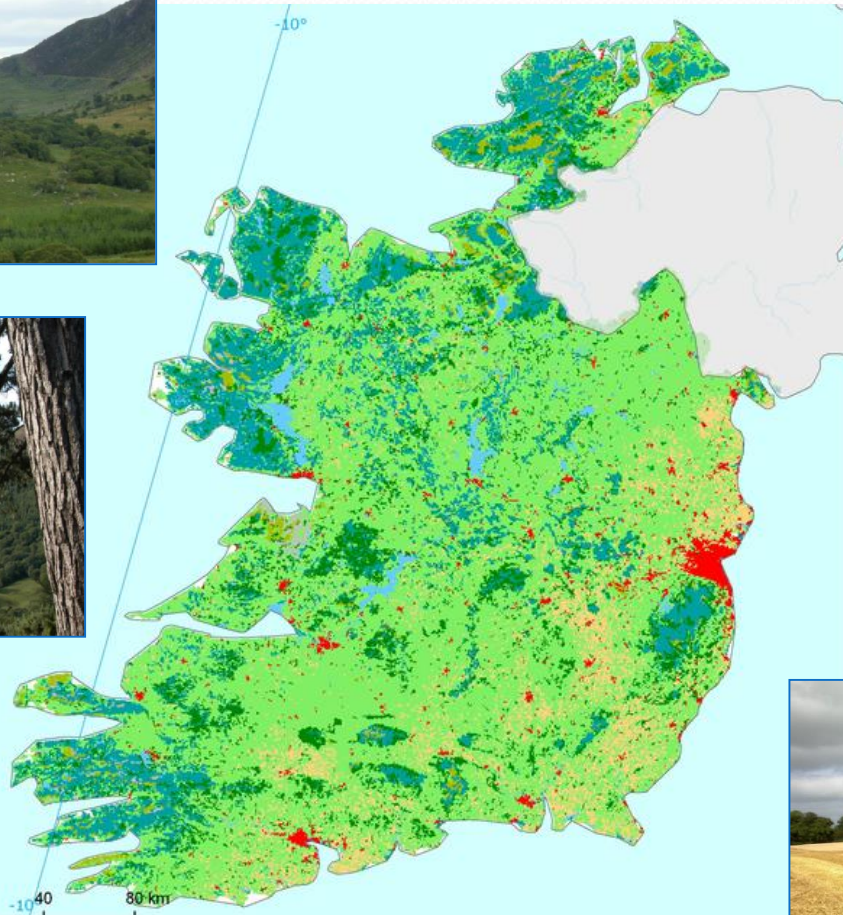
10.1m



1.6m

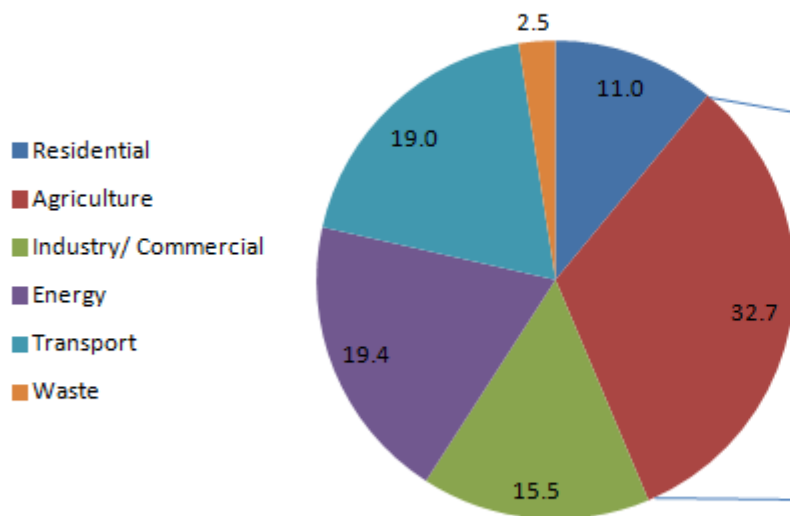
Family Farm Holders		Total Labour Input (Persons)	
Male	88%	Male	73%
Female	12%	Female	27%

Land use and agriculture

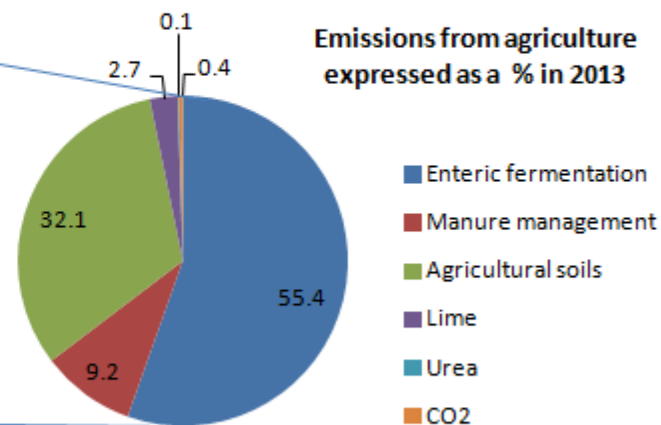


Emissions from agriculture

Sectoral emissions as a % of national emissions in 2013



Emissions from agriculture expressed as a % in 2013



Programmes, polices and regulations

Policy	Component	Elements	Description
Common Agricultural Policy (CAP)	Greening	Permanent grassland	Protection of environmentally sensitive grasslands. Maintain the ratio of permanent grassland to the total agricultural area
		Crop-diversification	Requirements on farmers over certain arable areas thresholds to establish multiple crops.
		Ecological Focus Area (EFA)	Where arable areas exceeding 15 ha, at least 5% of such areas must be an 'ecological focus area' dedicated to ecologically beneficial elements
	Cross-compliance	Good Agricultural and Environmental Condition (GEAC)	A requirement on farmers to maintain land in good agricultural and environmental condition and refers to a range of standards related to soil protection, maintenance of soil organic matter and structure, avoiding the deterioration of habitats.
		Statutory Management Regulations (SMR's)	A requirement on farmers to comply a series of SMR's set out in EU legislation including the environment e.g. EU Nitrates Directive

Programme	Measure		Sub-measure	Description
Rural Development Programme (2014-2020)	Measure 1	Knowledge Transfer & Information Actions	Knowledge Transfer Programme (KTP)	Professional advisor facilitated farm discussion groups disseminating best agronomic and environmental practice.
	Measure 2	Advisory Services	Continuous Professional Development (CPD) for Advisors	Up-skilling farm advisors on an on-going basis. Promoting the development of knowledgeable, competent and professional advisors.
	Measure 4	Investment in Physical Assets	Targeted Agricultural Modernisation Scheme (TAMS)	Investment in low-emission spreading technologies e.g. Trailing shoe slurry applicators
	Measure 10	Agri-Environment-Climate	Green, Low-carbon Agri-Environmental Scheme (GLAS)	Agri-environmental scheme that applies agricultural production methods to address issues of climate change, water quality and biodiversity loss.
			Beef Data Genomics Programme (BDGP)	Encouraging the introduction of animals with a higher genetic merit into the national beef herd.
Measure 11	Organic Farming	Organic Farming Scheme	Encouraging the wider application of organic farming methods	

Practices



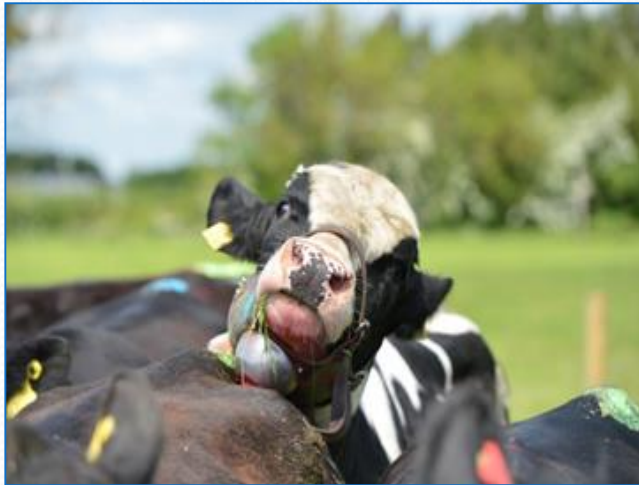
Grassland management



- **Extended grazing**

- Grazed grass is of a higher quality & more digestible leading to a reduction in proportion of dietary energy lost as CH_4
- Improved pasture management, can ensure available forage during periods of climate variability

Animal management



- **Breeding**

- Poor fertility increases the number of replacements needed, thus increasing GHG emissions.
- the use of reproductive technologies (artificial insemination, heat detection aids) can improve fertility rates and accelerate genetic improvements therefore impacting positively on GHG emissions

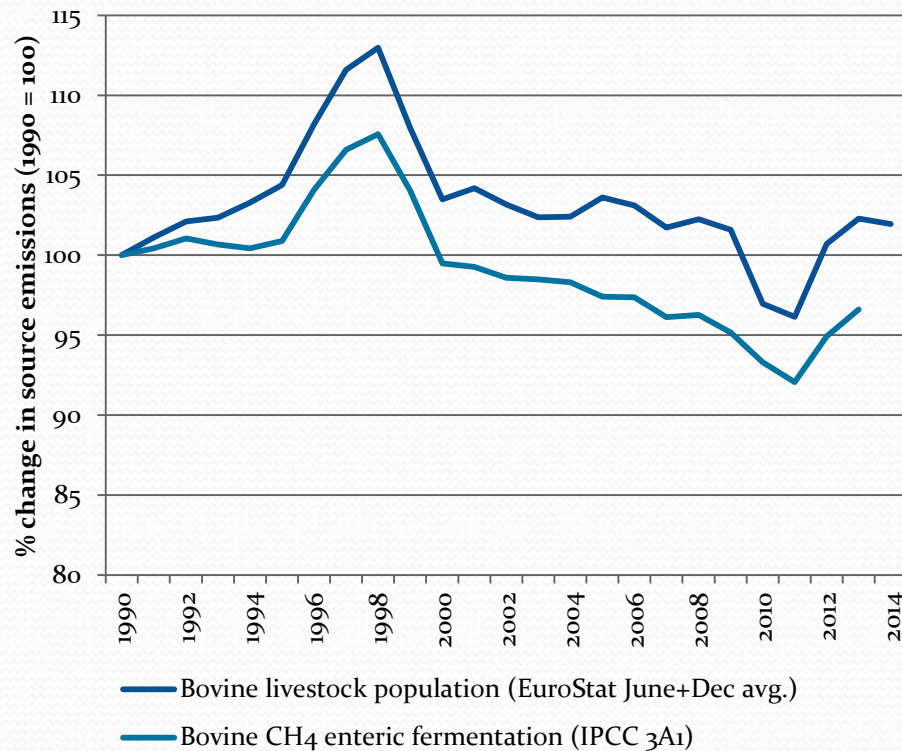
Animal management (cont.)



- **Animal health**

- improving herd health status helps retain productive animals and lowering herd replacement rates in the herd, all of which lead to lower GHG emissions per unit product
- Herd health management can assist with minimising the negative impact on productivity and associated economic losses

Enteric Fermentation (CH₄)



Bovine herd population
1990 v. 2013 increased
by **2.3%**

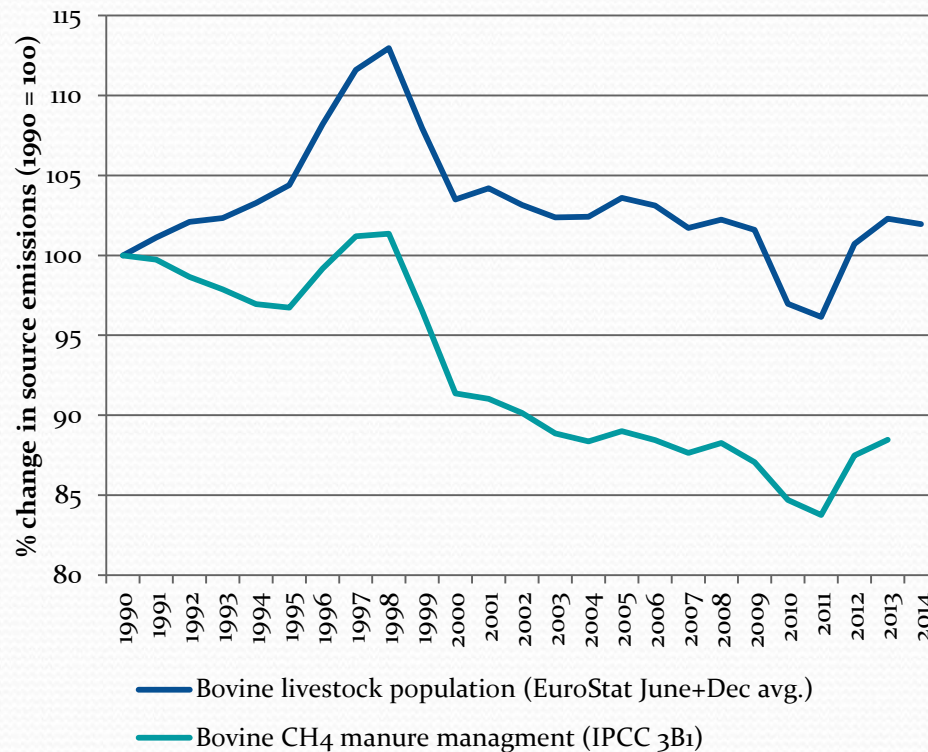
Bovine CH₄ emissions
1990 v 2013 decreased
by **3.5%**

Manure management



- **Improving input usage**
 - Improved chemical nitrogen use efficiency increases the proportion of N used by plants and lowers losses to the atmosphere
 - Better use of organic fertilisers, particularly earlier in the growing season, displaces chemical inputs

Manure management (CH₄)



CH₄ emissions from manure management 1990 v 2013 decreased by **11.5%**

Vegetation



- Permanent pasture is a significant carbon store and a pool for carbon sequestration has an important role in increasing animal productivity at low cost to the farmer
- Hedgerows have the potential to take CO₂ from the atmosphere and store it in vegetation and soils.
- Forestry...

Challenges towards implementing CSA in Ireland

- Mitigation
 - Total emissions from agriculture are projected to increase by 6 to 7% over the period 2014 – 2020 (EPA, 2016)
- Adaptation
 - The Irish agriculture sector has in recent years faced an increased number of extreme weather events e.g. 2012/2013 livestock fodder crisis
- Productivity
 - Irish agriculture has significantly improved its performance in term of productivity and output in recent decades
 - Structural barriers

Recommendations

- Establishing an enabling policy environment
 - Climate Action and Low Carbon Development Act
 - Food Wise 2025 - High Level Implementation Committee (HLIC) Sustainability Sub-Group
- Adopting knowledge transfer to cater for the broad social dynamic of farming
 - Understanding generational learning preferences and the development of knowledge dissemination techniques to cater for part-time farmers
- Addressing the barriers to land mobility and succession
- Enhancing farmer participation

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Thank you