EU funding for agricultural GHG reduction measures

Capacity building workshop for effective policy implementation under the Effort Sharing Decision

Wednesday 01 October 2014, Warsaw

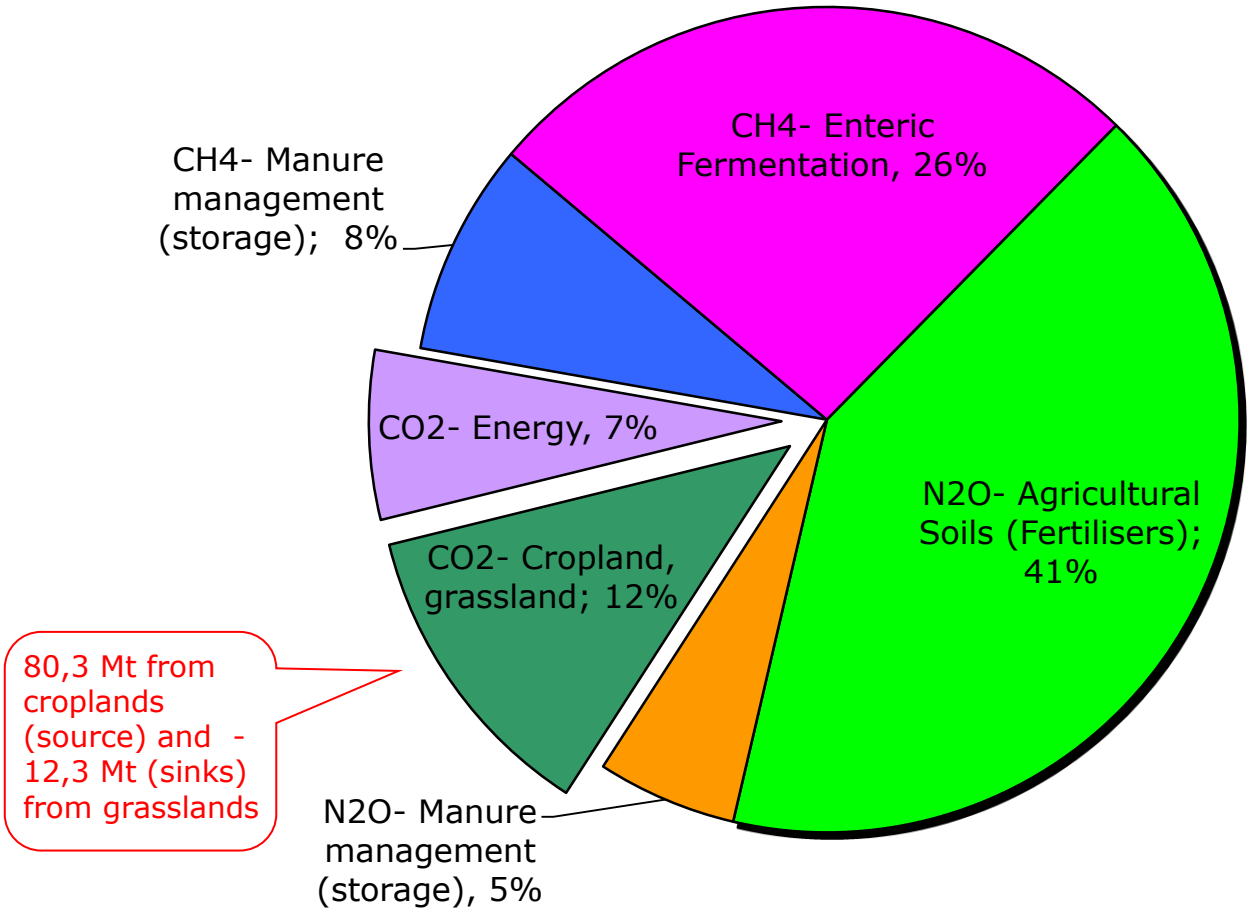
Outline

- Outline of importance of the Agriculture sector, and mitigation approaches
- Financing mitigation in the Agriculture sector – use of the CAP
- Challenges and integrated approaches
  - Synergies with other sectors (LULUCF)

Sector 1 (ENERGY)		GHG	UNFCCC	KP 1st CP	KP 2nd CP
Reported Categories					
Fuel combustion → Other sectors → Agriculture/forestry/fisheries	Liquid fuels; Solid fuels Gaseous fuels; Biomass	CO_2 N_2O CH_4	X	X	X
Fuel combustion → All sectors	Liquid fuels (biofuels) Biomass	$[CO_2]$ N_2O CH_4	X	X	X
Sector 4 (AGRICULTURE)		**GHG**	**UNFCCC**	**KP 1st CP**	**KP 2nd CP**
Reported Categories					
Enteric fermentation	[per animal species]	CH_4	X	X	X
Manure management	[per animal species]	CH_4 N_2O			
	[per management type]	N_2O			
Rice cultivation	[per management type]	CH_4			
Agricultural soils	Synthetic fertilisers; Manure application; N-fixing crops; Crop residues; Cultivation of histosoils; Pasture, range and paddock manure; Indirect emissions	CH_4 N_2O			
Prescribed burning of savannahs		CH_4 N_2O			
Field burning of agricultural residues	[per crop species]	CH_4 N_2O			

From: Canaveira, Paulo (2013). Options and Elements for an Accounting Framework for the Land Sector in the Post-2020 Climate Regime. Terraprima Report to the Swiss Federal Office for the Environment, February 2014.

Share of Greenhouse Gas emissions from sectors "Agriculture", "Energy" and "LULUCF", EU-27, 2011



Mitigation – conceptual approach

- Overall, agriculture can contribute to **mitigation** by**:**
  - ▼ direct emissions from farm operations (CH4 and N2O)
  - ▼ CO2 emissions by improving farm "energy profile" (efficiency, on-farm use of renewable energy)
  - Improve CO2 balance of farmland soils by protecting or expanding carbon sinks
  - ▼ CO2 from fossil fuel use in other sectors by supplying feedstock for bioenergy and industrial applications
- Measures with **strong mitigation potential:**
  - *Increase production efficiency (fertilizer, resource use)*
  - *Improving manure and slurry management (storage, application)*
  - *'Waste to worth' (anaerobic digestion for animal waste – biogas)*
  - *Grassland management (improving livestock "carbon footprint" and carbon sink)*
- Actions which improve **resource efficiency** are generally also positive for climate (reduce direct and indirect emissions)
- **Synergies** with resilience or adaptation, especially soil protection (erosion); water quality (nitrates), air quality (ammonia)
- **High mitigation potential variability in systems and management practices: potential depends on baseline climates, soil types, farm production systems**

Financing – MFF, Direct aids and RDP

MFF approved 8 February 2013, Heading 2 and the CAP (EU 28)

	2013 level (2011 price)	2014	2015	2016	2017	2018	2019	2020	Total 2014-2020 (without assigned revenues)
Total Heading 2	59 633	55 883	55 060	54 261	53 448	52 466	51 503	50 558	373 179
Direct aids and market-related expenditure	43 180	41 585	40 989	40 421	39 837	39 079	38 335	37 605	277 851
of which direct payments		39 681	39 112	38 570	38 013	37 289	36 579	35 883	265 127
of which 30% for greening		11 904	11 734	11 571	11 404	11 187	10 974	10 765	79 538
of which market measures *	3 182	1 904	1 877	1 851	1 824	1 790	1 756	1 722	12 724
Rural development	13 890	12 865	12 613	12 366	12 124	11 887	11 654	11 426	84 936

Mainstreaming = 30% for Environmental and Climate measures

Provisional assessment of programme finance attribution*	
Croatia	>40%
Czech Republic	>60%
Hungary	>50%
Poland	>40%
Slovakia	>50%
Slovenia	>50%

*based upon draft programmes

Key points from 1st round of Rural Development Programme review

- Advisory services – essential, consider mandatory combination with [investment] measures
  - Should incorporate a strong climate action element
- Carbon audit/assessment as a benchmark process for a farm is a key advisory tool
- Encourage uptake of direct mitigation measures
  - e.g. biogas from manure, improved manure/slurry management, reduced fertilizer use
- Combinations of measures: integrated approach, synergies with other sectors on land

Tackling livestock's role in climate change through combined measures: a complex case study

Emissions

Methane (CH_4)

- Renewal rates
  - Nutrition
- Slurry and manure management
  - Biogas

Nitrous Oxide (N_2O)

- Fertilization management
  - Global nitrogen management

CO_2 (energy)

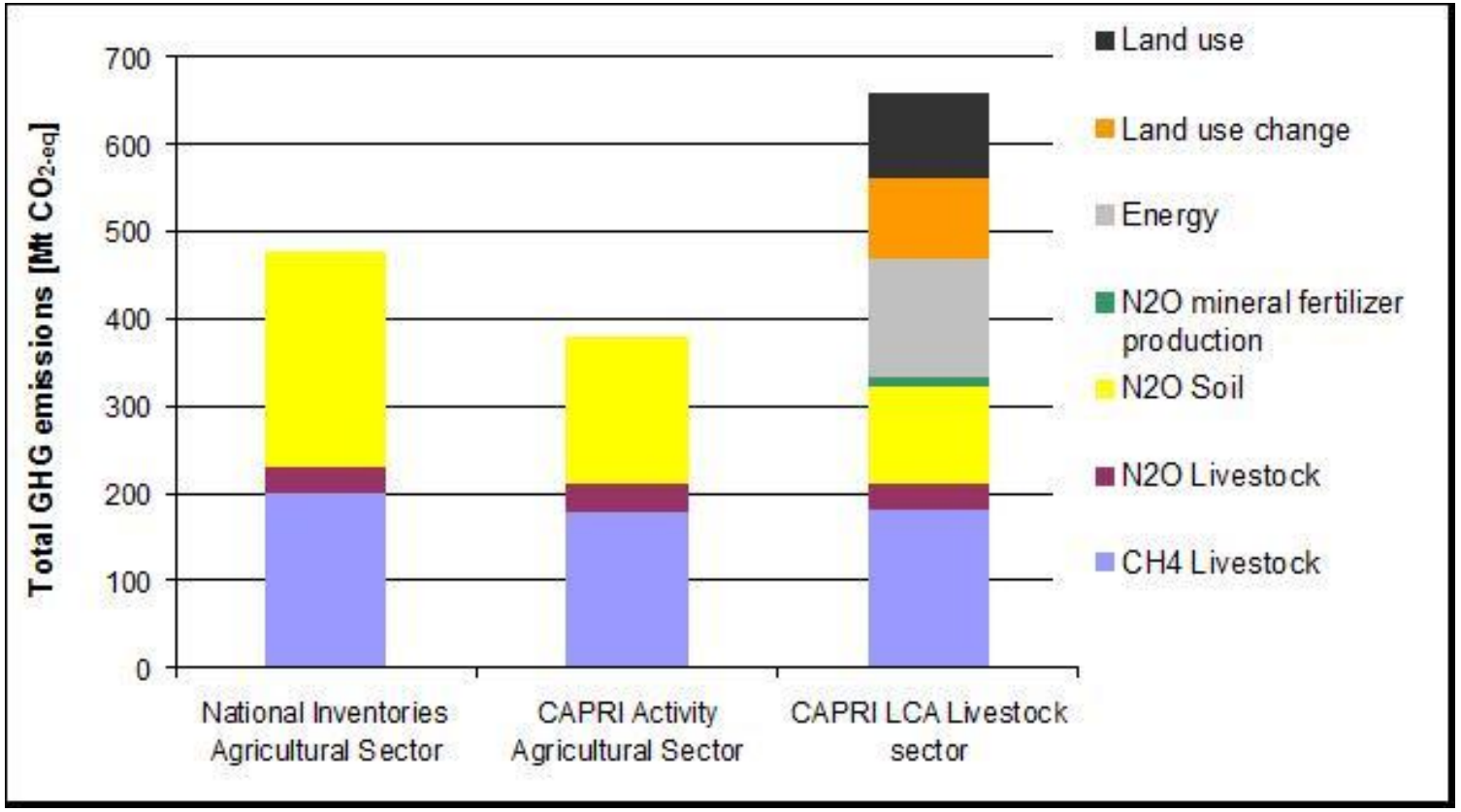
- Reduce till
- Livestock food
  - On-farm use
- Fuel
  - Mechanisation
    - Tractor tuning
- Electricity

Sinks

CO_2

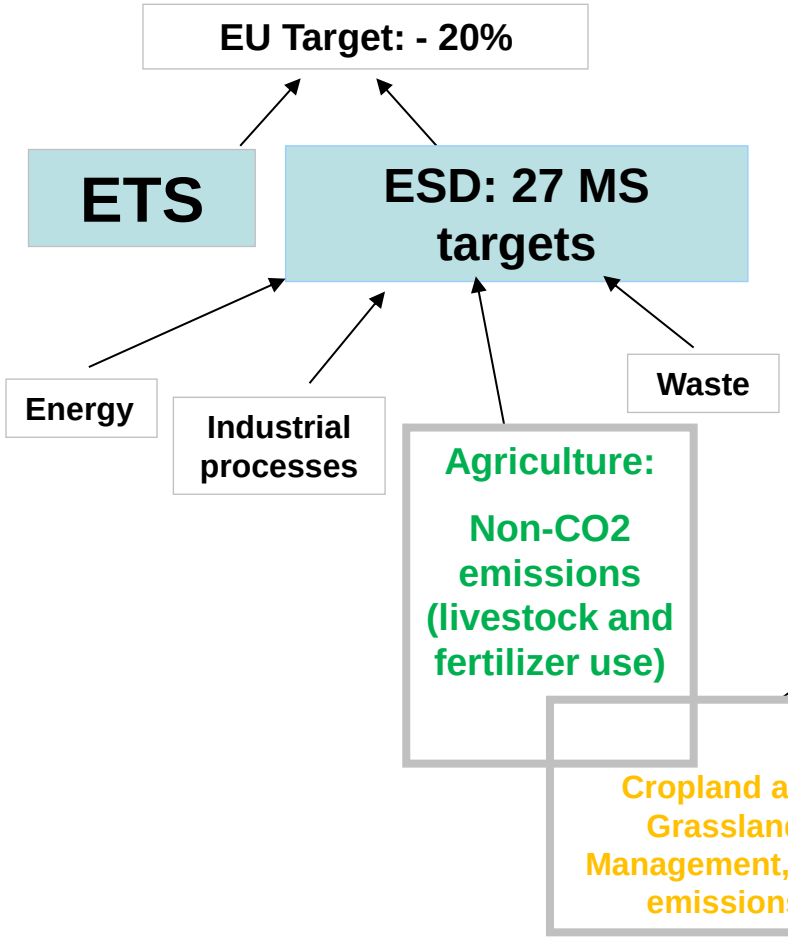
- Grazing land manage-ment
  - Biodiversity and co-benefits

Indicators, metrics - the need to reflect impact of mitigation actions; the case of livestock



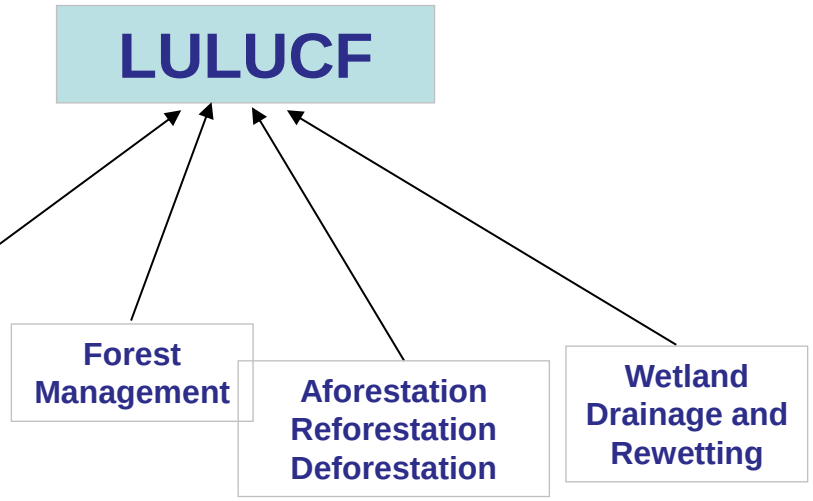
Source: JRC, "Evaluation of the livestock sector's contribution to the EU greenhouse gas emissions" GGELS, 2010.

Treatment of emissions related to agricultural land use and forestry in the EU's current climate policy



Council and Parliament Decision on LULUCF (529/2013):

- **CO2 emissions and removals**
- **Accounting exercise only, no inclusion in the ESD target!**



European Commission

Mainstreaming Climate Change Into Rural Development Policy

Climate Action

Innovative integrated measures - Agriculture and LULUCF sectors

Mitigation actions proposed in Mainstreaming climate Change into RDP

M1	Extending the perennial phase of crop rotations	M9	Avoiding the drainage of wetlands and the conversion of peatlands
M2	Using cover/catch crops and reducing bare fallow	**M10**	**Feeding a higher fat content diet to cattle**
M3	**Improving nitrogen fertiliser use efficiency**	**M11**	**Precision and multi-phase feeding of livestock**
M4	**Applying nitrogen fertiliser more precisely**	**M12**	**Solar fodder dryers**
M5	**Biological nitrogen fixation (i.e. legumes) in rotations and in grass mixtures**	**M13**	**Behavioural change towards better energy efficiency**
M6	No-tillage	M14	Climate proofing of planned on-farm investments
M7	Retaining crop residues on the field	**M15**	**Better livestock health planning**
M8	Loosening compacted soils and preventing soil compaction	**M16**	**Carbon audit**

Questions – remarks?