Tools and measures at EU level for scaling up

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EU agriculture emissions is:
- **10%** of the total EU greenhouse gas (GHG) emissions (non-CO2)
  [energy production and heating systems of buildings: roughly **80%** of total EU GHG emissions]

Enteric fermentation is:
- **43%** of total EU GHG agricultural emissions
- **4%** of total EU GHG emissions
  [0.4% of Global GHG emissions, 9% of global enteric fermentation emissions]

Per capita:
- EU Beef and veal: **238 kg CO2e y⁻¹ capita⁻¹**
- EU Car: **1800 kg CO2e y⁻¹ capita⁻¹**
  [Emissions from EU consumption of meat: 13% of EU transport]
EU trends of CH4 emissions from livestock sector

• Decreased by 21.2% from 1990 to 2017
• Same trend in almost all MS
• CH4 emissions from manure management decreased by 19%
• Dairy production increased and beef production remained stable
• Decline of the share of holdings with livestock, half of the population is cattle

Trends of emissions in transport

• EU transport sector are 26% above 1990 levels, continue to increase
• Emissions from refrigeration and cooling increased since 1990, roughly a quarter of EU industrial GHG emissions
Examples from the current CAP programming 2014-2020

Under Rural Development, EXAMPLES of Member States activated the Agriculture Environment and Climate Measures:

- Max livestock density
- Low ammonia application of liquid manure
- Direct injection of mineral fertilizer
- Solid manure application from animals on straw
- Conservation of rare livestock breeds
- Conservation of valuable grassland species
- Grass cutting obligation
- Grass cutting restrictions (timing, number of cuts, etc.)
- Shepherding of animals
- Pasturing
- Feed only from pasture
- No silage
- Feed only from farm
European Innovation Partnership for Agricultural Productivity and Sustainability

Supported by the rural development and the research and innovation policies

Operational Groups’: ‘interested actors’ connected to the agricultural and food sector (e.g. farmers, advisors, researchers, businesses) to develop innovative projects to enhance productivity and sustainable resource management.
- Reducing emissions from cattle farming
  How to reduce cattle livestock emissions in a cost effective way for farmers?

- Profitability of permanent grassland
  How to manage permanent grassland in a way that combines profitability, carbon sequestration and biodiversity?

- Grazing for Carbon
  How to increase the soil carbon content from grazing systems?

- Animal husbandry - Reduction of antibiotic use in the pig sector
  How to enhance animal health and welfare to reduce the need for antibiotics? What are the alternatives to antibiotics? How to change human habits, attitudes and behaviour in order to reduce the use of antibiotics in livestock production?

- Robust and resilient dairy production systems
  How to create good conditions for dairy cattle husbandry in different production systems?

Mixed Farming Systems: Livestock/Cash crops
How to develop livestock / cash crop interactions and promote their benefits as a sustainable alternative to farm or territorial specialisation?
- Specific objectives for climate mitigation and adaptation
- New GAECs on climate
- Specific indicators on Mitigation, livestock and emission, water quality and nutrients
- SWOT analysis
- Flexibility for MS to combine interventions
- No backsliding principle
- Support for eco-schemes takes the form of an annual payment per eligible hectare (compatible with WTO green box), granted either as i) additional payment to the basic income support or ii) as compensating payments for additional costs incurred and income foregone.
- Consistency between Eco-scheme and Pillar II
- Knowledge transfer and Innovation are horizontal measures that can be always mentioned in all combinations, as well as cooperation
Green architecture for grasslands
Specific combinations for enhancing eco-system services of grasslands, such as the preservation of the carbon stock, biodiversity and for the protection of vulnerable grasslands against effects of climate change.

**Eco-schemes**
- Temporary grassland in crop rotations
- Management commitment for extensive livestock rearing
- Appropriate grassland management (no ploughing, no cut before end of breeding season)

**CAP Pillar II**
- Result-based schemes, for mixed-species grassland
  - Cooperation
  - Conversion of arable crops to grasslands
  - Support for mixed species grassland establishments
  - Investment for establishment of Tree-pasture (Silvio-pastoralism) eco-systems

**GAEC 1. Maintenance of permanent grassland based on a ratio**
- MS: e.g. implementation of conversion prior authorization system
- GAEC main objective: general safeguard against conversion to other agricultural uses to preserve carbon stock
- GAEC 10: Ban on converting or ploughing permanent grassland in Natura 2000 sites

**Baseline**
- SMR 3. Conservation of wild birds
- SMR 4. Natural habitats
- GAEC 10: Ban on converting or ploughing permanent grassland in Natura 2000 sites

**CAP specific objective:**
Contribute to climate change **MITIGATION** and adaptation, as well as sustainable energy

**DISCLAIMER:** Following examples are only for illustrative scope and does not necessarily reflect the official opinion of the European Commission.
Green architecture for the reduction of emissions from animal husbandry
Specifically designed for reducing emissions from animal husbandry, in particular enteric fermentation and manure management are source of two GHG (methane and nitrous oxide), both with high global warming potential, as well as air pollutants such as ammonia with negative impact on human health and the environment.

**Eco-schemes**
- Grassland management schemes, including sowing multispecies grasslands
- Maintenance of extensive livestock managements systems
- Subscription to decision supporting systems for grazing management optimization, as additional module on FaST (GAEC5)

**CAP Pillar II**
- Investments for low-emission animal housing systems (NH3)
- Investments for low-emission manure storage systems
- Cost for feed additives for the reduction of methane emissions
- Investment for low-emission manure spreading techniques
- Investment for on-farm biodigester

**Conditionality**
- Co-benefits for emission reduction:
  - GAEC 5: Use of Farm Sustainability Tool for Nutrients. Refer to minimum requirements
  - SMR 14. Protection of calves
  - SMR 15. Protection of pigs
  - SMR 16. Protection of animals kept for farming purposes

**Baseline**

**CAP specific objective:**
Contribute to climate change MITIGATION and adaptation, as well as sustainable energy

**ILLUSTRATIVE EXAMPLE 2**

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Green architecture for livestock resilience to climate change

Specifically designed to increase resilience to climate change for livestock, to reduce negative effects of climate change on livestock production. Increased temperatures have negative effects on livestock productivity, both directly through negative effects on feed intake, reproduction, and performance, and indirectly through fodder quality and quantity.

**Eco-schemes**

- Grassland management scheme, including switching to multispecies grasslands
- Maintenance more extensive managements

**CAP Pillar II**

- Investments for better insulation, ventilation of animal rearing buildings
- Investments for silvo-pastoralism systems
- Minimum proportion of locally adapted breeds and rare breeds

**Conditionality**

- Animal welfare
  - SMR 14. Protection of calves
  - SMR 15. Protection of pigs
  - SMR 16. Protection of animals kept for farming purposes

**Baseline**

**CAP specific objective:**
Contribute to climate change mitigation and ADAPTATION, as well as sustainable energy
Thank you very much

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