

Reducing GHG emissions from livestock – a European perspective

- A brief system boundary discussion
- Short review of EU GHG sources linked to agriculture and recent trends
- Mitigation options in the livestock sector
- Some final considerations

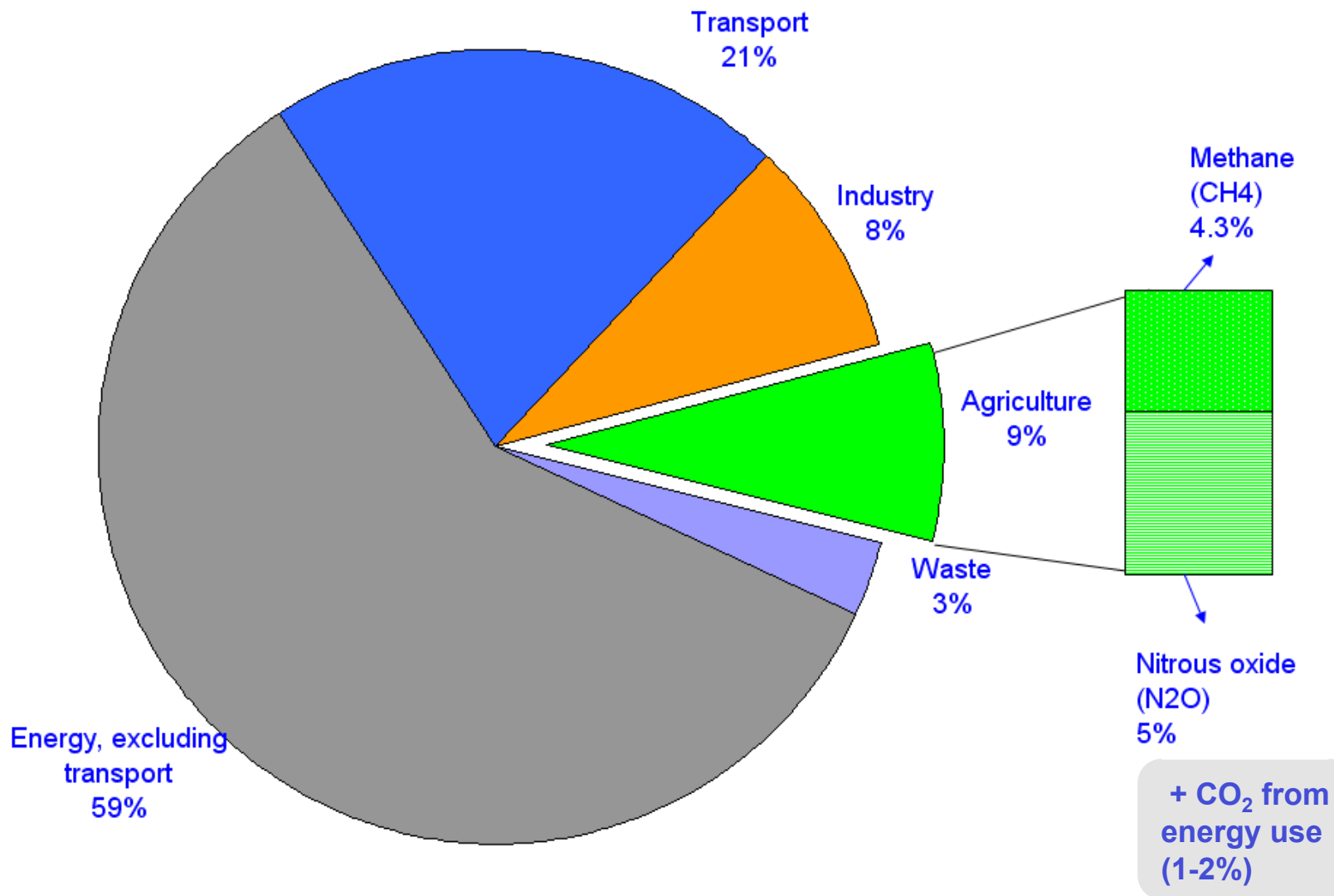
The European livestock sector

- Relatively small operations (e.g. 50 – 150 dairy cows)
- A high proportion of grassland in feedstock production in NW Europe
- Maize silage and all-year stabling on a strong upward trend
- Dairy and some meat products are significant part of EU agricultural exports, but big share of soy and others feedstock is imported from other continents

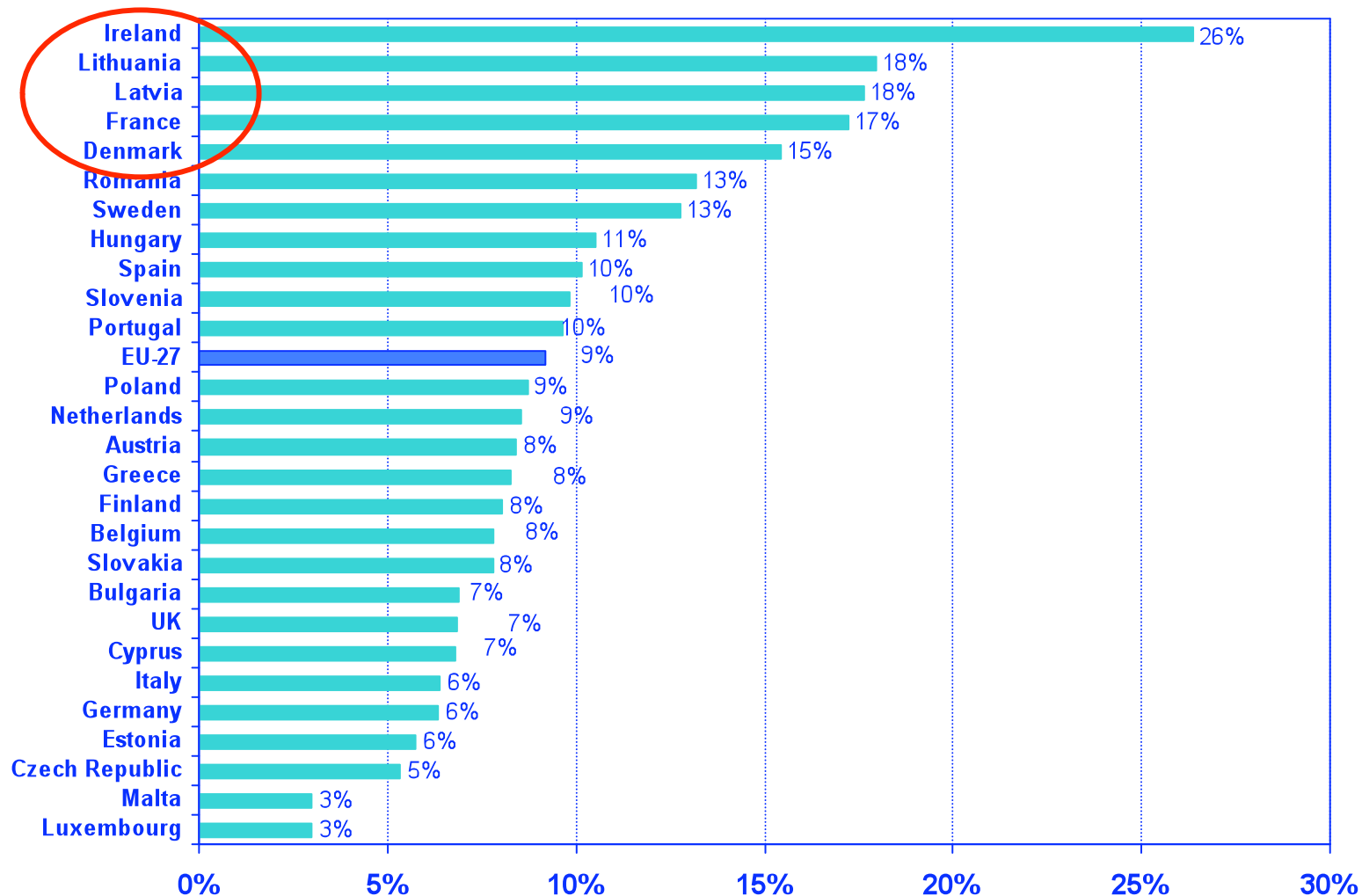
Possible system boundaries

- ❖ Focus on managing emissions from manure only
- ❖ Reducing enteric gases via feeding regimes
- ❖ Considering the joint livestock / crop+grass system
- ❖ Utilising potential synergies from bioenergy production
- Effects of wider geographic system boundaries
- Reviewing the role of livestock products in assuring human food requirements

EU agricultural GHG emissions - 2006

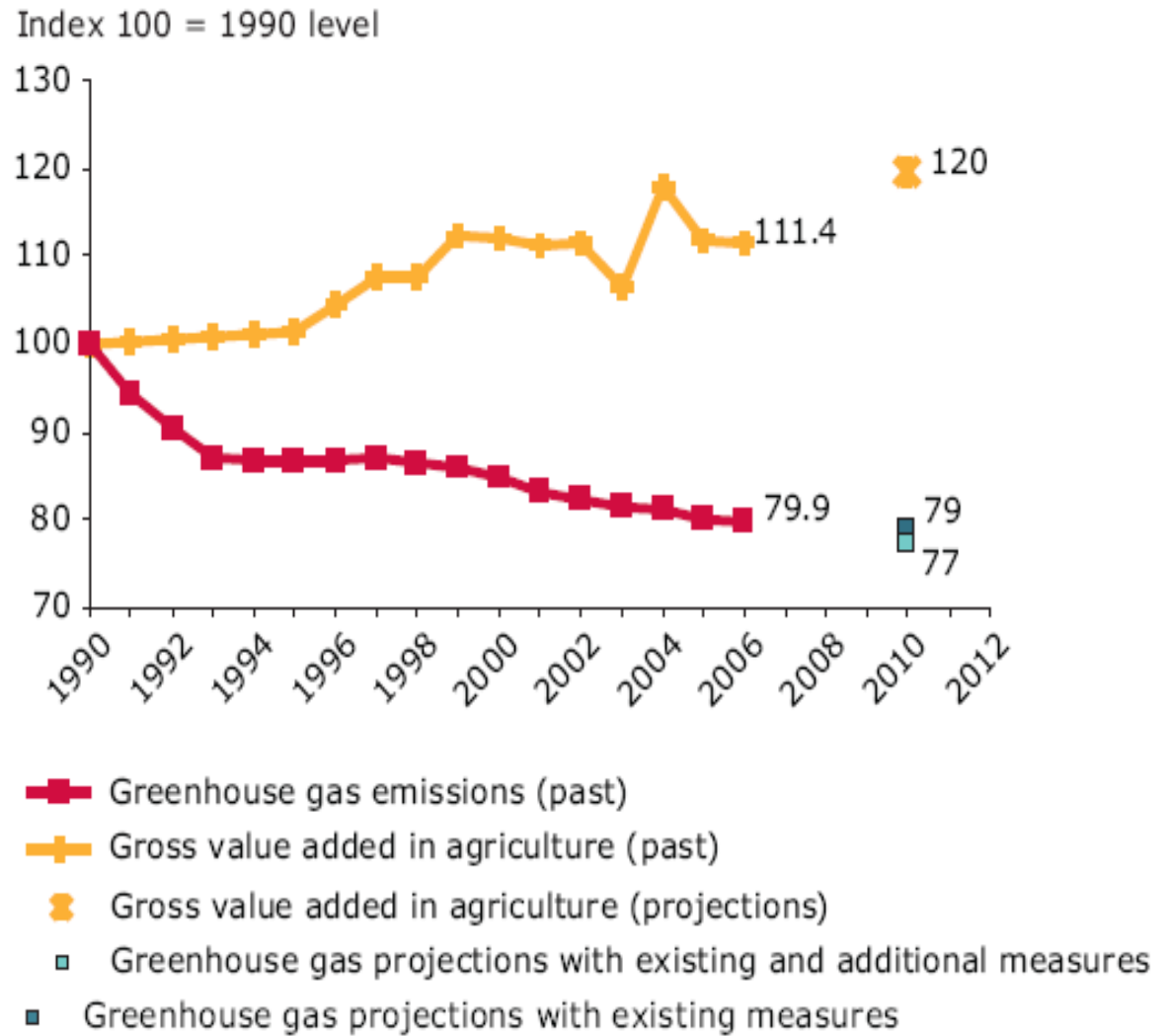


Share of agriculture in total national GHG emissions



Trends of EU agricultural GHG emissions

- Declined by **20%** in 1990 - 2006 (EU-15: - 11%)
- Further decline projected of 1-3% by 2010
- EU policies** are contributing: CAP reforms and water policy
- Resulting in: decreased **livestock** numbers and **fertiliser** use and improved **manure** handling



Options for GHG mitigation I

- a) Use the fertiliser potential of manure and slurry more efficiently
- b) Better manure storage and spreading
 - > cover slurry tanks and manure heaps
 - > inject slurry into the soil or work it into the ground directly after spreading
- c) Maintain permanent grassland, in particular on organic soils
- d) Improve grassland management to optimise yields per ha + increase organic carbon in soils

Options for GHG mitigation II

- e) Increase share of legumes in feedstock production, whether in arable rotation or in grassland swards
- f) Reduce methane production from enteric digestion through appropriate feedstock mixes and additives
- g) Utilise slurry in particular for biogas production, providing a substitute for fossil fuels and capturing methane

Some final considerations

Do not forget:

- Challenges of policy implementation
- Slow technological diffusion + penetration rates
- Cultural shift required from farmers -> advice and training required
- Indirect effects + other environmental issues
- Are farmers the only ones who should act?
- ...

Thank you for your attention!

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