Unilateral climate policy and emission leakage

Torbjörn Jansson, Ida Nordin, Fredrik Wilhelmsson, Gordana Manevska-Tasevska
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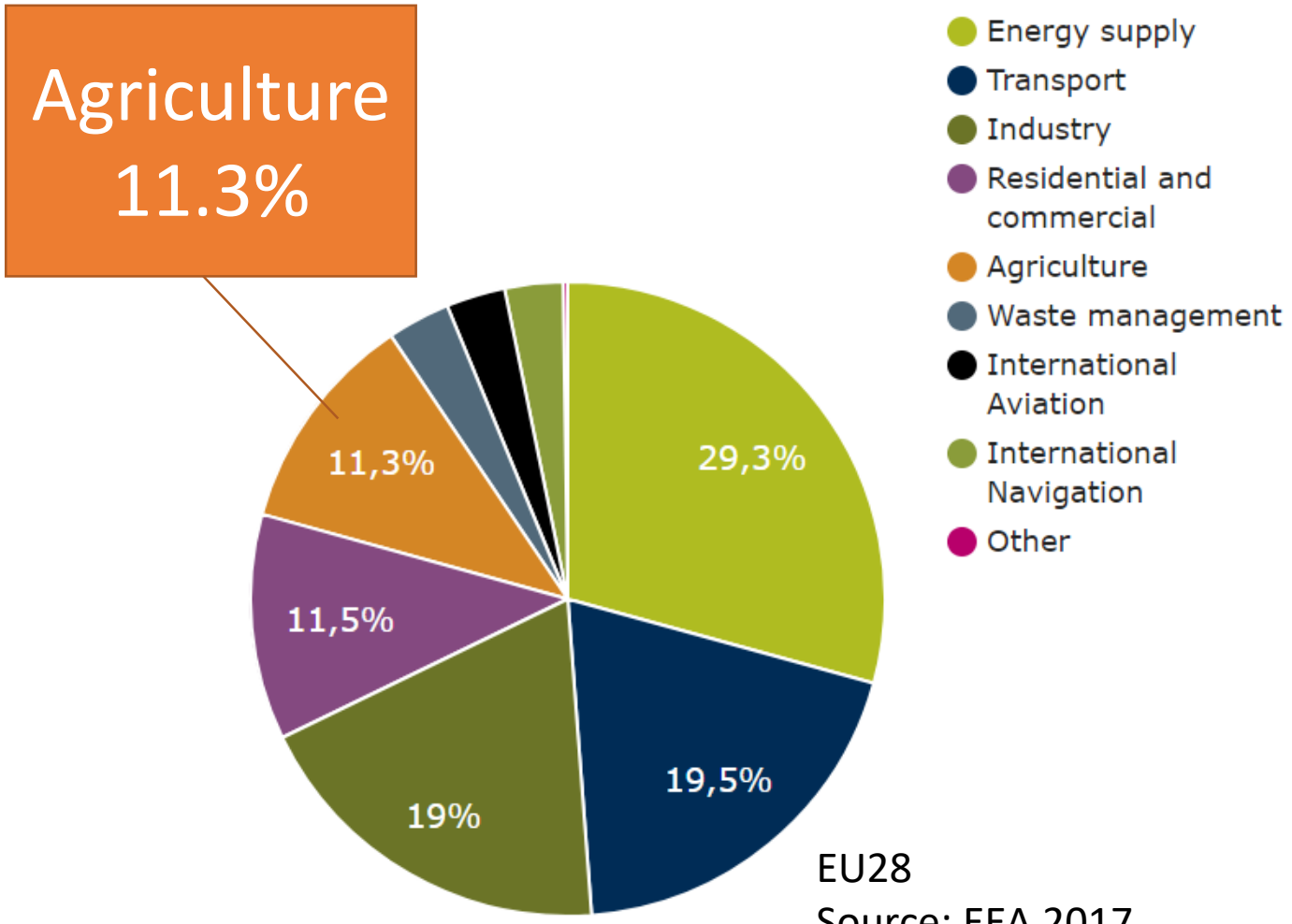
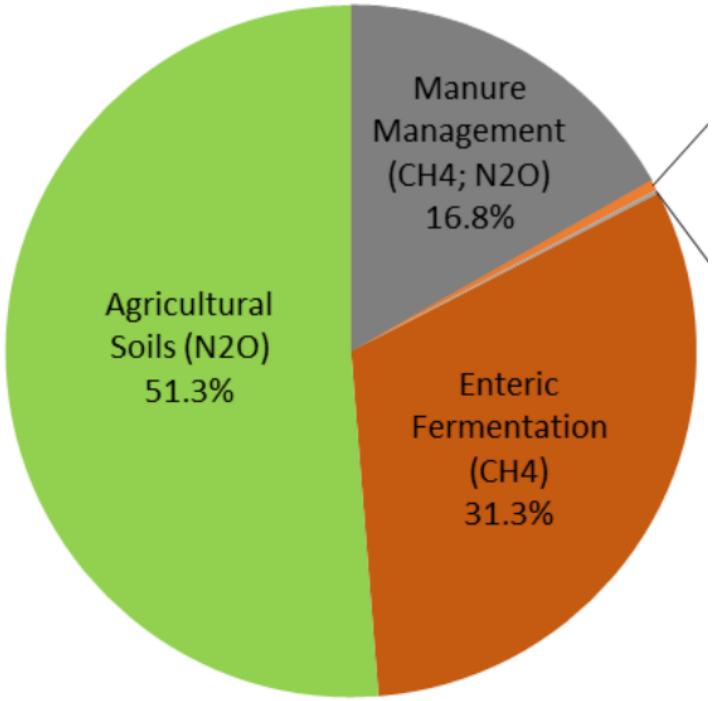
Agriculture contributes to GHG emissions



EU28
Source: EEA 2017

Polluting production is subsidized

GHG Emissions -EU agriculture



Source: EEA (2015).

Agricultural payments in the EU

- Member states may *couple* up to 13% of total CAP P1 budget
- 1.7 billion euro annually paid to beef and veal coupled support

The problem of leakage

- Coupled payments to beef producing cattle:
  - Increase beef production in the EU
  - Inelastic demand means consumption barely changes

  ==>Increase EU beef export

  ==>Reduce EU beef import

  ==>Reduce beef production outside the EU

- Emissions per unit of beef differ across the world
- The EU has TRQ:s and tariffs for beef

  ==>The EU trades “on the margin” with e.g. LDC and ACP

==>Coupled payments could *REDUCE* global pollution!

Economic modelling

- CAPRI: model production and consumption of agricultural commodities globally, including trade flows.
- Augment model: Estimate emissions associated with production.
- Simulate the removal of coupled support to beef in the EU (compute a new equilibrium)
- ➔Derive impact on emissions.

Result: Only a small net reduction in GHG emissions

Table 1: Emissions of CH_4 and N_2O from agriculture (million tonnes CO2eq annually).

	Baseline	No subsidies
EU	405	-1.8
Non-EU	5 478	1.3
World	**5 883**	**-0.5**

Million tons CO_2 equivalents annually.

Conclusions

- Coupled payments to beef in the EU contribute to global pollution
- Reducing subsidies would reduce production and GHG emissions BUT
- Leakage does significantly lessen the emission reduction

Outlook

- More emission categories
  - Land use change
  - Energy in agriculture
  - Energy in fertilizer production
- More policies
  - ”Flanking measures” at the border
  - ”Carbon taxes”
  - Efficiency of bioenergy for reducing GHG emissions
- Project ends by the end of 2018