

Major Greenhouse Gas Emissions in Agriculture

Jan van Aken
Greenpeace International
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Major Contributors to Climate Change in Agriculture

- January 2008 Report
- Based on IPCC numbers and additional research



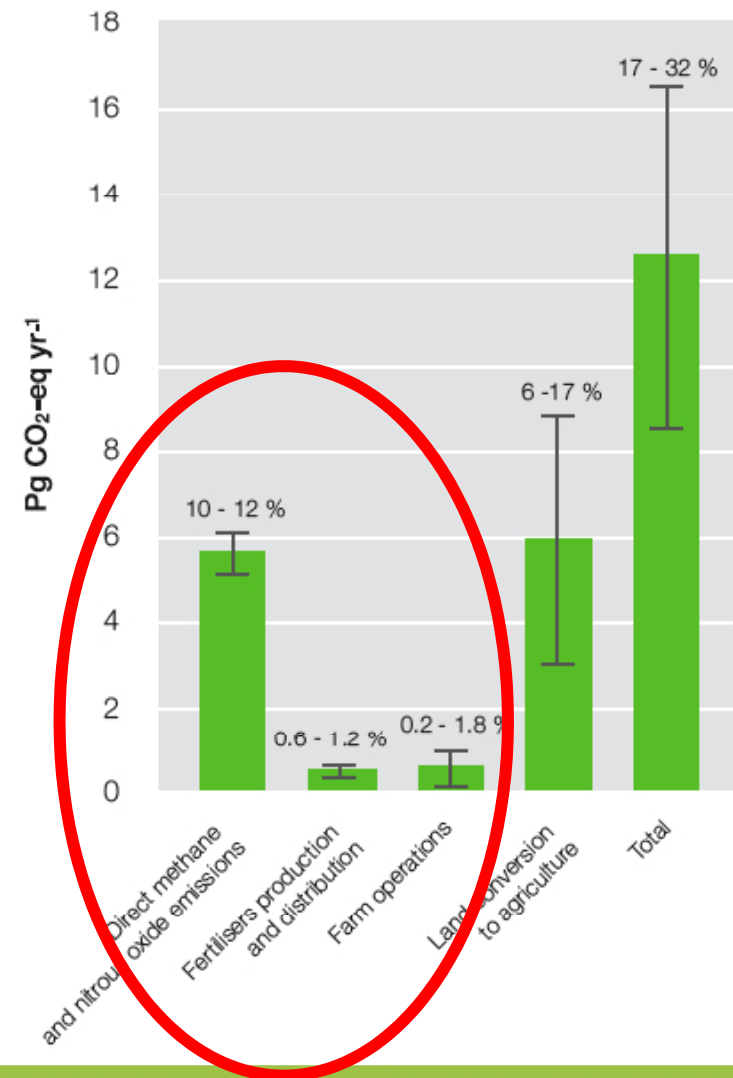
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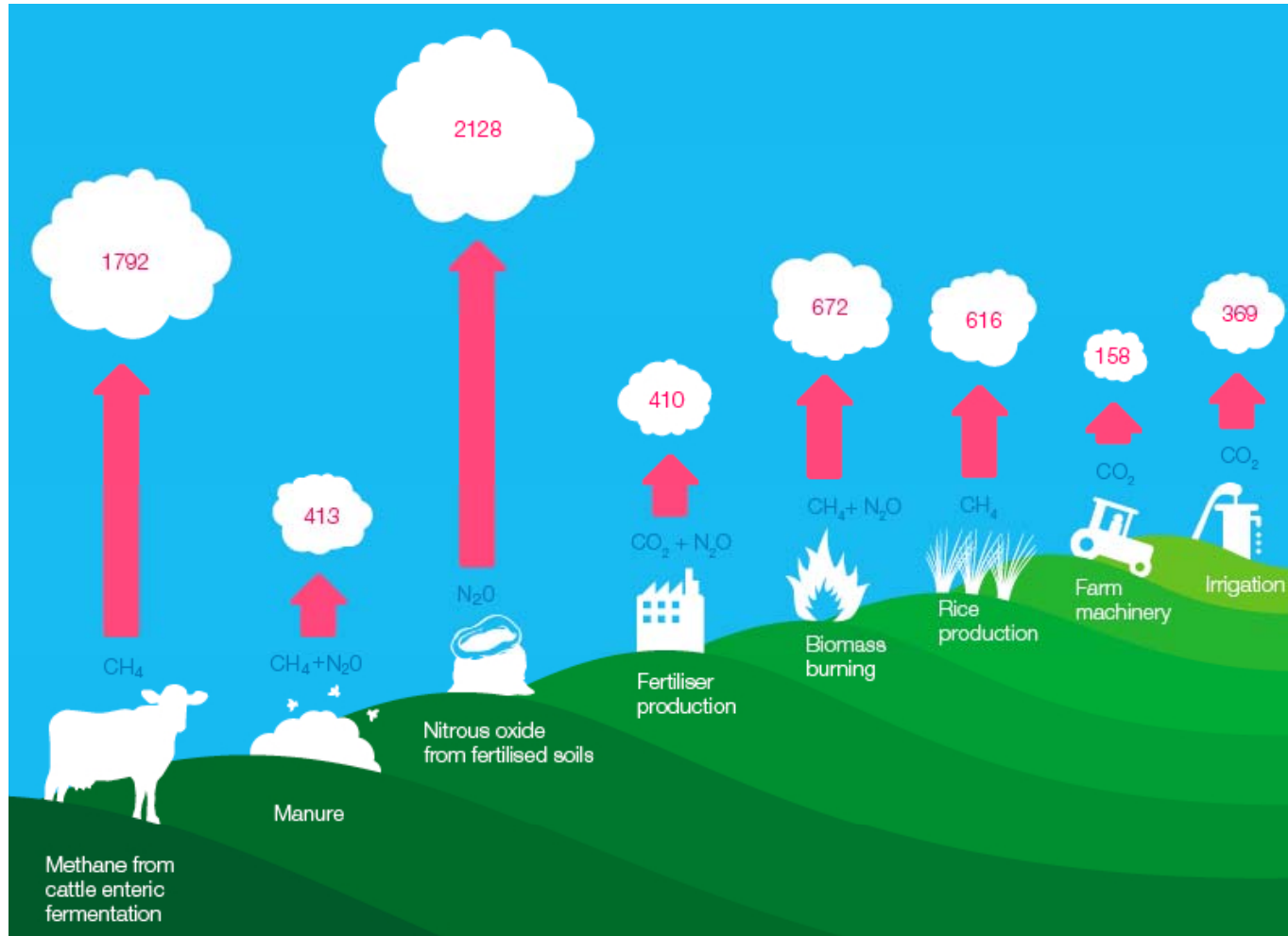
Sources of Agricultural GHG

- **Total:** 8.5 - 16.5 billion tonnes of CO₂ equivalent
- 17 - 32% of all human-induced GHG
- Thereof
 - Agriculture per se: 5.5 - 7.7
 - Land use change: 3.0 - 8.8

Figure 1. Global contribution of agriculture to greenhouse gas emissions.



Sources of Agricultural GHG



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Key Mitigation Strategies to Reduce GHG Emissions in Agriculture

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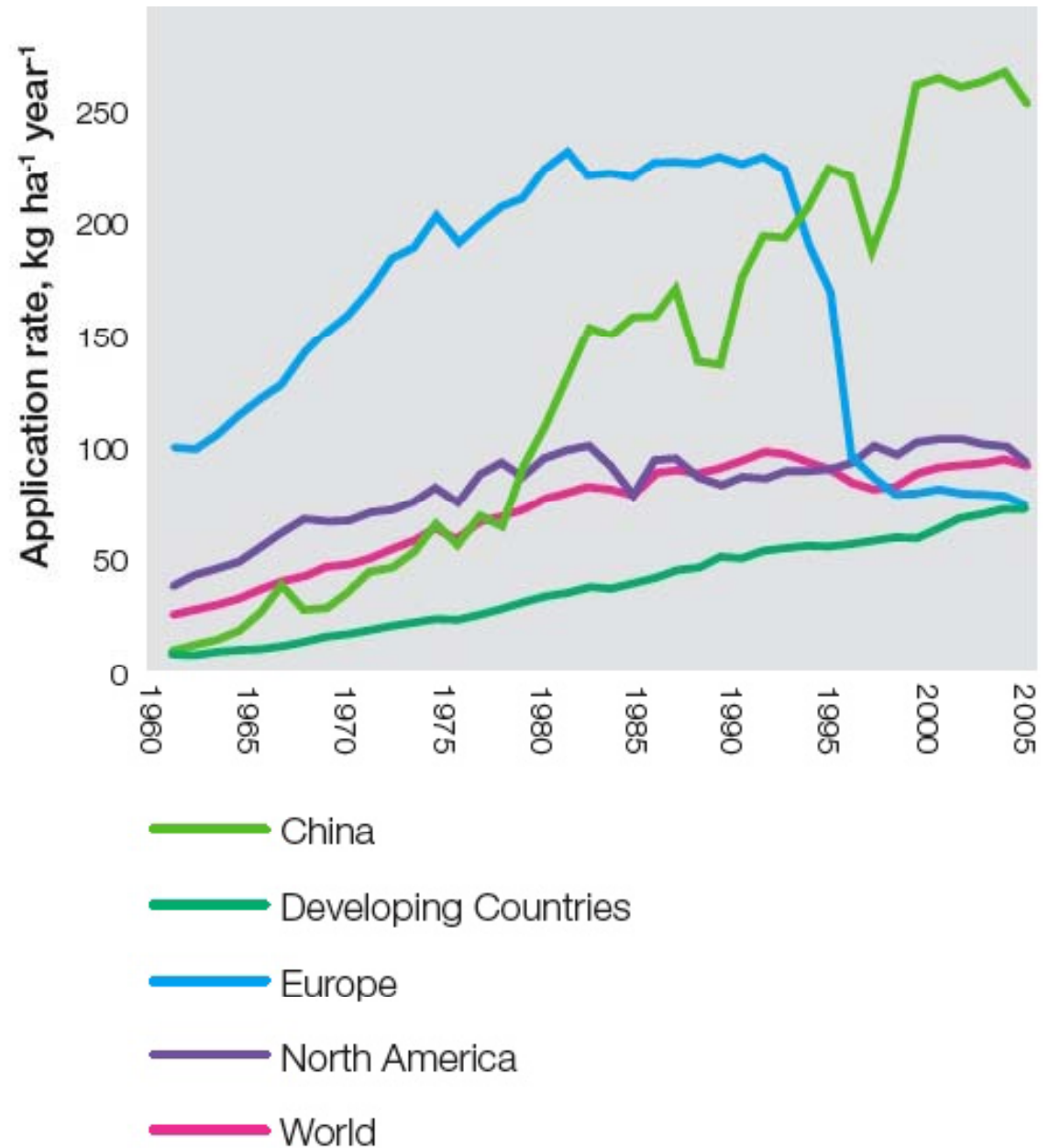
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Mitigation Potential

- Agriculture in general, not restricted to organic farming
 - Land use change: stop forest destruction!
 - Within agriculture nearly 100% mitigation potential
 - Overall potential up to 6 billion tonnes
 - At 100 US\$ per ton, potential of around 4 billion tonnes
- (5.5 - 7.7 billion tonnes total emissions from agriculture per se)

Mitigation Strategies



Mitigation Strategies

Other options

- No burning of crop residues
- Rice management
- Manure management
 - in industrial pig farming and large operations
- Eat less meat

Table 11: Global warming potential of the main meat categories, as well as milk and selected plant products for comparison.

Product	Global warming potential kg CO ₂ -eq per kg of product
Sheep	17.4
Beef	12.98
Pig	6.35
Poultry	4.57
Milk	1.32
Bread wheat	0.80
Potato	0.21

(kg CO₂ equivalents on a 100 year time scale per kg product). Calculations were based on UK data (Foster et al., 2006).

Table 9: Global warming potential (CO₂ equivalents) for some foods produced organically and non-organically.

	Non-organic (g CO ₂)	Organic (g CO ₂)
Wheat bread (kg)	804	786
Oil seed rape (kg)	1,710	1,620
Potatoes (kg)	215	199
Poultry (kg)	4,570	6,680
Eggs (20)	5530	7000
Milk (10 l)	10,600	12,300

(Williams *et al.*, 2006)