



clean air farming

Reducing Ammonia and Methane
Emissions from Agriculture

Meat pricing in Germany

How economic instruments can transform
the livestock sector towards animal welfare
and climate protection

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A project by:



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Overview

1. **Introduction:** Reducing methane from agriculture
2. **Case study:** Meat pricing for less methane in Germany
3. **Conclusion:** Policy implications & Take home messages

1. Introduction:

Reducing methane from agriculture



Methane: Highly potent

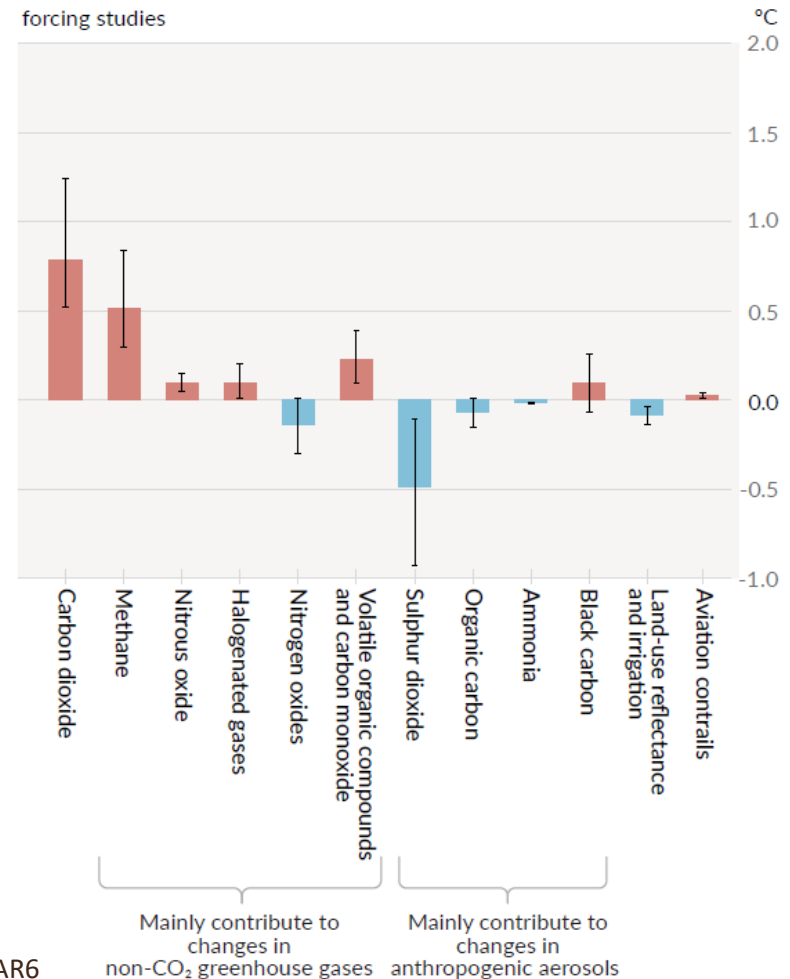
- Second biggest contributor climate change
- GHG potential 83 (IPCC AR6)
- Contribution: 0.5°C temperature increase
- Dangerous ground-level ozone

BUT: Mitigation very effective:

- 12 years in atmosphere
- 0.3°C avoided temperature increase until 2040 (UNEP Global Methane Assessment)

→ Global Methane Pledge

c) Contributions to 2010-2019 warming relative to 1850-1900, assessed from radiative forcing studies



Source: IPCC AR6



We need to reduce methane!

Methane: Agriculture is source



European Union



- Sectors 2017: energy (16%), waste (28%), agriculture (54%)
- Agriculture smallest reduction

Sources within agriculture

Mostly livestock sector, ruminants

- 81% enteric fermentation
- 17% manure management
- 1% rice production

Methane: Agriculture is part of solution



Mitigation is possible!

Technical measures, e.g.

- Changing management practices
- Optimising feeding
- Improving manure management

→ Widespread application of available technology

→ Reduction of livestock numbers

Reduction in livestock numbers necessary!

- Can contribute to address a variety of other sustainability issues, such as ammonia & nitrogen emissions, imported fodder, excessive use of antibiotics, animal welfare issues.



→ Transformation of livestock sector

→ - 50% of reduction

→ 2 LSU / ha



2. Case study:

Meat pricing for less methane in Germany



Meat Levy - Borchert Approach



- Borchert Commission / Kompetenznetzwerk Nutztierhaltung (2020)
- Aim: Transform livestock sector / Increase animal welfare
 - Step I: Introducing an animal welfare label
 - Step II: Consumer tax on meat- and milk(products) (40 ct/kg meat)
 - Step III: Ban of the lowest husbandry classes (2030 / 2040)

Meat Levy - Borchert Approach



- Recommended in the final report of the Future commission on Agriculture, commissioned by Cancellor Merkel (Zukunftskommission Landwirtschaft, ZKL)
- Steps forward (feasibility study, impact assessment) but no implementation by agricultural Minister Julia Klöckner

BUT: New government soon
(greens, social democrats, liberals)



BUT: Borchert Approach is not sufficient

- Taking effect very late
- Environmental steering effect limited
- Climate protection & Air quality targets urge for earlier reductions

→ There is a need for additional instruments

Add an Emission Levy

- ❖ Study on economic instruments to reduce emissions commissioned by Environmental Action Germany (Green Budget Germany)
- ❖ Producer based, include export
- ❖ Channel money back to farmers (to finance transition)
- ❖ Comparing levies with three different aims
 1. Air pollutant tax to collect the tax revenues to support animal welfare measures
 2. Air pollutant tax to reduce pollution
 3. Tax to internalise costs of climate change



Most appropriate in the German context to achieve air quality targets & transforming the sector

Proposed Emission Levy

2. Air pollutant tax to reduce pollution

Number of animals	<66	75	100	125
Tax in €	0	7,667	62,436	144,906
Tax per animal above the limit	0	852 €	1,836 €	2,456 €

- Levy starting from a threshold, progressively increasing
- Threshold: Animal numbers in relation to available farm land
- Money put into fund and channeled back to farmers
- Big animal farms will become uneconomical
- Incentive for big polluters to reduce livestock numbers

► Step towards transforming the German livestock sector!

Emission Levy for Climate Protection

3. Tax to internalise costs of climate change

Species	Emissions per year in tons CO ₂ e	Environmental impact costs 180 € / t
Cattle	3	540 €
Pig	0,6	108 €
Poultry	0,05	9 €

- True climate costs of production

► Financing climate measures

3. Conclusion:

Policy implications & Take home messages





Policy implications & Take home messages

- Less methane for climate protection can and must be achieved by **reducing livestock numbers**
- This can be supported by **meat & emission pricing**

- Germany**
- ✓ New government needs to implement **Borchert approach**
 - ✓ Additionally, **emission levy** needed
 - ✓ Adjustments in **regulatory framework**
 - ✓ **Binding targets methane**

- EU**
- ✓ **Binding targets methane** (methane strategy)
 - ✓ Enforcing **EU directives** (NEC, nitrate)



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Study on economic instruments (German):

Summary of study (English):

<https://www.clean-air-farming.eu/en/downloads-and-links>