



Lessons learned – Regulation of the agricultural sector

September 2024

Lessons learned – Agreement on a Green Denmark

Two key objectives for regulation of CO₂e emissions

1. Have a high incentive for farmers to reduce their CO₂e emissions

- Farm level regulation is crucial
- Price signals for adopting CO₂e friendly production technologies are important
- Denmark uses a tax system; quota systems can do the same
- Much harder to ensure the right and effective price signal with subsidies

2. Maintain competitiveness

- Avoid carbon leakage - regulation should advance (not dismantle) Danish agriculture
- Solutions: Basic deductions/free quotas or Border Adjustment Mechanisms

Revenues can generally be cycled back to the industry to generate a “carrot” and “stick”-approach

The Danish way

- “*Stick*”: High incentive with a marginal tax rate of 100 euro pr. ton CO₂e
- “*Carrot*”: 60 pct. Basic deduction and up to 7 billion euros in different support

Application of technical measures

Three sources of CO₂e-emissions from livestock*:

- *Digestion*
- *Fertiliser management in stables*
- *Fertiliser management in storage facilities*

Technical measures can be applied to reduce emissions

Overlaps could occur when more than one measure has been taken.

*(*In addition to livestock there is CO₂e-emissions from cultivation of fields, which will also be subject to a price signal)*

Billede tilgår

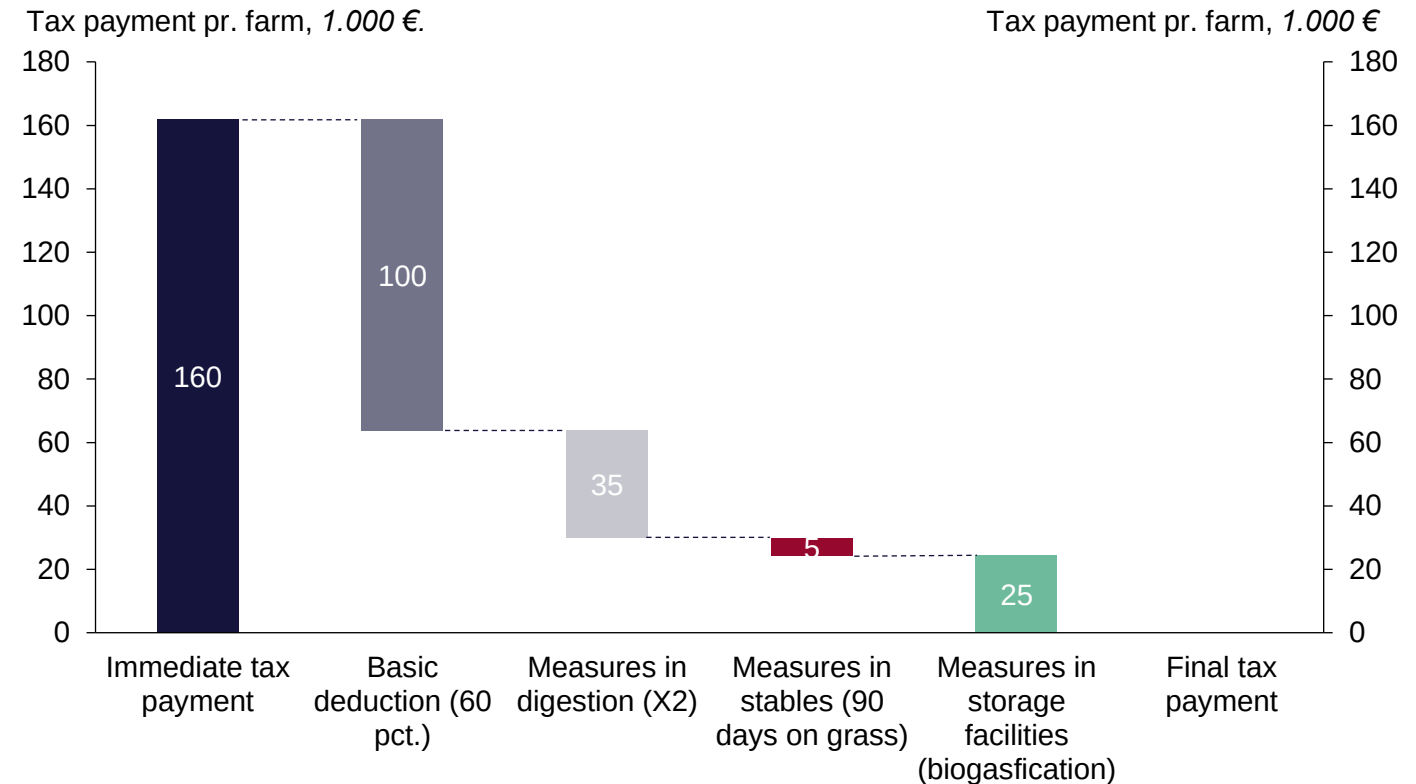
Use of technical means to reduce CO₂e emissions (dairy cows)

Farmers can reduce their CO₂e emissions to the point where they may not incur any tax payment, i.e. a CO₂e tax payment of 0 DKK.

However, implementing these technical measures still involves costs for the farmers.

Breeding and farmers' cultivation of the fields have been disregarded in the figure

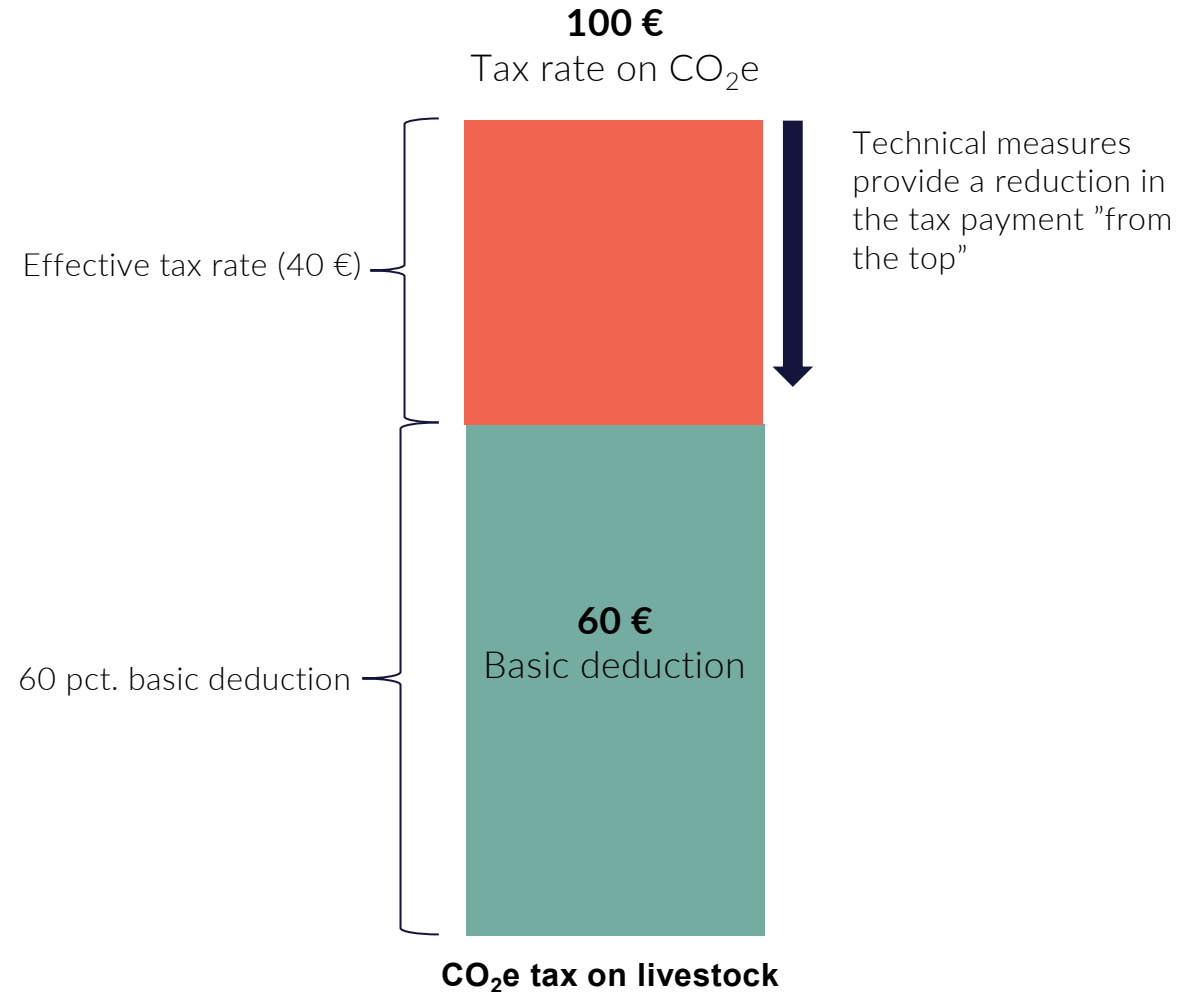
Conventional cattle farms with dairy cows. Stable type cubicles with slatted floor, flush/channel, accumulated effect (incl. overlap) (Computational type example)



How does the basic deduction work?

- A farm's tax payment can be calculated as the tax rate times the emissions minus the basic deduction.
- The basic deduction will be a fixed amount per animal that will vary across animal types and breeds, and thus the basic deduction will not depend on the use of technical measures.
- Thus, the basic deduction per animal will differ, for example, between Holstein cows and Jersey dairy cows, but it will be the same for all Jersey dairy cow.

*Tax payment after basic deduction =
tax rate · emission – basic deduction*



Lessons learned – Implementation



Introducing a tax or quota system requires detailed on-farm data.



Ensuring the system feels fair to farmers is crucial for its legitimacy → placing significant demands on the implementation framework



Large parts of the agricultural sector are already regulated, e.g., through EU agricultural subsidies and other regulations.



Denmark's experience shows that substantial data already exists, collected for other purposes, such as preventing disease spread (livestock) and safety concerns (fertilizers)



However, the data is spread across different authorities and varies in quality → highlighting the need for integration and further quality assurance.