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GRØN SKATTEREFORM

Green Tax Reform for Non-Energy Agricultural Emissions in Denmark

Report from Expert Group on a Green Tax Reform

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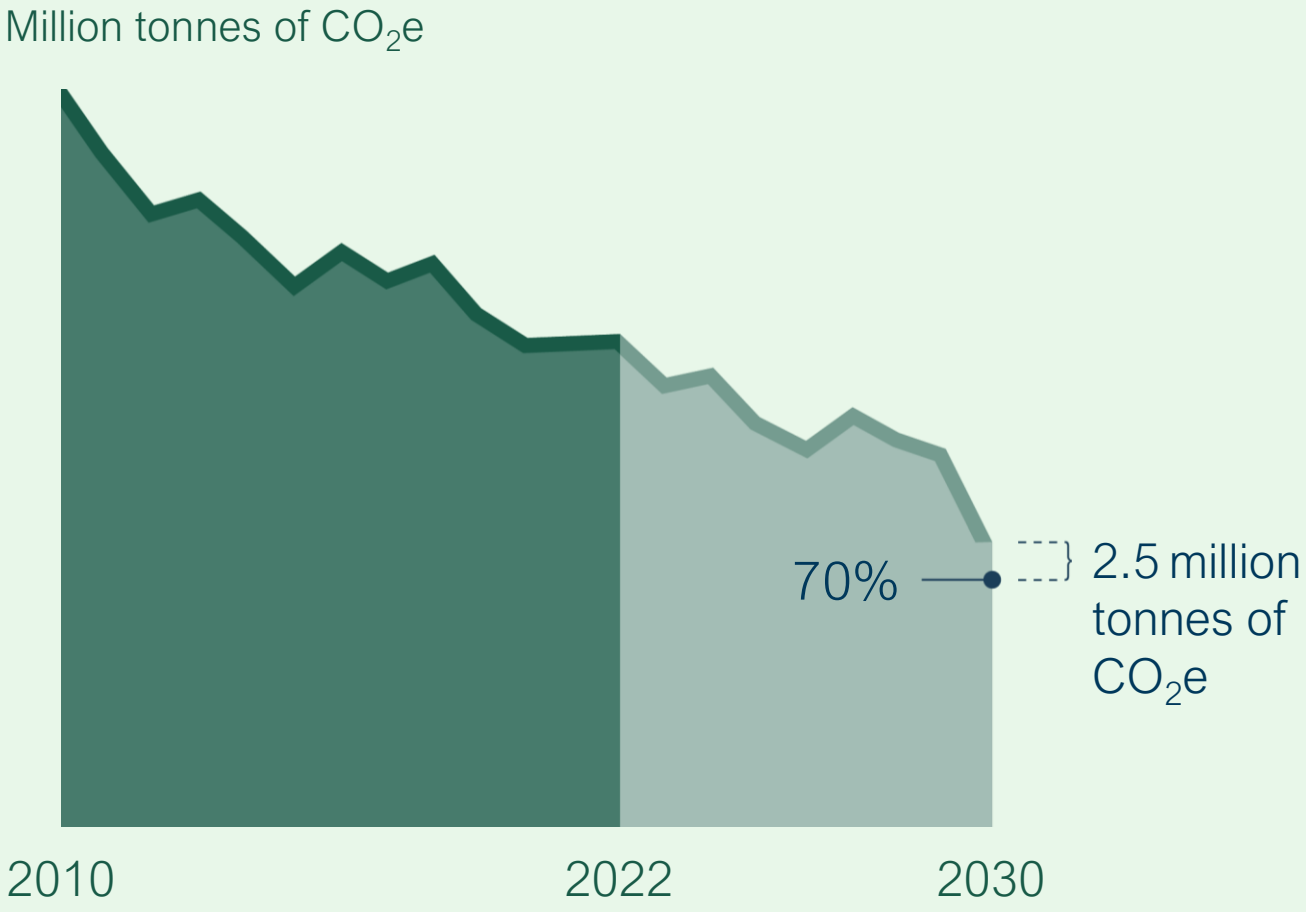
the European Union
NextGenerationEU

The 70 per cent target in the Climate Act is the reference point for the Danish Climate policy



Corrections in relation to initial baseline of 5.4 million tonnes of CO_2e

Future EU-regulation (ETS-II)

Agreement on Green Aviation in Denmark

Increased diesel taxation

Correction of low-lying soils

Reduction gap **2.5**

CO_2e = CO_2 equivalents covering CO_2, methane, nitrous oxide etc.

Three different climate targets

The Climate Act
70 per cent target by 2030 in Denmark.

Reduction gap: **2.5 million** tonnes of CO_2e in 2030

EU´s LULUCF Regulation
Emissions and capture from the LULUCF sector (including low-lying soils and forests).

Reduction gap: **7.0 million** tonnes of CO_2e in 2026-29 and **1.1 million** tonnes in 2030

EU´s Effort Sharing Regulation Covers agriculture (without LULUCF), transportation, etc.

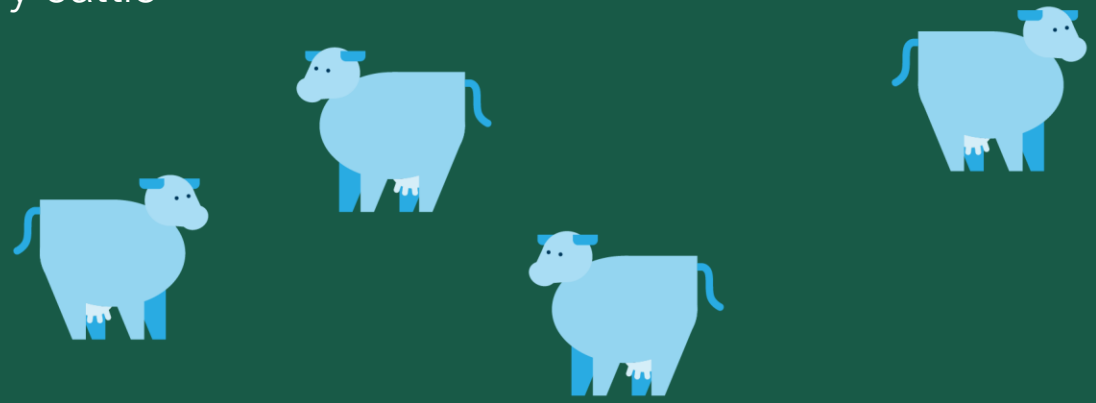
Reduction gap: **11.5 million** tonnes of CO_2e from 2021-2030

The agriculture and forestry sector's emissions in 2030

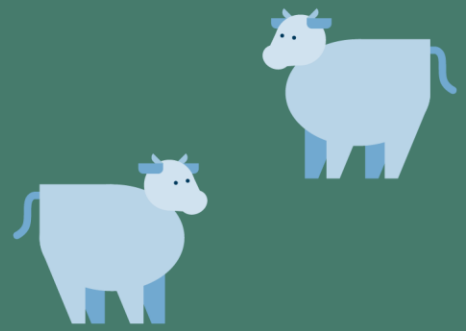
12.4 million tonnes of CO_2e

Forestry etc.
-0.2

Dairy cattle
3.1



Other cattle
1.5



Pigs
1.6

Field management etc.
1.5

Other livestock etc.
0.4

Other land uses
0.6

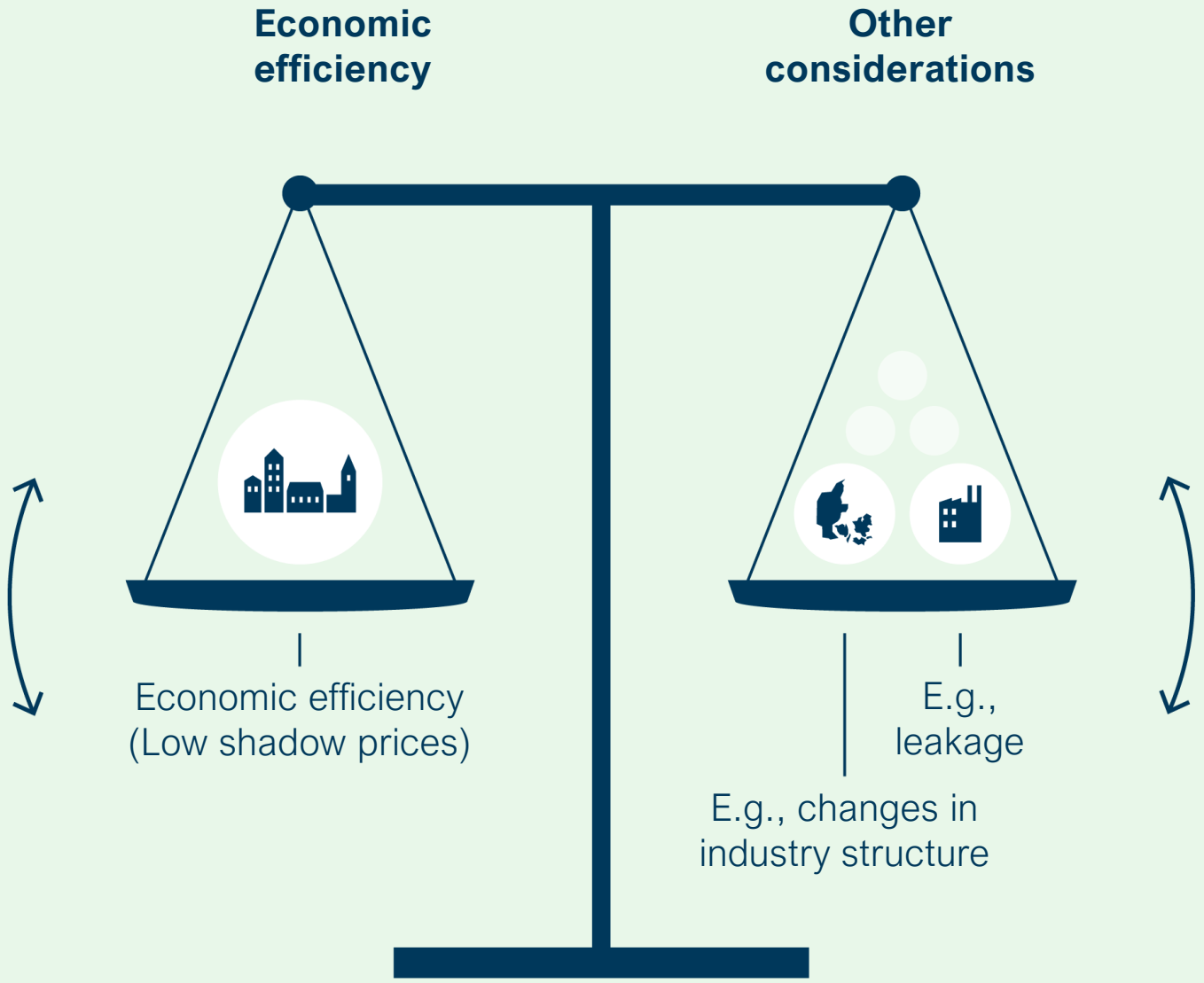
Spreading of fertiliser and agricultural lime on fields
1.9

Organic soils
2.2

Models that balance the principles of the Climate Act

Focus on:

- Consistent regulation across the economy.
- Long-term regulation aimed at both 2030 and 2045 targets.
- Address guiding principles like; existing industry structure, leakage, social cohesion and public finances.



Three ways to structure a CO_2e tax system for agriculture

3 model types with various considerations

Model 1

Economically **cheap** reductions

Model 2

Partial consideration of changes in industry structure and leakage

Model 3

Additional consideration of changes in industry structure and leakage

Commonalities across the three models

Taxation on livestock and fertiliser based on existing data sources

Facilitating the wetting of carbon-rich low-lying soils through taxation in combination with subsidies

0.3 million tonnes of CO_2e in 2030 (**1.0** million tonnes of CO_2e in 2032)

Subsidies for afforestation corresponding to DKK 460/tonne of CO_2e (a negative tax)

0.1 million tonnes of CO_2e in 2030 (**2.1** million tonnes of CO_2e in 2045)

Model 1

Economically **cheap reductions**

CO_2e tax, DKK per tonne (livestock and fertiliser)

Marginal rate

3.2 million tonnes of CO_2e in 2030 (6 million in 2045)

Reductions. 53 per cent from structural effects

DKK **150** per tonnes of CO_2e

Economic cost (shadow price)

DKK **5.9** billion

Economic consequences for the sector

DKK **1.2** billion

Tax revenue

124%
2030 target

100%
LULUCF

100%
EU´s Effort Sharing Regulation

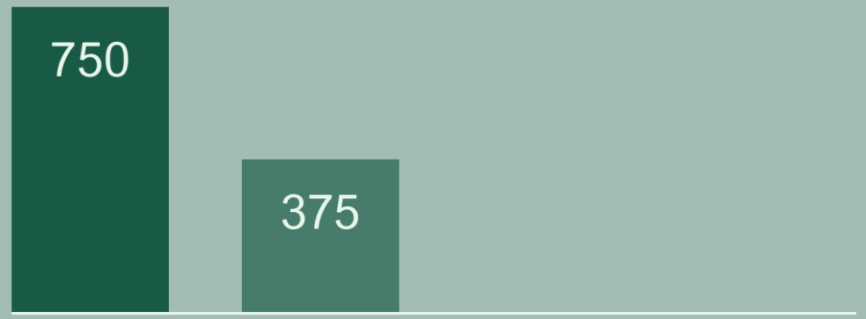
-9%

Changes in land prices incl. subsidies for afforestation

Model 2a

Partial consideration of changes in industry structure and leakage

CO_2e tax, DKK per tonne (livestock and fertiliser)



Technology funding of biochar by pyrolysis: 0.2 million tonnes of CO_2e.

2.8 million tonnes of CO_2e in 2030 (5.5 million in 2045)

Reductions. 35 percent from structural effects

DKK **250** per tonne of CO_2e

Economic cost (shadow price)

DKK **3.1** billion

Economic consequences for the sector

DKK **-0.5** billion

Tax revenue

113%
2030 target

100%
LULUCF

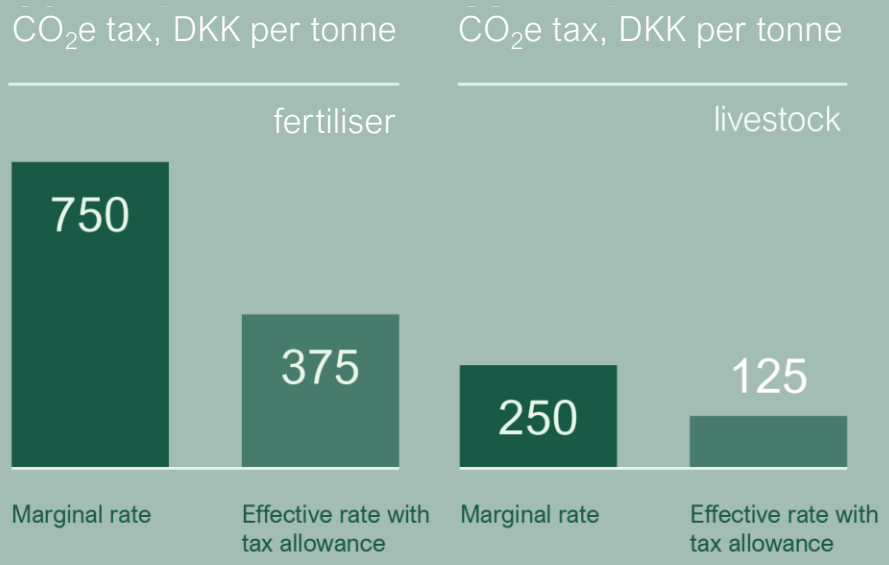
100%
EU´s Effort Sharing Regulation

+4%

Changes in land prices incl. subsidies for afforestation

Model 3a

Additional consideration of changes in industry structure and leakage



Technology funding for biochar by pyrolysis: 0.8 million tonnes of CO_2e. (to be revisited in 2027).

Requirements for use of feed additives and floating cover.

2.6 million tonnes of CO_2e in 2030 (5 million in 2045)

Reductions. 30 percent from structural effects

475 DKK per tonne of CO_2e in 2030

Economic cost (shadow price)

1.9 billion DKK

Economic consequences for the sector

-2.0 billion DKK

Tax revenue

106%
2030 target

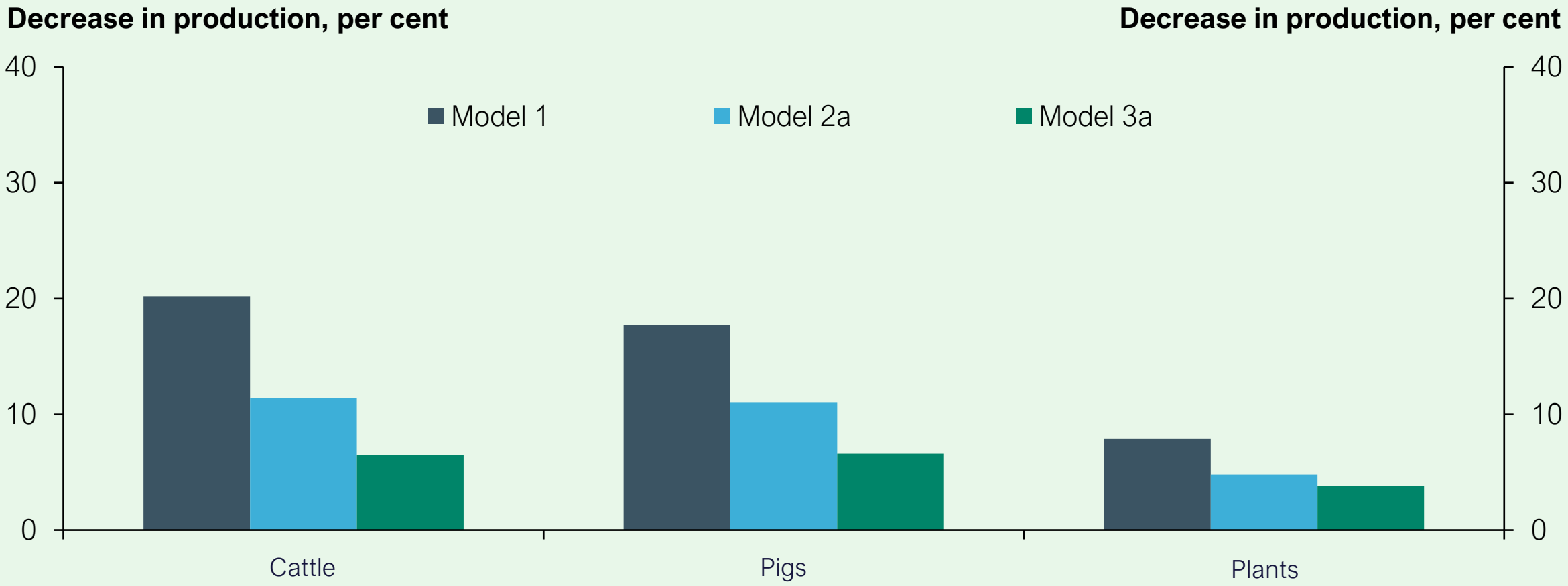
92%
LULUCF

100%
EU´s Effort Sharing Regulation

+7%

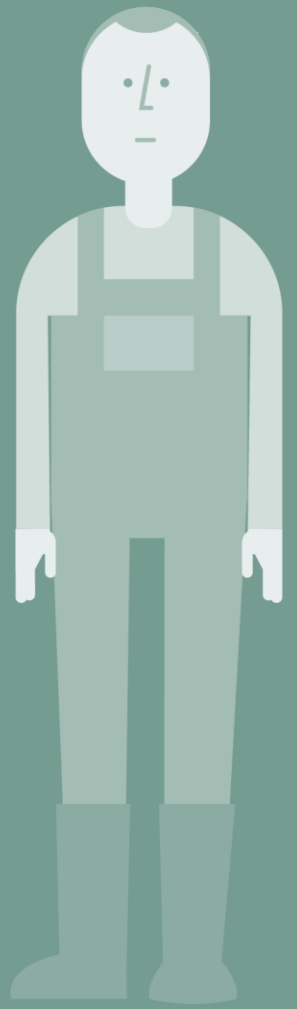
Changes in land prices incl. subsidies for afforestation

Expected decrease in production

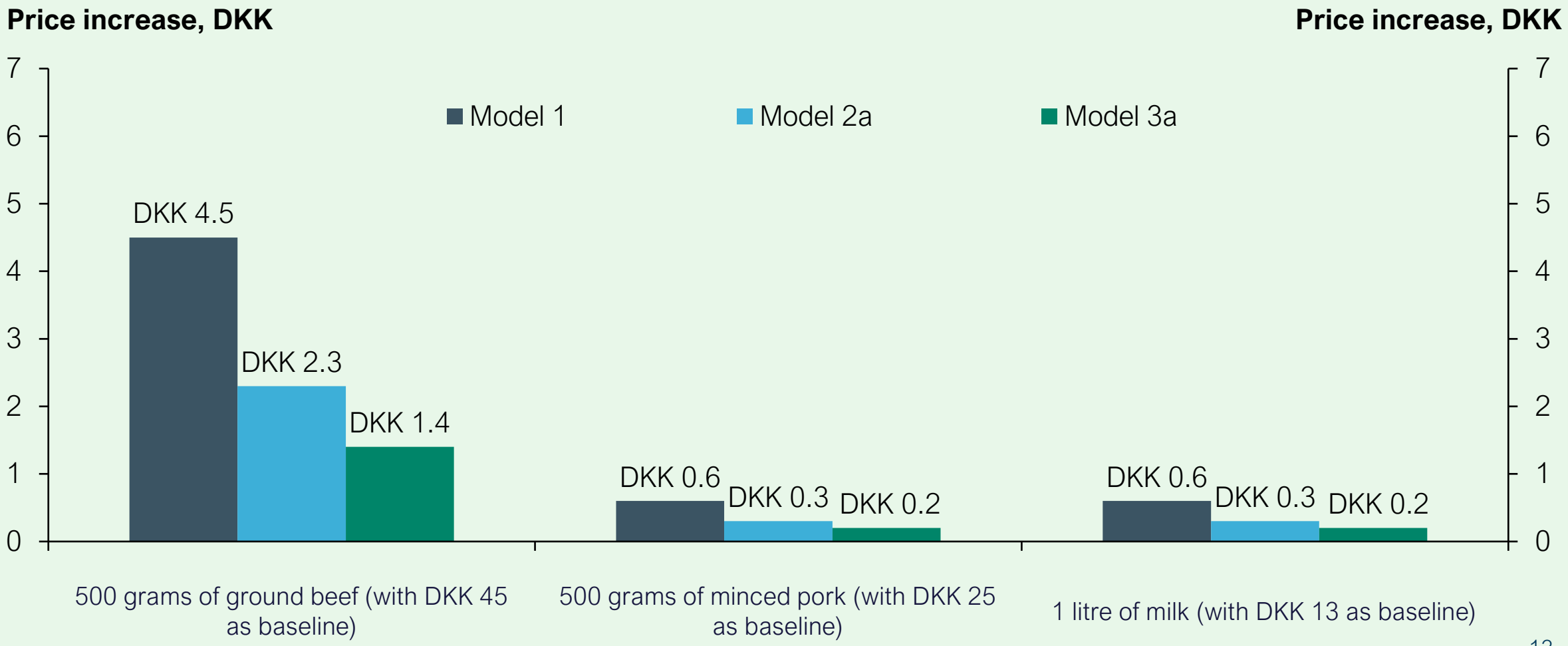


Impact on employment

- In isolation, employment in the agricultural sector will fall by approx. 10 pct. in model 1 and 2 pct. in model 3.
- This is equivalent to 0.25 pct. and 0.05 pct., respectively, of overall Danish employment.
- The decline in employment in the agricultural sector is matched by increases in other industries.
- None of the models significantly affect the income distribution.



Expected price increases for goods produced in Denmark



	Model 1 **750** pr. ton CO_2e	Model 2 **375** pr. ton CO_2e	Model 3 **125** pr. ton CO_2e
Reductions in DK in 2030 (2045)	**3,2 (**approx. **6.0)** million tonnes of CO_2e	**2.6 – 2.8** (approx. 5.5) million tonnes of CO_2e	**2.4 – 2.6** (approx. 5) million tonnes of CO_2e
Global reductions 2030	**1,8 – 2,5** million tonnes of CO_2e	**2,0 – 2,4** million tonnes of CO_2e	**2,1 – 2,4** million tonnes of CO_2e
Economic efficiency	DKK **150** per tonne of CO_2e	DKK **250 – 325** per tonne of CO_2e	DKK **475 – 575** per tonne of CO_2e
Cost for the sector	DKK **5.9** billion	DKK **2.5 – 3.1** billion	DKK **1.3 – 1.9** billion
Public finances in 2030	DKK **1.2** billion	DKK **-0.7 – -0.5** billion	DKK **-2.1 – -2.0** billion

Green “three-party agreement”

Green “three-party agreement”

“Model 3” with a 60% base deduction from 2030

“Model 2” with a 60% base deduction from 2035

Subsidy to reduced use of fertilizer at 750 kr/tons CO2-eq

40 bill. Dkk (appr. 5.3 bill euros) to a fund for afforestation, wetting of carbon-rich soils and land-use changes (related to nitrogen leaching) + 10 bill. DKK from The Novo foundation.

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Questions