Danish Council
on Climate Change.

November 2026

The Climate target of the Green Tripartite Agreement

Recommendations for the 2027 review of the Green Tripartite Agreement



klimaraadet.dk

About the Danish Council on Climate Change

The Danish Council on Climate Change is the independent and statutory advisory body on climate change to the Danish Government. The Council is composed of experts with broad expertise and high level of climate-relevant academic knowledge. The Council provides impartial advice on Denmark's transition to a climate-neutral society by 2050.

Klimarådet.

The Climate target of the Green Tripartite Agreement
Recommendations for the 2027 review of
the Green Tripartite Agreement
(English summary)

Original Danish title:
Trepartens klimamål
Anbefalinger til genbesøg af
trepartsaftalen i 2027

Published in November 2026 by
The Danish Council on Climate Change

Nikolaj Plads 26, 2. sal
1067 København K
+45 22 68 85 88
mail@klimaraadet.dk
klimaraadet.dk

Front page design: B14

The Danish Council on Climate Change

Peter Møllgaard
Bente Halkier
Bo Jellesmark Thorsen
Brita Bye
Per Heiselberg
Marie Trydeman Knudsen
Marie Münster
Marit-Solveig Seidenkrantz
Christina D. Tvarnø

Foreword

Since the Second World War, Danish agriculture has developed towards fewer, larger and more specialised farms. This has led to increased productivity and continuous development of production and value chains, resulting in an agricultural sector that is economically robust and competitive today. However, this development has also come at a cost to the marine environment, biodiversity, animal welfare and the climate. As a result, agriculture and society now face a number of challenges that need to be addressed to ensure the sector's long-term stability.

The Green Tripartite Agreement sets out an extensive transition of Danish agriculture. This includes land-use changes, new targeted nitrogen regulation, and a tax on greenhouse gas emissions from livestock production. At the same time, efforts are underway to improve the protection of groundwater through a proposed ban on pesticide use, promote more and better nature, improve animal welfare, and develop a food strategy aimed, among other things, at strengthening Danish production of fruit and vegetables.

There are, thus, many different pieces to fit together in the overall puzzle when planning future farm activities. In addition, the EU's future agricultural support scheme will be subject to negotiations from 2028 onwards, and the sector must continue to adapt to developments in prices and competition in national and global food markets. These changes affect the same farms, land areas and investments, and their interaction influences farmers' decisions about future production.

Several of the aforementioned changes to regulation and framework conditions remain uncertain, including how they may affect greenhouse gas emissions from agriculture. This uncertainty can make it difficult for individual farmers to navigate, as investments in land, livestock housing and technology have long-term implications. Nevertheless, action is needed here and now to ensure that the climate targets of the Green Tripartite Agreement are met by 2030.

Compensation to agriculture, such as compensation for the recently adopted nitrogen regulation, is also an important part of the overall framework conditions. Compensation can facilitate the transition, but its design is crucial. If compensation is tied to maintaining existing production, it may weaken incentives to change production practices. At the same time, uncertainty about the design of compensation schemes and the outcome of potential legal proceedings concerning nitrogen regulation may cause farmers to postpone decisions on investments and changes in production. As a result, these factors may risk outweighing the incentives for technical and structural transition highlighted in this report. It is therefore important to clarify the framework conditions at an early stage and to design compensation schemes, subsidies and regulations in a way that makes it more attractive to act in a timely manner rather than wait.

The Danish Council on Climate Change (DCCC) has previously examined how the agricultural sector can adapt to a greenhouse gas tax and how climate, nature and aquatic environment goals can be achieved while generating significant synergies. The DCCC explored these issues in its 2023 analysis *The Transition of Agriculture under a Greenhouse Gas Tax* and its 2024 analysis *Scenarios of Future Land Use in Denmark*. Most recently, in this year's Status Outlook, we examined the opportunities for achieving the Green Tripartite Agreement's targets for afforestation and the rewetting of carbon-rich lowland soils. Among other things, we highlighted the need for the new targeted nitrogen regulation and agricultural support schemes to align with climate policy ambitions.

In this report, we turn our attention to livestock production and examine the extent to which technical measures in livestock housing and manure storage facilities can contribute to achieving the climate target of the Green Tripartite Agreement. We also discuss how structural changes in livestock production can contribute to achieving the climate target. The analysis does not provide a full assessment of the impacts of all the ongoing reforms. The recommendations should therefore be considered as a contribution to the other efforts supporting the transition of the agricultural sector. In this way, the DCCC aims to put some of the pieces in place in the larger puzzle of implementing the Green Tripartite Agreement and to ensure the sector's long-term stability.

Copenhagen, November 2026

Contents

Introduction, conclusions and recommendations 10

1.1 The Green Tripartite Agreement's climate target and its revisit 10
1.2 Agricultural emissions and emission reduction options in 2030 14
1.3 Technical emission reductions in livestock housing and manure storage facilities in 2030 and 2035 17
1.4 The potential impact of the livestock emissions tax in 2030 and 2035 18
1.5 A coherent transition of the agricultural sector 22

References 25

Main conclusions

The Green Tripartite Agreement requires greenhouse gas emissions from agriculture to be reduced by at least 2.2 million tonne of CO_2e by 2030. In this analysis, the Danish Council on Climate Change (DCCC) examines where additional emission reductions can be achieved to meet the agreement's climate targets. The analysis focuses on the potential for technical emission reductions from livestock housing and manure storage facilities. It also supports the DCCC's previous assessments, stating that there is a significant risk that the Green Tripartite Agreement will not deliver the expected reductions by 2030. This is because the effects of the available measures are either fully utilized, uncertain, or delayed. Thus, these potentials are therefore insufficient for the agricultural sector to achieve the agreement's climate targets, leaving further reduction dependent on structural and technical changes in livestock production. Technical emission reductions and structural changes are interrelated and should be considered in combination. A tax on greenhouse gas emissions is a cost-effective way to drive both types of emission reductions simultaneously. The tax can be supplemented by other policy measures that support the same direction of transition.

An additional 1.4 million tonne of CO_2e reductions may be needed to meet the climate targets of the Green Tripartite Agreement in 2030

The DCCC assesses that an additional 1.4 million tonne of CO_2e reductions may be needed to meet the Green Tripartite Agreement's target of reducing agricultural emissions by 2.2 million tonne of CO_2e in 2030. There are two reasons for this. First, the agreement includes a reduction gap of 0.4 million tonne of CO_2e from the outset, which has yet to be addressed by a specific plan. Second, there is considerable uncertainty as to whether the planned reductions from the livestock emissions tax, the use of the feed additive Bovaer, use of pyrolysis, regulation of fertiliser and lime use, efforts to rewet carbon-rich lowland soils, and afforestation will be realised by 2030.The DCCC assesses that the planned policy measures could collectively deliver up till 1.0 million tonne of CO_2e fewer reductions than assumed in the Green Tripartite Agreement. As a result, the total reduction requirement could reach 1.4 million tonne of CO_2e in 2030**.**

The climate target of the Green Tripartite Agreement's must be achieved through emission reductions in livestock production

Additional emission reductions to ensure that the climate target of the Green Tripartite Agreement is met cannot realistically be achieved through increased rewetting of carbon-rich lowland soils, reductions in nitrous oxide emissions from agricultural land or reductions in enteric fermentation emissions through the use of Bovaer. This is because the measures already planned towards 2030 are delayed or uncertain. The remaining reductions must therefore come from livestock production, both through technical measures in manure management in livestock housing and storage facilities and through structural changes such as changing the composition in types of livestock, fewer animals, and changes in production methods and livestock housing systems.

The potential for technical emission reductions in livestock production is limited

Existing technologies for reducing emissions from manure management in livestock housing and storage facilities could potentially deliver reductions of approximately 0.8 million tonne of CO_2e in 2030. This corresponds to 13 per cent of total emissions from livestock production in 2030. The estimates are optimistic, as it assumes that technologies can be applied to all manure, be implemented by 2030, and that their effects have been documented. The potential achieved in practice could therefore be considerably lower.

Higher livestock emissions taxes primarily strengthen incentives for structural transition

The planned livestock emissions tax is scheduled to take effect in 2030 and is intended to encourage both technical and structural transition among livestock producers. The tax will be set at DKK 300 per tonne of CO_2e in 2030, increasing to DKK 750 per tonne in 2035, with a basic deduction of 60 per cent. No trajectory for the progression of the tax has been agreed upon beyond 2035. The DCCC's analysis shows that the livestock emissions tax could give incentives for technical emission reductions of approximately 0.6 million tonne of CO_2e in 2030. In addition, the tax provides incentives for structural transition, as demonstrated by previous analyses of the livestock emissions tax. This potential overlaps with the expected reduction of 0.4 million tonne of CO_2e from the livestock tax under the Green Tripartite Agreement. Therefore, only part of the estimated reduction potential of 0.6 million tonne of CO_2e can contribute to closing the potential reduction gap of approximately 1.4 million tonne of CO_2e in 2030.

The technical emission reductions incentivised by the livestock emissions tax correspond to 72 per cent of the calculated technical potential. Higher tax rates would therefore primarily strengthen incentives for structural transition, as most technical emission reduction measures are expected to be effectuated at the planned tax rate. In addition to the specific design of the tax, other regulations affecting agricultural production may also encourage structural transition. These include among other regulations concerning nitrogen, protection of groundwater from pesticide leaching, animal welfare, and biodiversity.

A uniform basic deduction can increase the impact of the tax

The planned livestock emissions tax includes a basic deduction of 60 per cent, calculated using a historical average reference emission level per animal. This means that only emissions above this level are taxed. The basic deduction is numerically fixed, allowing producers to reduce their emissions over time and potentially avoid paying the tax altogether. The design of the base deduction is therefore important. A uniform definition covering broad livestock categories, such as dairy cattle and slaughter pigs, ensures that differences in emissions between animals are reflected in tax payments. This strengthens incentives to choose lower-emitting animals and production methods. A more differentiated design, for example differentiating on breed or production method within each livestock category, would instead give higher-emitting animals larger deductions. This would narrow the differences in tax payments and weaken incentives for structural transition.

Early structural transition could reduce the risk of misinvestments

Given the limited technical potential for reducing emissions, structural transition in livestock production will also be necessary to achieve the long-term climate targets. Such a transition may involve changing the composition in types of livestock, finer animals, and changes in production methods and livestock housing systems. New investments in livestock housing and manure storage technologies on the short term could therefore make the structural transition more expensive. This supports the case for agriculture to begin a structural transition now that also contributes to achieving the long-term climate targets.

Technical and structural transition have different implications for societal considerations

Investments in technology will generally leave existing production methods unchanged and therefore have relatively limited negative impacts on the agricultural sector's total economic performance and derived employment effect, although this depends on the size of the investment. However, such investments offer relatively few benefits in relation to other societal concerns. Structural transition in livestock production, by contrast, could deliver substantial benefits for biodiversity, the aquatic environment, and groundwater. However, it requires more extensive changes and investments in the sector, which may be difficult and costly to implement in the short term. The potential benefits of structural transition, such as biodiversity, will however not materialise automatically, but require additional regulation, as well as alignment between policies.

The government's food strategy could play an important role in supporting structural transition

The Danish government is proposing a food strategy aimed at steering Danish agriculture towards, among other things, increased production of fruit, vegetables and pulses, as well as a greater share of organic production. For the strategy to have the intended effect, it is important to establish clear targets that provide a consistent direction for the development of agriculture both before and after 2030. The strategy should support farmers in transitioning to different production methods, with a particular focus on expanding climate-friendly production. The government could draw inspiration from other EU countries, particularly the Netherlands and Germany, which are working with clear targets for food production that address both production and consumption.

Recommendations

The livestock emission tax should be included in the 2027 revisit

- **The livestock tax should be included in the 2027 revisit of the Green Tripartite Agreement, to establish a comprehensive plan to ensure the climate target to be met by 2030.** According to the Green Tripartite Agreement, the livestock tax is to be implemented in 2030 and revisited in 2032. However, it is important to consider the livestock tax already now in order to develop a comprehensive plan for the agricultural sector to meet the climate target of the Green Tripartite Agreement by 2030. The Danish Council on Climate Change (DCCC) therefore recommends that the government include the livestock tax in the 2027 review to help close the reduction gap under the Green Tripartite Agreement in 2030 and beyond. This will also provide clarity for the future structural transition of livestock production. Including the livestock tax at this stage entails decisions on the specific design of the tax base and basic deduction, as well as determining the tax rate after 2035.

  An appropriate tax design is important for achieving both the climate targets of the Green Tripartite Agreement and Denmark's national climate targets and for enabling farmers to plan their future production activities in line with the long-term climate targets. It is also necessary to reduce the risk of making technical investments today that may help meet short-term targets but prove insufficient in the longer term, making the long-term transition more expensive.

- **The design of the livestock tax should ensure sufficient emission reductions.** When determining the specific design of the tax, the government should ensure that it achieves the greatest possible overall reduction in greenhouse gas emissions, including by applying a relatively uniform basic deduction across broad livestock categories. A more differentiated basic deduction, for example based on breed or livestock housing system within livestock categories, would reduce some of the differences in tax payments between high- and low-emission animals, thereby weakening the incentive to choose animals and production methods with lower emissions.

Regulation before and after 2030 should encourage structural transition

- **The government should ensure that the overall regulatory framework supports structural changes in livestock production.** Public subsidies funded by Denmark or the EU can either make it easier to restructure livestock production or reduce the cost of maintaining existing production methods. There are several examples of subsidy schemes that may work against each other. One is the new targeted nitrogen regulation, which introduces subsidies targeted at farms using livestock manure, as these farms may be particularly affected by the regulation. Another is the slaughter premium, which provides a subsidy for each heifer, bull or steer slaughtered. This makes it more profitable to raise calves for slaughter in Denmark and may therefore weaken incentives for structural transition in livestock production. The DCCC recommends that the government adjust existing and new subsidy schemes to ensure that, together with the livestock emissions tax, they encourage a transition towards production systems that deliver the intended climate benefits while supporting broader societal considerations and policy targets for land use.

- **EU agricultural support schemes should be used more actively to promote structural transition.** The government should work towards reforming direct agricultural payments under the EU's Common Agricultural Policy and make use of the opportunities available through Denmark's national implementation of these payments to encourage the necessary structural changes. Agricultural support should form part of a comprehensive package of transition support for farms facing a change of ownership, generational succession or a major change in production.

Introduction, conclusions and recommendations

The Green Tripartite Agreement requires greenhouse gas emissions from agriculture to be reduced by at least 2.2 million tonnes of CO_2e by 2030. The emission reductions from the agreement contribute to achieving Denmark's national climate targets and the emission reduction target for the agriculture and forestry sector. The Danish Parliament must revisit the Green Tripartite Agreement in 2027 and assess whether the agreement's climate target will be met. If the planned reductions are not realised, the agreement requires equivalent CO_2e reductions of up to 2.2 million tonne in 2030 through other measures in the agricultural sector. In this analysis, the DCCC examines how the agricultural sector can meet the Green Tripartite Agreement's climate target. The analysis shows that additional technical CO_2e reductions can only be achieved through measures in livestock housing and manure storage facilities, and that this potential is insufficient to ensure that the Green Tripartite Agreement's climate target is met. This leaves structural transition of the agricultural sector, which should be initiated now.

1.1 The Green Tripartite Agreement's climate target and its revisit

The 2027 review of the Green Tripartite Agreement is important for the agricultural sector's transition and Denmark's climate targets

The Green Tripartite Agreement is an important step in the transition of Danish agriculture. However, it is far from certain that the agreement's climate targets will be achieved. The agreement aims to ensure greenhouse gas emission reductions of at least 2.2 million tonne of CO_2e by 2030. Policy measures corresponding to reductions of 1.8 million tonne have been planned, but the government has yet to present a plan for achieving the remaining 0.4 million tonne. At the same time, several of the planned reductions are uncertain. The revisit of the agreement in 2027 will therefore be important for ensuring emission reductions towards 2030 while also setting a clear direction for the long-term transition of agriculture towards climate neutrality by 2045.

The review and the contribution of the Green Tripartite Agreement are illustrated in Box 1.1.

Structural transition is needed

According to the Danish Council on Climate Change's (DCCC) previous analysis, *Denmark's Climate Transition Towards 2050*, substantial emission reductions in the agricultural sector may be needed to achieve climate neutrality. Greenhouse gas emissions can be reduced both through the use of technology and through a more systemic transition of the agricultural and food system, see for example, Augustiny et al. (2026) and Karlsson et al. (2018).[1] The DCCC's definitions of these two emission reduction pathways used in this analysis are described below, and the relationship between them is illustrated in Figure 1.1.

- **Technical transition** involves the use of technologies that reduce emissions while maintaining existing production. These may include technologies that reduce emissions from manure in livestock housing and slurry storage tanks, or feed additives that reduce emissions from enteric fermentation. However, investments in livestock housing and manure storage technologies may make it more expensive to reduce or restructure livestock production at a later stage if the investments require a certain number of animals or a certain volume of manure to be economically viable.

- **Structural transition** refers to changes in production systems towards more climate-friendly methods of livestock farming or crop cultivation. For example, this may involve a shift from indoor livestock housing systems towards greater use of grazing. It may also involve changes in the composition of livestock production, such as switching to different types of livestock or reducing the number of animals within existing production systems. Structural transition typically results in smaller amounts or different types of manure to which technological measures can be applied.

The DCCC's scenarios in *Denmark's Climate Transition Towards 2050* demonstrated that a significant structural transition in livestock production may be necessary even along a technology-intensive pathway towards climate neutrality. This is the case even though the scenarios includes substantial negative emissions from, among other things, CO_2 uptake in forests and direct air carbon capture and storage (DACCS). The extent of the structural transition depends on developments in other sectors and, in particular, on the potential to generate negative emissions.

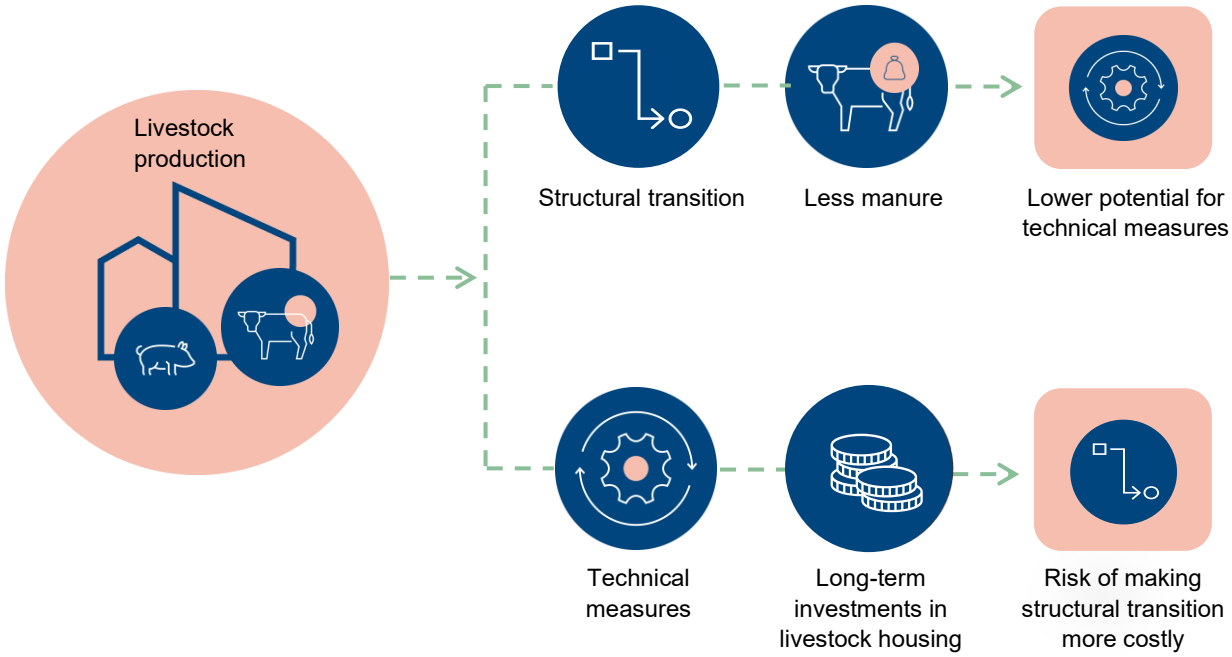


Figure 1.1 Technical and structural transition

Source: Danish Council on Climate Change.

Box 1.1 The greenhouse gas emissions targets of the Green Tripartite Agreement and the revisit

The Green Tripartite Agreement includes a politically agreed climate target for 2030 and targets for emission reductions in 2035. These reductions are intended to contribute to achieving Denmark's national climate targets for 2030, 2035 and 2045. The latter two targets remain to be incorporated into the Danish Climate Act. The Climate Act includes the 2030 target and a target of climate neutrality by 2050. The Green Tripartite Agreement's contribution is described in Table 1.1.

Table 1.1 The Green Tripartite Agreement's contribution

2030	2035	2045
The Green Tripartite Agreement's 2030 climate target. Emission reductions of at least 2.2 million tonnes of CO_2e must be achieved. The target contributes to Denmark's national climate target of a 70 per cent reduction by 2030 and the 55 –65 per cent reduction target for the agriculture and forestry sector.	The Green Tripartite Agreement's emission reductions for 2035. These reductions contribute to Denmark's national climate target of an 85 per cent reduction by 2035.	National climate target of achieving climate neutrality by 2045.

Sources: Regeringen m.fl., 2024,[2] Danish Council on Climate Change.

Two planned revisits of the Green Tripartite Agreement

The Green Tripartite Agreement, adopted in 2024, is scheduled to be revisited in 2027 and 2032. The two revisits will focus on different elements of the agreement, while the overarching objective of both is to ensure that the agreement's overall climate target for 2030 and the expected emission reductions in 2035 are achieved. The revisits of the Green Tripartite Agreement are described in Table 1.2.

Table 1.2 Revisits of the Green Tripartite Agreement

Year of review	Description
2027	• A plan to ensure that the agreement's overall climate target for 2030 is achieved. All policy measures, including the livestock emissions tax, contribute to achieving the target, and can therefore be included in the review. • The 2030 target for rewetting carbon-rich lowland soils. • Afforestation efforts, with a focus on the pace of implementation towards 2030, groundwater protection and nitrogen reduction efforts.
2032	• The livestock emissions tax, with a focus on emission reductions achieved and the remaining reduction requirement in relation to the current climate targets for 2035 and 2045. The review will focus on, among other things, possible adjustments to tax rates and basic deductions, as well as decisions on the future development of the tax after 2035. • Review of the pyrolysis efforts.

Source: Regeringen m.fl., 2024.[3]

A deficit of approximately 1.4 million tonne of CO_2e reductions may put the 2030 climate target of the Green Tripartite Agreement at risk

According to the Green Tripartite Agreement, measures still need to be identified for 0.4 million tonne of CO2e reductions to achieve the total target of 2.2 million tonne of CO2e reductions by 2030. However, DCCC assesses that the total reduction requirement could be around 1.4 million tonne of CO2e. This is because the DCCC assesses that the policy measures already planned may deliver 1.0 million tonne of CO2e fewer reductions than assumed in the Green Tripartite Agreement. See Table 1.3.

The DCCC first made this assessment in *Status Outlook 2026*, when it examined the risk that the expected emission reductions from the Green Tripartite Agreement's livestock emissions tax, the use of the feed additive Bovaer, subsidies for pyrolysis, regulation of fertiliser and lime use, and efforts to rewet carbon-rich lowland soils and promote afforestation would not be realised by 2030. Table 1.3 illustrates the DCCC's assessment of the potential implications of uncertainties surrounding the planned emission reductions under the Green Tripartite Agreement.

The 2027 review of the Green Tripartite Agreement should therefore address both the progress made in implementing the agreed measures and how additional measures should be initiated to meet the 2030 target.[4]

Table 1.3 The Green Tripartite Agreement's climate target, planned policy measures and the DCCC's realistic assessment

	Planned regulation	Green Tripartite Agreement	------ DCCC's assessment ------	
		Expected reductions *Million tonnes of CO_2e*	Expected reductions *Million tonnes of CO_2e*	Rationale
	Livestock emissions tax	0.4	0.4	High implementation risk. The impact has not been quantified.
	Subsidies for the use of Bovaer (feed additive)	0.4	0.1	Uncertain uptake
	Subsidies for pyrolysis	0.3	0	Highly uncertain effect
	Subsidies for reduced fertiliser use and a tax on emissions from lime application	0.3	0.3	High implementation risk. The impact has not been quantified.
	Subsidies for afforestation	0.1	0	Insufficient pace of implementation
	Subsidies for rewetting carbon-rich lowland soils	0.3	0	Insufficient pace of implementation
	Total planned reductions	1.8	0.8	
	Remaining emission reductions needed to achieve the agreement's climate target of 2.2 million tonne of CO_2e	0.4	1.4	

Note: The Danish Council on Climate Change's assessment of the climate impacts in 2030 takes into account the available documentation, uncertainties and risks associated with implementation. The contribution from pyrolysis is assumed to be zero, as the DCCC concluded in *Status Outlook 2026* that the expected emission reductions are highly uncertain and likely to be overestimated. However, this does not mean that pyrolysis cannot contribute to reducing greenhouse gas emissions in the longer term.

Sources: Økonomiministeriet, 2024,[5] Danish Council on Climate Change, 2026,[6] Danish Council on Climate Change.

1.2 Agricultural emissions and emission reduction options in 2030

Agricultural emissions originate from several sources. They can broadly be divided into emissions from:

- Carbon-rich lowland soils
- Nitrous oxide emissions from agricultural fields
- Enteric fermentation
- Manure management in livestock housing and manure storage facilities.

Several emission reduction options exist for each of these emission sources. Under the Green Tripartite Agreement, a range of policy measures will be implemented to reduce emissions from all four sources. These policy measures are linked to specific reduction measures, such as afforestation and the use of the feed additive Bovaer.

In this report, the DCCC examines opportunities to identify additional emission reductions that could help ensure that the Green Tripartite Agreement's climate target for 2030 is met and reduce the uncertainties associated with the agreement identified by the DCCC. The DCCC does not assess the risks associated with achieving the emission reductions planned under the Green Tripartite Agreement for 2035.

The DCCC identifies livestock production as a key area for achieving additional emission reductions

In *Status Outlook 2026*, the DCCC points to considerable uncertainty surrounding several of the planned emission reductions under the Green Tripartite Agreement. The risk assessment highlights uncertainty regarding emission reduction effects, implementation risks and an insufficient pace of implementation. Therefore, additional reductions cannot be expected from these measures. However, the DCCC identifies opportunities for emission reductions in livestock production through both technical and structural transition that could help ensure that the Green Tripartite Agreement's climate target is achieved.

The technical reduction potential is presented in Chapters 4 and 5, which also discuss the impact of the livestock emissions tax on structural transition in livestock production. The analysis covers technologies described in the catalogue of climate mitigation measures for which sufficient information is available to estimate both their emission reduction potential and costs.[7] Table 1.4 summarises the review of the reduction measures for each of the agricultural sector's emission sources.

Table 1.4 The technical reduction measures examined and DCCC's assessment of the potential for additional emission reductions by 2030

Primary emission source	Reduction measure assessed	Assessment of planned measures	Additional emission reduction potential in 2030
Changes in soil carbon stocks	Setting aside and rewetting carbon-rich lowland soils	High implementation risk	No
Changes in soil carbon stocks	Pyrolysis	High uncertainty regarding emission reductions and implementation	No
Nitrous oxide emissions from agricultural fields and changes in forest carbon stocks	Afforestation	High implementation risk	No
Nitrous oxide emissions from agricultural fields	Nitrogen reduction measures	Additional climate effects are uncertain	No
Enteric fermentation	Methane-reducing feed measure	High implementation risk and uncertainty regarding the climate effect	No
Manure management in livestock housing and manure storage facilities	Technical reduction measures	Realisation depends, among other things, on the implementation of the livestock emissions tax and the number of approved reduction measures	Yes. The potential is calculated in Chapters 4 and 5

Note: Emissions from enteric fermentation can be reduced not only through the use of feed additives, but also through changes in feed composition and genetic selection of lower-emitting animals. The DCCC assesses that this reduction potential can only be realised in the longer term, after 2030. Additional emission reductions may also be achieved through nitrogen regulation. New nitrogen regulation will take effect in 2027, increasing the scope of nitrogen reduction efforts. All else being equal, this is expected to increase the climate benefits. However, it is not possible to quantify a robust potential for additional emission reductions beyond those already assumed under the Green Tripartite Agreement through regulation of fertiliser application. This is due to considerable uncertainty surrounding the nitrogen regulation and its interaction with the land-use regulation under the Green Tripartite Agreement. Chapter 3 provides a systematic review of the different emission reduction options.

Sources: Danish Council on Climate Change, 2026, [8] Danish Council on Climate Change.

1.3 Technical emission reductions in livestock housing and manure storage facilities in 2030 and 2035

The DCCC has calculated the technical potential for reducing emissions from manure management in livestock housing and manure storage facilities. The technologies include, among other things, acidification of manure in livestock housing and storage facilities, as well as the use of biofilters in manure storage facilities.

The analysis indicates that increased use of technology in livestock production could deliver additional emission reductions, but that the technical potential is limited relative to total emissions from livestock production. The assessments are based on optimistic assumptions regarding, for example, the deployment of technology and the pace of implementation, and should therefore be regarded as the maximum reduction potential in 2030. Furthermore, the calculations only reflect what is technically feasible within existing livestock housing and manure storage systems, not what would be preferable from a farm-economic standpoint. This means that the technical potential achievable in practice could be considerably lower than the technical potential presented in this analysis.

Technology has limited potential to reduce emissions from livestock production

The technical emission reduction potential is estimated at approximately 0.8 million tonne of CO_2e in 2030 and 0.6 million tonne in 2035, in addition to the reductions already included in *Denmark's Climate Status and Outlook 2026*. See Figure 1.2. This corresponds to 13 per cent of total emissions from livestock production in 2030 and 11 per cent in 2035.

The potential for technical solutions decreases by 2035. This is due to expected reductions in livestock production and changes in livestock housing systems. These developments generally reduce the amount of manure accessible to reduction technologies or limit their feasibility. Furthermore, ammonia regulation and the expansion of biogas capacity limit the potential for implementing additional climate technologies, as these technologies cannot always be combined.

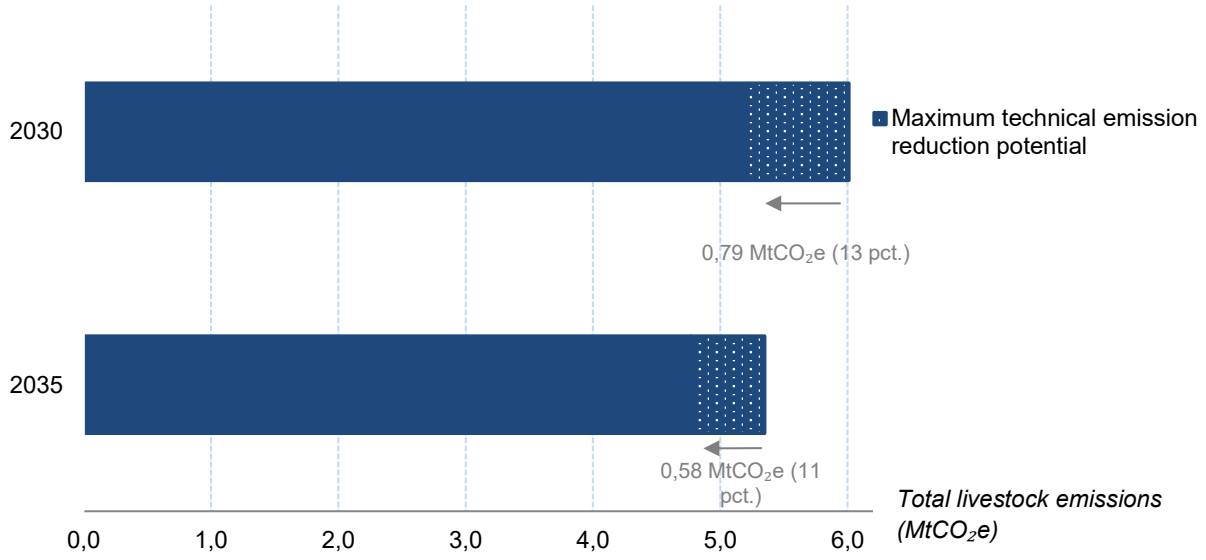


Figure 1.2 Total greenhouse gas emissions from livestock in 2030 and 2035 and the maximum technical emission reduction potential

Note 1: The potential is calculated as additional emission reductions compared with *Denmark's Climate Status and Outlook 2026*, assuming full deployment of the technologies examined wherever technically feasible. Reductions from organic livestock housing systems and deep litter manure management are not included, as relevant estimates of their effects are not available in the *Catalogue of Climate Mitigation Measures* [9].

Note 2: The potential is calculated separately for 2030 and 2035. The potential in 2030 has therefore not been subtracted from the potential in 2035. The percentages indicate the potential as a share of total emissions from livestock production.

Note 3: Emissions from manure management include only methane and direct nitrous oxide emissions from cattle and pigs.

Source: Danish Council on Climate Change.

The calculations focus only on the emission reductions that could be achieved by applying technologies applicable to manure from cattle and pigs. This means that the assessment of technical potential does not take into account investments or operating costs. The results depend on the scale of livestock production, the types of livestock housing systems and the projected use of technologies in *Denmark's Climate Status and Outlook 2026*. The calculated potential therefore represents additional reductions beyond those already included in the Climate Outlook. However, the potential overlaps with the 0.4 million tonnes of CO_2e reductions expected from the livestock emissions tax under the Green Tripartite Agreement. The extent of this overlap has not been quantified.

1.4 The potential impact of the livestock emissions tax in 2030 and 2035

From 2030 a tax on emissions from livestock production of DKK 300 per tonne of CO_2e will be introduced, increasing to DKK 750 in 2035. The tax is intended to give incentives for livestock producers both to reduce emissions using technology and to make structural changes, for example by changing the number or types of livestock.

The effect of the livestock emissions tax depends on the cost of implementing specific technology and the tax rate. Producers must pay a tax on emissions exceeding a base deduction of 60 per cent

of the average emissions per animal. To assess the economically feasible level of emission reductions from technical measures, we compare the annual tax savings from adopting a specific technology with the annualised costs of implementing that technology for different farm types. See Box 1.2.

A large share of the technical emission reductions may be economically feasible

At a tax level of DKK 300 per tonne of CO_2e a wide range of technologies becomes economically feasible, potentially delivering total greenhouse gas emission reductions of up to 0.6 million tonnes of CO_2e in 2030. Increasing the tax rate to DKK 750 per tonne of CO_2e in 2035, leads to emission reductions of approximately 0.5 million tonnes of CO_2e. These reductions correspond to 72 and 86 per cent of the maximum technical potential, respectively. Figure 1.3 shows both the total technical potential and the share that becomes economically feasible under the tax. Both figures represent reductions additional to those already included in *Denmark's Climate Status and Outlook 2026*. The lower potential in 2035 compared to 2030 is due to projections of fewer livestock and changes in livestock housing systems, which together limit the potential for deploying these technologies in 2035.

The reductions in 2030 and 2035 cannot be added, as they are calculated independently. Instead, the results reflect the emission reductions that can be achieved most cost-effectively through technology, based on the amount of manure currently projected to be available in each year.

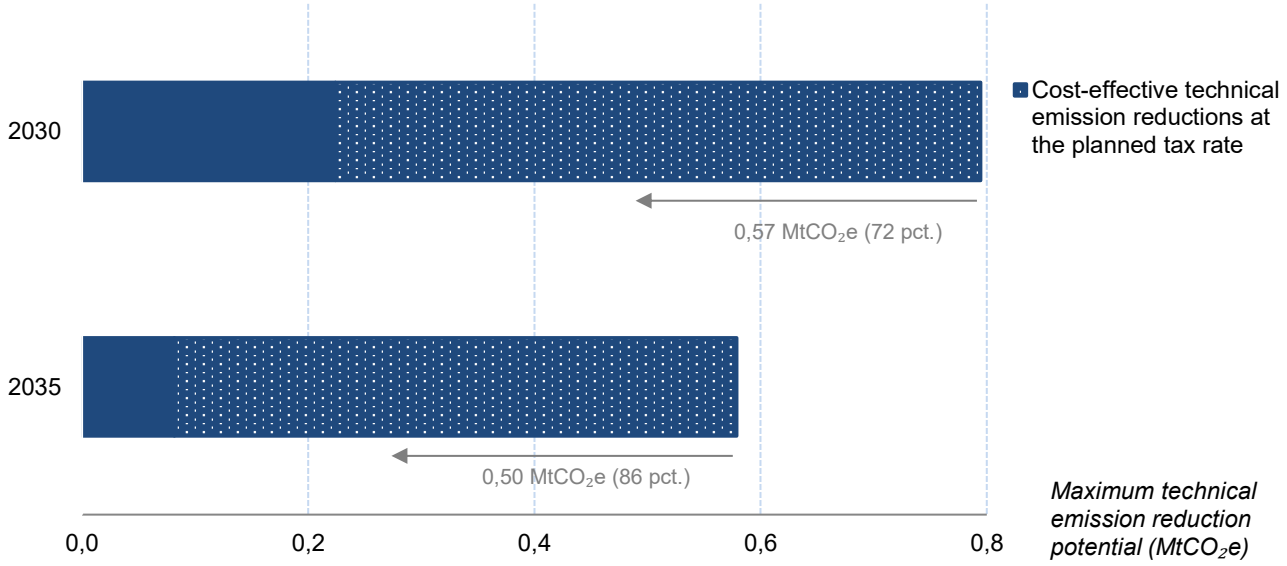


Figure 1.3 Maximum technical reduction potential and the cost-effective share of the livestock emissions tax

Note 1: The potential is calculated as additional emission reductions beyond those already included in Denmark's Climate Status and Outlook 2026. The Climate Outlook already accounts for an expected decline in livestock production, changes in livestock housing systems and the uptake of environmental technologies. However, the additional deployment of livestock housing and manure storage technologies specifically in response to the livestock emissions tax has not yet been accounted for separately. The calculations in this analysis therefore estimate the technical emission reduction potential beyond the reductions already included in the Climate Outlook.

Note 2: The potential in 2030 and 2035 cannot be added together, as each is calculated independently based on the projected manure volumes for the respective year in the Climate Outlook. The calculation for 2035 therefore does not account for the possibility that the tax may already have incentivised investments in technology in 2030. The 2035 estimate should instead be understood as the most cost-effective combination of technologies at the adopted tax rate.

Source: Danish Council on Climate Change.

The estimates are optimistic, as they assume that all the technologies included can be sufficiently documented and implemented in livestock housing and manure management facilities by 2030. The results should also be viewed with the caveat that a clear and transparent implementation pathway for the tax has yet to be established, and uncertainty remains about the tax base. The results only cover technical emission reductions. In practice, some of the adjustment to the tax will happen through structural transition, meaning that the technical reductions will be lower than estimated. See Box 1.2 for further details on the calculations.

Box 1.2 Calculation of the technical potential and the incentives provided by the livestock emissions tax

Technical potential

The DCCC uses the projections of livestock production in *Denmark's Climate Status and Outlook 2026* as a starting point to calculate which technologies can deliver the greatest CO_2e emission reductions for each type of livestock housing and manure storage facility and the associated manure volumes. The technical potential changes over time, as the Climate Outlook assumes, among other things, a decline in livestock numbers due to the livestock emissions tax and other developments in agricultural production.

Potential realised through the livestock emissions tax

Under the livestock emissions tax, farmers must pay tax on emissions exceeding a basic deduction equivalent to 60 per cent of the average emissions per animal. The use of technology can therefore reduce emissions and, consequently, the amount of tax paid. The calculations compare the tax savings from adopting a specific technology with the costs of implementing that technology for the producer. Costs are presented as annualised values in 2025 factor prices.

The analysis only covers technical emission reductions, and does not include further structural transition. The methodology and the determination of the basic deduction are explained in more detail in Boxes 5.2 and 5.3. The interaction with structural transition and the policy framework for the tax are discussed in Boxes 5.4 and 6.2.

Higher tax rates increase pressure for structural transition

The planned livestock emissions tax in 2030 could make 72 per cent of the technical potential economically viable at a cost of approximately DKK 76 million per year. This represents just 20 per cent of the cost of achieving the full technical potential. In 2035, 86 per cent of the potential could be achieved at the adopted tax rate, at a cost of approximately DKK 107 million per year. Thus, a large share of the relatively low-cost technical emission reduction options already becomes economically viable at the initial tax rate.

Conducting a sensitivity analysis shows that increasing the tax from DKK 300 to DKK 600 per tonne of CO_2e in 2030 would increase economically feasible technical emission reductions from approximately 0.6 to 0.7 million tonnes of CO_2e. Further increases in tax rates lead to only marginal additional emission reductions. Even at a tax rate of DKK 2,000 per tonne, emission reductions remain almost unchanged. Further tax increases would therefore increasingly strengthen incentives for structural transition rather than additional deployment of technologies, as the opportunities for further technical measures would either be exhausted or become too expensive to be economically viable.

This supports previous calculations using the GreenREFORM model that show that the share of reductions achieved through structural transition increases at higher tax rates. Similarly, calculations by *the Expert Group on a Green Tax Reform* showed that even relatively low tax rates provide incentives for structural transition[10].

Investments in technology today could make the agricultural sector's transition more costly in the future

It is important to note that investments in technology made before the livestock emissions tax takes effect in 2030 may prove inefficient in the longer term, as structural transition becomes more cost-effective than technical investments. The same applies as the tax rate increases, making other options, such as alternative technological solutions or structural changes, more cost-effective.

At the same time, investments in livestock housing and manure storage technologies in the short term could make structural transition more costly, as livestock producers may become locked into solutions that require, for example, a certain number of animals and a certain quantity of manure. It is therefore important to clarify the tax base, the progression of tax rates and how technical reduction measures can be accounted for as soon as possible, enabling producers to make economically sound and sustainable long-term decisions. Likewise, it is important to develop a plan for the Danish agricultural sector in both the short and long term to ensure robust emission reductions towards climate neutrality by 2045.

The specific design of the basic deduction is important for the effectiveness of the livestock emissions tax

Under the Green Tripartite Agreement, the basic deduction is set at 60 per cent of the average emissions from a given type of livestock. The specific definition of the base deduction has yet to be described. However, this is expected to have a significant impact on the overall emission reduction effect of the tax.

A uniform basic deduction means that the same deduction applies to a broad group of animals of the same type, such as dairy cattle. Within this group, calculated emissions may vary considerably due to differences in, for example, breed and livestock housing systems. As a result, animals with higher emissions face a greater tax burden than those with lower emissions, making differences in emissions more important in determining tax payments. If the basic deduction is instead differentiated further by, for example, breed or livestock housing within each livestock category, it will more closely reflect differences in emissions, reducing the variation in tax payments. This weakens farmers' economic incentives to choose animals and livestock housing systems with lower emissions.

It is essential to clarify the design of the basic deduction as soon as possible, both to enable farmers to plan their future production and to increase certainty about achieving the climate targets.

1.5 A coherent transition of the agricultural sector

Technology can reduce the emissions intensity of livestock production, but it cannot on its own deliver the emission reductions needed to achieve Denmark's climate targets in either the short or long term. The analysis points to the need for a structural transition in livestock production to ensure that the climate target of the Green Tripartite Agreement is met with sufficient certainty and contributes to achieving Denmark's 2030 climate target, while also putting agriculture on track towards the long-term climate targets.

The livestock emissions tax should be the main driver of this transition, just as the general carbon tax is in sectors such as industry. The tax can be supplemented by other policy measures that help steer agriculture in the desired direction.

A structural transition of the agricultural sector can support a wide range of policy objectives

Denmark and the EU have set various policy targets for land use. These include the EU Water Framework Directive aimed at achieving good ecological status in the aquatic environment, EU targets for biodiversity protection and increased organic farming, and national targets for afforestation, groundwater protection, and rewetting of carbon-rich lowland soils. [11] At the same time, the coalition agreement of Denmark's four-party government points towards a transition of the pig production sector in particular to increase animal welfare. Additionally, increased production of fruit, vegetables and pulses is stated as desirable. However, the policy framework or measures needed to drive this transition are still unclear.

Less livestock-intensive production could contribute to achieving several of these objectives. For example, lower emissions of methane, nitrogen and ammonia could have additional benefits for the aquatic environment, nature, air quality and human health. At the same time, less livestock-intensive production would make land formerly used for fodder production available for plant-based food production, forests, wetlands, energy production or nature. The benefits for the environment and biodiversity depend on how the land previously used for fodder production is used. Restructuring production therefore creates opportunities for more and better nature, but realising these benefits will require additional policy measures. [12]

A structural transition towards less livestock-intensive production would also affect employment in agriculture and related industries, farm finances and local communities around the farms undergoing transition. [13]

Agricultural regulation and subsidy schemes should point in the same direction

The transition of livestock production, the land-use changes under the Green Tripartite Agreement, and EU agricultural support schemes should ideally pull in the same direction. If the livestock emissions tax is to provide incentives for transitioning towards less emissions-intensive production, other regulations must support this direction. Subsidies can make it easier to change production practices, but they can also make it preferable to maintain existing livestock production.

One example is subsidies for technology, which can make it profitable to maintain existing livestock production and thereby weaken the tax's incentive for structural transition. Another example is temporary subsidies for leaving land fallow, which can weaken incentives for permanent land-use changes, as demonstrated in *Status Outlook 2026*. [14]

A clear direction for the future of agriculture is important

The government is proposing a new food strategy aimed at setting a clear direction for more sustainable agricultural production, for example by increasing self-sufficiency in fruit, vegetables and pulses, increasing demand for plant-based products and supporting local and organic food production. This is a good starting point. However, the transition of the agricultural sector will not happen without clear targets. Thus, subsidy schemes, taxes and regulatory frameworks are needed to provide direction for producers, enable consumers to support the transition through their choices in supermarkets, and promote alternative forms of production that can replace the current livestock-intensive exports.

Overview of the chapters in this analysis:

- **Chapter 2. Agricultural emissions and emission reductions under the Green Tripartite Agreement.** Chapter 2 describes the Green Tripartite Agreement and its relationship to Denmark's national climate targets. It also provides an overview of agricultural emissions and the DCCC's previous analyses focusing on emissions from the agricultural sector.

- **Chapter 3. Mapping emission reduction opportunities in agriculture.** In Chapter 3, the DCCC examines whether additional emission reductions can realistically be achieved by 2030 through measures targeting agricultural land, enteric fermentation and pyrolysis. The chapter also assesses the implementation risks associated with reductions that are already planned or expected. The assessment draws largely on findings from Status Outlook 2026. The DCCC concludes that no robust and achievable emission reduction potential can be identified within these areas that could contribute to meeting the climate targets of the Green Tripartite Agreement by 2030. This leaves two main options: technical measures to reduce emissions from manure management in livestock housing and storage facilities, and reductions through structural transition in livestock production.

- **Chapter 4. Technical emission reduction options in livestock production in 2030 and 2035.** Chapter 4 quantifies the technical potential for reducing emissions from manure management in livestock housing and manure storage facilities. The DCCC calculates a maximum technical reduction potential of approximately 0.8 million tonnes of CO_2e under a range of relatively optimistic assumptions. There is a significant risk that the achievable potential is lower than estimated here.

- **Chapter 5. The climate impact and potential of the livestock emissions tax.** Chapter 5 examines how much of the technical reduction potential becomes economically viable as the livestock emissions tax is implemented between 2030 and 2035. The chapter also examines how higher tax rates affect the economic incentives to invest in technical solutions in livestock housing and manure storage facilities, and how the design of the basic deduction influences the overall impact of the tax. Finally, the chapter discusses the relationship between technical and structural transition when introducing a livestock emissions tax.

- **Chapter 6. A coherent transition of the agricultural sector.** In Chapter 6, the DCCC assesses the broader implications of different pathways for reducing agricultural emissions. Among other things, the chapter discusses how regulation and subsidy schemes can support a structural transition that also takes into account the environment, nature, and the agricultural sector's economic performance and employment.

References

[1] Augustiny, E., Muller, A., Green, A., Mathys, A., Pfister, S., Curran, M. and Frehner, A., *Reducing biodiversity impacts of agricultural production while maintaining food supply – a modelling study of the Swiss food system*, 2026, Environmental Research Food Systems, 3; og Karlsson, J.O., Carlsson, G., Lindberg, M., Sjunnestrand, T., Röös, E., *Designing a future food vision for the Nordics through a participatory modelling approach*, 2018, Agronomy for Sustainable Development, 38.
[2] Regeringen m.fl., *Aftale om Implementering af et Grønt Danmark*, 2024.
[3] Regeringen m.fl., *Aftale om Implementering af et Grønt Danmark*, 2024.
[4] Regeringen m.fl., *Aftale om Implementering af et Grønt Danmark*, 2024.
[5] Økonomiministeriet, *Klimaløsning for landbruget m.v.*, 2024.
[6] Klimarådet, *Statusrapport 2026*, 2026.
[7] Adamsen, A.P., Rasmussen, J., Manevski, K., Lærke, P.E., Larsen, S.U., Jørgensen, U., Olesen, J.E., Andersen, M.N., Bay, S.S., Hutchings, N.J., Hansen, E.M., Munkholm, L.J., Børgesen, C.D., Thomsen, I.K., Elsgaard, L., Petersen, S.O., Toda, M., Ntinyari, W., Sørensen, P., Rasmussen, C., Thers, H., Peixoto, L., Han, E., Audet, J., Krogh, P.H., Bruus, M., Blicher-Mathiesen, G., Kronvang, B., Zak, D., Andersen, H.E., Andersen, T.A., Albrektsen, R., Gyldenkærne, S., Callisen, L.W., Mikkelsen, M.H., Winding, A., Sapkota, R., Jensen, S.S., Dalby, F.R., Kai, P., Hansen, M.J., Jensen, M., Poulsen, N.A., Wiking, L., Nørremark, M., Børsting, C.F., Lund, P., Kjeldsen, M.H., Maigaard, M., Franchi, G.A., Jensen, M.B., Pedersen, L.J., Nørgaard, J.V., Brask, M., Leishman, E.M., Villumsen, T.M., Stephansen, R.B., Kristensen, H.L., Bouquet, A., Buitenhuis, A., Nielsen, H.M., 2025. *Virkemidler til reduktion af klimagasser i landbruget – 2026*. DCA – AU. Leveret som udkast til kommentering: 24.06.2026.
[8] Klimarådet, *Statusrapport 2026*, 2026.
[9] Adamsen, A.P., Rasmussen, J., Manevski, K., Lærke, P.E., Larsen, S.U., Jørgensen, U., Olesen, J.E., Andersen, M.N., Bay, S.S., Hutchings, N.J., Hansen, E.M., Munkholm, L.J., Børgesen, C.D., Thomsen, I.K., Elsgaard, L., Petersen, S.O., Toda, M., Ntinyari, W., Sørensen, P., Rasmussen, C., Thers, H., Peixoto, L., Han, E., Audet, J., Krogh, P.H., Bruus, M., Blicher-Mathiesen, G., Kronvang, B., Zak, D., Andersen, H.E., Andersen, T.A., Albrektsen, R., Gyldenkærne, S., Callisen, L.W., Mikkelsen, M.H., Winding, A., Sapkota, R., Jensen, S.S., Dalby, F.R., Kai, P., Hansen, M.J., Jensen, M., Poulsen, N.A., Wiking, L., Nørremark, M., Børsting, C.F., Lund, P., Kjeldsen, M.H., Maigaard, M., Franchi, G.A., Jensen, M.B., Pedersen, L.J., Nørgaard, J.V., Brask, M., Leishman, E.M., Villumsen, T.M., Stephansen, R.B., Kristensen, H.L., Bouquet, A., Buitenhuis, A., Nielsen, H.M., 2025. *Virkemidler til reduktion af klimagasser i landbruget – 2026*. DCA – AU. Leveret som udkast til kommentering: 24.06.2026.
[10] Ekspertgruppen for en grøn skattereform, *Grøn skattereform - endelig afrapportering*, 2024.
[11] Klimarådet, *Danmarks fremtidige arealanvendelse*, 2024.
[12] Klimarådet, *Danmarks fremtidige arealanvendelse*, 2024.
[13] Klimarådet, *Danmarks fremtidige arealanvendelse*, 2024.
[14] Klimarådet, *Statusrapport 2026*, 2026.