CLIMATE CHANGE ADVISORY COUNCIL

Annual Review 2025

Agriculture and Land Use, Land Use Change and Forestry

Annual Review 2025: Agriculture and Land Use, Land Use Change and Forestry

Submitted to the Minister for Climate, Energy and the Environment on 14 July 2025

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Summary for All

Key observations

In this Review, the Climate Change Advisory Council outlines observations and recommendations for the Agriculture sector as well as the Land Use, Land Use Change and Forestry (LULUCF) sector.

Agriculture remains the largest source of emissions in Ireland and this sector must reduce emissions by 25% by 2030 to meet the target in the latest Climate Action Plan. Provisional data from 2024 showed that emissions have decreased by only 4.6% since 2018. This highlights the need to urgently accelerate the roll-out of proven on-farm measures to reduce emissions.

Agriculture is also vulnerable to climate risks. Above-average rainfall in the first half of 2024 reduced grass growth and placed pressure on farmers in relation to feeding animals and replenishing fodder stocks. The provision of proactive advice to farmers and favourable autumn conditions averted a fodder shortage.

The LULUCF sector remains a significant source of emissions, and forestry is likely to have shifted from an emissions sink to a source in 2024. The recent storms Darragh and Éowyn have accelerated this shift and exposed how vulnerable Ireland's forest estate is to extreme winter storms, with over 26,000 ha having been damaged by windthrow.

Key recommendations

1. Reducing emissions

The Government should strengthen incentives, regulations, monitoring systems and training support to accelerate the achievement of Climate Action Plan 2025 targets, particularly the target of replacing between 80% and 90% of calcium ammonia nitrate fertiliser with protected urea, and set annualised targets for the deployment of methane-reducing manure additives.

Afforestation rates are substantially below target. The Government should take urgent action to increase participation in the Forestry Programme 2023–2027 while upholding the principle of 'the right tree in the right place with the right management'. To protect vital carbon stores, trees must not be planted on deep peat soils, and forests must be managed to withstand climate risks and increase biodiversity benefits.

The Government should finalise and publish Phase 2 of the Land Use Review, which is urgently needed to inform strategies for land use that support improved socio-economic, climate, biodiversity, and water and air quality outcomes. These strategies should set out clear timelines, resources and training needs, and implementation responsibilities for the Department of Agriculture, Food and the Marine and other relevant agencies.

2. Prioritising resilience

The Government should establish a dedicated unit to accelerate the deployment of nature-based solutions for the management of water resources and flood risk at catchment level. Large-scale pilot schemes should be designed with landholder engagement to roll out the deployment of these solutions.

3. Accelerating diversification

In the 2026 Climate Action Plan, the Government should set annual targets for the roll-out of specific diversification measures, including for bioenergy generation, organic production systems, expanding tillage, biodiversity restoration, and increasing afforestation and agroforestry, with timely delivery of policies to support these.

Abbreviations

AD	anaerobic digestion
AMS	Area Monitoring System
CAN	calcium ammonium nitrate
CAP	Climate Action Plan
CBAM	Carbon Border Adjustment Mechanism
CRCF	Carbon Removal Certification Framework
DAFM	Department of Agriculture, Food and the Marine
EPA	Environmental Protection Agency
LULUCF	land use, land use change and forestry
MACC	Marginal Abatement Cost Curve
NCCRA	National Climate Change Risk Assessment
SAP	Sectoral Adaptation Plan
SEC	sectoral emissions ceiling
WAM	with additional measures
WEM	with existing measures

Contents

Key observations

Agriculture sector emissions and main trends

- Emissions estimates for the Agriculture sector have been updated based on the latest scientific research and improved activity data (see Box 1 and Table 1). Provisional Agricultural sector emissions in 2024, of 20.4 Mt CO_2 eq,[a] were down 1.7% relative to 2023, and down 4.6% compared with 2018.[1,2]
- Underpinning the Agriculture sectoral emissions ceilings[3] are commitments to reduce emissions by 10% by 2025 and 25% by 2030 relative to 2018. EPA projections suggest that, under the 'with existing measures' (WEM) scenario, emissions will remain largely static over the period to 2030, whereas emissions would fall by approximately 16% by 2030 under the 'with additional measures' (WAM) scenario. The latest Climate Action Plan has identified potential on-farm diversification actions that could deliver a 23% emissions reduction by 2030 when combined with measures under the WAM scenario.

Land Use, Land Use Change and Forestry sector emissions and main trends

- Emissions estimates for the Land Use, Land Use Change and Forestry (LULUCF) sector have been updated based on the latest scientific research and improved activity data. See Box 1 and Table 7. Nevertheless, large uncertainties remain, and further refinements to the national emissions inventory are expected.
- Over the whole time series (1990–2023), total net emissions estimates are lower than previous estimates; however, LULUCF remains a significant net source of emissions.
- The publication of the final inventory values for 1990–2023[1] allows for a robust estimate of the emissions trajectory required for the sector to meet the target set under the EU LULUCF Regulation. This sets an emissions budget for the sector of 18 Mt CO_2 eq for the period 2026–2030. The most recent projections[4] suggest that the LULUCF sector is unlikely to remain within this emissions budget.
- The risk that the forestry sector will transition from a net sink to a net source of emissions remains, with projections pointing to a transition from sink to source in 2024. Afforestation rates remain well below the target of 8,000 ha per year. The damage to forests during the winter of 2024/25 is likely to result in a significant one-off increase in carbon losses from the sector, the full extent of which will not be assessed until reporting in 2026.

a The total emissions of greenhouse gases are reported using global warming potential values evaluated over 100 years (GWP100). The GWP100 values for each gas are those published in the Intergovernmental Panel on Climate Change's Fifth Assessment Report.

- Initiatives to reduce emissions associated with peatlands and drained organic soils are beginning to be rolled out, but evidence suggests that these have so far had a limited impact on overall emissions trends.

Resilience

- The year 2024 was challenging for grass growth, with above-average rainfall over the first 6 months leaving farms vulnerable to fodder shortages. Advisory services were proactive in advising farmers on how to maximise winter fodder production and on how to manage if supplies were suboptimal. This, coupled with good autumn conditions, meant that ultimately a fodder shortage was averted.

Key recommendations

Increasing the pace of emissions reductions

1. The Department of Agriculture, Food and the Marine (DAFM) should set targets for each year for the deployment of methane-reducing manure additives; these targets should be included in the Climate Action Plan 2026.
2. An urgent push in 2025 is needed to progress the Climate Action Plan target of an 80–90% replacement of calcium ammonium nitrate (52.8% in 2024) with protected urea, by using available instruments (e.g. taxation, regulation and incentives) to overcome technical and behavioural barriers to uptake.
3. The Government must finalise and publish Phase 2 of the Land Use Review, which is urgently needed to inform strategies for land use that support improved socio-economic, climate, biodiversity, and water and air quality outcomes. These strategies should set out clear timelines, resource and training needs, and implementation responsibilities for DAFM and other relevant agencies.
4. Afforestation rates remain well below target. It is evident that the Forestry Programme 2023–2027 has not attracted sufficient uptake from farmers and other landowners. DAFM needs to strengthen policy levers to address the urgent need to increase the level of planting by stakeholders.
5. There is strong evidence that afforestation on deep peat leads to significant carbon losses over time. Therefore, the Climate Change Advisory Council recommends that the current constraints on afforestation on deep peat remain unchanged and are rigorously enforced.

Prioritising resilience of the Agriculture and Land Use, Land Use Change and Forestry sectors

6. DAFM should develop and implement a strategy for the long-term management of the forest estate consistent with the principle of 'the right tree in the right place with the right management'. This should include consideration of species, soil type and soil conditions; consideration of the replanting obligation in the context of existing poorly sited plantations; and consideration of forest management to provide carbon and biodiversity co-benefits and climate risk reduction. The strategy should cover the management of forest areas vulnerable to winter storms and other adverse climate impacts, including increased vulnerabilities to forest pests, diseases, wildfires and windthrow.
7. The Council recommends that, through the Farm Advisory System, registered advisers continue to undertake and expand the range of professional development in relevant areas of climate science, emissions reduction and adaptation in order to support farmers with the skills and training to take climate action at farm scale and across all land uses.
8. The Government should establish a dedicated unit to accelerate the deployment of nature-based solutions for the management of water resources and flood risk at catchment level. Large-scale pilot schemes should be designed with landholder engagement to roll out the deployment of these solutions.

Accelerating diversification

9. DAFM should lead in setting annualised targets and roadmaps for the deployment of diversification options, including targets for bioenergy, organic production systems, expanding tillage, biodiversity restoration, and increasing afforestation and agroforestry, in the Climate Action Plan 2026.
10. Implementation of the National Biomethane Strategy has been piecemeal to date, leading to a worryingly low level of interest in progressing this mitigation option. Immediate action is required, across DAFM, the Department of Enterprise, Tourism and Employment and the Department of Climate, Energy and the Environment, to complete the implementation of the suite of policy tools identified in the strategy in order to build investor confidence and incentivise investment, to ensure that demand for biomethane is robust and that production capacity is built up to meet demand.

1. Introduction

Although greenhouse gas emissions from the Agriculture and Land Use, Land Use Change and Forestry (LULUCF) sectors are reported separately under United Nations and EU reporting conventions, the Climate Change Advisory Council examines these together, as their activities are closely integrated. The dominant land use in Ireland is agriculture, followed by forestry.

Agriculture sector emissions in 2023 were down 4.8% relative to 2022, but down only 3.2% relative to 2018.[1] Provisional estimates for 2024 indicate a reduction in emissions of 1.7% relative to 2023, and 4.6% relative to 2018, driven by a reduction in the number of animals in 2024 offsetting an increase in fertiliser use.[2]

The Agriculture sector is the largest source of greenhouse gas emissions in Ireland, accounting for 35.4% of emissions in 2024.[2] Agriculture sector emissions accounted for 48.1% of emissions under the EU Effort Sharing Regulation in 2024. Methane (CH_4) and nitrous oxide (N_2O) emissions associated with livestock dominate the sector's emissions profile.

The LULUCF sector is a net source of emissions in Ireland, accounting for 6.6% of total national emissions in 2023.[1] This is unusual in a European context, where LULUCF typically reports net removals of greenhouse gases. The sector is complex, with the largest sources of emissions being the management of wetlands and grasslands on organic soils. At the same time, grasslands on mineral soils are a significant sink of carbon. Critically, the forest land use category is on a trajectory to transition from being a net sink to a net source of emissions in 2024, due to a large proportion of the national forest estate approaching harvesting age and afforestation rates being insufficient to balance the resulting removals of stored carbon.

In all countries, a common feature of the LULUCF sector is that estimates of emissions and removals are highly uncertain relative to other reporting categories. The national inventory estimates are subject to frequent changes due to improvements in scientific understanding and improvements in land use data. The impact of these improvements on emissions estimates for 2018 can be seen in Table 1.

2. Sectoral emissions ceilings and Climate Action Plan targets

The Environmental Protection Agency (EPA) has undertaken significant research into and development of the Agriculture and LULUCF methodology, which has been incorporated into its most recent inventory and projection analysis (see Box 1 and Table 1). The Council notes that the revisions to the inventory have led to a systematic 6.8% decrease in the estimated emissions associated with the Agriculture sector (excluding fossil fuel use), compared with the data published in 2021 that was used to inform the Council's proposals for carbon budgets for the period 2021–2030. The changes are larger still in the LULUCF sector.

Box 1. Technical review of carbon budgets based on EPA inventories

The results of significant research and development efforts have been incorporated by the EPA into its recent inventory and projection analysis of the Agriculture and LULUCF sectors. The EPA has stated that 'a direct comparison of emissions in the Agriculture sector against its sectoral emission ceilings is no longer viable due to significant refinement of the Agriculture inventory'.[4] The Climate Change Advisory Council notes that the revisions to the inventory have led to a 6.8% decrease in the estimated emissions associated with the Agriculture sector, compared with the data published in 2021 that were used to inform the Council's proposals for carbon budgets for the period 2021–2030. The first opportunity to undertake a review and to make technical adjustments will arise in April 2027, when the inventories for 2021–2025 are finalised. A review should be scheduled to occur, at a minimum, every 5 years thereafter. For further discussion of this topic, see the *Annual Review 2024: Cross-sectoral Review*.[5]

Table 1: Impact of updates to the national inventory of net emissions from the Agriculture and LULUCF sectors in the 2025 submission compared with the 2021 submission.

(Source: EPA.[1,4]) Due to rounding, some totals may not correspond with the sum of the separate figures. The net impact of revisions in other areas of the inventory deliver an additional −0.3 Mt CO_2 eq reduction in estimated emissions.

Emissions	2021 submission (Mt CO_2 eq)	2025 provisional inventory (Mt CO_2 eq)	% change due to revisions	Total change in emissions (Mt CO_2 eq)
2018 total emissions, including LULUCF	68.3	65.5	−4.2%	−2.8
2018 Agriculture sector emissions (excluding fossil fuel combustion)	23.0	21.4	−6.8%	−1.6 (55% of change)
2018 LULUCF sector net emissions	4.8	4.0	−16.7%	−0.8 (28% of change)

2.1. Agriculture

Agriculture emissions are dominated by three key sources: enteric fermentation, agricultural soils and manure management (see Figure 1). All three sources are strongly associated with livestock production.

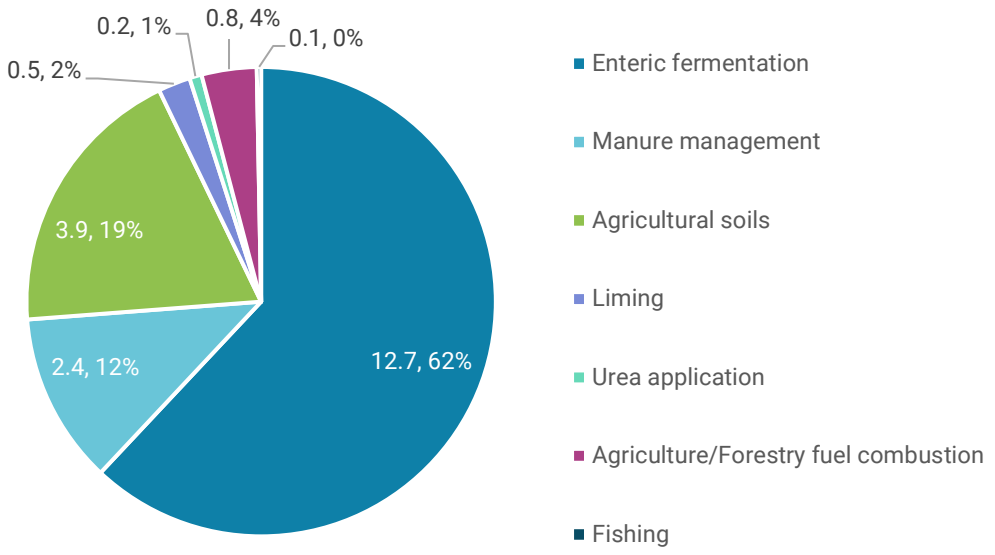

Figure 1: Greenhouse gas emissions (Mt CO_2 eq) associated with the Agriculture sector, 2024.
(Source: EPA.[2])

Table 2 shows progress towards the Agriculture sector's annual emissions target of a 10% emissions reduction by 2025 and a 25% emissions reduction by 2030, relative to 2018. The EPA projections show that these targets will not be met under either the 'with existing measures' (WEM) scenario or the 'with additional measures' (WAM) scenario. In fact, under the WEM scenario some of the emissions reductions achieved to date would be reversed.

Table 3 shows progress towards the sectoral emissions ceiling (SEC) for the Agriculture sector to date, and potential for compliance with the SECs under the WEM and WAM scenarios.

The Agriculture sector has an emissions ceiling of 106 Mt CO_2 eq for the first carbon budget period (2021–2025). Provisional inventories indicate that emissions have reached 80% of the SEC in the first 4 years of the first carbon budget period. The sector is not projected to comply with the first SEC under the WEM scenario, although it is projected to comply under the WAM scenario.

For the second carbon budget period, Agriculture has a SEC of 96 Mt CO_2 eq. Projections for 2026–2027 suggest that compliance with the second SEC under the WEM projection is not likely, while compliance under the WAM scenario is possible.

The EPA commentary on the most recent projections suggests that full implementation of all WAM actions could deliver a 15.8% emissions reduction relative to 2018. Full implementation of the diversification measures outlined in the latest Climate Action Plan would deliver an additional 7% emissions reduction. The sector can therefore achieve a 23% emissions reduction in 2030 relative to 2018, based on measures already identified. A modest increase in ambition within the sector is necessary to achieve the 25% reduction by 2030 in emissions committed to in the latest Climate Action Plan.

Table 2: Progress towards annual emissions targets for the Agriculture sector.
(Sources: Department of Climate, Energy and the Environment, EPA.[3,4,6])

Agriculture	2018	2023	2024	2025	2030
	Mt CO_2 eq				
Inventory	21.4	20.8	20.4		
WEM				21.1	21.6
WAM				20.2	18.0
	% relative to 2018				
Emissions target				−10%	−25%
Inventory		−3.0%	−4.6%		
WEM				−1.4%	0.9%
WAM				−5.6%	−15.9%

Table 3: Emissions for 2021–2024 and in the context of the SEC for the first carbon budget period for the Agriculture sector (2021–2030).
(Source: EPA.[2,4])

Sector	Carbon budget period	SEC Mt CO_2 eq	Provisional inventory, 2021–2024 Mt CO_2 eq		Projected emissions, 2025 Mt CO_2 eq	Distance from SEC Mt CO_2 eq
Agriculture	2021–2025	106	84.9	WEM	21.2	0.1
				WAM	20.2	−0.9
Agriculture	2026–2030	96		WEM	107.4	11.4
				WAM	94.7	−1.3

2.2. Land use, land use change and forestry

A SEC has not been set for the LULUCF sector. The Climate Action Plan 2025 (CAP25) affirmed the goal of achieving the 2030 LULUCF emissions reduction target of 0.626 Mt CO_2 eq relative to the annual average of 3.0 Mt CO_2 eq for the period 2016–2018, agreed under the EU LULUCF Regulation.[7] Figure 2 shows the time series of emissions and removals across all land use categories as reported since 1990.

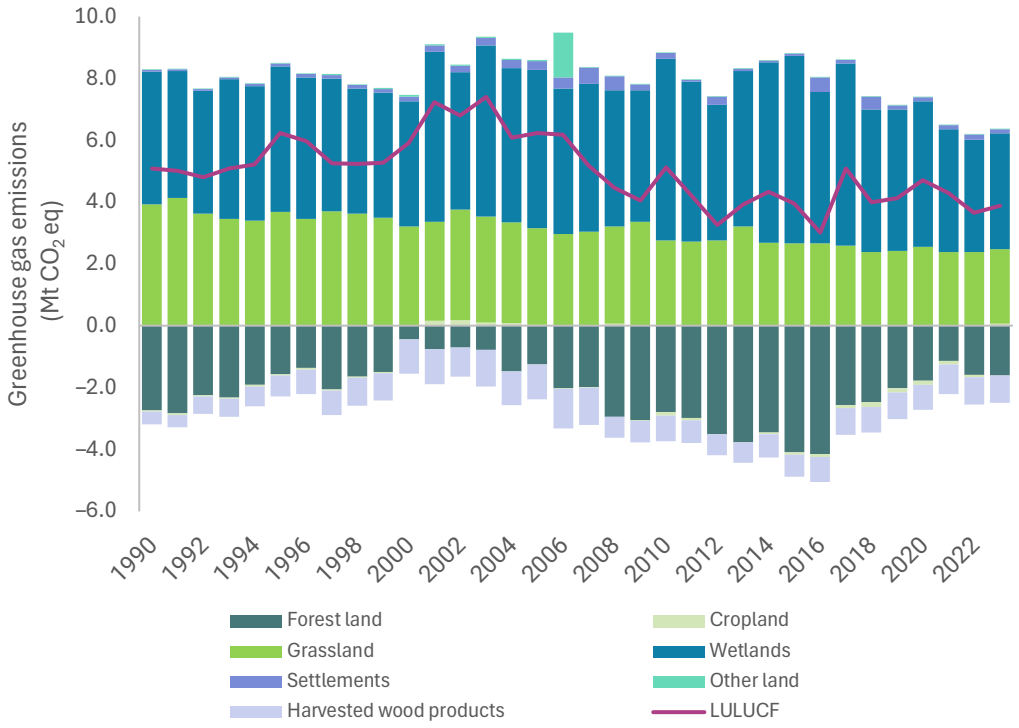

Figure 2: Greenhouse gas emissions associated with the LULUCF sector, 1990–2023.
(Source: EPA.[1])

Under the EU LULUCF Regulation, Member States are committed to remaining within a LULUCF emissions budget for the period 2026–2029, defined on the basis of a linear trajectory towards achieving their 2030 LULUCF target.[a] In effect, this sets a maximum for the SEC allowable for the LULUCF sector while remaining consistent with the EU LULUCF Regulation. Based on the EPA inventory for the period 1990–2023, the estimated EU LULUCF emissions budget for the period 2026–2030 is 17.7 Mt CO_2 eq. This estimated budget is subject to revision as the LULUCF inventory methodology itself is updated and improved. Numbers may either increase or decrease in future with this improved knowledge. The ultimate target and Ireland's progress towards that target will not be determined until the submission of the 2032 inventory. As the regulation does not prescribe total emissions levels for the sector over the period 2021–2025, it is not possible to perform a calculation for the first carbon budget period equivalent to that performed for the Agriculture sector.

a Article 4.4 sets out how to calculate the LULUCF emissions target for 2030, and the emissions budget for the period 2026–2029. The calculation is based on the average emissions in the periods 2016–2018 and 2021–2023. The EPA's publication of the final emissions inventory for 2023 is the first opportunity to make a definitive estimate of the LULUCF emissions budget. However, the analysis is subject to change in line with any subsequent updates to the inventory methodology in the period up to 2032.

Progress towards meeting the EU emissions reduction target has been slow, and projections for the LULUCF sector show net emissions trending in the wrong direction. Preliminary analysis of projections under the WEM and WAM scenarios suggest that LULUCF will overshoot the implied EU budget by 20 Mt CO_2 eq and 27 Mt CO_2 eq, respectively (see Figure 3).

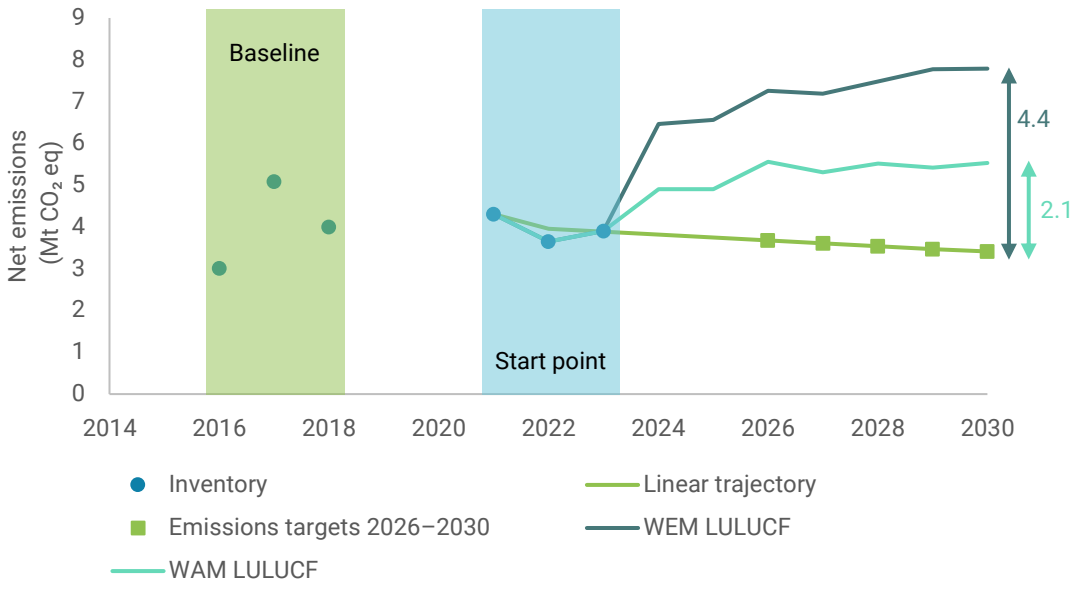

Figure 3: Estimated EU LULUCF Regulation net emissions budget, Emissions targets 2026–2030 (Article 4.4).
(Source: Based on EPA emissions inventory 1990–2023.[1])

3. Indicators

The Council commends the Department of Agriculture, Food and the Marine (DAFM) for rolling out the Food Vision 2030 Dashboard. This online interface provides insights into progress across a range of actions and objectives included in the Food Vision 2030 strategy. The Council urges DAFM to maintain this resource and update the information provided on the dashboard through the website, to maintain consistency with other relevant official publications and data releases. The dashboard could be expanded to include other useful data related to climate action, for example organic farming scheme data.

3.1. Agriculture emissions and main trends

Figure 4 shows the net change in emissions by greenhouse gas in the period 2018–2024. Overall emissions decreased by 4.6%. Much of this reduction is attributable to the reduction in nitrous oxide emissions, which is largely due to a decrease in nitrogen fertiliser use, an increase in the use of protected urea and improved manure management. Limited progress has been made in reducing methane emissions, and emissions of carbon dioxide have increased slightly.

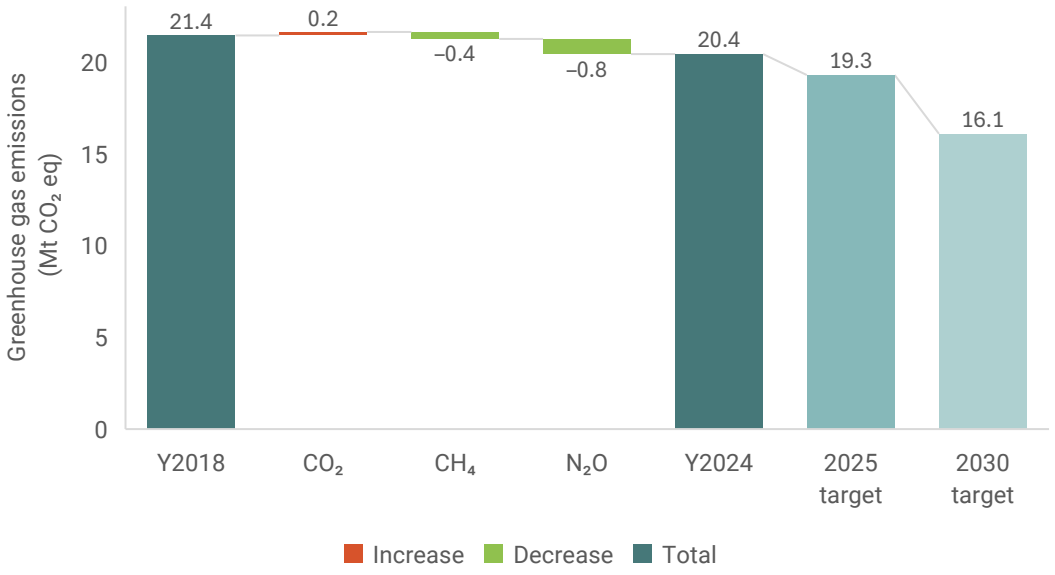

Figure 4: Change in emissions of greenhouse gases in the Agriculture sector, 2018–2024.
(Source: EPA.[2])

Table 4 shows the contribution to emissions reductions of key source activities within the Agriculture sector in 2024 relative to 2023, 2022 and 2018 (the base year). The suckler cow herd continued to decline in 2024 and the dairy cow herd declined for the first time since 2009. Rising prices for milk and beef in 2025 may reverse this trend.

Table 4: Change in Agriculture sector emissions by source activity in 2024 relative to 2023 and the 2018 baseline, and change in key indicators related to emissions.
(Sources: EPA.[1,2])

Source activity	Emissions (Mt CO_2 eq)				Annual change, 2024 against 2023 (%)	Change in 2023 against 2018 base year (%)
	2018 (base year)	2022	2023	2024		
Enteric fermentation	12.92	13.37	13.06	12.65	−3.1%	−2.0%
Manure management	2.57	2.51	2.45	2.41	−1.9%	−6.3%
Agricultural soils	4.69	4.24	3.82	3.89	1.8%	−17.1%
Liming	0.46	0.62	0.46	0.45	−0.9%	−1.6%
Urea application	0.09	0.14	0.14	0.17	23.6%	90.3%
Agriculture/forestry fuel combustion	0.59	0.85	0.76	0.77	1.3%	31.2%
Fishing	0.08	0.05	0.06	0.06	0.0%	−27.9%
Total emissions	**21.40**	**21.79**	**20.75**	**20.41**	**−1.7%**	**−4.6%**
Number of cattle						
Dairy cows (June)	1,480,900	1,627,000	1,645,600	1,624,000	−1.4%	9.7%
Suckler cows (June)	1,047,900	913,000	872,100	825,300	−5.4%	−21.1%

3.2. Land use, land use change and forestry

Figure 5 illustrates the most recent inventory data in respect of the change in emissions and removals within each land use category from 2018 to 2023. It also shows the target net emissions reduction required under the EU LULUCF Regulation. Unfortunately, to date, progress on reducing net emissions in some areas has been offset by increases in emissions in other areas, with little overall progress towards meeting targets.

Table 5 illustrates the most up-to-date data in respect of the activities that are most relevant to the LULUCF sector. Data for 2024 emissions per subsector will not be available until 2026.

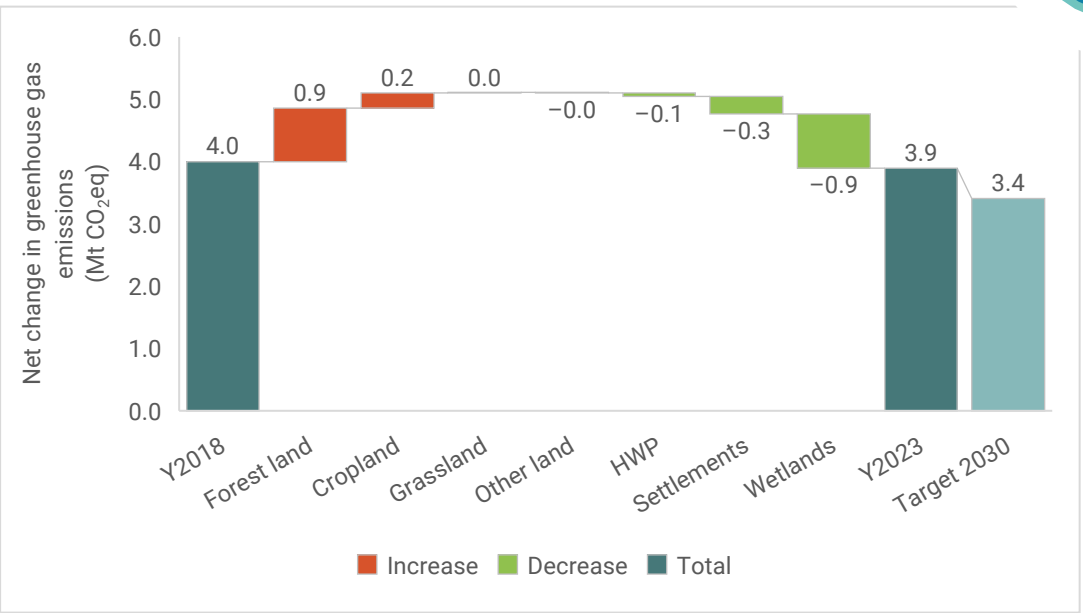

Figure 5: Change in net emissions of greenhouse gases in the LULUCF sector, by land use category, 2018–2023.
HWP, harvested wood products.

(Source EPA.[1])

Table 5: Key indicators of emissions in the LULUCF sector.
(Sources: Common Reporting Tables in Ireland's National Inventory Submissions 2025,[6] DAFM.[8,9]) *Compared with the most recent available year: either 2023 or 2024 depending on data availability. **Tillage crops include barley, oats, wheat, oilseed rape, potatoes and beans and peas.[10,11]

Activity	Unit	2018 (base year)	2023	2024	Change relative to 2018*	Comment
Forestry cover	kha	772	782		10 kha	
Forestry cover	%	10.85%	10.98%		0.13%	Target is 18% by 2050
Annual afforestation rates	ha	4,025	1,652	1,573	−61%	8,000 ha per year
Drained organic soils	kha	891	866			No target
Other diversification activities				**2024**	**Progress to 2030 target**	**2030 target**
Organic farming	kha	74	180	248	39%	450
Tillage**	kha	288	315	303	4%	400

3.3. Resilience

The 2025 Sectoral Adaptation Plan (SAP) for the Agriculture, Forest and Seafood sectors (to be finalised in September 2025) is required to include indicators. It will be vital that the indicators developed consider not only process-based indicators (that track progress in policy processes and actions) but also output-based indicators (that relate to the direct result of an adaptation policy or action) and outcome-based indicators (that measure the success of an adaptation outcome).

It should be noted that the development and tracking of adaptation indicators will necessitate the provision of resources for carrying out assessments and also additional data collection and processing or the layering of data sources for monitoring progress against indicators. The identification of indicators within the forthcoming SAP will be an important step in rolling out their use. However, the ongoing use of the indicators identified, and clear accountability for tracking these indicators, will be vital in tracking adaptation progress.

4. Progress on previous Council recommendations

4.1. Mitigation

The Council has repeatedly emphasised the urgent need for action to realise the potential for negative emissions in the LULUCF sector, while ensuring the protection and restoration of nature.

CAP24 introduced a revised approach to LULUCF accounting, aligning the national target with the EU target of 0.626 Mt CO_2 eq (an approximately 15% emissions reduction). The implied LULUCF emissions budget for the period 2026–2030 is discussed in the key observations section.

The Council has called for the Government to resolve the issue of outstanding unallocated emissions savings consistent with the second carbon budget. The decision to align the LULUCF target with the EU LULUCF Regulation has led to a revision of the estimate of the total unallocated emissions in the second carbon budget period to approximately 31 Mt CO_2 eq (see Table 6). The estimate of unallocated savings published in the SEC report was 26 Mt CO_2 eq.[3]

Table 6: Estimate of total unallocated emissions in the second carbon budget period (2026–2030).
(Sources: *Department of Climate, Energy and the Environment (DCEE) SECs.[3]) **The DCEE estimate in September 2022 was 26 Mt CO_2 eq.

	Carbon budget period 2026–2030 (Mt CO_2 eq)
Sum of SECs*	213
Implied LULUCF emissions budget	18
SECs + LULUCF budget	231
Legally binding carbon budget 2026–2030	200
Estimate of unallocated saving**	31

Phase 2 of the Land Use Review had not been published at the time of writing in July 2025. Phase 1 of the Land Use Review was completed in March 2023, with Phase 2 scheduled for delivery in early 2025.[12] The timely completion of Phase 2 is critical for informing the development of coherent policies and actions in alignment with the National Climate Objective and the forthcoming National Nature Restoration Plan, due to be published by 1 September 2026.

The Council has consistently called for substantial reductions in methane and nitrous oxide emissions from the Agriculture sector, through the widespread adoption of cost-effective measures identified in the Teagasc Marginal Abatement Cost Curve (MACC).

Key actions – including reducing the average finishing age of livestock, reducing overall nitrogen fertiliser use and increasing the use of protected urea in the remaining fertiliser, and deployment of feed and manure methane-reducing additives – are essential for supporting the sector to remain within its SEC. Although CAP25 sets out supportive measures, progress to date has been slow. An action plan on reducing the age of finishing was due in Q2 2025.

Following the recent amendment, the Good Agricultural Practice Regulations will ban granular unprotected urea from September 2025. This is an example of the effective use of a regulatory instrument to compel changes in fertiliser use. While this measure will have no direct impact on nitrous oxide emissions, it will ensure that the displacement of calcium ammonium nitrate (CAN) by urea-based products to reduce nitrous oxide emissions will not lead to an increase in ammonia emissions or pollution swapping.

Further CAP25 actions aim to promote behavioural change across the fertiliser supply chain and enhance transparency through the introduction of a fertiliser database for recording all purchases of fertiliser. DAFM should progress with targeted measures informed by analysis of these data to incentivise reduced fertiliser use, improved nitrogen efficiency and the use of low-emission products.

The Government's €1.4 million investment in the Methane Abatement in Grazing Systems (MAGS)[13] project is a positive step towards future mitigation options, but clear incentives for the routine use of approved feed additives are lacking.

The Signpost Advisory Programme network of demonstration farms provides a valuable platform for knowledge dissemination on practices to reduce greenhouse gas emissions. Providing customised plans to individual farmers through the Signpost Advisory Programme was a significant advance introduced in 2023, with a target to enrol 50,000 farmers by 2028. Approximately 15,000 farmers had been enrolled by end of 2024, and this programme must be properly resourced to ensure that momentum is maintained and that emissions reductions are achieved at the pace and scale required. It must also be recognised that advice and education alone will not be sufficient to ensure adoption of all the measures required, and incentives and regulations will also be needed.

4.2. Diversification

The Council has previously recommended greater support for the diversification[b] of land currently managed for agriculture as a means to reduce emissions and provide alternative, sustainable income streams for farmers. Land management measures such as afforestation, agroforestry, anaerobic digestion, payments for ecosystem services (including carbon farming) and restoration can offer important co-benefits in relation to mitigation, adaptation, biodiversity and water quality if appropriately deployed. Additional options for supporting farmers and other landowners to diversify

b The Teagasc MACC 2023 identifies farm diversification as 'the practice of expanding the range of products and services offered by a farm beyond traditional agricultural crops or livestock'.

through engagement with the renewable energy sector have also emerged. However, progress in diversification remains too slow.

Despite the publication of the National Biomethane Strategy[14] and the allocation of €40 million in capital grants,[15] delays — most notably the postponed publication of the Renewable Heat Obligation and the absence of a published implementation plan — are undermining market confidence and casting doubt over the viability of many funded projects.[16]

Annual afforestation rates are falling well short of targets, with just 1,573 ha planted in 2024, well below the 8,000 ha annual target, despite increased licensing activity and national promotional efforts.[17] The Council urges the Government to prioritise the mid-term review of the Forestry Programme (LU/25/2) and take immediate steps to resolve regulatory and operational issues while complying with the best available scientific advice on emissions from afforestation and legacy forests on peat soils.

Carbon farming is a prominent diversification action. Following the EU's adoption of the Carbon Removal Certification Framework (CRCF) Regulation in December 2024, the Government must publish a clear policy position and establish mechanisms for certification, data collection and financial support.

4.3. Sustainable diets

The Council has previously called for the Department of Health's policy and consumer information initiatives to provide information on the environmental sustainability of the food system and enable consumers to make more sustainable, healthy diet choices.

While there has been some progress, further action is needed to embed sustainability into food policy and public awareness. The National Organic Strategy 2024–2030, launched in September 2024,[18] includes actions on consumer education, an assessment of the potential for organic labelling and continued investment in proven sustainable organic systems.

4.4. Biodiversity and resilience

The Council has highlighted the critical importance of embedding biodiversity enhancement and resilience within climate action, underpinned by inclusive, locally led approaches that actively engage rural communities, farmers and landowners. CAP25 confirms that this engagement will be advanced through planned activities under the National Dialogue on Climate Action, as well as through sector-specific engagements led by DAFM.

The establishment of the Just Transition Commission in 2024,[19] and the inclusion of sectoral dialogue in its initial work programme,[20] is also a positive development. The Council encourages the Commission to prioritise dialogue with farmers, rural workers and communities, to help inform fair and effective climate responses.

In parallel, the Council continues to advocate for stronger, catchment-based approaches to resilience, including the use of nature-based solutions to manage flood risk and improve water quality. Ireland's third River Basin Management Plan,[21] published in September 2024, includes a commitment to community involvement in developing catchment management plans. However, the Rivers Trust[22] has noted that significantly increased resources and more decisive implementation are required to enable meaningful community participation and tackle the ongoing environmental pressures associated with agriculture. It will be important that these environmental pressures continue to be well monitored.

5. Analysis and discussion

5.1. Prioritising resilience of the Agriculture and Land Use, Land Use Change and Forestry sectors

Adaptation actions can help to support agricultural resilience by reducing the impacts of extreme weather events on the sector through, inter alia, the expanded use of fodder reserves, changes in land drainage and use, changes in livestock management, and the use of water reservoirs.[23]

5.1.1. Farm Advisory System

Knowledge transfer is essential for supporting farmers to improve and diversify their farm activities. A recent study found that farmers are worried about climate change and its future impacts on their farms, and that they are more likely than not to change how they farm in the future to help limit or stop further climate change. However, when asked about farming practices that help to mitigate climate change, farmers demonstrated a lack of knowledge of specific practices.[24] These findings indicate that there is a willingness to change but that a knowledge gap exists among the group of farmers surveyed. It is essential that farm advisors receive adequate training and upskilling support, to equip them with the knowledge needed to support farmers effectively. The Council recommends that, through the Farm Advisory System, registered advisors continue to expand the range of professional development activities that they undertake in relevant areas of climate science, emissions reduction and adaptation, so that they can support farmers with the skills and training needed to take climate action at farm scale and across all land uses.

5.1.2. Forest management

The Council calls for the implementation of a strategy for the long-term management of the forest estate consistent with the principle of 'the right tree in the right place with the right management'.[25–27] The Government should adopt a coherent approach towards the long-term management of the forest estate, particularly forest areas vulnerable to winter storms and other adverse climate impacts and forests on organic soils. This should include consideration of species, soil conditions and increased vulnerabilities to forest pests, diseases, wildfires and windthrow. Specifically, the strategy should continue to enforce constraints on planting new forests on deep peatlands and consider the replanting obligation in the context of existing poorly sited plantations. It is further recommended that for the mid-term review of the Forestry Programme 2023–2027, the stronger integration of support for measures that enhance the resilience of forests to extreme weather events and climate-related risks be considered.

Forestry insurance is also an important consideration, as the Forest Reconstruction Scheme no longer covers fire or wind damage. Emerging risks associated with climate change, including those related to pests or pathogens, mean that it is important to find new approaches of considering risk management in forestry. For example, reducing density, planting more well-adapted tree species, planting diverse species mixtures, reducing rotation age and managing for continuous cover would reduce risk exposure.[28] These practices, and their associated costs, could be considered when calculating insurance premiums. Implementing a European forest scheme to increase risk pooling and make it possible to lower insurance premiums may also be a viable option.[28]

In the aftermath of Storm Éowyn, DAFM announced the establishment of the Forest Windblow Task Force to help ensure that storm-damaged forests are managed safely and appropriately.[29] Guidance for owners of forests with windblow has also been issued.[30] This guidance sets out a series of steps for minimising risk and maximising the salvage value of fallen trees, and recommends seeking

independent advice from a Teagasc forestry advisor or registered forester. DAFM should invest in the additional training of advisors and knowledge transfer in modern forestry management techniques and practices, including continuous cover forestry and adopting diverse species plots, with the aim of enhancing the resilience of plantations.

5.1.3. Adaptation and resilience

The National Climate Change Risk Assessment (NCCRA) (published on 4 June 2025) will help to support the identification and prioritisation of relevant climate risks in the sector. Moreover, the forthcoming Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plan (currently scheduled to be published in September 2025) will also support the identification of relevant research gaps and include actions and measures to address the priority risks set out in the NCCRA. However, there remains a gap in understanding as to how best to advise farmers and other landowners on decision-making in the context of high levels of uncertainty with regard to climate impacts and options for building resilience.[31] The Council recommends that DAFM funds a focused research programme on how to implement the principles of decision-making amid deep uncertainty in the context of agriculture and land use in Ireland, to set out the range of options available to farmers and landowners. Climate services such as early warning systems, forecasts and decision support tools can help to support actions. The Organisation for Economic Co-operation and Development calls for an increase in research spending on adaptation, to provide a foundation for stronger risk and vulnerability assessments, supporting informed decision-making, facilitating new technologies and production practices adapted to a changing climate, and building capacity via knowledge transfer programmes.[31]

Identifying farmers and communities that are most vulnerable to the impact of climate change and climate policies is essential for ensuring a Just Transition. As noted by the National Economic and Social Council, developing climate policy that addresses these vulnerabilities is essential for a Just Transition. Targeted support will be required for individuals who incur specific costs as a result of transition policies or measures and who are vulnerable to the impacts of climate change.[32]

Some evidence is emerging of certain cohorts of farmers who are feeling the impacts of climate change, including horticulture and tillage farmers.[33,34] Another cohort of farmers who may be considered vulnerable to the transition are small-scale farmers. The Teagasc 2022 Small Farm Survey identifies one-third of, or 48,356, Irish farms as small farms[c][35] and highlights that 41% of small farms are economically vulnerable. Further research is needed to gain a deeper understanding of the level of resilience of small farms and the barriers that these farmers experience to building resilience. Tailored support may be needed to help these farmers and ensure a just and fair transition.

5.1.4. Catchment-scale nature-based solutions

The Council has repeatedly stressed the importance of taking a catchment-level approach to flood management, particularly as there are strong interdependencies between urban flood resilience and overall catchment management. The Council working paper on the identification and assessment of best practice in nature-based solutions for climate action and ecosystem restoration in Ireland[36] recommended:

- A comprehensive and shared definition of nature-based solutions for policymakers for implementation across sectors. A shared vision will allow more effective monitoring and

c Small farms are defined as those with a standard output of less than €8,000.

evaluation frameworks to be implemented, as it will be clear what constitutes a nature-based solution, what the outcome of an effective solution is, and what services and co-benefits it provides.

- Further funding support for nature-based solutions in Ireland and the integration of nature-based solutions into existing climate-related funding schemes.
- The establishment of a permanent national database of nature-based solutions that have been implemented across sectors in Ireland, maintained by a unit within a government department or agency with responsibility for nature-based solutions. This should be publicly available and easy to use for stakeholders looking to apply nature-based solutions to specific issues.

The Council notes the publication of the national strategy Nature Based Management of Urban Rainwater and Urban Surface Water Discharges in 2024[37] and its oversight by a cross-sectoral working group. However, greater focus is needed on the use of nature-based approaches in more rural areas of catchments for the management of water resources and flood risk. The Office of Public Works' National Catchment-based Flood Risk Assessment and Management Programme can provide useful inputs when considering systematic assessment of the application of nature-based solutions. The value of involving the community and landowners in the co-production and co-design process to access local knowledge, in combination with scientific knowledge, in helping to create effective flood management solutions has also been successfully demonstrated, for example in the Cloontagh catchment case study in County Donegal.[37] The Government should establish a dedicated unit to accelerate the design and roll-out of large-scale pilots of these approaches and consider incentivisation in priority catchments.

5.1.5. Adaptation indicators and metrics

The SAP due to be published later this year must include indicators and metrics for adaptation measures and use existing systems for monitoring, e.g. the Area Monitoring System (AMS), to ensure efficient data collection and monitoring of actions at farm level. The AMS regularly and systematically observes, tracks and assesses agricultural activities and practices being carried out on agricultural areas using Copernicus Sentinel satellite data. Its main aim is to verify an activity over a given agricultural area to help reduce administration and inspection controls, and provide data for future policy monitoring and implementation. Further detail on considerations related to these indicators is provided in *Section 3.3*.

5.2. Increasing the pace of emissions reductions

The 2023 Teagasc MACC[38] provides robust evidence for the potential of a broad range of cost-effective technical measures that can be adopted at farm level to reduce emissions.

5.2.1. Manure additives and aeration

CAP24 and CAP25 adopted manure additives and aeration within the suite of 'miscellaneous' actions, but presented little detail on timelines or mechanisms for implementation. Teagasc MACC analysis identified a potential emissions reduction of between 0.30 and 0.51 Mt CO_2 eq per year by 2030. The Targeted Agriculture Modernisation Scheme is an established mechanism for supporting any capital investment required to support adoption.

The Council calls for urgent progress to be made in the design and implementation of policy (including the use of grants, incentives and regulations) on the scale necessary to achieve the maximum emissions reduction potential in the period to 2030.

5.2.2. Use of protected urea

The rapid and widespread use of protected urea, displacing CAN, could reduce emissions by 0.42 to 0.55 Mt CO_2 eq per year by 2030. CAP24 envisaged frontloading the use of protected urea, achieving between 80% and 90% displacement of CAN by the end of 2025 (see Table 16.5 in CAP24[39]). CAP25 reports that, in 2024, 52.8% of CAN had been displaced by different types of protected urea. This demonstrates good progress, but an additional push is required to meet the 2025 target.[12] The Council recommends that best use is made of the suite of available instruments (taxation, regulation and incentives) to ensure the use of protected urea fertilisers to displace CAN, overcoming technical and behavioural barriers to uptake.

Following the cessation of production in Ireland in 2002, Ireland has been dependent on imports of chemical fertiliser. Figure 6 illustrates the origin of fertilisers imported into Ireland in 2024. In general, Ireland sources approximately 60% of CAN products from EU producers, and therefore the price of CAN in Ireland includes that portion of production not covered by free allocations under the EU Emissions Trading System.[d] However, urea fertilisers are largely sourced from outside the EU, and therefore currently may not face a carbon price at the point of production.

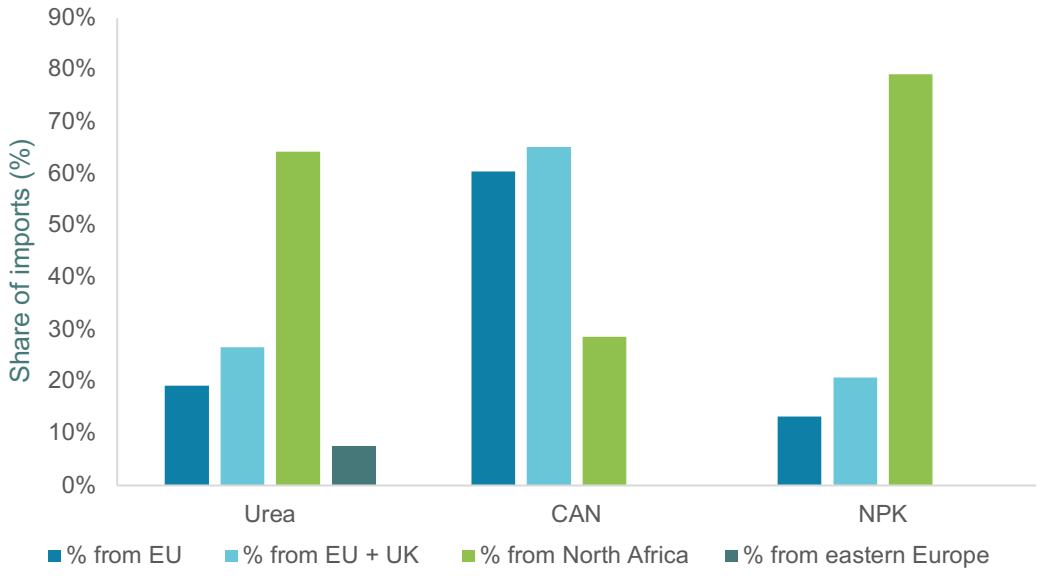

Figure 6: Origin of imported fertilisers into Ireland in 2024.
(Source: Central Statistics Office trade statistics, personal communication, May 2025.) NPK, nitrogen (N), phosphorus (P) and potassium (K).

d Fertiliser producers in the EU that operate below the level of efficiency of the most efficient plants receive only partial allocations of Emissions Trading System units (European Union Allowances (EUAs)). They then need to cover their additional emissions by buying EUAs in the market. Under normal circumstances, the costs associated with these purchases are passed on.

Figure 7 shows the estimated greenhouse gas production efficiency of CAN and urea globally. The Carbon Border Adjustment Mechanism (CBAM) seeks to create a level playing field with respect to the carbon emissions associated with the production of all fertilisers sold within the EU. It is imperative that the Government considers contingency measures to counter any unintended consequences related to the CBAM and the cost differential between CAN and protected urea.

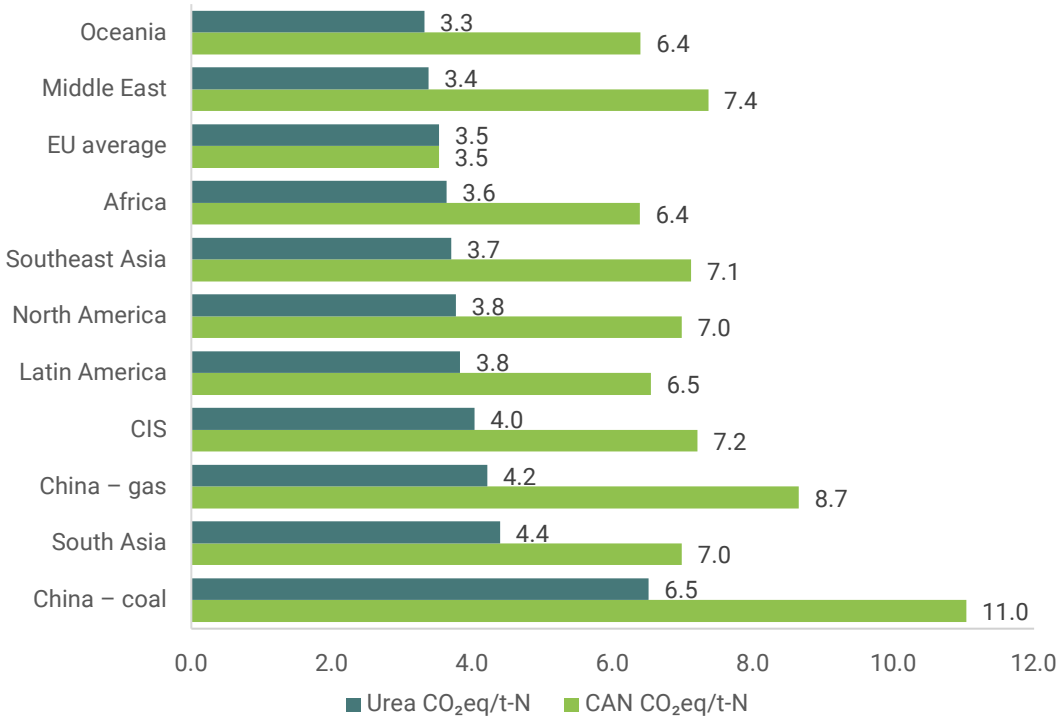

Figure 7: Variations in the embedded greenhouse gas emissions associated with the production of urea (type 46-0-0) and CAN (type 27-0-0) fertiliser products in selected regions of the world.

The units are tonnes of greenhouse gas emissions per unit of nitrogen within the product. CIS, Commonwealth of Independent States.

(Source: International Fertiliser Society.[40])

5.2.3. Management of organic soils and peatlands

The Council recommends that responsible departments and agencies act with urgency to put in place the technological, training and educational resources required to achieve the ambition of improved management of organic soils, including water table management in grasslands and restoration/ rehabilitation of degraded peatlands, as set out in the latest Climate Action Plan.

Additional resources and policy initiatives are required to address the disappointing progress in meeting targets in this area. Bodies responsible include DAFM, the National Parks and Wildlife Service and Teagasc. In addition, it is critical that there is a high level of coherence between key policies

that are under development and those that will be revised in the near future, including the National Restoration Plan (2026), the Common Agricultural Policy (2028) and the Forestry Programme (2028).

In the 5 years to 2030, it is not feasible that new afforestation will contribute significantly to net emissions reductions. Additional focus will therefore need to be on the prioritisation of measures related to reducing emissions from drained organic soils and degraded peatlands, and to a limited extent on changes to the management of the existing forest estate and management of mineral soils.

The Council notes the significant commitment to research, knowledge transfer and training across funding agencies, including DAFM and the EPA, to advance understanding of peatland management practices. Key projects include initiatives under the European Innovation Partnership (EIP) programme, including the recent FarmPEAT and the ongoing CO2PEAT projects, and the Peatlands and People project under the EU LIFE Programme.[41–44]

Success will require the roll-out of appropriate incentive schemes in parallel with the delivery of the technological, training and educational resources required to achieve the ambition of improved management of organic soils, including water table management in grasslands and restoration/ rehabilitation of degraded peatlands, as set out in CAP25. Rewetting and water table management is a relatively new approach to land management, requiring the repurposing and transfer of traditional and technical skills previously directed at increasing drainage.

5.3. Accelerating diversification

The 2023 Teagasc MACC identifies farm diversification as 'the practice of expanding the range of products and services offered by a farm beyond traditional agricultural crops or livestock'.[38] Diversification measures and targets identified in CAP25 have the potential to reduce emissions by 1.5 Mt CO_2 eq in the Agriculture sector by 2030;[12] see Table 7. Further diversification options with targets, such as for appropriately sited renewable energy, restoration and payment for ecosystem services, could be included in CAP26. Diversification measures should involve a reduction in livestock numbers in order to fully realise the mitigation potential.

The EPA has stated that diversification measures in the Agriculture sector with savings of 1.5 Mt CO_2 eq by 2030 are not included in projections, as further information is needed to model an implementation pathway for these measures. The Council reiterates the call to address this issue. Monitoring mitigation progress across diversification practices will ensure that emissions reductions are accounted for in the national inventory, contributing to more accurate projections of the overall potential reduction in emissions in the sector.[5,38]

The lack of measurable annual targets for each diversification practice means that it is not possible to accurately evaluate progress in the emissions reductions associated with each practice. For example, the 2023 Teagasc MACC estimates the biomethane abatement potential can lead to 0.6 Mt CO_2 eq under the very high ambition trajectory considered by Teagasc. However, the latest Climate Action Plan does not explicitly identify this trajectory as the diversification objective for biomethane. Similar issues arise when we consider other diversification options listed in the Climate Action Plan. For further discussion of biomethane, see *Section 5.3.6.*

The Council recommends that DAFM sets annualised targets and roadmaps in CAP26 for the deployment of diversification options, including those related to bioenergy, organic production systems, expanding tillage, biodiversity restoration, and afforestation and agroforestry. DAFM should further commit to developing implementation plans in early 2027 to support the roll-out of the identified diversification practices within the same year. Furthermore, to ensure the adoption

of diversification practices, farmers and other stakeholders need to be confident that implementing these practices makes economic sense for their farm enterprise. Sustained dialogue with farmers through already established and trusted communication networks is essential.

Table 7: Current progress in deployment of diversification options identified in the Climate Action Plans.

*Carbon farming is a new diversification option in Ireland, and no official emissions reduction targets have been identified. As discussed in *Section 5.3.5*, once the Carbon Farming Framework has been established, the roll-out of carbon farming at national level can begin, at which point targets should be established. The practices presented below have been identified through research as examples of carbon farming practices.

Diversification practice	2030 target	Current progress according to available data	Achievement
Organic farming	450,000 ha	248,000 ha, 2025	38% compared with 2018 baseline of 74,000 ha
Tillage	400,000 ha	303,000 ha, 2024[11]	4% compared with 2018 baseline of 288,000 ha[10]
Anaerobic digestion for biomethane production	5.7 TWh of biomethane (1 TWh by 2025)	0.075 TWh biomethane,[14] 0.32 TWh biogas, 2023[45]	1% 32%
Afforestation	8,000 ha per year	1,573 ha, 2024[46]	20%
Carbon farming*	Suckler Carbon Efficiency Programme[47] Straw Incorporation Measure[48] Planting hedgerows Protecting peatlands[49] Altered management of hedgerows		

5.3.1. Responding to trends in consumer behaviour

A shift in diet and the consumption of animal-based products in Ireland's key markets is a potential market driver of diversification. Analysis at EU level and in the UK context highlights the potential of reduced demand leading to reduced production, and farmers looking to diversify on-farm activities to maintain income and livelihood.[50–52] This must include diversifying land use and maintaining and enhancing livelihoods in the Agriculture sector while also achieving climate, biodiversity and other environmental sustainability goals.

Ireland-specific analysis is needed to fully understand how the sector can prepare for changes in the market conditions while enabling a reduction in emissions.

5.3.2. Organic farming

In 2025, approximately 5,500 farmers were engaged in the Organic Farming Scheme, and the area farmed organically in Ireland has trebled since 2021, to 248,500 ha (5.5% of farmed land). Ireland is now over halfway towards its target of 10% organically farmed land by 2030.[53,54] The National Organic Strategy 2024–2030 has identified actions to expand organic farming nationally.[18] Currently, there is no accurate empirical information on emissions from organic farms versus conventional farms; however, it is anticipated that this information will become available in the coming years from the GROFarmS project funded by DAFM.[55]

As of 2024, livestock farms accounted for over 85% of applications to the Organic Farming Scheme, with 5% of applications from tillage farmers,[18] 2% from dairy farmers and less than 1% from horticulture farmers.[18] CAP25 has committed to a new action to double land devoted to organic crops and vegetables to 14,000 ha by 2030.

5.3.3. Tillage

The tillage sector has the potential to contribute to the expansion of organically farmed land. A survey of organic farmers in January 2024 indicated a steady demand for organic forage, with demand for 20,000 tonnes of organic 'straights'[e][56] and 33,500 tonnes of organic concentrates for winter 2024–2025.[18] This indicates that continued growth of organically farmed land offers opportunities to expand the tillage area, as envisaged in Food Vision 2030.

The Food Vision 2030 Tillage Group was established to provide recommendations on how to grow the sector sustainably. The group published a detailed plan with 28 policy recommendations to support expansion of the sector to 400,000 ha by 2030. The key recommendation put forward was the development of a new tillage expansion and sustainability scheme to provide long-term reliable support to tillage farmers while implementing environmentally sustainable practices.[34] In 2024, there were 11,451 tillage farms and 341,991 ha of tillage crops – 1,400 fewer farms than the 12,849 in 2022, which accounted for 348,762 ha of tillage crops.[57] These figures indicate that the sector is not progressing in line with the 2030 target. There is concern that opportunities in the solar sector will make ongoing tillage operations less attractive and the targets more challenging to achieve. For Ireland to reach its target, it will be essential for the Government to roll out the recommendations presented in the Food Vision 2030 Tillage Group report.

5.3.4. Afforestation

Afforestation is another key diversification action, with a commitment to plant 8,000 ha of forest annually up to 2030. Afforestation rates have been declining from 2,435 ha in 2021 to 1,573 ha in 2024. During the first 6 months of 2025, an area of 1,513 ha was afforested, compared with 1,573 ha for the whole of 2024 and 1,651 ha in 2023.[58] Nonetheless, achieving the 8,000 ha target remains improbable. Overall, these figures demonstrate poor implementation of the Forestry Programme 2023–2027. The Council recommends strengthening policy levers to support an immediate increase in the afforestation rate.

e 'Organic straights' refer to a specific type of feed that is part of the organic feed supply chain. Essentially, organic straights are single-ingredient feeds, meaning that they are not mixed with other ingredients and are grown and produced according to organic standards. These straights are often used to supplement other feed sources, especially for livestock, and can include grains like barley, oats or wheat, or even protein sources like peas.[56]

It is important to address recent high-profile discussions around the possibility of relaxing constraints on afforestation on deep peat. There is strong evidence that this would be detrimental to addressing carbon losses from peatlands and would undermine efforts to achieve climate and other environmental objectives related to land use.[6,59] As stated previously, the Council recommends that the constraints remain unchanged and are rigorously enforced. Further research is required to establish options and best practice for the land use management of severely degraded peatlands, including areas of peatland historically used for forest plantation of peat. Pending the findings of ongoing research, e.g. the recent DAFM-funded PeatFor project headed by the University of Limerick, the Council advises caution in the provision of incentives for afforestation on degraded peatland sites.[60]

5.3.5. Carbon farming

CAP25 identifies carbon farming as a core principle of diversification and promises that a policy document will be published shortly. An Irish Carbon Farming Framework is also being developed, informed by the EU CRCF Regulation.[12] The regulation establishes an EU-level certification framework for permanent carbon removals, carbon farming and carbon storage in products. It sets out rules to recognise public and private certification schemes that comply with the EU framework and criteria ensuring the quality of carbon removals and the transparency and credibility of the certification process.[61]

The implementation of a single government-backed code, consistent with the EU's CRCF Regulation, is needed to support the successful operation of carbon farming in Ireland.[61] Once established, it will be important to ensure the viability of carbon farming as a farm enterprise and that funding is available to support successful carbon farming. The allocation of emissions reduction targets associated with the roll-out of carbon farming practices will be crucial in ensuring the successful accounting of carbon farming nationally.

5.3.6. National Biomethane Strategy

The Council believes that the rapid development of Ireland's indigenous natural renewable energy resources is critical for the decarbonisation of the energy system. The biomethane sector will be a key national asset that will underpin a sustainable, resilient and secure energy system, while offering a diversification option for farmers and other landowners. Strategic use of this indigenous sustainable resource is essential, as Ireland has limited capacity for the production of biomethane, and it should therefore be used only for the most critical applications. The Council recommends that priority be given to the use of biomethane for electricity back-up to maintain security of supply, for production at large energy users and for high-temperature industrial applications that are difficult to electrify.

Anaerobic digestion (AD), biogas and biomethane are mature technologies, with 20,000 AD plants currently operating across the EU.[62–64] However, biomethane production is a nascent industry in Ireland and a suite of government measures is needed to support the sector. The Council welcomed the publication of the National Biomethane Strategy, which outlines a roadmap for the deployment of biomethane and the provision of €40 million of funding, through DAFM, for investment in the roll-out of production facilities.[14, 16] DAFM reports that it has provided support, in partnership with the Department of Climate, Energy and the Environment, for 12 AD plants currently in operation and 1 operational biomethane facility that injects biomethane into the gas grid.[9]

The latest Climate Action Plan sets a target of 1.0 TWh of biomethane production by 2025, increasing to 5.7 TWh of biomethane production by 2030. However, the latest EPA projections conclude that only 4.3 TWh of biomethane will be used across the heat sector by 2030 under the WAM scenario.

Investors in the sector need assurances that there will be a stable and reliable market for biomethane. In the short to medium term, proposals for the Renewable Heat Obligation to include biomethane will be a strong signal to investors in support of the sector. In the longer term, clarity is required as to the long-term business model for the sector, including an assessment of the priority applications for biomethane and the support required to accelerate investment in periods where biomethane will have a significant price disadvantage compared with conventional natural gas.

Implementation of the National Biomethane Strategy has been piecemeal to date, leading to a worryingly low level of interest in progressing this mitigation option. The Council recommends immediate action, across DAFM, the Department of Enterprise, Tourism and Employment and the Department of Climate, Energy and the Environment, to complete the implementation of the suite of policy tools identified in the strategy in order to build investor confidence and incentivise investment, to ensure that demand for biomethane is robust and that production capacity is built up to meet demand.[65]

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