

Written evidence from The National Farmers' Union of England and Wales (NFU) (MET0011)

The National Farmers' Union of England and Wales (NFU) represents over 45,000 farmer and grower businesses. In addition, we have 20,000 NFU Countryside members with an interest in farming and rural life. The NFU welcomes the opportunity to respond to this call for evidence. Our aspiration is for British farmers to produce the most climate-friendly food in the world through improving productivity, using land, hedgerows, and trees to take up and store carbon, and boosting renewable energy output. We know that there is no single answer to the climate change challenge facing us all.

Executive summary

Ruminants (on which around half of UK agriculture by output value is based) are a significant source of methane, so a clearer understanding of their contribution to warming and net zero targets is vital. The NFU wants to see dual reporting using both metrics, GWP100 and GWP*, and to significantly reduce the risk of unintended consequences. The diversity of ruminant farming systems brings economic, social, and environmental benefits whilst meeting wide-ranging consumer demands – which must not be lost as a result of using a single metric.

The NFU sees that the need for innovation is clear, but there is no 'silver bullet' for managing our methane emissions. Methane suppressing feed products are one possible tool in the toolbox, but we require more information on the effectiveness of these products, their impact on animal health and welfare, and resolution of who pays. We believe that mandating such products should be avoided.

The NFU agrees that for successful implementation of climate action in livestock management, the benefits and co-benefits, including socio-economic and food security dimensions, must be considered holistically. Strong safeguards are required to ensure that our highly trade-exposed sector is not at risk of carbon leakage.

The NFU strongly believes that future farming policy must enable farmers to meet the food production needs of the nation alongside our wider economic, environmental, and social goals. We know that investment in climate-friendly farming capabilities is currently hindered by the low levels of short- and medium-term business confidence. We therefore want to see government commit to a balanced agricultural budget which would deliver a globally competitive, productive, and sustainable sector, and drive significant environmental improvements at unprecedented scale. This would include:

- long-term public investment in productivity. Productivity improvements, resulting from improved genetics, management of feed and nutrients, animal health etc, are critical in reducing absolute emissions of all GHGs and emissions intensity.
- investment in the economic stability of the sector, establishing minimum standards to promote a fair and functioning supply chain. British farmers are currently facing many challenges which are having a negative impact on their own health and on their businesses.

- targeted incentives in the tax system.
- encouraging investment in rural infrastructure, and an accommodating and responsive planning system.
- addressing the economics and regulatory barriers to investment in small-scale anaerobic digestion and other advanced slurry management technologies, recognising the multiple public goods they can provide.

The NFU strongly appreciates the importance of data for monitoring and reporting of emissions. Continual improvement of GHG accounting (national inventory and on-farm calculators) are critical to benefit the farm business, demonstrate progress made by the industry and to highlight any gaps in implementation. The NFU believes that achieving this includes:

- Government to incentivise KPI and GHG assessments, and support industry initiatives which aim to reduce duplication and drive the provision of reliable, streamlined data.
- collaborative working on the next steps in harmonising GHG accounting tools for agriculture.
- a multi-species Livestock Information Service that makes greater use of the statutory data already collected and integrates non-statutory information to increase productivity.

Responses to selected questions

Data, measurement and monitoring

8. *What is the status of methane accounting, monitoring and reporting in the UK at present and how does it compare internationally? Is UK accounting and reporting considered to be accurate and robust? What improvements, if any, are possible and what benefits would these deliver?*

- **Continual improvement of the national GHG inventory, both through more representative emissions factors and activity data, is critical** to demonstrate progress made by the industry and to highlight any gaps in implementation. Improved emissions factors must also be made available to on-farm GHG calculators so that farmers can better track their own progress. **The NFU looks forward to working with Defra and others on the next steps recommended in Defra's research on Harmonisation of Carbon Accounting Tools for Agriculture.**¹ The UK Dairy Roadmap and Beef & Lamb Roadmap are already working with tool providers to improve calculator consistency. The establishment of sector wide GHG footprints to demonstrate progress are also being considered. **Defra must work with and support industry initiatives which aim to reduce duplication and drive the provision of reliable, streamlined data.**
- New Zealand's 2050 net zero goal encompasses a stepped reduction in biogenic methane and a net zero target for long-lived gases.² NZ farmers supported the 'split gas' approach but strongly opposed the scale of the biogenic methane reduction targets (10% on 2017 levels by 2030 and 24–47% by 2050).³ The NFU is interested in learning more about the strengths and weaknesses of the split gas approach.

¹ [Harmonisation of farm carbon accounting tools report](#)

² [FAQs: The context for Aotearoa New Zealand](#)

³ [FFNZ Zero Carbon Bill - right direction wrong methane targets](#)

9. *What progress is being made on methane monitoring and data collection in the UK using technologies such as satellite data and drones?*

- Improved monitoring and collection of good quality data is critical in helping farmers understand and reduce emissions and in quantifying progress. The NFU is interested in the potential of new technologies to support this. Examples include the Satellite Applications Catapult which aims to enable innovative applications of space-based methane observations, and cattle feed bins that measure methane when animals are feeding, which are being trialled by farmers through their processor relationships.⁴

11. *What are the advantages and disadvantages of available metrics used to report and compare methane emissions including GWP100 and GWP?*

- Methane is over 50% of UK agricultural GHG emissions but its climate impact depends critically upon the metric used. The NFU notes that methane from fossil fuel sources has slightly higher emission metric values than those from biogenic sources, since it leads to additional fossil CO₂ in the atmosphere.⁵
- The NFU understands that no single metric can accurately compare all consequences of different GHG emissions. Using GWP100 overstates the temperature impacts from a constant CH₄ emission by a factor of 3–4 over a 20-year time horizon and conversely understates the impact of a new emission by a factor of 4–5 over the 20 years after it started.⁶
- The NFU therefore wants a unified approach across industry and government at a national scale and so **supports dual accounting using GWP100 and GWP*** because of the advantages and disadvantages of both metrics. The NFU also wants to see **solutions for incorporating GWP* for dual reporting in on-farm calculators**. The **nutrient density of foods in relation to their climate impact** also needs to be expressed.
- In 2021 the IPCC did not recommend the use of any specific emission metric, as the most appropriate metric depends on the policy goal and context.⁷
- The NFU wants to continue to engage with Defra on how methane and other GHG reductions are recorded, incentivised, and valued both by the public and private markets.

Agriculture

16. *Are there emerging technologies, such as methane suppressant feed products or approaches to slurry management, that could aid with methane emissions reduction in agriculture? What impact could they deliver?*

- In its 2020 report, the Centre for Innovation Excellence in Livestock (CIEL) concluded that known technology can only deliver less than half of the reductions sought.⁸ The NFU is therefore open to emerging

⁴ [Methane Monitoring - Satellite Applications Catapult](#)

⁵ [IPCC AR6 WGI Chapter07](#)

⁶ [Methane and the Paris Agreement temperature goals](#)

⁷ [IPCC WGI 2021](#)

⁸ [Net Zero Carbon & UK Livestock Report October 2020 CIEL](#)

technologies that could aid with the reduction of all agricultural GHGs, but the picture is nuanced and complex, and **there is no silver bullet**. Collaborative research and development efforts are important in identifying and implementing cost-effective GHG reduction solutions, leveraging expertise from both academia and industry.

- In 2022 as part of Defra's methane suppressing feed products (MFSPs) consultation, the NFU asked that **mitigation efforts consider the range of options, not only feed additives**. Defra's MFSPs roundtable which includes the NFU and takes a cross-supply chain approach is a positive step forward. However **much more clarity is needed by farmers** on the effectiveness of the products, the financial cost and importantly, the impact on animal health and welfare.⁹ In addition, such products currently do not provide a solution for grazing livestock. **A mandated approach to MSFPs should also be avoided** as this would reduce choice and competition, and could stand in the way of advances in genetics and nutrition which would have a longer lasting mitigation impact but are not seen as 'quick wins'.

17. *How effective are existing policies and incentives, such as Slurry Infrastructure Grants, in driving methane reduction?*

- The Slurry Infrastructure Grant (SIG) allows farmers to access technology such as the Bennamann slurry cover which captures methane and other gases from a slurry store. However, the SIG is limited in scope as slurry stores are not commonly used on beef and sheep farms. It is also expensive, even alongside the grant. **The NFU would like to see support for the broader range of innovative slurry management technologies that can reduce uncontrolled 'fugitive' methane and ammonia emissions.**
- Anaerobic digestion (AD) produces biogas and digestate. The biogas can generate heat, electricity, or both. It can be separated into biomethane (for pipeline or vehicle use) and potentially valuable bio-CO₂, and the residual digestate can be used as a nutrient-rich fertiliser within a nutrient management plan. These multiple products can be a source of diversification income for farmers while better managing agricultural residues. At present, many farmers cannot install AD plants due to the substantial capital investment required, even for small plants. In theory, a large number of small on-farm AD plants would be a great measure for avoiding methane emissions, while increasing self-sufficiency in energy and benefitting soil health and nutrient management, as well as avoiding diffuse water pollution through well-managed digestate usage. **The NFU wants to see the government address the economics and regulatory barriers to investment in small-scale AD plants and other advanced slurry management technologies, recognising the multiple public goods they can provide.**

18. *What other policy tools, frameworks or incentives could be employed in agriculture to drive methane reduction?*

- Two industry frameworks the UK Dairy Roadmap and the Beef & Lamb Roadmap drive sustainable performance in British ruminant agriculture. **Industry wide collaboration should be standard protocol when it**

⁹ [Defra commits to introducing the use of methane suppressing feed in England – NFUonline](#)

comes to the introduction of new, or the development of existing, methane policy, frameworks, or incentives. The UK Dairy Roadmap established over 15 years ago seeks to drive continuous improvement across the sector, setting ambitious, reportable and, most importantly, deliverable targets, improving environmental sustainability. The Beef & Lamb Roadmap is still in its infancy, but both Roadmaps successfully bring representatives from across the industry together. Methane accounting metrics are a priority for both.

- The UK government's Methane Memorandum noted that 'agriculture makes up a larger proportion of the UK's methane emissions compared to other similar economies' but that this was 'not due to a lack of action in the sector.'¹⁰ The NFU agrees with the Memorandum that **potential exists through productivity improvements** to reduce absolute emissions and emissions intensity.
- The NFU believes that **genetic technology and improvements have some of the greatest potential** in reducing methane and other emissions from cattle. The **Livestock Information Service (LIS) should have capacity to present reports and dashboards of statutory information already collected and capture non-statutory information**, such as mortality, feed conversion rates, age at slaughter, and carcass weights, so that the best genetics can be utilised. Making such information routinely available to farmers would lead to rapid improvements in productivity.
- Government **incentives for GHG footprinting and calculating KPIs (key performance indicators) are required** to raise awareness, support decision making, **and to facilitate the collection of good quality data in ways that are practical, feasible, and reflective of the diverse nature of agricultural practices.**
- A 2023 survey highlighted that farmer confidence was at its lowest level in three years hindering **investment in climate-friendly farming capabilities**.¹¹ The Global Methane Pledge (GMP) identified a need for a drastic increase in investment for methane abatement, and according to the most recent data only a very small fraction (<2.5%) of global climate finance goes to agricultural production.^{12,13} The NFU therefore wants to see:
 - **Targeted incentives in the tax system** for farm businesses to pursue the reduction of all GHGs.
 - **Long-term public investment in productivity** measures.
 - **Supporting investment in rural infrastructure** and an **accommodating and responsive planning system** for new/upgraded agricultural buildings and structures to reduce emissions and facilitate data collection, whilst also driving animal health and productivity improvements.
- The NFU's sector resilience plans highlighted several barriers and identified solutions to reducing GHG emissions and increasing removals on farm without compromising domestic production.¹⁴

¹⁰ [United Kingdom methane memorandum](#)

¹¹ [Farmer confidence at lowest levels in 3 years, NFU survey shows – NFUonline](#)

¹² [GMP key messages on methane at COP28](#)

¹³ CPI, 2020. Examining the Climate Finance Gap for Small-Scale Agriculture. Climate Policy Initiative.

¹⁴ [Sector-plans-launched-to-build-farm-business-resilience](#) covering dairy, livestock, poultry, combinable crops, horticulture and sugar.

- The NFU is very active on the international climate stage and works in partnership with farmers organisations and agricultural NGOs in the UNFCCC Farmers constituency. The **NFU sees many benefits from working much more collaboratively with the UK government in this international arena.**

19. *How can efforts to mitigate methane emissions in agriculture be integrated into broader approaches to facilitate and incentivise climate and nature-friendly farming practices?*

- Analysis undertaken for the NFU provided a **strong indication of the level of how a new agricultural balanced budget** could deliver a globally competitive, productive, resilient, innovative, and sustainable agricultural sector and drive significant environmental improvements at unprecedented scale.¹⁵ Farmers must be rewarded for the public goods they deliver by maintaining, protecting, and enhancing the natural environment. The UK's extensively grazed pasture already provides valuable habitat for wildlife, and permanent grasslands are a good store of carbon.
- The development of environmental markets which work alongside domestic food, energy and fibre production must have clear rules and standards to allow farmers and buyers to take part with confidence. The NFU also wants to see such markets be accessible to a range of farm sizes and business structures, and fairly reward farmers for the delivery of environmental goods.

20. *How can efforts to reduce methane reduction be balanced against other important considerations in the agricultural sector, including food security?*

- The UK's farmers are resilient and resourceful and committed to finding ways to tackle the climate challenge, but our members have told us of the many difficulties they currently face and the impact that this has on their own health and the businesses. **Government must invest in the economic stability of the agricultural sector** as it benefits everyone **and establish minimum standards to promote a fair and functioning supply chain** to help overcome these challenges.
- **Strong safeguards are required to ensure that our highly trade-exposed sector is not at risk** from the export of our food production emissions through 'carbon leakage'. The UK should not become over reliant on overseas production, given the potential risks from a changing climate and vulnerable supply chains.
- There is a clear need for a '**just transition**' that considers factors such as competitiveness, energy security, food security, and the UK's comparative economic advantage as a low-carbon food producer across a range of food types. A rural 'just transition' that benefits farmers and land managers will require upskilling of the agricultural workforce as our sector embraces new technologies, e.g., artificial intelligence.
- While there are studies that argue that dietary changes have the potential to reduce livestock emissions by 20–30%, whether achieving this theoretical mitigation potential is feasible in economic, social, and political terms has not been systemically analysed¹⁶. To **ensure successful**

¹⁵ [Farming for Britains Future](#)

¹⁶ [KJWA livestock](#)

implementation of climate action in livestock management, the benefits and co-benefits, including socio-economic and food security dimensions, must be considered holistically.

Waste and waste management

- Decisions made at retail and consumer level affect food waste along the entire food supply chain, including on-farm food losses. The most common causes of food waste at a farm level include retailer standards, cancelled/amended orders, labour shortages, over-production and volatile weather events.
- Approximately 8-10% of the world's GHGs relate to food waste. Having regular food waste collections from households and diverting food waste away from landfill into technologies such as AD reduces emissions and co-produces digestate. The government has provided much needed support to local authorities to enable collections to happen. However, the NFU remains concerned about the operational capacity of existing AD plants and whether they will be able to cope with the high volumes of consistently collected material, especially when they need periods of 'shut down' for maintenance.