Written evidence from The Farming Forum Grassroots Group (MET0022)

Introduction

This evidence is submitted by The Farming Forum Grassroots Group, an informal group of 10 farmers

We address your questions using your numbering system and omit any unanswered questions for clarity.

1) What role could methane emissions reduction play in meeting the UK's domestic and international climate change targets?

Methane reductions can play a significant role in the short – medium term but any impact is time-limited. Cutting fossil fuel methane emissions offers the greatest benefit because such emissions entail a net increase in atmospheric CO_2 concentration even after the methane all degrades, typically around 12 years from emission. Biogenic methane emissions do not follow this characteristic as their carbon content comes from contemporaneous atmospheric carbon capture.

The IPCC 6th assessment report (IPCC AR6) makes clear that cutting fossil fuel origin methane offers the greatest potential atmospheric warming reduction impact at the lowest marginal cost. It also, critically, makes clear that without deep and permanent cuts in fossil origin CO_2 emissions any cuts to methane emissions would be a wasted exercise in terms of limiting overall climate warming. Cutting methane must be matched by deep and permanent cuts to fossil fuel use to be effective.

2) What is your assessment of the Global Methane Pledge: is the UK on track to meet it? If not, how could this be accelerated?

The UK appears to be targeting livestock emissions of methane while failing to hold the UK fossil fuel industry to account for methane leaks, venting and flaring.

Government should hold energy companies to account for their mains gas leaks and require the oil and gas industry to cease venting or flaring methane, instead adding it to the mains gas network. Given the extreme profits enjoyed by this sector since the invasion of the Ukraine, no financial help should be necessary for this.

Action to force owners of old landfill sites to capture their fugitive methane emissions and likewise inject them into the mains gas network would also help.

Re-wetting of UK peat bogs and mires risks increasing natural methane emissions which must be carefully managed.

Encouraging reduced UK livestock methane emissions through adding certain plant species to grazed pastures could also be a sustainable cheap win. Feeding

of livestock methane suppressants should be treated with caution due to the long-term cost impact on producers unless the costs are met by other businesses.

3) What are the implications of the separate Global Methane Pledge for overall UK efforts to reduce greenhouse gas emissions?

There is a significant moral hazard in the UK methane pledge reducing the focus on cutting fossil fuel emissions which the IPCC have repeatedly stated must be the main focus.

4) Given UK progress in methane reduction in recent years (with notable reductions before 2020) what are the cost/ benefit implications of meeting the pledge?

Reducing methane emissions by ceasing routine flaring/venting in oil and gas operations should be overall zero or even negative cost as the gas has commercial value. Cutting methane emissions from the UK ruminant sector will incur producer cost that cannot be covered from the marketplace without government intervention. Given the poor financial performance over recent years of UK beef, sheep and dairy businesses this could be an existential threat for the industry.

5) How significant are UK methane emissions when compared to global emissions? What impact could UK efforts on reducing methane emissions have on total emissions?

The UK ruminant livestock population forms a very small proportion of global ruminant livestock (36th place, 0.62%, for cattle according to Our World in Data). Culling ALL UK ruminant livestock would have a barely measurable impact on global methane emissions. Importantly, UK ruminant livestock numbers have been falling for decades leading to a net cooling effect, as noted by Professor Myles Allen and others. The small global impact of significant cuts in emissions cannot justify their impact on UK livestock producers.

6) What is the UK doing to lead and facilitate international action on methane reduction? Could this be enhanced?

The UK's reputation on climate has been damaged by the recent decision to licence additional oil and gas exploration in the North Sea. Reversing this decision and ceasing venting/flaring methane would be the single most effective boost to the UK reputation for leading on climate in general and on methane in particular.

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?

Current methane monitoring in the UK largely relies on self-reporting, notably by the fossil fuel/energy sector and landfill operators, and modelling-based

estimations subject to large margins of error. Recent advances in remote monitoring of methane emissions have revealed many self-reported emitters to be greatly under-reporting.

Further, there is great uncertainty in current assessment of non-fossil methane sources. The IPCC Special Report on Climate Change and Land (2019) states that agriculture is responsible for methane emissions equating to 4.0 +/- 1.2 GT CO2e/Yr, meaning it could be as high as 5.2GT CO2e/Yr or as low as 2.8GT CO2e/yr.

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

Regular media reports and scientific papers report the use of drones and satellites to identify and quantify fugitive methane emissions from industrial sites, mains gas leaks and landfills in the UK.

10) Are there significant methane leakages in the UK, and if so where do they usually occur?

Yes. The above monitoring regularly reports large point emissions from mains gas leakage, energy site leakage, oil and gas infrastructure venting or flaring and from landfill sites.

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

Currently, GHG accounting uses GWP100 for conversion to a CO_2 equivalent. The IPCC AR6 states that this distorts the warming impact of methane and should be used with extreme caution. It states GWP100 under reports the warming impact of rising methane emissions by a factor of 4 to 5 and GWP100 over reports the warming impact of falling methane emissions by a factor of 3 to 4. It also confirms that, due to the addition of CO_2 to the atmosphere, fossil source methane emissions generate a higher warming impact than equivalent volumes of biogenic emissions. GWP* offers a better approximation to the actual warming impact when applied to methane. Inventory metric choice is a political decision but it is irrational to knowingly use a warming distorting metric to assess emissions when the target being addressed is a warming based one. This has crucial implications for GHG policy. Current methane warming impact science indicates warming reductions from cutting methane expire after around 12 years. Where such emissions cuts are cost neutral or negative this is unimportant, but it becomes deeply damaging where cuts incur positive cost.

DEFRA and others propose livestock farmers should feed methane suppressants to their livestock. This carries a net cost. Who carries this cost once no benefit accrues?

12) What progress has the UK made on reducing methane emissions and where is there room for improvement?

The UK ruminant population has been in steady decline for some 4 decades leading to steadily falling UK livestock ruminant methane emissions. Because it

is changes in emission rates rather than absolute emissions of methane that actually drives atmospheric warming, this has had a significant cooling effect.

13) Which sectors are most promising for achieving further methane emissions reductions? And which are likely to be at least relative cost?

Methane emissions from landfill could cease by capturing and adding them to mains gas supplies. However, many closed landfill sites venting methane are no longer owned by their original operators and their current owners may lack the technical and financial resources to undertake this.

Requiring the energy industry to cease fugitive emissions offers greatest impact, lacking only the necessary regulatory impetus.

Farmed livestock methane emissions can be reduced further by measures including selective breeding, using of specific plant species in pastures, earlier finishing of livestock and feeding of commercial or natural methane suppressants. Each of these has different impact potentials, cost profiles and technical constraints.

15) To what extent is there existing regulation in each emitting sector to mitigate methane emissions, and how well is this working?

- Recent remote monitoring reports regularly finding methane plumes missing from self-declared emissions profiles suggesting ineffective regulation.
- We are aware of old landfill sites which routinely vent methane suggesting existing regulation of closed landfill sites has little positive effect.
- The frequency of mains gas methane leaks suggests regulation around the issue is weak or of limited effect.

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?

Methane emissions vary between individuals by as much as 35% in otherwise identical situations. Work is ongoing to ascertain whether this can be used to reduce overall emissions.

Inclusion of certain plant species including sanfoin, birdsfoot trefoil and plantains, in grazed pastures can reduce methane emissions by up to 40%.

Declining livestock numbers over past decades have led to falling emissions in the UK. Finishing animals at a younger age could deliver the same effect but higher dietary energy intake requires greater cereal consumption. As pasture is generally more biodiverse and better for water cycling than land growing cereals this would incur these negative impacts, offsetting emission gains. This may also adversely affect producer financial viability with cereal price volatility and poor UK livestock profitability.

Methane suppressant feed additives can cut methane emissions, for commercial products by up to 30% or natural ones up to 70% (Aspergillus seaweed). Both incur cost to the livestock producer so face the same negative risk as cutting livestock biomass. The only seaweed which delivers large methane emission cuts is unique to Australian waters. Using feed additives only works for housed animals though.

Stored manure and slurry methane can be cut to near zero but requires significant investment in technology. However, these are a small proportion of overall livestock sector methane emissions, and the costs threaten producers viability. Climate benefit depends on how captured methane is used, most likely in on-farm electricity generation or in future methane powered farm machinery and is unlikely to offset the full cost to producers.

Finally, methane emissions from slurry can be greatly reduced by acidification but, again, this incurs cost and offers no farmer gain.

Given that UK livestock have not been warming the planet for decades, expecting the additional cost these measures incur to be borne by livestock producers would be immoral. Also, any climate benefit of cutting UK livestock methane emissions would cease after around 12 years so it's unlikely other parts of society would fund these measures beyond that point yet abandoning them would incur a new warming impact. This is an extreme moral hazard inherent in relying on cutting livestock methane emissions to contribute to UK climate policy.

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

Uptake may precede producer expansion, negating some benefits, and grants never cover full system cost, leaving producers in yet more debt.

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

We dispute that UK livestock contribute to current warming. Therefore, any actions to cut producer methane emissions further should be commercially rewarded like all other climate offsets currently are.

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?

Routine integration of methane reducing pasture species is typically part of regenerative grazing management which should thus be highly encouraged

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

Ruminant meat is a crucial source of highly nutritious protein in UK diets. Any policies that reduce availability risk declining nutritional health and/or increased importation of replacement foods, often grown in less sustainable ways. UK pasture land is often the most biodiverse of farmed UK land, especially when farmed regeneratively.

22) Given the regulations already in place for methane reduction in the waste sector, why are emissions from the waste sector static over recent years? Are existing regulations monitored and enforced?

Environment Agency funding cuts and resulting staff shortages have prevented effective monitoring of the waste sector in this regard. This is likely to be especially true for closed landfill sites which continue venting methane.

27) What impact would bringing forward the ban on flaring and venting have on both emissions and the industry?

If robust, such measures would rapidly and significantly cut UK methane emissions.