



AEF response to DESNZ consultation on integrating greenhouse gas removals in the UK Emissions Trading Scheme

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Introduction

Aviation Environment Federation (AEF) campaigns on aviation for people and the environment. Our focus is on aviation policy, relating primarily to climate change, noise and air pollution, and we participate in several Government engagement groups including having a seat on the Jet Zero Council. Internationally, we are a lead member and representative of the NGO grouping ICSA (the International Coalition for Sustainable Aviation), which has observer status to the UN's International Civil Aviation Organisation (ICAO).

Context

Even after the most optimistic outlooks for aviation alternative fuels, cleaner technologies and efficiency improvements have been factored in, Government and industry pathways to achieve net zero for the aviation sector all show significant residual CO₂ emissions in 2050. The modelling for Jet Zero One Year On estimates that these residual emissions will amount to around 30MtCO₂ in 2037 and 18.7MtCO₂ in 2050. It is clear that any strategy to deliver net zero will require further mitigation from demand measures, a large investment in greenhouse gas removals, or a combination of both. Investment in the technology to support Direct Air Capture (DAC) will also be needed to supply e-fuels to the sector, as required under the UK SAF mandate, alongside the potential for DACCS.

In this context, AEF welcomes the initiative shown by DESNZ to explore how UK policy can best support the development of GGR technologies and markets "at the speed and scale required to meet our climate targets". We are, however, at an early stage and critical questions have yet to be clarified, such as definitions of permanence. While it is important to progress work on GGRs, AEF believes there is a case for proceeding cautiously. In particular, a decision that the UK ETS provides the best way of supporting removals is premature, and that alternative approaches should be explored before any final decisions are made. AEF's response to this consultation should be read in conjunction with this reservation.

Our responses to the questions below are based on general consideration of sustainability aspects of the proposal and specifically how the inclusion of removals in the UK ETS will affect decarbonisation of the aviation sector.

Key Messages

- Whilst AEF values the interest and effort in supporting the development of GGRs from DESNZ, we are cautious about their inclusion in the UK ETS at this point in time, and believe that alternative approaches could be more effective in developing GGRs and reducing emissions.
- AEF does not support the inclusion of woodland creation, and nature-based removals more generally, as GGRs in the UK ETS due to uncertainties around permanence, timescales and reliability.
- Specifically for aviation, we are concerned about the development of an overreliance on removals and subsequent mitigation deterrence due to the hard-to-abate nature, and associated high abatement costs, of the sector. We would support additional measures being put in place to manage this.

Consultation questions

Set One: Principles for policy design, cap policy and allowance design

1. Do you agree with the Authority's principles for policy design?

We support the principles identified in the consultation, but there are fundamental issues with integrating GGRs into the UK ETS that will make it difficult to achieve alignment. The key issue is that removing a tonne of CO₂ from the atmosphere and emissions reductions that prevent the release of a tonne of CO₂ are not equivalent in terms of efficacy. Placing the two in the same system implies equivalency. The climate impact of the two therefore cannot be compared accurately. Considering the two to be equal encourages mitigation deterrence as polluters can support removals instead of reducing emissions wherever possible. Additionally, inclusion in the ETS could incentivise cheap, less sustainable removals over investment in higher quality reductions from longer-term technology improvements and innovation. While inclusion in the ETS may help with scaling sustainable removals, it could limit the potential environmental benefits on the scheme overall. Furthermore, removals have issues including the risk of leakage, consumption requirements, technology constraints and uncertainty in future management that need to be resolved before creating incentives and markets.

We would recommend taking a step back, and take the opportunity to examine whether including removals at all in an ETS is the correct approach at this stage. In its response to the consultation, Carbon Market Watch warns against inclusion, especially for nature-based solutions due to the unpredictability of ensuring that the removal is permanent.

We would like further clarity on whether the primary aim of this consultation is to look for ways to stimulate supply of GGRs, for instance by giving some kind of revenue certainty to producers, or whether it is primarily a tool to actually reduce emissions. If it is to stimulate supply, there are other ways of stimulating investment and that should be explored, for example, by taking the revenues from the ETS and setting up an engineered removals fund.

If the issuing of including GGR allowances in the ETS is done prematurely, there is a risk that they could quickly become the preferred compliance pathway for hard to abate sectors and therefore emissions reductions would stall, compromising the overall aim of the ETS. This is particularly relevant for aviation which faces high mitigation costs for deploying alternative fuels and investing in new technology. Given that aviation also has significant net climate warming impacts (such as those from contrails and NO_x emissions) that are not covered by existing climate targets and policies, there

is a strong rationale for focusing aviation efforts on in-sector measures that reduce climate impacts overall rather than relying on CO2 removals only.

If GGRs are included in the UK ETS it is important that the correct principles are prioritised. The primary function of the ETS is to reduce emissions over time, therefore it is essential that the incentive to decarbonise remains above all the other principles. For the same reasons, the environmental integrity of any removals is also crucial.

2. Do you agree the Authority should maintain the gross cap for initial integration of GGRs in the UK ETS (Option 2)? Please explain your answer.

Yes, we agree with option 2. Option 2 would preserve the integrity of the cap, maintaining pressure on polluters to reduce their emissions. Option 2 also allows for a variable amount of GGR allowances to enter the market in a given year, whilst keeping the overall supply of allowances the same. Over time this approach can be re-evaluated based on real knowledge of the amount of GGRs entering the market.

3. How can the UK ETS sustain demand for GGRs in the long-term, taking into account the consideration of setting a new cap (Option 3)?

The UK ETS can support the removals sector by using ETS revenues to invest in GGRs - this indirect inclusion in the scheme is preferable to fully integrating GGRs into the ETS for the reasons outlined in the response to Question 1.

4. Do you agree that GGR allowances in the UK ETS should be issued ex-post (i.e. after the removal has taken place and been verified)? Please explain your answer.

Ex-post is the most robust form of crediting. This is standard practice for good quality MRV projects, and the risk that the removal will never happen, or will be on an unknown scale, is too high with this level of technology development. It would also be disruptive to the ETS if allowances are delivered ex-ante and a GGR fails to deliver.

Set Two: Differentiation

8. Should allowances from GGRs be differentiated from UKAs and, if so, how?

Yes - fundamentally emissions reductions and removals are not equivalent and so the allowances should be differentiated. There is a clear risk that removals would be used *instead of* emissions reductions (mitigation deterrence), so if they are going to be placed together in the same market then they should at least be differentiated. We would support further differentiation between GGR technologies (for example a technology-specific GGR allowance). We believe this would provide transparency in the system, which is important given the potential variation in removals technology.

Differentiation would also provide the potential to include measures to avoid mitigation deterrence by, for example, limiting an entity to using a maximum volume or percentage of GGR allowances as part of its overall surrender obligation.

9. Do you think that differentiated GGR allowances would attract a higher price than existing emissions allowances and why? To what extent does this depend on the degree of differentiation (e.g. a generic GGR allowance versus a technology specific GGR allowance)?

Whilst there is some expectation of there being a higher price for certain GGRs if they are differentiated, they will still be interchangeable so the price is unlikely to differ significantly. If under technology-specific differentiation some technologies attract a higher price due to being seen as

more sustainable in the long-term than this could help with access to finance for higher quality removals.

Set Three: Location

12. Do you agree that allowances should only be awarded to UK-based GGRs? We welcome views from all stakeholders including sector-specific considerations. Please explain your answer.

We agree that the allowances should only be awarded to UK based GGRs because these will be easier to monitor and verify under a robust UK MRV system, and will provide a better fit with UK carbon budgets and frameworks (especially from the sixth carbon budget - CB6 - when emissions from international aviation and shipping will be formally included).

Access to often poor quality international offsets has caused reputational risks in the past, especially in the voluntary markets, due to poor governance (even the CEO of Wizz Air has been quoted as saying they are “a bit of a joke”). Any market for removals should seek to prioritise integrity and avoid similar mistakes.

At the same time, the UK government should move quickly to develop policies to address the overlap in scope between CORSIA and the UK ETS. We also believe that routes covered by both schemes should continue to be included in the UK ETS moving forward. CORSIA could encourage GGRs, even under existing rules, but given the likely cost disparity between GGR credits and offset credits, it is difficult to envisage any large scale uptake without reform of the scheme. To date the periodic CORSIA reviews and discussions have not signalled any firm indication that GGRs are a preferred solution, although some scoping work about the role of GGRs in aviation is likely in the next work cycle of the Committee on Aviation Environmental Protection (CAEP). In any case, the scope of the entire CORSIA scheme beyond 2035 is unclear as is participation by all ICAO member states between 2027 and 2035. CORSIA is primarily an offsetting scheme designed only to offset the *growth* in emissions in aviation, not to reduce emissions below the baseline, therefore CORSIA and UK ETS should be seen as having quite different climate objectives. We believe a robust UK ETS approach should continue to be part of the solution.

That being said, while we believe that the UK ETS approach on MRV is more reliable, and we would back efforts to make GGRs in the UK become more widely available, we are uncomfortable with the idea that removals are being pushed forward so quickly to be potentially offered as compliance credits in the ETS at this point. This seems premature and at odds with the need to deliver actual emissions reductions in the hard-to-abate sectors.

If GGRs are integrated into the UK ETS, we believe there is a strong argument for delaying access to aircraft operators. Careful consideration is needed to consider whether aviation climate policy supports DAC for e-fuel production, DACCS as removal, or both. As stated above aircraft operators could be limited to purchasing a maximum volume, or percentage, of GGRs to support in-sector action, or having access to GGR allowances delayed for a fixed period of time. This could be an important step that allows the UK to gain a clearer understanding of how the EU ETS is likely to treat GGRs, and help to ensure equal treatment across the two schemes.

Set Four: Permanence

13. Do you agree with the proposed permanence framework of both a minimum storage period, a liability measure and a fungibility measure? Please explain your answer.

A clear and stringent definition of permanence is essential to any proposal to include GGRs in the ETS.

There are important issues with the fungibility/comparisons between different types removals, and with emissions reductions, as mentioned previously. We agree with the position taken in the recent [paper](#) by Caldecott and Johnson (2024), “In a carbon budget, units of emitted CO₂ are inherently fungible. This stands in contrast to units in a carbon removal budget, which have various characteristics, including durability and co-benefits, making them often inherently non-fungible.”

Specifically, we see issues around different levels of permanence, reversal risk and co-benefits as important components of any fungibility measure. As the concentration of CO₂ in the atmosphere at a given point in time influences radiative forcing, there is also difficulty in comparing reductions of emissions with the later removal of the same level of emissions.

We think it is important to highlight these concerns and make it clear that if removals are going to be included in the ETS, then these issues need to be addressed and the ETS may need adjustment to deal with the non-fungible nature of removals.

14. What minimum storage period duration should the Authority set for GGRs entering the UK ETS? Please explain your answer.

For carbon removals to maximise their benefit to the climate, carbon needs to be stored away for at least the time that CO₂ survives in the atmosphere. Carbon market Watch recommends this should be at least for several hundred years, if not 1,000 years, and at a minimum, certainly until after the point where global temperatures peak - this might not be for another 100 years. This is especially pertinent to nature-based solutions. How can we be sure that these forests/land-based sinks will still be there in 100 years? We believe that a robust definition of permanence is likely to rule out nature-based solutions for this reason.

15. How should the Authority manage potential reversal events from GGRs? Please consider the liability options outlined above, whether any options exist that have not been considered, and how the potential liability options could be used together or in sequence.

The definition and strict enforcement of permanence requirements is key to ensuring that reversal events are minimised. The long-term liability for reversal events is a key issue with including removals in the ETS. It is not possible to guarantee liability for a reversal event on the timescales discussed in the permanence section. If a reversal event occurred in the future, it is not possible to be confident that the responsible party will, or can, be held accountable.

In the event of a reversal, the purchase and surrender of UK ETS allowances would be preferable to the operator purchasing negative emissions from a GGR outside the ETS - this would risk a lower-quality removal being purchased, or the purchase of a GGR credit from an international removal which would not have the effect of encouraging domestic emission reductions.

16. Where should the liability for any re-release of stored emissions apply if there are multiple actors in the GGR value chain?

The liability should apply to the actors in the GGR value chain who benefited financially from removal.

17. Should the liability measure differ if the GGR is also subject to a fungibility measure? For example, if the reversal event was avoidable (i.e. within the control of the GGR operator) or unavoidable (i.e. due to factors outside of control of GGR operator).

The liability measure should not differ if the GGR is also subject to a fungibility measure. Fungibility measures are not sufficient on their own to ensure that a reversal event is fully compensated. Operators will know the risk of reversals associated with their removal type and should be prepared to accept the liability measure as a condition of entering the market with a removal.

A key point to reiterate is that only projects that have very low risk of reversal should be considered if removals are integrated into the ETS.

Set Five: Nature-based solutions

26. Should new ex-post woodland units generated in line with UK Woodland Carbon Code standards be considered for inclusion in the UK ETS? Please base your response on the evidence outlined around permanence, costs and wider land management impacts, and on the policy options outlined in the rest of this consultation.

There are several key issues with woodland creation as a removal that mean that woodland units, and nature-based solutions more generally, should not be included as a removal in the UK ETS. There is a major problem with permanence as the risk of woodland loss from human and natural causes is too high. Additionally, as written in the consultation, disturbance events 'are becoming more likely with climate change', so the risk of a reversal in this case is going to rise over time as our need to store carbon rises.

Carbon storage from woodland takes a long time to deliver removals. Again, as written in the consultation, 'carbon stocks stabilise between years 100 and 300 years' and 'when very young, carbon accumulation is slow in a woodland'. These time frames are too slow to meet the levels of reduction that we will need by 2050 and lend themselves to the same timeframe issues outlined in the liability section.

Without financial support, there are also doubts that the supply of woodland would increase rapidly, raising questions about the reliance on such allowances for growth sectors like aviation. Woodland creation and carbon sequestration in the natural environment is important and has a whole host of benefits to biodiversity and people. Restoring nature is a critical part of a healthy ecosystem but we oppose using nature-based removals in the ETS. We would prefer that these solutions are supported for their numerous other benefits. We are open to using revenues from the ETS to fund nature-based solutions to achieve this goal.

27. If the Authority does include new ex-post woodland units generated under the UK Woodland Carbon Code in the UK ETS, should any changes be made to the Woodland Carbon Code? For example, this could include changing the 20% flat-rate buffer contribution, or changes to the MRV and measures to mitigate wider land management impacts. Details of the woodland carbon code can be found here: <https://woodlandcarboncode.org.uk/standardand-guidance>

We do not support including woodland units in the UK ETS, however if they are, it is vital that any units are awarded once the woodland is verified to have sequestered carbon (using the most robust method possible). We would also support more frequent monitoring - the current system of monitoring at year 5 and then every 10 years in WCC would only give 3 data points before 2050 (when we need to be at net zero).

29. Do you agree with the Authority's assessment of peatland restoration?

We agree that peatland restoration should not be included for similar reasons that woodland creation should not be included in the ETS. Peatland restoration is important but this is the wrong

system to attempt to achieve that goal and we would welcome more thinking on different market based mechanisms that could speed up the restoration of peatland. Carbon sequestration offered by the Woodland Carbon Code is entirely based on transitional carbon gains, whereas in the Peatland Code they are completely omitted. This creates an inconsistency between the Codes, and – by underestimating the carbon benefits – may lead to suboptimal levels of investment in peatland restoration. Ultimately restoring peatland is complex and has too much uncertainty to be considered a reliable carbon removal. There is also a time factor, as peatland will need to be fully restored before they begin to sequester carbon. In most cases, this will be too late for net zero 2050 timeframes.

Set Six: Integration

30. Do you agree with the Authority's assessment that, by maintaining the gross cap on emissions, additional controls could be used to target wider impacts but not mitigation deterrence?

The cap mechanism is unlikely to be strong enough to mitigate against this risk on its own, especially when so many allowances are already available due to the oversupply of allowances during the pandemic and the continued availability of free allowances . We would argue for the addition of extra control measures, such as only allowing access to removals if a certain level of decarbonisation has been achieved, or delaying access until an effective in-sector decarbonisation plan is in place. Delaying access of sectors including aviation would ensure that hard-to-abate sectors do not just delay reducing emissions by purchasing removals.

34. What would be the optimal timing for GGRs to be integrated into the UK ETS, taking into account the considerations set out above? Please explain your answer with reference to impacts on both the UK ETS and GGR deployment

See the above point, we would argue for delaying the introduction of GGRs into the market until real emissions reductions have been observed in hard to abate sectors, such as aviation. Additionally, as removals are not integrated into the EU ETS, the addition of removals in the UK ETS would reduce the compatibility of the two systems. This could have unintended consequences and complications.