# Developing the UK Emissions Trading Scheme

## AEF consultation response

17th of June 2022; contact Cait Hewitt cait@aef.org.uk

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## Summary


- The Government consultation "Developing the UK Emissions Trading Scheme (UK ETS)" ran from 25th March to 17th June 2022.
- Since leaving the EU, the UK has been operating its own emissions trading system which links to the longstanding EU ETS. The Department for Business, Energy and Industry Strategy (BEIS) is now proposing a number of changes to the UK ETS, following the Government's commitment to "implementing a net zero consistent cap for the scheme, reviewing Free Allocation policy and expanding the use of emissions trading across the economy."
- The Government expects carbon pricing to do a lot of the hard yards when it comes to cutting aviation emissions. In the draft 'jet zero' strategy, the Government's favoured scenario for aviation emissions cuts between now and 2050 showed the 'demand response' to carbon pricing delivering a larger 'wedge' of emissions reduction than any other measure, including Sustainable Aviation Fuel or Zero Emission Aircraft.
- There are currently two key mechanisms for delivering carbon pricing for UK aviation: the UK ETS which applies to domestic flights and international departures to EEA destinations, and the UN Carbon Offsetting and Reduction Scheme for International Aviation. The current consultation addresses the UK ETS only, which covers around one third of UK aviation emissions.
- AEF is broadly supportive of the measures proposed for the reform of the UK ETS. We responded to questions in five sections of the consultation that have relevance to aviation.

# Chapter 1: Net zero consistent cap

### 1) Do you agree with the Authority's proposed range for the net zero consistent cap? (Y/N) Please explain your answer.

Yes. AEF strongly supports early action on cutting emissions including through more effective carbon pricing. It is important to begin creating strong incentives now to ensure that emissions from aviation adopt a more sustainable pathway post-pandemic and that the sector is on a firm trajectory towards delivering the Government's 2035 goal of a 78% emissions reduction across the economy.

A stronger pricing signal will help to support investment in the low carbon technologies needed for emissions reduction. It will also help minimise the total amount of accumulated carbon in the period between now and 2050 and will limit the risk of airlines not delivering on longer-term targets. These changes would help to address some of the criticisms of the DfT's proposed decarbonisation pathway for the sector raised by Element Energy in a report commissioned by AEF.

# Chapter 4: A call for evidence on future markets policy

### 45) Does the current banking and borrowing policy remain fit for purpose? (Y/N) If not, how should it be amended?

During the pandemic, the free allowances issued to airlines exceeded the sector's actual emissions by a significant margin. While the pandemic could not have been foreseen, the receipt by airlines in the UK ETS of around 1 million free allowances above the level of actual emissions represents a financial windfall payment to the industry if these can now be freely used to cover emission obligations in the period up to 2030, or sold. This comes on top of the 'unprecedented' financial support, estimated by the Government at £8 billion, that the UK air transport sector received from public sources during the pandemic. This seems starkly at odds with the principle of building back better, undermines carbon pricing policies, and is likely to represent a disincentive for airlines to begin investing in the new fuels and technologies that are urgently needed to decarbonise the sector but which are currently only in their infancy.

With the industry continuing to experience peaks and troughs in its activity, we think this is an added reason for phasing out free allowances as soon as possible. To the extent that free allowances continue to be issued, future allocations should be adjusted proportionally to reflect this historic overallocation.

# Chapter 5: Aviation

> 46) Do you agree with the conclusion of the study that risk of carbon leakage is minimal for the UK aviation sector under the current UK ETS scope? (Y/N) Please expand on your answer and give evidence where possible.

Yes. Since aviation by its nature involves a journey from one specific location to another, the risk of carbon leakage has always been lower than for other sectors. There has sometimes been a concern about losing out on transfer traffic, but given that the cost of carbon under the EU ETS is currently similar to the cost under UK ETS, and the EU is considering comparable reforms that would impact on EU airlines, there would seem to be minimal leakage risk compared to competitor hubs in Europe.

> 47) Do you have any additional views on the economic research study and its conclusions? (Y/N) Please expand on your answer and give evidence where possible.

Leakage is often cited as a reason for constraining climate ambition. We were pleased to see that the Government has commissioned independent advice on this topic.

> 48) Do you agree that if there are minimal risks of carbon leakage and competitiveness risks associated with carbon leakage from the UK ETS for the aviation sector, free allocation should be withdrawn or phased-out? (Y/N) Please expand on your answer and give evidence where possible.

Yes. Financial incentives for aviation to cut emissions are currently very weak, given the very weak signal from CORSIA, lack of legal obligations to cut emissions, and exemption from any fuel duty. The majority of UK aviation emissions attract no emissions charge or tax and emissions growth remains uncapped.

The Government's stated position is that aviation should achieve net zero by 2050, and that international aviation emissions should be included in UK legislation from the sixth carbon budget. Carbon pricing is expected to do much of the heavy lifting when it comes to both delivering the polluter pays principle and putting aviation on a pathway to net zero. The draft Jet Zero strategy relies heavily on carbon pricing as the key mitigation tool for aviation emissions, with 'demand reduction through carbon pricing' anticipated to deliver a larger wedge of emissions cuts than any other measure, including new technologies and fuels.

The key measures (aside from demand reduction) for delivering net zero aviation, namely zero emission aircraft, zero emission fuel and greenhouse gas removal, are expensive and under-developed. There is an urgent need for financial incentives to be created for accelerating these technologies. The wider introduction of carbon pricing and removal of free allocation must therefore be implemented as soon as possible.

49) Are there any other reasons for maintaining free allocation in the UK ETS? (Y/N) Please expand on your answer and give evidence where possible.

No. Perhaps when aviation was first included in the EU ETS in 2012, free allowances were seen as a way to ease the sector into the scheme. Now, a decade on, the system of emissions trading is well established, albeit having transitioned from an EU to a UK scheme. Giving airlines free allocation looks simply like yet another financial subsidy to a sector that already benefits from tax-free fuel and from zero rating of VAT on tickets.

50) Please provide views on the three proposed options for aviation free allocation, as well as how the trajectory should be set, such as a linear or weighted approach?

Of the options presented we would support the early phase-out. We don't have views on whether a linear or weighted approach is pursued.

Any argument that airlines should keep free allocation until the industry 'recovers' is misplaced in our view as it implies that pre-pandemic levels of traffic are seen as a sign of good health. In terms of emissions this couldn't be further from the truth, with UK aviation emissions in 2019 - just before the pandemic hit - higher than ever before. 'Building back better' for aviation must include the ending of the various examples of special treatment that have allowed this situation to arise, including weak carbon pricing which fails to deliver that polluter pays principle.

51) Should the UK ETS Authority consider free allocation trajectory options that could maintain aviation free allocation entitlement past the first phase of the UK ETS (2030)? Are there other free allocation trajectories you think the Authority should consider? (Y/N) Please expand on your answer and give evidence where possible.

No, we would strongly oppose the maintenance of free allocation into the next phase. We note that in fact the European Parliament recently voted to bring forward the phase-out date of free allocation for airlines included in the EU ETS to 2025. Given the UK's commitment for environmental policy to be at least as ambitious as that of the EU, we should be considering the need to at least match this date. We would support a phaseout from 2024.

55) How often should aircraft operators report their TKM data under the UK ETS? Alternatively, are there other appropriate data sources the UK ETS could use to monitor aviation activity? Please expand on your answer and provide evidence where possible.

There is a lack of good, publicly available TKM data. To the extent that any new data is collected for the purposes of UK ETS benchmarking it should be publicly available to support the

Government's commitment to improving consumer information about the CO2 impacts of their flight choices. Overall, however, we support full auctioning as soon as possible.

> 57) Are there ways we could mitigate any unintended impacts on regional connectivity that may arise due to changes to aviation free allocation, through the UK ETS or by other means? (Y/N) Please explain your answer and provide evidence where possible.

Yes.

Strengthening carbon pricing for domestic routes would help to support the Government's goal for net zero domestic aviation by 2040 as these relatively short routes will be early adopters of any breakthroughs in electric and hydrogen aircraft.

We support addressing any unintended impacts using existing mechanisms rather than through changes to the UK ETS. A number of options exist. In general, preference should be given to supporting regional connectivity through low-carbon transport and technology options. Improvements to rail services where relevant, and good internet provision (for video calls) should be considered.

If the concern is about the affordability of access to hub airports, the Government could ring fence slots at congested airports for specific domestic routes, which could help mitigate any cost impacts of changes to free allocation. This has been proposed, for example, in the context of Heathrow expansion since expanding airport capacity does not necessarily result in a corresponding increase in the provision of domestic routes.

Alternatively, routes that meet the qualifying criteria in terms of strategic importance can benefit from being given Public Service Obligation status, which allows for both Government funding and APD exemption.

Finally, and in the longer terms, strengthening carbon pricing beyond the current scope of the UK ETS would help to equalise any differential impacts for regional services compared with other routes.

> 58) How do we ensure that GHG emissions from SAF are accounted for appropriately with respect to aircraft operators' UK ETS obligations?

We welcome the Government giving consideration to this issue, having previously highlighted our concerns about the zero emissions accounting being afforded to SAFs under the UK ETS. Our view is that SAFs represent an out-of-sector emissions reduction, not an actual reduction in aviation sector emissions, since regardless of the feedstock used, burning SAFs in an aircraft engine releases as much CO2 as kerosene. The emissions reductions claimed for SAFs come instead from avoided or reduced emissions elsewhere in the economy. It therefore becomes

very important to ensure that (i) this emissions reduction is not double counted (whether in the UK ETS or in carbon budgets) and (ii) there is no over-claiming about the total emissions abatement, taking into account emissions associated with the production and transport of the fuel for example.

If all sectors were included in the UK ETS then attributing a 100% emissions reduction to SAFs within the scheme would be less of a problem. Given that this is not the case, the best possible proxy, we suggest, would be using the lifecycle analysis values generated for the RTFO. We have argued that these LCA values should be calculated specifically for a UK context and on the assumption that all sectors are on a pathway to net zero, to ensure the use of the correct counterfactual emissions assumptions.

However, any emissions reductions claimed should only relate to gases covered by UK ETS and not - for example - to potential methane avoidance from landfill, given that methane is not - as we understand it - within scope of the scheme. Currently the focus for UK SAF production is on the use of waste. The Government should actively consider broadening ETS scope to this sector to help avoid inaccurate emissions accounting.

We understand that the European Parliament recently voted in favour of issuing double credits for SAFs under the EU ETS - a 100% emissions reduction is assumed for SAF use plus the issuing of an additional ETS credit provided for compliance. 40 million SAF allowances have been set aside for this purpose on a first come, first served basis, although 70% of this quota is only available for SAFs made from e-fuels. Our view is that this disproportionately rewards SAF as a mitigation option for aviation, and we would not support this kind of double reward under the UK ETS, especially when the industry is seeking other direct forms of support including a Contracts for Difference scheme.

> 59) Should emissions reductions delivered through SAF supplied to comply with the proposed SAF mandate contribute towards reductions in UK ETS obligations for aircraft operators? (Y/N)

We see no reason not to permit this since the SAF mandate is not likely to operate as a carbon accounting system but rather as a policy incentive to kickstart the SAF sector.

To the extent that any financial support for SAF development such as contracts for difference is developed, this would simply reinforce the importance of avoiding additional credit being given to airlines for purchasing SAF.

> 60) If so, how should supply of SAF and its emissions reductions be reported in a way that ensures SAF usage is only reported under one carbon pricing scheme, whilst minimising the administrative burden for aircraft operators?

The SAF mandate doesn't represent a carbon pricing scheme so the two approaches could be complementary. It will be important to ensure that the energy supply sector only reports the

emissions from production and not the corresponding net emissions savings. In this respect, imported SAF is more problematic in terms of ensuring no double counting of emissions reductions. Careful standard setting on a case by case basis is required for SAF imports.

### 61) Do you agree that we should continue to ensure that UK ETS rules keep pace with the latest SAF sustainability criteria? This would include reflecting the latest amendments to the RTFO sustainability criteria. (Y/N) Please explain your answer.

We can see the benefit of applying the same eligibility criteria for SAFs across the RTFO and the UK ETS. In terms of the specific LCA values, we would support parity across different mechanisms. As noted above, we have argued in the context of the SAF mandate proposals that LCA values should be calculated on the assumption of all UK sectors transitioning to net zero. LINK

### 62) Should we consider capturing aviation's non-CO2 impacts in the UK ETS? (Y/N) Please explain your answer

Yes. Non-CO2 impacts have been long-recognised to cause additional net warming at least since IPCC's 1999 report on aviation and the upper atmosphere but there has been no effective policy action to date. Tackling aviation's non-CO2 impact as well as the CO2 impact is critical for meeting a temperature-based climate goal. While some research questions remain to be answered in relation to aviation's non-CO2 impacts, the evidence has strengthened over the years and the latest scientific advice estimates that the total historical non-CO2 impacts of aviation have caused twice the amount of warming as CO2. In this situation, it would be more perverse not to include non-CO2 impacts at all than to include imperfectly.

Operational changes, changes to the fuel composition and other measures to tackle aviation's non-CO2 impacts should be pursued in parallel to their inclusion in the UK ETS, with flexibility built into any measures to allow for new evidence or changed practices.

### 63) How could we treat NOx in the UK ETS to reflect its differing climate impact compared to CO2?

The use of a multiplier would be the simplest approach. This requires a metric for CO2 equivalence. The BEIS GHG reporting guidelines for businesses already include a multiplier for non-CO2 impacts based on radiative forcing (RF) values. Concerns from the scientific community about the selection of an appropriate metric to compare short and longterm climate impacts are mainly relevant to forward looking forecasts and targets. This is less relevant to the UK ETS which is based on current emissions so the use of RF or ERF (Effective Radiative Forcing) is appropriate. Alternatively, a GWP 100 multiplier value for NOx (the global warming impact of NOx compared with CO2 over a 100 year period) would be in line with the approach taken by the IPCC. A GWP 30 multiplier would, meanwhile, have greater policy relevance to UK net zero target and could therefore be considered.

64) How could we monitor aircraft NOx emissions, whilst seeking to minimise the additional administrative burden for airlines?

Use of a multiplier based on reported carbon emissions would obviate any need for monitoring. Alternatively, CE Delft has proposed a monitoring methodology in relation to a suggested en route NOx charge.

65) How could the UK ETS address additional non-CO2 aviation impacts, such as contrail cirrus? Please explain your answer and give evidence where possible.

We see no reason not to apply a GWP multiplier or similar value for all known climate impacts of aviation based on global averages, and to adjust this value as the science develops. This would have the advantage of helping to account for the total climate impact of flying while avoiding the perverse incentives that could arise from policies designed specifically around a given gas or climate impact, such as incentivising aircraft to fly longer routes and thereby to increase the CO2 impact in order to avoid flying through air masses where contrail formation is likely.

66) Should we explore any other near term pricing measures, such as charges, to account for non-CO2 impacts whilst consideration is given to full incorporation into the UK ETS? (Y/N) How could these work in the UK ETS? Please explain your answer and give evidence where possible.

The CE Delft report we refer to in question 64 was commissioned by the European commission to explore possible approaches to delivering a NOx charge, which would have the benefit of creating specific incentive for NOx reduction.

In 2020, the European Aviation Safety Agency (EASA) published a study on non-CO2 impacts and potential policy instruments pursuant to the EU emissions trading system.

67) Do you agree that flights from the UK to Switzerland should be included in the UK ETS from January 2023? (Y/N) Please expand on your answer and give evidence where possible.

Yes. We would strongly support working with Switzerland to achieve this. The broadest possible coverage is desirable as the EU and UK ETS schemes represent a much more effective and robust approach to carbon pricing than CORSIA in its current form.

68) Do you agree that this aviation activity should be subject to the same free allocation rules and review outcomes as the rest of the aviation sector in the UK ETS? (Y/N) Please expand on your answer and give evidence where possible.

Yes. We see no reason for differentiation.

69) Do you agree that we should not adjust the current UK ETS cap to account for the inclusion of UK to Switzerland flights? (Y/N) Please expand on your answer and give evidence where possible.

Yes. Any change to the cap going forward should be to better align it with the UK's net zero target, and 2035 target of cutting emissions by 78% across the economy.

70) Are there any other flights departing the UK mainland that are not covered by carbon pricing schemes that we should seek agreement with the destination state or territory to include in the UK ETS? (Y/N) Please expand on your answer and give evidence where possible.

While we welcome ambitious climate targets in the UK ETS we are concerned that the limited scope of the scheme will leave the majority of UK aviation emissions covered only by CORSIA, which is not aligned to net zero. We note that the European Parliament recently voted to extend the EU ETS to all departing flights, subject to an adjustment to reclaim the costs of offset units purchased for the same flights under CORSIA. While this proposal is still subject to trialogue, and the future reform of CORSIA is still to be discussed by ICAO, we would urge the UK to consider matching this level of ambition.

# Chapter 7: Expanding the UK Emissions Trading Scheme to new sectors

126) Do you agree that the UK ETS should be expanded to include waste incineration and EfW? (Y/N) Please outline your reasoning, including alternative options for decarbonisation of the sector outside of the UK ETS.

Yes, we would support this in principle. We are concerned however that inclusion of only these specific parts of the waste sector could present a distortion if the emissions associated with producing SAF from waste are not covered. Use of lifecycle analysis values for SAF as we have recommended as a stopgap measure in the aviation section would mitigate this risk, though our preference would be for the Government to consider including the process of waste-to-SAF production in the UK ETS.

146) Are there other parts of the waste management system that should be included in the scope of the UK ETS? For example, landfill or wastewater. (Y/N) Please explain in as much detail as possible and provide evidence to support your views.

As above, we recommend that SAF production from waste should be covered.

# Chapter 8: Calls for evidence on greenhouse gas removals and agriculture and land use emissions

### 147) Do you believe the UK ETS could be an appropriate long-term market for GGRs? (Y/N) Please explain why, highlighting benefits and risks where possible.

Yes. As part of a package of measures and with appropriate limits ad conditions, the inclusion of GGR in the UK ETS seems a positive step towards creating financial incentives for the production and use of engineered, permanent renewables.

Almost every published analysis setting out possible pathways towards aviation decarbonisation assumes that airlines will not be able to reach absolute zero for their emissions and will rely on large-scale use of greenhouse gas removal to balance remaining emissions. Strategic/economic and environmental judgements will need to be made about whether to use captured carbon (from DAC for example) to produce SAF or to store it (the latter process being potentially more energy efficient). At present, however, while SAF use is generously rewarded under the UK ETS, GGR purchase by airlines is not. If GGRs are going to be able to deliver anything like the levels of carbon removals for aviation in addition to demands from other sectors it will need to be rapidly scaled, within the limits of environmental sustainability.

Impermanent nature-based solutions for carbon removal, or climate mitigation, such as afforestation or peatland restoration should not, in our view be included in the ETS as they do not offer a long term solution for delivering net zero and will need to be delivered in parallel to measures that permanently remove carbon from the atmosphere or avoid its release, not instead of them.

### 148) How could the design of the UK ETS be adapted to include GGRs while still maintaining the incentive to decarbonise for ETS participants?

There is a strong case to be made, in our view, for the setting of both actual and net emissions targets for all sectors. This would help to ensure that reduction of emissions at source is always prioritised and would provide a strategic view of how GGRs might be best deployed across the economy. We should assume that this technology will be limited, due to lead time/technology readiness, cost and sustainability factors, in the extent to which it can be rolled out. The Government should consider therefore whether it is best reserved for 'hard to abate' sectors such as aviation and agriculture, or whether it makes more sense to to deploy it in sectors for which there is more general social need than flying. As noted by Element Energy in their recent report for AEF:

"By 2050 the CCC assumes 58MtCO2 removal technology has been deployed. This exactly matches the 58MtCO2 emissions remaining from the aviation and agricultural sectors, the only

high emitting sectors left at this stage. This shows that the enormous effort and cost the CCC and BEIS assume we will pay in order to deliver CCS is largely to support the status quo in these two sectors at which point the cost effectiveness of such a solution has to be questioned."

With aviation likely to be a significant user of GGR, measures to ensure that the cost of delivering it are borne by polluting airlines rather than by the general public should be under active consideration. Access to GGR credits could perhaps be limited a) to participants who have already surrendered permits for their 'actual emissions cap', ere this to be set as a separate target and b) potentially to certain sectors deemed to be unable to achieve absolute zero emissions by 2050

> 149) To what extent could the UK ETS price signal incentivise development of the full range of GGRs, including engineered and nature-based GGRs, given the expected differences in the project costs?

As above our view is that nature-based GGRs should not be included in the scheme. We recognise that the cost of delivering engineered carbon removals is likely to exceed that of buying allowances from other sectors in the short term, suggesting the need for complementary policy measures to drive take-up of GGRs.

> 152) Are there any impacts, constraints or unintended consequences that need to be managed if incorporating GGRs within an ETS?

As with SAFs, there could be complications about how best to ensure accurate carbon accounting if any part of the process takes place outside the UK, for example where solar energy is more abundant. In terms of UK development of this technology, it will be important to consider issues such as the availability of renewable energy and to mitigate any price impacts on other sectors such as domestic electricity needs of creating new demand to the extent that supply is scarce.

> 191) Do you agree with the recommendation that, instead of the deficit being added onto the next year's surrender obligation, the regulators should be empowered to issue a deficit notice to require operators/aircraft operators who fail to surrender allowances to cover any deficit? (Y/N) Please explain your answer.

Yes. Since it is important for emissions reductions to take place now rather than at some time in the future, both to limit cumulative emissions and to de-risk the transition to green technologies, it is important for allowances to be surrendered in a timely manner. We would support regulators being able to deploy strong compliance mechanisms if required.