

AEF response to The Scottish Government's consultation on a Scottish replacement to Air Passenger Duty – Strategic Environmental Assessment Screening and Scoping Report

May 2016

Proposed Methodology (Section 2)

Question 1: Do you agree with the key assumptions and questions as discussed on pages 12-13?

Yes to some extent. We agree that the three broad topics of increases in greenhouse gas emissions, other environmental effects associated with an increase in traffic, and impacts on local infrastructure cover the right ground. But the key question in each case should, we argue, be what effect the proposal will have on the achievement of environmental objectives. Question 2 on the impacts of increased GHG emissions, for example, should specify that the key issue is what impact the policy change would have on the achievement of climate change legislation (Scottish and UK) and objectives (under the Paris Agreement, which is currently not referenced at all), rather than just assessing the impact in terms of kgCO₂e. The same principle should apply in relation to air pollution (for which the impact on legal limit values and on other requirements of air quality legislation). Noise impacts are harder to assess in terms of acceptability given the absence of meaningful targets or legislation of which we are aware, though we recommend that the impacts should be considered in terms of whether they support or hinder the achievement of World Health Organisation recommendations in relation to environmental noise. Extensive comment on these issues is set out in our response to question 5.

Question 2: Is it appropriate for the assessment to consider effects at differing geographical scales as discussed on page 18?

Yes

Alternatives (Section 2)

Question 3: Are the proposed alternatives set out on pages 21-22 reasonable?

Yes

Question 4: Do you have suggestions for additional approaches to APD policy?

While cutting APD could have a material impact on the achievement of environmental objectives, the tax is not so far designed to resolve the environmental challenges posed by

aviation. Aviation tax could in theory be redesigned such as to meet a specific environmental objective (for example the rate could be increased to the point where demand was anticipated to fall to a level consistent with the Climate Change Act), or could be scaled in a way that more closely matched environmental impact (for example according to the noise certification of an aircraft). It could also be redesigned such as to meet a specific social objective (for example shifting a larger proportion of the tax onto frequent flyers and away from those taking just one holiday per year). Since the Scottish Government appears strongly minded, however, to retain the structure of APD in any Scottish replacement tax it may develop, we have not set out our thoughts on any alternative tax system.

Evidence baseline (Section 3)

Question 5: Do you have any comments regarding the proposed evidence base for the assessment set out on pages 24-51?

Climate Change evidence

Our comments on this section relate both to the evidence presented on pages 24-51 and also in earlier sections of the consultation.

The primary questions for the Scottish Government when considering the CO₂ impacts of a policy change should, we argue, be (i) whether it will have an impact on achievement of the Climate Change (Scotland) Act (ii) whether it will have an impact on achievement of the UK's Climate Change Act 2008 and (iii) whether it will have an impact on achievement of Scotland's commitment under the Paris Agreement. It is against this backdrop that the proposal to cut APD, and thereby to increase aviation emissions, must be assessed.

Even relatively small increases in demand as result of reduced aviation tax could prove problematic, the evidence suggests, in the context of economy-wide CO₂ commitments.

International measures will be unable to deliver legally-binding domestic carbon commitments without complementary policy action

The Committee on Climate Change, as the SEA consultation paper notes, has always expressed a preference for policy on aviation emissions to be agreed internationally, but such policy can only be considered an appropriate *replacement for* domestic action if it is sufficiently stringent. In 2009 the CCC set out its own blueprint for what an international scheme should look like, in its advice to the UK Government in the context of discussions about a global framework for aviation emissions¹.

CCC envisaged this operating as a cap and trade scheme in which all allowances had to be purchased (not just those above a certain baseline), operating "*for an interim period in providing flexibility to achieve cost-effective emissions reductions, subject to the caveat that the carbon price in any trading scheme should provide strong signals for appropriate demand*

¹ <https://www.theccc.org.uk/publication/letter-ccc-advice-on-a-framework-for-reducing-global-aviation-emissions/>

management and supply side innovation". Fundamentally, however, CCC also advised that 'in-sector' aviation emissions reductions would be required. The aviation industry should plan, CCC said, "for deep cuts in gross CO₂ emissions relative to baseline projections (e.g. for developed country aviation emissions to return to no more than 2005 levels in 2050)". Finally, policy should be developed at an international level for addressing aviation's non-CO₂ emissions, the Committee advised.

While ICAO has made progress since publication of this advice towards developing a global market based measure for aviation, this currently looks very different from the kind of measure envisaged by CCC as able to deliver real, long-term in-sector emissions reductions.

Paragraph 1.4.7 of the SEA paper is inaccurate in its description of international progress on CO₂ mitigation for aviation. The text states:

The International Civil Aviation Organization (ICAO), a United Nations specialised agency, and the aviation industry, represented through the cross-industry Air Transport Action Group (ATAG), are jointly endorsing collaborative efforts to reduce climate impacts. Common goals include: improving fuel efficiency by an average of 1.5% per year until 2020; stabilising net emissions from 2020 through carbon-neutral growth and reducing net aviation carbon emissions by 50% by 2050; relative to 2005 levels.

While ICAO and ATAG have both set goals to reduce climate impacts these differ in some respects between the two organisations. ATAG has set itself a goal of improving fuel efficiency by an average of 1.5% per year until 2020; stabilising net emissions from 2020 through carbon-neutral growth and reducing net aviation carbon emissions by 50% by 2050 relative to 2005 levels. Whether or not these targets will be achieved will depend however on what regulation is put in place. ICAO, the UN body for aviation, shares ATAG's 2020 carbon-neutral growth goal, but has committed to a more ambitious fuel efficiency goal that would see improvements of 2% per annum until 2050. It has not, however, set any long-term goals for 2050 (or any other date beyond 2020).

Our view, and that of the ICSA coalition that we represent at the ICAO talks² is that the measures either in place already (notably the CO₂ standard agreed this year) and those on the table (notably the global MBM) are nowhere near to addressing the scale of the challenge in tackling aviation emissions, and while we are actively involved in the development of an MBM that is as effective as possible, we are also arguing for states to retain the right to implement complementary measures.

The SEA paper's characterisation of the EU ETS as it applies to aviation also requires modification. Paragraph 3.3.3 states:

Under the ETS, emissions from both domestic and international aviation are capped. For example, emissions were capped at 97% of average annual emissions for 2012, and from 2013–2020 they will be capped at 95%.

² <http://icsa-aviation.org/>

While this statement would have been an accurate characterisation of the scheme as originally envisaged, in 2014, under pressure from states outside Europe who opposed climate action on aviation at a regional rather than fully international level, the European Commission passed legislation to ‘stop the clock’ on the scheme for any international aviation to or from an airport outside the EU. The scheme’s coverage has therefore been scaled back to include only flights within or between EU states, responsible for only a third of the emissions that would have been counted under the original legislation. The EU is currently consulting on whether to reinstate, modify, or abandon the EU ETS for aviation after the anticipated ICAO decision on a global aviation MBM this autumn.

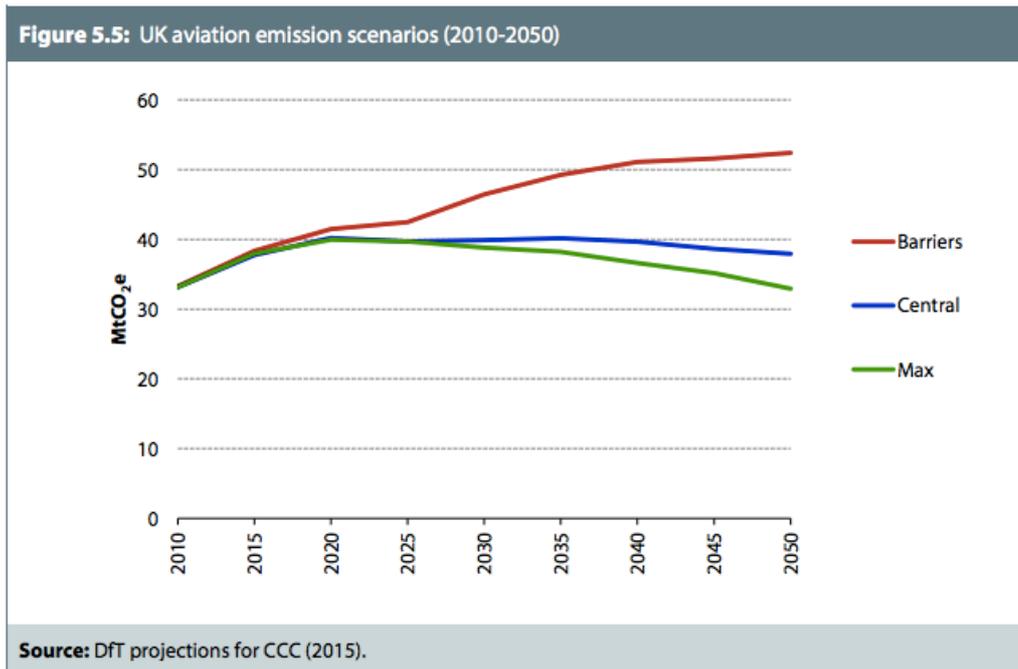
Meanwhile the Paris Agreement, to which every nation in the world has committed, requires states to deliver a significantly greater level of ambition with respect to emissions than has previously been agreed, in particular ensuring that warming is limited to well below 2 degrees, with options for limiting it to 1.5 degrees being pursued, and to cutting emissions to ‘net zero’ some time between 2050 and 2100. Since the Climate Change (Scotland) Act was designed to deliver a less ambitious level of long-term climate ambition, it should be regarded, we consider, as setting a minimum level of stringency for Scotland against which policy plans should be assessed.

Aviation already poses a real challenge to achievement of both Scottish and wider UK climate legislation

The CCC has provided specific aviation advice to the Scottish Government in “The high ambition pathway towards a low carbon economy”³. Compared with UK climate legislation, the Scottish Act has the same long-term ambition (i.e. a reduction in emissions of at least 80% from 1990 to 2050) but with higher medium-term ambition towards that target. In particular, a 3% annual emissions reduction is required from 2020. In order to hit the 2030 carbon target under the Scottish Act all sectors will need to be on a ‘high ambition’ path, CCC has advised. For aviation, this roughly corresponds to the ‘speculative’ scenario for aviation development in CCC’s key 2009 report on aviation in the UK⁴ or the ‘max’ scenario from their Fifth Carbon budget advice for the UK (see chart below). Delivering such an outcome will require both an extraordinary level of policy commitment towards cutting emissions and a huge leap forward in terms of technology development. Even the central projection, under which the Scottish targets would be missed, is based on an assumption that there are no new runways, and that APD across the UK and Scotland is maintained at current rates.

³ <https://www.theccc.org.uk/publication/scottish-emissions-targets-2028-2032-the-high-ambition-pathway-towards-a-low-carbon-economy/>

⁴ <https://www.theccc.org.uk/publication/meeting-the-uk-aviation-target-options-for-reducing-emissions-to-2050/>



CCC, *Sectoral scenarios for the fifth carbon budget* (November 2015)⁵

Since achievement of the CO₂ pathway required under Scottish climate legislation requires all sectors to be delivering maximum possible abatement there appears to be no slack anywhere in the system for any one sector to increase its emissions against the assumed levels.

Unless the Scottish Government is able to identify areas in which sectors already assumed to be on a 'high ambition' pathway can cut emissions still further, the proposal should not be allowed to proceed.

Scotland is also covered by the UK Climate Change Act. The CCC has long advised in relation to this UK-wide legislation that aviation emissions, including those from international travel, should not exceed 37.5 Mt CO₂ by 2050 in order to meet the economy-wide target of 160 Mt. Under the latest Government forecast, aviation emissions are set to overshoot that level even without building any new runways: the central 2050 forecast is 47 MtCO₂⁶. In June 2015, in the context of its progress report to Parliament, CCC advised Government to draw up a plan for tackling the issue⁷.

Analysis by the Airports Commission as part of its consideration of airport expansion in the South East produced new, more optimistic CO₂ forecasts for the sector. Nevertheless the

⁵ <https://d2kx2p8nxa8ft.cloudfront.net/wp-content/uploads/2015/11/Sectoral-scenarios-for-the-fifth-carbon-budget-Committee-on-Climate-Change.pdf#page=152>

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223839/aviation-forecasts.pdf

⁷ <http://www.aef.org.uk/2015/06/30/government-must-curb-growing-aviation-demand-to-meet-co2-targets-warns-climate-committee/>

Commission predicted an overshoot of the 37.5 Mt target even without extra capacity, and an even greater overshoot if a new runway is built⁸.

These problems are anticipated even if APD were to remain in place, and even if aviation is in future successfully included in a carbon pricing mechanism. If a reduction in APD either in Scotland alone, or more widely (bearing in mind the Prime Minister's commitment to protect UK Northern airports from any competitive impacts associated with Scottish APD changes⁹ were to result in an increase in aviation emissions as a result of increased traffic, the scale of the challenge – and potentially the cost – in bringing aviation emissions to a level compatible with the Climate Change Act would be greater still.

Table 2.2 notes that:

At this stage of the assessment it is uncertain whether improvements in reducing emissions in the sector, as a consequence of new technologies and other measures, will fully mitigate any predicted increase in emissions associated with the proposed reduction in APD. This will be considered in the SEA against the potential scale of growth in air and surface travel as a result of a Scottish replacement to APD.

We suggest that in making this appraisal, the Scottish Government should avoid reliance on industry sources and projections and should instead base its assessment on independent appraisals, which often reach very different conclusions. As just one example, the SEA consultation states in paragraph 3.3.15 that:

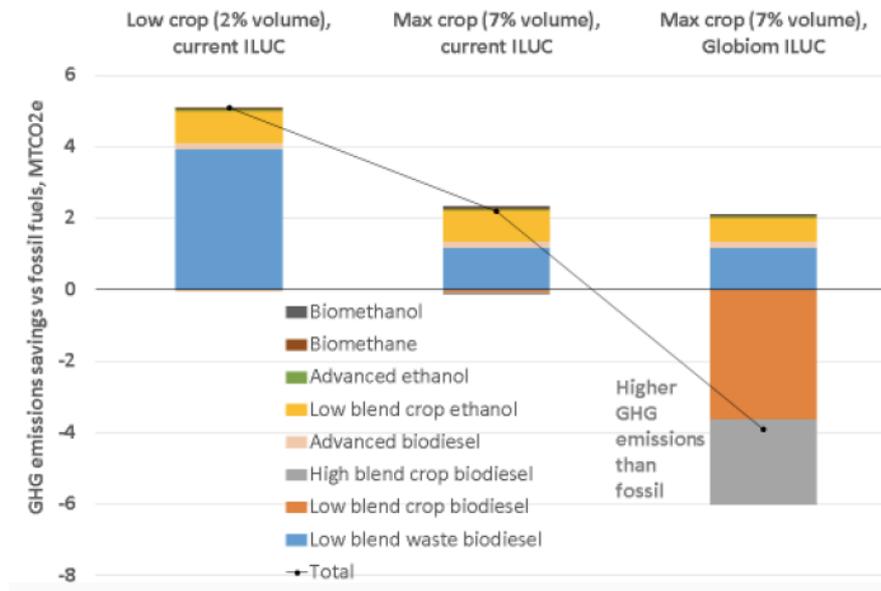
One approach to achieve carbon neutral growth from 2020 is the development and use of sustainable alternative fuels. These have a reduced carbon footprint compared to conventional jet fuel and therefore can reduce GHG emissions. It is predicted that sustainable fuels could contribute to an 18% reduction in the UK aviation's CO₂ emissions by 2050

The source given for this statement is the industry coalition Sustainable Aviation. Independent studies have concluded by contrast that:

- (i) Alternative fuels do not always deliver CO₂ reductions. Analysis by the Department for Transport based on the findings of a major study commissioned for the European Commission and published earlier this year found that current EU biofuels policy, which allows up to 7% of biofuel for transport to be supplied as crop-based biodiesel, appears to *increase* emissions overall, if allowing for the ILUC factors presented in the Globiom study for the EC (as illustrated in bar 3 below):

⁸ http://www.aef.org.uk/uploads/AEF-Infographic-climate-implications-of-airport-expansion_v6.jpg

⁹ http://www.thenorthernecho.co.uk/news/11869271.Prime_Minister_pledges_air_passenger_duty_cut_for_North_East_airports_if_Scotland_does_the_same/



Source: DfT 'Consultation on proposed changes to the RTFO' presentation given at the Low Carbon Fuels Stakeholder workshop 12th May 2016¹⁰

Research from T&E, a Brussels-based NGO, reached a similar conclusion about the impact of the policy across the EU¹¹.

- (ii) The Committee on Climate Change concluded in its seminal 2009 report on aviation emissions that under the 'Likely' scenario biofuel use could cut emissions by around 5% by 2050, assuming that such fuels by then represent 10% of aviation fuel and deliver a 50% emissions reduction. The UK Government's more recent projection is lower still, namely that no more than 2.5% of aviation should be assumed as part of the aviation fuel supply by 2050.

Independent assessments of the likely improvements from improved aircraft technologies or better air traffic management similarly differ substantially from industry sources. The Department for Transport's forecasting methodology builds in assumptions that we consider broadly reasonable in relation to these impacts.

Noise evidence

AEF launched a major report on aircraft noise and health in January this year which has since been referenced in several Westminster parliamentary debates, including by the UK aviation minister. The report, titled *Aircraft noise and public health: the evidence is loud and clear*¹², identified that over a million people in the UK are exposed to aircraft noise at levels that harm public health. It also noted that the WHO is due to publish updated guidelines later

¹⁰ <https://www.gov.uk/government/publications/biofuels-events-calendar>

¹¹ <https://www.transportenvironment.org/news/biodiesel-increasing-eu-transport-emissions-4-instead-cutting-co2>

¹² <http://www.aef.org.uk/2016/01/12/new-report-finds-aircraft-noise-policies-put-the-health-of-over-one-million-people-at-risk>

this year on how to limit the public health impacts of environmental noise, including aviation noise. Current aviation noise policy, which lacks any long-term targets to protect the public from the health impacts of aircraft noise, is wholly inadequate for meeting this challenge, the report argued.

Paragraph 3.4.1 of the SEA consultation states that alongside standards for air quality:

Protection is also afforded through existing legislation against noise and vibration nuisance at the both the European level through Environmental Noise Directive (2002/49/EC) and the national level through legislation and regulations such as the Environmental Protection Act 1990 and Environmental Noise (Scotland) Regulations 2006.

The Environmental Noise (Scotland) Regulations concern the drawing up of noise maps and action plans for sources such as airports, and implement EC Directive 2002/49. While this legislation has helped to establish noise as a major public health issue that needs to be tackled, the absence of noise limit values that should be met means that it has had little impact in actually solving the problem. The Environmental Protection Act 1990 meanwhile explicitly excludes aviation noise, so provides no public protection from this source.

The SEA consultation again quotes the industry coalition Sustainable Aviation in relation to progress on aviation noise, with paragraph 3.4.7 stating:

It is reported that through improved technology, aircraft operations today are 75% quieter than they were 50 years ago

In the case of individual airports, it can similarly often seem that the story should be one about the industry's great success in limiting noise, as noise 'footprints' measured in terms of Leq have often shrunk even as passenger and aircraft movement numbers have increased.

Yet it is important to contrast these conclusions with the consistent finding that meanwhile, over time, annoyance levels from aircraft noise have been increasing, with people disturbed by noise at lower 'Leq' levels than in the past. As many as 1 in 3 people in the UK are now annoyed, disturbed or bothered by aircraft noise, according to UK Government research¹³ and other studies^{14 15}. The reasons for this change are not entirely clear but are likely to include the failure of standard noise metrics to adequately capture increases in the number of aircraft movements (even if individual planes are marginally less noisy than they used to be).

Air quality evidence

The UK is required to meet certain EU legal limits and abide by various legal principles in relation to air pollution. The limits are currently being breached for NO₂ in a number of

¹³ <http://www.aef.org.uk/2015/01/26/government-noise-attitudes-survey-people-increasingly-disturbed-by-aircraft-noise/>

¹⁴ <http://www.aef.org.uk/2007/11/11/new-study-confirms-noise-nuisance-claims-2/>

¹⁵ <http://www.eea.europa.eu/publications/good-practice-guide-on-noise>

locations. While we are not familiar with the air pollution hotspots in Scotland, we were concerned to learn from your paper therefore that “*several AQMAs have been declared along popular traffic routes to and from several airports (e.g. Glasgow Road at Ratho and St Johns Road in Edinburgh, and Paisley Town Centre)*”.

In response to a UK Supreme Court judgment which followed the EU launching infringement action against the UK, the UK has been forced to draw up an updated air quality plan, though it remains to be seen whether this will be sufficiently rigorous to satisfy both the UK courts and the European Commission that action is being taken to bring the UK into compliance ‘in the shortest time possible’¹⁶.

Any policy or planning decision that could further increase NO₂ in an area not compliant with EU limits, or that could result in that area becoming non-compliant, could be open to legal challenge. Clean Air in London has secured legal opinion on this point, specifically in relation to the expansion of Heathrow Airport (which is predicted to worsen NO₂ pollution)¹⁷ and we understand that several local authorities are preparing to launch a legal challenge on this point should the Government announce support for a third Heathrow runway.

Question 6: Is there further information you feel should be considered or included to further inform the assessment?

We have indicated numerous information sources in our answers above. The key ones are as follows:

- The Paris climate agreement; see for example ECIU, *What does the Paris Agreement mean for the UK?*¹⁸
- Committee on Climate Change, *The high ambition pathway towards a low carbon economy*¹⁹
- Committee on Climate Change, *Meeting the UK Aviation target – options for reducing emissions to 2050*²⁰
- Department for Transport *2013 Aviation Forecasts*²¹
- Committee on Climate Change *Reducing emissions and preparing for climate change: 2015 Progress Report to Parliament* (see Recommendation 19)²²
- Department for Transport ‘Consultation on proposed changes to the RTFO’ presentation given at the Low Carbon Fuels Stakeholder workshop 12th May

¹⁶ <http://www.clientearth.org/uk-ministers-facing-new-legal-action-over-air-pollution/>

¹⁷ <http://cleanair.london/legal/clean-air-in-london-obtains-qc-opinion-on-air-quality-law-including-at-heathrow/>

¹⁸ <http://eciu.net/reports/2016/what-does-the-paris-agreement-mean-for-the-uk>

¹⁹ <https://www.theccc.org.uk/publication/scottish-emissions-targets-2028-2032-the-high-ambition-pathway-towards-a-low-carbon-economy/>

²⁰ <https://www.theccc.org.uk/publication/meeting-the-uk-aviation-target-options-for-reducing-emissions-to-2050/>

²¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223839/aviation-forecasts.pdf

²² https://documents.theccc.org.uk/wp-content/uploads/2015/06/6.738_CCC_ExecSummary_2015_FINAL_WEB_250615.pdf

(see bar chart identified above illustrating that biofuels can act to increase emissions)²³

- Aviation Environment Federation *Aircraft noise and public health: the evidence is loud and clear*²⁴
- Defra, National Noise Attitudes Survey 2012²⁵
- Client Earth *UK Ministers facing new legal action over air pollution*²⁶

Initial Findings (Appendix 2)

Question 7: Do you agree with these initial assessment findings set out on pages 62-64? Are there additional environmental issues that should be considered?

We are concerned that neither the landmark agreement on climate achieved in Paris in December 2015 nor Scottish and UK legislation on climate appear in the list of relevant considerations. For noise, existing and forthcoming recommendations from the World Health Organisations on target levels for protection of public health should be a key consideration.

²³ <https://www.gov.uk/government/publications/biofuels-events-calendar>

²⁴ <http://www.aef.org.uk/uploads/Aircraft-Noise-and-Public-Health-the-evidence-is-loud-and-clear-final-reportONLINE.pdf>

²⁵ <http://www.aef.org.uk/2015/01/26/government-noise-attitudes-survey-people-increasingly-disturbed-by-aircraft-noise/>

²⁶ <http://www.clientearth.org/uk-ministers-facing-new-legal-action-over-air-pollution/>