



AEF response to CAA 2024 Consultation on the Future Direction of the UK Aviation Environmental Review

December 2024

Admin

Q1. What is your name? Bertie Lloyd

Q2. What is your email address? bertie@aef.org.uk

Q3. What country are you responding from? UK

Q4. Are you responding from an organisation or as an individual? Organisation

Q5. If responding from an organisation, which organisation are you representing? Aviation Environment Federation

Q6. What type of organisation do you represent? NGO

Q7. Can we publish your response? Yes

AER: Ambition and Aims

Q8. Please tell us to what extent you agree with the CAA's ambition and aims for the AER

Agree

We agree with the CAA's ambition and aims for the AER. We are particularly keen to support the aims of measuring the sector's progress against policy, targets and forecasts and holding the government, industry and the CAA accountable when targets aren't met. Tracking the progress of the sector is crucial in the context of growing passenger numbers and uncertain technology pathways, especially with the limited uptake of demand management initiatives. This leaves little room for missed targets and it is vital that the sector's progress is monitored carefully.

While public access to environmental data is increasing, data relating to the aviation sector's environmental impact is fragmented and not easily signposted, requiring users to search across multiple sites including the CAA, DfT, DESNZ and the Environment Agency. Similarly, voluntary reporting by the industry is neither standardised nor necessarily frequent.

We have some additional comments on the details of the ambition and aims of the AER:

- Where changes are made to international and national policy and regulations, it would be helpful if the annual updates could clearly highlight the changes, especially where they serve as a benchmark for the presentation of the data in the AER e.g. include a summary of changes before the full regulations section.

- When measuring the sector's progress we would support the provision of a summary of any existing or upcoming challenges to meeting policy targets.
- We see the planned inclusion of forecasting outlined in AER 2023, and in this consultation, as highly important. We would like to see some discussion/analysis in future versions of the AER around how forecasts align with sectoral progress targets and similarly, how any deviations affect forecasting. This has been a key feature of EASA's reports and provides an early warning system to guide the development of future policy. We have provided additional details on this in our response to Q11.
- We understand that it may not be feasible or useful to update the recommendations every year. Based on updating the recommendations every three years, we would consider it helpful if intermediate annual reports provided a tracking system to show how well each current recommendation is being adhered to by the sector - e.g. a traffic light system to represent whether measures are off track, showing some progress or are on track.
- We also note (and have previously commented) that many of the recommendations in AER 2023 were for the Government/industry to continue with work they are already undertaking. For future reports it would be helpful to specify (e.g. with a key) which of the recommendations relate to new actions and which relate to work that is already currently underway.
- The polluter pays principle is one of the government's key environmental principles. Assessment of how the aviation industry is complying with the principle is currently lacking and, while noting that this is a cross-departmental and agency goal, we would support the CAA providing an overview. We would expect this to be focused on three key indicators: climate change, noise and local air pollution..
- A section which was not present in the AER 2023 was a general summary of the aviation industry in the UK - we think that a brief summary with projections for key data on passenger numbers, freight, and traffic would be useful in providing context to the data on climate change, noise and emissions. Other breakdowns such as the share of flights/emissions by flight distance or by destination could also be provided.
- Progress reports relating to the CAA's provision of consumer information and public understanding of the environmental impacts of aviation would also be welcome additions to the AER, once these projects are underway.

Climate Change

Q9. In addition to reporting greenhouse gas emissions from domestic flights within the UK and international flights departing the UK, are there any other relevant areas we should consider reporting on with respect to climate change in future updates to the AER?

Yes. There are some additional areas that we think would provide useful information and context to the greenhouse gas emissions data.

In AER 2023, the CCC recommendation on airport expansion was outlined as follows, 'The CCC had also recommended that there should be no net expansion of UK airport capacity unless the sector was on track to sufficiently outperform its net emissions trajectory and could accommodate the additional demand'. This CCC recommendation is based on a trajectory for aviation emissions outlined in the Sixth Carbon Budget report. The AER should demonstrate annual progress in reducing CO2 emissions against this trajectory (or the

trajectory in the Seventh Carbon Budget when published next year), as well as against the Jet Zero trajectory, and alongside any additional monitoring of progress against targets and forecasts in the new AER.

Given that some available policy tools target different routes (such as the UK ETS that only applies to domestic routes and departing flights to EEA destinations), we suggest that the data splits CO₂ emissions according to domestic traffic, departures to EEA destinations, and extra-EEA international routes. It would also be helpful to see the CO₂ split between passenger and freight traffic, and the CO₂ associated with private jets. We also suggest that the CAA investigates the value of developing an additional carbon intensity metric for passengers and freight.

We suggest more information be provided on non-CO₂ emissions, and see the tracking of, and comment on, the impact of non-CO₂ emissions as essential, at least at an international and national level. There was a brief summary in AER 2023 that outlined that work is ongoing but additional information such as a summary of the latest research on the science and metrics would be useful. This could be updated every 3 years as with the recommendations. Due to its large contribution to warming, the information provided on non-CO₂ should be as comprehensive as possible. If there is uncertainty around the impacts or data sources then it would be helpful to articulate what this uncertainty relates to. We appreciate that some data is easier to obtain than others. For example cruise NO_x emissions can be readily calculated and presented in the report. For other cases where impacts vary according to atmospheric conditions and generate large data sets, users may benefit from having snapshots of data, for example, tracking contrail creation over one day rather than for a full year. It may also be helpful to cover the potential mitigation strategies for non-CO₂ emissions (e.g. contrail avoidance, hydrotreating fuel, alternative propulsion sources etc.) to give context on how the issue could develop in the future, as well as any information emerging from the Jet Zero Taskforce.

As suggested in the consultation examples, we would be keen to see some data and comment on new fuels. For example, in the case of SAF, data provided could include total usage and a breakdown of UK production versus imports, including the different sources of SAF used (such as HEFA, other 2nd generation fuels, and e-fuels). We have some reservations about overclaiming emissions reductions from SAF or treating them as a 100% net reduction given the potential to mislead the public and consumers, but we support more information being provided on this topic to track progress against the CCC and Jet Zero trajectories. Similarly, the report should include any developments, trials or flights using other fuels (hydrogen/electric/e-fuels).

As with SAF, we have concerns over the definitions and accounting of offsetting and carbon removals. We are also aware that pursuing removals too early may lead to mitigation deterrence and risk an overreliance on unproven technologies. However, with appropriate caveats we can see value in the AER tracking the use of offsets and allowances in compliance markets such as CORSIA and the UK ETS respectively, and providing data on UK removals capacity and to outline how the removals sector is developing (as all aviation net-zero plans are reliant on removals to a greater or lesser extent). This could include reporting on the number and type of removals that have been purchased by the aviation sector.

On the example of GHGs from additional sources please see our answer to Q10

Q10. There are various ways we can present climate change data in future updates of the AER. Please tell us how useful each of the following options would be to you. Please explain the reasons for your selections.

National - Extremely useful

Airport cluster - Slightly useful (if airport/airline data is being provided)

Airport - Extremely useful

Airline - Extremely useful

National reporting is obviously key for monitoring total sector progress and tracking whether policy is delivering emissions reductions. Breakdowns of data for benchmarking the progress of airports and airlines towards net zero goals is important. For example, to track progress to the Jet Zero target of all airport operations being zero emission by 2040, emissions need to be reported at the airport level. While the target applies to an airport's scope 1 and 2 emissions, the previous Government consulted on an additional requirement to report Scope 3 emissions, including the examples suggested of emissions from support vehicles and terminal generators as well as flights and road transport to airports. This reporting is a key method of ensuring that the government is held to account on the targets in the Jet Zero strategy. At present the availability of data on airport scope 3 emissions from flights is very limited. The Department for Transport included airport level CO₂ data in its 2017 air traffic forecasts but up to date information is only available through voluntary airport disclosure or environmental assessments accompanying planning applications. The CAA is well placed to collate and publish consistent and standardised information on airport level CO₂.

We see cluster reporting as less of a priority for emissions than for noise and air pollution.

Q11. Are there any other ways we could present climate change data which you think would be useful to include in future updates of the AER, outside of those already suggested?

Without being able to compare aviation's emissions to the UK's national emissions from all other sectors, it is difficult to know how the aviation sector is performing in comparison or the impact that its performance has on economy-wide climate targets. This national approach was adopted for the air pollutants in AER 2023 and we would support this being extended to GHG emissions.

Providing a national emissions figure with sector specific emissions, including aviation, over time (including a forecast to 2050) would show how aviation's total contribution to the UK's emissions has and will change. Having future projections for emissions data is important for showing the scale of the sector's challenges in relation to other industries. We see this as important for the following reasons:

- Aviation will continue to take up a larger share of the UK emissions total/carbon budget and other industries emissions are reducing to zero much quicker
- Cutting emissions and achieving net zero even by 2050 is already exceptionally challenging for aviation

- Going off track from current targets is problematic. In the event that this does happen the ability for the sector to pursue additional abatement to get the sector back on track is likely to be limited
- The above points emphasise the important role the CAA has in monitoring emissions, targets and performance and how these affect forecasts. We see this as potentially the most important function of the AER

Noise

Q12. In addition to reporting the number of people exposed to aviation noise in the UK, are there any other relevant areas we should consider reporting on with respect to noise in future updates to the AER?

Yes.

We reiterate our suggestion made in response to AER 2023 that there should be additional information and discussion around the meaning and importance of the noise data provided. For example in the 2023 report it would have been helpful to note that the dataset was for years impacted by Covid-19.

We support the continued use of LAeq (16hr and 8hr) down to 51dB and 45dB respectively, but LAeq metrics do not fully capture the impacts of noise on communities and do not give a full picture when used as an isolated metric. We would therefore like to see additional metrics used for reporting on noise. If airport data for noise is out of date or lacking then we would support strong recommendations on how these noise and health datasets can be improved.

The two examples of additional areas of reporting would help with adding context to the existing noise data. The health impacts of noise are significant and should be reported. For example, the UKHSA has produced interesting national mapping of aircraft noise that would be useful to include here.

We would particularly welcome additional reporting on night flights. Reporting on the total number of night flights, and the number of granted dispensations, alongside the permitted limits nationally and at an airport level would add clarity to what is an ongoing issue for overflowed communities. This would also increase transparency, and confidence, in the dispensation system and we would like to see some commentary on how this system is currently being used and monitored, and its effectiveness.

Q13. There are various ways we can present noise data in future updates of the AER. Please tell us how useful each of the following options would be to you. Please explain the reasons for your selections.

National total - Very useful

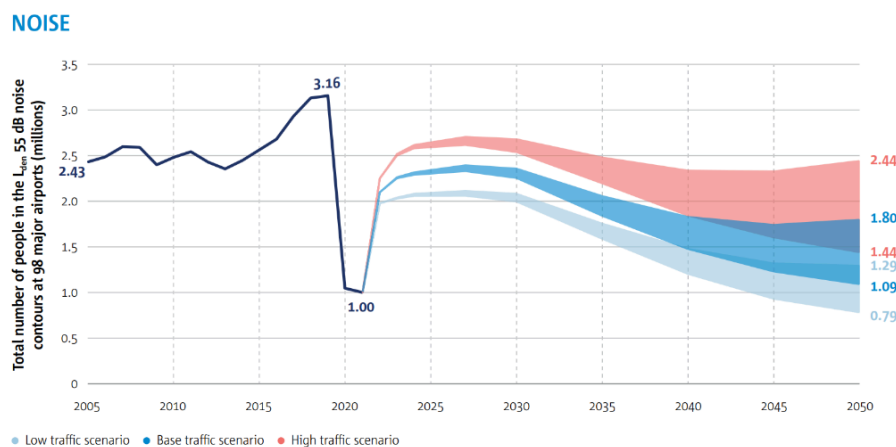
Airport cluster - Very useful

Airport - Extremely useful

As a predominantly local issue, it is important that data is presented at an airport level. There is a strong case for airport cluster reporting for noise, as contours from different airports may overlap and people can be exposed to noise from traffic from more than one airport.

Q14. Are there any other ways we could present noise data which you think would be useful to include in future updates of the AER, outside of those already suggested?

We see forecasting noise under different traffic scenarios as highly important. Especially given the size of the ongoing airport expansion proposals, and in the context of airspace modernisation representing significant changes to flightpaths and overflown populations.. The figures in the EASA AER 2022 (example below) demonstrating the number of people likely to be impacted under different scenarios provide an interesting view as to the future of noise disturbance based on passenger numbers.



Air quality

Q15. In addition to reporting emissions from civil aviation flights and airport support machinery for the five damaging air pollutants outlined, are there any other relevant areas we should consider reporting on with respect to air quality in future updates to the AER?

Yes.

We support the inclusion in future AERs of the examples provided. Emissions from airport-related road traffic are significant and especially important in relation to potential traffic increases due to proposed airport expansion. In terms of widening the scope of air pollutants, research on ultrafine particles (UFPs) is constantly developing and data availability is improving. While covered by PM_{2.5}, we strongly support monitoring and inclusion of UFPs in the pollutants list. UFPs are associated with pulmonary, cardiovascular and ischemic heart diseases as well as dementia and diabetes. A report from T&E in June suggested that UFPs from Gatwick, Stansted, Heathrow and Manchester could be associated with an additional 41,000 cases of high blood pressure, 44,000 cases of diabetes and 2,200 cases of dementia.

Assessment against legal air quality standards, and WHO recommendation, would also be a welcome addition. Air pollution carries major health risks and monitoring concentrations

around airports against legal standards is a good way of holding the sector accountable, and will provide information to local communities and airport employees. Any data relating to exposure levels around airports exceeding legal or recommended limits for pollutants should be highlighted. We would add that legal standards differ nationally and some discussion over how the UK standards relate to the EU/WHO equivalents would provide useful context.

In reviewing the AER 2023 we suggested that there should be some explanation over why national and aviation totals for air pollutants are following specific trends e.g. why are aviation emissions of sulphur dioxide not falling when national emissions are? It's important for the reader to know why these trends are occurring, what they mean and what the potential consequences are.

Q16. There are various ways we can present air quality data in future updates of the AER. Please tell us how useful each of the following options would be to you. Please explain the reasons for your selections.

National total - Extremely useful
Airport cluster - Extremely useful
Airport - Extremely useful

National data for pollutants is useful for showing how emissions of different pollutants from aviation are trending versus emissions from all sectors.

As with noise, airport level data is crucial as the effects of air pollution are locally concentrated and need to be managed accordingly. Similarly, areas that experience air pollution from flights and road traffic from more than one airport would benefit from reporting on these interactions at the airport cluster level.

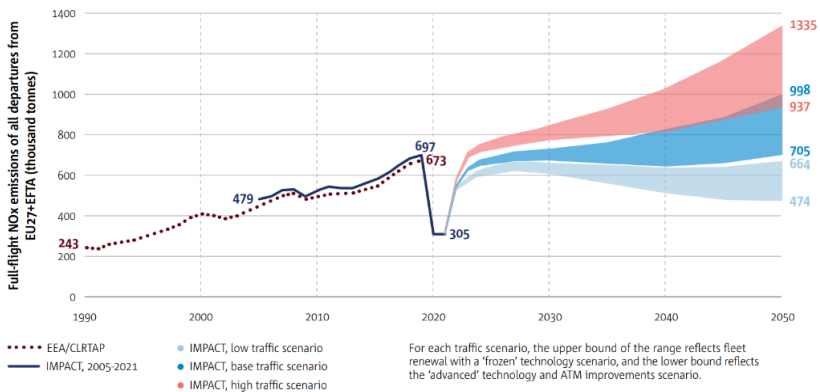
Reporting at airport level is necessary to accurately show the impact of on-airport sources and airport-related road traffic.

Q17. Are there any other ways we could present air quality data which you think would be useful to include in future updates of the AER, outside of those already suggested?

We would just like to reiterate the importance of forecasting for the impacts of the sector. It's important to know whether source emissions of pollutants are expected to increase and what the consequence may be for concentrations around airports.

As with the noise reporting, the 2022 EASA AER has good examples of including forecasting of LTO NOx.

Figure 1.12 NO_x emissions reached about 700 thousand tonnes in 2019



Additional Environmental Reporting Topics

Q18. Not including climate change, noise and air quality, would you like to suggest any additional environmental topic(s) that the AER could report on?

Yes - The aviation industry’s impact on biodiversity

The UK is one of the most nature-depleted countries in the world. We have on average about half of our biodiversity left - far below the global average of 75%. This puts us in the bottom 10% globally for biodiversity.

With over 2000 airstrikes annually in the UK, birds are treated as hazards around airports. Within a 13km control radius, Natural England issues licences permitting airports to shoot birds or destroy their nests and eggs (as far as we are aware, licences CL12 and A08). This includes species that are endangered and which would ordinarily be protected in law.

In 2017, just one licence issued by Natural England permitted the shooting of up to 1,700 Curlews, a protected species. Between 2020 and 2023, 30,773 birds were shot, 740 chicks destroyed, 5971 eggs destroyed, and 1806 nests destroyed under licence CL12.

AEF acknowledges that maintaining safety at airports is crucial. However, we are concerned about the lack of transparency about the fatal control of bird populations around airports. To obtain the figures above, it was necessary to submit Freedom of Information requests and it took us a number of months to obtain just some of the information we wanted. The names of the airports that had applied for the licences were not given.

Licences must be carried out in accordance with strict governmental guidelines and Natural England is required to take action when there is evidence of non-compliance. Regrettably, the gap in reporting extends to Natural England’s monitoring of the licences it issues. AEF’s FOI request included some questions around the monitoring of CL12 licences as again, this information is not in the public domain.

In addition to the intentional killing of bird life around airports for safety reasons, there are other, indirect impacts on birds, mammals, reptiles and invertebrates owing to light, noise, and air pollution. Light pollution (for example, from car parks, terminals or aircraft navigation

aids) can harm biodiversity by interfering with natural day-night rhythms and night habits, affecting the reproduction, feeding, and migration cycles of many different animal groups. Artificial lighting can confuse migratory birds, depleting their energy sources and threatening their survival rates. It can delay or even prevent bats from leaving their roosts, or deter them from returning. By extending the hunting time of daytime feeders, light pollution can also lead to over-predation of some nocturnal species. When combined, noise and light pollution – from roads, shipping, urban sprawl as well as from aviation – risks throwing the lives of animal populations worryingly out of balance.

Yet reports on the impacts of aircraft operations on biodiversity at UK airports are scant. The only environmental reports on impacts that are available publicly appear to be the environmental statements made by airports aspiring to expand their activities.

Reporting on the impacts on water quality, or beaches of regulations, should also be considered.

Please explain why the environmental topic selected would be useful to you.

As noted, we accept that licences are issued for reasons of safety but transparency around the fatal control of bird populations, the airports involved, and the monitoring of licences issued is in the public and nature conservation interest. Some airports are located in highly sensitive wildlife areas, and the direct and indirect impacts on biodiversity by aircraft operations should be open to scrutiny.

Reports on these impacts could facilitate yearly assessments of how they could be avoided, reduced or mitigated. In addition to mitigation, ways to enhance biodiversity should be identified.

Please provide examples of data sources and/or methodologies we could consider to inform the environmental topic(s) suggested.

Natural England for licences and kills CL12 and A08.

Natural England (NatureScot, Natural Resources Wales, and The Northern Ireland Environment Agency) should be asked to provide annual reports on the numbers of licences they issue, the numbers of bird species lethally controlled and the steps taken to monitor and regulate licences issued.

Independent monitoring of wildlife populations around airports should consider the impacts of lethal bird controls together with the impacts of light, air and noise pollution on all biodiversity. To capture all lethal bird control data, a 13km monitoring radius would be appropriate. To monitor the noise, light and air pollution impacts of aircraft operations at airports, a zone of influence of 7,000 feet at the minimum should be established. Monitoring should identify ways to establish a biodiversity baseline for each airport using the government's biodiversity toolkit with a view to developing strategies to achieve a 10% biodiversity net gain. In line with existing planning legislation and policy, this would involve the provision of additional and appropriate natural habitats over and above that being impacted, or purchasing biodiversity credits.