

Airports Commission: Appraisal Framework Consultation



Response from the Aviation Environment Federation
28th February 2014

The Aviation Environment Federation (AEF) is the principal UK-based NGO concerned exclusively with the environmental impacts of aviation. Supported by individuals and community groups affected by the UK's airports and airfields or concerned about aviation and climate change, we promote a sustainable future for aviation which takes full account of all its environmental and amenity effects. As well as supporting our members with local issues, we have regular input into international, EU and UK policy discussions. In 2011 we acted as the sole community and environmental representative on the Government's South East Airports Taskforce. At the UN we are a leading representative of the environmental umbrella organisation ICASA, which is actively engaged in the current talks aimed at agreeing global climate measures for aviation.

Summary

The Appraisal Framework presented by the Airports Commission follows on from last year's consultations on the Sift Criteria for long-term capacity options and the discussion papers produced on specific issues such as noise, climate change and the economy. We are pleased to note that some of the issues we raised in response to these consultations are reflected in the draft Appraisal Framework. Our comments to earlier evidence papers still stand and we draw on that evidence again in responding to the Commission's questions below.

The Commission's Objectives

Q1: Are the objectives stated in Table 3.1 suitable for assessing the short-listed options? If not please explain why not, and suggest any alterations you feel would make them more suitable.

We believe all of the Commission's objectives should be more specific and measurable to provide a common baseline for comparison of the shortlisted options. The appraisal modules will produce information which could allow for specific objectives to be clearly defined, but, as drafted, they are high level and open to interpretation. By way of example, we outline our concerns for certain individual objectives below.

Environmental Objectives

Noise - To minimise noise impacts

- The main cause of community opposition to a new runway at both Heathrow and Gatwick is in relation to the existing noise problem. The objective of any noise-related policy should be to reduce aviation noise below the levels experienced today, not to minimise the level which could result in a substantial increase.
- The term "to minimise" is unclear. The noise problem differs at Heathrow and Gatwick: at Heathrow, over half a million people are affected by noise (at 55 LDEN) while at Gatwick, noise is

particularly intrusive due to low background noise levels in many areas resulting in the need to protect tranquil. The importance attached by communities to respite may not be reflected

- Suggested objective: *“to reduce noise impacts relative to today’s levels in terms of the numbers of people affected, times of day, and the impact of noise on tranquil and open spaces.”*

Air quality - To protect local air quality

- We support this objective but feel it could be enhanced to clarify its meaning.
- In para 5.12, the example notes that “a sustainability assessment may add the further context that the air quality mitigations proposed also ensure that the scheme is able to meet legislated targets or benchmarks, as well as improving the status quo”. This clear statement focuses on both “reductions” and attaining targets and should be reinforced in the overall objective.
- This should be incorporated into the objective *“to protect local air quality by keeping levels at or below legal limits to avoid any harmful effects to human health.”*

Biodiversity - To protect natural habitats and maintain biodiversity

- We support this objective yet we would like to draw attention to the NERC Act 2006¹ which goes further and should be incorporated into the objective. The law states that populations must be restored or enhanced.
- Suggested objective: *“To protect natural habitats and maintain biodiversity, following legal requirements”*

Carbon - To minimise carbon emissions in airport construction and operation.

- We support this objective and feel it is achievable but should be broadened to include the wider use of resources in construction and operation. It is laudable that airport developers should attempt to minimise the carbon emissions in airport construction. This should also include minimising the embodied carbon in the materials from which a new runway or airport is constructed. Materials should also be located from sources requiring the least transport, where practicable. This should also include minimisation of the other materials and resources used (concrete, steel, aluminium, glass, rare metals and wood – to name a few). Any wood used should be from genuinely certified approved sources (not merely the discredited Forestry Stewardship Council).

People - To maintain and where possible improve the quality of life for local residents and the wider population

- We support this objective and believe it reinforces our comments above about the inadequacy of relying on solely on an objective “to minimise noise”.
- Not allowing a deterioration in the quality of life of local residents assumes that noise (and air pollution, road congestion) will not increase.

Other objectives:

(1) Cost - To make efficient use of public funds, where they are required, and ensure that the benefits of schemes clearly outweigh the costs, taking account of social, environmental and

¹ <http://www.legislation.gov.uk/ukpga/2006/16/section/40>

economic costs and benefits; and (2) Delivery - To be affordable and financeable, including any public expenditure that may be required and taking account of the needs of airport users

- These objectives assume there would be a “required” level of public expenditure for each scheme. This is not so. For each option there is a range of financing options. The emphasis should be on private funding unless it can be demonstrated that government financing is unavoidable. Costs should be recoverable through user charges. This principle should be applied to surface access costs as well, using the example of the Heathrow Express.

Q2: Are there any other objectives that the Commission should consider, and if so what are they?

- We suggest a new objective: **to limit carbon emissions from aircraft movements.**
- While we accept that the policy implications of carbon emissions from aviation should be assessed at a national level, aircraft carbon emissions will vary between the options as the fleet mix and range of destinations served will vary. Promoters of the schemes should be encouraged to think about reduction and mitigation strategies, and such information needs to be assessed to test the Commission’s conclusion that a new runway is possible within the economy-wide targets set by the Climate Act, and to see whether one option is likely to be more efficient than another. While the Framework requires this data to be assessed, the existing carbon objective is limited in scope to the minimisation of emissions from airport construction and operations.

Appraisal Modules

Q3: Will the appraisal modules described in Appendix A be sufficient to analyse the short-listed options against the stated objectives? If not please explain why not, and provide examples or evidence to support your answer.

Appraisal Module 2 - Economy impacts

- We are concerned that the monetised environmental (and social) benefits and disbenefits will not be considered as part of the overall economic case, but put in a ‘separate box’, and some will not be considered at all. A comprehensive cost/benefit analysis that considers benefits to the UK economy must also consider subsidies, tax exemptions and price controls to present a balanced picture.
- We are also very concerned about the total emphasis on economic benefits, with little or no mention of economic costs. The ‘opportunity costs’ of new runways are potentially very large, whether they are privately or publicly financed. Impacts such as increase in tourism, freight and FDI are very much ‘two-way streets’ as far as the UK economy is concerned. We recommend the Appraisal refers to “economic impacts” rather than “benefits”.

Appraisal Module 3 - Local economy impacts

- The Commission correctly identifies a key issue in 3.17, namely being able to distinguish between the impacts that are additional and those that are displaced from elsewhere. For this reason, the evaluation must recognise the “opportunity cost” of providing a new runway in a given location: this takes the form of the economic activity foregone because resources of all types (manpower, finance, consumer expenditure, etc) are focused on the airport, rather than aviation at other airports, or non-aviation activity at that location and at other locations.
- We have concerns about how the presentation of the objective “To promote employment and economic growth in the local area and surrounding region”. In many cases, airport employment is specialised and leads to relocation of a workforce, and a new runway often leads to greater

urbanisation pressures. This is implicit in the Commission's plan to look at issues such as jobs, housing and infrastructure. A higher population in any locality is very likely to lead to a bigger local economy. But, crucially, it does not follow there will be higher per-capita income or wealth, i.e. greater prosperity. We recommend that the Commission's Appraisal Framework should be amended to focus this objective on "increased prosperity" and away from a simple look at the impacts of a greater local population.

Appraisal module 5 - Noise

- We are pleased to see that the Commission is using a suite of noise metrics for the appraisal, including modelling of the 54 $L_{eq(16\text{-hour day})}$, 48 $L_{eq(8\text{-hour night})}$, L_{den} 55, and metrics that capture the frequency of noise events such as the N_{70} day and N_{60} night. This should provide a comprehensive data set on the associated noise impacts for each option.
- In particular we welcome the Commission's decision not to rely on the 57 L_{eq} contour but to recognise lower thresholds as supported by ANASE and recent updates, and to seek to monetise these costs. Paras 5.28-5.33 sets out the basis for monetisation with reference to annoyance, sleep disturbance and health impacts. We recommend that the WHO noise exposure guidelines are used as the basis of determining appropriate thresholds for defining these impacts.
- Para 5.7 states that noise will be considered based on the net national impact of each scheme. We find this a surprising inclusion as noise impacts cannot be offset in the same way as emissions with global impacts such as carbon. We object strongly to the suggestion that significant increases in noise in one location can be justified by reductions elsewhere. Noise impacts need to be compared to the existing local situation to show the marginal impacts.

Appraisal Module 6 - Air pollution

- As stated above, we consider the objective "to protect local air quality" to be vague. The appraisals need to address whether how these limits might be breached in any of the options. The objective should explicitly state that increases in air pollution should be prevented and all relevant limit values and guidelines met.
- While detailed assessments are being proposed, we are concerned that they may not include all the relevant pollutants or take sufficient account of all the impacts. Impacts well away from the airports need to be evaluated. There is growing evidence to support the inclusion of $PM_{2.5}$ and this should be included (para 6.9 suggests it is optional). Ozone (mainly a secondary pollutant) is a serious health and environmental issue and its impacts should therefore be assessed.
- The significance of the emissions must be measured in terms of changes to the concentrations and the population and area of land exposed to significant levels. There should be no cut-off in terms of distance from the airport to avoid the total air pollution impact being under-stated. Particular attention needs to be given to the impact on areas that maybe some distance from the airport where levels of air pollution are near to guidelines and limits: even a small increase in pollution related to an airport expansion could lead to these limits being breached, or prevent them from being brought within limits. For example, in the borough of Ealing, where the impact of Heathrow is modest, areas of the borough are close to or breach standards.
- The assessment outputs should describe the health impacts (e.g. number of premature deaths attributed to poor air quality) as well as monetisation. The monetisation should not cover just health impacts but environmental impacts such as corrosion, acidification and damage to vegetation.

- The air pollution assessment in particular needs to be transparent and peer-reviewed if it is to overcome the public trust-deficit associated with previous attempts to model air pollution associated with a third runway at Heathrow: a combination of FOI requests, MPs' probing and the media showed that these estimates had been re-worked to get the 'right answer'.

Appraisal Module 7 - Biodiversity

- Para 7.4 should be amended to say "*and consistent with legal frameworks where these exist*". Without this addition it implies there is a caveat that mitigation strategies should only be considered where there is a legal requirement. We do not believe this is the Commission's intent and it should be clarified accordingly. If appropriate mitigation was deemed necessary, for example, to create a new area of acid grassland, the fact that there is not a specific legal framework for establishing acid grassland is irrelevant.
- While we would generally support mitigation schemes, it must be recognised that mitigation is not always fully effective. For example, translocation of species is not always effective in the sense that the species which are moved do not necessarily survive. Furthermore the populations of species at the recipient site are often reduced. Some habitats, such as ancient woodlands, cannot be recreated. Where mitigation is partial, both the costs of the mitigation and the cost of unmitigated damage must be evaluated and added together to evaluate the full cost.
- We strongly support the approach in para 7.10 whereby broad geographical areas are considered, not just areas of especial interest.
- The ecological impact of bird strike is of minor importance (para 7.13) compared to the ecological impact of action taken to prevent bird strike. For example, the value of the diverted twin rivers in the Heathrow Terminal 5 scheme was reduced by putting fencing over the rivers to prevent birds being attracted. The CAA routinely objects to schemes such as ponds up to 11km from airports which might attract flocks of larger birds.
- Biodiversity and the populations of species that contribute to it are found in many sites other than those with designations listed in para 7.15. For example, gardens, allotments, parks, field edges, Green Belt and Metropolitan Open Land all contribute to biodiversity. The impact of proposals on such land must therefore be considered (we note that 7.10 may imply such areas, but it is not clear whether this encapsulates the requirement expressed here.)
- In para 7.25, datasets should not be confined to sites but should include species that are likely to be affected by the scheme, especially rare, threatened and vulnerable species.

Appraisal Module 8 - Carbon

- The objective and the title should refer to all emissions that contribute to climate change, not carbon.
- We interpret section 8 to mean that in addition to the impacts of construction and surface access, the assessment requires an assessment of carbon from aircraft operations. This is necessary, for the reasons we have stated above, and needs to be clarified in the Framework, especially the basis for modelling. The different runway options will lead to differing volumes of total passengers, flights, aircraft types and routes. Associated aircraft emissions will therefore be different for each of the various shortlisted schemes, as will the airport and surface access emissions associated with different travel modes, origin and destination of journeys etc.
- When estimating emissions from aircraft, the key non-CO2 impacts need to be considered, namely contrails and the effects of NOx emitted at altitude on ozone and methane

concentrations. The IPCC estimates that these increase the warming effect to a level 1.9 times higher than that caused by CO₂ alone (excluding the effect of cirrus formation, which may have a large additional impact).

Other Appraisal Modules

- Appraisal module 9 deals with water and flood risk. The recent flooding has highlighted concerns that climate is changing and the existing evaluations of risk and costs need to be updated. It would therefore be dangerous to rely solely on existing Environment Agency assessments such as flood risk maps. The likely risk of flooding and the costs associated need to be addressed up to the end of the costing period.
- In modules 10, 11 and 12 of the Appendix to the Framework (Place, Quality of Life and Community respectively), we welcome the recognition and inclusion of factors such as tranquillity and heritage.
- Appraisal module 13 addresses cost and commercial viability. Public funding is a significant and potentially contentious issue. The question of value for money is important, but is by no means the only issue. There are many possible schemes which would represent good value for money but which cannot be carried out because of public spending constraints. If there is a need for public funding, the scale of that funding and the likelihood of it being forthcoming need to be assessed.

AEF, February 2014