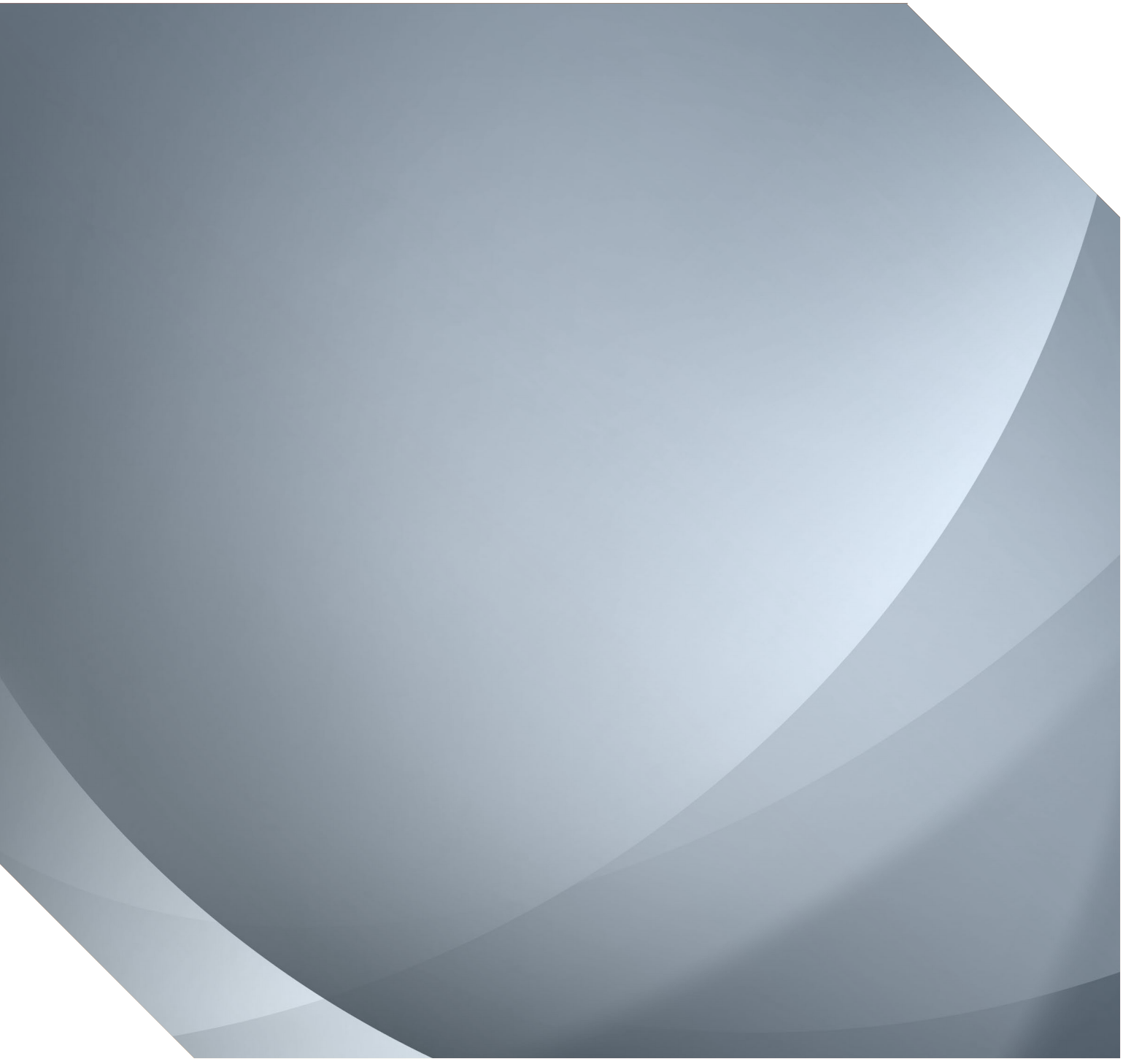
Civil Aviation Authority

CAA Response to the Airports Commission: Discussion Paper 3, Aviation and Climate Change

CAP 1040



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SECTION 1

Introductory Remarks

1.1 The CAA welcomes the Airports Commission's discussion paper on Aviation and Climate Change. Although the aviation sector has strong commercial incentives to reduce CO2 emissions due to the direct correlation to fuel burn; there is more that could be done to encourage further improvements in performance.

1.2 We support the Commission's desire to ensure that when considering future airport capacity, any effects on climate change are fully taken account of. However, climate change should not be looked at in isolation. The trade-offs and inter-relationships that exist with and between other environmental impacts such as noise should be incorporated in any decision making under taken by the Commission or Government.

1.3 As the UK's specialist aviation regulator, the CAA has a key role to play in helping the aviation sector improve its environmental performance. This is why we have as one of our four strategic objectives:

- Improving environmental performance through more efficient use of airspace and make an efficient contribution to reducing the aviation industry's environmental impacts.

1.4 In 2012 we published CAA and the Environment, our four year plan that sets out how we will deliver on this strategic objective. A key element of our plan is that we should operate only in those areas where we can add real value, avoiding duplication of work by others. It is in this spirit that we will contribute to this consultation on climate change.

1.5 After the CAA's initial response to the Government's Aviation Policy Framework consultation the CAA published an insight note titled: Aviation Policy for the Environment which considers how UK aviation can grow without unacceptable environmental consequences. The note focuses on the key environmental challenges that aviation faces, one of which is climate change. The paper highlighted three high-level points that should be borne in mind when taking decisions in this area:

- Climate change is a global challenge. Any action undertaken domestically needs to be viewed in the global context.

- Technical and operational measures, in particular the modernisation of UK airspace, offer significant potential to improve the UK's performance on aviation emissions.
- Aviation policy should be based on robust information and recognise the trade-offs inherent in the formulation of policy to address environmental challenges.

1.6 In providing this response to your consultation, we will be drawing upon our previous submission on Aviation demand forecasts; and only focusing upon those questions where we can add value.

SECTION 2

General questions

Q1. Do you consider that the DfT CO2 forecasts present a credible picture of future UK aviation emissions? If not, why not?

2.1 We would like to re-iterate our general comments in our aviation demand submission around forecasting. In that submission we stated the importance of forecasting models as a tool in policy making; but that, given the uncertainty that is inherent in forecasting, policy makers should exercise a degree of judgement when interpreting the results. We stated that, although there are weaknesses in the DfT forecasting model, these weaknesses are common to all forecasting models and we are not aware of any superior model. Given that the CO2 forecasts will be so closely linked to the demand model, we feel that these comments around forecasting models should be re-iterated here.

2.2 In addition to demand, CO2 modelling relies on a good understanding of carbon intensity (e.g. carbon emissions per passenger) which in itself will depend on a range of factors. We therefore feel that it is sensible that you have not solely used demand to calculate implied emissions and 'have made further adjustments in relation to flight routings, operational improvements by airlines and air traffic controllers, the volume of sustainable biofuel usage and using latest outturn emissions data.' Obtaining accurate future CO2 emissions forecasts involves numerous factors and further reinforces the difficulty of forecasting.

Q2. To what extent do you consider that the analysis presented in this paper supports or challenges the argument that additional airport capacity should be provided?

2.3 We support the need to analyse the climate change impacts of capacity constraints, rather than base policy on intuitive thinking, such as constraining airport capacity necessarily leads to lower CO2 emissions. Your analysis is a welcome addition to drawing out the complexities within this debate and we feel that it could be strengthened further by fleshing out the extent to which additional capacity might a) lead to increased emissions, and b) enable operational improvements that could deliver some (possibly marginal) efficiency gains.

2.4 We would suggest a greater emphasis be placed on analysing the trade-offs between other environmental impacts. Reducing the noise impact from aviation is a key Government policy priority and operational and technical measures to reduce noise such as specified noise preferential routes or having additional linings around aircraft engines can increase CO2 emissions. The CAA would encourage that these other environmental impacts are incorporated into models where possible.

Q3. How could the analysis be strengthened, for example to allow for the effects of non-CO2 emissions?

2.5 The CAA is unaware of any further analytical approaches that could strengthen the effects of non-CO2 emissions but would encourage that these are incorporated at a point in time when the scientific certainty is sufficient to include them.

Q4. How can we best deal with uncertainty around demand and emissions, including in relation to future carbon prices?

2.6 While the CAA has limited expertise in environmental economics, we are aware of a number of ways of estimating long-term carbon prices, which may supplement or even improve on monitoring traded prices (given the recent instability of the traded price and the way it is affected by short-term decisions on permit allocations). These methods would involve estimating the likely long-term social costs of emissions, and making assumptions that over the long run society will be willing to spend on mitigation up to the level of cost. The social costs of carbon emissions can be estimated on the basis of the cost of mitigation measures, or the cost of adaptation.

Q5. What conclusions should be drawn from the analysis of effectiveness, and relative cost, of airport capacity and other abatement measures in Chapter 5? Are there alternative analytical approaches that could be used to understand these issues?

2.7 The DfT MAC curve analysis does provide a useful piece of analysis and clearly shows that there is a range of measures – beyond airport capacity – that have an important role to play in reducing aviation's contribution to climate change. Many of these are identified in our own CAA and the Environment document.

2.8 On the behavioural change policy measure, we would like to give you forewarning of an upcoming CAA consultation on the new publication powers given to us by the Civil Aviation Act 2012. We will be outlining some specific action on improving the information available to consumers in terms of the carbon impact of their travel choices. This is an area where we feel the provision of information can make a real difference. Our consultation will be published at the end of May and we will make the document available to the Commission.

Q6. Are there examples of how other countries have considered carbon issues in relation to airport capacity planning that we should be looking at? (Please specify and briefly explain why.)

2.9 The CAA is not aware of any specific examples.

Q7. What do you consider to be the main climate risks and adaptation challenges that the Commission will need to consider (a) in making its assessment of the UK's overall aviation capacity and connectivity needs, and (b) in considering site-specific options to meet those needs?

2.10 Climate and weather events can cause considerable operational efficiency issues for airports, mainly due to the need to ensure passenger safety is not compromised. For airports that are capacity constrained the impact can be exacerbated if, for example, longer separation distances are required for safety reasons in times of adverse weather. Therefore, the aviation sector's resilience is tested far more greatly from adverse weather when operating at full capacity. The CAA would advise therefore that this is taken in to account in making the wider assessment of the UK's overall aviation capacity.

2.11 Other adaption challenges that might affect aviation and airports include lower GDP; rising sea levels; population shifts, with airports potentially having to support mass migration and its consequences; changing disease and biohazard patterns amongst others.

2.12 When considering site specific operations the Commission should ensure that any plans or proposals fully incorporate plans to deal with adverse weather or other environmental effects brought about by climate change. The CAA can offer further specific advice when the Commission's work is in more of an advanced stage.

Q8. Are there any opportunities arising from anticipated changes in the global climate that should be taken into account when planning future airport capacity?

2.13 The CAA is not aware of any specific examples.