York Aviation

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

Air Traffic Forecasts and Socio Economics

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Commentary on the Effect of the 2021 Department for Business, Energy and Industrial Strategy Valuation of Greenhouse Gas emissions for Policy Appraisal and Evaluation

Section 78 Town and Country Planning Act 1990 Appeal by Bristol Airport Limited Relating to Bristol Airport, North Side Road

Planning Inspectorate Reference: APP/D0121/W/20/3259234
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1. Introduction

1.1.1. On 2 September 2021, the Department for Business, Energy and Industrial Strategy (BEIS) published updated guidance on the values of carbon that should be used for Government policy appraisal and evaluation. This document was submitted to the Inquiry as INQ054. This note provides an assessment of the implications of this new Guidance for the air traffic forecasts and socio-economic assessment for the Proposed Development.

1.1.2. At the outset, it is important to make my position clear in relation to the effect of this document on both topics before moving on to explain my position in more detail:

- in relation to the air traffic forecasts, INQ054 does not provide updated guidance on carbon allowance prices as opposed to the value of carbon for policy appraisal purposes. This is stated explicitly in the document. As such, it does not affect the air traffic forecasts for the Proposed Development, for which carbon prices are an input, reflecting, as they do, the prices to be paid by passengers;
- in relation to the socio-economic assessment, INQ054 does provide updated values for carbon emissions that are consistent with those previously used in the socio-economic cost benefit analysis. I have, therefore, provided updated results for the socio-economic cost benefit analysis and would note that this analysis continues to provide strongly positive net present values. I would also continue to emphasise that I do not consider the inclusion of the value of carbon emissions to be appropriate in this assessment for the reasons previously stated and re-emphasised below. The results of this change in the BEIS Guidance are, therefore, of very limited relevance. I would also note that the socio-economic cost benefit analysis is not used in the consideration of significant effects in the Environmental Statement Addendum.

1.1.3. I now move on to explain my position in relation to each topic further below.

2. Air Traffic Forecasts

2.1.1. The air traffic forecasts for the Proposed Development use growth rates for passenger demand that are driven, fundamentally, by two elements:

- economic growth;
- changes in the level of air fares.

2.1.2. The cost of carbon emissions is a potential influence on the second of these two elements, the level of air fares. However, it is important to remember that what is relevant for the second of these two elements is the price of carbon to be paid by passengers as reflected in the cost of allowances within the UK or EU emissions trading schemes (ETS) and similar markets, and not the value of carbon as used in the appraisal of Government policy reflecting the value to society as a whole of one tonne of carbon dioxide. The new guidance issued by BEIS (INQ054) is absolutely explicit that it does not provide any guidance on the price of carbon allowances and, therefore, the costs to air passengers of carbon emissions:

"Greenhouse gas emissions values ("carbon values") are used across government for valuing impacts on GHG emissions resulting from policy interventions. They represent a monetary value that society places on one tonne of carbon dioxide equivalent (£/tCO2e). They differ from carbon prices, which represent the observed price of carbon in a relevant market (such as the UK Emissions Trading Scheme).

The government uses these values to estimate a monetary value of the greenhouse gas impact of policy proposals during policy design, and also after delivery."

INQ054, Page 2.

2.1.3. This means that the new BEIS Guidance (INQ054) has no impact on the air traffic forecasts as it provides no guidance on the carbon price that might be paid by airlines within the ETS and, therefore, by passengers in terms of air fares.

2.1.4. It should be noted, however, that previous BEIS guidance documents provided an assessment of the value of carbon for traded sectors, which include aviation, which was based on the traded price of carbon. These values reflected expectations as regards ETS allowances and, hence, these were an appropriate input to air traffic forecasting:

"For appraising policies that reduce / increase emissions in sectors covered by the EU Emissions Trading System (ETS), and in the future other trading schemes, a 'traded price of carbon' will be used. This will be based on estimates of the future price of EUAs and, in the longer term, estimates of future global carbon market prices;

For appraising policies that reduce / increase emissions in sectors not covered by the EU ETS (the 'non-Traded Sector') a 'non-traded price of carbon' will be used, based on estimates of the marginal abatement cost (MAC) required to meet a specific emission reduction target;"

Department of Energy and Climate Change, Carbon Valuation in UK Policy Appraisal: A Revised Approach (2009), Page 2. Excerpt included in Appendix A.

2.1.5. The new BEIS Guidance (INQ054), by contrast, is explicit that this approach has changed:

"Under the target consistent approach, the appraisal of individual policies is based on target-consistent values of carbon. Previously these were be based on a "traded value of carbon" for appraising policies that affected emissions in sectors covered by the EU ETS and, in the short term, a "non-traded value of carbon" for appraising policies that affected emissions in sectors not covered by the EU ETS. In the long term (post-2030), a single series of carbon values was used covering emissions across the economy based on global abatement cost estimates."

INQ054, Page 4.

2.1.6. Thus the new BEIS Guidance (INQ054) makes clear that the values provided are not based on the carbon price in the traded sector, but solely based on the marginal abatement cost / target consistent valuation approach that was used for the non-traded sector previously:

"The new carbon values are based on a Marginal Abatement Cost (MAC) or "target-consistent" valuation approach. This involves setting the value of carbon at the level that is consistent with the level of marginal abatement costs required to reach the targets that the UK has adopted at a UK and international level."

INQ054, Page 5.

2.1.7. Based on the evidence set out above, I conclude that the new guidance on carbon values from BEIS, as set out in INQ054, has no relevance to, or effect on, the air traffic

forecasts for the Proposed Development, as it does not provide guidance or evidence on the price of carbon allowances.

3. Socio-Economics

3.1.1. Below, I have considered the effects of the new BEIS Guidance (INQ054) on the socio-economic assessment of the Proposed Development, and specifically the socio-economic cost benefit analysis (CD2.22, Section 4, Pages 33 to 38). The socio-economic cost benefit analysis did use a previous version of the BEIS guidance on carbon values to value the carbon emissions set out in the climate change assessment of the Proposed Development (see CD2.22, page 35). I have set out a number of points below in relation to the new BEIS Guidance (INQ054) and the socio-economic cost benefit analysis.

3.1.2. Firstly, it is important to emphasise that the new BEIS Carbon Values for Appraisal are, ultimately, a tool for government policy appraisal and evaluation in the context of the Green Book. This is explicitly set out within the document:

"The fundamental purpose of assigning a value to the GHG emissions impacts that arise from potential government policies is to allow for an objective, consistent and evidence-based approach to determining whether such policies should be implemented."

INQ054, Page 2.

"It should be stressed that the carbon values discussed in this paper apply to all types of policy, providing there is some impact on emissions. It is not the aim of this document to discuss how these policies should be designed but rather to provide carbon values to be used in the economic appraisal or evaluation of these policies. Detailed practical guidance for analysts on how to apply the carbon values in appraising policies is available in the Green Book Supplementary Guidance: Valuation of Energy Use and Greenhouse Gas Emissions for appraisal."

INQ054, Page 3.

3.1.3. As has been discussed at some length at the Inquiry, the Proposed Development is <u>not</u> a Government policy intervention but a private sector investment. Green Book or WebTAG appraisal guidance is, therefore, not an applicable standard. My position on the applicability of WebTAG is set out in my proof of evidence on socio-economics (BAL/5/2 Brass, June 2021) at sub-section 5.7, page 38. The same logic would apply to Green Book. The Economic Impact Assessment Addendum also makes clear that the

socio-economic cost benefit analysis is not a WebTAG appraisal and is not intended to be one (CD2.22, page 33, para. 4.3).

3.1.4. Secondly, I would re-emphasise that the socio-economic assessment has consistently and repeatedly stated that it is not appropriate to include the value of carbon emissions within the socio-economic cost benefit analysis. The reasons for this are set out in the Economic Impact Assessment Addendum report (CD2.22, Page 35, paras. 4.7 to 4.11) and at para. 4.5.2 of my Proof of Evidence on socio-economics (BAL/5/2 Brass, June 2021). The key points made in relation to this are that:

- seeking to constrain an airport in the UK, such as Bristol Airport, is highly unlikely to lead to a reduction in the overall level of flying, as the aircraft capacity will simply move elsewhere in the UK or overseas and still fly. This is a process known as carbon leakage. It is, therefore, essential that carbon emissions are dealt with nationally and internationally. They are not a relevant consideration for a local planning inquiry but a matter for national policy. This has been reinforced by Jet Zero:

  "And we recognise that we cannot act in isolation – aviation emissions are an inherently global issue and therefore the UK will continue to take a leading role in the work of the International Civil Aviation Organization (ICAO), drawing also on our COP26 Presidency, to reduce emissions from international aviation."

  CD9.135, Page 9, Para. 1.7.

- the inclusion of carbon costs within the air fares that underpin the air traffic forecasts means that the societal costs associated with growth are internalised within air fares and paid for by passengers. This means that including carbon costs again as a separate item within the socio-economic cost benefit analysis is, in reality, likely to lead to double counting of carbon costs. This is precisely the point being made within the new BEIS Guidance (INQ054, page 11-12) as regards the treatment of traded and non-traded sectors in Government policy appraisal:

  "For emissions in the traded sector, appropriate adjustments should be made to account for any existing carbon pricing in the market prices of goods or services. For example, if a policy increases the production of a good where the

price of that good already reflects a carbon price then this needs to be taken into account in order to avoid double counting some of the carbon costs."

- ultimately, carbon emissions will be capped at net zero and aviation has been formally included within the sixth carbon budget. Any growth in emissions from Bristol Airport will have to be offset by reductions elsewhere. Hence, ultimately, there can be no additional carbon costs associated with the Proposed Development at a UK sector-wide level.

3.1.5. Carbon emissions costs have only been included in the socio-economic cost benefit analysis in response to comments made in the NSC Officers Report to ensure that the assessment represents a worst case assessment. This was made clear in the Economic Assessment Addendum (CD2.22 para 4.2):

"One additional area that has been included in the cost benefit analysis for this addendum is carbon costs. These have been included in response to comments on the original assessment made in the NSC Officers Report. It should be emphasised that this should not be taken to infer the appropriateness of its inclusion, as explained below."

3.1.6. These points are then explained in paras 4.7 to 4.11.

3.1.7. Finally, it is, of course, possible to update the carbon values within the socio-economic cost benefit analysis with the new values set out within the updated BEIS guidance (INQ054). Naturally, this will increase the cost of carbon emissions in the assessment and reduce the Net Present Values (NPVs) of the Proposed Development, which are set out in CD2.22 on pages 36 and 37. However, this needs to be seen in the context of the remarks above, that the inclusion of these costs is not in fact appropriate in the first place.

3.1.8. If the central series values from the new BEIS Carbon Values are used (INQ054, Page2 14 to 15), the cost of carbon emissions in the socio-economic cost benefit analysis increase to:

- around £623 million without offsetting;
- around £520 million with offsetting.

3.1.9. This results in a corresponding reduction in the NPVs. The new NPVs would be:

- Around £502 million without offsetting;
- Around £600 million with offsetting.

3.1.10. In other words, even with the significant rise in the value of carbon set out in the new BEIS Guidance (INQ054), the benefits of the proposed development continue to substantially outweigh the costs.

3.1.11. For simplicity, I have included below updated versions of Figures 4.1 and 4.2 from the Economic Impact Assessment Addendum (CD2.22, Pages 36 to 37) that summarise the results of the socio-economic cost benefit analysis with the new BEIS central series carbon values. These are labelled Figure 1: Updated Socio Economic Cost Benefit Analysis with No Offsetting of Carbon Emissions and Figure 2: Updated Socio Economic Cost Benefit Analysis with Offsetting of Carbon Emissions.

Figure 1: Updated Socio Economic Cost Benefit Analysis with No Offsetting of Carbon Emissions

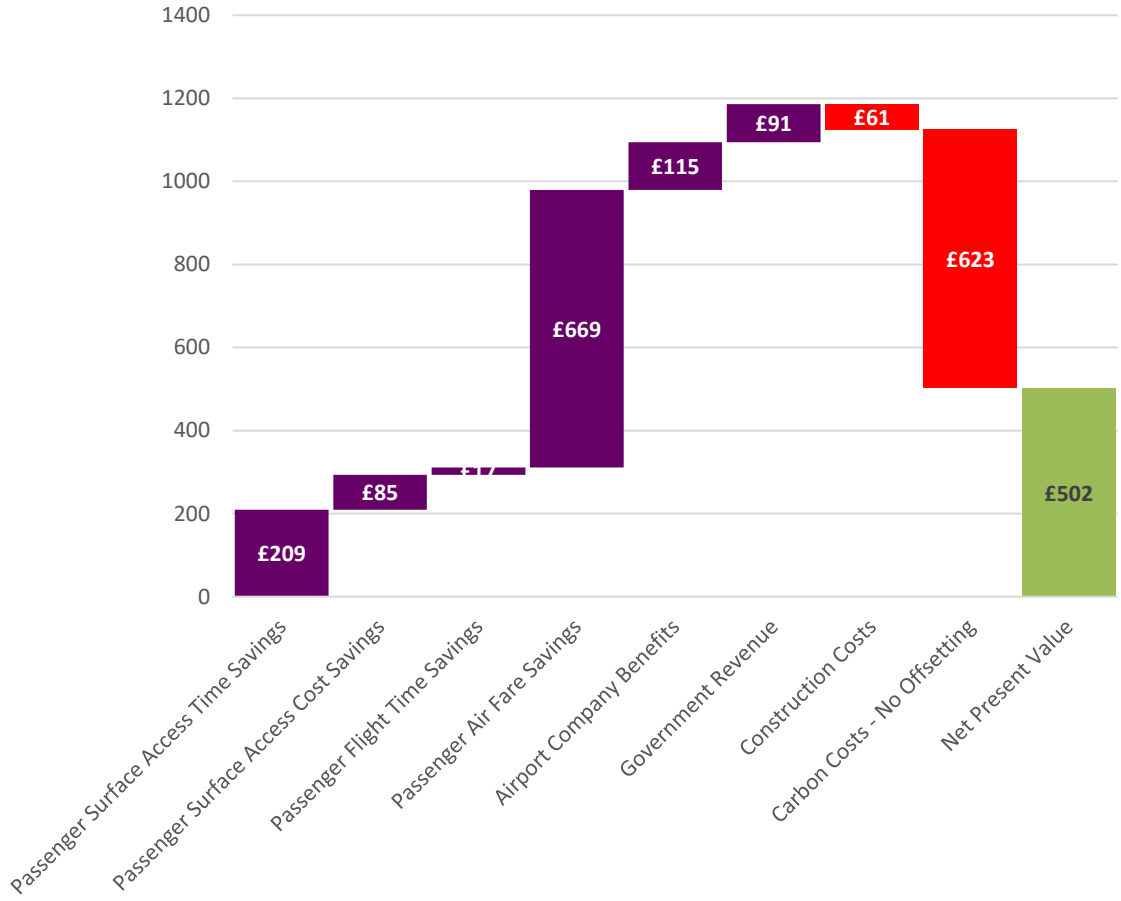
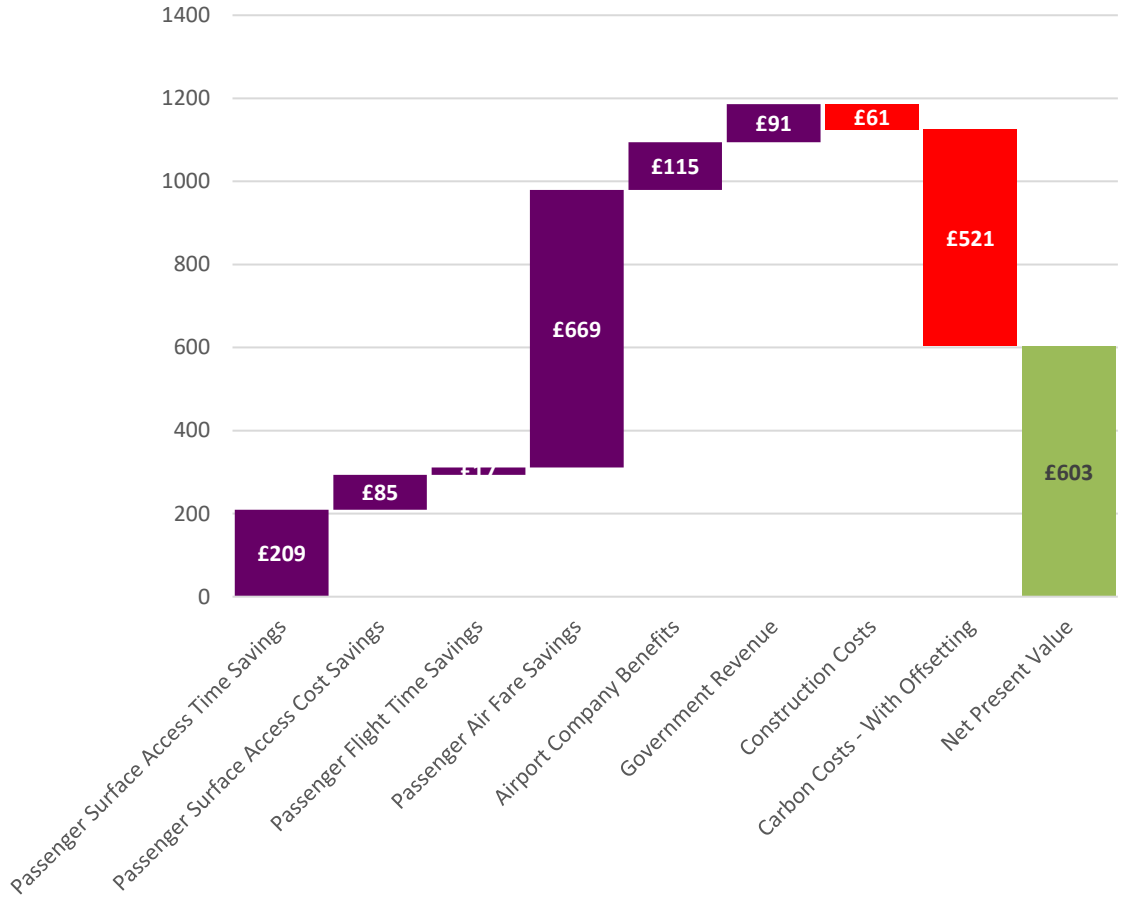


Figure 2: Updated Socio Economic Cost Benefit Analysis with Offsetting of Carbon Emissions



Appendix A: Excerpt from Department of Energy and Climate Change, Carbon Valuation in UK Policy Appraisal: A Revised Approach (2009)

Executive Summary

With the onset of binding carbon budgets applying across the UK economy, a robust approach to valuing emissions is vital in order to ensure that Government takes full account of climate change impacts in appraising and evaluating public policies.

The previous approach used within Government to carbon valuation in policy appraisal, called the Shadow Price of Carbon, is based on estimates of the lifetime damage costs associated with greenhouse gas emissions drawn from the Stern Review (known as the Social Cost of Carbon, or SCC).

This paper sets out a revised approach to valuing carbon in policy appraisal, following a review undertaken within Government in the course of 2008 and early 2009. It concludes that the approach, based on estimates of the SCC, should be replaced with a target-consistent approach, based on estimates of the abatement costs that will need to be incurred to meet specific emissions reduction targets. The case for change is motivated by the considerable uncertainty that exists surrounding estimates of the SCC. The change will have the effect of helping to ensure that the policies the UK Government develops are consistent with the emissions reductions targets that the UK has adopted through carbon budgets and also at an EU and UN level.

Under the new approach, the precise valuation methodology differs according to the specific policy question being addressed:

- For *appraising policies that reduce / increase emissions in sectors covered by the EU Emissions Trading System (ETS)*, and in the future other trading schemes, a '**traded price of carbon**' will be used. This will be based on estimates of the future price of EUAs and, in the longer term, estimates of future global carbon market prices;

- For *appraising policies that reduce / increase emissions in sectors not covered by the EU ETS* (the 'non-Traded Sector') a '**non-traded price of carbon**' will be used, based on estimates of the marginal abatement cost (MAC) required to meet a specific emission reduction target;

- In the longer term (2030 onwards) consistent with the development of a more comprehensive global carbon market, the traded and non-traded prices of carbon will converge into a single traded price of carbon;

- For the purposes of *setting emissions reductions targets and global stabilisation goals*, **formal modelling evidence, including evidence on the social cost of carbon** will continue to be an important input. In practice, given the imperfect nature of our knowledge, these will be supplemented by political judgement and the outcomes of international negotiations.

2