



5. Climate Change

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum: Response to Comments on Climate Change

1. Introduction

This technical note has been prepared in response to comments received from Jacobs/CH2M (on behalf of North Somerset Council, hereafter referred to as Jacobs)¹ on the climate change assessment contained in the Environmental Statement (ES) submitted as part of Bristol Airport Limited's (BAL) planning application² for the development of Bristol Airport to accommodate 12 million passengers per annum (mppa) (the Proposed Development).

The note reflects the structure of the Jacobs' response. Each comment is reproduced in Sections 2 to 8 below with BAL's response given.

2. Baseline Conditions

Jacobs' Comment

"The ES describes the overall climate baseline in terms of the current baseline emissions as well as future baselines applicable to the site. Both sections are clearly set out, detailed and suitable for purpose.

In the current baseline, it is noted that it does not include construction emissions associated with construction which occurred in 2017, as this is seen as a 'one-off' emission source.

It is noted that the future baseline takes account of existing commitments to mitigate GHG emissions from operation whilst developing Bristol Airport to accommodate 10 mppa. Please elaborate on these commitments and the estimated impact these have on the overall future baseline.

It is noted that UKCP18 was not available during the assessment, as was only released at the end of November 2018, and has therefore not been considered as part of this review."

BAL Response

Jacobs' observation that the baseline section of Chapter 17 of the ES is clear, detailed and suitable for purpose is welcomed.

BAL notes the request for further clarification in respect of the future baseline vis-à-vis existing commitments to mitigate greenhouse gas (GHG) emissions. As set out in the Design and Access Statement (DAS) submitted in support of the planning application for the Proposed Development and Chapter 17 of the ES, BAL has committed to using decentralised renewable electricity generation (such as combined heat and power, wind and solar PV technologies) for 15% of electricity used across the airport site. BAL is seeking to deliver this target regardless of the Proposed Development. BAL has a positive track record in terms of

¹ Received 22.03.19.

² Application No. 18/P/5118/OUT.

emissions performance, gaining Level 2 ACI Carbon Accreditation in 2018 and its ambition is to be carbon neutral by 2030. On this basis, the 15% target has been taken into account in the future baseline for the purposes of the ES.

In addition, the future baseline in the ES assumes a 15% public transport mode share (which would be expected to minimise GHG emissions associated with surface access). This is consistent with the Section 106 obligations of the 10 mppa planning consent³ (in 2017, this figure stood at 12.5%).

It should be noted that a large proportion of the emissions included in the future baseline are from aviation sources. As a result, the measures described above have only limited effect on the absolute amount of GHGs emitted as a result of the Proposed Development.

Overall, the future baseline is considered to be a realistic worst-case scenario on which to compare the GHG emissions as a result of the Proposed Development.

3. Prediction of the Magnitude of Impacts

Jacobs' Comments

"The likely significant effects are noted as being an increase in GHGs from non-aviation related construction and operations as well as an increase in aviation associated with the proposed development.

Overall, there are no significant effects identified for climate change resilience, as the embedded mitigations and commitment to embed Climate Change within the detailed design and operation of the airport through a Carbon and Climate Change Action Plan are made. It is agreed that this is as appropriate mitigation at this stage.

The combined impact of the proposed development, as well as climate change considerations in other relevant chapters supports the conclusion that there are no significant effects expected relating to in-combination climate change impacts."

BAL Response

Jacobs' statement that the proposed embedded measures detailed in Chapter 17 of the ES and the Carbon and Climate Change Action Plan are appropriate mitigation with regard to climate change resilience, as well as the observation that there would not be significant in-combination climate change impacts, is welcomed.

4. Impact Significance

Jacobs' Comments

"Impact significance has been described in terms of the UK Carbon budgets and reduction targets and it is agreed that the reported figures are not considered to be significant.

Reference to the possible impacts that the project may have on the current localised climate, i.e. temperature increases, rainfall pattern changes, etc. and the impacts thereof are described within individual topic chapters. However, it is important to not only consider climate in terms of the impact of the project on climate (i.e. GHGs), which has been done, but also the impact of climate on the project –how climate may impact on the project and

³ Application reference 09/P/1020/OT2.

how this will be considered / dealt with (e.g. maintenance of the runway etc.). This aspect has been omitted from the assessment."

BAL Response

BAL welcomes Jacobs' view that the figures reported in the ES are not considered to be significant.

With regard to the impacts of climate change on the Proposed Development, this is considered in Chapter 2 of the ES (paras 2.4.18 to 2.4.23) with reference to Section 7.12 of the DAS. This text is reproduced below:

- "^{2.4.18} The impacts of climate change will be considered throughout the design and operation of the Proposed Development. The projected impacts of climate change on the Bristol Airport site are detailed in **Section 7.12** of the Design and Access Statement (DAS) and these have been considered in the design to date where appropriate.
- ^{2.4.19} During the operational phase of the Proposed Development, resilience has been addressed through the following measures:
- The proposed drainage strategy includes climate change allowances;
 - The design of ecological mitigation measures takes into account climate change through the planting of climate resilient species and increased connectivity of habitats;
 - The demand for water is reduced through water efficiency measures such as efficient appliances/processes and the potential use of rainwater recycling;
 - There is a commitment that decentralised renewable electricity generation will constitute a combined 15% of electricity use across Bristol Airport (decentralised power production reduces the exposure of Bristol Airport to wider power failure, which can be exacerbated by climate change). Heating sourced from waste gas from a CHP plant also decreases reliance on the wider network, thus increasing resilience; and
 - The projected central estimate temperature projections for the end of the design life of each asset will be considered in its detailed design stages (e.g. a building with an indicative 50-year design life will consider climate change projections for the 2080s).
- ^{2.4.20} **Section 7.12** of the DAS also outlines the approaches to include decentralised power production on-site, which increases resilience of the Proposed Development to climate change impacts on the wider power networks.
- ^{2.4.21} The impacts of climate change have been considered within the assessments of flood risk in **Chapter 12: Surface Water** and **Chapter 13: Groundwater**. Climate change has also been considered in the development of mitigations for biodiversity receptors affected by the Proposed Development in **Chapter 11: Biodiversity**, and mitigations for soils in **Chapter 10: Land Quality**.
- ^{2.4.22} Further climate change impacts will be considered throughout the detailed design stages of the Proposed Development, following approval for expansion to 12mppa. This is secured through a commitment to develop a Carbon and Climate Change Action Plan (CCAP). The CCAP will use the new UKCP18 projections (released 26 November 2018) to assess the vulnerability of specific assets to climate change and the impact it could have on operational procedures. The resulting CCAP will be relevant to Bristol Airport as a whole, including the new infrastructure and assets required for the Proposed Development.
- ^{2.4.23} The CCAP will consider the initial design of assets (e.g. placing climate change uplifts on standards) and designing to enable adaptation in the future as and when required (e.g. oversizing of ventilation shafts). This approach is deemed appropriate as asset-specific climate change adaptation should be

integrated into the design as it develops and becomes more detailed. The principles of the upcoming ISO14090: A Framework for Adaptation, due for release in 2019, will be used when developing the CCAP."

Additionally, Chapter 19 of the ES summarises the climate change effects of the Proposed Development including in respect of resilience. Paragraph 19.1.50 notes that climate change resilience in the construction phase was scoped out of the ES due to its short term nature whilst paragraph 19.1.51 states: *"There are no significant effects identified for climate change resilience, as the embedded mitigations and commitment to embed climate change within the detailed design and operation of the airport through a Carbon and Climate Change Action Plan are regarded as appropriate mitigation at this stage."*

As referred to above, BAL has committed to develop a Carbon and Climate Change Action Plan following approval of the Proposed Development. This is in accordance with the proposed Condition (36) set out in Appendix D to the Planning Statement which is reproduced below:

"Carbon and Climate Change Action Plan shall be submitted to and approved in writing by the Local Planning Authority 12 months from the date of the permission or before the occupation of any new building or completion of any development included in the application, whichever occurs first. This shall include: (i) a baseline against which carbon management initiatives can be measured; (ii) a timetable with targets for Carbon Management being agreed. Progress made against agreed targets and recommendation for reviewing targets where deemed necessary will be included within the Annual Operations Monitoring Report. The Carbon and Climate Change Action Plan will be reviewed every 5 years.

REASON: To ensure that the development mitigates, and is resilient to, the effects of climate change in accordance with Policies CS1, CS2 and CS3 of the North Somerset Council Core Strategy."

The Carbon and Climate Change Action Plan will be developed during the detailed design phase and will cover ongoing operations and all construction activities. The Action Plan will consider the impact of extreme weather and climate change on the Proposed Development and define measures and actions to ensure that the design and operation of the scheme are resilient to climate change. The Carbon and Climate Change Action Plan will also set out the governance process for the delivery of the measures and actions.

The Carbon and Climate Change Action Plan will be reviewed and updated periodically to ensure that continuous improvement in the airport's GHG emissions is achieved and that climate risks are adequately assessed, with the appropriate adaptations put in place. The scope of the Action Plan is being prepared by BAL at the time of writing for prior agreement with the local planning authority. It is proposed that this scope will feature as a schedule within the Section 106 Agreement.

Overall, BAL considers that the approach taken in the ES and DAS is proportionate.

5. Mitigation

Jacobs' Comments

"The embedded environmental measures noted are likely to reduce carbon and other GHGs, and although not quantified are included in the determination of significance. This approach is agreed, as it would be difficult to quantify how these measures would impact on carbon and GHGs quantities as final construction movements, etc. are unlikely to be known at this stage of the project."

BAL's Response

BAL welcomes Jacobs' comment that the embedded environmental measures are likely to reduce carbon and other GHGs and that the approach to the assessment in this regard is sound.

6. Monitoring

Jacobs' Comments

"The embedded environmental measures are adequately detailed. However, it would be worth elaborating noting any assurances that may exist as to how these embedded measures will be monitored and recorded through the lifecycle of the project."

BAL's Response

Jacobs' opinion that the embedded environmental measures described in the ES are adequately detailed is welcomed. The embedded measures will be monitored and recorded as part of the Carbon and Climate Action Plan which is to be secured by condition (as detailed in **Section 4** above). Progress made against agreed targets/measures and recommendation for reviewing targets/measures where deemed necessary will be included within BAL's Annual Operations Monitoring Report with the Action Plan reviewed every 5 years.

7. Plans and Policies

Jacobs' Comments

"No comments provided. Plans and policies referenced within the reviewed chapters are appropriate to the assessment."

BAL's Response

BAL notes Jacobs' comments on this aspect of the ES.

8. Compliance with EIA Practice & Procedure

Jacobs' Response

"Overall the chapters reviewed appear to meet regulatory requirements. However as described there are some aspects that could be clarified with the provision of additional information."

BAL's Response

BAL notes and welcomes Jacobs' view that the ES chapters reviewed meet regulatory requirements.

9. Advice on Conditions

Jacobs' Response

"Provided that the embedded environmental measures are implemented throughout the project, carefully monitored, measured and updated as required, no significant effects as a result of the project are anticipated."

BAL's Response

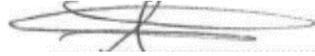
BAL notes and welcomes Jacobs' conclusion that, provided that the proposed mitigation measures identified in the ES are implemented, no significant effects are anticipated. This is consistent with the conclusions of the ES.

Issued by



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