Objection to LBA planning application, ref: 20-02559-FU

with particular reference to ES Volume 1 chapter 7: Climate Change

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A. National and local legislation and policy context

1. Climate Change Act and Paris Agreement

a. The Climate Change Act 2008 commits the UK to achieving net zero emissions by 2050. The original goal of reducing greenhouse gas emissions by 80% by 2050 was amended in June 2019 to mandate a reduction of 100% of all net greenhouse gas emissions by 2050. The Climate Change Act reflects the UK's commitment to the international Paris Agreement to limit global warming to 1.5C or well below 2C above pre-industrial levels. Together they form the high level policy context for any development decision that involves the production of climate damaging emissions.

b. The applicants are required under the EIA regulations to assess the potential environmental harms that could result from their proposed development. The regulations require the development to be considered against the UK's environmental protection objectives, chief of which is the 2050 net zero commitment of the Climate Change Act.

2. National Planning Policy Framework

a. The National Planning Policy Framework makes a presumption in favour of 'sustainable development'. At a high level, this means ensuring that the ability of future generations to meet their needs is not compromised by current developments. In relation to climate change, objective three of the NPPF states: "Achieving sustainable development means that the planning system has three overarching objectives...: c) an environmental objective – to contribute to protecting and enhancing our natural, built and

historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and *mitigating and adapting to climate change, including moving to a low carbon economy*."

b. It goes on to say: "*The planning system should support the transition to a low carbon future in a changing climate*, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to *radical reductions in greenhouse gas emissions*, minimise vulnerability and improve resilience; encourage the re-use of existing resources, including the conversion of existing buildings; and *support renewable and low carbon energy and associated infrastructure*."

3. **The Court of Appeal ruling on Heathrow's third runway**

a. While this judgment concerned a decision relating to the national Planning Act, the Court did not constrain its findings on the relevance of the Paris Agreement, the non-CO2 effects of aviation and post-2050 climate impacts to decisions solely under the Planning Act. The Court also re-affirmed that: "The objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs". The same definition as used in the NPPF, to which LPAs must have regard.

b. The Paris Agreement was described by the Court as "obviously material" to a decision that had climate change consequences, such as Heathrow's third runway. Therefore, the Paris Agreement and the UK's and Leeds City Council's climate targets are equally "obviously material" for the decision on this planning application which has significant climate change consequences.

c. The Court was clear that the non-CO2 effects of aviation at altitude were also an obviously relevant factor, and that this was not confined to the specific wording of the s10 duty under the Planning Act. Therefore, the non-CO2 effects of aviation at altitude of this development must be taken into account. Finally, climate impacts cannot be ignored after the expiry of the net zero 2050 target, not least because climate change will continue. Although the Court made this finding in relation to section 10 of the Planning Act, it also classified post-2050 impacts as "obviously relevant". This means again that the post-2050 impacts of this proposal cannot be ignored.

4. **Leeds Climate Emergency Declaration and Leeds Carbon Roadmap**

    a. Leeds City Council issued a *Climate Emergency Declaration* on 27 March 2019. A White Paper motion was presented by Council Leader, Judith Blake, and passed at a full Council meeting, gaining all party support. This motion committed LCC to work towards Leeds reaching net-zero by 2030. In the motion, LCC recognised that: “Society needs leadership at international, national and local level. Council is aware that current plans and actions are not enough. The world is on track to overshoot the Paris Agreement’s 1.5°C limit before 2050… *All governments nationally and locally have a duty to limit the negative impacts of global warming. Local councils should not wait for their national governments to change their policies. It is important for the residents of Leeds and the UK that cities commit to carbon neutrality as quickly as possible*."

    b. The Climate Emergency motion also committed LCC to a science-based carbon reduction target consistent with achieving the Paris Agreement, which is set out in the *Leeds Carbon Roadmap.* As part of this, LCC has adopted a carbon budget of 42 Mt CO2e for Leeds as whole for the period 2018—2050: the maximum amount of emissions that the whole city is allowed to produce over that period. The Leeds Carbon Roadmap also involves annual emissions allowances (annual target emissions or annual carbon budgets). However, the roadmap – which has been produced before the Climate Emergency Declaration – aims at net-zero by 2050, not by 2030 as the Leeds Climate Emergency Declaration. Therefore, the annual emissions allowances set out in the roadmap are too high and need to be corrected downwards. Emissions allowances post-2030 need to be net-zero. This is important to keep in mind for comparing emissions from the airport with the emissions allowances for Leeds as a whole, as the applicants do in their environmental assessment.

5. Leeds Core Strategy

    a. Decisions about applications for development must also take into account the local development plan - the Leeds Core Strategy. At para 1.9, the Core Strategy states that it “...seeks to provide an overall balance in managing the competing demands, challenges and opportunities facing the District. The Core Strategy and Local Development Framework should be read as a whole and decisions about future development must have regard to all its relevant parts…”

    b. One of the key challenges noted in para 2.42 of the Leeds Core Strategy is that of: “Ensuring that the physical development and growth of the

District *is managed in a sustainable way"*. Following guidance in the NPPF, the Core Strategy states at para 4.1.1: "The intent of the Strategy is to provide the broad parameters in which development will occur, *ensuring that future generations are not negatively impacted by decisions made today."*

c. Section 4.9 is concerned with Integrating Transport and Spatial Planning. Air travel is clearly a form of transport. Para 4.9.2 states: "Integrated, *sustainable* transport is fundamental in supporting the ambitions of the Core Strategy and is necessary to deliver a range of policies across the Plan. National Policy is increasingly recognising the wider goals which transport needs to support, with a particular emphasis on transport's contribution to economic growth and *to tackling climate change."*

d. This section of the Core Strategy goes on to note that the second of three objectives for the West Yorkshire Local Transport Plan for 2011 – 26 is: "To make substantial progress towards a *low carbon, sustainable transport system* for West Yorkshire, *while recognising transport's contribution to national carbon reduction plans."*

e. Para 4.9.12 acknowledges that: "…air travel raises a number of concerns regarding its impact on climate change through the generation of emissions and also the local impact on the environment (including transport trips)."

f. With regard to managing the development of LBA, Spatial Policy 12 of the Core Strategy states: "The continued development of Leeds Bradford International Airport will be supported... *subject to: … (iii) Environmental assessment and agreed plans to mitigate adverse environmental effects*, where appropriate"

g. In the Core Strategy section concerned with Managing Environmental Resources and Green Infrastructure, para 4.10.1 states: "The District's environmental resources are crucial, not just in ensuring quality of life, but also sustaining life itself. *The natural world regulates the atmosphere and climate... We have an* ***obligation*** *to protect our environmental resources and to pass on to future generations the natural wealth that we have inherited…"*

h. Finally, the Core Strategy contains a section on climate change. Although some of the details in that section are out of date, its overall aim is clear. Para 5.5.35 notes that: *"Leeds is a growing city and all new development that is not carbon neutral adds to total emissions from Leeds (both on site*

emissions and emissions associated with transport).” Air travel is clearly a form of transport.

i. Para 5.5.35 goes on to say: ***“Therefore, there is a strong policy imperative to constrain emissions from all development as soon as possible”*** and confirms that: “The Core Strategy climate change policies are designed so that new development contributes to our ambitious carbon reduction targets.”

6. Government plans to include international aviation in net-zero target

a. The government announced in parliament in June 2019 that their intention was to include International Aviation and Shipping (IAS) in its greenhouse gas reduction target – see Hansard HC (12 June 2019) Vol 661 Column 682 *Net Zero Emissions Targe*t. The government asked the UK Committee on Climate Change (CCC) to advise as to how this could be achieved, which it did in September 2019.
(see: https://www.theccc.org.uk/publication/letter-international-aviation-and-shipping/)

b. The CCC’s latest report in June 2020 includes recommendations for the government to:
   - Formally include International Aviation and Shipping emissions within UK climate targets when setting the Sixth Carbon Budget
   - Work with ICAO to set a long-term goal for aviation consistent with the Paris Agreement, and to strengthen the CORSIA scheme
   - Commit to a Net Zero goal for UK aviation as part of the forthcoming aviation consultation and strategy, with UK international aviation reaching net-zero emissions by 2050 at the latest, and domestic aviation potentially earlier
   - Plan for residual emissions, after efficiency, low-carbon fuels and demand-side measures, to be offset by verifiable greenhouse gas removals
   - Review the UK's airport capacity strategy in light of COVID-19 and Net Zero, including a household & business survey of long-term travel expectations

B. The applicants' assessment of additional emissions caused by the development

7. Introduction

a. The importance of environmental protection for Leeds City Council is clear from the Core Strategy, the Climate Emergency Declaration and LCC's goal to reach net-zero emissions by 2030. The risks associated with climate change are unprecedented and potentially catastrophic, so it is appropriate that the applicants have submitted an assessment of greenhouse gas emissions (GHG) caused by the development.

b. While the applicants publically portray the expansion as a climate-friendly development with a zero-carbon terminal, their own climate impact assessment shows that the net climate effect of the development would be a pronounced increase in emissions. We also note that the applicants accept that the increase in emissions would overwhelmingly result from additional flights. Para 7.4.4 states: *"GHG emissions from flights are the dominant source at 92%."* Emissions from the terminal building itself account for 1.3% of all current emission associated with LBA – see Table 7-4.

8. The applicants' calculations of additional emissions

a. LBA's own assessment acknowledges that its plans would significantly increase annual emissions from the airport. In Table 7-4, the applicants estimate that total emissions from the airport in 2018 were 326 kt CO2e. The applicants estimate that if the expansion is approved (the 'with development' scenario), total emissions from the airport in 2030 would be 491 kt CO2e.That's a significant increase in annual emissions of 165 kt CO2e relative to 2018.

b. The applicants estimate that in case of no expansion (the 'without development' scenario), emissions from the airport in 2030 would be 349 kt CO2e (Table 7-5) – a small increase from 2018. Compared to the 'without-development' scenario, the expansion would thus generate 142 kt CO2e net additional emissions in 2030. But not only in 2030. Every year after 2030, the expanded airport would create a similar amount of additional emissions. The applicants estimate that in 2050, the development would still create net additional emissions of 110 kt CO2e.

c. These numbers by themselves, if used and interpreted correctly, already indicate that the development is starkly at odds with the need to rapidly reduce overall emissions, and incompatible with Leeds' climate targets (in

particular, considering all other activities that need to fit into the tight emissions allowances for the whole of Leeds).

d. However, the applicants do not use and interpret the numbers obtain from their own impact assessment correctly. They make very major omissions of key factors, both in calculating total emissions and in comparing them to Leeds' and the UK's emissions targets and carbon budgets. All of these omissions err on the side of underestimation. The applicants' impact assessment therefore dramatically underestimates the likely climate impact of the proposed development, and is the polar opposite of the worst case scenario that LCC requested. It is inadequate as a basis for evaluating the acceptability of this development.

e. The omissions and inaccuracies in the applicants' assessment are detailed below, and their impact is shown by comparing them to our own calculations that account for these omissions based on the applicants' own baseline numbers.

C. Omissions and inadequacies in the applicants' climate impact assessment

9. Overview

a. There are 5 major flaws in the applicants' climate impact assessment of this development. First, they use and interpret their own calculations inadequately, by excluding international flights (by far the biggest emissions factor of the development) when comparing the total emissions caused by the development to Leeds' and the UK's emissions targets and carbon budgets. Secondly, all of their emissions estimates do not account for non-CO2 effects at altitude (a factor of 2), nor for additional arrival flights caused by the development (another factor of 2 on top), although LCC explicitly requested that both of these factors be taken into account. Thirdly, they limit their assessment to only 3 single years (2024, 2030, 2050) over a 27-year period, whereas LCC suggested an assessment over 60 years. Fourth, they limit their cumulative assessment of total emissions caused by the development over time to only a 7-year period (2024—2030), instead of a 60-year period. Finally, the applicants do not provide any assessment of how the proposed development would affect the ability of Leeds to reach net-zero by 2030 (as per LCC's Climate Emergency Declaration).

b. Leeds City Council asked the applicants to present a 'worst case scenario'. Above list of omissions and inaccuracies and below calculations of the impact of these omissions make clear that the applicants have completely failed to comply with that request.

10. Exclusion of non-CO2 effects of aviation at altitude

a. In Table 7-1, it is noted that LCC specifically asked the applicants to include the non-CO2 effects of aviation at altitude in their emissions estimates. The applicants have not done so, as stated clearly in Table 7-1 and at other points in chapter 7. The applicants do not deny that these effects exist (see 7.3.7) but they say they are following a convention to exclude them (see 7.3.11). However as explained above, the recent Court of Appeal decision stated unequivocally that non-CO2 effects at altitude from aviation are an obviously material factor and should be taken into account. In addition, LCC explicitly asked the applicants to include these effects and, where scientific uncertainty prevails, to provide a worst case scenario. Therefore, it is inadequate to exclude them.

b. With regard to non-CO2 effects at altitude, the Court of Appeal ruled that the precautionary principle should be applied. Where full scientific knowledge and certainty of the impacts is lacking, measures should be adopted to prevent environmental harm. That means erring on the side of caution when assessing the potential climate damaging impacts of a proposed development and including non-CO2 effects at altitude in such an assessment. The applicants have not done this. It is also important to note that LCC asked the applicants to adopt the precautionary principle in respect of the CORSIA offsetting scheme. Therefore it is reasonable for the Panel to adopt the precautionary principle in respect of non-CO2 effects as well.

c. The non-CO2 effects of aviation at altitude are conservatively considered to correspond to an effective doubling in the actual CO2 emissions of aviation. According to the UK Committee on Climate Change: "Overall, non-CO2 effects from aviation warm the climate and approximately double the warming effect from past and present aviation CO2 emissions." See box 6.1 on p68 of the UK Committee on Climate Change technical report: https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-Technical-report-CCC.pdf. It is also interesting to note that the government has used a multiplier of two when seeking to offset CO2e emissions from ministerial flights abroad – see: DEFRA (June 2007) *Act on CO2 Calculator: Public Trial Version Data, Methodology and Assumptions Paper* cited in https://www.carbonindependent.org/22.html. A factor of 2

can thus be seen as moderate best estimate for accounting for the non-CO2 effects of aviation. A 'worst case scenario' should probably even go beyond that best estimate and include the high-end of multipliers to account for non-CO2 effects at altitude, which go up to a factor of 4.7 (IPCC, 2007).

d. Accounting for the non-CO2 effects of aviation at altitude thus means that flight emissions in the applicants' calculations should be multiplied by at least a factor of 2 to get a reasonable likely estimate (and a higher factor still for a worst case estimate).

11. Exclusion of inbound flights caused by the development

a. In Table 7-1 and para 7.6.36, the applicants say that they have followed convention for emissions attribution between airports. That is, for existing flights the emissions are split 50/50 between the departure airport and the arrival airport. To do otherwise would result in double counting. While that is a reasonable approach for *existing* flights, it does not make sense when considering the climate impact of proposed *new* flights from a *new* development.

b. LCC explicitly explicitly requested that both the additional outbound and the additional inbound flights be taken into account. LCC state in the scoping process that: "when it comes to airport expansion, corporate GHG reporting rules are not relevant". LCC were clear that if substitution of flights from other UK airports (eg Manchester or Doncaster) could not be demonstrated – and the applicants state that they cannot demonstrate this – then "it is recommended that a reasonable worst-case assessment should include the total emissions for the additional inbound and outbound flights to/from the airport." New flights and their associated emissions would only come into existence if permission is given for the development. That is, they are entirely *additional*, a point acknowledged by the applicants in Table 7-1: "*The assessment assumes therefore that air traffic movements in the With Development scenario are* ***additional*** *at a national level and as such the assessment (including sensitivity) presents a worst-case assessment."*

c. In summary, both LCC and the applicant explicitly accept that all the new flights resulting from the development would be additional. Therefore, both outbound and inbound emissions should be attributed to the development because neither would exist without the development. The applicants have however failed to include the additional inbound flights, as they explicitly state. Based on the applicants' statement that the number of inbound and

outbound flights at LBA are approximately equal, this omission leads to an underestimate of the additional emissions from the development (relative to the Without Development case) by a factor two.

d. To account for the additional inbound flights, the difference in flight emissions between the With Development case and the without-development case in the applicants' calculations (which reflects only the additional outbound flights) should be added to the emissions estimates for the With Development case (then reflecting the additional inbound flights on top of the additional outbound flights). The applicants' calculations for the net emissions of the development, i.e. the difference in emissions between the With Development case and the Without Development case, should accordingly be multiplied by a factor of 2.

12. Combined impact of the exclusion of additional inbound flights and non-CO2 effects of aviation at altitude

a. The applicants' omissions of emission from the additional inbound flights and of the non-CO2 effects of aviation at altitude are two separate effects. The former regards which flights are accounted for, the latter regards how the climate impacts of each flight are calculated. Both of these factors need to be included separately, and their effects compound. These omissions are highly significant for the estimated emissions caused by the development.

b. Including both non-CO2 effects (using a factor of two, based on the UK Committee on Climate Change recommendation) and emissions from the additional inbound flights, emissions in 2030 in the With Development case would be 1227 kt CO2e, a factor 2.5 larger than the applicants' estimate of 491 kt CO2e. In the Without Development case, emissions in 2030 would be 675 kt CO2e (roughly double the applicants' estimate of 349 kt CO2e).

c. The difference in annual emissions in 2030 between the With Development case and the Without Development case would thus be 552 kt CO2e, a factor 3.9 larger than the applicants' estimate of 142 kt CO2e. In other words, the expansion would cause 552 kt CO2e net additional annual emissions in 2030, almost four times more than what the applicants state.

13. Exclusion of international aviation

a. In Table 7-15, *GHG Emissions Comparison to Leeds City Carbon Roadmap,* the applicants exclude emissions from international flights in the emissions estimate for the development that they compare with emissions targets in the Leeds Carbon Roadmap. Based on the applicants' calculations, international flights account for 89% of annual emissions associated with the development in 2030 in the With Development case. The applicants therefore omit what is by far the largest component of emissions from the development.

b. Excluding international flights for this comparison is not justified. Additional international flights should be included because they are caused by the development. It is important to recall that the government announced in parliament in June 2019 their intention to include International Aviation and Shipping (IAS) in their greenhouse gas reduction target, and that the UK Committee on Climate Change advised to formally include International Aviation and Shipping emissions within UK climate targets when setting the Sixth Carbon Budget as well as to commit to a Net Zero goal for UK aviation as part of the forthcoming aviation consultation and strategy, with UK international aviation reaching net-zero emissions by 2050 at the latest, and domestic aviation potentially earlier.

c. Therefore, what needs to be compared to the emissions allowances outlined in the Leeds Carbon Roadmap are the total emissions in the With Development case, including international aviation. Based on the applicants' figures, emissions from the airport in 2030 in the With Development case (including international aviation) are 491 kt CO2e. That's almost 50% of the 1020 kt CO2e that the Leeds Carbon Roadmap sets out as the emissions allowance for the whole of Leeds in 2030, almost 10 times (!) as much as the 5% that the applicants claim in their assessment. Given that all activities in the whole city (including road transport, household emissions, retail, industry, institutions etc) need to fit into that tight emissions allowance, this target would already be near impossible to reach if the airport alone takes up 50% of that emissions allowance. And of course, if the whole of Leeds is going to reach net-zero emissions by 2030 as adopted in the Leeds Climate Emergency Declaration, the 491 kt CO2e that the airport would emit in 2030 in case of expansion are 100% too much.

d. However, this is not even the whole story yet. The exclusion of international aviation in this comparison comes on top of the general exclusion of additional inbound flights and the exclusion of non-CO2 effects of aviation of altitude. All these factors need to be taken into

account for the comparison with the Leeds Carbon Roadmap. Including international aviation, additional inbound flights from the expansion and non-CO2 effects of aviation at altitude, the emissions from the airport in 2030 in the With Development case would be 1227 kt CO2e (as detailed above). So in fact, the emissions from the airport in 2030 in the With Development case amount to more than 120% of the 1020 kt CO2e emissions allowance for the whole of Leeds in 2030. Note this is 23 times (!) larger than what the applicants state. With the expansion, the airport alone would therefore blow the emissions allowance of the whole city in 2030, let alone the net-zero target for Leeds for 2030. This makes it entirely clear that the expansion would be entirely incompatible with reaching Leeds' climate targets.

14. No assessment of climate impacts beyond 2050

a. LCC asked the applicants to provide an assessment of additional emissions for the next 60 years. The applicants did not provide this. Instead they have offered a *"high-level scenario approach*" to 2050 providing only detailed information for two single years (2024, 2030) and very limited information for a third year (2050) over altogether a 27-year period. This does not represent anything close to a complete assessment of the climate impact of the development, as increased emissions from the proposed development would continue well beyond 2050. The recent Court of Appeal decision ruled that climate impacts cannot be ignored after the expiry of the net zero 2050 target - because they will continue. The judgment classified post-2050 impacts as 'obviously relevant'.

b. The fact that the development would still result in additional emissions beyond 2050 is implicit in the applicants' calculations which suggest that still in 2050, the emissions in the With Development Case would be almost 50% higher than in the Without Development Case. In the applicants' calculations, the development would cause net additional emissions (relative to the Without Development case) of 142 kt CO2e in 2030. But these additional emissions would not stop in 2030. In case of the expansion, similar quantities of net additional emissions would be produced every single year after 2030. In the applicants' own calculations, these continue (implicitly) every year and would still cause net additional emissions of 110 kt CO2e in 2050. The applicants provide no reason to assume that these additional emissions would somehow stop overnight in 2050. Rather, it seems very likely that in case of an expansion, additional emissions are still caused each year after 2050 and decrease only very slowly. However, there is no mention of this whatsoever in the applicants' assessment.

c. It is also important to note that the applicants did not calculate the *cumulative emissions* until 2050, but provided one single estimate for 2050 and estimated cumulative emissions only for the period 2024—2030, a 7-year period, not the 60-year period requested. What matters when assessing climate change are total emissions, i.e. the sum of additional emissions released over time.

15. Inadequate assessment of cumulative emissions

a. The overall climate impact of the development can be assessed based on the cumulative net emissions it causes over its life time: the sum of the additional emissions caused by the development each year.

b. The only account of cumulative emissions that the applicants provide is an estimate of cumulative emissions over the period 2024—2030, that is: during the ramp up of the development. The figures that the applicants provide for cumulative emissions over the period 2024—2030 are even theoretically very difficult to reconcile with the figures the applicants provide for 2024 and 2030 and the respective passenger growth scenarios, making it seem unlikely that they are internally consistent.

c. Much more important, however, is to consider cumulative emissions over the whole period for which the applicants provide single year snapshot information (2024—2050) as well as over the 60-year period requested by LCC (2024—2084). The applicants do not provide any of this. Based on the applicants' figures for the years 2024, 2030 and 2050, interpolation between these years, and extrapolation of the 2030—2050 trend over the period 2050—2084, we provide estimates of these cumulative emissions.

d. Taking into account non-CO2 effects of aviation at altitude and additional inbound passengers from the development (as requested by LCC), and using the CCC's most optimistic rate of efficiency improvements (1.4% per year), we estimate the cumulative emissions over the 60-year period 2024—2084 to be 52.9 Mt CO2e in the With Development case; and 30.4 Mt CO2e in the Without Development case. The net cumulative emissions of the development over the period 2024—2084 would thus be 22.5 Mt CO2e. Correspondingly, over the 27-year period 2024—2050, cumulative emissions would be 27.7 Mt CO2e in the With Development case and 16.4 Mt CO2e in the Without Development case. The net effect of the development over the period 2024—2050 would thus be 11.3 Mt CO2e.

Over the 7 year period 2024—2030 (the only period reported by the applicants), cumulative emissions would be 6.4 Mt CO2e in the With Development case, and 4.7 Mt CO2e in the Without Development case. The net effect of the development over that period is thus 1.7 Mt CO2e.

e. These numbers are in sharp contrast with the applicants' figures. The applicants state that cumulative emissions for the period 2024—2030 would be 2.49 Mt CO2e in the With Development case and 2.41 Mt CO2e in the Without Development case. On that basis, the applicants report the net cumulative emissions of the development to be 0.08 Mt CO2e. Note this is the applicants' only figure of the net cumulative emissions of the development.

f. In contrast to that, our more complete estimate (accounting for additional inbound flights and non-CO2 effects of aviation at altitude) of the net cumulative emissions of the development over the same period is 1.7 Mt CO2e (a factor 23 larger than the applicants' estimate). And that's just 7 years of the life time of this development. The net cumulative emissions from the development over the period 2024—2050 (for which the applicants provide snapshot estimates) is 11.3 Mt CO2e, a factor 150 larger than the applicants' only cumulative estimate. Finally, our estimate of the net cumulative emissions of the development over the period 2024—2084 (the 60-year period LCC requested) is 22.5 Mt CO2e, a factor 300 larger than the applicants' only cumulative estimate.

g. Along with the Leeds Carbon Roadmap, LCC has adopted a carbon budget of 42 Mt CO2e for the whole of Leeds for the period 2018—2050. Accounting for additional inbound flights and non-CO2 effects of aviation at altitude, we estimate the cumulative emissions from the airport over the period 2018—2050 in case of the expansion to be 31.4 Mt CO2e. That means, with the development, the airport alone would use up 75% of the carbon budget for the whole city for that period. Over the period 2024—2084 (the assessment period requested by LCC), the cumulative emissions from the airport in case of the expansion would be 56.6 Mt CO2e, i.e. by itself would blow the carbon budget for the whole city.

h. In para 7.6.22 the applicants state: *"...by 2050 With Development GHG emissions would be similar to those in the 2018 baseline which is consistent with CCC advice for UK air transport emissions not to increase from current day levels."*

The above paragraphs should make clear that that statement by the applicants is a starkly inadequate and misleading assessment of the climate impact of the development.

D. Further issues and concerns with the applicants' climate assessment

16. No further passenger increase between 2030 and 2050

a. In para 7.3.29 the applicants state: *"To model emissions in 2050, it was assumed that there is no further growth in ATMs and passengers or change in flight destinations from 2030, therefore we assume the same flight details as in the 2030 schedule..."*

b. However in December 2019, WYCA forecast 9 million passengers using LBA by 2050 - see para 2 in Background: https://www.yourvoice.westyorks-ca.gov.uk/airport_2019engagement. The DfT's 'Aviation Forecasts 2017' assumes 8 million passengers per year by 2050 - see Table 63 in: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878705/uk-aviation-forecasts-2017.pdf

17. Investment in new airline fleet post-COVID

a. In Table 7.3 the applicants state that *"Fuel consumption was ... adjusted to account for future efficiencies from new aircraft types and operational efficiencies."* We question whether airlines, particularly at the 'budget' end of the market, will still have the finances available to invest in new, more efficient fleet following the COVID crisis within the timescale needed for this proposed development.

b. The International Air Transport Association (IATA) 'Airline industry economic performance report' June 2020 says: "For 2020, commercial airlines currently have around 960 new aircraft scheduled for delivery. This is approximately 40% lower than the number originally planned at the beginning of this year. In light of the very challenging industry outlook, we expect that airlines will consider further cancellations or postponements over the second half of the year. As at the end of May, just 235 new aircraft had been delivered, well down on the usual level. *Looking further forward, the investment appetite for new aircraft is likely to remain subdued into 2021*. Moreover, airlines are also expected to consider the sale of their existing assets." See - www.iata.org/economics

18. Additional knock-on effects on flights at connecting airports

a. LCC specifically asked the applicants to provide a 'worst case scenario' assessment of the development's climate damaging impact. In addition to the issues identified above, it is likely that the additional flights to/from LBA

would trigger additional connecting flights at the airports serviced by LBA, both in the UK and abroad. This should also be considered in the climate assessment of this development, in particular in a 'worst case scenario'.

E. Other important considerations

19. Zero carbon aviation – no realistic prospect within this development's timeframe

a. In September 2019, the UK Committee on Climate Change concluded that the development of new aviation technologies and zero emission fuels is "highly speculative and should not be relied upon." https://www.theccc.org.uk/wp-content/uploads/2019/09/Letter-from-Lord-Deben-to-Grant-Shapps-IAS.pdf. In December 2019, Leeds Climate Commission stated that the new technologies needed to make flying zero emission are not going to be available in the short to medium term - see https://www.leedsclimate.org.uk/sites/default/files/Leeds%20Climate%20Commission%20Position%20Paper%20on%20Aviation%20FINAL.pdf

b. In January 2020, Leeds City Council publicly accepted that expanding aviation is "fundamentally incompatible" with reaching net zero until flying can be made zero emission - see: https://democracy.leeds.gov.uk/documents/s198403/Climate%20Emergency%20Cover%20Report%20191219.pdf . Therefore, granting planning permission for an expansion at this point in time, when aviation is not (and will not any time soon become) zero emission, would be fundamentally incompatible with LCC's climate change goals.

20. Passenger growth must be limited to "at most 25%".

a. The UK Committee on Climate Change (CCC) has forecast that: "Aviation is likely to be the largest emitting sector in the UK by 2050, even with strong progress on technology and limiting demand." In September 2019, they also stated that we must limit aviation passenger growth to a maximum of 25% from 2018 to 2050. They said: "In the absence of a true zero-carbon plane, demand cannot continue to grow unfettered over the long-term. Our scenario reflects a 25% growth in demand by 2050 compared to 2018 levels." (see https://www.theccc.org.uk/wp-content/uploads/2019/09/Letter-from-Lord-Deben-to-Grant-Shapps-IAS.pdf.) As noted above, the CCC's June 2020 report recommends,

among other things, that the government review the UK's airport capacity strategy in light of COVID-19 and Net Zero.

b. LBA wants to increase from 4 million passengers per year now to 7 million in 2030 - an increase of 72% in 10 years. This is almost triple what the maximum growth the CCC estimates to be compatible with the UK's net zero target. This provides further indication that the proposed development would significantly impair the UK's ability to meet its net-zero target and deliver on its Paris commitments.

21. Emissions reduction ambitions

a. In para 7.3.33 the applicants accept that: "*There are however a small number of hard to decarbonise sectors that includes aviation. For aviation the CCC consider that emissions will be no greater than 31 Mt CO2e by 2050 whilst continuing to accommodate growth in the sector.*" While this reflects the CCC's 'further ambition measures', the Committee also require some of their 'speculative measures' to be achieved in order to reach net zero by 2050. For aviation, the CCC's speculative measure is to restrain demand to no more than 20-40% increase above 2005 levels. The CCC estimates that this limit aviation emissions in 2050 to 22 Mt CO2e.

b. There was already an increase in passengers of 28% in the UK from 2005 to 2017. The capacity of existing UK airport facilities and already approved expansions of these facilities combined already exceed the maximum demand levels compatible with the speculative target. (see - https://www.carbonbrief.org/guest-post-planned-growth-of-uk-airports-not-consistent-with-net-zero-climate-goal). Without national constraints on flights, it is reasonable to expect that airports will try to fully utilise this capacity. Therefore, any approval of currently unapproved expansions, such as LBA (or Heathrow, for that matter), would take capacity, and risk taking demand, beyond the speculative target. This implies that there can be no further expansion of airports if anything close to this goal is to be achieved.

c. Allowing the expansion of LBA would therefore preclude the speculative target at a UK level and thus significantly impair the ability of the UK to achieve its net-zero target.

22. The UK climate targets are insufficient contributions to the Paris agreement

a. Two recent academic studies show that the pathway to net-zero that the UK is aiming at is insufficient for meeting the UK's responsibilities to contribute to the Paris agreement, falling short of what is necessary by a factor of 2 to 3. See https://www.tandfonline.com/doi/pdf/10.1080/14693062.2020.1728209 and https://www.cusp.ac.uk/wp-content/uploads/WP18%E2%80%94Zero-carbon-sooner.pdf

b. This shows that the applicants' comparisons with UK climate targets and carbon budgets are of limited validity because these themselves are not commensurate with the Paris agreement.

F. Conclusion

23. Omissions and inadequacies in the applicants' assessment

a. LCC asked the applicants to provide an assessment of the full emissions impact of development, with nothing omitted. LCC requested that the applicant provide a worst case scenario, explicitly including all elements of the assessment where there is scientific uncertainty. In particular, LCC requested the inclusion of the non-CO2 effects of aviation at altitude and inclusion of additional inbound flights, not only outbound flights.

b. The applicants provide no emissions estimates that account for the non-CO2 effects of aviation at altitude, nor for the additional inbound flights. They brush these factors off the table and instead provide a one-paragraph discussion of the issue, which is itself incorrect and misleading, as shown above.

c. Overall, there are six major flaws in the applicants' climate impact assessment:

- **i.** Exclusion of non-CO2 effects at altitude
- **ii.** Exclusion of emissions from additional inbound flights resulting from the development
- **iii.** Exclusion of international flights in comparison to Leeds Carbon Roadmap emissions targets and UK carbon budgets
- **iv.** Failure to assess emissions beyond 2050
- **v.** Failure to assess cumulative emissions until 2084, as requested by LCC, or even just until 2050

vi. Failure to assess the impact of the development on the ability of Leeds to reach net-zero by 2030

d. Taken together, the applicants' assessment is incomplete, inadequate, and in many places also misleading. It falls short of LCC's requests in many ways (in particular the request to provide a worst case scenario) and falls short of the rigour and precaution required for an environmental impact assessment. It consistently errs on the side of underestimating the impacts rather than erring on the side of precaution. In so doing, it dramatically underestimates more or less every single metric it assesses, downplaying most metrics by at least a factor of 2, many by a factor of 4, and several by a factor of 10 or even much more.

e. The applicants' impacts assessment is therefore entirely unsuitable for the accurate, comprehensive and precautious assessment of the climate impacts of the development that is required.

24. The full climate impacts of the proposed development

a. The applicants accept that the development would cause substantial additional GHG emissions. However, their assessment of the quantity, the metrics they use to assess the impact, their comparisons with relevant targets and their interpretation of the significance are all incomplete inadequate, as thoroughly shown in this document.

b. Accounting for all factors that are relevant, and that LCC explicitly requested to be considered, the proposed development would mean that:
   i. total emissions from the airport alone would exceed the emissions allowance for the whole of Leeds in 2030, making it impossible to meet the climate targets adopted in the Leeds Carbon Roadmap
   ii. total emissions from the airport would be entirely incompatible with the goal for Leeds to reach net-zero by 2030, or even by 2050
   iii. overall emissions from the airport until 2050 would alone use up 75% of the total carbon budget for the whole of Leeds for the period 2018—2050
   iv. overall emissions from the airport until 2084 would alone exceed the entire carbon budget for the whole of Leeds
   v. LBA would exceed by a factor of 3 the maximum growth that the CCC deems compatible with the UK's net-zero target
   vi. LBA would likely close the opportunity for UK aviation to meet the CCC's speculative target

vii. the UK's ability to meet its net-zero target and deliver on its Paris commitments would be significantly impaired

25. Significance of the climate impacts of the proposed development

a. The significance of the climate impact of the development is determined by how it affects

- **i.** the ability of Leeds to reach net-zero by 2030 (as per LCC's Climate Emergency Declaration)
- **ii.** the ability of Leeds to reach the annual targets and total carbon budget adopted in the Leeds Carbon Roadmap
- **iii.** the ability of the UK to reach net-zero by 2050 and stay within its carbon budget
- iv. the ability to meet the Paris Agreement globally
- **v.** the ability of future generations to meet their needs

b. The recent Court of Appeal ruling on Heathrow's third runway confirmed that the UK's commitment to the Paris Agreement and the Climate Change Act's mandating of net zero by 2050 are material considerations for planning decisions relating to aviation.

c. There is broad scientific consensus that failure to meet the Paris Agreement targets implies a high risk of catastrophic climate change, which would fundamentally undermine the ability of future generations to meet their needs.

d. As the Paris Agreement is global in scope, it must be reflected in commensurate targets at national and local levels. Failure to reach these commensurate local or national targets means failing to meet one's responsibilities to the Paris Agreement.

e. The applicants' own assessment is, as expressed in 7.6.46: *"Due to emissions from air transport dominating the analysis ... the assessment of significance remains unchanged as potential significant adverse."*

f. Taking into account all factors that the applicants have excluded or not (adequately) assessed, the adverse effects of the development are shown to be in fact much more significant still than what the applicants' assessment suggests. For many aspects of the assessment, the full climate impact is of a different order of magnitude than what the applicants state.

g. As we have shown, the applicants do not adequately assess the significance of the proposed development against the above five criteria. Their assessment thus doesn't appropriately address the key requirements of the Climate Change Act, Leeds Climate Emergency Declaration, the NPPF and the Leeds Core Strategy. The applicants' comparisons to UK aviation totals or other UK airports (e.g. Table 7.1, paras 7.6.15, 7.6.18, 7.6.20, 7.6.26) are not relevant to the assessment of the climate impact of the proposed development.

26. Choices and policies

a. In para 7.3.47 the applicants state: "*In terms of mitigation, IEMA recommends that mitigation should in the first instance seek to avoid greenhouse gas emissions. Where greenhouse gas emissions cannot be avoided…*"

i. Whether or not the proposed development will happen, and hence whether or not these additional emissions will be generated, is a choice – LCC's choice. All of the additional emissions can be avoided by rejecting the application. The climate impact assessment and the IEMA recommendation provide a clear case that the appropriate mitigation of these emissions is to avoid them altogether in the first place by rejecting the proposed development.

ii. It is also clear from above evidence and arguments that any attempts to reduce the emissions from this development are entirely negligible compared to the vast increase in emissions that it would cause. The net effect of the development is a very significant increase in emissions.

b. The leader of LCC said in respect of the Leeds Climate Emergency Declaration in March 2019: "Local councils should not wait for their national governments to change their policies." In January 2020, Leeds City Council publicly accepted that expanding aviation is "fundamentally incompatible" with reaching net zero until flying can be made zero emission.

i. The proposed development would expand aviation, and as Leeds City Council's above statement correctly implies, therefore fundamentally incompatible with reaching net-zero.

c. The Leeds Core Strategy states: "… there is a strong policy imperative to constrain emissions from all development as soon as possible" and "We have an *obligation* to protect our environmental resources and to pass on to future generations the natural wealth that we have inherited…" It also

states that: “The Core Strategy climate change policies are designed so that new development contributes to our ambitious carbon reduction targets.”

i. The proposed development does not reduce emissions, but it dramatically increases emissions to an extent that by itself makes it impossible to meet the above-mentioned carbon reduction targets.

d. The NPPF and the Court of Appeal state: “The objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs”.

i. The proposed development would escalate the risk of fundamentally undermining the ability of future generations to meet their needs.

e. The UN IPCC has warned that restricting global warming to 1.5˚C above pre-industrial levels will require “rapid and unprecedented changes in all aspects of society”.

i. The proposed development is the opposite of that. It represents business as usual, and would lock in emissions that would make it impossible to meet emissions targets in line with limiting global warming to 1.5C.

f. There is unmistakable evidence that the proposed development would

i. have a very significant negative impact on the UK’s ability to reach net zero by 2050

ii. make it impossible for Leeds to reach net zero by 2030, or even by 2050

iii. escalate the risk that future generations will not be able to meet their needs.

If similar developments were replicated around the world, it would lock us into catastrophic climate change, which highlights that the proposed development is not only highly harmful but unfair.

g. Based on our assessment, the proposed development should be rejected.