

**PINS Ref:** APP/C1570/W/20/3256619

**LPA Ref:** UTT/18/0460/FUL

**Appellant:** Stansted Airport Limited

Town & Country Planning Act 1990 (As Amended)  
Town & Country Planning (Inquiries Procedure) (England)  
Rules 2000

## **Public Inquiry**

# Stop Stansted Expansion

# CLOSING SUBMISSIONS

Paul Stinchcombe QC  
Richard Wald QC  
39 Essex Chambers  
81 Chancery Lane  
WC2A 1DD

11 March 2021



[www.stopstanstedexpansion.com](http://www.stopstanstedexpansion.com)  
[info@stopstanstedexpansion.com](mailto:info@stopstanstedexpansion.com)

PO Box 311  
Takeley  
Bishops Stortford  
Herts CM22 6PY  
Tel: 01279 870558



<b><u>INDEX</u></b>	<b><u>Page</u></b>
<b><u>PART ONE: BACKGROUND</u></b>	
<b>1. INTRODUCTION</b>	<b>3</b>
SSE's Participation in this Inquiry	
Five False Arguments	
Net Zero	
<b>2. LOCAL CONTEXT</b>	<b>13</b>
<b>3. PLANNING APPROACH</b>	<b>15</b>
The Development Plan	
Other Material Considerations	
<b><u>PART TWO: NATIONAL POLICY</u></b>	
<b>4. NATIONAL PLANNING POLICY FRAMEWORK</b>	<b>17</b>
<b>5. AVIATION POLICY</b>	<b>18</b>
Background	
Airports Commission	
The Airports National Policy Statement	
The Making Best Use Policy Document	
<b>6. CLIMATE CHANGE POLICY</b>	<b>22</b>
The Climate Change Act 2008	
Paris Agreement	
IPCC Report	
CORSIA	
UK Government Response: The Net Zero Target	
Non-Carbon Emissions	
CORSIA Revisited	
The Sixth Carbon Budget	
Formal Inclusion of International Aviation and Shipping in Carbon Budgets	
ICAO and CORSIA	
Commitment to Net Zero	
No Net Expansion	
Non-CO2 Emissions	
Conclusions	
<b><u>PART THREE: FORECASTS AND PROJECTIONS</u></b>	
<b>7. AVIATION FORECASTS</b>	<b>35</b>
Application Forecasts	
Independent Forecasts	
Making Best Use	
London Airports Market	
Optimism Bias	
Aircraft Movements in the 35mppa Base Case	
Conclusions	
<b>8. ROAD TRAFFIC FORECASTS</b>	<b>44</b>
Methodology	
Application of 2019 Passenger Numbers to 2016 Flight Schedules	
Reliance on Flight Schedules to Predict Road Traffic	
Lag Times	
Two-Way Trips: Use of Car Parks and Drop-Off	
Employee Mode Share	
Conclusions	
<b><u>PART FOUR: IMPACTS</u></b>	
<b>9. SURFACE ACCESS – ROAD</b>	<b>53</b>
Takeley	
Stansted Mountfitchet	
Junction 8 of the M11	
Conclusions	

<b>10. SURFACE ACCESS – RAIL</b>	<b>56</b>
Baseline Conditions and Infrastructure Constraints	
Air Passenger Forecasts and Peak Rail Demand	
Implications of the Pandemic	
Rail Infrastructure Improvements at Other London Airports	
Conclusions	
<b>11. NOISE</b>	<b>59</b>
Introduction	
Aircraft Noise	
Government Policy	
The Changing Criteria for Assessing Impact	
The LAeq Average Noise Metric	
A-Weighting	
Review of the Environmental Statements on Noise	
Surface Noise	
Conclusions	
<b>12. AIR QUALITY</b>	<b>66</b>
Road Traffic data	
Model set-up and verification	
Local Plan policies	
Fine Particulate Matter (PM2.5)	
Ultrafine Particles (UFP)	
Failure to take account of Kiss-and-Fly Trips	
Conclusions	
<b>13. HEALTH AND WELLBEING</b>	<b>71</b>
The Health Impact Assessment	
World Health Organisation Noise Guidelines	
Impacts on Health and Wellbeing	
Conclusions	
<b>14. CARBON AND NON-CARBON EMISSIONS</b>	<b>78</b>
Introduction	
Sustainable Aviation	
Stansted CO <sub>2</sub> Emissions	
Competing Projections	
UK Overview	
Non-Carbon Effects	
Conclusions	
<b><u>PART FIVE: ASSERTED BENEFITS</u></b>	
<b>15. SOCIO-ECONOMICS</b>	<b>83</b>
Introduction	
Employment	
User Benefits	
UK Trade Balance	
The Economic Cost of Carbon	
Conclusions	
<b><u>PART SIX: CONCLUSIONS</u></b>	
<b>16. CONCLUSIONS</b>	<b>89</b>
Introduction	
Traditional Planning Balance	
Net Zero	
Overall Conclusions	

## **PART ONE: BACKGROUND**

### **1. INTRODUCTION**

#### **SSE's Participation in this Inquiry**

- 1.1 It should be common ground that Stop Stansted Expansion (SSE) went to very considerable lengths in an attempt to persuade, first, the Secretary of State for Transport and, next, the High Court, that Planning Application UTT/18/0460/FUL should be dealt with as a Nationally Significant Infrastructure Project (NSIP) under the provisions of the Planning Act 2008 rather than under the provisions of the Town & Country Planning Act 1990. SSE was unsuccessful on both counts but, had it been otherwise, Planning Application UTT/18/0460/FUL would have been determined two years ago and this costly Inquiry would have been unnecessary.
- 1.2 When the requirement for this Inquiry became inevitable, it will be recalled that SSE sought a delay because of the health risks posed by the Covid-19 pandemic, and because there was a great deal of wariness about the concept of a virtual Inquiry amongst many of its key people. When it was confirmed that the Inquiry should commence in January, SSE scaled back its level of participation. Six of its witnesses did not appear at the Inquiry through a combination of being in a vulnerable age group<sup>1</sup> and concerns about giving their evidence remotely. Although they did not appear for cross-examination, we are grateful to the Panel for allowing their written evidence to be adduced, and for allowing them to request clarification from other witnesses<sup>2</sup>.
- 1.3 Covid-19 did not go away and I am saddened to report that since the commencement of the Inquiry on January 12<sup>th</sup>, the UK death toll has increased by more than 40,000. To date, the pandemic has taken 122 lives in Uttlesford and 219 in East Herts - a combined total of 341 local residents. I am relieved to report, however, that all our witnesses have avoided Covid-19 and the prevalence of the virus is now rapidly receding, both locally and across the UK.

#### **Five False Arguments**

- 1.4 I start my Closing with a series of legal submissions because the Appellant is relying on five false arguments, boldly stated but counter-intuitive and wrong, in a failed endeavour to squirm away from the fact that there is, on any view, no need to raise the 35mppa cap for

---

<sup>1</sup> Three of the six are in their 80s and two are in their mid-70s.

<sup>2</sup> INQ021-INQ024 and INQ027-INQ030.

at least 11 years on its own evidence and, potentially, for in excess of 30 years on the Government's projections. The Appellant claims:

- i. That the Airports National Policy Statement (ANPS)<sup>3</sup> is not a relevant policy document for making best use (MBU) applications in respect of existing runways, when that is contradicted by the ANPS itself.
- ii. That it does not have to prove the need to raise the cap when, properly interpreted, both the National Planning Policy Framework<sup>4</sup> (NPPF) and the ANPS make it quite clear that need must be demonstrated.
- iii. That when the Ministerial Submission to the Secretary of State<sup>5</sup> stated that the application was "... *in line with Government policy on airports making best use of their existing capacity in the South East*", it meant that the Government had concluded that it was acceptable by reference to the MBU policy document, when it is quite plain that this is not what was meant – indeed, it would be completely at odds with the clear words of the policy document itself, properly interpreted.
- iv. That the Government's completely independent long-term projections<sup>6</sup> are not relevant to the making of this decision, and that the Appellant's own short-term projections are to be preferred, when the Government states precisely the opposite in those independent long-term projections.
- v. The Appellant even claims that its own projections for 2030 and beyond are to be preferred to the latest Government long-term projections, those set out in the MBU policy document itself, when it is only those MBU projections which take into account the growth which will be generated by the MBU policy. The Appellant's projections assume that only Stansted will grow and take no account whatsoever of known proposals to expand aviation capacity at other airports, even though Mr Galpin (correctly) conceded that such expansion was entirely possible<sup>7</sup>.

1.5 We make it quite clear that if the Panel were to follow the Appellant's false leads in any of these regards, it would be falling into legal error, noting that the question of the textual interpretation of a planning policy is a question of law for the Court to determine, with the meaning to be ascertained objectively in accordance with the language used, read in the proper context – see: ***Tesco Stores Limited v Dundee City Council***<sup>8</sup>.

---

<sup>3</sup> CD14.3.

<sup>4</sup> CD14.6.

<sup>5</sup> CD 23.17, para 28.

<sup>6</sup> CD14.14.

<sup>7</sup> XX Galpin, 22 January 2021.

<sup>8</sup> ***Tesco Stores Limited v Dundee City Council*** [2012] UKSC 13; [2012] PTSR 983.

1.6 I will take each of the Appellant's five erroneous interpretations in turn.

The first false argument: The Airports National Policy Statement is irrelevant

1.7 Mr Andrew claims, at paragraph 4.1 of his Proof of Evidence<sup>9</sup> that:

*"It is worth stating at the outset that the Airports National Policy Statement is not a relevant policy document for applications relating to airports 'making best use of existing runways' as is suggested at various times by UDC and SSE."*

1.8 He is entirely wrong in that. Whilst at the time Mr Andrew wrote his evidence things were a little different because the Court of Appeal had declared that the ANPS was of no legal effect<sup>10</sup>, that all changed on 16<sup>th</sup> December 2020 when the Supreme Court overturned the Court of Appeal decision ('the **Heathrow** case') and declared the ANPS completely lawful and of full legal effect<sup>11</sup>. And at paragraph 1.41, the ANPS says this explicitly:

*"1.41 The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest Runway.... **Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England.**"*

1.9 In the Government's own words, the ANPS is not just a relevant consideration but an "important" one with regard to an application for "airport development ... where it relates to London and the South East", as this appeal application clearly does. And it is no answer to this plain entreaty that the words "an application" are, on one view, qualified by the words "for development consent for an airport development". It would be absurd to construe the ANPS in a way that makes its contents on issues such as air quality, noise, carbon emissions and the like as "important" if an application is made for an additional 10mppa, but wholly immaterial if it is made for 9.5mppa. Furthermore:

- i. The context in which paragraph 1.41 of the ANPS is to be read is afforded by both paragraph 1.6 of the ANPS and, even more directly, by the paragraphs which precede and immediately follow it, including paragraphs 1.39 and 1.42, all of which are

---

<sup>9</sup> STAL/13/2.

<sup>10</sup> **R (on the application of Friends of the Earth Ltd. and others) v Heathrow Airport Ltd.** [2020] EWCA Civ 214.

<sup>11</sup> CD14.74.

addressed *inter alia* to applications made to Local Planning Authorities for planning permission to make best use of runways beyond Heathrow.

ii. Paragraph 1.6 of the ANPS provides as follows: “*The Airports Commission’s remit also required it to look at how to make best use of existing airport infrastructure, before new capacity becomes operational*”, and both directly references the MBU policy and makes clear that it was the remit of the Airports Commission (AC) to look at this.

iii. It is in that context that paragraphs 1.39 and 1.42 of the ANPS state as follows:

*“1.39 ... the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that **any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts.***

...  
*1.42 As indicated in paragraph 1.39 above, airports wishing to make more intensive use of existing runways will still need to submit **an application for planning permission or development consent to the relevant authority, which should be judged on the application’s individual merits.**”*

iv. Accordingly, it is quite plain that the ANPS is relevant to MBU applications, including this one. Indeed, as we come on to (in paragraph 1.18 below), the Department for Transport (DfT) has expressly stated that the MBU policy was not just contained in the MBU policy document<sup>12</sup> itself, but in the ANPS also<sup>13</sup>.

v. This position is consistent with and supported by paragraph 5 of the NPPF which provides as follows (with emphasis added):

*“The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning*

---

<sup>12</sup> CD14.2.

*Policy Framework). National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications.*

The second false argument: Need does not have to be proved

1.10 Before I turn to what the ANPS states with regard to the issue of need, it is helpful to preface those remarks by staying with the NPPF and looking, first, at seminal paragraph 7<sup>14</sup> which states as follows:

*“The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, 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**.”*

1.11 The issue as to how to meet needs is, therefore, central to the very concept of sustainability, and that is carried through into aviation policy through the ANPS. This was accepted by Mr Andrew in cross-examination<sup>15</sup>.

1.12 I have already referred to paragraphs 1.6, 1.41 and 1.42 to highlight the applicability of the ANPS to MBU applications. Importantly, however, and against the ANPS paragraph 1.6 acknowledgement that the remit of the AC extended to the MBU policy, those latter paragraphs go on to state as follows so far as the issue of need is concerned:

*“1.41 ... **Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need.***

*1.42 ... **However, in light of the findings of the Airports Commission on the need for more intensive use of existing infrastructure as described at paragraph 1.6 above, the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow.***

---

<sup>13</sup> CD23.17, para 27.

<sup>14</sup> CD14.6.

<sup>15</sup> XX Andrew, 4 March 2021

1.13 It is quite clear, therefore, that:

- i. The above words of the ANPS were directed *inter alia* at MBU applications for planning permission for any expansion of aviation in the South East.
- ii. Amongst the considerations which were not just relevant but important were whether there was any need to expand capacity, as proposed.
- iii. Whilst the Government anticipated that, in the light of the prior findings of the AC, it may well be possible to prove sufficient need, it was incumbent upon any Applicant to do so.

1.14 It is in this regard also to be noted, therefore, that the AC stated as follows, at paragraph 16.49 of its Final Report<sup>16</sup>, in important words specifically directed to Stansted:

*"The Commission considers that there **may** be a case for reviewing the Stansted planning cap **if and when the airport moves closer to full capacity**. Its forecasts indicate that this would not occur until at least the 2030s."*

1.15 Having investigated how to make best use of the existing airport infrastructure at Stansted, the AC was therefore unequivocal: the time for considering the possible review of the current 35mppa planning cap would only come about when Stansted was closer to full capacity, and that was some way off. And there is no hint in the ANPS that the Government rejected any of the AC's recommendations. Indeed, both the ANPS and the MBU policy document, published contemporaneously with it and to which I turn next, were plainly designed to establish the policy framework to put those recommendations into effect.

The third false argument: The Application is "in accordance with" MBU policy

1.16 Completely consistent with all the above, the MBU policy document states as follows in paragraph 1.26:

*"1.26 Airports that wish to increase either the passenger or air traffic movement caps to allow them to make best use of their existing runways will need to submit applications to the relevant planning authority. ... As part of any planning application airports will need to demonstrate how they will*

---

<sup>16</sup> CD14.28a.

*mitigate against local environmental issues, taking account of relevant national policies, including any new environmental policies emerging from the Aviation Strategy. This policy statement does not prejudge the decision of those authorities who will be required to give proper consideration to such applications. It instead leaves it up to local, rather than national government, to consider each case on its merits.”*

1.17 Like the ANPS, therefore, the MBU policy document made it quite clear that:

- i. Where, prompted by the encouragement within that MBU policy document, an airport wished to increase the passenger movement cap by less than 10mppa, it needed to make a planning application to the Local Planning Authority; and
- ii. Where such an application was made, the MBU policy statement did not prejudge the decision of those Authorities but left it entirely to them (or Inspectors on appeal) to consider each case on its merits, taking account of relevant national policies, including any new environmental policies emerging from the Aviation Strategy.

1.18 It is against that backcloth that the Ministerial Submission to the Secretary of State for Transport<sup>17</sup> states as follows, in a passage upon which the Appellant relies:

*“27. STN’s application is focused on making best use of the existing airport capacity and the proposed development is not of the scale or significance of projects considered for the long term by the independent Airports Commission. Further, Government recently announced its support of airports beyond Heathrow making best use of their existing runways, including those in the South East, subject to environmental issues being addressed. **Government included this policy in the Airports NPS, referencing the Airports Commission’s findings on more intensive use of existing airports.***

*28. [S]TN’s application therefore is **in line with** Government policy on airports making best use of their existing capacity in the South East.”*

1.19 That does not mean, however, that the Government has concluded the application is to be permitted. Both the MBU policy document and the ANPS make it quite clear that these are decisions for the Local Planning Authority to make (and Inspectors on appeal). All that the

above passages can therefore mean, both in line with and as required by the MBU policy, is that the application was properly made to the Local Planning Authority which was vested with the statutory duty to address all of the environmental issues to which it gave rise. That is the responsibility which now falls to you.

The fourth false argument: Long-term v short-term projections

1.20 In SSE's submission, when addressing the critical issue of need, it is the Government's own and independent long-term forecasts<sup>18</sup> which are to be preferred to the Appellant's forecasts. That is made quite clear as early as paragraph 1 of the Introduction to the Executive Summary to the Government forecasts, which states in terms that:

- i. The forecasts are a "*long-term strategic look*" at UK aviation; and
- ii. They are to be used to serve four main purposes, the second of which is "*informing decisions around the need and location of airport expansion*".

1.21 In other words, they are to be used to inform decisions such as the one facing this Inquiry; and they are so, not only because they address need directly and objectively, but precisely because they are long-term, the reasons for which are fully explained in Ms Bishop's Witness Statement in related High Court proceedings<sup>19</sup> to which I shall return later in these Closing Submissions. And on any view, we are here concerned with the long-term: up to 2032 or 2034, when the Appellant optimistically<sup>20</sup> projects that Stansted might reach 43mppa; and up to 2050 and later, where the Government projections extend to, and when the Net Zero duty must be met.

The fifth false argument: Growth elsewhere can be ignored

1.22 The October 2017 Government forecasts to which I have just been referring are not the latest Government forecasts, however, and they do not take any account of the growth which will be generated by the MBU policy. That is why we need to look at the most up-to-date forecasts, those published in the MBU policy document itself, at Tables 1 and 2<sup>21</sup>, when two further scenarios were added eight months later. Importantly, these are ***the only long-term forecasts before this Inquiry which take into account the Government's MBU policy*** and therefore project the assessed potential for growth at all airports other than Heathrow, which is precisely what the MBU policy was intended to secure. And, as

---

<sup>17</sup> CD23.17.

<sup>18</sup> CD14.14.

<sup>19</sup> CD17.65.

<sup>20</sup> The most recent industry outlook (INQ037) is that UK aviation will not return to pre-pandemic (2019) levels until at least 2025 - two years later than the expectation set out in the ESA (CD7.2, para 2.4.9).

<sup>21</sup> CD14.2.

we will come on to, they demonstrate beyond any doubt whatsoever that there is no need for the capacity at Stansted to be increased for a very considerable time.

- 1.23 Moving on, beyond the five false Appellant arguments, I need briefly to address one other important issue: Net Zero, the extant statutory duty to reduce net greenhouse gas (GHG) emissions by 100% by 2050 when compared to a 1990 baseline.

### **Net Zero**

- 1.24 This Inquiry began just weeks after the Climate Change Committee (CCC) published its Report on the Sixth Carbon Budget (6CB)<sup>22</sup>, the first carbon budget after the enactment of the Net Zero target<sup>23</sup>, giving the Government its recommendations as to how to deal with aviation as it endeavours to meet that binding statutory duty.

- 1.25 In its 6CB Report, the CCC recommends that passenger numbers will need to be constrained to 365mppa in 2050 if the Net Zero duty is to be complied with. However, as the CCC noted, UK airport capacity is already "at least 370mppa"<sup>24</sup>. Moreover, there are proposals in the pipeline, including the appeal proposals before this Inquiry, to increase this to more than 500mppa<sup>25</sup>. It is in that context that the CCC's statutory advice to Government is that there should be no further expansion of any UK airport capacity unless balanced by a capacity reduction elsewhere<sup>26</sup>, concluding as follows in Table P8.1, its Summary of Policy Recommendations<sup>27</sup>:

*"There should be no net expansion of UK airport capacity unless the sector is on track to sufficiently outperform its net emissions trajectory and can accommodate the additional demand."*

- 1.26 This is not, then, a prematurity point in the terms envisaged by paragraphs 49 and 50 of the NPPF 2019<sup>28</sup>, which are concerned with prematurity arising in relation to an emerging Local Plan. However, the NPPF advice<sup>29</sup> can quite properly be extended, by analogy, beyond the making of a new Plan and to the publication of the imminently anticipated decarbonisation strategy. But that does not do justice to SSE's point in this case which

---

<sup>22</sup> CD17.75.

<sup>23</sup> To reduce net GHG emissions by 100% by 2050 when compared to a 1990 baseline.

<sup>24</sup> CD17.78, p.11 under 'Demand Growth' bullet point.

<sup>25</sup> SSE/7/3.

<sup>26</sup> CD17.77, p.170.

<sup>27</sup> CD17.78, Table P8.1.

<sup>28</sup> CD14.6.

<sup>29</sup> That prematurity can justify a refusal of planning permission where the development would undermine the "Plan-making process", by predetermining decisions about the scale and location of new development that are central to an emerging Plan.

has far greater reach than prematurity *per se* and is both a substantive one and vitally important.

1.27 In particular:

- i. The applicable policy regime for aviation mandates that, as we transition towards the Net Zero world, proposals to expand capacity at Stansted should not be considered until it is clear that such expansion is needed.
- ii. As we shall come on to, that will not arise at Stansted until it is approaching the current 35mppa cap, which the DfT projects may not be until around the late 2040s. Furthermore, on the Appellant's own case it will be around 4 years later in the light of the Covid-19 pandemic, in other words around 2050, the date by which the Net Zero duty must be met.
- iii. In the meantime, the latest advice from the CCC, the statutory body vested with the duty to make recommendations on the imminent Decarbonisation Strategy, is that no proposals to expand aviation should be approved unless it can be demonstrated both that those proposals would not have a material impact on the ability of the Government to meet the Net Zero target and that the aviation sector is demonstrably on track to outperform its net emissions trajectory.
- iv. That advice is, of course, directed principally to the Government, but it is also addressed to the Panel as it makes the first Inquiry decision on an aviation proposal since the publication of the 6CB Report - it is, quite obviously, a mandatory consideration which you must take into account and give considerable weight.

1.28 I will develop all of these points in this Closing, and will weigh the more traditional planning balance of harm against benefit also. However, I will set the scene by looking, first, at the local context; after which I shall revisit the applicable policy frameworks in more detail; and only then shall I assess the evidence before this Inquiry in respect of all the planning harms and asserted benefits, before coming to my overall conclusions<sup>30</sup>.

---

<sup>30</sup> [2020] UKSC 52, at [10]; [98]

## 2. LOCAL CONTEXT

2.1 As I made clear in Opening, when Inspector Eyre rejected a second runway at Stansted in the 1980s<sup>31</sup> he was rejecting an airport capable of handling 50mppa because 25mppa was then assumed to be the maximum capacity of one runway. Moreover, he did so expressly<sup>32</sup>:

*"A major ... airport with an ultimate capacity of up to 50mppa should never be developed at Stansted and whether such a project represents a commitment, a proposal, a probability or a mere possibility there is no justification for pursuing it."*

2.2 And as I also stated in Opening, the terms in which Inspector Eyre dismissed a 50mppa airport at Stansted could hardly have been more emphatic. He wrote feelingly of a major environmental and visual disaster, concluding that "*such a monster cannot and must not be inflicted on this precious landscape*"<sup>33</sup>. It would be "*an unprecedented and grotesque invasion of a large area of pleasant countryside*"<sup>34</sup> and "*wholly unacceptable*"<sup>35</sup>.

2.3 Given that these emphatic warnings against allowing the passenger throughput at Stansted to grow to 50mppa were made against the backcloth of Inspector Eyre's appreciation of the "*precious landscape*" and "*pleasant countryside*" in which the airport is located, SSE called Mr McDonald, the principal author and photographer of '*The Hundred Parishes: An Introduction*'<sup>36</sup> as our first witness, to set the scene and describe the distinctive character of the wider area affected by the proposals.

2.4 Mr McDonald's presentation, given almost two months ago, introduced us to some of the exceptional depth of heritage that distinguishes this part of Essex and Hertfordshire. The photographic tour included just some of the area's villages, churches and houses. Most of the photos were of Conservation Areas and Listed Buildings. There is little wonder in that. Uttlesford has 33 Conservation Areas and more Listed Buildings that pre-date 1700AD than any other District in England.

2.5 In his cross-examination of Mr McDonald, Mr Hill QC sought to identify certain Parishes that had not made any representation to this Inquiry. Mr McDonald's reply suggested that

---

<sup>31</sup> CD14.22.

<sup>32</sup> Ibid, Ch.50, para 6.41

<sup>33</sup> Ibid, para 6.17.

<sup>34</sup> Ibid, Ch.28, para 2.29.

<sup>35</sup> Ibid.

<sup>36</sup> CD23.14.

many Councils looked to SSE to represent them. Subsequently, Dr Mott provided the Inquiry with a list<sup>37</sup> of the 24 Parishes visited during Mr McDonald's slideshow, noting that 15 had submitted representations and 9 had not. Dr Mott's note lists a total of 54 Parish Councils who submitted representations. All opposed the appeal proposals; none offered support.

- 2.6 In his Proof of Evidence, Mr McDonald described the area's ancient and more modern history. Part of the airport covers sites of Neolithic, Iron Age and Roman settlements. The Roman highway, Stane Street, runs from East to West just south of the airport and passes through the village of Takeley. It is now designated as the B1256. Immediately to the South of Stane Street is Hatfield Forest, the last surviving medieval hunting forest in Europe. It is now owned by the National Trust and is a Site of Special Scientific Interest and popular open-air destination for local people.
- 2.7 This area has been home to many who have contributed to England's heritage. Amongst them were three of the barons who convinced King John to agree to the Magna Carta in 1215, writers Charles Lamb and HG Wells, sculptor Henry Moore, composer Gustav Holst, and the Bardfield artists including Eric Ravilious and Edward Bawden. It is a rural area with many small and discrete communities, never far apart, and just a few small towns. It is a fertile farming area, rich in wildlife.
- 2.8 The area defined by STAL as "*the area of benefit*" has a population of around 250,000. Of these 80,000 live in Harlow and 40,000 in Bishop's Stortford, with the remaining 130,000 spread across a hundred Parishes. The area's history and culture are celebrated in several outstanding museums and galleries, while a great variety of pubs and tea rooms cater for those who choose to explore the winding lanes and extensive footpath network.
- 2.9 During your site view you will have driven around part of the area that will be impacted by the appeal proposals, following a route with a commentary agreed between the parties. I hope you were able to take your time and delight in the area; and start to get a feel for its character – a character that contrasts sharply in almost every respect with what is to be found inside the airport perimeter.
- 2.10 You will have had an opportunity to experience the tranquillity that the residents and custodians of this historic area have again been enjoying during the pandemic. People have been hearing the birds again, and in the summer the sounds of bees and insects, as well as remarking upon cleaner and clearer air. Their short-lived peace will undoubtedly be

---

<sup>37</sup> IPW2a.

shattered once airport operations are allowed to resume - the skies will become busy with planes and vapour trails, and the roads will revert to pre-pandemic congestion. Those residents and custodians look to you to ensure that the downsides of Stansted Airport's presence and activities go no further than has already been approved.

- 2.11 This is the area which Graham Eyre so admired and in which Stansted Airport sits, a former military airfield which was designated as London's third airport towards the end of the 20th century, bringing with it a spate of house building, ostensibly to house the airport's workers. In reality, however, most of the jobs at the airport were too low paid to permit workers to live locally and the majority of the airport's staff commute, travelling from as far afield as London, Bury St Edmunds and Colchester, all to work at the "*airport in the countryside*".

### **3. PLANNING APPROACH**

- 3.1 You will be aware, of course, that by sections 70(2) and 79(4) of the Town and Country Planning Act 1990, and section 38(6) of the Planning and Compulsory Purchase Act 2004, applications for planning permission and appeals must be determined in accordance with the Development Plan unless material considerations indicate otherwise.

#### **The Development Plan**

- 3.2 Alongside three Neighbourhood Plans<sup>38</sup>, the Development Plan currently comprises the Uttlesford Local Plan (ULP)<sup>39</sup>, adopted in January 2005. The ULP is notably old, therefore, Uttlesford District Council (UDC) having twice failed to replace it since its adoption in January 2005, seven years before even the first iteration of the NPPF was published. This factor alone diminishes the weight to be attached to its policies insofar as they have been superseded by policy statements that have been made thereafter<sup>40</sup>. It also renders more weight to the other material considerations which supersede the ULP.

#### **Other Material Considerations**

- 3.3 As for these other material considerations, there is no dispute that they include:
- i. The national planning policies set out in the NPPF.

---

<sup>38</sup> Great Dunmow NP (CD14.53); Thaxted NP (CD14.72); and Felsted NP (CD.14.52).

<sup>39</sup> CD14.9.

<sup>40</sup> *Peel Investments (North) Ltd v Secretary of State for Housing, Communities And Local Government & Anor* [2020] EWCA Civ 1175.

- ii. The national aviation policies contained within the Aviation Policy Framework<sup>41</sup> (APF), published in 2013; and the MBU policy document<sup>42</sup> and ANPS<sup>43</sup>, both published in 2018, the latter recently declared lawful by the Supreme Court<sup>44</sup>.
- iii. The international and national policies for dealing with climate change, current and emerging, culminating in the CCC's 6CB Report and its up-to-date advice to Government on how to approach aviation as we transition to Net Zero<sup>45</sup>.

3.4 I deal with NPPF in the following section of these Closing submissions; aviation policy in the section thereafter; and with climate change policies in the section after that.

3.5 However, in SSE's respectful submission, the material considerations also include certain parts of the latest UDC attempt to replace the ULP, its Regulation 19 Pre-submission Emerging Local Plan (ELP)<sup>46</sup>, in particular, Objective 2c which supports the development of Stansted Airport by "*Utilising the **permitted** capacity of the existing runway*"<sup>47</sup> and Policy SP11 which sought to give effect to that objective.

3.6 SSE acknowledges, of course, that insofar as the ELP has been withdrawn, the usual position would be to attach minimal, if any, weight to its policies. However, in this particular case, the ELP policy framework specifically relating to the development of Stansted Airport should be accorded at least some weight, having secured the clearest possible mandate from UDC and having also been the subject of exhaustive, independent, scrutiny without criticism from those who examined it: the reasons for the withdrawal of the ELP only concerned its spatial strategy, the highly controversial proposal for three new Garden Communities; the examining Inspectors' Post-Hearings' letter<sup>48</sup> expressed no concerns, or criticisms, about the ELP policies towards Stansted Airport.

3.7 These elements of the ELP therefore remain contextually relevant to the current appeal. They include ELP Objective 2c and Policy SP11, which continues to be the clearest and most up-to-date available statement by UDC towards Stansted Airport and requires that all

---

<sup>41</sup> CD14.1.

<sup>42</sup> CD14.2.

<sup>43</sup> CD14.3.

<sup>44</sup> CD14.74.

<sup>45</sup> CD17.75.

<sup>46</sup> CD14.57.

<sup>47</sup> *Ibid*, p.14.

<sup>48</sup> CD23.48.

its criteria need to be satisfied. Several of them, however, are breached by these appeal proposals, as Mr Arnott's written evidence details<sup>49</sup>.

- 3.8 It should also be noted that ELP Objective 2c, supporting the development of Stansted Airport to its full **permitted** capacity, is reflected in the East Herts District Plan, adopted in December 2018, and the Vision for the London Stansted Cambridge Corridor (LSCC) which has been jointly agreed by the five Local Authorities in the LSCC core area, namely, Broxbourne, East Herts, Harlow, Epping Forest, Uttlesford<sup>50</sup>.

## **PART TWO: NATIONAL POLICY**

### **4. NATIONAL PLANNING POLICY FRAMEWORK**

- 4.1 So far as the wider planning context is concerned, the NPPF remains fundamental to decision-making about major developments. Paragraphs 7-12 establish the presumption in favour of sustainable development, looking to meet the needs of the present without compromising the ability of future generations to meet their own needs, centred around the three objectives, or pillars, of sustainable development: economic; social and environmental.
- 4.2 More specifically to aviation, however, whilst the applicable NPPF at the time of submission of the appeal proposals was the 2012 edition and the Appellant's Planning Statement quotes from paragraphs 31 and 33<sup>51</sup>, that version of the NPPF was updated in February 2019, and in the latest version airport policies are limited. Paragraphs 104(e) and 104(f) of the 2019 NPPF, which supersede paragraphs 31 and 33 of the 2012 NPPF version, make hardly any direct reference to airports.
- 4.3 The absence of specific guidance on airports policy in the 2019 NPPF reflects the fact that, as the Supreme Court noted in the *Heathrow* case<sup>52</sup>, we now have the APF (2013), the ANPS (2018) and the MBU policy (2018). Taken together, these three policy documents provide an extensive national policy framework, bespoke to aviation, to assist decision-makers when considering airport development proposals and which, according to paragraph 5 of the NPPF, may be material considerations in the determination of relevant planning applications. It is to that bespoke framework that I now turn.

---

<sup>49</sup> SSE/11/2.

<sup>50</sup> CD14.10, para 2.6.5.

<sup>51</sup> CD2.3, paras 5.45 and 5.46.

<sup>52</sup> CD14.74 at 20-21.

## 5. AVIATION POLICY

### Background

- 5.1 The APF<sup>53</sup>, which replaced the 2003 'Future of Air Transport White Paper' (ATWP)<sup>54</sup>, is currently under review, with a new White Paper in the pipeline<sup>55</sup>. Notably, however, both of these policy documents advocated making best use of existing runways in terms I will come onto.
- 5.2 Pending finalisation of the new Aviation White Paper, in June 2018, the DfT published both the ANPS<sup>56</sup> and the interim MBU policy document ('Beyond the Horizon – The future of UK Aviation – Making best use of existing runways')<sup>57</sup>, both of which (based on the work of the AC) also espouse an MBU policy, albeit in less trenchant terms than the two aviation White Papers which preceded it.
- 5.3 I comment more extensively on the MBU policy document later, having first reviewed the work of the AC and the content of the ANPS.

### Airports Commission

- 5.4 The Government established the independent AC in 2012 *inter alia* to consider how the UK could "*maintain its status as an international hub for aviation and immediate actions to improve the use of existing runway capacity in the next 5 years*"<sup>58</sup>. The AC's Interim Report (December 2013)<sup>59</sup> ruled out the option of an additional runway at Stansted; and the AC's Final Report (July 2015)<sup>60</sup> recommended that Heathrow should have a third runway. In relation to further expansion on the existing Stansted runway the AC said as follows, as identified in my introductory remarks<sup>61</sup>:

*"The Commission considers that there may be a case for reviewing the Stansted planning cap **if and when** the airport moves closer to full capacity. Its forecasts indicate that this would not occur until at least the 2030s ..."*

- 5.5 Whilst the AC's recommendations do not constitute Government policy, the DfT has adopted the AC recommendations as the basis for two important aviation policy

---

<sup>53</sup> CD14.1.

<sup>54</sup> CD14.24.

<sup>55</sup> Initially intended to be published by the end of 2018, but now expected towards the end of 2021.

<sup>56</sup> CD14.3.

<sup>57</sup> CD14.2.

<sup>58</sup> CD14.29, para 1.2.

<sup>59</sup> CD14.29.

<sup>60</sup> CD14.28a.

documents, published simultaneously on 5<sup>th</sup> June 2018, namely the ANPS<sup>62</sup>, which relates almost exclusively to the development of a third runway at Heathrow; and the complementary MBU policy document<sup>63</sup>, which provides a development policy framework for all other UK airports.

### **The Airports National Policy Statement**

- 5.6 As already noted, the ANPS has recently been declared to be entirely lawful by the Supreme Court<sup>64</sup>. Full weight can therefore be attributed to it - not the least because, as a National Policy Statement, there was a requirement to obtain Parliamentary approval and when the Secretary of State presented the ANPS to the House of Commons on 25<sup>th</sup> June 2018 it was approved by 415 votes to 119, a majority of 296.
- 5.7 Furthermore, whilst the ANPS almost exclusively relates to Heathrow, as again noted in my introductory remarks, it is also relevant to these appeal proposals, expressly stating as much in paragraphs 1.39 - 1.42 (with apologies for repetition):

*“1.39 ... the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts.*

...

*1.41 The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest Runway... Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England. Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need.*

---

<sup>61</sup> Ibid, para 16.49.

<sup>62</sup> CD14.3.

<sup>63</sup> CD14.2.

1.42 As indicated in paragraph 1.39 above, airports wishing to make more intensive use of existing runways will still need to submit an application for planning permission or development consent to the relevant authority, which should be judged on the application's individual merits. **However, in light of the findings of the Airports Commission on the need for more intensive use of existing infrastructure as described at paragraph 1.6 above, the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow...**"

5.8 I do not repeat the submissions already made with regard to the correct interpretation of these paragraphs in the ANPS. Suffice it to say that they require the Appellant to demonstrate the need for the increase in aviation capacity proposed, which is plainly an important material consideration that this Inquiry must address.

5.9 Also, of key importance, is paragraph 5.82 of the ANPS which states that, whilst an increase in carbon emissions alone is not a reason to refuse any given proposed expansion of aviation, refusal should follow if the increase in emissions resulting from the project is so significant that it:

*"... would have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets".*

5.10 We know, then, that any material impact on the Government's ability to meet the Net Zero target can result in a refusal of planning permission; indeed, the Supreme Court referred to paragraph 5.82 of the ANPS in the **Heathrow** case<sup>65</sup> no less than four times, when deciding as it did<sup>66</sup>.

5.11 We will come on, in Section 6 below, to the way in which the CCC now recommends this advice is to be applied in its 6CB Report<sup>67</sup>.

### **The Making Best Use Policy Document**

5.12 The June 2018 MBU policy document<sup>68</sup> was published on the same day as the ANPS. Paragraphs 1.26 and 1.29 summarise the general approach there espoused, as follows:

---

<sup>64</sup> CD14.74.

<sup>65</sup> CD14.74.

<sup>66</sup> *Ibid.* at [87], [98], [124] and [132].

<sup>67</sup> CD17.75.

*"1.26 Airports that wish to increase either the passenger or air traffic movement caps to allow them to make best use of their existing runways will need to submit applications to the relevant planning authority. ... As part of any planning application airports will need to demonstrate how they will mitigate against local environmental issues, taking account of **relevant national policies, including any new environmental policies emerging from the Aviation Strategy**. This policy statement does not prejudge the decision of those authorities who will be required to give proper consideration to such applications. It instead leaves it up to local, rather than national Government, to consider each case on its merits.*

...

*1.29 The Government ... **recognise that the development of airports can have negative as well as positive local impacts, including on noise levels. We therefore consider that any proposals should be judged by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts and proposed mitigations.**"*

5.13 Paragraph 1.29 of the MBU policy document directly reflects, therefore, the same message in paragraph 1.39 of the ANPS<sup>69</sup>.

5.14 Put shortly, there are important qualifications attached to the MBU policy in both the MBU policy itself and the ANPS also; and neither provide a policy mandate for the appeal proposals. Rather, and as submitted in Opening, it is clear that need must be demonstrated; and there is a recognition too that although there are potential benefits which might arise from the expansion of aviation capacity, there are also inherent environmental and amenity harms which have to be carefully weighed and balanced – adverse impacts on noise and air quality; health and well-being; additional strains on infrastructure in terms of surface access, road and rail; and, perhaps most important of all, adverse impacts on the Government's ability to meet its statutory duties with regard to carbon emissions and climate change as we transition into the Net Zero world.

5.15 It is to that latter issue which I now turn.

---

<sup>68</sup> CD14.2.

<sup>69</sup> CD14.3.

## 6. CLIMATE CHANGE POLICY

### The Climate Change Act 2008

- 6.1 When first enacted, the Climate Change Act 2008 (CCA) committed the UK to reducing its net GHG emissions by 80% by 2050 when compared to a 1990 baseline. The CCA also committed the UK Government to set, and meet, a series of five-yearly 'carbon budgets' that operate as milestones towards the 2050 target.
- 6.2 Emissions from domestic aviation are included in the UK's carbon budgets, but these are only about 5%-6% of total UK aviation emissions. The remainder, emissions from international flights, are currently excluded. However, the CCA states that these emissions need to be taken into account when setting carbon budgets and the CCC has recommended that they be set as if international aviation were included within the 2050 target. Accordingly, the UK's carbon budgets have been set at a level that leaves headroom for projected future emissions from international aviation (and shipping).
- 6.3 In 2009, the CCC was asked by the Secretary of State for Transport to make recommendations for ensuring that UK aviation emissions are below 2005 levels by 2050; that translated into a cap of 37.5 million tonnes ('Mt') of CO<sub>2</sub>. In June 2019, however, the CCA was amended to set a legally binding target of 'Net Zero' UK GHG emissions by 2050, compared to the previous target of an 80% reduction. Since the cap of 37.5MtCO<sub>2</sub> was calibrated to the 80% reduction, the Net Zero duty implies that the level of emissions will need to reduce yet further, and that this will need to be achieved in ways upon which the CCC has given very recent advice and recommendations in the 6CB Report. I return to that in Section 14 below.
- 6.4 Before addressing these more recent events in the evolution of the emerging decarbonisation strategy, however, it will be helpful to set the scene a little by looking at the international and domestic evolution of climate change policy.

### Paris Agreement

- 6.5 In December 2015, the parties to the United Nations Framework Convention on Climate Change (UNFCCC) concluded the Paris Agreement<sup>70</sup>, the first comprehensive global treaty to set temperature-based targets for global warming:

---

<sup>70</sup> CD17.89.

- i. **Article 2** of the Agreement commits the Parties, collectively, to hold global temperature increases to "*well below 2°C*" above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C.
- ii. **Article 4(1)** contains commitments for global emissions to peak as soon as possible and decline rapidly thereafter to reach Net Zero in the second half of the century.
- iii. **Article 4(2)** requires each Party to prepare a 'Nationally Determined Contribution' (NDC) to achieve these goals.
- iv. **Article 4(3)** requires successive NDCs to reflect each Party's "*highest possible ambition*".

6.6 As explained in the evidence of the Aviation Environment Federation to the Inquiry<sup>71</sup>, the European Union (EU) has included international aviation in its NDC, so it is clearly not the case that it is excluded from the Paris Agreement. Rather, the parties have a choice whether or not to include it within their NDCs.

6.7 Indeed, the very fact that the Paris Agreement sets temperature goals in itself implies that all sectors must be included within the scope of the Parties' efforts to reduce emissions. It would not make any sense to leave out important sectors. Furthermore, the fact of temperature goals being set also implies that all sources of warming, including aviation's non-CO<sub>2</sub> effects, should be included within mitigation efforts.

### **IPCC Report**

6.8 At the same time as concluding the Paris Agreement, the Parties to the UNFCCC invited the Inter-Governmental Panel on Climate Change (IPCC) to prepare a report on global warming; and their 'Special Report on Global Warming'<sup>72</sup>, published in October 2018, identified the very serious risks associated with global warming of 2°C, as opposed to 1.5°C<sup>73</sup>, with all of which the Appellant has no issue: increased risks from droughts and floods<sup>74</sup>; greater impacts on biodiversity and ecosystems<sup>75</sup>; greater risk of heat-related morbidity and mortality<sup>76</sup>; net reductions in cereal crops, particularly in developing regions of the world<sup>77</sup>, some of which would not have the capacity to adapt<sup>78</sup>.

---

<sup>71</sup> IPT1.

<sup>72</sup> CD17.50.

<sup>73</sup> Ibid, para A.

<sup>74</sup> Ibid, para B.1.3.

<sup>75</sup> Ibid, paras B.3-B.4.

<sup>76</sup> Ibid, para B.5.2.

<sup>77</sup> Ibid, para B.5.3.

<sup>78</sup> Ibid, paras B.6.2 - 6.3.

## **CORSIA**

6.9 The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) is a carbon offset and carbon reduction scheme to lower CO<sub>2</sub> emissions for international flights, to curb aviation's impact on climate change. It was developed by the International Civil Aviation Organization (ICAO) and adopted in October 2016, and the goal is to have carbon neutral growth from 2020. CORSIA requires aircraft operators to purchase credits from the carbon market to offset any growth in CO<sub>2</sub> emissions above 2019 levels. Starting in 2021, the scheme is voluntary for all countries until 2027.

## **UK Government Response: The Net Zero Target**

6.10 Following publication of the 2018 IPCC Report, the Government asked the CCC to advise on whether the UK's 2050 target under the CCA should be amended. In addition, the Aviation Strategy Green Paper, published in December 2018<sup>79</sup>, included the requirement for<sup>80</sup>:

*“... planning applications for capacity growth to provide a full assessment of emissions, drawing on all feasible, cost-effective measures to limit their climate impact, and demonstrating that their project will not have a material impact on the Government's ability to meet its carbon reduction targets”.*

6.11 In response to the Government's request for advice, in May 2019 the CCC issued 'Net Zero – The UK's contribution to stopping global warming'<sup>81</sup> (the Net Zero Report), recommending that the Net Zero target be set, and stating that:

- i. The Net Zero target should cover all GHGs, not just CO<sub>2</sub>, and all sectors, including international aviation<sup>82</sup>.
- ii. The emissions cap in CORSIA, which has been developed over many years by ICAO, was not compatible with achieving Net Zero and the ICAO should set a long-term objective for aviation emissions consistent with the Paris Agreement and align CORSIA to it<sup>83</sup> (for which see paragraphs 6.18 to 6.30 below).

---

<sup>79</sup> CD14.27.

<sup>80</sup> Ibid, para 3.96.

<sup>81</sup> CD17.26.

<sup>82</sup> Ibid, p.45, Box 1.2.

<sup>83</sup> Ibid, p.116.

- iii. A fully zero-emission plane was not anticipated to be available by 2050, particularly for long-haul flights<sup>84</sup>.
- iv. Measures should be taken to manage growth in demand, which could include policies to manage airport capacity<sup>85</sup>.
- v. Action was needed on non-CO<sub>2</sub> effects from aviation and demand-side measures were one way to achieve this<sup>86</sup>.
- vi. The CCA allowed for emissions from international aviation to be included in carbon budgets in future years and recommends their inclusion in the 6CB from 2033<sup>87</sup>.

6.12 Acting on the advice from the CCC, and as stated in paragraph 6.3 above, in June 2019 the Government amended the CCA to a target of Net Zero for UK GHG emissions by 2050<sup>88</sup>.

6.13 One year later, in June 2020, the CCC published its 'Progress Report to Parliament'<sup>89</sup>, highlighting that the existing fifth carbon budget (5CB), covering 2028-2032, had been set when the 2050 target was still 80%, not with a view to getting to Net Zero, and since the UK was off track to meet even that budget a tighter regime was needed. It was in these circumstances, and as a foretaste of what was to come in its statutory advice and recommendations on the 6CB covering the period 2033-2037, that the CCC's recommendations included as follows with regard to aviation itself:

- i. International emissions needed to be formally included in the carbon budgets<sup>90</sup>.
- ii. Non-CO<sub>2</sub> effects needed to be monitored and consideration given to the most appropriate way to tackle them alongside UK climate targets<sup>91</sup>.
- iii. A review should be carried out of the UK's airport capacity<sup>92</sup>.

---

<sup>84</sup> Ibid, p.148.

<sup>85</sup> Ibid, p.206.

<sup>86</sup> Ibid.

<sup>87</sup> Ibid, p.263.

<sup>88</sup> CD17.24.

<sup>89</sup> CD17.29.

<sup>90</sup> Ibid, p.38.

<sup>91</sup> Ibid.

<sup>92</sup> Ibid.

- iv. Demand management policies needed to be put in place to ensure that emissions were aligned with a Net Zero emissions pathway<sup>93</sup>, something to which I will return shortly in the light of more recent history - the CCC's advice and recommendations for the 6CB.

6.14 The Government's response to that Progress Report is at CD17.64, at pages 105-106. You will see, there, recognition of the need both to strengthen the ICAO response and for a contingency measure in case international progress does not go far enough or fast enough: the Government would be "*minded to include international aviation and shipping emissions in carbon budgets if there is insufficient progress at an international level*".

6.15 In the meantime, whilst we are still waiting for a consultation on the updated strategy, the numerical aspects of MBU policy are out-of-date. It aims at an 80% reduction and we now have a legally binding obligation for a 100% reduction. That is the headline point. And the key issue for this Inquiry is what to do about aviation emissions in this interim period when we are waiting for an updated Government policy. It was in that context that Mr Lockley expressed the following views, ones which he is eminently qualified to express:

- i. The MBU policy was flexible enough to be adapted to the circumstances that we find ourselves in because it states the need to keep growth within environmental limits and respect environmental obligations, including climate obligations.
- ii. The Supreme Court's judgment in the **Heathrow** case made it clear that applications for airport expansion have to be judged against current climate targets – meaning the Net Zero target.
- iii. Whilst we do not yet have any Government policy statement as to how we get to Net Zero aviation, we do have the latest statutory advice and recommendations from the CCC on precisely that critical issue – in its 6CB Report, published on 9 December 2020.

### **Non-Carbon Emissions**

6.16 Before turning to the 6CB, however, it is necessary to spend just a little time on non-carbon emissions, a matter covered by Mr Lockley in Section 3 of SSE's Main Proof of Evidence on climate change (SSE/7/2). The main non-CO<sub>2</sub> effects from aircraft include effects of oxides of nitrogen when they are emitted at high altitude; complex chemical

---

<sup>93</sup> Ibid, p.58.

reactions that have a net warming effect; the effect of direct emissions of water vapour; and, importantly, the warming effect of contrails, which are not emitted by planes but triggered when an airplane flies through an area of the atmosphere with a particular degree of ice super-saturation and can also trigger secondary effects on cirrus clouds.

6.17 Although there is uncertainty about the magnitude of these individual effects, and uncertainty about the best way of measuring their impact relative to the carbon impact of aviation, that uncertainty should not obscure what we do know and what we can be confident about concerning non-CO<sub>2</sub> effects, which is that they are a serious problem arising from aviation activity. This is not new; we have known this for twenty years. To address this issue, a variety of alternative metrics have been proposed. The critical point, however, is that this is a serious problem that doubles/triples the overall warming effect of aviation activity and needs to be tackled, which is precisely what the CCC now says should be done, amongst other matters, in its latest advice and recommendations on the 6CB, to which I will shortly turn.

### **CORSIA Revisited**

6.18 There are several points that fall to be made with regard to CORSIA in order to complete the context in which to understand relevant aspects of the CCC's 6CB Report:

- i. First, and most important, is the end date of CORSIA. It finishes in 2035. We simply do not know what happens after that, what is going to happen with an aviation market-based measure post-2035, nor will we for some time yet.
- ii. Second, is the inadequacy of the overall goal, the headline target. As originally envisaged, that was going to be offsetting growth above 2019 to 2020 levels, which is not in line with the Paris Agreement and does not even pretend to be. And it is not in line with Net Zero by 2050 either. It is, quite simply, a completely inadequate overall level of ambition, set to allow the aviation industry to keep growing, and to offset that growth by buying offsets in the international market.
- iii. Third, is the fact that, for obvious reasons, 2020 emissions did not pan out how the industry expected them to. They dropped off a cliff. The industry hastily rearranged the baseline level for CORSIA so that it is not an average of 2019 to 2020 levels, which would be something of a challenging target, but now just 2019 levels. But what that implies, given that everyone expects aviation activity to recover gradually from the pandemic, is that the CORSIA scheme will provide a

completely free ride in its early years: requiring only that airlines offset above a baseline to which we will not return for some years.

- iv. Fourth, is the whole notion of offsetting. Aviation carbon in the atmosphere immediately causes warming, which means we need to drive down emissions fast and deep. A tree that is going to compensate for them in sixty years is not really helping the problem. And many of the offsets available to purchase in the market are not genuinely additional; that is, they are generated by projects that would have happened anyway, or even that happened some time ago. In addition, over-reliance on future negative emissions technologies needs to be avoided when considering the future growth of aviation. It is all very well to look at speculative papers that say these technologies will be available at a grand scale to cut emissions, but these technologies are in their infancy.
- v. And the fifth major concern over the robustness of the CORSIA scheme is to do with the fuels that can be used to cost them - CORSIA rules draw in a very wide definition of what a sustainable aviation fuel actually is, and some have quite limited benefits in terms of reducing CO<sub>2</sub> emissions.
- vi. Finally, CORSIA does not address aviation's non-CO<sub>2</sub> effects.

6.19 The CCC has long expressed great concern about CORSIA for all these reasons, stating in its Net Zero report<sup>94</sup> that the scheme is not compatible with achieving Net Zero emissions.

### **The Sixth Carbon Budget**

6.20 The 6CB Report is described by the CCC as the most comprehensive advice it has ever produced<sup>95</sup> and is split into three main reports: the Main Advice Report, entitled 'The UK's Path to Net Zero'<sup>96</sup>; the 'Methodology Report'<sup>97</sup>; and the 'Policy Report'<sup>98</sup>. There are also sectoral reports', including the 'Aviation Sectoral Report'<sup>99</sup>, that collate the content relevant to each sector from the above three reports. In addition, as part of its statutory advice to

---

<sup>94</sup> CD17.26, p.116.

<sup>95</sup> CD17.75, Foreword p.5.

<sup>96</sup> CD17.75.

<sup>97</sup> CD17.79.

<sup>98</sup> CD17.77.

<sup>99</sup> CD17.78.

Government on the 6CB, the CCC published a suite of supporting research papers as well as tables containing the relevant datasets<sup>100</sup>.

- 6.21 For each sector, and for the UK economy as a whole, the CCC presents a 'Balanced Net Zero Pathway' which is informed by four underlying scenarios: 'Headwinds' (in which the sector faces significant difficulties in decarbonising); 'Widespread Engagement' (in which decarbonisation is largely behaviour driven); 'Widespread Innovation' (in which decarbonisation is largely technology driven); and 'Tailwinds' (in which both behavioural and technological change combine to achieve very deep and/or rapid decarbonisation). The Balanced Net Zero Pathway is the blend of elements from the four scenarios that the CCC considers optimal for environmental, cost or other societal reasons.
- 6.22 Mr Lockley's oral evidence focussed on Balanced Net Zero Pathway, said to be the optimum path forward looking at what is likely to be achievable from both technological change and behavioural change. In respect of aviation, the CCC anticipated that the sector would return to close to pre-pandemic demand levels by 2024. The measures in this pathway include technological changes such as more efficient aircraft, sustainable aviation fuels and operational measures; and, so far as behavioural change is concerned, demand management, capacity restrictions, and using technology for alternatives such as video conferencing, switching to other modes for shorter journeys, and the like.
- 6.23 On this Balanced Net Zero Pathway, emissions gradually decline over time to reach 23MtCO<sub>2</sub> per year by 2050 despite modest growth in demand. As identified already, this gradual reduction in emissions is predicated on not just improvements in efficiency and a modest but increasing share of sustainable aviation fuels, but also demand management. Indeed, the CCC breaks those three points down, as follows<sup>101</sup>:

***"Demand management. The Balanced Net Zero Pathway does allow for some limited growth in aviation demand over the period to 2050, but considerably less than a 'business as usual' baseline. We allow for a 25% in growth by 2050 compared to 2018 levels, whereas the baseline reflects unconstrained growth of around 65% over the same period. We assume that, unlike in the baseline, this occurs without any net increase in UK airport capacity so that any expansion is balanced by reductions in capacity elsewhere in the UK.***

---

<sup>100</sup> CD17.81.

<sup>101</sup> CD17.75, p.176.

**Efficiency improvements.** *The fuel efficiency per passenger of aviation is assumed to improve at 1.4% per annum, compared to 0.7% in the baseline. This includes 9% of total aircraft distance in 2050, being flown by hybrid electric aircraft.*

**Sustainable aviation fuels (SAF)** *contribute 25% of liquid fuel consumed in 2050, with just over two-thirds of this coming from biofuels, and the remainder from carbon-neutral synthetic jet fuel ...”*

6.24 So, in terms of changes, there is a more optimistic view now taken of potential efficiency improvements and sustainable aviation fuels since the CCC's previous assessments of the mitigation potential for aviation. However, its latest advice has to **build in assumptions about demand management** to deliver the required reduction in aviation CO<sub>2</sub> emissions, including that limited passenger growth occurs without any net increase in UK airport capacity. This means that any expansion must be balanced by reductions in capacity elsewhere in the UK.

6.25 It is very clear, therefore, that the CCC's view is that demand management is a key part of the strategy towards achieving the Balanced Net Zero Pathway. Indeed, the CCC goes on to state as follows<sup>102</sup>:

*"Our demand growth by 2050 matches Headwinds at 25%, although the passenger growth profile is more gradual due to an assumption of no net capacity expansion at UK airports in this scenario. This arises as a function of 2050 passenger numbers (365 million passengers) being within current UK airport capacities (at least 370 million passengers), and the need to ensure that the UK achieves Net Zero by 2050, with aviation still one of the largest emitting sectors. ... Airport expansion could still occur under the Balanced Pathway, but would require capacity restrictions elsewhere in the UK (i.e., effectively a reallocation of airport capacity.)"*

6.26 It is against that backcloth that the CCC has set out seven policy recommendations<sup>103</sup>, including the following five which are particularly relevant to the proposals before us.

---

<sup>102</sup> CD17.79, p.262.

<sup>103</sup> CD17.77, p.162, Table 8.1.

## **Formal Inclusion of International Aviation and Shipping (IAS) in Carbon Budgets**

6.27 The CCC's first recommendation is that it is important to include these emissions formally in the legislated budget, and it has set out bullet points as to why that is desirable. In summary<sup>104</sup>:

- i. The uncertainty over estimating aviation (and shipping) emissions is no different to other sectors in the economy.
- ii. We do have a perfectly robust and fair method for including these within carbon budgets.
- iii. It is time to include IAS emissions formally in carbon budgets and as early as possible, certainly formally within the scope of the 6CB which runs 2033-2037.
- iv. The Government's previous approach of allowing headroom for IAS emissions is not enough.

6.28 Put shortly, progress has been insufficient under this approach since 2008. As the CCC had previously opined, the ICAO objectives for emissions' reduction are less ambitious than the UK has adopted under its Net Zero target and less ambitious than required to meet the goals of the Paris Agreement. Accordingly, the 6CB Report sends a very strong signal from the CCC that the forthcoming Aviation Strategy and aviation policy will have to step up its ambition to meet Net Zero. The alternative is said not to be a credible approach.

## **ICAO and CORSIA**

6.29 Overlapping with the first recommendation above, is the second CCC recommendation<sup>105</sup> to work with ICAO to set a long-term goal for aviation consistent with the Paris Agreement, strengthen the CORSIA scheme, and align CORSIA to this long-term goal. Clearly, the CCC is cautious about reliance on ICAO, and the CORSIA processes, and we see that from the following CCC statement<sup>106</sup>:

*"In order for operation of CORSIA to be compatible with the UK's Net Zero commitment, there would need to be appropriate governance for offset credits and sustainable fuels, as well as an appropriate cap."*

---

<sup>104</sup> CD17.75, p.418-421.

<sup>105</sup> CD17.77, p.162, Table 8.1.

<sup>106</sup> CD17.75, p.425.

6.30 Indeed, the CCC advice picks up three of the concerns raised by Mr Lockley with regard to CORSIA.

### **Commitment to Net Zero**

6.31 The third CCC recommendation is to commit to a Net Zero goal for UK aviation as part of the forthcoming aviation and decarbonisation strategy, with UK international aviation reaching Net Zero emissions by 2050 at the latest, and domestic aviation potentially earlier. This follows on from the CCC recommendation that emissions should be included in carbon budgets: the CCC clearly regards it as important to set a sector-specific goal, and that is especially the case for aviation where the business-as-usual trend is for emissions to keep rising. We see that made clear in the following CCC statement<sup>107</sup>:

*"... without policy action, aviation emissions could rise significantly (as would non-CO<sub>2</sub> effects) and ... even with appropriate action, residual positive GHG emissions are very likely to remain by 2050..."*

6.32 And, importantly, the CCC says that it is not just about 2050. We need to support a 2050 sectoral target with interim targets - 2030, 2035, and 2040 – because a trajectory of that nature is necessary to inform demand management and airport capacity policies<sup>108</sup>. More specifically, ***the CCC is saying that we know we are going to have to constrain demand, so we need to have a way to keep track of how much demand is allowable.*** That is clearly sound and important advice. Given the importance of meeting climate change targets, we need to ***measure actual progress on decarbonisation*** before we give the green light to expanding the aviation sector. That cuts both ways, of course. If efficiency, or SAF, do not develop as expected, further demand management would be required. Conversely, however, if efficiency in SAF develops quicker, it may be possible for demand growth to rise above 25%, provided that additional non-CO<sub>2</sub> effects are acceptable or can be mitigated. The logic is unanswerable; and the outcomes would be entirely evidence-led.

6.33 Mr Lockley described this recommendation as both “*new and important*” in his oral evidence:

---

<sup>107</sup> CD17.77, p.168.

<sup>108</sup> Ibid.

- i. It was important because it starts from the premise that we must meet the Net Zero carbon target and work backward from there<sup>109</sup>.
- ii. It was new because the CCC no longer considers it sufficient to rely on projections about future decarbonisation, the 'jam tomorrow approach'. Rather, the CCC is advocating that aviation expansion is only allowed to the extent that we have a mechanism to measure whether the sector is on track for meeting Net Zero emissions; and only give credit for measured progress rather than mere predictions.

### **No Net Expansion**

6.34 We come, now, to the nub of the CCC recommendations, their fourth, because if we apply this climate-first approach to the question of airport expansion, we are driven to the conclusion that there should be no net airport expansion in the UK for the present time, and that is the CCC's fourth policy recommendation. The CCC's view is that we cannot say with any confidence that more than 365 million passengers per annum<sup>110</sup> will be compatible with the Net Zero target (and that is based on a forecast of mitigation potential that Mr Robinson himself says is broadly in line with the Sustainable Aviation Roadmap<sup>111</sup>). ***The problem, however, is that the current permitted capacity throughout the UK is already over that figure***<sup>112</sup>.

6.35 I have already taken you to the CCC's Sixth Carbon Budget Methodology Report (CD17.79), at page 262, where the paragraph above Box 8.1 makes this clear. We are ***already*** past the likely maximum capacity that will be allowable for UK airports by 2050. And as I said, that is based on the new, optimistic CCC forecasts for technology, sustainable aviation fuels, and the availability of greenhouse gas removals. So, if you put that together with the previous recommendation that we cannot release new capacity unless the aviation sector can show that we are on track to better those forecasts, the unavoidable truth is that we have to freeze airport capacity.

### **Non-CO<sub>2</sub> Emissions**

6.36 The fifth CCC recommendation relates to non-CO<sub>2</sub> effects, with respect to which the CCC recommendations are to monitor non-CO<sub>2</sub> effects of aviation; set a minimum goal of no

---

<sup>109</sup> Which, given the dangers and impacts from climate change set out in the IPCC report is the only reasonable approach to adopt.

<sup>110</sup> CD17.79, p.262.

<sup>111</sup> CD17.5.

<sup>112</sup> CD17.79, p.262.

further warming after 2050; research mitigation options; and consider how best to tackle non-CO<sub>2</sub> effects alongside UK climate targets without increasing CO<sub>2</sub> emissions.

- 6.37 The headline point here is that, as already touched upon, non-CO<sub>2</sub> effects are a very serious problem. Indeed, the CCC accepts the updated scientific evidence that aviation non-CO<sub>2</sub> effects could account for two-thirds of the total warming. And whilst they do not propose to include them within the Climate Change Act framework, and they do not support the idea of a multiplier either, what they do say is that those non-CO<sub>2</sub> effects can no longer be put to one side just by referring to the fact that there is some uncertainty about the precise quantification.
- 6.38 To ignore non-CO<sub>2</sub> effects would be inconsistent with the intent behind the Net Zero target (i.e., ending the UK's contribution to global warming); and inconsistent, also, with the Paris Agreement and the temperature-based goals that it espouses. Achieving those, requires addressing *all* forms of warming. Furthermore, the CCC makes it clear that, without the development of mitigation measures for these non-CO<sub>2</sub> effects, this would require year-on-year demand growth to be reduced to essentially zero by or before 2050; and that has to be seen against the backcloth that the major decarbonisation strategy which the industry is pursuing, sustainable aviation fuels, does not tackle the non-CO<sub>2</sub> effects, certainly not with the main types of sustainable aviation fuel that are being developed at the moment.

## **Conclusions**

- 6.39 We have seen already the passage in paragraph 5.82 of the ANPS in paragraph 5.9 above. The latest advice and recommendations from the CCC in its 6CB Report is to be seen in the context of that explicit part of ANPS policy. In terms, and having looked at all of the science and all of the projections and forecasts in enormous detail, the CCC has concluded that there should be no net airport expansion unless balanced by airport capacity reduction elsewhere in the UK. In other words, to allow net expansion at this time:

*“... would have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets.”*

- 6.40 That, of itself, is enough to compel the refusal of these appeal proposals. To allow the expansion of aviation at Stansted now, in advance of the Aviation and Decarbonisation Strategy, pre-empting the Government's response to the CCC's 6CB Report, and to do so on the back of 'jam tomorrow' predictions, rather than monitored and measured outcomes

as the CCC advocates, would plainly be wrong, and especially when there will be no need for Stansted to expand for many years, as I now come on to.

## **PART THREE: FORECASTS AND PROJECTIONS**

### **7. AVIATION FORECASTS**

#### **Application Forecasts**

7.1 The Stansted Sustainable Development Plan (SDP), published in 2015, projected a passenger throughput of up to 45mppa by 2030 and noted that Stansted would be capable of handling 285,000 passenger air transport movements (PATMs) in 2030<sup>113</sup>. This equates to a passenger throughput of 48.7mppa based on an average of 171 passengers per PATM, as projected by the Appellant for 2032<sup>114</sup>. In June 2017, the Appellant submitted a Scoping Report<sup>115</sup> for the proposed expansion of Stansted to 44.5mppa and 285,000 aircraft movements by 2029. In October 2017, they altered the Scoping Report<sup>116</sup> to 43mppa and 274,000 total movements by 2028 and this became the basis for the appeal proposals submitted in February 2018<sup>117</sup>.

#### **Independent Forecasts**

7.2 The DfT, in its present and previous incarnations, has been publishing air traffic forecasts for the UK since 1984. The forecasts published in October 2017<sup>118</sup> were the thirteenth set prepared by the DfT and serve four main purposes:

- i. Informing future aviation strategy and policy.
- ii. Informing decisions around the need and location of airport expansion.
- iii. Providing emissions information from international discussions.
- iv. Feeding into other departments and the wider aviation sector.

7.3 The DfT has two long-established forecasting models: the National Air Passenger Demand Model (NAPDM), which generates the forecasts for the aggregate national demand for air

---

<sup>113</sup> CD15.1, p.29.

<sup>114</sup> CD7.4, para 4.2.20.

<sup>115</sup> CD4.2, p.10, Table 2.3 & Table 2.4.

<sup>116</sup> CD4.3.

<sup>117</sup> CD3.4.

travel; and the National Air Passenger Allocation Model (NAPAM), which allocates the demand output from NAPDM to individual airports, having regard to capacity constraints.

7.4 The most important input assumptions when modelling the future demand for air travel are fully set out<sup>119</sup>; and the DfT publishes detailed explanations of its methodology and the assumptions under-pinning its forecasts (as did the Airports Commission in 2013-15)<sup>120</sup>. Furthermore, the DfT methodology and assumptions are reviewed and refined between the publication of one set of forecasts and the next, and where the methodology and/or assumptions are changed, the DfT publishes details of the changes and an explanation for them. This transparency is essential for sensitivity analysis. It enables the robustness of the forecasting model to be reviewed and is a powerful incentive for the forecaster to ensure an objective, evidence-based, approach.

7.5 The DfT aviation forecasting models and assumptions are explained in detail in Chapters 2, 3, 4, 5 and 9, and Annexes A and B, of '*UK Aviation Forecasts*', *October 2017*<sup>121</sup>. Two main scenarios are presented, each with a range of sensitivities and assumptions which are clearly stated<sup>122</sup>. Two further scenarios were added in June 2018 for the MBU policy<sup>123</sup>. In total, these forecasts were as follows:

- i. **Base Case**<sup>124</sup>: where Stansted reaches the 35mppa cap in 2034.
- ii. **Base Case + HR3**<sup>125</sup>: where Stansted reaches 35mppa in 2043.
- iii. **Base Case + MBU**: where Stansted reaches 35mppa around 2041.
- iv. **Base Case + HR3 + MBU**: where Stansted reaches 35mppa in 2049/50.

7.6 Mr Ross's Table 5<sup>126</sup> showed the DfT (pre-Covid) central passenger forecasts for Stansted for 2030-2050 under these four scenarios, alongside the Appellant's forecasts. It will readily be seen that the Appellant initially projected that Stansted would reach 43mppa in 2028, but now (post-Covid) projects that this will not be until 2032, or 2034 at the latest. The DfT, however, takes a far less optimistic view, in all scenarios. Moreover, it is the

---

<sup>118</sup> CD14.14.

<sup>119</sup> GDP growth (UK and foreign); the price and income elasticities of demand by market segment (UK business, UK leisure, foreign business, foreign leisure); future oil prices; the sterling exchange rate; and the price of carbon.

<sup>120</sup> CD14.28, Section 6.

<sup>121</sup> CD14.14.

<sup>122</sup> DfT provides 'high', 'central', and 'low' forecasts. The central forecasts are used throughout this Closing.

<sup>123</sup> CD14.2.

<sup>124</sup> DfT uses the term 'Baseline' rather than 'Base Case'.

<sup>125</sup> HR3 = Heathrow Runway Three.

Appellant's forecasts which are the outlier: the DfT's forecasts are in line with other independent forecasts, including those of the AC<sup>127</sup>.

- 7.7 In SSE's respectful submission, it is the Government's own and independent long-term forecasts, set out in great detail in the 'UK Aviation Forecasts' published by the DfT in 2017<sup>128</sup> and updated in the DfT's 2018 MBU policy document, which must carry far more weight than the Appellant's un-evidenced and un-explained projections. That is made quite clear as early as paragraph 1 of the Introduction to the Executive Summary of the DfT's UK Aviation Forecasts 2017 which states that its forecasts serve four main purposes, the second of which is *"informing decisions around the need and location of airport expansion"* - in other words, to inform decisions such as the one facing this Inquiry.
- 7.8 Importantly, and as I have already noted, to inform those decisions the DfT's forecasts are intentionally long-term rather than short-term. Paragraph 1 states that in terms and for very obvious reasons as Ms Bishop's Witness Statement in related High Court proceedings fully explained<sup>129</sup>. In particular, the Government's forecasters do not know what particular commercial deals for 5 years or perhaps 10 years might be struck between an airport and an airline, but they can research, and do research extensively and independently, the big picture evidence base for the long-term parameters of demand growth.
- 7.9 In this regard, Ms Sarah Bishop said this at paragraphs 86-88 of her Witness Statement:

*"86. The 2017 publication consists of forecasts for passenger numbers, air transport movements (ATMs) and carbon emissions to 2050 and are calculated exclusively using the Department's aviation model. The Department's model has been extensively quality assured and peer reviewed and is considered fit for purpose and robust for producing forecasts of this nature.*

*87. Forecasts are designed primarily to inform longer-term policy decision-making rather than detailed shorter-term forecasts for specific airports. This is due to the uncertainty in the short term around forecasts for individual airports. Airport demand can be affected by a broader set of short-term drivers that our model doesn't account for and was not designed to pick up.*

---

<sup>126</sup> SSE 3-2, para 3.2.3.

<sup>127</sup> CD14.48.

<sup>128</sup> CD14.14.

<sup>129</sup> CD17.65.

*For example, the conclusion of commercial deals between airports and airlines could affect route frequencies or destinations year-on-year.*

*88. Of particular relevance is the situation where airports compete for passengers in overlapping catchment areas for the same demand. This may result in uncertainty in the short term around forecasts for individual airports. This is especially true of STN.”*

7.10 So, putting this altogether, we know that:

- i. The Government forecasts are made for the express purpose of *“informing decisions around the need and location of airport expansion”* and therefore best meet the NPPF’s requirement for *“objectively assessed needs”*.
- ii. In order to be fit for (that) purpose and robust for producing forecasts of this nature, they are long-term not short-term.
- iii. They avoid, and they do so intentionally, *“the uncertainty in the short term around forecasts for individual airports”*.
- iv. That is especially important in relation to Stansted for the reasons Ms Bishop stated - to avoid the uncertainties inherent to the conclusion of commercial deals between airports and airlines which could affect route frequencies or destinations year-on-year, particularly where airports compete for passengers in overlapping catchment areas for the same demand.
- v. To ensure that they are fit for the purpose of informing decisions around the need and location of airport expansion, the DfT’s model has been extensively quality assured and peer reviewed and is considered robust.
- vi. It is only where there is an interest in the short-term forecasts, that the Department recommends the use of alternative local forecasting.

7.11 And on any view, as already explained we are here concerned with the long-term – up to 2032-34 at the earliest, when the Appellant projects that Stansted might reach 43mppa; and to 2050 and later, where the Government projections extend to, and when the Net Zero duty must be met.

## **Making Best Use**

7.12 Moreover, as also already noted, the latest Government forecasts published in the MBU policy document at Tables 1 to 3<sup>130</sup> take account of the MBU policy. Page 1 of CD23.26 provides precisely the same information at airport level and CD17.43a is a spreadsheet setting out these updated forecasts in more detail for Stansted:

- i. For the scenario which includes both a third Heathrow runway by 2030 and the MBU policy, the Government projects that Stansted will handle 21.3mppa in 2030, 26.4mppa in 2040, 36.1mppa in 2050, and even in 2049 Stansted is still below the 35mppa cap.
- ii. For the scenario where there is no third Heathrow runway, just the MBU policy, the Government forecasts that Stansted will handle 26.6mppa in 2030, 34.7mppa in 2040 and 44.8mppa in 2050.

7.13 Importantly, these are the only independent long-term forecasts before this Inquiry which take into account the expected impact of the Government's MBU policy and therefore project reasonably anticipated growth for the UK as a whole and at airport level. Mr Galpin's forecasts, by way of very stark contrast, assume that this appeal succeeds but, bizarrely, that no other proposals for airports in the South East are permitted which would allow any increase in their capacity before 2034<sup>131</sup> such as to provide competition to Stansted. And they assume this even though it was the very purpose of the MBU policy that some proposals will be approved; and even though Mr Galpin concedes that it is entirely possible that some will be permitted. Moreover, the DfT's forecasts are the Government's very own forecasts and completely independent. For both of these reasons, they are quite obviously the forecasts upon which this Inquiry turns.

7.14 And the most recent DfT forecasts, published in June 2018 to test and underpin the MBU policy, demonstrate beyond doubt that there is no need for the capacity at Stansted to be increased for a very considerable time, which means that these proposals fail to meet the policy test set out in paragraphs 1.41 and 1.42 of the ANPS, as prefaced by the very clear advice of the AC at paragraph 16.49 of its Final Report<sup>132</sup> (see paragraph 1.14 above), which the Government accepted.

---

<sup>130</sup> CD14.2.

<sup>131</sup> The most recent assessment of the outlook for UK aviation by the AOA (INQ037) casts further doubt on STAL's demand projections for 2032 and 2034.

<sup>132</sup> CD14.28.

- 7.15 Put shortly, the DfT expects there will be winners and losers from the MBU policy and Stansted is expected to be one of the losers, at least until the late 2040s. (It is quite plain that the DfT expects the MBU policy to have an adverse impact upon Stansted passenger numbers until towards the very end of the 2050 planning horizon; and even then, the benefit is conditional upon there not being a third Heathrow runway in the next 25+ years.)
- 7.16 And that means that there will be no need to expand capacity at Stansted for a very long time indeed.

### **London Airports Market**

- 7.17 We must ask why the Appellant's forecast is emphatically more optimistic than the independent forecast based on an in-depth examination of the long-term outlook for growth in air travel and the dynamics of the London airports market. One possible explanation is that the Appellant asserts that there is "... *little hope of new runway capacity in London becoming available in the next 15 years*"<sup>133</sup> and, hence, there will be a substantial gap in the London Airports' market for Stansted to exploit. In particular, we now know from Mr Galpin's evidence that the Appellant's forecasts were based on the "*legal planning limits that are in place today*"<sup>134</sup>.
- 7.18 That, however, is a totally false premise from which to work. All of London's six airports have plans for significant expansion which would provide far more capacity than is needed to meet the DfT growth forecasts, as set out in Mr Ross's Forecasting Proof of Evidence<sup>135</sup>. (In cross-examination Mr Andrew declined to consider the effect of expansion elsewhere, presumably because he understood the damage it would do to the Appellant's case. But it was not open to him, nor is it open to the Panel, to leave such consideration out of account and its consequence is clear.)
- 7.19 Even leaving aside the possibility of a third runway at Heathrow, the prospects of which are revived following the recent judgment of the Supreme Court<sup>136</sup>, the reality is that substantial new capacity is planned for London's airports and a capacity shortage cannot reasonably be used to justify the very significant divergence between the Appellant's forecasts for Stansted and the independent DfT/AC forecasts. Moreover, one of the consequences of Covid is that there will not be an airport capacity shortage for many years

---

<sup>133</sup> CD7.4, para 4.2.13.

<sup>134</sup> STAL/2/2, para 3.9 and STAL clarification letter of 8 March 2021 (table on p.2).

<sup>135</sup> SSE/3/2, Table 7.

<sup>136</sup> CD14,74.

to come. Heathrow can use this hiatus to take forward its plans and preparations for the third runway.

7.20 Moreover, even ignoring the growth at these other airports, the DfT forecasts in Mr Ross's Table 9a highlight the excessive level of optimism in the Appellant's forecasts: Stansted would still be within the 35mppa cap in 2045 even without a third Heathrow runway and without any significant expansion at Gatwick, Luton or any other London airport<sup>137</sup>. The Appellant's original forecast for Stansted to grow to 43mppa by 2028 was c.40% higher than the DfT Base Case forecast (i.e., without Heathrow R3); and the post-Covid Appellant forecast is that Stansted will now reach 43mppa in 2032 or 2034, which is still c.30% higher than the DfT Base Case forecast, pre-Covid. The gulf between the DfT outlook for Stansted (together with the very similar AC outlook) and the more optimistic picture painted by the Appellant of itself calls into question the credibility of the latter.

### **Optimism Bias**

7.21 The Appellant's excessively optimistic forecasts should come as no surprise. Both STAL and MAG have 'form' as recidivists. For the Stansted 'G1' application (seeking approval for an increase in the passenger cap from 25mppa to 35mppa), they argued that passenger demand would increase from 24mppa in 2007 to 35mppa by 2014<sup>138</sup>, a projected 46% increase. In the event, however, Stansted handled just 20mppa in 2014, 20% **less** than its 24mppa throughput at the time of the 2007 'G1' Inquiry. And this is not an isolated instance: there has been a consistent tendency by MAG and STAL to overestimate both future demand and the number of additional airport jobs, as Mr Ross pointed out<sup>139</sup>.

7.22 There are many reasons why an airport operator, or indeed almost any business, might tend to overstate its future growth prospects – there is a recognised tendency for the promoter of a project to be overly optimistic. Accordingly, in the private sector as well as the public sector, it is common practice to adjust project appraisals for optimism bias. Indeed, the HM Treasury guidance expressly states that<sup>140</sup>:

*"Adjustments should be based on an organisation's own evidence base for historic levels of optimism bias."*

---

<sup>137</sup> CD14.37.

<sup>138</sup> CD12.3a.

<sup>139</sup> SSE/3/2.

<sup>140</sup> CD23.31.

7.23 If the Appellant's forecasts were to be adjusted for historic levels of optimism bias, they would become quite closely aligned to the forecasts produced by the DfT and the AC and reinforce the conclusion that there is no need for the appeal proposals.

### **Aircraft Movements in the 35mppa Base Case**

7.24 Importantly, the Appellant's inaccuracies extend to the 35mppa base case also, as Mr Ross again comprehensively demonstrated, and this inevitably distorts all projections of the impact of the appeal proposals: overestimating the Base Case has the effect of overstating the environmental impacts for the Base Case and hence reducing the apparent incremental impact of the proposals. That this is what the Appellant has done, and consistently, can be understood readily by looking, individually, at the three relevant categories of air movements at Stansted: Passenger Air Transport Movements (PATMs); Cargo Air Transport Movements (CATMs); and 'Other Movements' (positioning flights, business aviation, training, recreation etc.), often called non-ATMs.

7.25 So far as the first category is concerned:

- i. The number of passengers per PATM is, self-evidently, a key forecasting parameter when calculating the number of aircraft movements since it determines how many PATMs are needed for a given passenger throughput.
- ii. In earlier planning applications, however, STAL has consistently underestimated the pax/PATM ratio in its forward projections, with the result that the passenger cap was always reached before the PATM cap.
- iii. The Appellant has tried the same sleight of hand this time also - for the current application, they project an average of 171 pax/PATM<sup>141</sup> by 2032, which compares to 163 pax/PATM achieved in 2019 and represents an increase of only 0.37% per annum, and that has to be seen against the long-term trend (1999-2019) for Stansted which shows an average annual increase in pax/PATM of 3.8%<sup>142</sup>, more than 10 times the Appellant's forward projection.
- iv. Mr Galpin, who gave the forecasting evidence on behalf of the Appellant, was asked to provide the assumptions he had made for aircraft seating capacity - a fundamental input for the projection of the pax/PATM ratio. He was unable to do so for either the DM case or the DC case.

---

<sup>141</sup> CD7.4, para 4.2.20.

- v. Stansted's dominant airline Ryanair's fleet replacement policy will have a significant bearing on average aircraft size at Stansted (they have placed orders for 135 Boeing 737 MAX aircraft and options for a further 75 which are in the process of being converted into firm orders).
- vi. And there will be an overlay at Stansted arising from the Appellant's projection that long-haul will grow faster than short-haul, which will also increase the average size of aircraft at Stansted.

7.26 Having regard to all these factors, Mr Ross adopted a highly conservative assumption of just 0.65% annual increase in the pax/PATM ratio to 2032, compared to the long-term trend of 3.8% annual increase in pax/PATM. That assumed annual increase of 0.65% resulted in an average of 177 pax/PATM in 2032<sup>143</sup>; and, on this basis, 197,740 PATMs would be needed to cater for 35mppa. Thus, although the Appellant currently has permission for 243,500 PATMs, some 45,760 of these would be surplus to requirements with a 35mppa cap. And, of course, beyond 2032, ever fewer PATMs would be needed to cater for 35mppa as the pax per PATM ratio can be expected to continue increasing steadily year after year.

7.27 As well as not being able to use its full quota of 243,500 PATMs under the existing permission, it is highly unlikely that the Appellant would be able to use its full quota of 20,500 Cargo Air Transport Movements (CATMs) either, which have been declining for the past 15 years, both at Stansted (from 11,257 in 2005 to 10,208 in 2019); and for the UK as a whole (from 89,226 to 57,535). Indeed, it is perplexing that the Appellant projects 15,000 CATMs for Stansted in 2032 if its appeal is upheld and 20,000 CATMs if it is refused: it is not at all clear where these additional CATMs would come from and neither is it clear why, if they are potentially available, Stansted are not taking advantage of this potential market already.

7.28 With regard to the non-ATMs, the Appellant projects 7,000<sup>144</sup> for the 43mppa Development Case and more than three times as many, 22,000<sup>145</sup>, for the 35mppa Base Case, far more than Stansted has ever handled in the past. Again, it is not clear where this additional business would come from. However, again as an exercise of conservatism, Mr Ross accepted the Appellant's projection of 22,000 non-ATMs in the 35mppa Base Case in 2032.

---

<sup>142</sup> CAA statistics <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/>.

<sup>143</sup> SSE/3/2, para 5.3.7.

<sup>144</sup> CD7.2, Table 2.3.

<sup>145</sup> Ibid, Table 2.2.

7.29 Accordingly, Mr Ross expected the 35mppa Base Case to comprise no more than: 197,740 PATMs; 12,000 CATMs; and 22,000 non-ATMs; making a total of 231,740 air movements. And that means that approval of the appeal proposals would enable at least another 42,260 movements compared to the Base Case (274,000 – 231,740), almost twice the 22,000 additional aircraft movements (274,000 – 252,000) assessed by the Appellant.

## **Conclusions**

7.30 The Appellant has, therefore, presented forecasts which are considerably at variance with the authoritative, independent forecasts published by the DfT and the AC; and they should also be viewed in the context of its forecasting record, whereby its passenger forecasts have been consistently under-achieved by c.30-40% and its cargo forecasts under-achieved by c.50-65%. For all these reasons, its forecasts and its Base Case should be rejected and the compelling evidence of Mr Ross, supported by both the DfT and the AC preferred.

7.31 The importance of all this is, of course, that the Appellant has significantly overstated the 35mppa Base Case and, in so doing, has significantly understated the incremental impacts of the proposals in relation to noise, air pollution, carbon emissions, surface access and community health.

7.32 And as we now come onto the forecasts for the landside transport movements generated by the additional flights, we will see an identical pattern emerging with regard to these also.

## **8. ROAD TRAFFIC FORECASTS**

### **Methodology**

8.1 If Mr Bamber had been seeking to predict the amount of traffic generated by the proposed development, his starting point would, quite sensibly, have been the observable, evidence-based data which is (mostly) already collected by the Appellant through monitoring its car parks. The Appellant, however, eschewed that common-sense and evidence-based approach, and did so even though its consultants were fully able to construct a model of car movements from direct observations of vehicles moving onto and off the site; and even though the original Scoping Report<sup>146</sup> included exactly this daily profile of vehicle arrivals and departures at the various car parks around the site.

---

<sup>146</sup> CD5.1, Appendix A.

8.2 Moreover, and as Mr Bamber pointed out, in abandoning this approach, and replacing it with a highly convoluted methodology that makes no use of observable car movements, not even as a sense check, a whole host of problems have been imported, all of them related to the unreliability of key assumptions used in the Appellant's unnecessarily over-complicated methodology for predicting road traffic impacts.

### **Application of 2019 Passenger Numbers to 2016 Flight Schedules**

8.3 The first problem was that, through its chosen methodology, the Appellant relied on detailed flight schedules to derive road traffic predictions but, in a manner which Mr Rust would have rejected had he been able<sup>147</sup>, applied **2019 passenger numbers pro rata to 2016 flight schedules**. Only if flight schedules showed little change over time, could this assumption be justified. However, the 2016, 35mppa and 43mppa flight schedules<sup>148</sup> show marked variations and the application of 2016 flight schedules to 2019 passenger numbers therefore introduces a significant source of error into the road traffic calculations.

8.4 The error in relying on the schedules and applying them in this way is easily demonstrated: the Appellant relies on an average daily passenger throughput of 77,677 for 2019<sup>149</sup> when, during the peak month (August), the number of passengers was 27% higher than the average<sup>150</sup>, suggesting 98,650 passengers, which would be 15,027 greater than the total number of seats available (83,623)<sup>151</sup>.

### **Reliance on Flight Schedules to Predict Road Traffic**

8.5 The Appellant's traffic predictions rely heavily on predicting and comparing flight schedules over a 16-year period (2016 to 2032). It follows that if the flight schedule information is unreliable, or used in ways which cannot be relied upon, then the road traffic predictions will similarly be infected by unreliability also, and especially so given that the road traffic predictions are highly sensitive to small changes in flight schedules. It was for these reasons that Mr Bamber interrogated the flight schedules in detail and provided a summary of the aircraft information that the Appellant has used to inform road traffic calculations in his Appendix BB2, noting that from 2019 to 35mppa, passenger numbers are set to increase by 24%; and from 35mppa to 43mppa by a further 23%<sup>152</sup>.

---

<sup>147</sup> XX Rust, 25 February 2021. Mr Rust explained that he would have preferred to have used the 2019 data but was unable to do so because the individual who could have provided this information was unavailable due to furlough.

<sup>148</sup> CD5.1, pages 221 to 258.

<sup>149</sup> SSE/9/2, para 2.2.2. See also CD5.1, para 4.23.

<sup>150</sup> Ibid.

<sup>151</sup> Ibid.

<sup>152</sup> Table 1 of Appendix BB2.

- 8.6 If load factors and the average size of aircraft were to stay broadly the same, the increase in the number of flights and the number of passenger seats available on those flights would mirror the increase in passenger numbers. But that is not so. The data used by the Appellant to derive road traffic forecasts assume that from 2019 (2016 flight schedules) to 35mppa, the increases in flights (+62%) and passenger seats (+65%) are **at least two and half times** the increase in passengers (+24%); and that from 35mppa to 43mppa, the increases in flights (+13%) and in passenger seats (+19%) are well below the increase in passengers (23%)<sup>153</sup>. Mr Rust acknowledged that this was a huge discrepancy in his inputs to the model he used; and yet, as he also acknowledged, he accepted these inputs at face value.
- 8.7 Furthermore, of direct relevance to the Appellant's road traffic calculations are the times of flight schedules<sup>154</sup>. As we shall come onto, the Appellant's calculations of landside passenger movements are based on an assumption that passengers for a flight taking off from the airport arrive at the airport two hours earlier, and a further assumption that passengers on flights landing at the airport will leave the airport one hour later. The period of peak impact on Junction 8 of the M11 is 07:00-08:00 hours. Accordingly, Mr Bamber focused his attention on the aircraft that take off between 09:00 and 10:00 and land between 06:00 and 07:00, extracting the relevant data from the flight schedules in Appendix A of CD9.3.
- 8.8 The data for passenger aircraft is summarised in Table 3b of Mr Bamber's Appendix BB2. From 2019 (2016) to 35mppa, overall passengers increase by 24%; the number of flights associated with 07:00-08:00 landside movements increase by 109% (from 11 flights to 23); and the number of passenger seats, the value that has a direct influence on generated road traffic, increase by 129% (from 2,029 to 4,637). The impact of the increase to 35mppa in the 07:00-08:00 network peak hour is therefore predicted to be **over five times** the increase in overall passengers. That is yet another huge discrepancy.
- 8.9 One possible explanation for the disproportionate increase in aircraft numbers might be the need to use up spare runway capacity to accommodate growth, noting that paragraph 6.19 of the 2018 Transport Assessment<sup>155</sup> states as follows:

---

<sup>153</sup> Table 2b of Appendix BB2.

<sup>154</sup> CD9.3, Appendix A.

<sup>155</sup> CD5.1.

*“As Airport operations expand, as well as a general increase in flight numbers, there will be a more even distribution of flights throughout the day as runway capacity is taken up”.*

8.10 To check this possibility, and as a sense check on the assessments made on behalf of the Appellant, Mr Bamber used the details of the flight profiles contained in Appendix A of the Transport Assessment<sup>156</sup> to derive both the profile of total aircraft movements over the day and the total number of aircraft movements associated with landside passenger movements over the day, the same method that has been adopted by the Appellant. He illustrated this in his Graphs BB1, BB2 and BB3<sup>157</sup>. So far as Graph BB1 is concerned, although the actual number of passenger flights between 07:00 and 08:00 is relatively high (39), the number of flights that generate landside passenger movements between 07:00 and 08:00 is low (11 flights). The comparable graph for the 35mppa Base Case is Mr Bamber’s Graph BB2. For an increase to 35mppa, in the peak morning hour the number of flights that generate landside passenger movements has more than doubled. And the comparable graph for the 43mppa Development Case is Mr Bamber’s Graph BB3. That represents a very similar increase in passenger movements as between 2019 and 35mppa, only now the number of additional flights that generate landside movements is just 4, up from 23 to 27. That is another significant discrepancy.

### **Lag Times**

8.11 As earlier identified, the Appellant’s assessments have relied heavily on an assumed lag time between a passenger arriving at the airport and their flight time (2 hours) and between a passenger landing and then leaving the airport (1 hour). No issue arises with respect to the latter, but an issue does arise with regard to the former, in respect of which the only evidence presented by the Appellant is Figure 2.2 of the July 2018 Transport Assessment Addendum<sup>158</sup>, replicated by Mr Rust in his Rebuttal Proof as Figure 4.1. That, however, indicates a lag time of between 2.25 hours and 2.75 hours, which is consistent with the detailed work, based on passenger surveys, undertaken as part of the Stansted G1 Application<sup>159</sup> (and also used in relation to the G2 application<sup>160</sup>), relevant extracts of which are shown in Mr Bamber’s Appendix BB3.

---

<sup>156</sup> Ibid.

<sup>157</sup> SSE/9/2, p.7-8.

<sup>158</sup> CD12.28, p.13.

<sup>159</sup> CD12.25.

<sup>160</sup> CD12.26.

8.12 Accordingly, Mr Bamber did some sensitivity tests to explore the implications of applying different lag times and set them out in his corrected Table BB1<sup>161</sup>. The Appellant's projection is that airport growth from 35mppa to 43mppa (23%) would only give rise to a 16.3% increase in landside passenger movements during the critical peak hour (07:00 to 08:00). However, with 1 hour for arrivals and a more likely average lag time of 2.25 hours for flight departures, between 07:00-08:00 the landside passenger movements would rise by around 25%, rather than the 16.3%. That represents landside passenger car trips more than 50% higher than those used by the Appellant for assessing the road traffic impact, including on Junction 8 of the M11.

### **Two-Way Trips: Use of Car Parks and Drop-Off**

8.13 Yet further problems arise with regard to the Appellant's treatment of two-way trips and the manifest confusion as to how this has been dealt with. It is quite apparent, from the Appellant's response dated 17<sup>th</sup> November 2020 to Mr Bamber's requests for clarification (Appendix BB1) that: *"The express set down figures have been derived from the 2019 CAA Passenger Survey data as a proportion of total private car trips which are driven away (33%)."* Mr Bamber's written evidence referred to this assertion in paragraph 2.57 of his Main Proof of Evidence.

8.14 Little wonder, then, that Mr Bamber obtained the CAA data and carried out his own calculations, details of which are in his Appendix BB4. However, when the categories of potential two-way trips are added up (including taxis, minicabs, Uber and chauffeur), they come to 52.5%, not the Appellant's assumption of just 33%. The most plausible explanation for this discrepancy (yet another) is perhaps indicated in Mr Rust's paragraph 2.57, where he states that, based on the CAA data, *"33% of Passengers used a Taxi or were dropped off by family or friends"*. If that is allied with the CAA data set out in Mr Bamber's Appendix 4, and one adds together *"private car - driven away"* (27.0%), *"taxi"* (4.7%) and *"taxi/minicab unspecified"* (1.4%), as Mr Rust's evidence plainly suggests, we do indeed get to the Appellant's figure of 33%. However, that leaves entirely out of account *"minicab"* (13.5%), *"Uber"* (5.5%) and *"chauffeur"* (0.3%), which takes us up to Mr Bamber's 52.5%. And so, if, as Mr Hill QC indicated by his interventions, Mr Rust had this CAA data in front of him but exercised his own judgement when arriving at the radically lower figure of 33%, he simply ignored all those potential two-way trips altogether for the peak hour.

---

<sup>161</sup> SSE/9/4.

8.15 And yet, in complete contradiction of this, Mr Rust's oral evidence at this Inquiry was that he had actually used car parking data, not CAA data, to forecast two-way trips, and that it yielded 43%, not 33%. However, that does not remotely correspond to any of the figures in the Appellant's Transport Assessment:

- i. The total number of daily trips with no uplift to allow for two-way trips is set out on page 43 of CD9.3 and it is 25,721.
- ii. The total sum of the 2019 car trips which Mr Rust agreed was the daily number of vehicle trips allowing for two-way drop-off, in other words uplifted by the percentage applied by the Appellant, is shown in the Table on page 44 of CD9.3 and is 34,209.
- iii. And the percentage uplift applied to get from 25,721 to 34,209 is 33% ( $25,721 \times 1.33 = 34,208.93$ ), not 43%.

8.16 Moreover, if you then go to page 59 of CD9.3, you will see a total of 25,721 car trips assigned to the highway network. If two-way trips had been included, that number would be 34,209 on an uplift of 33% (and 37,038 on an uplift of 44%). However, only 25,721 car trips were assigned. As Mr Bamber repeatedly pointed out to the Appellant, this meant that the Appellant had failed to allow for daily 2-way kiss-and-fly passenger car trips, a fundamental error which infects the Chapters in the Appellant's Environmental Statement (ES) not just on Surface Access, but Air Quality and Noise also. However, this was totally denied by the Appellant<sup>162</sup> until Mr Rust gave his oral evidence to this Inquiry when, finally, the error was conceded.

8.17 However, the confusion does not end there, remembering Mr Rust's belated assertion that he had relied on car parking data recorded at Stansted and not the CAA data, when adjusting for two-way trips. In particular, car parks are mentioned explicitly in the Table on page 59 of CD 9.3, and percentages are applied to them. However, not one of those figures is 43%. Indeed, when Mr Rust was questioned about this Table in cross-examination, it became quite apparent that these figures were not sourced in monitored data but generated by a calculation, and an erroneous one at that:

- i. The passenger vehicle total is 25,721, which is the number of vehicles generated by the 2019 Baseline Scenario ignoring any uplift for 2-way movements.

---

<sup>162</sup> See: paragraph 3.1.2 of Mr Bamber's Main Proof of Evidence, fn7, and the response there referred to in his Appendix BB1.

- ii. Those 25,721 vehicles have all been assigned to what are called car parks (LS + JP stands for Long Stay and Jet parks and is assigned 4% of the 25,721 or 936 cars; MS stands for Medium Stay and is assigned 12% or 3,089 cars; SS + M&G stands for Short Stay and Meet and Greet and is assigned 18%, or 4,711; and EDP stands for Express Drop-Off and is assigned 66% or 16,986). Assignment to car parks meant that they were all treated as one-way trips.
- iii. However, Express Drop-Off is not a car park at all and generates two-way trips, which the 25,721 figure excludes.
- iv. Moreover, Mr Rust volunteered the explanation that the 66% figure for Express Drop-Off was derived from the 33% CAA figure, only doubled up to reflect 2-way movements.
- v. However, if that adjustment is to be made for Express Drop-Off, a similar adjustment would need to be made for the other figures, which are related to actual car parks.

8.18 Fortunately, the arithmetic is simple, at least on the 33% uplift necessary to allow for two-way trips (ignoring for the time being that SSE considers the 33% to be an understatement). If one third of the trips are 2-way and two thirds are 1-way, then the total number of 1-way and two-way trips would be the same – a 50:50 split. And if that total, including two-way trips, equals 34,209, then each should contribute half – or about 17,000 - which is pretty much what the Table on page 59 ascribes to Express Drop-Off, albeit the percentage must then fall to 50%. So far as the actual car parks are concerned, their total numbers would have to rise to amount to the other 17,000, when they currently total under 9,000, and the individual percentages ascribed to them would have to rise accordingly, so that together they equalled 50%. To reach that, in the stead of the stated percentages (4% + 12% + 18% = 34%), these would each have to rise by about half (6%, 18% and 27% = 51%). However, not one of the resultant numbers of even this corrected sum would reflect actual car parking numbers, as Mr Rust readily acknowledged. One cannot avoid noting the irony of the Appellant arguing that car park usage data would be an unreliable basis for modelling because on-airport hotel car parks were not currently monitored, and then omitting to make an uplift for 'kiss-and-fly' (even at the lower estimate of 33%) which had the effect of understating 'park-and-fly' (i.e., car park usage) by 50%.

8.19 Yet further, having first defended a 33% uplift to account for two-way trips, Mr Rust then asserted that he had applied a 43% uplift for two-way trips and that this was based on car

parking and drop-off data, Mr Rust has now accepted Mr Bamber's position i.e., that the daily traffic projections omitted to include any uplift whatsoever for two-way trips<sup>163</sup>. Put shortly, we now know that only one leg, not two, was ever assigned to the daily traffic projections for two-way trips, a fundamental error.

- 8.20 Moreover, the Appellant has assumed that the kiss-and-fly proportion of car trips will decrease by 30% in the 35mppa and 43mppa situations. This assumption is linked to the proposed Unilateral Undertaking<sup>164</sup> which states:

*“STAL shall use Reasonable Endeavours<sup>165</sup> to ... reach a passenger mode share by Kiss and Fly of 20% by the 39mppa Date and 12% by the 43mppa Date.”*

- 8.21 However, the main mechanism available to the Appellant for influencing the behaviour of drivers is to alter parking charges. Work was undertaken in relation to the G2 application to assess the sensitivity of kiss-and-fly to changes in charging levels, attached as Mr Bamber's Appendix BB6. However, it is clear from that work that the behaviour of passengers is only marginally affected by changes in kiss-and-fly charges – the percentage of kiss-and-fly movements fell from 20.6% to just 19.6% when charges were introduced; and even more marginally, to 19.5%, when they were doubled.
- 8.22 This is entirely unsurprising given the numerous, often compelling, reasons why passengers choose kiss-and-fly rather than parking at the airport: even with a kiss-and-fly charge, the cost is significantly less than using car parks; many people are unable to leave their cars in car parks since they are needed by others; some travellers do not have access to a car that can be left in a car park; and kiss-and fly is often quicker and more convenient than using car parks.
- 8.23 Given the compelling evidence against any significant reduction in kiss-and-fly, it is simply unreasonable to assume a 30% reduction as a basis for predicting future road traffic levels.

### **Employee Mode Share**

- 8.24 As for the employee mode share, the Appellant presented data showing a general trend of decreasing car driver mode share over the past 17 years, but with a step-change between

---

<sup>163</sup> XX Rust, 25 February 2021.

<sup>164</sup> CD26.30a, Clause 8.1 (c).

2015 and 2017: in the previous Transport Assessment (CD5.1), the staff mode share was 65% based on the 2015 survey; and yet between 2015 and 2017, there was a reduction in staff car driver mode share of over 10% to 55%. That is a quite remarkable reduction in car use. It represents one in six car drivers shifting to an alternative mode over a two-year period. And it is especially remarkable given that travel plan measures have been implemented for many years at the airport, so it would be fair to assume that the 'low hanging fruit' of potential shift from car to sustainable modes had already been picked.

8.25 There needs to be a credible explanation of the change between 2015 and 2017; and the most plausible explanation is that the question in the biennial Employee Travel Survey, asking about the employee's journey to work, changed from 2015 to 2017 and then stayed the same in 2019. The 2015 questionnaire (CD20.12, Appendix A) asked "*How did you arrive at the airport today?*" whereas the 2017 questionnaire (CD20.11, Appendix A) instead asked about the final mode of transport.

8.26 That change may very well have led those employees who parked in an airport staff car park and then took a bus to reach their place of work, to say that 'bus' was the final mode of travel, for which reason Mr Bamber requested (on multiple occasions) further data from the Appellant so that this possible error could be clarified. But no relevant information was ever offered, which of itself indicates that there might be something which is being hidden. Furthermore, and to the extent that Mr Rust proffers any alternative suggestions in his Rebuttal Proof to explain this sudden change, they suggest that car use is strongly influenced by car availability, which is hardly reassuring about the efficacy of any efforts by the Appellant to reduce the number of employee car trips in the future.

## **Conclusions**

8.27 For all these reasons, the Appellant's road traffic predictions are seriously and fundamentally flawed; cannot provide a reliable basis for assessing highways and environmental impact; and afford no confidence in the modelling of off-site junctions. The use of flight profiles and assumed lag times suggest that vehicle trip generation during the 07:00-08:00 period has been severely under-estimated by the Appellant. Further, the issues regarding kiss-and-fly and employee mode share suggest that vehicle trip generation during all periods has been under-estimated, flaws which also mean that the consideration of both ground noise and air quality in the ES is undermined.

---

<sup>165</sup> "Reasonable Endeavours", as currently defined in the Draft UU (CD26.15) amounts to a 'light touch' obligation. There is no great assurance that the proposed, extremely challenging, kiss-and-fly target will be achieved.

## **PART FOUR: ADVERSE IMPACTS**

### **9. SURFACE ACCESS – ROAD**

- 9.1 I can take the road impacts of the appeal proposals briefly in light of the submissions already made when addressing the modelling of landside road movements generated by the appeal proposals. Like Mr Bamber, I will focus on just three locations: Takeley, Stansted Mountfitchet and Junction 8 of the M11.

#### **Takeley**

- 9.2 As we have heard from Mr Bamber, and local residents, the appeal proposals could potentially have a significant impact on Takeley where the Four Ashes junction sits at the centre of a community with a local primary school, shops, and a range of other facilities, concerns which have been exacerbated by the knowledge, now, that Mr Rust failed to include any uplift to allow for 2-way road movements when assigning daily traffic to the road network.
- 9.3 Airport vehicle trips travelling through Takeley would use the Cooper's End roundabout on Parsonage Road, very close to the short stay, meet and greet, and express set down areas close to the terminal building. The Appellant takes the view that, in 2019, the airport generated a maximum of 701 vehicle trips per day at the Cooper's End roundabout<sup>166</sup>, of which 174 are expected to be *via* Takeley. For the following reasons, however, Mr Bamber believes this figure represents a significant under-estimate of the amount of airport-related traffic.
- 9.4 The 2018 Transport Chapter of the ES states that a survey in 2017 indicated that 34% of traffic on Parsonage Road was associated with airport operations<sup>167</sup>. Whilst the Appellant offers no traffic survey at the Cooper's End roundabout, a 2008 survey found that in the 08:00-09:00 and 17:00-18:00 hours there were 1,442 vehicle movements into and out of the airport highway network. Mr Bamber attached relevant extracts from the junction modelling undertaken at the time, including turning movements at the junction at his Appendix BB8, including (at the front of the Appendix), a summary sheet showing his own calculations. The data indicate that 490 vehicle movements (34% of 1,442) were associated with the airport in just the two peak hours, which of itself comprises 70% of the 701 total daily movements predicted by the Appellant in the 2019 situation. Given the airport's extended periods of operation, this indicates that the estimate of a maximum of

---

<sup>166</sup> CD9.2, Table 7.14.

701 airport-related daily car movements at the Cooper's End roundabout is a significant under-estimate, only partly explained by the understatement of 2-way vehicle trips.

- 9.5 More striking still are the figures for Parsonage Road itself. The 2008 traffic surveys showed a combined peak hour total of 566 vehicle movements between the airport and Parsonage Road which equates to 192 airport-related trips (34% of 566). This two-hour total is higher than the daily total (174) predicted by the Appellant.
- 9.6 For both reasons, it is apparent that the Appellant's calculations may severely underestimate both the current impact of the airport on Parsonage Road and Takeley and, by implication, the future impact of the appeal proposals, and all in a very sensitive location.

### **Stansted Mountfitchet**

- 9.7 The Appellant's traffic calculations assign no passenger vehicle trips through Stansted Mountfitchet at all, even though the route through the village offers the most direct route to the airport from a number of areas accessed *via* the B1383 including Saffron Walden, particularly for those seeking to access the long stay parking to the west of the airport. And if Junction 8 of the M11 becomes congested, the route through Stansted Mountfitchet is attractive for both passenger and employee trips from areas accessed via the B1383.
- 9.8 This is an especially worrying gap in the Appellant's assessment given that Stansted Mountfitchet is highly sensitive to changes in traffic flow: the village has a highly constrained highway network that is congested during peak periods; most of it is designated as a Conservation Area; there are high levels of pedestrian movement; and Church Road, the main link between the village and the airport, has limited footway provision and provides access to Forest Hall secondary school and a leisure centre. Furthermore, although the transport calculations in Appendix A of ES Volume 3 assign 959 daily employee car trips to Church Road in 2019<sup>168</sup>, the Transport Chapter of ES Volume 1 identifies only 160 vehicle trips<sup>169</sup>.
- 9.9 For all these reasons, little weight can be given to the Appellant's conclusion that the appeal proposals will have negligible impact on Stansted Mountfitchet.

---

<sup>167</sup> STAL/10/2, para. 2.44.

<sup>168</sup> CD9.3, p.60.

## **Junction 8 of the M11**

9.10 We know that the Highways Authorities require mitigation at this junction. In other words, the impacts of the appeal proposals on this junction are such that, without adequate mitigation, they would continue to object. And to be confident that the mitigation they have agreed is adequate, the Panel will have to be confident that the traffic forecasts which Mr Rust's model generates are sufficiently accurate to be relied upon; that he has not overestimated the traffic growth up to 35mppa and underestimated it from 35mppa to 43mppa; that his projections for a significant lull in airport-related traffic during the morning peak hour are accurate; that his forecasts for reduced employee car mode share are reliable; and that his assumption of much reduced kiss-and-fly (i.e. reduced double running) are reliable also. For all of the reasons already given, however, and fully explained by Mr Bamber in what was compelling expert evidence, we respectfully submit that you can have no such confidence.

9.11 And that lack of confidence which can sensibly be attributed to these matters is to be viewed in the context of the Table at the top of page 49 of the Statement of Common Ground on these matters<sup>170</sup>.

- i. We see there the predicted total delays on the 2014 Base Case – 183 hours in morning peak; then at 35mppa with the existing layout – 932 hours.
- ii. As with the Appellant's other forecasts, that is a massive increase moving from the Base Case to 35mppa, the existing cap.
- iii. And true to form with the Appellant's evidence, those total delays then suddenly fall to 865 hours when the airport grows by a further 8mppa - yet another discrepancy between the projections up to 35mppa and from 35mppa to 43mppa.
- iv. And even on those projections, which Mr Bamber has challenged on all the bases we have looked at, and even with mitigation, the delays equal 713 hours, four times the 2014 figure.

## **Conclusions**

9.12 It is apparent that the Appellant's calculations may severely underestimate the current impact of the airport on Parsonage Road and Takeley and, therefore, the future impact of the appeal proposals in a very sensitive location.

---

<sup>169</sup> CD6.6, Table 6.12.

<sup>170</sup> CD25.6, page 49, Table 3-1

- 9.13 Furthermore, because the Appellant's traffic calculations assign no passenger vehicle trips through Stansted Mountfitchet at all, little weight should be attached to the Appellant's conclusion that the appeal proposals will have negligible impact on that settlement either.
- 9.14 And, finally, Mr Rust's evidence can properly offer no confidence that the effects of the appeal proposals will be unproblematic so far as Junction 8 of the M11 is concerned, Mr Bamber's evidence strongly suggests that the opposite is overwhelmingly likely to be the case.

## **10. SURFACE ACCESS – RAIL**

### **Baseline Conditions and Infrastructure Constraints**

- 10.1 The Liverpool Street-Stansted-Cambridge West Anglia main line (WAML) provides a service which both serves the airport and provides a vital link for commuters in settlements between the two end points. The Stansted Airport Express (STEX) service is also an essential ingredient in the commuter services: pre-Covid, four trains per hour STEX service stopped alternately at Bishop's Stortford and at Harlow Town, with other intermediate stops during the commuter peaks.
- 10.2 For most of its length the WAML is a two-track railway with the airport spur connecting to it through a single-track tunnel. Although Mr Rust has pointed out that there is access to two additional tracks on the approach to Liverpool Street, he has also agreed that these are for emergency, not normal scheduled use. Quite correctly, he has taken no account of them in his future service projections<sup>171</sup>. Without major infrastructure investment, which neither Mr Rust nor Mr Denby of Abellio Greater Anglia<sup>172</sup> have suggested will be forthcoming within the time horizon of the Proposals, no significant improvement in STEX journey times would be possible.
- 10.3 Furthermore, we do not believe it would be feasible to increase service frequency above four trains per hour. Mr Rust argued that an additional train path per hour in each direction could be found through the airport tunnel<sup>173</sup> and, in response to SSE's Clarification Request<sup>174</sup> indicated that capacity for a train every 10 minutes, i.e., two additional paths in each direction, could be found.

---

<sup>171</sup> STAL/10/3, para 3.6.

<sup>172</sup> XX Denby on 15 January 2021.

<sup>173</sup> STAL/10/3 para 7.72.

<sup>174</sup> INQ024.

10.4 However, no evidence is offered for this; and Mr Rust has not contested SSE's claim that in the surface access peaks there would, in any case, be no spare paths available into Liverpool Street to take advantage of this.

### **Air Passenger Forecasts and Peak Rail Demand**

10.5 In Section 3 of his Proof of Evidence<sup>175</sup> Mr Rhodes drew attention to counter-intuitive patterns of airport passenger arrivals and departures and their impact on rail demand. Briefly, despite overall increases in air passenger numbers, under certain scenarios, the demand for rail at peak times was forecast to reduce. SSE asked whether Mr Rust had investigated these apparent discrepancies and we infer from his response to SSE's Clarification Request<sup>176</sup> that he did not.

### **Implications of the Pandemic**

10.6 Patronage on all rail services has plummeted as a result of the pandemic. Mr Rhodes has argued that management of the railway will change, with the Government having a more decisive role than previously and with a keen eye to reducing the financial commitment of taxpayers. Levels of crowding tolerated previously may no longer be acceptable from a public health standpoint; and five days a week commuting may become a thing of the past. None of this is in dispute, but the conclusions to be drawn from it are.

10.7 Mr Rust has taken as his working assumption that, after a delay of a few years, rail will return to pre-pandemic 'business as usual'. However, Mr Rhodes has pointed out that if reduced commuter demand becomes permanent, the Government may not be prepared to fund service levels to pre-pandemic levels, leading to a potential capacity shortfall even with the new fleet of trains. Mr Rust questioned how this could lead to more road use<sup>177</sup> but if commuting to the office becomes part time rather than full time, then car travel may be regarded as both a safer and a less costly option.

10.8 Network Rail asked for a sensitivity test of rail achieving a 35% modal share compared to 31.3% in 2019<sup>178</sup> and, in his oral evidence<sup>179</sup>, Mr Denby of Abellio Greater Anglia said that it had risen further to 34.5% in the most recently surveyed quarter prior to the pandemic<sup>180</sup>.

---

<sup>175</sup> SSE/8/3, Section 3.

<sup>176</sup> INQ024.

<sup>177</sup> STAL/10/3, para 3.13.

<sup>178</sup> INQ030, Table on p.1

<sup>179</sup> XX Denby, 15 January 2021.

<sup>180</sup> Having investigated this matter with the CAA, SSE concluded that the probable reason for the difference is that some airport passengers will have travelled on a train not terminating at Stansted Airport and alighted, at Bishop's Stortford for example, and completed their journey by bus or taxi rather than waiting for a STEX train. This adds weight to the argument that a 35% sensitivity test, which is intended to be a stress test, is insufficient.

He also expressed the aspiration that, with an entirely new fleet of trains on the line for the first time, rail's modal share could rise to 35-40%<sup>181</sup>. SSE's request to STAL for a 40% sensitivity test was, however, disregarded.

10.9 A further cause for concern is that Mr Rust has taken the standing capacity of the new trains to be 43% of the seating capacity. SSE shares the concern expressed by Mr Mark Johnson<sup>182</sup> that this is wholly excessive, given that airline passengers tend, unlike commuters, to travel with substantial amounts of luggage.

10.10 Put shortly, whilst Mr Rust concludes that four trains per hour will be sufficient to meet the rail demand arising from the appeal proposals, he has not produced the evidence to demonstrate this.

### **Rail Infrastructure Improvements at Other London Airports**

10.11 It is also informative to compare the aspirations for rail service improvements to Stansted with those for competitor airports, where major rail infrastructure projects are underway which will significantly improve their competitive advantage relative to Stansted.

#### Heathrow Airport

10.12 Crossrail when fully operational will mark a step change in the quality, capacity and frequency of Heathrow's rail services to central London with six trains per hour in addition to the four of Heathrow Express and those of London Underground.

#### Gatwick Airport

10.13 Network Rail is currently delivering a £150m upgrade to Gatwick Airport Station. The project will double the size of the station concourse, improve accessibility, reduce overcrowding and improve the passenger experience by building five new lifts and eight new escalators and by widening two platforms.

#### Luton Airport

10.14 Luton Airport and Luton Borough Council are investing £200m in a rapid transit system to connect Luton Airport Parkway Station with the airport terminal. When operational later this year, it will enable a 30-minute journey between Luton Airport and London St Pancras.

---

<sup>181</sup> XX Denby, 15 January 2021.

## Birmingham Airport

10.15 HS2 will bring Birmingham Airport to within 38 minutes from Euston, 9 minutes less than the fastest journey time from Liverpool Street to Stansted. This is currently scheduled for 2028-31<sup>183</sup>.

## Conclusions

10.16 It is by no means clear whether the frequency and capacity of the rail service between Stansted Airport and London will be adequate on the assumed return to a 'business as usual' basis. This may well be a casualty of a rationalised service as the rail industry struggles to recover from the pandemic. Rationalisation seems a likely consequence of a long-term, possibly permanent reduction in commuting. At the present time, the future for the rail industry is simply so uncertain that this is the wrong time to make any long-term decisions about what its future capabilities might be.

## **11. NOISE**

### Introduction

11.1 SSE did not call its noise witness to give oral evidence for reasons fully covered in pre-Inquiry correspondence. However, SSE submitted a comprehensive Proof of Evidence prepared by its long-serving noise adviser, Mr Martin Peachey. This is properly before the Panel, is well-evidenced, and must be taken into account on its merits. SSE is aware, of course, that as a consequence of Mr Peachey being unable to make himself available for cross-examination, Mr Hill QC may claim that his client is prejudiced. However, that is not true in any real sense. The Appellant had advanced sight of that evidence and was able to address all of the points that he made in Chief. And besides, Mr Peachey did not challenge the Appellant's modelling of noise. Rather, he focused on the matters to which I now turn (although I largely address the new WHO Guidelines on noise later in my Closing Submissions when I turn to health and wellbeing).

### Aircraft Noise

11.2 Aircraft are inherently noisy machines. A jet aircraft 50 metres away emits 140dB of noise which is twice as loud as the threshold of pain and around 130 times louder than a busy office or a loud radio (around 70dB). Aircraft noise also contains a significant low frequency content, which encounters less absorption than higher frequencies as it travels

---

<sup>182</sup> Evidence, Johnson (M), 14 January 2021.

<sup>183</sup> Statement by Secretary of State for Transport, Commons Hansard, 5 Sep 2019, Volume 664, Col 349.

through the air and so persists for longer distances. Additionally, the amount of noise transmitted from the outside to the inside of buildings is greater at lower frequencies than at higher frequencies.

### **Government Policy**

11.3 The Aviation Policy Framework ('APF') states as follows, expressly recognising that aviation noise is a real concern to those local residents who are affected and expressly identifying that the aviation industry must reduce noise if airport capacity is to grow<sup>184</sup>:

*“The Government recognises that noise is the primary concern of local communities near airports and we take its impact seriously. As a general principle, the Government therefore expects that future growth in aviation should ensure that benefits are shared between the aviation industry and local communities. This means that the industry must continue to reduce and mitigate noise as airport capacity grows”.*

11.4 Stansted Airport has conspicuously failed to adhere to this Policy from the date it was acquired by MAG in 2013. The area within the 57dB LAeq 16-hour actual day contour has increased every year from 2013, as shown in the latest CAA noise exposure ERCD report in 2019<sup>185</sup>. This Report also shows that the number of people within the noise footprint of the 57dB LAeq 16-hour actual day contour has almost doubled during this period. The Appellant's performance in the last seven years has significantly increased the local community's exposure to aircraft noise.

11.5 Since the APF, of course, Government policy on aviation noise has been undergoing emerging changes<sup>186</sup>, anticipated to lead shortly to the publication of a revised APF and designed to increase community protection against aviation noise harms, including the introduction of improved noise metrics and appraisal guidance; lower threshold levels for the onset of community annoyance; taking into account the number of flights, not just average noise levels; and taking into account health impacts and quality of life factors.

---

<sup>184</sup> CD14.1, Executive Summary, para 16.

<sup>185</sup> CD19.33, p.53, Figure B18.

<sup>186</sup> CD14.47.

11.6 Of particular significance is the lowering of community annoyance threshold levels and the inclusion of the number of flights in assessing the harms caused, in respect of which the Government has said as follows<sup>187</sup>:

*“... recent evidence suggests people are becoming more sensitive to noise at lower levels and that the number of flights overhead can be a more significant factor than the average noise level”.*

11.7 Indeed, the Secretary of State for Transport recognised the shortcomings of average noise levels as early as December 2013 when he said<sup>188</sup>:

*“However, the APF also recognises that people do not experience noise in an averaged manner and that the value of **the LAeq indicator does not necessarily reflect all aspects of the perception of aircraft noise. This may be especially true for rural airports such as Stansted where the ambient or background noise levels are relatively low**”.*

### **The Changing Criteria for Assessing Impact**

11.8 The DfT has developed the following levels from World Health Organisation (WHO) definitions to describe the effects of noise:

- i. **NOEL**: No Observed Effect Level;
- ii. **LOAEL**: Lowest Observed Adverse Effect Level; and
- iii. **SOAEL**: Significant Observed Adverse Effect Level.

11.9 In 2014, the DfT commissioned a research paper, 'Survey of Noise Attitudes' (SoNA), which was published in February 2017<sup>189</sup> and identifies that SOAEL, previously observed around 57dB LAeq, is now observed from 54dB LAeq; and Defra suggests<sup>190</sup> that a LOAEL for aviation is now likely in the range of 50dB to 54dB LAeq, well below the Appellant's 57dB LAeq 16-hour measure. The DfT Impact Assessment for Assessing

---

<sup>187</sup> CD14.30, DfT Future of UK Aviation July 2017, para. 7.32.

<sup>188</sup> SSE/4/3, letter, p.1.

<sup>189</sup> CD19.2.

<sup>190</sup> CD19.18, para 9.

Aviation Noise Impacts<sup>191</sup> states that the intention is to set 51dB LAeq for daytime and 45dB LAeq for night-time as the LOAEL thresholds.

- 11.10 In addition, revised WHO Environmental Noise Guidelines were published in October 2018<sup>192</sup> and give source-specific guideline threshold values to protect human health from aircraft noise. The WHO's "*strong recommendations*" for aviation noise include a limit of 45dB L<sub>den</sub> during the day and 40dB L<sub>night</sub> at night. These WHO limit values compare to the previous WHO '*Guideline*' levels of 55dB and 45dB respectively; and are significantly lower than the comparable limits recommended by the WHO for road and rail noise, confirming that people are more sensitive to aircraft noise than to noise from other modes of transport at any given level. All of this points to a tightening of noise controls for aviation in recognition of the harm it causes to local residents in terms of health and wellbeing.
- 11.11 The Appellant accepts the SONA finding that significant community disturbance now occurs at 54 dB LAeq<sub>16hr</sub> which is lower than the previously accepted 57dB level. It is therefore to be noted that the area within the daytime noise contour for people expected to be significantly annoyed at the 54dB level in the 2032 Development Case is 51.9km<sup>2</sup> with a significantly annoyed population of 6,500<sup>193</sup>. This area is much larger than the 33.9km<sup>2</sup> for the now discredited 57dB threshold for significant community disturbance.
- 11.12 The Appellant also accepts that LAeq<sub>8hr</sub> must be considered as the most appropriate night noise metric as the LOAEL of 45dB is defined in these terms<sup>194</sup>. SSE concurs, but at the same time notes that the WHO recommends the lower limit of 40dB L<sub>night</sub>. The area within the 45dB L<sub>night</sub> night noise contour for the 2032 Development Case is a massive 125.5km<sup>2</sup> with a population of 23,500<sup>195</sup>. These figures, alone, show a considerable rise in the areas and populations affected when the latest Government and WHO noise levels guidance is used.

### **The LAeq Average Noise Metric**

- 11.13 Moreover, as identified in paragraphs 11.5 to 11.7 above, the Government is moving away from the LAeq metric as the only basis for assessing the noise impact of aviation. It is right to do so. As Mr Peachey's Proof of Evidence explained, it has limited value in assessing the noise impacts of individual flights which, as the above Government quotes properly appreciate, cause harm not through the average noise energy emitted by planes over a

---

<sup>191</sup> Ibid, Policy Objectives.

<sup>192</sup> CD19.3.

<sup>193</sup> CD8.3.

<sup>194</sup> Response to SSE Request for Clarification, 5 Feb 2021.

lengthy period, but through ***the repeat disturbance of individual peak noise events, each of which is far above the ambient background noise***. People do not perceive aircraft noise as an equivalent average noise level over 16 hours in the day and 8 hours at night. Rather, they hear aircraft noise as a discrete number of noisy events with associated noise levels, durations, and noise characteristics.

11.14 The most significant shortcoming of the metric is that the impact of each of these individual noise events is lost within the averaged LAeq. As SSE indicated in Opening, this inadequacy can be easily demonstrated, and especially so noting that the Appellant relies heavily on not just the metric but the projected use of quieter aircraft to make its case. In particular:

- i. A 3dB change represents a doubling or halving of noise energy;
- ii. A 3dB change in an individual noise event is, however, barely perceptible under normal conditions<sup>196</sup>;
- iii. That means that if 'noisier aircraft' were to be replaced by 'quieter aircraft', each with their noise emissions reduced by 3dB, none of those flights would be perceptibly quieter. It also means that if, at the same time, the number of aircraft movements were to double, the increase in noise energy of 3dB would balance the 3dB reduction of each individual flight. The LAeq contour would therefore stay exactly the same as before the type of aircraft and number of flights changed;
- iv. The doubling of air traffic movements would, however, be very noticeable indeed: there would be twice the number of noise disturbances, and none of them would be perceptibly quieter than before; and yet
- v. That doubling of equally noisy events would be entirely unrecognised by the LAeq averaging metric.

11.15 Furthermore, the LAeq method of measuring aircraft noise takes no account of background noise levels in assessing noise harm when each additional flight will be heard against the background noise levels of the particular location at the time. LA90 is, of course, the universally accepted metric for measuring background noise, representing the level exceeded for 90% of the measurement period and the threshold below which community

---

<sup>195</sup> CD8.3.

<sup>196</sup> CD19.35, para 3.19.

noise levels seldom drop. It is an accepted reference as a good datum against which to assess aircraft noise events: an evaluation that compares background noise (LA90) with a combination of maximum noise levels (LAm<sub>ax</sub>) and the number of additional noise events, would provide a more effective assessment of likely noise annoyance and sleep disturbance than just the 16-hour day and 8-hour night average noise metrics. Put shortly, the failure to take into account background noise levels, and solely using the LA<sub>eq</sub> noise averaging system, understates the true adverse impact of aircraft noise intrusion on local communities, and especially so around an airport in the countryside, like Stansted.

11.16 A further weakness of the LA<sub>eq</sub> average noise exposure contours is that they do not adequately assess the noise impacts and sleep disturbance under flight paths where the implementation of satellite-based Precision Flying (PBN) results in the concentration of aircraft tracks and increased noise for people living under these routes. The UK Airspace Modernisation Programme is progressively implementing PBN and the Appellant takes no account of this change in the noise environment.

### **A-Weighting**

11.17 The second main shortcoming of the current methodology is the common use of A-weighting for all metrics when measuring aircraft noise. A-weighting downplays the sound pressure level of noise with low frequency components and it largely discounts frequencies below 200Hz. However, the noise spectrum of aircraft engines has a large component of total noise below 200Hz. C-weighting, originally intended for high intensity sounds, will therefore give a more accurate assessment of the level of aircraft noise.

11.18 In 2007, noise measurements for A-weighted and C-weighted noise values were undertaken by MAS Environmental for departing aircraft flying over Hatfield Forest, an SSSI close to Stansted Airport, and these measurements were submitted by the National Trust to the Stansted Airport G1 Inquiry<sup>197</sup>. They compared 1/3rd octave spectrum graphs of A-weighted and C-weighted average sound energy of over-flying aircraft after take-off and found that measurement of the noise of jet aircraft on take-off using C-weighting produced results that were between 13dB and 14dB higher than the A-weighted measurements. This is a considerable increase in noise disturbance: an increase of 10dB is a doubling of the loudness of noise.

---

<sup>197</sup> CD12.31.

## **Review of the Environmental Statements on Noise**<sup>198</sup>

11.19 It is in the light of all the above that Mr Peachey commented as follows on certain aspects of the Environmental Statements on Noise submitted by the Appellant in support of the appeal proposals.

### **Future Aircraft (ES7, para 7.80)**

11.20 The ES relies on the introduction of new generation aircraft and gives figures for reductions in noise emissions, all against the backcloth of the aviation industry claim that *“new aircraft are up to 50% quieter”*<sup>199</sup> based upon how aircraft noise is measured when certified on manufacture, with noise measured as pressure levels. However, what the human ear hears is loudness and therefore it is simply wrong for the industry to imply that a 50% reduction in noise pressure levels means that *“new aircraft are up to 50% quieter”*. It means no such thing.

11.21 Indeed, the inadequacy of the LAeq metric has particular relevance to the assessment of the introduction of new generation aircraft and specifically the anticipated B737MAX replacement of the B737-800 which is currently the most widely used aircraft type at Stansted. The Appellant has not only provided over-optimistic timing assumptions regarding fleet replacement in order to maximise the benefit from this barely perceptible 3dB gain, but has also exaggerated the Base Case assessment by including an almost doubling of noisy CATMs. This combination of over-optimism and overstatement gives a false assessment of the consequences of the appeal proposals since it considerably understates the increase in the adverse noise impacts. This illusion is possible because the averaging metrics allow the increase in the number of noise events to be offset by the logarithmic equivalent of a halving of the impact of each event.

### **100% Single Mode Contours (ES Appendix 7.3, para 9.5)**

11.22 The ES does not provide 100% single mode LAeq contours, asserting that *they “will not assist in an overall assessment of noise effects as it is unclear exactly what those contours will signify”*, but presents instead contours based on an average of the two runway directions. However, that means that they simply do not represent the noise associated with a single runway direction operation, which is the everyday occurrence, noting that the runway can only be used in one of two directions at any one time, depending on wind direction, usually decided on a daily basis.

---

<sup>198</sup> ES7 (CD3.7) and ES Addendum (CD7.7).

<sup>199</sup> CD23.12.

11.23 Use of 100% single mode contours would, therefore, have better represented the real-world situation and real-life experience of local residents, more closely representing the actual operational environment that people living around the airport will experience. For these reasons, 100% single mode contours should have been provided for a proper assessment to be carried out. They were not.

#### Complaints Analysis (ES Appendix 7.5, para 9)

11.24 The ES seeks to dismiss the importance of complaints as a tool for assessing the impacts, asserting that “*complaints are a poor indicator of the degree of noise exposure experienced by people*”. With respect, SSE disagrees. Examining the numbers of complaints by location and over time can provide a good indicator of the level of exposure to the adverse effects of aircraft noise. It is axiomatic that people only complain about noise exposure when they are annoyed by aircraft noise events.

#### Surface Noise

11.25 Mr Peachey addressed surface noise in his written Proof of Evidence at Sections 8 and 9 and pointed out at paragraph 9.1.1 that Mr Bamber’s Proof of Evidence (SSE/7/2) set out the reasons why the Appellant’s road traffic predictions were seriously flawed, concluding that the impact on road traffic has been significantly understated. That was then tested in evidence and it became clear that Mr Rust had failed to allocate any daily two-way trips to the road network. This has obvious implications for the assessment of road traffic noise (and for the air quality assessment).

#### Conclusions

11.26 For the above reasons, and the others set out in Mr Peachey’s written evidence, it is quite clear that the additional flights generated by the appeal proposals will cause considerable additional noise events, the impact of which the averaging LAeq metric fails adequately to capture. The proposals would significantly increase the frequency with which thousands of people will be subjected to noise harms. Taken together with the other concerns raised by Mr Peachey, the noise impacts of the appeal proposals plainly weigh in the planning balance against those proposals.

## **12. AIR QUALITY**

12.1 Dr Holman, giving written evidence for SSE on air quality impacts, raised six main issues, which I shall take in turn.

## **Road Traffic Data**

- 12.2 As Dr Holman explained in her written evidence, air quality assessment is only as good as the data it uses. It is for this reason that she suggests that her evidence should be considered together with and in the context of Mr Bamber's evidence, which critiques the Appellant's assessment of the road traffic associated with the appeal proposals. The reason for the inter-relationship between these two bodies of evidence is that road traffic is an important input to the models used in the Air Quality Assessment (AQA).
- 12.3 Mr Bamber has identified and explained the principal sources of the Appellant's underestimation of future traffic associated with the proposals, including a failure properly to account for the vehicle movements associated with so-called kiss-and-fly airport drop-offs and other two-way journeys including taxi and minicab 'empty running'. Prior to the Inquiry, the Appellant provided no adequate explanation or rectification of this obvious and very significant error, but it was finally accepted in the course of Mr Rust's oral evidence.
- 12.4 And the errors identified by Mr Bamber are compounded by the Appellant's erroneous approach to AQA assessment years. Chapter 6 of the Transport Assessment Addendum<sup>200</sup> (TAA) states that it has been updated to reflect revised passenger forecasts and, as is standard practice, the AQA considers a 'transitional' year, taken to be 2027. But the TAA itself provides no data whatsoever for 2027, and it is therefore not possible to know how the 2027 traffic data used in the AQA was derived. This omission is more than merely academic because, as Dr Holman pointed out in her Proof of Evidence<sup>201</sup>, there are discrepancies in the 2032 data between the TAA and Chapters 6 (Surface Access) and 10 (Air Quality) of the ESA; and the material provided by the Appellant makes it impossible to resolve these.
- 12.5 Overall, the AQA considers a 'transitional' year (2027), but the Transport Assessment Addendum ('TAA') does not provide any data for 2027, and it is therefore unclear how this data was derived. The AQA and TAA present different traffic flow data for key road links. Furthermore, the AQA and noise assessments use different traffic speeds for the same road links. Traffic flows and speed are important inputs into the air quality models, and in many locations the use of the AQA data will underestimate concentrations.

---

<sup>200</sup> CD9.2, para 6.1.

## **Model Set-up and Verification**

- 12.6 As with any modelling system, the results of the modelling deployed by the Appellant can only be as good as the model set-up and input data. Defra's statutory technical guidance for Local Air Quality Management<sup>202</sup>, which provides advice on how to set up air pollution dispersion models, is generally followed in most AQAs. For example, the East Herts District Council (EHDC) Air Quality Planning Guidance<sup>203</sup> requires developers to follow the Defra guidance.
- 12.7 The information provided by the Appellant as to its model set up is scant to say the least. But on the basis of the limited material offered in ES Appendix 10.1<sup>204</sup>, Dr Holman was able to obtain a very rough indication of the locations of relevant receptors<sup>205</sup> and it can be seen that these locations have the effect of underestimating AQ impacts. The grid references in Table 10.1.3 of ES Appendix 10 show that the Appellant has chosen modelled receptors located in the centre of the buildings, rather than (as one would expect from a sound assessment) on the façade closest to the nearest road where the highest concentrations occur. As Dr Holman has explained, this is important because pollutant concentrations are greatest at the centre of a road and rapidly decline with distance from that road. The model will therefore under-predict air pollution at the receptors quite simply because the locations modelled are not where the highest pollutant concentrations occur.
- 12.8 More specifically, receptors closest to the M11 and A120 were excluded from the model, so that impacts have not been assessed precisely at the locations where the greatest impacts are likely to occur.
- 12.9 A further means by which air quality impacts have been underplayed by the Appellant is through its apparent failure to observe good practice in modelling reduced vehicle speeds near to junctions to take account of waiting time and congestion in these locations, and failure also to take account of the seasonal, daily and diurnal variations in emissions.
- 12.10 Moreover, the Appellant's modelling failed to take account of different conditions between the meteorological station and the study area (e.g. in the local towns), and the effect of buildings on dispersion. This failing is significant because weather is an important determinant of air quality.

---

<sup>201</sup> SSE/6/2, para 2.3 and Table 1.

<sup>202</sup> CD16.5.

<sup>203</sup> CD16.10.

<sup>204</sup> CD4.16.

<sup>205</sup> SSE/6/2, paras 3.2.1 - 3.2.2.

- 12.11 It is common in AQAs to verify models by assessing the accuracy using historic assessments. Where a party does not provide the necessary data to enable such verification one cannot be confident of the quality of any assessment as to future air quality and there is good reason to question why such data is being withheld. The Appellant has given no information on the proportion of the total NO<sub>x</sub> emissions emitted as NO<sub>2</sub>, yet NO<sub>2</sub> emissions constitute an important element of ambient NO<sub>2</sub> concentrations close to sources. Neither has the Appellant provided sufficient data to undertake any meaningful verification of the historical situation, as recommended by Defra, so that it is simply not possible to attach meaningful weight to its own AQA predictions.
- 12.12 Such model verification as is possible, however, shows poor agreement between the predicted levels and actual measurements taken in Bishop's Stortford and Stansted Mountfitchet, not assisted by the deployment of a seemingly arbitrary factor of four to adjust the concentrations. Even after this adjustment the model grossly under-predicted concentrations in Bishop's Stortford.
- 12.13 Neither has the model used for the ESA been verified which implies, once again, that it would not be sensible to attach weight to the Appellant's model as a whole.
- 12.14 Overall, the Appellant's AQA modelling: ignored good modelling practice; excluded the worst-case receptors; has apparently used much lower traffic flows compared to those in the TAA, which may, in any case, be an under-estimate on key road links; and model results have not been verified. Any one of these shortcomings would provide cause to doubt the Appellant's AQA; and taken together, they show that the assessment is unreliable and very likely to have underestimated the impacts of the Proposals.

### **Local Plan Policies**

- 12.15 The UDC Local Plan, adopted January 2005<sup>206</sup>, contains the following policy provision relating to exposure to poor air quality (Policy ENV13):

*"Development that would involve users being exposed on an extended long-term basis to poor air quality outdoors near ground level will not be permitted. A zone 100 metres on either side of the central reservation of the M11 and a zone 35 metres either side of the centre of the new A120 have been identified on the proposals map as particular areas to which this policy applies."*

---

<sup>206</sup> CD14.9.

12.16 The EHDC Local Plan<sup>207</sup>, adopted December 2018, contains Policy EQ4 on air quality which sets down a comprehensive Air Quality Planning Guidance including defined procedures and defined content for an AQA,

12.17 Dr Holman concluded that the Appellant had not demonstrated that the appeal proposals comply either with UDC Policy ENV13 or with EHDC Policy EQ4 and, whilst acknowledging that the Appellant had provided information for average NO<sub>2</sub> concentrations in the M11 and A120 zones, it had not done so for discrete receptors, with the result that there was wholly inadequate information on future exposure at residential locations, such as at Old Bury Lodge Lane in Stansted Mountfitchet, in Sheering, and near Dunmow.

### **Fine Particulate Matter ('PM2.5')**

12.18 Dr Holman found that the AQA did not adequately consider the change in PM<sub>2.5</sub> concentrations and that the Appellant ignored the consensus view (shared by the UK Government, the WHO and others) that the current annual mean PM<sub>2.5</sub> air quality standard is far too lenient.

12.19 Furthermore, given that the appeal proposals will not be fully delivered until 2032, the impacts should have been assessed against the Government's long-term target of 10 µg/m<sup>3</sup> (WHO guideline). As this is currently being revised, a precautionary approach, e.g., using 7.5 µg/m<sup>3</sup>, is also appropriate. No such approach was adopted by the Appellant.

12.20 The consequences of this further instance of the Appellant underplaying the effects of its Proposals are important. We know from Dr Holman's evidence that around 40,000 deaths a year are attributable to exposure to outdoor air pollution and that the economic costs associated with the effects of poor air quality are estimated to be in excess £20 billion a year<sup>208</sup>. Dr Holman herself gave air quality evidence just a few weeks before the commencement of this Inquiry at the first UK Inquest to find that a failure to reduce pollution levels to WHO guideline levels contributed to the causes of the death of a child, Ella Abdo Kissi-Debrah.

### **Ultrafine Particles**

12.21 The Appellant ignored the impact of Ultrafine Particles (UFP), i.e., the smallest particulate matter. Whilst the contribution to PM<sub>2.5</sub> mass is small, UFP typically contributes over 90% of the number of particles in the air. Due to their very small size, UFP can penetrate deep

---

<sup>207</sup> CD14.10.

into the human lung. Aircraft emissions can be readily identified a considerable distance from the source. Future projections show an increasing contribution of UFP from aviation. Despite all of this, the original ES did not even mention UFP, and the ES Addendum erroneously suggests that UFP can be considered a subset of PM<sub>2.5</sub> and that this could provide a guide to show that changes in UFP would be insignificant<sup>209</sup>. Dr Holman concluded that the lack of an established methodology was insufficient justification for not providing any assessment of UFP.

### **Failure to take account of Kiss-and-Fly trips**

12.22 Finally, as discussed above in the Section dealing with road traffic, the Appellant has failed to take full account of the additional air pollution arising from the increase in airport-related road traffic, having made no allowance for the additional vehicle movements associated with kiss-and-fly airport drop-offs and other two-way journeys e.g. by taxis and minicabs.

### **Conclusions**

12.23 The catalogue of errors and omissions identified by Dr Holman is, at the very least, reason to doubt the efficacy of the model input data and overall assessment of AQ impact conducted by the Appellant. They also provide further evidence of a pattern identified elsewhere in the ES and the ES Addendum to understate harms.

## **13. HEALTH AND WELLBEING**

### **The Health Impact Assessment**

13.1 The need for a Health Impact Assessment (HIA) in respect of the appeal proposals does not stem from UDC policy, but from provisions within EU Directive 2014/52/EU transposed into UK law by The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Regulations clearly apply to these appeal proposals and stipulate as follows<sup>210</sup>:

*"The characteristics of development must be considered with particular regard to — ... (g) the risks to human health..."*

13.2 It is therefore a statutory requirement for an assessment of the risks to human health to be carried out in respect of the appeal application. Furthermore, that statutory requirement

---

<sup>208</sup> CD16.7, page xiii.

<sup>209</sup> CD8.2, p.7.

<sup>210</sup> Schedule 3, para 1(g).

has to be seen in the context of the fact that the UK is a signatory to the 1999 WHO Charter on Transport, Environment and Health<sup>211</sup>, which commits the Government to the stated objectives of the Charter, including that:

*"We must ensure that the wellbeing of our communities is put first when preparing and making decisions regarding transport and infrastructure policies."*

13.3 The Charter emphasises that adverse health effects fall disproportionately on the vulnerable including children and the elderly. It also stresses the importance of ensuring that noise impacts and air quality levels are acceptable for environments including dwellings, schools and hospitals. And it sets targets for measures *inter alia* to reduce environmental pollution and noise associated with transport. Disappointingly, however, the HIA undertaken on behalf of the Appellant and in support of the appeal proposals makes no mention of the WHO Charter. Even more important, perhaps, is the failure of either the HIA or UDC properly to consider the recently published 'World Health Organisation Noise Guidelines'<sup>212</sup>, a lacuna which merits separate consideration given it is so pertinent to these particular appeal proposals.

### **World Health Organisation Noise Guidelines**

13.4 When the Appellant was preparing its planning application in 2017, UDC was aware that the 1999 WHO Noise Guidelines were soon to be updated, as reflected in UDC's Scoping Opinion which advised as follows<sup>213</sup>:

*"In the event that the World Health Organization (WHO)'s new evidence on the impacts of aviation noise is published before a determination to grant planning permission, the environmental statement assessment must incorporate this evidence (for example, by way of supplementary assessment)."*

13.5 As had been expected, the new WHO Noise Guidelines<sup>214</sup> were published in 2018, prior to the planning application going before the UDC Planning Committee. However, the Appellant did not comply with the request set down by UDC in its Scoping Opinion; and the

---

<sup>211</sup> CD23.32.

<sup>212</sup> CD19.14.

<sup>213</sup> CD4.5, Appendix A, para 47.

<sup>214</sup> CD19.3.

Appellant did not address this issue in the October 2020 ESA, either in Chapter 7 (Air Noise<sup>215</sup>) or in Chapter 14 (Health and Wellbeing<sup>216</sup>).

- 13.6 The Appellant's July 2020 Statement of Case did, of course, make a brief reference to the WHO 2018 Environmental Noise Guidelines<sup>217</sup>, but only to minimise their importance:

*"Published before the November 2018 Planning Committee, these global guidelines make recommendations for aircraft noise exposure that are significantly lower than current UK policy. **However, while agreeing with the ambition to reduce noise and to minimise adverse health effects, the UK Government explicitly prefers to use the UK specific research and evidence that the WHO report did not assess. Thus, WHO guidance can only carry very limited weight in the planning assessment.**"*

- 13.7 In fact, however, the HIA attaches no weight whatsoever to the new WHO Noise Guidelines (which are not global but specifically for the European Region), thereby ignoring the most up-to-date, authoritative advice on the health impacts of aviation noise upon local communities. Moreover, it has done so notwithstanding the responsibility under the Charter on Transport, the Environment and Health *"to ensure that the wellbeing of our communities is put first when preparing and making decisions regarding transport and infrastructure policies"*<sup>218</sup>.

- 13.8 So, let me return again to the latest WHO recommendations with regard to aircraft noise, in order that the importance of the expert health advice that the Appellant has chosen to disregard is clearly understood:

- i. For average noise exposure, WHO **"strongly recommends reducing noise levels produced by aircraft below 45 dB L<sub>den</sub>, as aircraft noise above this level is associated with adverse health effects"**; and
- ii. For night noise exposure, WHO **"strongly recommends reducing noise levels produced by aircraft during night-time below 40 dB L<sub>night</sub>, as night-time aircraft noise above this level is associated with adverse effects on sleep."**

---

<sup>215</sup> CD7.7.

<sup>216</sup> CD7.14.

<sup>217</sup> CD24.1, para 4.12.

<sup>218</sup> CD23.32, Preamble, Clause 2.

13.9 The latest WHO noise thresholds of 45dB L<sub>den</sub> and 40dB L<sub>night</sub> for aircraft noise are significantly lower than the thresholds in the WHO 1999 Guidelines for Community Noise and it is therefore totally incorrect for the Appellant to assert in its Statement of Case<sup>219</sup> that:

*"Even if the lower WHO exposure thresholds were to be applied, the ES would still only assess the change in noise impacts to be negligible."*

13.10 These tough new aviation guideline thresholds reflect the strength of the evidence relating to annoyance and sleep disturbance. These aircraft noise thresholds are also significantly lower than those for road and rail noise, confirming that people are more sensitive to aircraft noise than to noise from other modes of transport at any given level. Accordingly, SSE does not accept Mr Cole's interpretation that<sup>220</sup>:

*"... these Guidelines can only be considered appropriate objectives for all airports to strive to achieve if no consideration is given to the economic consequences of doing so".*

13.11 Rather, the revised WHO Guideline threshold limit values should have been used as part of a proper assessment of the consequences of the noise impacts of the proposals.

### **Impacts on Health and Wellbeing**

13.12 As for the health impacts of the appeal proposals, I commend to you the totality of the written evidence of Professor Jangu Banatvala CBE, SSE's very distinguished health expert. Noise and air pollution are generally considered to be the main cause of aviation-related health harms but, in the current circumstances and looking to the future, the importation of highly infectious viruses such as Covid-19 cannot be disregarded. Nor can the health impacts of climate change be disregarded. In the time available I can only briefly touch on these four issues in my Closing Submissions.

### **Noise**

13.13 The WHO recommendations are evidence-based, and the lowering of the 'safe limits' between 1999 and 2018 reflects the growing body of evidence of the adverse health effects of aircraft noise. The accumulated data from a number of studies strongly suggests

---

<sup>219</sup> Ibid.

<sup>220</sup> STAL response to SSE Request for Clarification, 5 Feb 2021.

that those living in the vicinity of airports may experience cardiovascular damage and this is also supported by experimental evidence in the Schmidt study<sup>221</sup>.

13.14 Furthermore, among school children, studies conducted in three European countries have shown that noise pollution from airports and busy roads resulted in reduced cognitive performance and can therefore have an adverse impact upon their education and, thereby, their life prospects<sup>222</sup>. Children with language or retention disorders who are learning in a second language experienced even more impairment<sup>223</sup>.

### Air Pollution

13.15 A 2016 report from the Royal College of Physicians<sup>224</sup> highlighted the links between air pollution and cancer, asthma, stroke, heart disease and diabetes. The report estimated that in the UK around 40,000 deaths a year are attributable to exposure to outdoor air pollution, describing it as one of the major health challenges of our day:

*"It has been linked to cancer, asthma, stroke and heart disease, diabetes, obesity, and changes linked to dementia."*

*"The health problems resulting from exposure to air pollution also have a high cost to society and business, our health services, and people who suffer from illness and premature death. In the UK, these costs add up to more than £20 billion every year."*

13.16 Local air quality in the vicinity of airports is already adversely affected by pollution from both aircraft and airport-related road traffic. If Stansted expanded to 43mppa this would result in 53% more passengers and 38% more flights compared to 2019<sup>225</sup>. The increase in airport-related road traffic would be even greater because the Appellant projects that car use by airport passengers would increase from 46% in 2019 to 50% in the 43mppa case<sup>226</sup>, with a reciprocal decline in public transport usage.

13.17 The risk to the health of those living in the vicinity of airports and airport access roads, and therefore being affected by air pollution, arises from emissions of nitrogen dioxide (NO<sub>2</sub>)

---

<sup>221</sup> Schmidt F et al. 'Night-time aircraft noise impairs endothelial function and increases blood pressure in patients with or at high risk for coronary artery disease'. Clin Res Cardiol. 22 Aug 2014. DOI 10.1007/s00392-014-0751-x.

<sup>222</sup> Stansfeld SA, Berglund B, et al, 'Aircraft and Road Traffic Noise and children's cognition and health: a cross-national study'. Lancet 2005 365: 1942-49. <https://www.thelancet.com/journals/lancet/article/PIIS0140673605666603/fulltext>.

<sup>223</sup> Klatte M, Bergstrom K & Lachmann T - 'Does noise affect learning? ... effects on cognitive performance in children'. Frontiers in Psychology, 2013 <https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00578/full>

<sup>224</sup> CD16.11, 'Every breath we take', Royal College of Physicians, Feb 2016, Executive Summary.

<sup>225</sup> CD23.24, p.9.

<sup>226</sup> Ibid, p.3; CD5.1, para 6.13; and CD9.2.

and particulate matter (PM10, PM2.5 and ultrafine particles (UFP)). Particulate matter is closely associated with an increased risk of respiratory disease: these fine particles can enter deep into the lungs; and breathing PM2.5 is also associated with increased risk of heart attacks, strokes and cancer. Recent research has shown that there is no safe limit for PM2.5<sup>227</sup>; and that air pollution caused by PM2.5 can shorten life expectancy by more than a year<sup>228</sup>.

13.18 Stansted Airport is already a significant source of PM10 and PM2.5 air pollution and these emissions are projected to increase in connection with the appeal proposals<sup>229</sup>. Measured in tonnes, PM emissions may not appear very substantial, but PM2.5, for example, denotes particulates with a diameter less than 2.5 micrometres (by comparison, human hair has a diameter of between 17 and 180 micrometres) and much of the total of 10.8 tonnes per annum projected by the Appellant in the Development Case<sup>230</sup> would end up in the bloodstream and respiratory system of local residents.

13.19 Turning to Ultrafine Particles (UFP) – particles below 0.1 micrometres in diameter - these can be absorbed via the respiratory epithelium into the circulation and may be an important factor in inducing cardiovascular disease<sup>231</sup>. And yet, the Appellant ignores the impact of UFP on the grounds that their impact cannot be quantified. Health risks should not, however, be disregarded simply because we cannot yet measure their degree of seriousness.

### Covid-19

13.20 In the UK more than 120,000 Covid-related deaths have been recorded thus far. The pandemic arrived in the UK a year ago, brought first to these shores by people arriving from overseas, predominantly by air travel.

13.21 In addition to his written Proof of Evidence, Professor Banatvala provided a letter to the Inquiry on 27<sup>th</sup> January and this is included in the Inquiry Documents List<sup>232</sup>. He points out that, despite the current success of the UK vaccination programme, the UK will need to learn to live with Covid-19 at a low level on a long-term basis and that new viral variants will have implications for international air travel and border control.

---

<sup>227</sup> The cost of air pollution to Health', Wei Y, Wang Y, Di Q et al, BMJ, 30 Nov 2019 (CD23.28) and editorial statement in that same BMJ confirming that "*the conclusions of other authors finding no safe lower limit for exposure to PM2.5.*"

<sup>228</sup> Apte J et al, University of Texas, published in 'Environmental Science & Technology', Aug 2018 - see <https://www.sciencedaily.com/releases/2018/08/180822112406.htm>

<sup>229</sup> CD7.10, Tables 10.6 and 10.7.

<sup>230</sup> CD7.10, Table 10.6. See also SSE/5/2, Table 2.

<sup>231</sup> Schulz H et al, 'Cardiovascular effects of fine and ultrafine particles', J Aerosol Med. 2005 Spring;18(1):1-22.

<sup>232</sup> WR11.

13.22 Dr Buroni's Proof of Evidence<sup>233</sup> makes several references to his international experience and reputation, but no reference to the health risks associated with international travel. In fact, Dr Buroni concluded that the proposed development would *"have a positive influence on health and wellbeing at a regional scale ... through the leisure travel and social connections it would offer"*<sup>234</sup>.

13.23 And in February 2021, in his response to SSE's request for clarification of his evidence<sup>235</sup>, Dr Buroni failed to point to anywhere in the Appellant's health evidence that addressed the health risks associated with international travel. In his opinion *"international efforts to monitor, respond to and manage communicable disease transmission falls outside of the influence of the local planning process"*.

13.24 SSE does not share that view. Rather, SSE considers this to be a serious (but convenient) omission from the Appellant's consideration of health impacts, and a failure to acknowledge any degree of responsibility for the imported health risks.

#### Health Impacts of Climate Change

13.25 The topic of climate change has been considered at some length in the course of the Inquiry, but the adverse health impacts associated with climate change have barely been touched upon. Professor Banatvala highlighted the adverse health impacts of Climate Change<sup>236</sup>, concluding that these are likely to be the most significant, widespread and long-lasting health impacts arising from the appeal proposals. And yet, as declared by Dr Buroni in paragraph 3.30 of his Rebuttal Proof: *"this health pathway was scoped out, as it is not possible to quantify the health effects of climate change directly attributable to an individual project. This has been addressed instead through the carbon assessment and the review of national policy."* This is nothing less than a denial of responsibility.

#### Conclusions

13.26 The Appellant's assessment of the adverse health and wellbeing impacts of the appeal proposals is wholly unsatisfactory. There is a consistent failure to attach due weight to the recommendations of the WHO or to peer-reviewed academic and scientific evidence; and significant health considerations are ignored simply because they cannot be particularised or quantified. It should not be in doubt that the increased number of flights will have adverse health impacts upon the local population. The Government's stated policy is to

---

<sup>233</sup> STAL/6/2.

<sup>234</sup> Ibid, para 4.5.

<sup>235</sup> INQ027.

<sup>236</sup> SSE/5/2.

improve air quality for local people, not reduce it, and for fewer people to suffer the impacts of aircraft noise, not more people. The appeal proposals are in fundamental breach of both objectives.

## 14. CARBON AND NON-CARBON EMISSIONS

### Introduction

14.1 In SSE's main Proof of Evidence on Climate Change, it was demonstrated that continued airport expansion was extremely unlikely to be compatible with the more stringent aviation targets required by the Net Zero target. And, indeed, this is exactly what the CCC has now confirmed to be the case in the UK. Put shortly, passenger growth to current capacity limits would already exceed the number of airport passengers in 2050 that is consistent with achieving Net Zero, given the expected rates of decarbonisation and the likely availability of GHG removals; and that is why the CCC has recommended that further airport expansion should only be approved if balanced by reductions in capacity elsewhere in the UK.

14.2 Mr Robinson seeks to avoid this conclusion by asserting that the CCC has taken an unduly pessimistic view of the rate at which aviation could decarbonise. There are two answers to this:

- i. First, the latest CCC projections adopt a more optimistic view of aviation's abatement potential than in previous advice. However, the CCC's assessment of how many genuine and verifiable GHG removals will be available in the UK (an issue on which the aviation industry cannot claim to have any greater expertise) is that this additional abatement potential should be used to reduce gross aviation emissions to 23MtCO<sub>2</sub>, rather than being 'spent' on additional airport capacity.
- ii. Second, if Mr Robinson's expectations prove correct, and the industry does outperform the Balanced Net Zero Pathway, then (on CCC recommendations), additional airport capacity could be released, ***but only in due course and when this is properly demonstrated through monitoring ongoing progress***. That is plainly the responsible way to proceed. The alternative – expanding airports now in reliance on the hope of faster technological progress in future – is gambling with the UK's climate objectives and, ultimately, with the stability of the global climate system.

## Sustainable Aviation

14.3 The Appellant's emissions projections were, of course, made before the CCC issued its C6B Advice. Moreover, they were based on the 'CO<sub>2</sub> Roadmaps' produced by Sustainable Aviation, an organisation sponsored by the aviation industry (including the Appellant), and one which has produced four of these so-called Roadmaps over the past twelve years and has a record of wildly optimistic projections:

- i. **December 2008**<sup>237</sup>: Roadmap forecasts that UK gross aviation emissions would start to fall in 2020. No mention was made of net emissions.
- ii. **March 2012**<sup>238</sup>: Roadmap pushes forward the date for gross emissions starting to fall to 2035, 15 years later than previously announced, but projects that net emissions (after offsets) would start to fall in 2020.
- iii. **December 2016**<sup>239</sup>: Roadmap still shows gross emissions not starting to fall until 2035 but the fall in net emissions is now also delayed to 2035, 15 years later than previously announced.
- iv. **February 2020**<sup>240</sup>: Roadmap again projects that gross emissions will begin to fall in 2035, but now projects that net emissions will reduce very slightly from 2020 but then more strongly from 2035 reaching Net Zero in 2050 "*due to market based measures*".

14.4 The latest Roadmap shows UK gross aviation emissions falling from a potential total of 71.1MtCO<sub>2</sub> in 2050 to 25.8MtCO<sub>2</sub>. This is claimed to be achievable through more efficient aircraft and air traffic management, carbon pricing, and the use of biofuels. However, it is a consistent feature of the four Sustainable Aviation Roadmaps published in 2008, 2012, 2016 and 2020 that the good news is always 10-15 years away.

14.5 In view of this track record only limited weight can reasonably be placed on these projections published by Sustainable Aviation. Greater reliance should therefore be placed on the most recent emissions projections provided by the Government in the DfT MBU Policy document in June 2018<sup>241</sup> and the supporting DfT spreadsheets<sup>242</sup>.

---

<sup>237</sup> CD17.61.

<sup>238</sup> CD17.62.

<sup>239</sup> CD17.63.

<sup>240</sup> CD17.5.

<sup>241</sup> CD14.2, Tables 1-3.

## Stansted CO<sub>2</sub> Emissions

14.6 Material changes in circumstances since the Appellant submitted its original ES in February 2018 resulted in it amending its traffic forecasts for Stansted in the October 2020 ESA. The Appellant now expects that, if the application is approved, Stansted will reach a throughput of 43mppa in 2032 or 2034 (the latter in the sensitivity case for a slower post-Covid recovery<sup>243</sup>) rather than in 2028 as originally projected in the ES.

14.7 For 2032, the Appellant now projects that average emissions per aircraft movement in the Development Case will be lower than in the Base Case<sup>244</sup>. This, however, is wholly implausible:

- i. The appeal proposals are said to be predicated, at least in part, upon the opportunity to expand Stansted's long-haul business;
- ii. The Base Case has three times as many 'Other Movements' as the Development Case, and these mostly comprise small private/business aircraft and repositioning flights, generally of a short distance, often just between two UK airports; and
- iii. The combined effect of i and ii above is that the Base Case has, on average, smaller aircraft flying shorter distances compared to the Development Case.

14.8 It is clear that the Appellant wants to portray the difference between 43mppa and 35mppa as minimal, so far as CO<sub>2</sub> emissions are concerned, and has significantly understated the additional Stansted CO<sub>2</sub> emissions that would arise from the appeal proposals. The true level of increase would put Stansted's CO<sub>2</sub> emissions far in excess of the provision made by the DfT in arriving at its plans to bring overall UK aviation CO<sub>2</sub> emissions below 37.5MtCO<sub>2</sub> by 2050. Moreover, there is now the challenge of reducing the DfT's current planning assumption for 2050 to 23MtCO<sub>2</sub><sup>245</sup>. As already seen, the CCC considers this can only be achieved by managing demand.

## Competing Projections

14.9 Per aircraft movement, the DfT's assessment of Stansted's CO<sub>2</sub> emissions in 2050 is **40% higher** than the Appellant's projections<sup>246</sup>. It is beyond doubt that the Appellant's projection for Stansted Airport's CO<sub>2</sub> emissions in 2050 is significantly understated. It is also beyond

---

<sup>242</sup> CD23.26, p.1.

<sup>243</sup> The recent AOA Report (INQ037) indicates that 2034 may now be viewed as optimistic.

<sup>244</sup> SSE/7/2, Table 1.

<sup>245</sup> CD17.27, p.165.

<sup>246</sup> SSE/7/2, Table 2.

doubt that the effect of the Proposals would be to overshoot the DfT planning assumption for Stansted by a very considerable margin. This would be the case not only for 2050, but for all the intervening years between 2028 and 2050 and must therefore be weighed as a significant adverse impact of these proposals.

14.10 In cross-examination, Mr Vergoulas refused to agree the most rudimentary of arithmetic<sup>247</sup> which showed beyond doubt that the Appellant's projections for CO<sub>2</sub> emissions were consistently lower than those provided by the DfT. Perhaps this was because such an admission would be inconvenient so far as his client and his evidence were concerned. Or perhaps it was the unexpected appearance of Mr Hill QC (unexpected because Ms Jackson was handling this particular witness), and then a series of his interruptions, which caused Mr Vergoulas to feel nervous about agreeing anything. He was certainly less co-operative as a witness afterwards, repeatedly invoking other Appellant witnesses on evidence that was clearly his. Whatever the reason for Mr Vergoulas's reluctance, it is submitted that the figures make utterly plain that projections consistently downplay the CO<sub>2</sub> consequences of the appeal proposals and should have limited if any weight attached to them.

### **UK Overview**

14.11 Table 3 in SSE/7/2 summarises the DfT projections published in and alongside the June 2018 MBU Policy document<sup>248</sup> and gives an indication of the challenge facing the DfT in seeking to contain UK aviation emissions to below 37.5MtCO<sub>2</sub> by 2050.

14.12 The projections contained in the 2018 MBU policy document show that the 37.5MtCO<sub>2</sub> planning assumption would be exceeded by 3.3MtCO<sub>2</sub> even if the effect of the MBU policy was only to increase demand by 2.0% to 444.2mppa in 2050<sup>249</sup>.

14.13 The 37.5MtCO<sub>2</sub> planning assumption, which was applicable when the Appellant submitted its appeal proposals, has now been overtaken by events, of course. In particular, the revised statutory Net Zero target for UK emissions, as set down in the June 2019 amendment to Section 1 of the CCA, requires the 37.5MtCO<sub>2</sub> planning assumption to be reduced and the CCC has now recommended that it be reduced to 23.0MtCO<sub>2</sub>. And Stansted is just one of the many UK airports currently looking to expand capacity. If all the announced plans were consented, the capacity of UK airports would increase to over

---

<sup>247</sup> XX Vergoulas, 5 February 2021.

<sup>248</sup> CD14.2, Tables 1-4 and CD23.26, p.1.

<sup>249</sup> CD14.2, Table 1, assuming HR3 by 2050.

500mppa<sup>250</sup>. Clearly, the MBU policy does not envisage this level of increase, even with the 37.5MtCO<sub>2</sub> planning assumption applicable before the arrival of the Net Zero target.

14.14 There was an indication of the likely direction of Government policy for managing aviation carbon emissions when, on 9<sup>th</sup> December 2020, the CCC published its recommendations to Government on the 6CB. This was discussed earlier in Section 6. Suffice it at this point just to recap on the CCC's three headline points:

- i. To constrain the growth in passenger numbers to 365mppa by 2050 (compared to the potential for 444.2mppa in the MBU policy<sup>251</sup>, to the DfT's unconstrained demand forecast of 495mppa in 2050<sup>252</sup> and to actual passenger throughput of 297mppa in 2019<sup>253</sup>);
- ii. To reduce the 2050 planning assumption for UK aviation carbon emissions from 37.5MtCO<sub>2</sub> to 23MtCO<sub>2</sub>; and
- iii. No further airport expansion to be approved unless and until the industry can show evidence that it is on track to outperform the 23MtCO<sub>2</sub> planning assumption.

14.15 Plainly, these recommendations constitute a highly material consideration for this Inquiry, noting that the Government has a statutory obligation to present the 6CB to Parliament by the end of June.

### **Non-Carbon Effects**

14.16 Finally, but nonetheless crucially, in relation to non-CO<sub>2</sub> effects Mr Vergoulas accepted that these had a significant positive warming impact overall and that they were consequently to be considered a significant adverse environmental impact for the purposes of EIA. However, he failed adequately to explain why they did not feature at all in either the ES or ESA. To state, repeatedly, that they formed no part of the 6CB, or that there were difficulties or uncertainties about expressing them by reference to the same metrics as are used to describe the effects of CO<sub>2</sub> emissions, is to rely on irrelevances to seek to justify serious omissions in the EIA and in the assessment of harms of the appeal proposals.

---

<sup>250</sup> See Appendix SSE/7/3.

<sup>251</sup> CD14.2, Table 1.

<sup>252</sup> CD14.14, para 6.10 and Tables 26, 28, 55 and 58. Note: In its 6CB Advice (CD 17.78, p.13), the CCC recalibrated the 495mppa figure to 479mppa to reflect the estimated effect of Covid-19 - see Mr Lockley's note of 3 March (INQ036).

<sup>253</sup> CD23.62a, p.1.

14.17 The EIA regime does not mandate any particular method of quantification of harm. Its concern is that any such harm is accounted for and it is left to the developer and now to the Panel to take account of it in whatever way it sees fit. What such a developer and the Panel may not, of course, do, is to leave a significant harmful impact, such as that attributable to non-CO<sub>2</sub> effects, completely out of account. And yet that is precisely what the Appellant has done.

## **Conclusions**

14.18 Despite the Appellant's best efforts to downplay the emissions consequences of its proposals it is clear that this simply cannot take place without placing at real risk the Net Zero commitment made by the UK Government when it amended section 1 of the CCA 2008. That was so even before the 6CB Report was published, but it is a fact even more difficult to avoid in the light of the recommendations made by the CCC after Climate Change Proofs of Evidence were exchanged in this appeal. Relevant independent forecasts confirm that this is so and the time and effort expended by the Appellant to dismiss these ultimately came to naught.

14.19 In addition, it is very clear (and was admitted by Mr Vergoulas in cross-examination) that the Appellant has signally failed to take account of a very significant source of harmful environmental impact, namely the non-carbon emissions which would result from the Proposal.

14.20 Put shortly, the Appellant has failed to consider, adequately or at all, the carbon and non-carbon emissions which would result from its proposals and has thereby failed to take account of a material consideration which weighs heavily against the grant of permission in this appeal.

## **PART FIVE: ASSERTED BENEFITS**

### **15. SOCIO-ECONOMICS**

#### **Introduction**

15.1 It is against all the above harms and adverse impacts that the Appellant seeks to weigh the asserted socio-economic benefits of the appeal proposals in the planning balance. Mr Ross's evidence addresses those assertions, looking at both the positive and negative economic, employment and social impacts associated with the proposed expansion of Stansted to 43mppa. And, as a further sense check, he also makes a number of comparisons with comparable STAL assessments presented to the last Inquiry in respect

of the 35mppa G1 Application, noting that the socio-economic assessment provided on that occasion was carried out by the same consultant, or consultants, as on this occasion - at that time working for 'Tribal', and on this occasion working for 'Optimal'.

## **Employment**

- 15.2 As Mr Ross explained, the normal way of measuring airport productivity is by reference to the number of employees required *per* mppa. Mr Ross's Table 1 showed, a steady improvement in productivity is associated with Stansted's growth over the years, which is as one would expect: as the airport has grown in size, productivity has improved. Just 300 (+2.3%) additional staff (13,300 v 13,000) were said to be needed for growth from 28.1mppa to the 35mppa Base Case (+7mppa), which works out at just 43 jobs *per* extra million passengers.
- 15.3 However, some 3,000 (+23%) additional staff (16,300 v 13,300) are said to be needed for growth from 35mppa to the 43mppa Development Case (+8mppa), which works out at 375 jobs *per* extra million passengers - projections which are wholly implausible, especially since the Base Case has 5,000 more CATMs than the Development Case (and 9,000 more than the 2019 Baseline); and 5,000 more non-ATMs, private business jets and the like, than in the Development Case (and, coincidentally, 5,000 more than the 2019 Baseline).
- 15.4 It is impossible to avoid the conclusion that the Appellant wants to suggest the greatest possible jobs benefit for the appeal proposals, by understating the number of jobs in the Base Case and overstating the number of jobs that would be created by these proposals. In other words, what we saw when we looked at aviation and road traffic forecasts is repeating itself.
- 15.5 Further implausibility is apparent when one looks at the Table on page 15 of the SDP<sup>254</sup> for Stansted Airport. The SDP predicted that expansion from 35mppa to 45mppa (+10mppa) would create just 847 additional airport jobs, under 85 additional jobs *per* mppa. Given this, it is quite impossible to understand why the Appellant now claims there would be 375 additional jobs *per* mppa created by the expansion from the 35mppa Base Case to the 43mppa Development Case, even with fewer jobs required for cargo and non-ATM operations in the Development Case compared to the Base Case.

---

<sup>254</sup> CD15.2.

- 15.6 Furthermore, it emerged during the course of the Inquiry that the number of jobs shown in the Appellant's projections comprised a mixture of part-time and full-time jobs and that an employee who worked 16 hours or more per week was defined as full time. SSE sought clarification on this point but what emerged was a muddle. It is however clear that, even using the conservative ONS threshold of 30 hours a week constituting a full-time equivalent (FTE) job, the number of airport jobs, expressed in FTE terms and adjusted for part-time employees, may be not much more than half of the numbers shown in the ES and ES Addendum.
- 15.7 Leaving aside the question of how many jobs might or might not be created by the appeal proposals, Mr Ross also addressed the types of job that would be generated, in respect of which he produced his Tables 3 and 4. The key point that can be seen when comparing these two Tables is that there is a significant mismatch between the type of jobs available at the airport and the type of jobs typically filled by local residents. As can be seen in Table 4, more than half the residents in the inner study area (Uttlesford, East Herts, Braintree and Harlow) are employed in the top three categories but just 18% of airport jobs are in these three categories. And the same is true in the wider study area also, comprising the 16 Local Authority areas, including 5 in London, where a slightly higher proportion of jobs (51.0%) are in the top three SOC categories<sup>255</sup>.
- 15.8 As for average earnings, Mr Ross's Table 5, which is sourced in the supporting ONS data in his Appendix 2, plainly demonstrates that whether looked at on a residency basis or a workplace basis, average earnings in the local area are far higher than average earnings at Stansted Airport: in the region of £10,000 higher at workplace level and £15,000 higher at residency level. In fact, Stansted now appears to have outgrown the local labour market. The number of Uttlesford residents employed at the airport has remained broadly stable over the years, but the proportion has declined as the airport has grown. That is shown in Mr Ross's Table 7.
- 15.9 It was against the backcloth of this data that Mr Ross explained their significance by reference to 'Labour Market Fundamentals':
- i. Labour is a cost with a productive value elsewhere that is foregone if it is allocated to any particular project or activity (the opportunity cost). That means that more jobs at Stansted Airport would add to UK economic growth only if they replaced less productive jobs elsewhere. However, the majority of jobs created by

---

<sup>255</sup> SSE/10/3, Appendix 1.

the appeal proposals would be lower skilled, which is unlikely to be the best use of available local labour resources.

- ii. Job creation, of itself, only benefits the economy where there is structural, endemic unemployment. That is not the case in the South East of England, and particularly in the local area, where there is minimal unemployment. The UK labour market is one of the most efficient labour markets in Europe, being more closely modelled on the supply side flexibilities of the US labour market than its EU comparatives. That means that the productive labour required for the appeal proposals – whether this is 3,000 jobs (as claimed by the Appellant) or 1,100 jobs (as estimated by SSE) – would be at the expense of other productive activity in the economy.

15.10 The essential economic point is that labour is a valuable commodity and should be used as productively as possible to maximise the benefits. Average earnings are a good indicator of the productive use of labour and so it is clearly to the advantage of the local, regional and UK economy (as well as to the individual), if labour is deployed in highly-paid rather than low-paid occupations. It is also better to stimulate new jobs where they are most needed.

15.11 The appeal proposals would also have displacement effects upon competitor airports, not least of which is Stansted's nearest competitor, Luton Airport. Expansion of one would be at the expense of the other, and the need for economic stimulus is not the same for both. In so stating, like Mr Ross, I emphasise that SSE is not advocating the expansion of Luton Airport. Far from it. From a climate change standpoint, it matters not if Luton expands rather than Stansted because the carbon emissions would be more or less the same. However, looked at from a purely economic viewpoint, and as made clear in Mr Ross's Table 8, it is clear that Stansted and Luton airports offer the same market proposition to almost the same catchment area.

15.12 It can also be noted that the DfT's MBU forecasts for Luton are far more optimistic than its forecasts for Stansted. Luton is forecast to grow to 32.5mppa by 2050<sup>256</sup> compared to 18mppa in 2019. The Appellant has, of course, conveniently assumed that there will no growth at Luton, at least until Stansted has reached 43mppa, which the DfT does not expect to happen until the 2040s and, even then, only if there is no third Heathrow runway.

---

<sup>256</sup> CD23.26, p.1.

15.13 Furthermore, the need for economic stimulus may not be the same for all airports, as evidenced by Mr Ross's Table 9, which plainly shows a greater need for such a stimulus in Luton than in Stansted. By any yardstick, the comparative numbers in Table 9 clearly show that the Stansted local area is far more affluent, more economically vibrant, than the Luton area. And that all means that the displacement effects – the opportunity costs – not only negate the claim that the appeal proposals would create (net) new jobs for the UK, but also indicate that the economic benefits of the appeal proposals would be sub-optimal compared to alternatives, and thereby run counter to the Government's stated objective of levelling up.

### **User Benefits**

15.14 The Appellant asserts economic benefits of the appeal proposals, but even though Optimal had three years to provide an analysis of such benefits, the Appellant chose not to present any quantified evidence of user benefits. That may suggest complacency, or that the Appellant considered that there was no need to show that the benefits outweighed the harms, or (far more likely) that it would have been difficult to demonstrate significant user benefits because Stansted is so focused on the leisure sector of the air travel market.

15.15 It is in this regard that Mr Ross took you to Table 3.1 on page 16 of CD14.28c. This Table shows the 'Value of Time' (VoT) figures used by the AC when assessing the comparative benefits for growth at different UK airports. VoT analysis is a commonly used economic indicator when assessing airport user benefits. Two very simple points fall to be made:

- i. First, it can readily be seen that Stansted VoTs are lower than for Heathrow, Gatwick, London City and Luton – indeed, they are even lower than Southend, except for UK business passengers.
- ii. Second, the figure of £6.03 in the final row is the VoT per hour for leisure passengers and is a very small number compared to the VoT for business passengers. (Although these figures are at 2008 prices, it is simply the comparability between business and leisure that is relevant, and that will be constant today.)

15.16 And that has to be seen in the light of the passenger profile at Stansted Airport. In particular, Mr Ross's Table 11 shows that business travel accounted for 13.8% (8.2% + 5.6%) of Stansted's passengers in 2019, which the Appellant projects to stabilise at 14% through to 2032. That, however, is an optimistic assumption in view of the long-term

downward trend in business air travel, as can be seen in the Table on page 2 of CD23.62(a)<sup>257</sup>. This is not just the case with Stansted; the same is true for the UK airports' market as a whole. However, it is quite apparent that Stansted already has a very low percentage of business passengers compared, for example, to Heathrow or London City Airport.

15.17 Also relevant to this issue is the fact that Stansted currently has permission for 20,500 CATMs and yet the appeal proposals seek to reduce this to a maximum 16,000, imposed by a cap. Of itself, that need not have an adverse economic impact. However, the Appellant has stated that, if the appeal is successful, it would expect to handle 5,000 fewer CATMs than if the application is refused (20,000 versus 15,000)<sup>258</sup>.

15.18 Quite apart from the likelihood that this would have some negative economic impact of itself, what is even more telling is how Optimal dealt with this, particularly since the numbers changed between the ES in February 2018 and the ES Addendum in October 2020. Mr Ross summarised the position in his Table 12c. As is quite apparent from that Table, in the original ES the appeal proposals were projected to enable an additional 800 tonnes of cargo compared to the Base Case (plus 0.2%) and these extra 800 tonnes were assessed as "*Minor Beneficial*". However, in the ES Addendum, the appeal proposals were projected to reduce the amount of cargo that could be handled by 28,100 tonnes compared to the Base Case (minus 7.0%); and, as can be seen from the Table, that reduction of 28,100 tonnes was assessed now as "*Negligible*". This is an example of the type of difficulties that arise with qualitative assessments rather than quantitative ones.

### **UK Trade Balance**

15.19 As for the impact of the appeal proposals on the UK Trade Balance, the position for Stansted is as set out in Mr Ross's Table 13, from which it is quite clear that the appeal proposals would have a significant adverse impact on the UK annual current account trade balance. Optimal try to argue otherwise, but that is simply a denial of the economic facts of the matter. As Mr Ross rather graphically put it, of course it helps the UK economy if people buy Ambre Solaire and swimwear on the UK High Street before jetting off to Spain, Portugal or Greece, but that pales into insignificance in comparison to the quantum of UK currency expended in the Spanish, Portuguese or Greek economy.

---

<sup>257</sup> One which is likely to continue post-Covid as a result of Zoom and the like.

<sup>258</sup> CD7.2, Tables 2.2 and 2.3.

15.20 Comparing the 43mppa Development Case to the 35mppa Base Case, the annual trade deficit arising from Stansted Airport international passenger traffic would increase from £4.1bn to £5.0bn. An annual increase of £900 million in the UK trade deficit must be assessed as a 'Significant Adverse' economic impact of the Proposals.

### **The Economic Cost of Carbon**

15.21 And, finally on the economic impacts of the appeal proposals, Mr Ross's Appendix 4 was based on the analysis carried out by Sir Nicholas Stern, one of the world's foremost economists. On this basis, his estimate was that the economic cost of the additional CO<sub>2</sub> emissions which would arise from the appeal proposals is about £1.1billion, an economic cost which the Appellant (and Optimal) have completely disregarded. Again, this must be assessed as a 'Significant Adverse' economic impact of the Proposals.

### **Conclusions**

15.22 But that is true to form: Optimal does not identify a single negative impact arising from the appeal proposals, either in relation to the employment impacts, the economic impacts or the social impacts. Not one. There are, however, several. These have been ignored in their entirety, whilst the asserted benefits of the appeal proposals have been significantly overstated.

## **PART SIX: CONCLUSIONS**

### **16. CONCLUSIONS**

#### **Introduction**

16.1 As I stated at the start of my Closing Submissions, this is an Application which, in SSE's view, should have been dealt with under the Planning Act 2008, which was brought onto the statute book to help streamline the planning system; speed up approvals (references were made to the protracted process for Heathrow Terminal 5); and make it easier and more affordable for local residents to have their say.

16.2 However, the Appellant has succeeded in keeping this application under the radar. It was first proposed as an application for a 9.5mppa increase and subsequently trimmed to 8mppa. And by amending the application to provide a cap on CATMs, again the provisions of the Planning Act were circumvented.

- 16.3 If this application had been dealt with under the Planning Act, it would have been determined long ago and this Inquiry would not have been necessary. However, the Appellant was insistent that local determination was best. At least that was the Appellant's view until the LPA refused the application. This Appeal shows that that is no longer the Appellant's view.
- 16.4 The Application was submitted in February 2018, at least five years before the Appellant expected to reach the 35mppa cap. At that time, it was expected that the Government's new Aviation Strategy would be published by the end of the year (2018) and the new strategy was widely expected to introduce stricter environmental policies for aviation, not least in relation to aircraft noise. It appeared to SSE that the Appellant's intention was to secure planning consent before the introduction of stricter environmental policies.
- 16.5 In that respect, the position today is similar to the position three years ago. Publication of the new Aviation Strategy is about three years behind schedule and the Appellant's planning application has still not been determined. In that sense - and now also in relation to the Government's Climate Change policy - the Appellant is still in a race against time. It is, however, a race that they must lose.

### **Traditional Planning Balance**

- 16.6 As SSE submitted in Opening, even weighing the traditional planning balance of harm against benefit, planning permission should be refused and this appeal dismissed: whilst there are notable planning harms on one side, there are few countervailing net benefits on the other.

### **Harms**

- 16.7 On one side of that planning balance, locally, there will be worsening road conditions, additional noise impacts, increased air pollution, and consequential adverse outcomes in terms of health and wellbeing for countless local residents. And, looking more widely, there will be consequences in terms of global warming too - the looming environmental catastrophe that the Net Zero duty is intended to address.
- 16.8 There will be additional traffic and congestion in Takeley and Stansted Mountfitchet, much more so than the Highways Authorities have appreciated since they failed to spot that the Appellant's road traffic projections had not allowed for two-way vehicle trips. And there will, on any view, be adverse impacts and peak hour delays at Junction 8 of the M11, which, again, the Highways Authorities underestimated since they accepted at face value a

highly convoluted and error-prone modelling exercise that could not withstand the scrutiny that only SSE carried out: not the least of which were aviation forecasts which inflated the Base Case in order to minimise the impacts of the Development Case.

16.9 The tendency to overstate the 35mppa Base Case relative to the 43mppa Development Case was also apparent in other areas of the Appellant's environmental assessment. But this was only in relation to harms. When it came to the asserted benefits, for example, new jobs, there was the opposite tendency. Employment projections for the Base Case were understated in order to portray a greater beneficial impact for the Development Case. It is this issue which led Mr Arnott to conclude that the Appellant's EIA does not comply with Regulation 4 and Schedule 4 (paragraphs 1-3) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

16.10 There will be considerable additional noise impact also, largely uncaptured by a metric which is not fit for purpose when assessing aviation, averaging out loudness over a 16-hour day and 8-hour night, so that none of the additional impacts of extra flights overhead are properly registered. The repeat occurrence of individual noise events, each of which is far above the ambient background noise, will disturb people, wake them up even, in ways which LAeq noise contours can never capture. Air pollution will increase and the health of local residents will suffer as more fine and ultrafine particulates enter their lungs, exposing them to increased risk of cancer, asthma, strokes, heart disease, and the rest; again, uncaptured in the Appellant's HIA.

### Benefits

16.11 But on the other side of that planning balance, there are few, if any, genuine economic benefits and some significant, measurable, economic costs. There will be jobs, which would otherwise be welcomed, but they will be of the wrong type and in the wrong place, and would generate greater economic benefits, and far fewer commuter trips, at airports other than Stansted.

16.12 And they will come at a net cost to the UK because the principal activity of Stansted which is dominated by Ryanair, is to cater for leisure travellers, and principally outbound UK leisure travellers who deliver significant economic benefits to Spain, Portugal, Greece and the like, but at a cost to the UK Balance of Payments.

### Conclusions

16.13 Even on a traditional planning approach the case against these appeal proposals is therefore compelling. The planning balance is one-sided.

## **Net Zero**

16.14 But there is far more at stake at this Inquiry than revealed by the ordinary weighing of the usual planning balance, however one-sided it is. For this is the first Planning Inquiry to consider proposals to expand aviation in the Net Zero world and after the CCC has reported on the 6CB; statutory advice on the most important environmental issue facing the world today, which the Government is duty-bound to take into account as it prepares its Aviation and Decarbonisation Strategy. That advice is clear. There can be no net increase in aviation capacity at this time if the Government is to meet the Net Zero duty.

16.15 And that advice does not sit remote from the extant policy framework for aviation and climate change, but is embedded within it: a framework which mandates that, as we transition towards the Net Zero world, proposals to expand capacity at Stansted should not even be considered until it is clear that such expansion is arguably needed. And on any view, there is absolutely no need to permit the expansion of Stansted right now, nor will there be for a very long time indeed.

## **Overall Conclusions**

16.16 For all these reasons the case against the appeal proposals is overwhelming; and this appeal should be dismissed.