

**MANSTON AIRPORT DEVELOPMENT CONSENT ORDER EXAMINATION
SUBMISSION TO DEADLINE 9:
Comments on Information requested by the ExA and received from the
Applicant to Deadline 8
and
Comment on Requirement 19a- Airport Operations**

Requirement 19a- Airport Operations

We respectfully request that the draft DCO should reflect the fleet mix and more specifically the proportion of Turbofan (jet) aircraft and the proportion of Turboprop aircraft and should reflect the number of General Aviation Movements assessed in the ES and Requirement 19a- Airport Operations be amended as follows:

Requirement 19a

“(1) The operation of the airport is subject to -

- (a) a total annual cargo air transport movement limit of 17,170, of which no more than **12,860 cargo aircraft movements can be by Turbofan (jet) aircraft;***
- (b) a total annual passenger air transport movement limit of 9,298; and*
- (c) is subject to a total annual General Aviation movement limit of **5,840**”*

Rationale- Annual Air Transport Movement Sub-Limits

1. We respectfully resubmit our evidence provided at [REP9-XXX] ¹ specifically in relation to noise and **air quality**.
2. We draw the Examining Authority’s attention to the report dated 29 July 2016 published by the Journal of Geophysical Research: Atmospheres² which presents a strategy for mitigating commercial aviation impact on NOx related emissions based on replacing Turbofan (jet) aircraft - (commercial and cargo aircraft more commonly associated with e-

¹ Five10Twelve Limited Comments on Applicant’s Oral Submission at ISH6 (Environmental Issues) of 05 June 2019, (PM) Additional Submission sent to the Examining Authority of 19 June 2019 and attached herewith as not up on the Planning Inspectorate’s website as of today’s date.

² Abstract, Journal of Geophysical Research: Atmospheres. 29 July 2016, *A Mitigation Strategy for Commercial Aviation Impact on NOx-related O3 Change*, Wasiuk et al, (attached within above submission at Appendix 01)

commerce integrator models) with Turboprop aircraft such as the ATR-72s.

3. The said report, based on all global aviation departures between 2005-2011, concludes that a strategy of replacing Turbofan (jet) aircraft with Turboprop aircraft, “**results in a reduction of ground-level aviation CO and NOx emissions by 33% and 29% respectively**” (bold added for emphasis).
4. The said report also finds that by swapping out Turbofan (jet) aircraft with Turboprop aircraft, “**aviation CO and hydrocarbons (HC) emissions are [respectively] reduced by 79% and 21%...**” (bold added for emphasis).
5. We respectfully draw the ExA attention to the Environmental Statement submitted by the Applicant at the time of acceptance for Examination at [\[APP-034\]](#) and in particular the fleet mix used for both the Applicant’s air quality and noise assessment.
6. The Applicant’s fleet mix used for the ES submitted at the time of Application is set out in Appendix 3.3 of [\[APP-044\]](#) which is based on the forecast in the Azimuth Report. This fleet mix includes Turboprop aircraft (ATR-72) for **over 25% of all cargo ATMs** over the forecast period.
7. The said Journal of Geophysical Research report evidences that replacing Turboprop aircraft with Turbofan (jet) aircraft could result in an **increase of ground-level aviation CO and NOx emissions** by as much as 33% and 29% respectively.
8. The said Journal of Geophysical Research report evidences that replacing Turboprop aircraft with Turbofan (jet) aircraft could result in an **increase of aviation CO and hydrocarbons emissions** by as much as 79% and 21% respectively.
9. The increase of ground-level aviation CO and NOx emissions and the increase of aviation CO and hydrocarbons emissions identified at clauses 7 and 8 above are material and could have a very significant impact on Ramsgate’s air quality particularly an increase in NOx emissions at the junction High St Lawrence.

10. At the Issue Specific Hearing 6 it was clear from Amanda Berry of Thanet District Council that the junction High St Lawrence currently already *exceeds* recommended health objectives.
11. We respectfully remind the Examining Authority that the Applicant has provided no evidence whatsoever to support its assertion that replacing Turboprop aircraft let alone 25% of its fleet mix with Turbofan (jet) aircraft will not make a difference to the ES.
12. At paragraph 6.4 of [REP9-XXX]³ we provide corroborating evidence to Stone Hill Park's submission at [REP8-033] which focuses on the material impact that replacing Turboprop aircraft with Turbofan (jet) aircraft could have on noise.
13. Accordingly we respectfully request that the draft DCO must reflect the fleet mix and more specifically the proportion of Turbofan (jet) aircraft and the proportion of Turboprop aircraft assessed in the ES.

Paragraph 1.10 of the Noise Mitigation Plan

14. We respectfully request Paragraph 1.10 of the Noise Mitigation Plan is amended to mirror the amended R19a as follows:

"1.10

The airport will be subject to a total annual air transport movement limit of 26,468 of which a total annual cargo air transport movement limit of 17,170, of which no more than 12,860 cargo aircraft movements can be by Turbofan (jet) aircraft; and a total annual passenger air transport movement limit of 9,298"

Rationale- General Aviation Movement Limit

15. We respectfully resubmit our evidence provided at [REP9-XXX]⁴ specifically to evidence that the general aviation movements assessed in

³ Five10Twelve Limited Comments on Applicant's Oral Submission at ISH6 (Environmental Issues) of 05 June 2019, (PM) Additional Submission sent to the Examining Authority of 19 June 2019 and attached herewith as not up on the Planning Inspectorate's website as of today's date.

⁴ Five10Twelve Limited Comments on Comment on Examining Authority's Second Draft Development Consent Order published 14 June 2019 sent on 22 June 2019 and attached herewith as not up on the Planning Inspectorate's website as of today's date

the ES and submitted for Examination by the Applicant was 5840 general aviation movements.

16. Further, we resubmit evidence provided at [REP9-XXX]⁵ that the increase of some 600% by the Applicant without assessment in the ES will have an impact and perhaps a material one.
17. Accordingly we respectfully request that the draft DCO should reflect the number of general aviation movements assessed in the ES.

Paragraph 1.11 of the Noise Mitigation Plan

18. We respectfully request Paragraph 1.11 of the Noise Mitigation Plan is amended to mirror the amended R19a as follows:

“1.11

*The airport will be subject to a total annual General Aviation movement limit of **5840**”*

⁵ Five10Twelve Limited Comments on Comment on Examining Authority's Second Draft Development Consent Order published 14 June 2019 sent on 22 June 2019 and attached herewith as not up on the Planning Inspectorate's website as of today's date

**Five10Twelve Limited
Comments on
Applicant's Oral
Submission at ISH6
(Environmental Issues)
of 05 June 2019, (PM)
Additional Submission
sent to the Examining
Authority of 19 June
2019.**

**MANSTON AIRPORT DEVELOPMENT CONSENT ORDER EXAMINATION
COMMENTS ON APPLICANT'S ORAL SUBMISSIONS AT ISH6
(ENVIRONMENTAL ISSUES) OF 05 JUNE 2019, (PM)
ADDITIONAL SUBMISSION FROM LOCAL BUSINESS AND INTERESTED PARTY,
FIVE10TWELVE LTD**

1. Introduction and General Observations

In advance of the Applicant's Written Summary of its Oral Submissions, our submission refers to notes and observations during our attendance at the Issue Specific Hearing 6 ("ISH6") of 05 June 2019 and the subsequent recordings of the session posted on the UK Planning Inspectorate website, ([EV-027](#) and [EV-027a](#)).

1.1. Where we have quoted from statements made in this session, timecodes have been referenced in the footnotes corresponding to the relevant recording.

2. As a general observation, we continue to have grave concerns over the Applicant's overall approach to the Environmental Impact Assessment, ("EIA") and Environmental Statement ("ES"), research and consultancy work undertaken, lack of transparency and briefing and/or coordination of its chosen consultants.

2.1. Frequently throughout all of the hearings - including and especially ISH6 - there is a sense from the Applicant and its team that the various consultants assembled are working in silos to such an extent that 'the right hand doesn't know what the left hand is doing'.

2.2. This manifests itself as interdependencies between different consultants' conclusions and assumptions which are then relied upon by other teams of consultants as prima facie source data to produce crucial reports and conclusions through secondary or tertiary consultants.

- 2.3. This process appears to be happening without proper scrutiny on behalf of the Applicant - who, as has already been demonstrated - lacks the knowledge or expertise of a more experienced Airport Operator or Developer.
 - 2.4. The process of producing further reports and data based on questionable data sources has also occurred without any challenge or enquiry from the Applicant's secondary and tertiary consultants as to the accuracy, validity or viability of the source data. These consultants have to take the Applicant's underlying data on face value and work primarily to the brief of the Applicant without any discernible scrutiny.
 - 2.5. As the ExA appears to be aware through its questioning at ISH6, the Applicant's underlying data upon which many of its reports are based - e.g. the data used to produce noise contour maps - has not been made available in anything like the full extent possible and is completely lacking in transparency. This makes it virtually impossible for any independent verification of the data or any results which may be produced from this data - including the EIA and ES.
 - 2.6. The most notable example of this is the continued reliance on the Azimuth Report - its Fleet Mix, ATM forecast, business case etc. - for key data inputs into the EIA and ES. Inevitably, if the underlying source data is corrupt or unreliable, then the results will also be equally unreliable.
 - 2.7. We have previously raised significant concerns relating to this issue in our Extraordinary Request at Deadline 5, ([REP5-074](#)), notably paragraphs 5 - 6.7, and we are aware that concerns have also been raised by Stonehill Park and other Interested and Affected Parties.
3. As a general observation, we also note the frequency with which the Applicant and its various consultants appear to present assumptions and subjective opinions as

fact during the hearings on crucial points, for example, (with bold added for emphasis where appropriate):

Re: Fleet Mix

*“...you do your best to come up with a scenario that enables you to model the development as you see it at the time. Now, **of course, we are interested in how do we limit that, how do we control that,** and we take your comments on board. But for the purposes of modelling it was a reasonable scenario to adopt as the worst case scenario”*.¹

Re: Ecology Surveys

*“... the important thing for us is very much that we were aware that **these weren't carried out at the time of the assessment** and we put in a mitigation plan based on the worst case scenario - if you like - or a reasonable estimation of the likely findings on site and we've mitigated accordingly **and have not changed that assumption** based on not being able to access the site”*²

Re: Committee for Climate Change report and ExA Third Written Question CC.3.1

*“We don't believe the Climate Change Committee's research does make any difference ... **I don't think it makes any difference** to that advice nor does it make any difference to the framework adaptation plan that we've proposed”*.³

4. Such statements appear to fly in the face of the ExA's opening remarks with regards to the strict requirement for objective and verifiable data, for example, (bold added for emphasis):

*“The European Court of Justice - the Waddenzee Case⁴ - has clearly established that in the light of the precautionary principle, **a risk of***

¹ Nick Hilton, Wood Group. ISH6 recording Part One ([EV-027](#)) at or around 00:22:57

² Nick Hilton, Wood Group. ISH6 recording Part One ([EV-027](#)) at or around 00:45:34

³ Nick Hilton, Wood Group. ISH6 recording Part One ([EV-027](#)) at or around 01:00:41

⁴ ECJ Directive 92/43/EEC, [Case C-172/02](#), paragraphs 44-45

significant effect exists if it cannot be excluded on the basis of objective information”⁵

and

“Objective information in this context means information based on clear verifiable fact rather than subjective opinion. It would not normally be sufficient for an Applicant to assert that the project will not have an adverse effect on the European Site, nor will it be appropriate for the Competent Authority to rely on reassurances based on supposition or speculation.”⁶

5. Fleet Mix

5.1. During Issue Specific Hearing 6 on Environmental Issues, (“ISH6”), a number of claims and statements were made by the Applicant with regards to the Fleet Mix assessed in the EIA and ES and what Nick Hilton of Wood refers to as *“some acknowledgement that there may be some variability in that fleet mix”*.⁷

5.2. Having thus introduced the issue in a somewhat understated manner, Mr Hilton continued in the same vein, offering a wholly subjective opinion that:

*“We do not believe that they will be significant in any way”*⁸

5.3. As the ExA is aware, during this same hearing, Stonehill Park reiterated the observations of Louise Congdon of York Aviation that

*...“the Azimuth forecasts included a significant number of ATR 72 planes which would not operate under any e-commerce integrator model”*⁹

⁵ ISH6 recording Part One ([EV-027](#)) at or around 00:11:05

⁶ ISH6 recording Part One ([EV-027](#)) at or around 00:11:26

⁷ ISH6 recording Part One ([EV-027](#)) at or around 00:21:20

⁸ ISH6 recording Part One ([EV-027](#)) at or around 00:21:28

⁹ Jamie Macnamara, ISH6 recording Part One ([EV-027](#)) at or around 00:25:37

5.4. In fact, according to the Applicant's own Fleet Mix and forecasts, there are 1,456 ATR 72 ATMs forecast in year two of operation - which equates to 27.7% of the entire fleet ATMs - rising to 4,310 ATR 72s ATMs in year twenty, which equates to 16.3% of the total fleet ATMs - or approximately one in six movements.

6. Impact of ATR 72 Fleet Mix on Noise and Air Quality

6.1. As previously stated at paragraph 5.2, Mr Hilton for the Applicant previously down-played the impact of this significant proportion of the fleet being a turboprop plane, stating his subjective opinion that *"We do not believe that they will be significant in any way"*¹⁰

6.2. This assumption was later reinforced by Michael Humphries QC, acting for the Applicant, with regards to air quality emissions, whose opinion was that:

*"Air quality is principally driven by surface access movements, not aircraft movements, because most of the emissions from the aircraft are high in the atmosphere and therefore do not concentrate ... they become absolutely dispersed, Sir. So, in a sense, the air quality effects are not particularly sensitive to the precise aircraft fleet mix".*¹¹

6.3. With the greatest respect to the ExA's stated preference - and legal obligation - for objective information *"based on clear verifiable fact rather than subjective opinion"*, we feel it is essential to robustly challenge the Applicant's assertions with regards to the impact of the fleet mix - and significant presence of ATR-72 Turboprop aircraft in that fleet mix - on both noise and air quality.

¹⁰ ISH6 recording Part One ([EV-027](#)) at or around 00:21:28

¹¹ ISH6 recording Part One ([EV-027](#)) at or around 00:26:46

- 6.4. With regards to noise impacts, we refer the ExA to the No Night Flights (“NNF”) submission of 14 June 2019, including noise contours independently commissioned by NNF and produced by the CAA’s ERCD.¹²
- 6.4.1. The NNF noise contours differ from the ERCD noise contours commissioned by Five10Twelve Ltd, ([AS-120](#)), which mirrored exactly the Applicant’s fleet mix, in that the NNF brief to the CAA included a fleet mix with the ATR-72 Turboprop aircraft stripped out and replaced with more likely Turbofan aircraft.
- 6.4.2. Contrary to claims made by the Applicant and its environmental consultants, a clear and significant difference can be seen both in the size and shape of the NNF contours and numbers of households affected, once the ATR-72 Turboprop aircraft are replaced.
- 6.5. With regards to air quality, we would like to submit for the ExA’s consideration a report dated 29 July 2016 and published by the Journal of Geophysical Research which presents a strategy for mitigating commercial aviation impact on NOx-related emissions based on replacing Turbofan aircraft - as used by the majority of commercial and cargo aircraft more commonly associated with e-commerce integrator models - with Turboprop aircraft such as the ATR-72.¹³
- 6.6. This report, based on all global aviation departures between 2005-2011, concludes that a strategy of replacing Turbofan aircraft, (common commercial and cargo type), with Turboprop aircraft, (e.g. ATR-72 significantly present in the Applicant’s fleet mix), ***“results in a reduction of ground-level aviation CO and NOx emissions by 33% and 29% respectively”***.

¹² [TR020002-004224-AS](#) : No Night Flights, NNF18, 14 June 2019

¹³ APPENDIX: Journal of Geophysical Research: Atmospheres. Research Article 10.1002/2016JD025051

- 6.7. This report also finds that ***“aviation CO and hydrocarbons emissions are reduced by 79% and 21% with the mitigation strategy”***.
- 6.8. In light of this objective information, the suppositions of the Applicant and its environmental consultants must be robustly challenged. It is simply not credible that the existing Environmental Impact Assessment, based on a fleet mix comprised of a significant proportion, (between 16% - 27.7%), of ATR-72 aircraft will not be significantly impacted if these turboprop planes are replaced by turbofan aircraft.

7. Climate Change and the LHR Judgement

- 7.1. Michael Humphries QC, for the Applicant, rebutted questions and concerns regarding the Committee for Climate Change NetZero report and the subsequent adoption of its key recommendations by the UK Government, largely by quoting his first-hand experience in the recent judicial review, (“JR”), of London Heathrow’s Third Runway.
- 7.2. As the ExA is aware - and as the ExA was reminded by Mr Humphries - this legal challenge was fought on environmental grounds. Mr Humphries maintained during ISH6 that:

“The Airports National Policy Statement was subject to judicial review”¹⁴

and

“During those judicial reviews its decision on those grounds of challenge to the National Policy Statement failed”.¹⁵

- 7.3. As the ExA will be aware - and evidenced in our deadline 6 submission, ([REP6-039](#)), the specific challenge at JR concerned solely the Airports National Policy Statement (“ANPS”), as it relates to London Heathrow’s

¹⁴ ISH6 recording Part One ([EV-027](#)) at or around 01:06:17

¹⁵ ISH6 recording Part One ([EV-027](#)) at or around 01:07:04

North-West Runway. As such, the circumstances of this challenge - and the defense - is not applicable to this case, as detailed at paragraphs 1.5 - 1.5.10 of our DL6 submission, ([REP6-039](#)).

- 7.4. Further, as detailed and evidenced in paragraphs 1.5.5 - 1.5.6 of our deadline 6 submission, the judgement in this case preserves the unique role of the DCO ExA in deliberations on environmental impact and climate change which clearly supercede the Heathrow judgement, as follows:

LHR Judgement, Paragraph 601

“ANPS made clear that an increase in carbon emissions that would have a material impact on the ability of Government to meet its carbon reduction targets would be a reason to refuse development consent”¹⁶

The definition of “material impact” in this context was found in **Paragraph 631 (vi)** of the Heathrow Judgement¹⁷ to fall under the purview of the DCO ExA, as follows:

“Mr Wolfe submitted that, as a matter of law, “material” may mean “more than trivial” or “substantial” or may have some other shade of meaning; and paragraph 5.82 [of the ANPS] was unclear because it did not set out its precise meaning. However, we are unpersuaded. As we have explained, such close textual examination is inappropriate for policy documents such as the ANPS. In our view, the phrase “material impact” is a good example of “fact and degree” language in a policy document which cannot be divorced from, or sensibly interpreted by the court in advance of, the factfinding exercise which (in this case) will have to be carried out by the Examining Panel and the Secretary of State on a DCO application”.

- 7.5. Further, the Heathrow Judgment states at paragraph 648 that:

¹⁶ Appendix 2: The Heathrow Third Runway Litigation (2019) EWHC (Admin) 1069 and 1070

¹⁷ *ibid*

“if scientific circumstances change, it is open to [the Secretary of State] to review the ANPS; and, in any event, at the DCO stage this issue will be revisited on the basis of the then up to date scientific position ”.

- 7.6. It is not unreasonable, therefore, to conclude that the JR failed partly because it was not deemed to be the appropriate forum to raise environmental challenges - these, it seems, are best kept for the DCO process.

- 7.7. It therefore appears to be a somewhat circular argument on behalf of Michael Humphries QC and the Applicant to claim that since the environmental challenge failed at JR, this judgement means that the environmental case is in any way already settled, specifically as it relates to climate change, and not a matter for the DCO ExA to decide.

Appendix 01

Journal of Geophysical Research: Atmosphere

Research Article 10.1002/2016JD025051

A mitigation strategy for commercial aviation impact on NO_x-related O₃ change



RESEARCH ARTICLE

10.1002/2016JD025051

Key Points:

- Global aviation CO and hydrocarbons emissions are reduced by 79% and 21% with the mitigation strategy
- NO_x and O₃ are reduced near tropopause when turbofans are replaced by turboprops
- The replacement strategy results in a reduction of ground-level aviation CO and NO_x emissions by 33 and 29%, respectively

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A mitigation strategy for commercial aviation impact on NO_x-related O₃ change

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Abstract An operational mitigation strategy for commercial aircraft impact on atmospheric composition, referred to as the turboprop replacement strategy (TRS), is described in this paper. The global air traffic between 2005 and 2011 was modeled with the TRS in which turbofan powered aircraft were replaced with nine chosen turboprop powered aircraft on all routes up to 1700 nautical miles (NM) in range. The results of this TRS double the global number of departures, as well as global mission distance, while global mission time grows by nearly a factor of 3. However, the global mission fuel and the emissions of aviation CO₂, H₂O, and SO_x remain approximately unchanged, and the total global aviation CO, hydrocarbons (HC), and NO_x emissions are reduced by 79%, 21%, and 11% on average between 2005 and 2011. The TRS lowers the global mean cruise altitude of flights up to 1700 NM by ~2.7 km which leads to a significant decrease in global mission fuel burn, mission time, distance flown, and the aircraft emissions of CO₂, CO, H₂O, NO_x, SO_x, and HC above 9.2 km. The replacement of turbofans with turboprops in regional fleets on a global scale leads to an overall reduction in levels of tropospheric O₃ at the current estimated mean cruise altitude near the tropopause where the radiative forcing of O₃ is strongest. Further, the replacement strategy results in a reduction of ground-level aviation CO and NO_x emissions by 33 and 29%, respectively, between 2005 and 2011.

1. Introduction

Short-haul flight (intracontinental and domestic missions) accounted for 92% of all global departures recorded, and over a half of the estimated total global emissions of CO₂ and NO_x between 2005 and 2011 [Wasiuk, 2014]. The short-haul flight generally climbs out to the desired cruise altitude, spends a relatively small proportion of the total mission time in cruise, and descends [Erzberger *et al.*, 1975]. However, long-haul missions (mostly intercontinental) require the aircraft to carry large volumes of fuel on board contributing to an increased aircraft weight, which in turn leads to higher fuel burn and emissions [Wasiuk *et al.*, 2015]. In terms of fuel consumption, climb is the most expensive part of any flight. Flight is always more efficient in cruise as, by design, the cruise altitude is the altitude at which aircraft burn the least amount of fuel. Propulsion for most commercial aviation aircraft is provided by turbofan or turboprop engines. Both are air-breathing engines in which the turbine produces work to run the compressors: in a turbofan, the turbine also rotates the fan-housed upstream of the hot section of the engine, and this fan produces most of the thrust; in a turboprop, the turbine drives a propeller which generates the majority of the thrust. Turboprop aircraft are better suited than turbofan for short-haul missions as they spend more time in cruise and are noted for their low fuel consumption [Babikian *et al.*, 2002]. But the efficient technology (e.g., turboprop) was abandoned in favor of the less efficient and less environmentally friendly technology (e.g., turbofan) in the 1980s because of the low fuel cost, the advantage of higher flight speeds, and hence utilization. Turbofans are also chosen in favor of turboprops due to a "level of passenger service in the form of comfort and perceived safety" [Ryerson and Hansen, 2010]. The findings in Ryerson and Hansen [2010] indicated that rising fuel prices could reverse this trend in the short-haul markets, and they concluded that high fuel costs could potentially overshadow the importance of passenger convenience. There is a dramatic drop in fuel cost over recent years; however, the environmental cost could tip the advantage in favor of the turboprop. This can be coupled with the findings on the availability of fuel by Nygren [2008] which suggest that aviation fuel production is predicted to decrease by several percent a year after the crude oil production peak is reached. The growth in demand for air traffic, coupled with falling availability of aviation fuel, "envisages a substantial lack of jet fuel by the year 2026."

Nowadays, the majority of missions are operated using turbojet and turbofan equipped aircraft. Thus, the technology (e.g., turboprop) available to us is not being used in the most efficient way possible, i.e., using the least amount of energy. Recent years have witnessed a shift away from turboprops toward regional

turbofans, which on a per seat basis are less fuel efficient [Ryerson and Hansen, 2010]. This represents in a significant move away from a more environmentally beneficial option. If turboprop aircraft can be utilized on short-haul missions instead of turbofans, there is potential for increasing fuel efficiency of regional air traffic on a regional as well as global scale. Such a substitution across regional fleets on a global scale would cause the global mean cruising altitudes to be lowered.

The aircraft emissions of NO_x , CO, hydrocarbons (HC), and particles are of concern in terms of local air quality [Yu et al., 2004; Peace et al., 2006], and the emissions of CO_2 , H_2O , NO_x , SO_x and particles are of concern in terms of global climate change [Rogers et al., 2002; Köhler et al., 2013; Gilmore et al., 2013; Skowron et al., 2015]. Aircraft emissions of CO_2 and H_2O released at commercial cruise altitudes can contribute directly to climate change by increasing the levels of greenhouse gases in the upper troposphere and lower stratosphere. Aircraft NO_x emissions have an indirect effect on our climate via tropospheric O_3 production and through removal of CH_4 [Olsen et al., 2013; Wasiuk et al., 2016a]. Aircraft SO_x emissions can be oxidized in the atmosphere to form sulfate aerosol particles, which also contribute to climate change (notably through cooling) [Pitari et al., 2002]. Contrails from aircraft engines increase cloud cover directly or indirectly causing a positive mean radiative forcing at the top of the troposphere [Schumann, 2002; Burkhardt and Kärcher, 2011].

Utilizing a turboprop instead of a turbofan on a short-haul mission reduces CO_2 and NO_x emissions because of the lower fuel burn [Babikian et al., 2002]; thus, there is a potential for environmental and atmospheric benefit in substituting turbofans with turboprops on short-haul missions. An 8% of all global departures between 2005 and 2011 were estimated as long-haul departures, but this 8% accounted for nearly half of the total global mission fuel burn, CO_2 and NO_x emissions in this time period [Wasiuk, 2014]. Moreover, between 2005 and 2011 long-haul departures increased continuously, by ~40% in total [Wasiuk, 2014]. In the light of these findings, a substitution of turbofans with turboprops on long-haul missions could potentially generate a significant saving in terms of the fuel burn, CO_2 , and NO_x emissions. Due to the lack of a design specification for a possible future long-range turboprop aircraft, we investigated a scenario in this study where all turbofans were replaced only on short-haul routes with existing turboprop aircraft.

In our recent study [Wasiuk et al., 2015, 2016b], Aircraft Performance Model Implementation (APMI) software containing a database of global aircraft movements, a model of aircraft performance for all phases of flight and an aircraft emissions estimation method was used to create a 4-D Aircraft Fuel Burn and Emissions Inventory for the time period of 2005 to 2011. In this study, the replacement of nine selected turbofan aircraft by turboprops for flights up to 1700 nautical miles (NM) was made to build an amended 4-D Aircraft Fuel Burn and Emissions Inventory, referred to as the turboprop replacement strategy (TRS) inventory for short. Fuel burn and emissions of flights over 1700 NM were unchanged in the TRS inventory. The resulting emissions were redistributed and the global seasonal TRS 3-D NO_x Emissions Distribution Fields were created. These NO_x fields were used as an input into the 3-D global Lagrangian chemical transport model (CTM); STOICHEM-CRI and sensitivity simulations (SS) were performed for each year between 2005 and 2011 to investigate the impact of TRS relative to the reference inventory on tropospheric composition. In this study, the estimates of the mission fuel burn, mission time, mission distance, and the emissions of CO_2 , CO, H_2O , HC, NO_x , and SO_x due to the replacement of turbofans on short-haul missions by a current make of turboprop airliner were compared with those due to the original fleet. The global burden and tropospheric distribution of NO_x and O_3 under the TRS is also compared with that due to the original fleet.

2. Methods

2.1. Four-Dimensional TRS Aircraft Fuel Burn and Emissions Inventory

The air traffic movement statistics database from 2005 to 2011 was mined from the global airline schedules data, CAPSTATS (<http://www.capstats.com/>). The Aircraft Performance Model Implementation (APMI) described in Wasiuk et al. [2015] was used to generate a 4-D TRS Aircraft Fuel Burn and Emissions Inventory from the aircraft database. In the TRS inventory, all unique route and aircraft combinations with a mission distance ≤ 1700 NM (3148 km) were extracted for the time period of 2005 to 2011 and classified according to the aircraft type (turbofan/turboprop) used on the routes as summarized in Figure 1. Each unique route with a mission distance ≤ 1700 NM serviced with a turbofan was considered for replacement. Nine turboprops from an aircraft database were selected to be used as the replacement aircraft. International Civil Aviation Organization

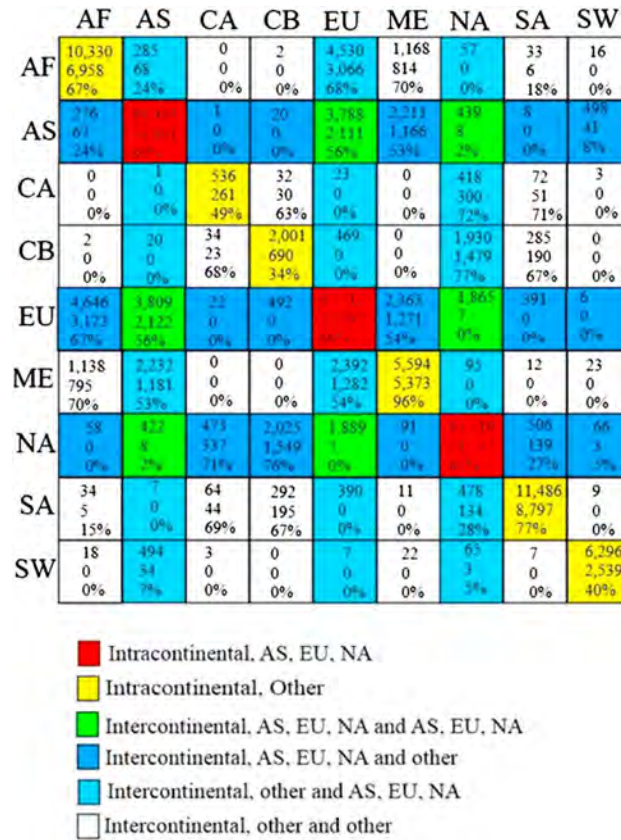


Figure 1. TRS route replacement details. The top figure in each square is the number of unique route/aircraft combinations, the middle figure is the number of unique route-turboprop aircraft combinations with a mission distance ≤ 1700 NM, and the bottom figure is the percentage of the unique route-turboprop aircraft combinations with a mission distance ≤ 1700 NM out of the total number of unique routes and aircraft combinations. The bottom figure is the proportion of the routes in each category on which an aircraft type replacement was made. (Note: AS, EU, NA, AF, CA, CB, ME, SA, SW represent Asia, Europe, North America, Africa, Central America, Caribbean, Middle East, South America, and Australia, respectively.)

(ICAO) aircraft code, aircraft name, engine name, and passenger capacity of each of the nine turboprop replacement aircraft were extracted from *SKYbrary* [2016] and cruise ranges of the replacement aircraft (in NM) were extracted from *EUROCONTROL* [2016] (Table 1). Only turboprop aircraft with a passenger capacity greater than 40 were selected in order to minimize the number of departures necessary to carry the original volume of passengers. All unique routes and turboprop aircraft combinations selected for replacement were parsed and all unique input parameter triples (the ICAO aircraft code, the mission type, and the mission distance) were extracted. Mission type and mission distance duplicates were removed, and each unique pair was assigned a turboprop from the turboprop aircraft available for replacement.

The new parameter triples in TRS were used as input into the APMI which assigned mission fuel burn and the emissions of CO₂, CO, H₂O, HC, NO_x, and SO_x to a simulated flight trajectory. The output from the APMI was used to update all the entries in the reference case (RC) inventory (the inventory with the original fleet composition) that were selected for replacement. A multiplication factor was used to

calculate the number of turboprop departures required on each route selected for replacement in order to transport approximately the same volume of passengers as with the turboprops. The original number of departures associated with a unique route and aircraft combination selected for replacement was adjusted according to

ICAO Aircraft Code	Aircraft Name	Engine Name	Cruise Range (NM)	Passenger Capacity
AT43	Alenia ATR-42-300/320	PW120	1700	42
AT45	Alenia ATR-42-500	PW127	1000	42
AT72	Alenia ATR-72	PW127E	1500	66
ATP	British Aerospace ATP	PW127D	1000	66
DH8C	Bombardier Dash 8 Q300	PW123	1000	52
DH8D	Bombardier Dash 8 Q300	PW150A	1300	72
F27	Fokker F-27 Friendship	PW127B	1500	46
F50	Fokker F-50	PW127B	1900	52
SB20	Saab 2000	AE2100A	1200	52

$$\text{departures}_{\text{tp}} = \frac{\text{capacity}_{\text{tf}}}{\text{capacity}_{\text{tp}}} \times \text{departure}_{\text{tf}} \quad (1)$$

where $\text{departures}_{\text{tp}}$ is the adjusted number of departures, $\text{capacity}_{\text{tf}}$ is the passenger capacity of the turbofan used on route, $\text{capacity}_{\text{tp}}$ is the capacity of the turboprop selected as the replacement aircraft, and $\text{departure}_{\text{tf}}$ is the original number of departures made on route with the turbofan.

The total global aircraft NO_x emissions in the TRS inventory were distributed on a 3-D 5° latitude \times 5° longitude grid resolution [Wasiuk *et al.*, 2016b]. The vertical grid resolution followed the pressure levels and approximate height bands which are based on the vertical model resolution of the 3-D STOCHEM-CRI chemistry transport model [Collins *et al.*, 1997; Utembe *et al.*, 2010]. The nine height bands across the $5^\circ \times 5^\circ$ grid result in the physical transport system in the STOCHEM model comprising 50,000 constant mass air parcels, the centroids of which were advected, on a three hour time step, through the model [Collins *et al.*, 1997; Derwent *et al.*, 2008]. The advection of the parcels was on Lagrangian trajectories, using meteorological data provided by the UK Met Office. The chemical processes that occurred within the air parcel, together with emission, deposition, mixing, and removal processes were uncoupled from transport processes to enable local determination of the chemistry time step [Utembe *et al.*, 2010]. In previous studies [Stevenson and Derwent, 2009; Stevenson *et al.*, 2004], STOCHEM was successfully used for measuring the impact of aviation NO_x emissions on climate. In this study, the new chemical mechanism is added in STOCHEM which is the Common Representative Intermediates mechanism version 2 and reduction 5 (CRI v2-R5), referred to as "STOCHEM-CRI." The detailed description of the CRI v2-R5 mechanism is given by Jenkin *et al.* [2008], Watson *et al.* [2008], and Utembe *et al.* [2009, 2010]. The emission totals of 27 species including CO, NO_x , and nonmethane hydrocarbons employed in STOCHEM-CRI were adapted from the Precursor of Ozone and their Effects in the Troposphere inventory [Granier *et al.*, 2005]. Emission totals for CH_4 were taken from the inverse model study of Mikaloff-Fletcher *et al.* [2004], except for the ocean emissions which were taken from Houweling *et al.* [2000]. More details about the global emission data used in STOCHEM-CRI can be found in Khan *et al.* [2014] and Wasiuk *et al.* [2016a].

The adjusted aircraft NO_x emissions from 2005 to 2011 estimated by the TRS 4-D Aircraft Fuel Burn and Emissions inventory were normalized to give global yearly aviation NO_x emissions as an input to STOCHEM-CRI. A set of seven sensitivity simulations based on the volume and distribution derived from air traffic movements recorded between 2005 and 2011 were performed in which a detailed 3-D spatial distribution of the global annual aviation NO_x emissions used as input into the CTM was modified to reflect the changes resulting from the replacement of turbofans with turboprops in regional fleets on a global scale. All simulations were run with meteorology from 1998 for a period of 24 months with the initial 12 months being discarded as a spin-up year. Three sets of results were obtained from the study: a TRS Inventory, global seasonal TRS 3-D NO_x Emissions Distribution Fields, and TRS STOCHEM-CRI sensitivity simulation (SS) results. These are presented and compared with the reference case (RC) inventory.

3. Results and Discussion

3.1. Global Changes in the Fuel Requirement and Emissions Under the TRS

The absolute and percent changes in the estimated global total number of departures, distance flown, mission time, mission fuel, and the aviation CO_2 , CO, H_2O , HC, NO_x , and SO_x emissions resulting under the TRS during the time period 2005–2011 are given in Table 2. The total global number of departures required under the TRS in order to transport the same volume of passengers doubles, as does the mission distance, while the mission time grows by nearly a factor of 3. However, the mission fuel burn reduces by a small amount (0.4%) on average between 2005 and 2011 under the replacement of turbofan by turboprop on short-haul missions. An increasing fuel burn would be expected because of the annual increment in departures from 2005 to 2011, but the turbine used on a turboprop burns 25–40% less fuel compared with an equivalent turbofan engine on short-haul missions per unit thrust [Air Transport Action Group, 2010; Mrazova, 2013]. These combined effects lead to a saving in the total global mission fuel in 2005 under the TRS which turns into a gain from 2009 onward as shown in Table 2. Consequently, on average between 2005 and 2011, there is negligible change in the total global mission fuel burn under the TRS despite a doubling of the total global number of departures. It should be noted that the doubling of number of departures in this theoretical mitigation strategy arises from the consideration here of existing turboprop aircraft, which have limited payload capacities

Table 2. Absolute and Percent Changes in the Estimated Global Annual Total Number of Departures, Mission Distance, Mission Time, Mission Fuel Burn, and the Emission of CO₂, CO, H₂O, HC, NO_x, and SO_x Under the TRS During 2005 to 2011^a

Year	Departures (10 ⁶)	Mission Distance (10 ⁶ km)	Mission Time (10 ⁶ h)	Mission Fuel Burn (Tg)	CO ₂ (Tg)	CO (Tg)	H ₂ O (Tg)	HC (Tg)	NO _x (Tg)	SO _x (Tg)
2005	31.8 (112)	36381 (116)	102.8 (183)	-2.8 (-1.9)	-8.8 (-1.9)	-0.25 (-33)	-3.5 (-1.9)	-0.24 (-85)	-0.40 (-12)	-0.002 (-1.9)
2006	32.7 (113)	37731 (115)	106.4 (183)	-2.2 (-1.5)	-7.0 (-1.5)	-0.20 (-27)	-2.8 (-1.5)	-0.20 (-82)	-0.41 (-12)	-0.002 (-1.5)
2007	35.0 (115)	40581 (116)	114.4 (185)	-1.7(-1.1)	-5.5 (-1.1)	-0.18 (-24)	-2.1 (-1.1)	-0.18 (-81)	-0.43 (-12)	-0.001 (-1.1)
2008	35.4 (116)	41130 (115)	116.0 (185)	-0.9 (-0.6)	-2.9 (-0.6)	-0.16 (-22)	-1.1 (-0.6)	-0.17 (-79)	-0.43 (-11)	-0.001 (-0.6)
2009	34.8 (117)	40669 (117)	114.4 (188)	0.3 (0.2)	1.1 (0.2)	-0.12 (-17)	0.4 (0.2)	-0.14 (-77)	-0.42 (-11)	0000 (0.2)
2010	36.2 (118)	42836 (118)	120.2 (190)	1.3 (0.8)	4.0 (0.8)	-0.10 (-15)	1.6 (0.8)	-0.13 (-76)	-0.43 (-11)	0.001 (0.8)
2011	38.2 (120)	45518 (118)	127.3 (191)	2.3 (1.3)	7.2 (1.3)	-0.08 (-12)	2.8 (1.3)	-0.12 (-73)	-0.44 (-11)	0.002 (1.3)
Mean	34.9 (116)	40629 (117)	114.5 (186)	-0.5 (-0.4)	-1.7 (-0.4)	-0.20 (-21)	-0.7 (-0.4)	-0.20 (-79)	-0.40 (-11)	0001 (-0.4)

^aPercent changes are in parentheses.

(roughly half that of the average for the shorter-range turbofan aircraft they are replacing). A practical strategy would entail the design and operation of larger-capacity turboprop aircraft so that number of departures would not double: hence, air traffic management problems would not be incurred; fuel burn and operating costs would be lower than the theoretical approach. From the perspective of emissions, too, the doubling of departures represents a conservative scenario.

As the emissions of CO₂, H₂O, and SO_x are directly proportional to the amount of the fuel burned [Penner *et al.*, 1999], the changes in the quantity of these emissions under the TRS mirror that of the mission fuel burn. The total global aviation emissions of CO, HC, and NO_x on the other hand all decrease, HC by 0.2 Tg/yr (79%), CO by 0.2 Tg/yr (21%), and NO_x by 0.4 Tg/yr (11%) on average between 2005 and 2011 compared with the original fleet.

Thus, the turboprop replacement strategy investigated is not an efficient scenario in terms of the number of departures needed to carry the original number of passengers. It was shown that despite a doubling in the number of departures, mission fuel burn, and emissions of two important greenhouse gases, CO₂ and H₂O, and the precursor of aerosol formation, SO_x, remained unchanged on average between 2005 and 2011. More importantly, a significant saving in terms of NO_x, CO, and HC emissions was achieved. Turboprops which were at most half the capacity of an average turbofan assuming a 75.5% load factor were used [Wasiuk *et al.*, 2015], but turboprops with a much higher passenger capacity would reduce the number of departures needed. Most flights rarely fly at 100% capacity and thus substituting a turboprop with a slightly smaller capacity can increase load factor which would be an improvement in terms of efficiency and potentially lead to even greater environmental and atmospheric benefits.

3.2. Global Geographical Distribution Changes of Aviation NO_x Emissions Under the TRS

The average (2005–2011) spatial distribution change of the total global aircraft NO_x emissions after swapping turbofan aircraft with turboprop aircraft for short-haul missions (Figure 2) highlights the affected areas of flight activity and major global flight paths between 5.6 and 16.2 km altitude. The allocation of the total global aircraft NO_x emissions between the northern hemisphere (NH) and southern hemisphere (SH) under the TRS is virtually unchanged, with ~90% of the total global aircraft NO_x emissions released in the NH. The distribution of the total global NO_x emissions across the latitudes in the NH changes negligibly as well. The replacement of turbofans with turboprops in regional fleets on a global scale leads to changes in the global geographical distribution of the total global aviation NO_x emissions between 5.6 and 7.2 km (see Figure 2a) when compared with the global geographical distribution of the total global aviation NO_x emissions from the unmodified fleet. The changes between 5.6 and 7.2 km appear to be more or less randomly distributed. Between 7.2 and 9.2 km, the replacement leads to a significant increase in the level of aviation NO_x emissions by up to 500%. These are concentrated in specific regions of the world as seen in Figure 2b. Above 9.2 km, the replacement leads to a decrease in the level of NO_x emissions only with a maximum of 100%. A regional pattern in these changes is discernible which are shown in Figures 2c and 2d.

3.3. Global Vertical Profiles of Fuel Burn, Mission Time, the Distance Flown, and the Emissions of CO, HC, and NO_x

The estimated global mean cruise altitude of the original fleet between 2005 and 2011 was ~10 km. The hypothetical replacement of turbofans with turboprops in regional fleets on a global scale leads to a lowering

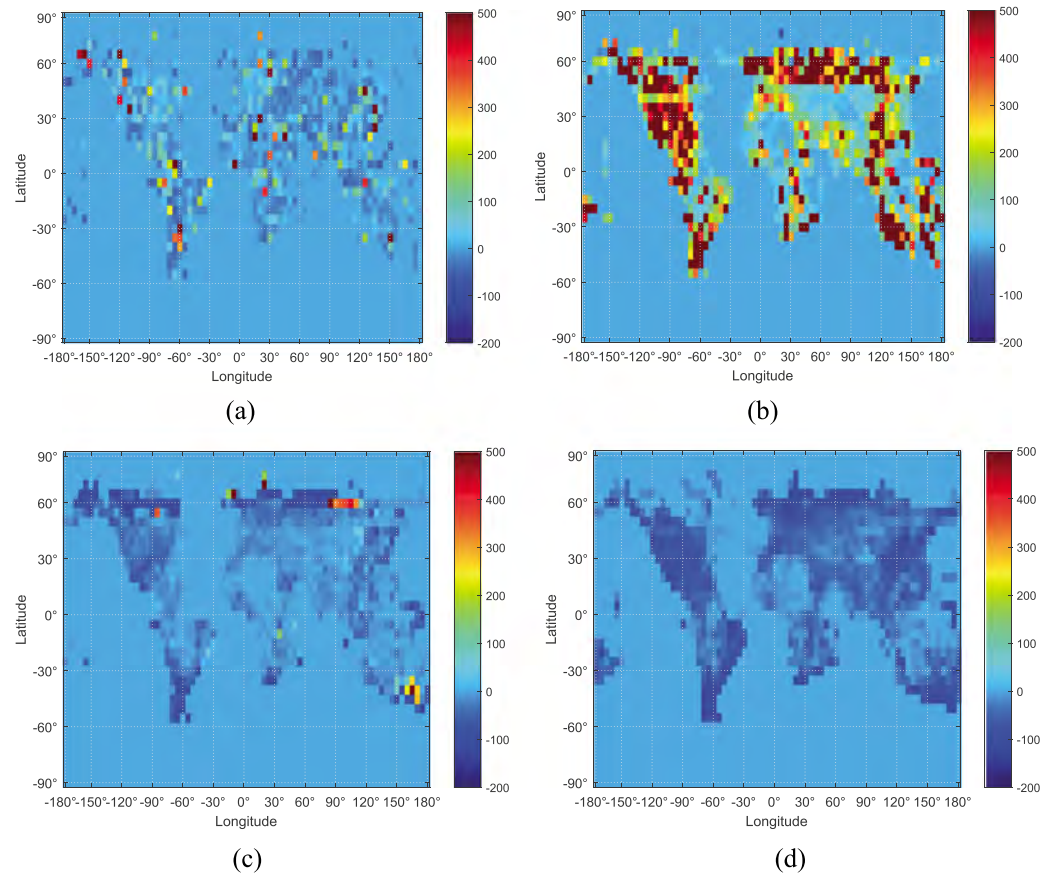


Figure 2. The global geographical distribution of the average (2005–2011) percent change in the total global aviation NO_x emissions under the TRS (a) 5.6–7.2 km, (b) 7.2–9.2 km, (c) 9.2–11.8 km, and (d) 11.8–16.2 km.

of the global mean cruise altitude of approximately 2.7 km which has a significant effect on the global vertical distribution changes of the fuel burned, mission time, the distance flown, and the aircraft emissions of CO, HC, and NO_x for the time period of 2005–2011 (Figure 3). In this study, we used low resolution of the vertical distributions of the global aircraft NO_x emissions and found the shape of the vertical profiles of NO_x emissions between 2005 and 2011 under the TRS with a substantial reduction of 50% at 11.8–16.2 km, a reduction of 20% at 9.2–11.8 km, and a significant increase of 110% at 7.2–9.2 km on average between 2005 and 2011 (Figure 3f). As the vertical distribution changes of the global total CO₂, H₂O, and SO_x emissions qualitatively mirror that of fuel burn, they are not presented here. *Federal Aviation Administration* [2005] reported that roughly 90% of aircraft emissions except HC (70%) and CO (70%) were produced at cruise, climb, and descent altitude, and the remainder was emitted during landing, takeoff, and ground-level operations. Thus, the most significant positive changes in the vertical distribution of the total global mission fuel burn (up to 200%), mission time (up to 1700%), the distance flown (up to 1100%) and the emissions of CO (up to 270%), and NO_x (up to 110%) are found between 7.2 and 9.2 km (Figure 3) due to the lower estimated global mean cruise altitude resulting from the TRS between 2005 and 2011. The lowering of the global mean turboprop cruise altitude also leads to a decrease in global mission fuel burn, mission time, the distance flown, and the aircraft emissions of CO, NO_x, and HC above 9.2 km. The mission distance and the mission time increase at all altitudes up to 9.2 km because of the increased departures for the time period of 2005 to 2011 (Figures 3b and 3c). The fuel burn under the TRS might be expected to increase at all altitudes up to 9.2 km with increasing mission distance and mission times, but turboprop-equipped aircraft require significantly less runway for takeoff and landing than turbofan powered aircraft of the same size [SKYbrary, 2016] resulting in decreases of fuel burn at the lowest model layer. Emissions of CO₂, CO, H₂O, HC, SO_x, and NO_x decrease at the majority of the altitudes (see Figure 3) because of their decreased emissions from efficient turboprop aircraft engine

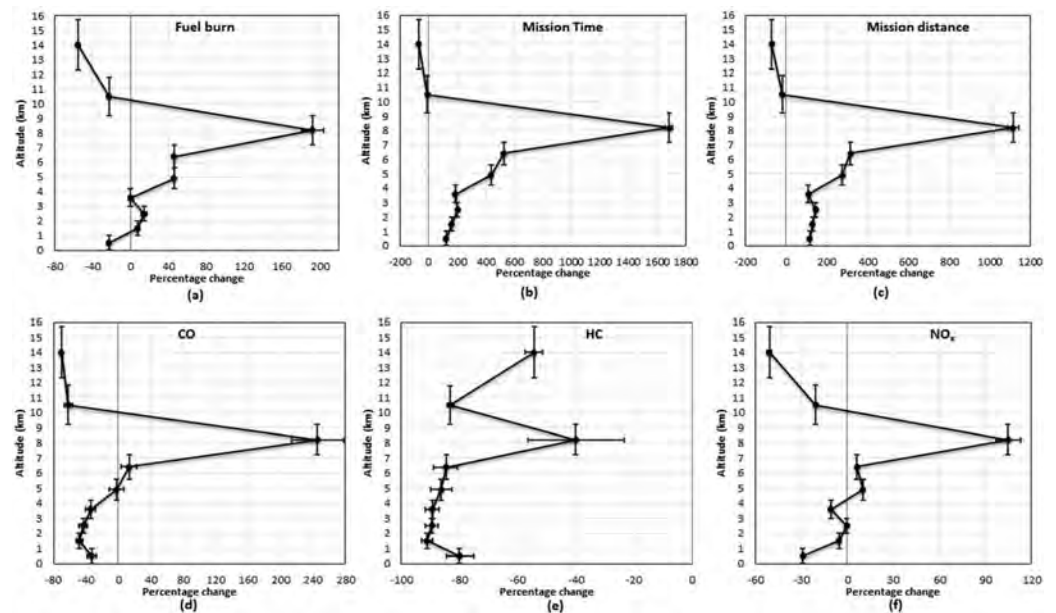


Figure 3. Percent changes in the vertical distribution of the estimated total global (a) mission fuel burn, (b) mission time, (c) distance flown, (d) CO emissions, (e) HC emissions, and (f) NO_x emissions, resulting under the TRS relative to the original fleet during 2005 to 2011. x axis error bar represents the standard deviation of the annual total percentage changes across the 7 years. The vertical scale corresponds to the vertical levels in the STOCHEM-CRI model and the vertical point locations represent the midpoint of each model layer, while the y axis error bar represents the model layer thickness.

technology within the combustor compared with that of turbofan engines [George *et al.*, 1969]. At ground level, emissions of CO and NO_x decrease by 33 and 29%, respectively, on average between 2005 and 2011. Overall, the contribution of turboprops to atmospheric pollution (e.g., CO₂, H₂O, NO_x, SO_x) is significantly higher at 7.2–9.2 km, but their emissions under the TRS at ground level and upper troposphere (9.2–16.2 km) decrease their atmospheric composition significantly.

3.4. Global Budget of Tropospheric O₃

The substitution of turboprops by turboprops in regional fleets on a global scale decreases the global annual mean burden of NO_x by 4.0 Gg (0.8%) which resulted in a decrease of global annual tropospheric burden of PAN by 1.7 Gg (0.3%). The global annual mean tropospheric burden of O₃ decreased by 0.9 Tg (0.3%) on average between 2005 and 2011, and as a consequence of decreased O₃ levels, the global annual mean tropospheric burden of OH decreases by 0.002 Gg (0.8%). Table 3 shows the global O₃ budget under the TRS in which both total production and loss decrease slightly by 11.6 Tg/yr (0.1%) and 11.1 Tg/yr (0.1%), respectively. Two dominant chemical production channels, HO₂ + NO and CH₃O₂ + NO,

Table 3. The Average Absolute and Percent Change in the Global Tropospheric O₃ Budget Terms Simulated by the STOCHEM-CRI Under the TRS During 2005 to 2011

Species	Average Δ (Tg/yr)	Average %Δ
<i>Chemical Production</i>		
HO ₂ + NO	-9.6	-0.2
CH ₃ O ₂ + NO	-1.7	-0.1
CH ₃ CO ₃ + NO	-0.1	-0.0
Isoprene peroxy + NO	0.0	0.0
HOCH ₂ CH ₂ O ₂ + NO	-0.0	-0.0
Other RO ₂ + NO	-0.1	-0.0
Other	-0.1	-0.1
Stratospheric influx	0.0	0.0
Total production	-11.6	-0.1
<i>Chemical Loss</i>		
O(¹ D) + H ₂ O → 2OH	-3.1	-0.1
HO ₂ + O ₃ → OH + 2O ₂	-1.0	-0.1
OH + O ₃ → HO ₂ + O ₂	-3.5	-0.5
Other	-0.5	-0.1
Dry deposition	-3.0	-0.1
Total loss	-11.1	-0.1
Production – loss	-0.5	-0.6

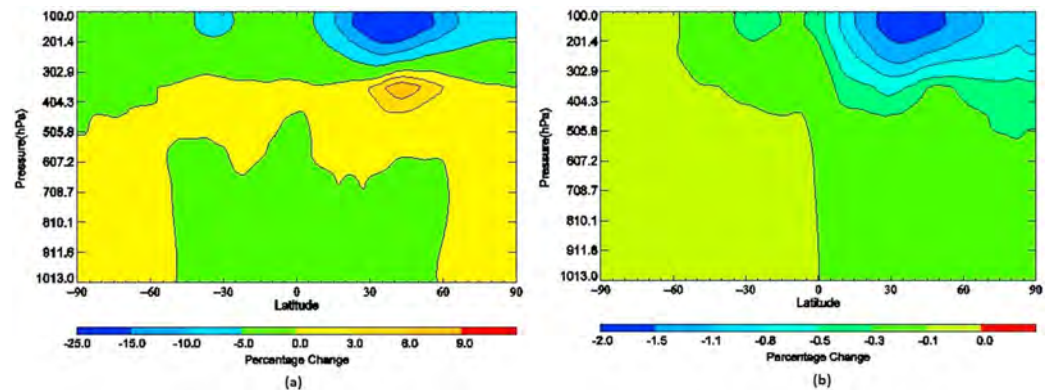


Figure 4. Global zonal distribution of the average percent changes in (a) NO_x and (b) O₃ under the TRS for the seven sensitivity simulations (2005–2011).

decrease by 9.6 Tg/yr (0.2%) and 1.7 Tg/yr (0.1%) respectively, while the other channels remain unchanged. There is a decrease in all channels that make up the chemical loss, the most being OH + O₃ at 3.5 Tg/yr (0.5%). Net O₃ production decreases by 0.5 Tg/yr (0.6%) on average under the TRS. In the NO_x-saturated regime (taxi out, takeoff, approach, landing, and taxi-in phases when VOC/NO_x ratio is small), the decreased NO_x at ground level under TRS (Figure 3f) leads to no significant change in O₃ mixing ratios. However, in the NO_x sensitive regime (ascent, cruise, and descent phases when VOC/NO_x ratio is high), the significant decrease in NO_x at 9.2–16.2 km (Figure 3f) reduces O₃ mixing ratios notably. There is an overall reduction in levels of tropospheric O₃ after substitution of turbofans by turboprops on a global scale in regional fleets on short-haul missions which would be an improvement in terms of environmental pollution.

3.5. Global Geographical NO_x and O₃ Distribution

Figure 4 shows the global zonal distribution of the average percent changes in NO_x and O₃ mixing ratios under the TRS. Following the replacement of turbofans by turboprops in regional fleets on a global scale and consequently lowering the estimated global mean cruise altitude, the concentration of NO_x is generally suppressed by 5–10% above 9.2 km in the NH. In particular, there are two areas of greatest negative changes: one of up to 10% between 30°S and 40°S in the SH and one of up to 25% between 25°N and 55°N in the NH at 11.8–16.2 km as seen in Figure 4. Brazil and southern coast of Australia emerge as new NO_x mixing ratio hot spots during 2005–2011 [Wasiuk *et al.*, 2016a]; the TRS replacement strategy reduces the NO_x change in Brazil and Australia mostly which reflects the negative NO_x change in the SH. Between 7.2 and 9.2 km NO_x mixing ratios are increased by up to 8% which can be attributed to the lowering of the global mean cruise altitude under the TRS.

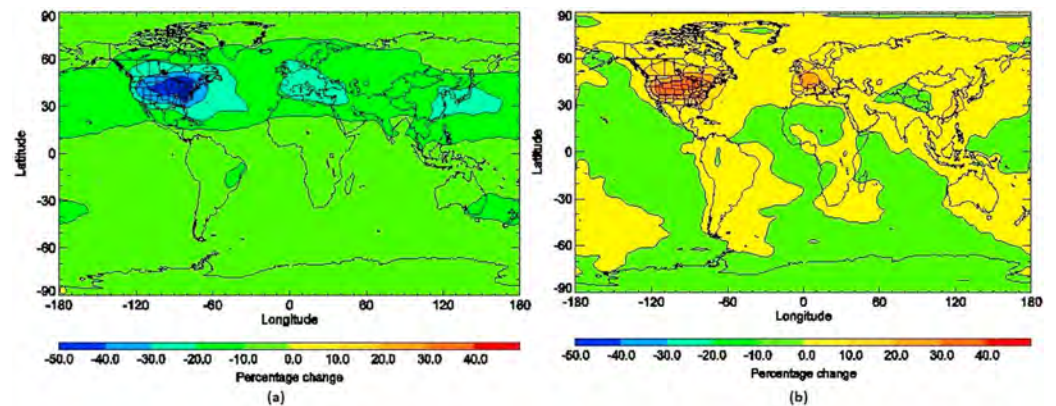


Figure 5. Global geographical distribution of the average percentage change in NO_x mixing ratios under the TRS for the seven sensitivity simulations (2005–2011) (a) between 11.8 and 16.2 km and (b) between 7.2 and 9.2 km.

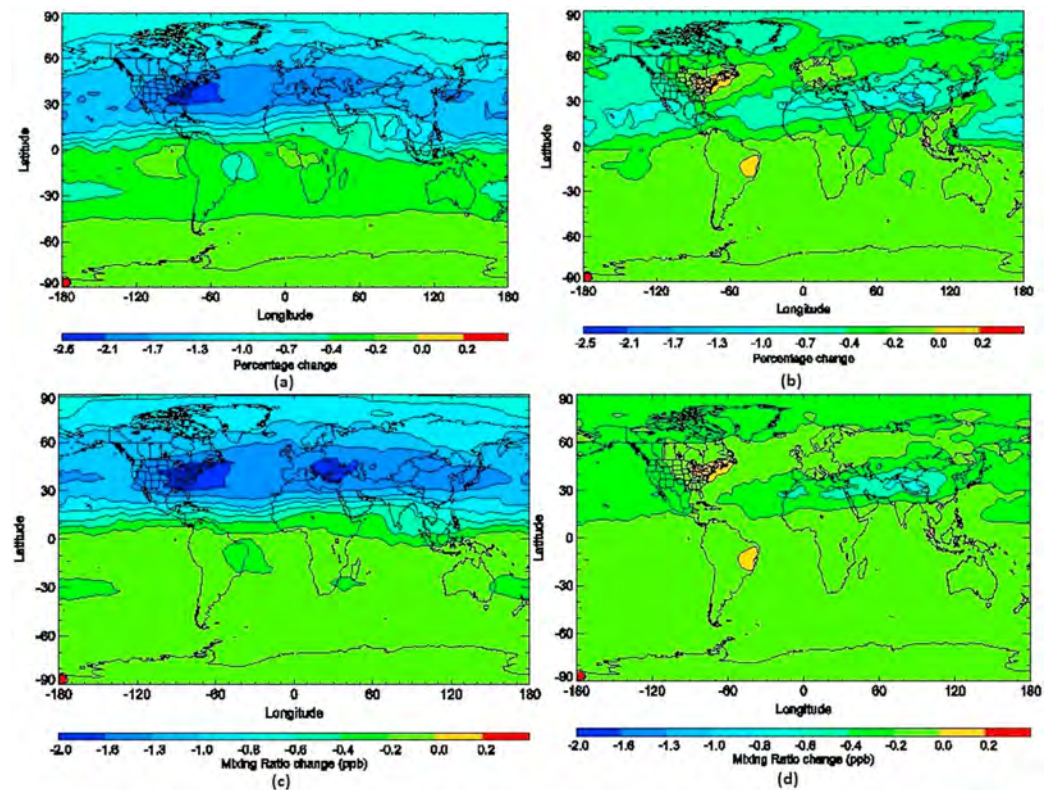


Figure 6. Global geographical distribution of the average percentage changes in O₃ mixing ratios under the TRS for 2005–2011 (a) between 11.8 and 16.2 km and (b) between 7.2 and 9.2 km. Global geographical distribution of the absolute changes in O₃ mixing ratios under the TRS for 2005–2011 (c) between 11.8 and 16.2 km and (d) between 7.2 and 9.2 km.

Following the reduction in NO_x concentrations due to the substitution of turbofans by turboprops in regional fleets on a global scale, overall O₃ mixing ratios decrease and most notably between 10°N and 90°N starting at 9.2 km (Figure 4b). The greatest decrease ($\geq 2\%$) takes place at 11.8–16.2 km, between 25°N and 50°N. When averaged zonally, no increase in O₃ mixing ratios corresponding to the increases in NO_x concentrations is seen between 7.2 and 9.2 km.

The global geographical distribution and magnitude of the NO_x changes under the TRS at 11.8–16.2 km and 7.2–9.2 km are shown in Figure 5. Globally, the reduction in NO_x mixing ratios at 11.8–16.2 km is found to be 8% and regionally up to 50% reduction has been found over the North American east coast (Figure 5a). Figure 5b shows the positive changes in the geographical distribution of NO_x at 7.2–9.2 km where the global mean change (2%) and the regional change (up to 40% in central mainland Europe, and the east coast of North America) have been observed.

The decreased aircraft NO_x emissions at 11.8–16.2 km (NO_x sensitive region) under the TRS leads to a decrease in global mean O₃ mixing ratios by 0.8% and regional O₃ mixing ratios by up to 2.5% (2 ppb) over the North American east coast (Figures 6a and 6c), but the aircraft emit an increased amount of NO_x at 7.2–9.2 km (NO_x sensitive region) under TRS where the additional NO_x leads to a decrease in global mean O₃ mixing ratios by 0.3% and an increase in regional O₃ mixing ratios by up to 0.2% (2 ppb) North Atlantic Ocean, southern Europe, and south East Asia (Figures 6b and 6d). The increases in the concentration of O₃ are found between 7.2 and 9.2 km due to the lowering of the estimated global mean cruise altitude and the displacement of the total global aviation NO_x emissions to a lower altitude materialize away from the continents and over the oceans. A belt of decreased O₃ levels at 0–30°N stretches from the east to the west (Figure 6b); hence, despite increased NO_x levels between 7.2 and 9.2 km, there are negative changes in O₃ levels (1%) in this region. In terms of the impact on the global climate, the turboprop replacement strategy resulted in an average overall

decrease of O₃ in the entire modeling domain, in particular, nearest to the tropopause where the radiative forcing of O₃ is strongest [Brasseur *et al.*, 1998]. This is likely to be in a regime closer to the net O₃ production compensation point (the point at which the net O₃ production is equal to zero), which is preferable in terms of the atmospheric impact. The findings in the study are in qualitative agreement with the results of Grewe *et al.* [2002] and Søvde *et al.* [2014] where they found reduced levels of O₃ after lowering the cruise altitude by 1 km and 0.6 km, respectively. However the magnitudes of O₃ changes cannot be compared because of the different methodology used and the smaller altitude decrease considered in the Grewe *et al.* [2002] and Søvde *et al.* [2014] studies. We have not assessed the potential of TRS strategy on the long-term effects of NO_x emissions, effects of CO₂ emissions, changes in contrail coverage, or aircraft-produced aerosol emissions. However, considering the relationship of the radiative forcing with the cruise altitude [Søvde *et al.*, 2014], it can be concluded that the TRS strategy reduces the global O₃ levels by up to 2 ppb (Figure 6c) which subsequently reduces the radiative forcing (RF) by 2–3 mW m⁻². The total RF from aviation (in 2005, excluding cirrus effects) is ~55 mW m⁻² [Lee *et al.*, 2009], i.e., the mitigation strategy may reduce total aviation RF by ~5%.

4. Conclusion

A theoretical mitigation strategy for commercial aircraft impact on tropospheric composition referred to as the turboprop replacement strategy (TRS), where all turbofans on short-haul routes were replaced with existing turboprops, was investigated in the study. With increasing the number of global departures under TRS, the global levels of emissions of CO₂, H₂O, and SO_x changed in line with mission fuel burn, i.e., remained approximately unchanged on average between 2005 and 2011, while total global aviation CO, HC, and NO_x emissions were reduced by 79, 21, and 11% on average between 2005 and 2011. TRS would lead to an estimated lowering of the global mean cruise altitude of flights up to 1700 NM by approximately 2.7 km which resulted in significant changes in the global geographical distribution of the total global aviation emissions above 7.2 km. At ground level, NO_x and CO mixing ratios were reduced by 29 and 33%, respectively, between 2005 and 2011.

The manipulation of the aviation NO_x emissions between 2005 and 2011 due to TRS has the effect of decreasing the tropospheric burden of O₃ by 0.9 Tg. The net O₃ production decreases by 0.5 Tg (0.6%) between 2005 and 2011. TRS leads to a substantial decrease of NO_x mixing ratios at the current estimated mean cruise altitude near the tropopause. The displacement of the total annual global aviation NO_x emissions to the lower altitude between 7.2 and 9.2 km leads to an overall decrease of O₃ at that altitude. The findings from this study imply that the substitution of turbofans with turboprops on a global scale in regional fleets on short haul missions would lead to an overall reduction in levels of tropospheric O₃ in a region of the atmosphere where it is most harmful in terms of the radiative forcing of climate change.

A reduction in surface NO_x, CO, and HC local to airports is a matter of much current debate, but it should be noted that studies have shown that there is a direct relationship between such compounds and negative health outcomes and that such exposure can have long-term impacts [Janke *et al.*, 2009; Hansell *et al.*, 2015], and so any reduction in primary emissions would be welcome. The global model used here will not be able to resolve changes in O₃ on city wide and regional scales and so O₃ may increase during outflow as the airport is likely to be in a NO_x-saturated, VOC-limited environment, but total O₃ production will scale approximately with NO_x away from urban areas and so any reduction in NO_x is likely to reduce surface O₃ regionally with multiple health benefits for animals, plants, and building structures [e.g., Jenkin and Clemmshaw, 2000].

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Appendix 02

Heathrow Main Judgement

The Heathrow Third Runway Litigation (2019) EWHC (Admin) 1069 and 1070



Neutral Citation Number: [2019] EWHC 1070 (Admin)

Case Nos CO/2760/2018, CO/3089/2018,
CO/3147/2018 and CO/3149/2018

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
PLANNING COURT
DIVISIONAL COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 01/05/19

Before :

LORD JUSTICE HICKINBOTTOM
and
MR JUSTICE HOLGATE

Between :

**THE QUEEN ON THE APPLICATION OF
NEIL RICHARD SPURRIER**

Claimant

- and -

THE SECRETARY OF STATE FOR TRANSPORT

Defendant

- and -

- (1) HEATHROW AIRPORT LIMITED**
- (2) HEATHROW HUB LIMITED**
- (3) GATWICK AIRPORT LIMITED**
- (4) ARORA HOLDINGS LIMITED**

**Interested
Parties**

- THE QUEEN ON THE APPLICATION OF**
- (1) THE LONDON BOROUGH OF HILLINGDON**
 - (2) THE LONDON BOROUGH OF WANDSWORTH**

- (3) THE LONDON BOROUGH OF RICHMOND UPON THAMES
- (4) THE ROYAL BOROUGH OF WINDSOR AND MAIDENHEAD
- (5) THE LONDON BOROUGH OF HAMMERSMITH AND
FULHAM
- (6) GREENPEACE LIMITED
- (7) MAYOR OF LONDON

Claimants

- and -

THE SECRETARY OF STATE FOR TRANSPORT

Defendant

- and -

- (1) HEATHROW AIRPORT LIMITED
- (2) THE SECRETARY OF STATE FOR ENVIRONMENT,
FOOD AND RURAL AFFAIRS
- (3) TRANSPORT FOR LONDON
- (4) ARORA HOLDINGS LIMITED

Interested
Parties

THE QUEEN ON THE APPLICATION OF
FRIENDS OF THE EARTH LIMITED

Claimant

- and -

THE SECRETARY OF STATE FOR TRANSPORT

Defendant

- and -

- (1) HEATHROW AIRPORT LIMITED
- (2) ARORA HOLDINGS LIMITED

Interested
Parties

THE QUEEN ON THE APPLICATION OF
PLAN B EARTH LIMITED

Claimant

- and -

THE SECRETARY OF STATE FOR TRANSPORT

Defendant

- and -

- (1) HEATHROW AIRPORT LIMITED
- (2) ARORA HOLDINGS LIMITED

Interested
Parties

Neil Richard Spurrier appeared in person

Nigel Fleming QC, Catherine Dobson and Stephanie David (instructed by **Harrison Grant**)
for the **London Borough of Hillingdon, the London Borough of Wandsworth, the London
Borough of Richmond upon Thames, the Royal Borough of Windsor and Maidenhead,
the London Borough of Hammersmith and Fulham and Greenpeace Limited**

Ben Jaffey QC, Catherine Dobson, Flora Robertson and Stephanie David
(instructed by **Transport for London Legal**) for the **Mayor of London**

David Wolfe QC, Andrew Parkinson and Peter Lockley (instructed by **Leigh Day**) for
Friends of the Earth Limited

Tim Crosland (Director) for **Plan B Earth**

James Maurici QC, David Blundell, Andrew Byass and Heather Sargent (instructed by
Government Legal Department) for the **Secretary of State for Transport**

Martin Kingston QC, Robert O'Donoghue QC, Satnam Choogh and Emma Mockford
(instructed by **DAC Beachcroft**) for **Heathrow Hub Limited**

Charles Banner QC and Yaaser Vanderman (instructed by
CMS Cameron McKenna Nabarro Olswang LLP) for **Arora Holdings Limited**

No other party appearing or being represented

Hearing dates: 11-15 and 18-19 March 2019

Approved Judgment

Lord Justice Hickinbottom and Mr Justice Holgate:

Introduction

1. Heathrow is the busiest two-runway airport in the world, being currently full to capacity with further, unfulfilled demand. It is important to the national as well as the local economy. However, it is situated in a heavily built-up area of West London, with most aircraft using it passing over Central London in taking off or landing. As a result, whether its capacity should be expanded by constructing a third runway has been a long-standing question of national importance and acute political controversy. In these claims, the latest statement of Government policy supporting such expansion is challenged.
2. On 26 June 2018, the Secretary of State for Transport (“the Secretary of State”) designated “Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England” (“the ANPS”) under section 5 of the Planning Act 2008 (“the PA 2008”). The ANPS set out the Government’s policy on the need for new airport capacity in the South East of England and its preferred location and scheme to meet that need, namely a third runway at Heathrow to the north west of the current runways (“the NWR Scheme”).
3. In these four claims, the Claimants seek to challenge that designation decision. The claims are linked and, following case management by Holgate J, were heard together. There is a fifth claim, raising somewhat different issues, heard by a different but overlapping constitution immediately following, which is the subject of a separate judgment ([2019] EWHC 1069 (Admin)) (“the Second Judgment”).
4. By direction of Holgate J, the application for permission to proceed was listed before us on a rolled-up basis, i.e. that we would deal with the application for permission and, if it were granted, the substantive application in a single hearing. As a result, we heard full argument on all issues.
5. This judgment has the following parts (with their paragraph numbers):

Introduction	1-5
Parties	6-13
Evidence	14-15
Structure of the Judgment	16-19
Planning Act 2008	20-41
Factual Background	42-85

Preliminary Point 1: “National policy” and “Government policy”	86-90
Preliminary Point 2: Sections 87(3)(b) and 106(1)(b): The Relationship between the ANPS and the DCO Process	91-112
Preliminary Point 3: Section 5(7): “Reasons for the policy”	113-123
Preliminary Point 4: Section 7: Consultation Requirements	124-137
Preliminary Point 5: Section 13: The Effect of the Ouster/Suspension Clause	138-140
Preliminary Point 6: Standard of Review	141-184
Surface Access	185-219
Air Quality	220-285
Habitats	286-373
Strategic Environmental Assessment	374-502
Consultation	513-552
Bias	553-557
Climate Change	558-660
Human Rights	661-665
Disposal	666-668
Postscript	669

Appendix A: Grounds

Appendix B: Issues

Appendix C: Terms and Abbreviations

The Parties

6. There are four claims before us.
7. In Claim No CO/3089/2018, there are seven Claimants including the London Borough of Hillingdon (“Hillingdon”), in which Heathrow is situated, and four adjacent London Boroughs. The sixth Claimant is the Mayor of London (“the Mayor”), an elected office established by section 2 of the Greater London Authority Act 1999 (“the GLA Act”) who, with the London Assembly, forms the Greater London Authority (“the GLA”). Under the GLA Act, the Mayor is required to have in place a London Environment Strategy including provisions dealing with air quality (sections 362-369), climate change (sections 361A-361B and 316D) and noise (section 370). He is under a specific duty to address climate change so far as Greater London is concerned (section 361A(2)). Transport for London (“TfL”), which is responsible for implementing the Mayor’s strategy for transport in London (section 154 of the GLA Act), is an Interested Party. The other Claimant is Greenpeace, a non-governmental organisation concerned with the environment. We shall refer to the Claimants in this claim collectively as “the Hillingdon Claimants”; and to the five London Borough Claimants as “the Hillingdon Claimant Boroughs”. Before us, Nigel Pleming QC appeared for the Hillingdon Claimants excluding the Mayor; and Ben Jaffey QC and Flora Robertson appeared for the Mayor. In addition, Catherine Dobson and Stephanie David also appeared for all the Hillingdon Claimants.
8. In Claim No CO/3147/2018, Friends of the Earth Limited (“FoE”) is the Claimant. It is a non-governmental organisation particularly concerned with climate change. Before us, it was represented by David Wolfe QC, Andrew Parkinson and Peter Lockley.
9. In Claim No CO/3149/2018, the Claimant is Plan B Earth, a charity concerned with climate change. Before us, it was represented by its Director, Tim Crosland.
10. Finally, in Claim No CO/2760/2018, the Claimant is Neil Spurrier, who appeared in person.
11. In each claim, Heathrow Airport Limited (“HAL”) and Arora Holdings Limited (“Arora”) are Interested Parties. HAL is the airport operator at Heathrow, and has promoted the NWR Scheme. Before us, HAL was represented by Michael Humphries QC and Richard Turney. Arora represents companies within the Arora Group which own a significant proportion of the land within the boundary of the proposed NWR Scheme, and which propose to build and operate the new terminal that would be constructed as part of that scheme. Before us, Arora was represented by Charles Banner QC (except for the first day, when Yaaser Vanderman appeared).

12. In each claim, James Maurici QC, David Blundell, Andrew Byass and Heather Sargent appeared for the Defendant Secretary of State.
13. None of the other parties made representations at the hearing.

The Evidence

14. The amount of evidence presented to us was enormous. In this judgment, we will have to refer to only a small part of it; but we consider that it would be helpful if, at this stage, we identify the main witnesses to whose evidence we will refer.
 - i) Alex Williams is the Director of City Planning at TfL, having been in senior management posts at TfL since 2007. He prepared two statements dated 6 August 2018 (amended 1 November 2018) (“Williams 1”) and 21 December 2018 (“Williams 2”).
 - ii) Lucy Owen was the Interim Executive Director for Development, Enterprise and Environment at the GLA. She prepared a statement dated 10 August 2018 (amended 1 November 2018) (“Owen”).
 - iii) Councillor Raymond Puddifoot MBE is the Leader of Hillingdon London Borough Council. He has prepared two witness statements dated 6 August 2018 (amended 1 November 2018) (“Puddifoot 1”) and 19 December 2018 (“Puddifoot 2”).
 - iv) Ian Thynne is the Planning Specialists Team Leader at Hillingdon London Borough Council. He has prepared two witness statements dated 6 August 2018 (amended 1 November 2018) (“Thynne 1”) and 20 December 2018 (“Thynne 2”).
 - v) Paul Baker is the Lead Environmental Policy Officer at Hammersmith and Fulham London Borough Council. He has prepared two witness statements dated 6 August 2018 (“Baker 1”) and 20 December 2018 (“Baker 2”).
 - vi) Colin Stanbury is the Aviation Project Officer for Richmond upon Thames and Wandsworth London Borough Councils. He prepared two statements dated 4 August 2018 (amended 1 November 2018) (“Stanbury 1”) and 20 December 2018 (“Stanbury 2”).
 - vii) Caroline Low is a Senior Civil Servant at the Department for Transport (“the DfT”), and has been the Director of the Airport Capacity Programme since 2015. She prepared three statements dated 29 November 2018 (“Low 1”), 9 January 2019 (amended 25 January 2019) (“Low 2”) and 22 January 2019 (“Low 3”).
 - viii) Roger Jones is also a Senior Civil Servant at the DfT, joining that Department in 2005. Since 2015, he has been adviser to the Airport Capacity Programme on all surface access issues. He prepared two statements dated 29 November 2018 (“Jones 1”) and 8 January 2019 (amended 25 January 2019) (“Jones 2”).
 - ix) Phil Graham has been a Senior Civil Servant with the DfT since 2006. He became Head of Airports Policy in 2012, and from 2012-15 was Head of the Airports Commission (“AC”) Secretariat. He prepared a statement dated 29 November 2019 (“Graham”).

- x) Ursula Stevenson is employed by WSP Parsons Brinckerhoff (“WSP”), an engineering and project management consultancy, leading its Environmental Assessment and Management Service Group in the UK. WSP was retained by the Secretary of State to advise on environmental issues in the developing ANPS policy including the short-listed schemes. Ms Stevenson prepared two statements dated 29 November 2018 (“Stevenson 1”) and 9 January 2019 (amended 25 January 2019) (“Stevenson 2”).
 - xi) Charles Morrison is a Technical Director and Deputy Head of Ecology at WSP. He prepared two statements dated 6 December 2018 (“Morrison 1”) and 9 January 2019 (“Morrison 2”).
 - xii) Michael Lotinga is a Principal Acoustic Engineer at WSP. He prepared two statements dated 28 November 2018 (“Lotinga 1”) and 9 January 2019 (“Lotinga 2”).
15. By way of additional assistance to the court, following case management directions from Holgate J requiring them to do so, the parties prepared an Agreed Statement of Common Ground dated 28 January 2019 (“the Agreed Statement”), to which an addendum was agreed in March 2019 (“the Addendum to the Agreed Statement”) and a Climate Change Annex agreed between FoE, Plan B Earth and the Secretary of State on 5 February 2019 (“the Climate Change Annex to the Agreed Statement”).

The Structure of the Judgment

16. Each Claimant (or, in the case of the Hillingdon Claimants, group of Claimants), whilst generally mutually supportive, relies upon his or its own grounds of challenge. Furthermore, during the procedural hearings, the Claimants helpfully agreed to restrict themselves to avoid duplication in the presentation of their oral submissions. So, for example, FoE and Plan B Earth took the lead on climate change issues, to which the Hillingdon Claimants added very little. We have set out the grounds in each claim in Appendix A to this judgment, although, as the grounds as originally drafted were in some cases broad and somewhat inchoate (and their scope and nature evolved during the course of the proceedings through to the end of the hearing), we have set them out in what we understand to be their final form in our own words. We should stress that the precise formulation of these grounds is not critical. For ease of reference, we have numbered all of the grounds consecutively, Grounds 1-22; and we shall generally refer to the grounds by these numbers in this judgment.
17. Because of the number and nature of the grounds, during the directions hearings, Holgate J ordered the parties to agree a list of issues to be determined by the court, which they did. The list identifies the main issues with which this court has to deal in considering the grounds of challenge, although they do not directly correspond with those grounds. We set out the list of 22 issues in Appendix B. Whilst we will of course need to address in terms each of the grounds raised, the list of issues was invaluable in focusing the debate before us.
18. In this judgment, after dealing with the provisions of the PA 2008 and factual background, we will address a number of preliminary issues on the statutory scheme, before considering the grounds of claim in subject groups as set out in the list of issues. We do not pretend to have dealt with every submission that has been made to us – and

certainly not every piece of evidence produced before us – but we have dealt with all those necessary to determine each ground of challenge. Having determined the merits of each ground, we shall turn to relief including, in respect of grounds which we consider have not been made good, as this is a rolled-up hearing, whether permission to proceed should be refused or permission should be granted but the substantive claim refused.

19. Appendix C lists the terms and abbreviations we use in this judgment.

The Planning Act 2008

20. Statutory references in this part of the judgment are to the PA 2008, unless otherwise appears.
21. The PA 2008 established a new unified “development consent” procedure for “nationally significant infrastructure projects” defined to include certain “airport-related development” including the construction or alteration of an airport that is expected to be capable of providing air passenger services for at least 10m passengers per year (sections 14 and 23). Originally, many of the primary functions under the Act were to be exercised by the Infrastructure Planning Commission, established under section 1. However, those functions were transferred to the Secretary of State by the Localism Act 2011.
22. The mischiefs that the Act was intended to address were identified in the White Paper published in May 2007, Planning for a Sustainable Future (Cm 7120) (“the 2007 White Paper”). Prior to the PA 2008, a proposal for the construction of a new airport or extension to an airport would have required planning permission under the Town and Country Planning Act 1990. An application for permission would undoubtedly have resulted in a public inquiry, whether as an appeal against refusal of consent or a decision by the Secretary of State to “call in” the matter for his own determination. As paragraph 3.1 of the 2007 White Paper said:

“A key problem with the current system of planning for major infrastructure is that national policy and, in particular, the national need for infrastructure, is not in all cases clearly set out. This can cause significant delays at the public inquiry stage, because national policy has to be clarified and the need for the infrastructure has to be established through the inquiry process and for each individual application. For instance, the absence of a clear policy framework for airports development was identified by the inquiry secretary in his report on the planning inquiry as one of the key factors in the very long process for securing planning approval for Heathrow Terminal 5. Considerable time had to be taken at the inquiry debating whether there was a need for additional capacity. The Government has since responded by publishing the Air Transport White Paper to provide a framework for airport development. This identifies airport development which the Government considers to be in the national interest, for reference at future planning inquiries. But for many other infrastructure sectors, national policy is still not explicitly set out, or is still in the process of being developed.”

23. Paragraph 3.2 identified a number of particular problems caused by the absence of a clear national policy framework. For example, inspectors at public inquiries might be required to make assumptions about national policy and need, often without clear guidance and on the basis of incomplete evidence. Decisions by Ministers in individual cases might become the means by which government policy would be expressed, rather than such decisions being framed by clear policy objectives beforehand. In the absence of a clear forum for consultation at the national level, it could be more difficult for the public and other interested parties to have their say in the formulation of national policy on infrastructure. The ability of developers to make long-term investment decisions is influenced by the availability of clear statements of government policy and objectives, and might be adversely affected by the absence of such statements.

24. The 2007 White Paper proposed that National Policy Statements (“NPSs”) would set the policy framework for decisions on the development of national infrastructure.

“They would integrate the Government’s objectives for infrastructure capacity and development with its wider economic, environmental and social policy objectives, including climate change goals and targets, in order to deliver sustainable development.”

The role of Ministers would be to set policy, in particular the national need for infrastructure development (paragraph 3.4).

25. Paragraph 3.11 envisaged that any public inquiry dealing with individual applications for development consent would not have to consider issues such as whether there is a case for infrastructure development, or the types of development most likely to meet the need for additional capacity, since such matters would already have been addressed in the NPS. It was said that NPSs should have more weight than other statements of policy, whether at a national or local level: they should be the primary consideration in the determination of an application for a “Development Consent Order” (“DCO”) (paragraph 3.12), although other relevant considerations should also be taken into account (paragraph 3.13). To provide democratic accountability, it was said that NPSs should be subject to Parliamentary scrutiny before being adopted (paragraph 3.27).

26. In line with the 2007 White Paper recommendation, Part 2 of the PA 2008 provides for NPSs which give a policy framework within which any application for development consent, in the form of a DCO, is to be determined. Section 5(1) gives the Secretary of State the power to designate an NPS for development falling within the scope of the Act; and section 6(1) provides that “[t]he Secretary of State must review each [NPS] whenever the Secretary of State thinks it appropriate to do so”.

27. The content of an NPS is governed by section 5(5)-(8) which provide that:

“(5) The policy set out in [an NPS] may in particular—

(a) set out, in relation to a specified description of development, the amount, type or size of development of that description which is appropriate nationally or for a specified area;

- (b) set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for a specified description of development;
- (c) set out the relative weight to be given to specified criteria;
- (d) identify one or more locations as suitable (or potentially suitable) or unsuitable for a specified description of development;
- (e) identify one or more statutory undertakers as appropriate persons to carry out a specified description of development;
- (f) set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of a specified description of development.

(6) If [an NPS] sets out policy in relation to a particular description of development, the statement must set out criteria to be taken into account in the design of that description of development.

(7) [An NPS] must give reasons for the policy set out in the statement.

(8) The reasons must (in particular) include an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change.”

As this makes clear, the NPS may (but is not required to) identify a particular location for the relevant development.

28. In addition, under the heading “Sustainable development”, section 10 provides (so far as relevant to these claims):

“(1) This section applies to the Secretary of State’s functions under sections 5 and 6.

(2) The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.

(3) For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of—

- (a) mitigating, and adapting to, climate change;...”.

29. The process for designation of an NPS is also set out in the Act. Mr Fleming for the Hillingdon Claimants emphasised that the 2008 Act removed the opportunity for a

proposed development to be opposed at a public inquiry, and only substituted the more restrictive examination procedure. On the other hand, the 2008 Act imposed for the first time a transparent procedure for the public and other consultees to be involved in the formulation of national infrastructure policy in advance of any consideration of an application for a DCO.

30. Briefly, the Secretary of State produces a draft NPS, which is subject to (i) an appraisal of sustainability (“AoS”) (section 5(3)), (ii) public consultation and publicity (section 7), and (iii) Parliamentary scrutiny (sections 5(4) and 9). In addition, there is a requirement to carry out a strategic environmental assessment (“SEA”) under Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment (“the SEA Directive”) as transposed by the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004 No 1633) (“the SEA Regulations”) (see regulation 5(2) of the SEA Regulations).
31. The consultation and publicity requirements are set out in section 7, which provides (so far as relevant to these claims):
- “(1) This section sets out the consultation and publicity requirements referred to in sections 5(4) and 6(7).
- (2) The Secretary of State must carry out such consultation, and arrange for such publicity, as the Secretary of State thinks appropriate in relation to the proposal. This is subject to subsections (4) and (5).
- (3) In this section ‘the proposal’ means—
- (a) the statement that the Secretary of State proposes to designate as [an NPS] for the purposes of this Act or
- (b) (as the case may be) the proposed amendment.
- (4) The Secretary of State must consult such persons, and such descriptions of persons, as may be prescribed.
- (5) If the policy set out in the proposal identifies one or more locations as suitable (or potentially suitable) for a specified description of development, the Secretary of State must ensure that appropriate steps are taken to publicise the proposal.
- (6) The Secretary of State must have regard to the responses to the consultation and publicity in deciding whether to proceed with the proposal.”
32. A proposed NPS must be laid before Parliament (section 9(2) and (8)). The Act thus provides an opportunity for a committee of either House of Parliament to scrutinise a proposed NPS and to make recommendations; and for each House to scrutinise it and make resolutions (see section 9(4)).

33. An NPS is not the end of the process. It simply sets the policy framework within which any application for a DCO must be determined. Section 31 provides that, even where a relevant NPS has been designated, “development consent” under the PA 2008 is required for development “to the extent that the development is or forms part of a nationally significant infrastructure project”. Such applications must be made to the relevant Secretary of State (section 37).
34. Chapter 2 of Part 5 of the Act makes provision for a pre-application procedure. This provides for a duty to consult pre-application, which extends to consulting relevant local authorities and, where the land to be developed is in London, the GLA (section 42). There are also duties to consult the local community, and to publicise and to take account of responses to consultation and publicity (sections 47-49; and see also regulation 12 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No 572), which makes provision for publication of and consultation on preliminary environmental information). Any application for a DCO must be accompanied by a consultation report (section 37(3)(c)); and adequacy of consultation is one of the criteria for acceptance of the application (section 55(3) and (4)(a)).
35. Part 6 of the PA 2008 is concerned with “Deciding applications for orders granting development consent”. Once the application has been accepted, section 56 requires the applicant to notify prescribed bodies and authorities and those interested in the land to which the application relates, who become “interested parties” to the application (section 102). The notification must include a notice that interested parties may make representations to the Secretary of State. Section 60(2) provides that where a DCO application is accepted for examination there is a requirement to notify any local authority for the area on which land the subject of the application concerned relates is located (see section 56A)) and, where the land to be developed is in London, the GLA, inviting them each to submit a “local impact report” (section 60(2)).
36. The Secretary of State may appoint a panel or a single person to examine the application (“the Examining Authority”) and to make a report setting out its findings and conclusions, and a recommendation as to the decision to be made on the application. The examination process lasts six months, unless extended (section 98); and the examination timetable is set out in the Infrastructure Planning (Examination Procedure) Rules 2010 (SI 2010 No 103) (“the Examination Rules”). In addition to local impact reports (section 60), the examination process involves written representations (section 90), written questions by the examining authority (rules 8 and 10 of the Examination Rules), and hearings (which might be open floor and/or issue specific and/or relating to compulsory purchase) (sections 91-93). As a result of the examination process, the provisions of the proposed DCO may be amended by either the applicant or the Examination Authority e.g. in response to the representations of interested parties; and it is open to the Secretary of State to modify the proposed DCO before making it.
37. Section 104 constrains the Secretary of State when determining an application for a DCO for development in relation to which an NPS has effect, in the following terms (so far as relevant to these claims):

“(2) In deciding the application the Secretary of State must have regard to—

(a) any [NPS] which has effect in relation to development of the description to which the application relates (a ‘relevant [NPS]’),

...

(b) any local impact report...,

(c) any matters prescribed in relation to development of the description to which the application relates, and

(d) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State’s decision.

(3) The Secretary of State must decide the application in accordance with any relevant [NPS], except to the extent that one or more of subsections (4) to (8) applies.

(4) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with any relevant [NPS] would lead to the United Kingdom being in breach of any of its international obligations.

(5) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with any relevant [NPS] would lead to the Secretary of State being in breach of any duty imposed on the Secretary of State by or under any enactment.

(6) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with any relevant [NPS] would be unlawful by virtue of any enactment.

(7) This subsection applies if the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits.

(8) This subsection applies if the Secretary of State is satisfied that any condition prescribed for deciding an application otherwise than in accordance with [an NPS] is met.

(9) For the avoidance of doubt, the fact that any relevant [NPS] identifies a location as suitable (or potentially suitable) for a particular description of development does not prevent one or more of subsections (4) to (8) from applying.”

38. Section 104 is complemented by section 106 which, under the heading “Matters which may be disregarded when determining an application”, provides (so far as relevant to these claims):

“(1) In deciding an application for an order granting development consent, the Secretary of State may disregard representations if the Secretary of State considers that the representations—

(a) ...

(b) relate to the merits of policy set out in [an NPS]...”.

(2) In this section ‘representation’ includes evidence.”

That is also reflected in sections 87(3) and 94(8), under which the Examining Authority may disregard representations (including evidence) or refuse to allow representations to be made at a hearing if it considers that they “relate to the merits of the policy set out in [an NPS]...”.

39. By section 120(1), a DCO may impose requirements in connection with the development for which consent is granted, e.g. it may impose conditions considered appropriate or necessary to mitigate or control the environmental effects of the development. Section 120(3) is a broad provision enabling a DCO to make provision relating to, or to matters ancillary to, the development for which consent is granted including any of the matters listed in Part 1 of Schedule 5 (section 120(4)). That schedule lists a wide range of potentially applicable provisions, including compulsory purchase, the creation of new rights over land, the carrying out of civil engineering works, the designation of highways, the operation of transport systems, the charging of tolls, fares and other charges and the making of byelaws and their enforcement.
40. Section 13 concerns “Legal challenges relating to [NPSs]”. Section 13(1) provides:
- “A court may entertain proceedings for questioning [an NPS] or anything done, or omitted to be done, by the Secretary of State in the course of preparing such a statement only if—
- (a) the proceedings are brought by a claim for judicial review, and
- (b) the claim form is filed before the end of the period of 6 weeks beginning with the day after—
- (i) the day on which the statement is designated as [an NPS] for the purposes of this Act, or
- (ii) (if later) the day on which the statement is published.”

It is under section 13 that these claims are brought.

41. We will analyse specific aspects of the statutory framework particularly relevant to these claims after we have set out the factual background to which we now turn.

The Factual Background

42. Some of the topics which we cover below require a focus on particular parts of the story of the ANPS; and we will deal with those, in the context of each topic, as and when they arise. However, it will be helpful if, at this stage, we set the scene.
43. Heathrow Airport lies 23km west of Central London, on a site of just over 12 km², handling up to 480,000 air traffic movements (“ATMs”) (i.e. take off and landings) per year. It has two parallel east-west runways, and four operational passenger terminals. It is Europe’s busiest airport by passenger traffic with about 70% of the UK’s scheduled long-haul flights, its four passenger terminals handling approximately 80m passengers per year. With its large number of national and international destinations, it has an important aviation “hub” function, i.e. it acts as a passenger exchange point for flights to and from other towns and cities. Heathrow is also Europe’s third busiest cargo airport, handling just under 2m tonnes of freight and mail per year. Heathrow is working at more or less full operational capacity; as is London’s second airport, Gatwick, at peak times. Gatwick is a single runway airport handling 280,000 ATMs per year.
44. The aviation sector plays an important role in the UK economy, contributing about £20bn per year and directly supporting approximately 230,000 jobs. Concerns about the longer-term airport capacity in the South East of England are compounded by a fear that London will lose its position as an aviation hub and, with it, the economic benefits that that status brings.
45. The possibility of adding a third runway to Heathrow, and other options to increase the airport capacity in the South East, have been considered, intermittently, since at least the 1980s.
46. On 7 September 2012, the Secretary of State for Transport (the Rt Hon Patrick McLoughlin MP) announced that he had established a new independent commission, the AC. It is particularly noteworthy that, as recorded in paragraph 1.3 of the ANPS, the AC was established “to examine the scale and timing of any requirement for additional capacity to maintain the UK’s position as Europe’s most important aviation hub...”; and to examine the scale and timing for additional airport capacity to maintain that status. In this judgment, we shall refer to the aim of maintaining the UK’s position as Europe’s most important aviation hub as “the hub objective”. It was recognised at the time of the establishment of the AC that increasing airport capacity had the potential for substantial adverse effects; and the AC’s terms of reference required it to look at the environmental impact of meeting any identified needs, and that it “should base the recommendations in its final report on a detailed consideration of the case for each of the credible options. This should include the development or examination of... environmental assessments for each option...”. The AC was chaired by Sir Howard Davies.
47. In March 2013, before the AC reported, the Secretary of State issued an Aviation Policy Framework (“the APF”) which set out long-term aviation policy. The APF provided – and still currently provides – the Government’s climate change strategy for aviation, which focuses on action at a global level as the best means to secure its objective, with action within Europe as the next best option and unilateral action at national level where appropriate. It sets out the Government’s ambition to play a leading role in securing progress internationally. One of the main objectives of the policy is said to be “to ensure that the UK’s air links continue to make it one of the best connected countries

in the world”, for which (it says) “it is essential... to maintain the UK’s aviation hub capability...” (paragraph 9). The key role to be played by the AC was emphasised (see, e.g., paragraphs 21-24).

48. On 17 December 2013, the AC published an interim report (“the AC Interim Report”), which concluded that there was a need for further airport capacity by 2030, and that such capacity could not be delivered by the existing facilities. It concluded that there was a “clear case for one net additional runway in London and the South East, to come into operation by 2030” (Chapter 6: Summary, page 172).
49. The AC had received 52 (and, because of the options the AC itself raised, considered a total of 58) different proposals for delivering additional airport capacity; and it identified two existing airports as credible locations for an additional runway, namely Heathrow and Gatwick. The AC said that it would therefore take forward, for further detailed study, proposals for a second runway at Gatwick (“the Gatwick 2R Scheme”) and two alternative proposals for additional runway capacity at Heathrow, namely (i) the proposal of the current operator, HAL, for a new 3,500m runway constructed to the North West of the current runways (i.e. the NWR Scheme) and (ii) the proposal of Heathrow Hub Limited (“HHL”) to extend the existing northern runway to a length of 6,000m to allow it to operate as two independent runways (“the ENR Scheme”) (see paragraphs 6.113-6.114). For the sake of completeness, we should add that the AC Interim Report also considered options for the Thames Estuary, including a proposed airport on the Isle of Grain (see paragraph 6.115); but none was short-listed and, following further studies, the AC formally rejected those options in September 2014.
50. Chapter 7 of the AC Interim Report set out the next steps, which included public consultation on its Appraisal Framework for the assessment of the three short-listed schemes; and then engagement with the public through public evidence sessions and a national consultation on the “refreshed designs of the short-listed schemes, as well as assessments that have been undertaken on these schemes’ economic, social and environmental impacts and on their operational, commercial and technical viability” (paragraph 7.8). The AC was concerned with “scheme-specific” factors as described in paragraph 19 of the Second Judgment, i.e. it was not concerned with the question of whether the promoter of a scheme would or could itself deliver that scheme. Scheme promoters were invited to submit refreshed designs, and further information in the form of a Strategic Overview, Airport Master Plan, Engineering Plans, Mitigation Strategies, Development Strategies and Surface Access Strategies (paragraphs 7.25-7.27) in accordance with the assessment methodologies in the final Appraisal Framework (paragraph 7.30).
51. The AC consulted on and then adopted an Appraisal Framework, with appraisal modules which included surface access, noise, air quality, biodiversity and carbon.
52. It then proceeded to consult on the three short-listed options, but first published two discussion papers in June 2014: “The utilisation of the UK’s existing airport capacity” (which focused on the UK’s regional airports, and the measures that could be taken to support them, and the role and development of airports in the wider South East) and “The delivery of new runway capacity” (which considered legal and planning issues, options for addressing impacts on local communities, and the role of the state, for example in respect of funding or regulation).

53. In addition, the AC appointed an Expert Advisory Panel, “to help the [AC] to access, interpret and understand evidence relating to the Commission’s work, and to make judgments about its relevance, potential and application” (page 1: recited in the AC’s Final Report, Annex A). The Panel’s terms of reference were to “advise the [AC] on a range of issues including (but not limited to) economics, climate change, aircraft noise, air quality, aviation technology, and engineering” (*ibid*). The 21 members of the Panel had wide-ranging experience and expertise, including in the field of transport policy and planning. One (Dr David Quarmby CBE) was a Board Member of TfL. In addition, the AC appointed its own external experts, including Jacobs UK Limited (“Jacobs”) which conducted various studies and analyses at the behest of the AC on (e.g.) surface access, air quality and noise impact.
54. In November 2014, the AC published its assessments of the short-listed schemes for consultation, the core purpose of the consultation process being “to test the evidence base, to identify any concerns stakeholders may have as to the accuracy, relevance or breadth of the assessments undertaken, and to seek views on the potential conclusions that might be drawn” (the AC Final Report, paragraph 4.12). The AC also held a full-day public discussion session in each of the local areas around Heathrow and Gatwick, to hear first-hand the views and concerns of local stakeholders, including MPs and Councillors, community groups and business organisations. In the event, over 70,000 responses were received to the consultation. In addition, the Commission carried out a separate consultation on the outputs of a more detailed air quality analysis that had not been available prior to the commencement of its broader consultation on the short-listed options. Over 1,850 responses were received to that consultation.
55. Having considered the responses to these consultations, and the information and analyses that the Commission itself had directed and obtained, on 1 July 2015, the AC published its final report (“the AC Final Report”). Building on the conclusions of its Interim Report, it confirmed that there was a need for additional runway capacity in the South East of England by 2030 and that all the three short-listed options were “credible”. It concluded and recommended that the NWR Scheme was the most appropriate way to meet that need – “the strongest option” (see Executive Summary, page 30) – if combined with a significant package of measures which addressed environmental and community impacts. It concluded that the NWR Scheme performed best in the Strategic Fit Module, with the Gatwick 2R Scheme more focused on short-haul European flights without any substantial increase in long-haul connectivity absent a significant change in industry structure (paragraph 6.92).
56. The recommended measures to which we have referred included (Executive Summary, pages 10-11):
- i) incentivising a major shift in mode share for those working and arriving at the airport (i.e. in terms of surface access, shifting the proportion of travellers and employees journeying to Heathrow from private road transport to public and non-carbon transport), through new rail measures, changing employee behaviour and considering the introduction of a congestion or access charge;
 - ii) a requirement that additional operations at an expanded Heathrow must be contingent on acceptable performance on air quality, particularly that new capacity should only be released when it is clear that air quality at sites around the airport will not delay compliance with European Union (“EU”) limits;

- iii) a ban on all scheduled night flights in the period between 11.30pm and 6am; and
 - iv) the ruling out of a fourth runway at Heathrow.
57. The AC Final Report considered issues such as surface access, air quality, habitats, noise and carbon, including an environmental assessment. A number of supporting documents were published alongside the report, including the following:
- i) a separate report on the responses to consultation;
 - ii) “Business Case and Sustainability Assessment – Heathrow Northwest Runway”: the intention of the sustainability assessment part of this document was that, if the Secretary of State decided to use the recommendations in the AC’s Final Report as the basis for a future NPS, the information and analysis in this part would provide a useful foundation for the production of an AoS at that stage;
 - iii) in all, some fifty detailed technical supporting reports including thirteen separate reports, analyses and studies on surface access together with a series of documents considering air quality consultation responses;
 - iv) a number of assessment reports from Jacobs, dated May 2015, including (a) Appraisal Framework Module 4: Surface Access: Dynamic Modelling Report: Heathrow Airport North West Runway (“the Jacobs Surface Access Assessment”); (b) Appraisal Framework Module 6: Air Quality Local Assessment: Detailed Emissions Inventory and Dispersion Modelling (“the Jacobs May 2015 AQ Local Assessment”); and (c) Appraisal Framework Module 8: Carbon: Further Assessment (“the Jacobs Carbon Emissions Assessment”) which provided “an assessment of the three short-listed airport schemes against the AC’s objective of minimising carbon emissions in airport construction and operation, and [analysed] the impact under a ‘carbon traded’ scenario rather than a ‘carbon capped’ scenario”. We consider carbon capping and carbon trading when dealing with the climate change grounds of challenge and especially Ground 22 below (see paragraphs 597 and 616 and following).
58. In October 2015, on behalf of the Mayor, TfL published a response to the AC Final Report in respect of all three short-listed schemes which set out concerns about (amongst other things) the demand forecast used by the AC and that insufficient account was taken of freight and induced demand impact of the NWR Scheme.
59. The AC’s analysis and conclusions were the subject of a number of reviews undertaken by or on behalf of the Secretary of State, one of which was a review by a Senior Review Panel chaired by Ms Low, the Aviation Capacity Programme Director at the DfT. The DfT engaged with the promoters of each of the three short-listed schemes, raising specific questions with each; and agreed a non-binding Statement of Principles (“SoPs”) with each promoter, designed to come into effect only if and when its scheme was chosen as the Government’s preferred scheme and setting out the next steps. The SoPs do not play a prominent part in these claims; but they feature in the Second Judgment, in which further details of them are set out (see, e.g., paragraphs 39 and following).

60. The panel reported on 9 December 2015, concluding that the AC Final Report was “a sound and robust piece of evidence upon which the Government could base decisions on whether further airport capacity was required and where that capacity could be best located” (Jones 1, paragraph 142).
61. On 14 December 2015, the Secretary of State announced that the Government accepted the case for airport expansion; agreed with, and would further consider, the AC’s short-list of options; and would use the mechanism of an NPS under the PA 2008 to establish the policy framework within which to consider an application by a developer for development consent. The announcement also stated that further work had to be done in relation to environmental impacts, particularly that “we must deal with air quality..., concerns about noise..., carbon emissions...”. The decision to make the announcement had been agreed at a meeting of the Cabinet Sub-Committee on Economic Affairs (Airports) (“the Cabinet Sub-Committee”) on 10 December 2015.
62. Over the course of the following year, the DfT considered the AC Final Report, and carried out further work on certain areas that the AC had considered including air quality, noise, carbon emissions and impacts on local communities (see paragraph 3.42 of the ANPS).
63. On 25 October 2016, the Secretary of State made an announcement to Parliament that the Government’s preferred option was the NWR Scheme (“the October 2016 Preference Decision”). The decision to make the announcement was again agreed at a Cabinet Sub-Committee meeting, that same day. A number of documents were published at the same time including (as set out in paragraph 3.10 of the ANPS):
 - i) “Review of the Airports Commission Final Report dated December 2015”, i.e. the report of the Senior Review Panel to which we have referred;
 - ii) “Further Review and Sensitivities Report Airport Capacity in the South East” dated October 2016;
 - iii) an undated report by Highways England, “Airports Commission Surface Access Works: Strategic Road Network Proposals Validation of Costs and Delivery Assumptions”;
 - iv) a report prepared by WSP, “Air Quality Re-analysis impact of new pollution climate mapping projections and national Air Quality Plan” (dated October 2016) (“the WSP October 2016 AQ Re-analysis”), later twice updated in February and October 2017 (see, respectively, paragraphs 68(iv) and 72 below);
 - v) a policy briefing note, “Airport capacity and air quality”; and
 - vi) the non-binding SoP agreed between the Secretary of State and HAL (referred to in paragraph 59 above).
64. At the same time as announcing the October 2016 Preference Decision:
 - i) a press release was issued supporting the preference for Heathrow:

“The scheme [a new runway at Heathrow] will now be taken forward in the form of a draft [NPS] for consultation”;

and

- ii) the Secretary of State announced the appointment of the Rt Hon Sir Jeremy Sullivan (a former Lord Justice of Appeal) as Independent Consultation Adviser to oversee the consultation process.
65. The announcement also, of course, triggered the SoP between the Secretary of State and HAL.
 66. In December 2016, the Hillingdon Claimants (save for the Mayor and the London Borough of Hammersmith and Fulham) and an individual claimant (Christine Taylor) issued a claim for judicial review of the October 2016 Preference Decision (“the October 2016 Preference Decision JR”). The Mayor and TfL intervened as interested parties. However, in R (London Borough of Hillingdon) v Secretary of State for Transport [2017] EWHC 121 (Admin), [2017] 1 WLR 2166, Cranston J accepted the Secretary of State’s argument that, by virtue of section 13 of the PA 2008, the matters then raised by the claimants could only be pursued during the six-week period following designation of any ANPS. He struck out the claim. We return to this claim below (paragraph 139).
 67. On 2 February 2017, the Secretary of State launched a consultation on a draft ANPS for a period of 16 weeks (“the February 2017 Consultation”). A consultation leaflet published alongside this document, entitled “Heathrow Expansion: Have your say”, said that: “Expansion can be delivered within existing air quality requirements, and this will be a condition of planning approval”. It recognised that “[t]he potential impact of Heathrow would have an impact on local communities, and the government has been clear that a world-class package of measures should be put in place to support them.” It indicated that “[t]he next step is a 16 week public consultation on a draft [NPS]”; and referred to the appointment of Sir Jeremy Sullivan “to provide independent oversight of the consultation process, and ensure it is full, fair and accessible”.
 68. Alongside the draft ANPS, the Secretary of State laid before Parliament and published for consultation several further documents, including:
 - i) an AoS (including topic level appendices) with a separate non-technical summary and scoping report;
 - ii) a Habitats Regulations Assessment (“HRA”) (see paragraph 293 below);
 - iii) a Health Impact Analysis;
 - iv) an Updated Air Quality Re-analysis Report produced by WSP (“the WSP February 2017 AQ Re-analysis”); and
 - v) an Equalities Impact Assessment.
 69. A number of consultation information events were undertaken, which were publicised along with the documents to which we have referred. At the same time, the Secretary

of State also consulted on modernising the way UK airspace is managed. This was consulted on in parallel with the consultation on the draft ANPS.

70. There were 72,239 responses to the February 2017 Consultation. In May 2017, the Mayor responded to the consultation in the form of an overarching letter, as well as a series of thematic papers, including TfL’s Technical Note: NPS Consultation Response: Thematic Paper: Surface Access (“the TfL Surface Access Technical Note”) and a paper on air quality. The same month, most of the Hillingdon Claimants provided a joint response to the consultation. Hillingdon itself also submitted an individual response.
71. In July 2017, Sir Jeremy Sullivan, in his capacity as Independent Consultation Adviser, completed his interim report covering the consultation on the draft ANPS. This was subsequently published on 7 September 2017.
72. A further consultation was launched on 24 October 2017 (“the October 2017 Consultation”) to allow updated evidence, including the Government’s revised aviation demand forecasts and its final Air Quality Plan 2017 (“the AQP 2017”), to be taken into account and considered by the public. A revised draft ANPS and a number of other supporting documents were published at the same time, including an updated AoS, an updated HRA and a further update to the air quality re-analysis (“the WSP October 2017 AQ Re-analysis”). Also published were (i) an update to the Further Review and Sensitivities Report Airport Capacity in the South East published in October 2016 (“the Updated Appraisal Report”), and (ii) a report entitled “Carbon Abatement in UK Aviation” produced by Ricardo Energy & Environment.
73. On 25 October 2017, the Government’s AQP 2017 was challenged by judicial review (see paragraphs 220-237 below for the history of this litigation). The challenge related to the treatment in the plan of five cities and 45 local authorities, all outside London. The AQP 2017 was declared unlawful on the ground that it failed to contain measures sufficient to ensure compliance with Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (“the Air Quality Directive”), and the Air Quality Standards Regulations 2010 (SI 2010 No 1001) (“the Air Quality Regulations”) which transpose that Directive, in identified zones (R (ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs (No 3) [2018] EWHC 315 (Admin)). The 45 local authorities in issue did not include any of the Claimants. Four of the Hillingdon London Borough Claimants applied to intervene in those proceedings on the basis that the AQP 2017 made no provision for expansion at Heathrow. The application to intervene was opposed by the Secretary of State and by the Secretary of State for Business, Enterprise and Industrial Strategy (“the Secretary of State for BEIS”), another party, on the basis that that issue should be dealt with as a challenge to the ANPS under section 13 of the PA 2008, if designated. The application to intervene was however refused.
74. There were 11,028 responses to the October 2017 Consultation. The same Hillingdon Claimants who jointly responded to the February 2017 Consultation also jointly responded to this, raising a number of concerns including the basis of the preference for expansion at Heathrow, surface access, air quality, the quality of the consultation process, the SEA and breaches of the principles of sustainable development. Hillingdon again also made its own response.

75. TfL sent the Secretary of State a report dated August 2017 produced by engineers instructed by TfL, Steer Davies Gleave (“SDG”), entitled “Heathrow Airport Expansion Surface Access Assessment – Summary Report” (“the SDG Report”) which re-analysed the surface access data including data which had not been analysed by or for the AC.
76. In December 2017, the Mayor submitted a number of documents in response to the consultation including an overarching letter and a detailed technical note, namely the “TfL Planning Technical Note – Revised National Policy Statement on Airport Capacity – Mayor submission to the consultation” dated November 2017 submitted to the Secretary of State as part of the Mayor’s submission to the consultation on the draft ANPS (“the TfL November 2017 Surface Access Technical Note”). In January 2018, TfL published and submitted a document, “TfL City Planning: Technical note – Heathrow third runway: Surface access analysis”, which sought to summarise the results of its own surface access analysis to date (“the TfL January 2018 Surface Access Technical Note”). In February 2018, Alex Williams (Director of City Planning at TfL) wrote to the Director of Airport Capacity and Aviation Analysis at the DfT about its surface access and air quality modelling. Caroline Low responded in March 2018.
77. In June 2018, the Secretary of State published the Government response to the consultations on the draft ANPS (“the Consultation Response”), which considered (amongst other things):
- i) surface access (pages 40-50);
 - ii) air quality supporting measures (pages 51-58);
 - iii) noise supporting measures (pages 59-72);
 - iv) carbon emissions supporting measures (pages 73-80); and
 - v) AoS (pages 93-105).
78. Meanwhile, on 1 November 2017, the Transport Committee (a Select Committee of the House of Commons) was appointed to carry out Parliamentary scrutiny of the revised draft ANPS, and it conducted an inquiry into the same. It received written evidence, and also heard oral evidence from thirty witnesses, including the Mayor and Deputy Mayor for Transport. Following the oral evidence given to the Transport Committee by the Secretary of State, the Deputy Mayor for Transport wrote to the Transport Committee with a follow up submission in March 2018. The Secretary of State replied to what was said in that submission in a response to the Committee. The Transport Committee’s inquiry culminated with the publication of a report on 23 March 2018, which made 25 recommendations but, subject to those, it approved the draft ANPS.
79. On 5 June 2018, the Government published a response to the Transport Committee’s report, in a document entitled the “Government response to the Transport Committee report on the revised draft ANPS”, essentially agreeing to the Committee’s recommendations.
80. The same day (5 June 2018), the Cabinet Sub-Committee met, and approved the laying before Parliament of the final proposed ANPS. That decision was noted by the Cabinet.

81. On the same day, the Secretary of State laid before Parliament the final proposed ANPS. Alongside this was published, amongst other things, the Consultation Response and the Transport Committee Response. There was in addition a number of supporting technical documents laid before Parliament and published including:
- i) an Addendum to the Updated Appraisal Report Airport Capacity in the South East, i.e. an addendum to the Updated Appraisal Report published in October 2017;
 - ii) a final version of the AoS, with chapters and supporting annexes covering (amongst other things) noise, biodiversity, air quality, and carbon emissions;
 - iii) an updated Health Impact Analysis and appendices;
 - iv) a final version of the HRA with appendices; and
 - v) an updated Equalities Impact Assessment.
82. Ahead of a Commons vote on the draft ANPS, the Secretary of State made a statement to Parliament in which he promised that any possible expansion of Heathrow would be governed by five key pledges:
- “• no cost to taxpayers – the new runway scheme will be privately funded and the government will work with industry to keep airport charges down
 - a massive economic boost to the country – new international routes, more than 100,000 new jobs, doubled freight capacity and benefits of up to £74 billion to passengers and the wider economy
 - guaranteed benefits for the whole of the UK – commitment to about 15% of new slots for domestic routes, new rail links, and new global opportunities for regional business
 - environmental protection built-in – expansion to be delivered within existing climate change and air quality obligations and a new ban on scheduled night flights
 - cast iron legal protection on commitments – Heathrow’s pledges to be legally enforceable, with punishment of unlimited fines or grounded planes if promises are broken”.
83. On the same day that these pledges were issued, Harrison Grant (solicitors for the Hillingdon Claimants except the Mayor) wrote directly to the Prime Minister, stating that the pledges were not in the NPS and therefore there was no statutory mechanism for enforcing them. The letter also asked for confirmation that the Government would re-consult the public after the Climate Change Committee (see paragraph 565 below) had reported on climate change developments. The DfT provided an interim reply to Harrison Grant on 25 June 2018, stating that there would be no further consultation.

84. On 25 June 2018, there was a debate on the proposed ANPS in the House of Commons, followed by a vote approving the ANPS by 415 votes to 119, a majority of 296 with support from across the House.
85. On 26 June 2018, the Secretary of State designated the ANPS under section 5(1) of the PA 2008. Of course, it is that decision to designate which is challenged in these claims. On the same day, the Secretary of State also published:
- i) a post-adoption statement, “The Airports National Policy Statement: Post Adoption Statement”, setting out how environmental considerations and consultation responses were integrated into the final ANPS; and
 - ii) a relationship framework document, setting out how the DfT and HAL would work together to achieve additional airport capacity through airport expansion, necessary airspace modernisation and related matters.

Preliminary Point 1: “National policy” and “Government policy”

86. The Secretary of State’s evidence explains how, following the AC Final Report, national policy on airport capacity and development evolved leading up to the Secretary of State’s decision on 26 June 2018 to designate the ANPS. At key stages in the evolution of this policy, the approval of the Cabinet Sub-Committee was sought so that its decision would be binding across Government by virtue of collective ministerial responsibility (see Low 1, paragraph 74). Accordingly, the drafts of the ANPS which were the subject of public consultation and the finally designated ANPS could, as a matter of fact, truly be said to be statements of Government policy. Indeed, the ANPS plainly states in several places that it sets out Government policy on, amongst other things, the need for new airport capacity in the South East of England (e.g. paragraph 1.13).
87. However, although the 2008 Act imposes “parliamentary requirements” including the laying before Parliament by the Secretary of State of any NPS he proposes to designate (section 9), there is no statutory requirement for the policy to be approved by the Cabinet or to be Government policy in this sense. Section 5(1) empowers the relevant Secretary of State to designate an NPS if the statement is issued *by him* and “sets out national policy in relation to one or more specified descriptions of development”. The mere use of the phrase “national policy” does not impose a legal requirement that the policy be agreed by the Government as such. Indeed, when Parliament intended to refer in the PA 2008 to “Government policy” it did so explicitly (see, e.g., section 5(8)).
88. In any event, mere endorsement of an NPS by the Government as a whole does not in itself render a ministerial decision to designate immune from judicial review under section 13. Indeed, where a Secretary of State promotes an NPS before (e.g.) a Cabinet Sub-Committee for its approval, if the NPS he promotes suffers from a legal defect (e.g. if, in deciding to promote it, the Secretary of State took into account an irrelevant consideration), that may give rise to a ground of challenge under section 13, the express language of which allows the court to review, amongst other things, “anything done, or omitted to be done, by the Secretary of State in the course of preparing [an NPS]” (section 13(1)).

89. On the other hand, we accept that it is appropriate for the court to consider whether, as a matter of fact, the Secretary of State's promotion of, and decision to designate, an NPS was *materially* influenced by a legal error. That requires a consideration of the context, which may include the whole process leading up to designation; and, for example, the way in which he presented the merits of the proposed policy to a Cabinet Sub-Committee. This may show that any legal flaw was immaterial for the purposes of determining the legality of a decision to designate an NPS (or of any preparatory steps taken by the Secretary of State).
90. The Secretary of State accepts that analysis.

Preliminary Point 2: Sections 87(3)(b) and 106(1)(b): The Relationship between the NPS and the DCO Processes

91. Mr Maurici submitted that many of the grounds of challenge were simply disguised criticisms of the merits of the ANPS and of the assessment of the issues which were taken into account in the Secretary of State's decision to designate. He also submitted that, as a general proposition, the PA 2008 does not preclude in the DCO process the making of objections to a proposal, or their consideration by the Examining Authority and the Secretary of State, in relation to matters such as surface access, air quality, noise, carbon emissions, ecology and biodiversity. Consequently, for example, as the Act itself makes clear, even where an NPS has identified a suitable location for a particular description of development, it would be open to the Secretary of State to refuse an application for a DCO if he considered that the adverse impacts arising from such matters would outweigh the benefits of the proposed development (section 104(7) and (9)).
92. On the other hand, Mr Maurici (supported by Mr Humphries for HAL) submitted that the ANPS in this case has established three matters of national policy which cannot be challenged in the DCO process by virtue of sections 87(3)(b), 94(8) and 106(1)(b), namely that:
- i) there is a pressing national need for new airport capacity in the South East of England;
 - ii) this need should be met by the NWR Scheme as the scheme preferred by the Government and not by any of the alternatives considered; and
 - iii) the assessments which an applicant for a DCO will have to carry out and the planning tests that it will have to meet in order for an order to be granted are as set out in the ANPS.
93. We note that sections 87(3)(b), 94(8) and 106(1)(b) confer a *power* to disregard representations relating to the merits of policy in an NPS, and do not impose an absolute, exclusionary bar. However, we accept that the true construction of these restrictions may in any event have implications for the standard of review applied by the court in a challenge under section 13 to the ANPS, a matter which we consider below (see paragraphs 141 and following). It is therefore a matter which we need to consider.

94. There is no dispute that the policy in the ANPS does identify the need for new airport capacity in the South East of England and does state that this need should be met by the provision of the NWR Scheme (e.g. paragraphs 1.13-1.15).
95. Mr Fleming contends that the effect of the ANPS is that objections to a DCO proposal for such a runway may be disregarded under sections 87(3)(b), 94(8) and 106(1)(b) in so far as they relate to the Secretary of State's strategic decision to select the NWR Scheme as the preferred scheme, save in the limited case where there has been any change in the circumstances upon which any policy set out in the ANPS was decided. Subject to that exception, he accepted that objections to an application for a DCO in respect of an NWR Scheme related to (e.g.) surface access, noise and air quality could be disregarded in so far as it may be contended that an alternative scheme (e.g. the Gatwick 2R Scheme) would be preferable in those respects (paragraph 3 of the Addendum to the Agreed Statement).
96. The primary response of Mr Maurici and Mr Humphries was that, if there were to be a material change in circumstances from those upon which policy in the ANPS was founded, then the statutory scheme provided for how that should be addressed. Section 6(1) requires the Secretary of State to review an NPS whenever he "thinks it appropriate to do so". In deciding when to carry out a review, he must consider (amongst other things) whether, since the time when the NPS was first published or last reviewed, "there has been a significant change in any circumstances on the basis of which any of the policy set out in the statement [or relevant part] was decided" and that change was not anticipated at that time (section 6(3) and (4)). They contend that that provision is exhaustive: the statutory scheme thus excludes the possibility of using the DCO process to argue that policy in the NPS should be disregarded or attract reduced weight because of any change in circumstance.
97. In addition, relying upon R (Thames Blue Green Economy Limited) v Secretary of State for Communities and Local Government [2015] EWHC 727 (Admin) upheld [2015] EWCA Civ 876; [2016] JPL 157 and R (Scarisbrick) v Secretary of State for Communities and Local Government [2017] EWCA Civ 787, Mr Humphries appeared to advance a more far-reaching proposition of general application, namely that an alternative to the scheme proposed in an application for development consent simply cannot be considered in the DCO process.
98. The exercise of the powers in sections 87(3)(b), 94(8) and 106(1)(b) to disregard representations would fall to be considered in the circumstances appertaining at some point in the future during a DCO process. Furthermore, we did not hear full argument on all of the potential implications of these rival contentions. Therefore, in respect of these issues, we confine ourselves to those matters which at this stage need to be, and can properly be, addressed.
99. It is important to recognise that, by virtue of section 5(5), the nature and content of NPSs may differ substantially. An NPS may set out a type of development which is "appropriate" either nationally or for a specified area. So, it may state that there is a need for such development. It may go on to identify the scale of the development which is necessary, but need not do so. It may identify a statutory undertaker to carry out the development, but it may be neutral as to the identity of the developer. It may identify one or more locations as being suitable for such development, but again need not do so:

it may, for example, simply set out criteria to enable the suitability of a proposed location for the development to be determined through the DCO process.

100. Sections 87(3)(b), 94(8) and 106(1)(b) merely entitle the Examining Authority and Secretary of State respectively, when considering a DCO, to disregard representations which relate to the merits of policy set out in an NPS. Clearly, where an NPS does not lay down policy on a particular matter, the power to disregard objections does not apply to that matter. That seems to us to be a modest and obvious proposition. So if, for example, an NPS does not contain a policy endorsing a particular location for the development identified, those provisions would not allow an objection promoting the relative advantages of an alternative location to be disregarded. The same analysis would apply where an NPS states that a particular need should be met, but does not require that a particular type of infrastructure or technology be used. In those circumstances, alternative schemes could be presented and relied upon by objectors.
101. Scarisbrick illustrates this proposition in action. It concerned paragraph 3.1 of the NPS for Hazardous Waste, which identified a national need for additional hazardous waste facilities and indicated a range of technologies that could be considered in individual applications. But the NPS did not identify the scale of the need to be met (e.g. the amount of additional waste capacity required) whether on a national or regional basis, or more locally. It laid down what Lindblom LJ (giving the judgment of the court) described as a general or “qualitative” need (see [24]). This national need was a matter to be weighed in the balance when individual applications for a DCO came to be decided (see [29]). The weight to be given to that factor would be a matter of judgment for the decision-maker in each case (see [31]). Lindblom LJ accepted that alternative locations could in that case be a relevant consideration (see [68]-[69]); but that was in the context of an NPS which did not select locations and rule out alternatives.
102. The NPS for Waste Water considered in Blue Green Economy was very different. The problem it sought to address was that the capacity of the sewerage system in London was insufficient to cope with demand, resulting in the discharge of untreated sewage into the River Thames in breach of EU Directives. One option was the construction of the Thames Tideway Tunnel to take the overload to a treatment plant. The policy considered alternatives, but concluded that there was a national need for the construction of the tunnel, preferring it to various alternative strategies to tackle the problem which it specifically rejected. On the DCO application, objections which sought to advance alternative solutions were disregarded under sections 87(3)(b), 94(8) and 106(1)(b).
103. Those decisions to disregard were challenged. The claimant submitted that in effect the Examining Authority and the Secretary of State had failed to exercise any discretion under either provision because they had concluded that they lacked jurisdiction to consider the objections (see [25] and [31]). Ouseley J held that that was unarguable. It was “inevitable” that objections based on unspecified alternative schemes would be disregarded as challenging the merits of this particular NPS, which had rejected the alternatives (see [32]). The judge held that alternative schemes could not be taken into account under section 104(3) because the NPS ruled them out in explicit terms; and they could not be considered under section 104(7) because that provision (a) was limited to the benefits and disbenefits of the proposed scheme and (b) could not be used to circumvent the effect of section 104(3) (see [37]-[43]).

104. We consider the *ex tempore* reasoning of Ouseley J to have been essentially correct, and an application of the modest proposition we have described. However, insofar as he suggested this to have been the case, we do not accept that the language of section 104(7) by itself rules out the consideration of alternatives to the development proposed in an application for a DCO. It is not restricted to the benefits and disbenefits of the proposed scheme, as the decision in Scarisbrick demonstrates.
105. The refusal of permission to apply for judicial review was upheld in the Court of Appeal, on the papers by Sullivan LJ and then at a hearing by Sales LJ (as he then was). Great emphasis was placed by Sullivan LJ upon the terms of the “no alternatives to the tunnel” policy in the NPS; and by Sales LJ on the availability of the review procedure under section 6 as the more appropriate and proper way to address a significant change in circumstances (see [11] and [14]).
106. We do not consider that the Blue Green Economy judgments lend any support to the submission we understood Mr Humphries to make that, in the DCO process, section 104(7) read with section 104(3) precludes the consideration of alternatives to a Government preference even where alternatives have not been rejected by the NPS. Where alternatives have not been rejected in an NPS, section 104(7) still allows the striking of the planning balance against the development as an exception to the presumption created by sub-section (3) in favour of development proposed in the location preferred by the policy; and that allows objections on the basis that an alternative is preferable. That is reinforced by section 104(9), and has been confirmed by Scarisbrick. But the same is not true in relation to the comparative merits of an alternative scheme which the policy in the NPS has rejected, thus excluding the consideration of that alternative.
107. Moreover, the judgment of Sales LJ in Blue Green Economy undermines Mr Fleming’s submission that that exclusion does not apply where an objector seeks to rely upon a change in the circumstances upon which that policy decision was based. Indeed, like Sales LJ, we are reinforced in our view of the relationship between the NPS and DCO processes by the provisions of section 6 of the PA 2008. National infrastructure projects often give rise to a host of issues and it is quite possible that relevant considerations will change or evolve after an NPS has been designated, particularly where long lead-in times are involved. For example, the science on climate change or risks to public health from pollution may change, along with solutions for addressing such matters. Parliament was clearly aware of this possibility; and provided for it in section 6.
108. Section 6(3) and (4) lay down three matters which must be considered by the Secretary of State when deciding when to review an NPS or part thereof. He must consider not only whether there has been a significant change in circumstances on the basis of which policy in the NPS was decided and which was not anticipated at the time when the NPS was first published (or last reviewed); but also, critically, whether, if that change had been anticipated at that time, the policy would have been materially different. This formulation clearly lays down the statutory principle that significant changes in circumstance affecting the basis for a policy in an NPS are to be taken into account if, after assessment, the relevant Secretary of State considers that the policy would have been materially different and only through the statutory process of review. This principle accords with the statutory scheme under which, in sections 5 and 6, Parliament has placed the responsibility for setting national policy on infrastructure projects upon the Secretary of State, subject to complying with the publicity, consultation and

parliamentary requirements laid down by the 2008 Act. If he considers that the designated policy would not have been “materially different”, which is an essential test, then the national policy framework he has set, and to which section 104(3) applies in the DCO process, remains unchanged.

109. This analysis would not preclude the making of an objection in the DCO process that there has been a change in circumstance since the designation of an NPS that affects the assessment of the adverse impacts of the proposed development itself and may cause the balance struck under section 104(7) to come down against the granting of development consent.
110. Therefore, insofar as it was in any way contentious – and, as we understood it, it was in fact common ground – we accept Mr Maurici’s submission as set out in paragraph 92 above. We are quite satisfied that the ANPS concluded as a matter of policy that:
- i) there is a pressing national need for new airport capacity in the South East of England;
 - ii) this need should be met by the NWR Scheme as the scheme preferred by the Government and not by any of the alternatives considered; and
 - iii) the assessments which an applicant for a DCO will have to carry out and the planning tests that it will have to meet in order for an order to be granted are as set out in the ANPS.

Therefore, as a result of sections 87(3)(b), 94(8) and 106(1)(b) of the PA 2008, those matters could not be challenged in any future DCO process.

111. However, for the reasons we have given, we reject both (i) the Hillingdon Claimants’ submission that any change in circumstance upon which the policy preference in the NPS for the NWR Scheme was based could entitle an objector in a DCO process to rely upon an alternative scheme and (ii) any broad submission that alternatives to a scheme proposed in an application for a DCO generally may not be considered in the DCO process.
112. The analysis set out above does not deal specifically with the Habitats Directive. In the Habitats section below, from paragraph 286 we address the relationship between PA 2008 and that Directive; and from paragraph 332 we consider whether this analysis needs to be modified in relation to the consideration of “alternative solutions”.

Preliminary Point 3: Section 5(7): “Reasons for the policy”

113. Section 5(7) of the PA 2008 requires an NPS to “give reasons for the policy set out in the statement”. It was submitted on behalf of several Claimants that this in effect included a duty to give reasons in relation to the responses received during the consultation which must be carried out under section 7.
114. An issue then arose as to whether the standard laid down in South Bucks District Council v Porter (No 2) [2004] 1 UKHL 33; [2014] 1 WLR 1953 for the adequacy of reasons in the determination of planning appeals should be applied in this context without any modification. There are obvious differences, which might justify a distinction in standard. South Bucks concerned reasons for a decision on whether to

grant planning permission for a specific development, a procedure which involves the resolution of the principal issues raised by the parties concerned in the appeal. Here we are dealing with the preparation and adoption of policy; indeed, policy at a national, strategic level.

115. However, in our view, the matter must be approached in a different way. Section 5(7) does not refer to the giving of reasons on the outcome of the consultation process at all. Instead, it forms part of the statutory definition of the contents of an NPS, which is the subject matter of this part of section 5. The NPS must contain the Secretary of State's policy on the development described (section 5(1)), which may include policies of the kind set out in section 5(5). If an NPS sets out policy in relation to a particular description of development, it must also set out criteria for the design of that description of development (section 5(6)). Still in the context of defining what an NPS must contain, section 5(7) requires that it must also give the Secretary of State's reasons (i.e. rationale) for the policy. In particular, those reasons must include "an explanation of how the policy in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change" (section 5(8)).
116. In our view, although section 5(7) requires an NPS to contain the rationale for the policy, it does not require every reason and consideration the policy-maker had in mind when promoting or designating the NPS to be set out in the statement, for the following reasons.
117. Section 5(7) is not concerned with reasons for making a decision, but rather reasons for making a policy. However, even in the former case, the duty to give reasons does not require the decision-maker to refer to every relevant consideration which he has taken into account. Generally, there is no obligation on a decision-maker to refer to every material consideration he has taken into consideration, because that would be "an unjustifiable burden" (see South Bucks at [34] per Lord Brown of Eaton-under-Heywood, citing with approval Bolton Metropolitan District Council v Secretary of State for the Environment (1995) 71 P&CR 309 at pages 314-5 per Lord Lloyd of Berwick). In South Bucks at [25] and [36], Lord Brown reiterated the point made by the House of Lords in Westminster City Council v Great Portland Estates plc [1985] AC 661, that reasons given for planning decisions can be "briefly stated". For example, in relation to the former duty of a local authority to give reasons for its decisions on an Inspector's report on the inquiry held to consider objections to a draft local plan, the reasons given by Westminster City Council, which the House of Lords held to be legally adequate in that case, were indeed terse. They responded to the Inspector's criticisms of highly controversial policies restricting office development outside a "central activities zone" simply by saying "not accepted" and relying in effect upon the very paragraphs in the draft plan which had given rise to the objections (see pages 671G to 673G). Because of this limited obligation in relation to the giving of reasons for a decision, there is only limited scope for the court to draw an inference that a relevant consideration not mentioned in a decision-maker's express reasoning has not been taken into account.
118. However, section 5(7) does not concern the giving of reasons for a specific decision, but rather reasons for the policy set out in the statement. In assessing what this requires, we consider the well-established approach to the statutory requirements for the structure and content of development plans to be instructive. When taken together, the "local development documents" (i.e. development plans and supplementary planning

documents) of a local planning authority must set out that authority's policies relating to the development and use of land in their area (section 17(3) of the Planning and Compulsory Purchase Act 2004). In addition, regulation 8(2) of the Town and Country Planning (Local Planning) (England) Regulations 2012 (SI 2012 No 767) requires such documents to contain a "reasoned justification" of their policies. The supporting rationale for the policies in a plan may also be used as an aid to the proper interpretation of those policies, so long as it is not used to contradict or "trump" the language used in those policies (R (Cherkley Campaign Limited) v Mole Vale District Council [2014] EWCA Civ 567 at [14]). Therefore, a "reasoned justification" or reasons for a policy in a development plan in only broad terms may be given.

119. We consider section 5(7), properly construed, requires a similar approach: the Secretary of State's obligation is to give reasons (i.e. rationale) for his policy. The inclusion of the policy-maker's rationale for his policy in a draft NPS contributes to the provision of adequate information to enable consultees to make intelligent responses in the consultation exercise. But that rationale should not be taken to represent the totality of the policy-maker's reasons for putting forward the policy. It is for the Secretary of State to make judgments about what matters to include in the NPS itself, and to what level of detail; and what material used to support those policies should be set out in other documents accompanying the draft NPS published for consultation (e.g. the AoS and any HRA). In such a complex area as aviation infrastructure policy, plainly it would be impractical to include in the NPS, whether a draft or as finally designated, every matter relied upon by the policy-maker as a reason for his policy; and for the reasons we have given, it is unnecessary for the Secretary of State to give reasons for rejecting every point made in response to consultation.
120. Furthermore, so far as reasons for not accepting consultation responses are concerned, the consultation requirement in section 5(4) applies to "the proposal", which is defined so as to refer to "the statement" that the Secretary of State *proposes* to designate as a "national policy statement" (section 7(2) and (3)). Thus, the obligation is to consult not only on the draft policy, but also the reasons for proposing to make that policy, i.e. its rationale. It is therefore clear that those reasons cannot be the Secretary of State's reasoning in *response* to representations made in the consultation exercise. By definition, it would be impossible to include that reasoning in the proposal which is to be the subject of consultation under section 7.
121. We therefore consider Plan B Earth (and, insofar as he made the submission, Mr Spurrier) to be incorrect in submitting that section 5(7) reasons have to be comprehensive; and in seeking to treat the reasons included in the ANPS pursuant to section 5(7) as an exhaustive statement of all the reasoning which underpinned the policies set out in the NPS.
122. It follows that the mere fact that a matter has not been mentioned in the reasons stated in the NPS itself cannot be relied upon by a claimant to demonstrate that a material consideration has been left out of account by the Secretary of State.
123. Furthermore, as we have explained in paragraphs 119-120 above, section 5(7) does not impose any obligation on the Secretary of State to give reasons responding to points raised in consultation (e.g. particular objections to his policy). Any such obligation is confined to the common law requirements for consultation, the subject to which we turn in the next section.

Preliminary Point 4: Section 7: Consultation Requirements

124. The PA 2008 does not lay down a detailed procedure for the carrying out of the consultation exercise. Section 7(2) requires the Secretary of State to:

“... carry out such consultation, and arrange for such publicity, as the Secretary of State thinks appropriate in relation to the proposal.”

That gives the Secretary of State a broad discretion.

125. However, even where, as here, the duty to consult is broad and arises from statute, it is common ground that it is subject to the principles set out by Stephen Sedley QC as approved by Hodgson J in R v Brent London Borough Council ex parte Gunning (1985) 84 LGR 168 and endorsed by the Supreme Court in R (Moseley) v Haringey London Borough Council [2014] UKHL 56; [2014] 1 WLR 3947 at [25] per Lord Wilson JSC (“the Gunning principles”):

“First, that consultation must be at a time when proposals are still at a formative stage. Second, that the proposer must give sufficient reasons for any proposal to permit of intelligent consideration and response. Third... that adequate time must be given for consideration and response and, finally, fourth, that the product of consultation must be conscientiously taken into account in finalising any statutory proposals.”

126. Furthermore, considerations of fairness may influence the standards expected for proper consultation, because (amongst other things) that is likely to result in better decision-making (Moseley at [24]: Moseley too was concerned with a statutory obligation to consult). Lord Reed JSC preferred to lay less emphasis upon the common law duty to act fairly and more upon the statutory context and purpose of the duty imposed by the legislation in question. In that case, it required the local authority to consult upon a replacement council tax benefit scheme with persons likely to have an interest in its operation. In practice, the council consulted with all its citizens.
127. In the present case, the consultation exercise needed to be directed at those affected by the proposals for the NWR Scheme and the various alternatives considered, which would include members of the public, relevant local authorities, other bodies and commercial interests. In those circumstances, the following observations by Lord Reed in Moseley are pertinent:

“38. Such wide-ranging consultation, in respect of the exercise of a local authority’s exercise of a general power in relation to finance, is far removed in context and scope from the situations in which the common law has recognised a duty of procedural fairness. The purpose of public consultation in that context is in my opinion not to ensure procedural fairness in the treatment of persons whose legally protected interests may be adversely affected, as the common law seeks to do. The purpose of this particular statutory duty to consult must, in my opinion, be to

ensure public participation in the local authority's decision-making process.

39. In order for the consultation to achieve that objective, it must fulfil certain minimum requirements. Meaningful public participation in this particular decision-making process, in a context with which the general public cannot be expected to be familiar, requires that the consultees should be provided not only with information about the draft scheme, but also with an outline of the realistic alternatives, and an indication of the main reasons for the authority's adoption of the draft scheme. That follows, in this context, from the general obligation to let consultees know 'what the proposal is and exactly why it is under positive consideration, telling them enough (which may be a good deal) to enable them to make an intelligent response' (R v North and East Devon Health Authority ex parte Coughlan [1999] EWCA Civ 1871; [2001] QB 213 at [112] per Lord Woolf MR)."

128. The grounds of challenge in these proceedings concerning consultation do not contend that consultees were prevented from participating in the decision-making process leading up to designation of the ANPS.
129. However, in relation to the first Gunning principle, some Claimants submit (under issue 11, and the Hillingdon Claimants' Ground 6 and Mr Spurrier's Grounds 1 and 2) that the Secretary of State failed to carry out the consultation with a sufficiently open mind. We will deal with the law on that subject when we come to deal with those grounds (see paragraphs 508-535 below).
130. In relation to the fourth Gunning principle, it is submitted at various points in the grounds that the Secretary of State failed to give adequate reasons addressing points raised in the consultation exercise, reflecting a failure conscientiously to take them into account.
131. We were referred to very little authority on the scope of any obligation to give reasons in connection with the fourth Gunning principle, particularly in cases involving a very large consultation exercise or the formulation of a strategic development policy; but, in our view, two authorities are of some assistance: R (West Berkshire District Council) v Secretary of State for Communities and Local Government [2016] EWCA Civ 441; [2016] 1 WLR 3923 and R (Buckinghamshire County Council) v Secretary of State for Transport [2013] EWHC 481 (Admin).
132. West Berkshire concerned an amendment of national planning policy which exempted small-scale housing developments from making any contribution to affordable housing requirements, one limb of which was as follows:
- "Developments of 10 units or 1000 sq m or less (including annexes and extensions) would be *excluded* from affordable housing levies and tariff based contributions."

133. One ground of challenge was that the Minister’s consultation upon the proposals was legally inadequate, one strand of which was that he had failed to respond to the consultation representations that the level of units should be three not ten.
134. Giving the judgment of the court, Laws and Treacy LJ held that the Secretary of State had been entitled to consider the whole range of responses made to him and then to form his own conclusions independently of the views of any section of consultees. In particular, he had not been obliged to explain why he had set the threshold at one level (ten units) rather than another in response to the representations received (three units). It was unnecessary for him to descend to that level of particularity or to conduct detailed analysis of alternative options before him. He was under no obligation to consult on every item of detail – or to consider and respond to every item of detail in the consultation responses (see [49] and [62]-[63]). It seems to us that that approach chimes with objectives identified in Moseley for a broad consultation exercise, for example with the public or a large section of the public, to ensure participation in the Minister’s decision-making process and to promote better decision-making, here the formulation of a national policy.
135. In Buckinghamshire, Ouseley J had to consider legal criticisms of the very extensive consultation exercise carried out on the HS2 project which yielded some 55,000 responses. At [308], the judge said:

“The court judges on an objective basis whether the process has been so unfair as to be unlawful in all the circumstances; R (JL Baird) v Environment Agency [2011] EWHC 939 (Admin), Sullivan LJ. A consultation process is not unlawful because it could be improved on, let alone with the benefit of hindsight. The person undertaking the consultation process has a wide discretion as to its scope, when in the decision-making process it is carried out, so long as it is still at the formative stage, and how it should be carried out – the more so where the process is nationwide and includes issues of a general policy nature; R (Greenpeace) v Secretary of State for Trade and Industry [2007] EWHC 311 (Admin); [2007] Env LR 29 at [62].”

136. Rejecting one of the consultation challenges, Ouseley J said (at [549]):

“The consultation responses were given conscientious consideration. The DNS and related decision documents did not have to go through the responses as if a decision letter following a Public Inquiry. The real question is whether the response to the problems is rational.”

Likewise, at [624], he stated in relation to a separate challenge:

“It would be wrong to suppose that conscientious consideration of consultation responses on what the proposal should be, required a fully reasoned decision letter as if one following a Public Inquiry into the substantive decision.”

137. In our view, this in substance corresponds to the approach advocated in West Berkshire, which we consider to be correct.

Preliminary Point 5: Section 13: The effect of the ouster/suspension clause

138. Section 13(1) of the 2008 Act provides that an NPS “or anything done, or omitted to be done, by the Secretary of State in the course of preparing such a statement” may be challenged only if the proceedings are brought by way of judicial review and the claim is filed during the period of six weeks beginning with the day on which the statement is designated as an NPS.
139. The effect of that restriction was considered in the October 2016 Preference Decision JR (see paragraph 66 above). In his judgment, Cranston J held that the Secretary of State’s announcement on 25 October 2016 of the Government’s decision that the preferred option for the provision of additional airport capacity in the South East of England was the NWR Scheme and that this would be included in a draft NPS was a preparatory step falling within the ambit of section 13. He treated the October 2016 Preference Decision as forming part of the process leading to the designation of the ANPS confirming the Government’s preferred location for the delivery of a new runway, which in due course was included in the ANPS. Consequently, no challenge could be brought until the beginning of that six-week window in the event of the NPS being eventually designated; and the challenge in that case (which was brought before any designation) was struck out (see [73]).
140. Section 13(1) reinforces the point that Part 2 of the PA 2008 has created a process with a number of steps leading up to the designation of an NPS. It is an iterative process, which in the case of the ANPS has engaged other procedures as well, notably under the SEA Directive and the Habitats Directive. Section 13(1) protects that process against legal challenges until it culminates in the designation of an NPS. It is implicit in the iterative nature of this procedure that, even if a legal error occurs at an early stage, it may be capable of being cured (and, in the event, in fact be cured) by corrective steps taken later on; or the defect may be rendered immaterial by the manner in which the policy-making subsequently proceeds (for example, by being based on different considerations which are not open to legal challenge) or by the way in which one of the participants brings an important aspect to the attention of the Secretary of State. This aspect of the legislation can be seen in the iterative nature of environmental assessment under the SEA Directive discussed below and in the handling of issues under the Habitats Directive and the scope for amending a Habitats Regulations Assessment. It will also feature in the discussion of some of the issues raised in the Second Judgment.

Preliminary Point 6: Standard of Review

141. The issue of the proper approach for the court to take as to the standard of review in these claims (Issue 1) was debated before us at some length.
142. On behalf of the Claimants, led by Mr Fleming, it was submitted that there was no justification for the intensity of review to be reduced in relation to the various grounds of challenge they have advanced. Indeed, it was submitted that the nature of the issues involved (including climate change, air quality and other environmental issues of critical national and global importance) warranted a particularly high level of scrutiny.

143. To the contrary, Mr Maurici, supported by Mr Humphries, submitted that the threshold for judicial intervention in relation to an NPS is “very high indeed”, particularly where irrationality is alleged. In this case:
- i) The ANPS has been scrutinised and approved by Parliament, both by the Transport Committee and by the House of Commons. There has been consideration and debate on the merits of the policy by a democratically elected and accountable body.
 - ii) The policy involves political, social and economic considerations which depend essentially on political judgment, something which cannot be challenged on the basis of irrationality unless bad faith, improper motive or manifest absurdity is shown.
 - iii) A challenge to a planning judgment on the grounds of irrationality is a “particularly daunting task” and must not be used as a cloak for challenging the merits of a decision or policy (Newsmith Stainless Limited v Secretary of State for the Environment, Transport and the Regions [2001] EWHC 74 (Admin); [2017] PTSR 1126 at [6]-[8], the quotation being at [7] (see paragraphs 170-171 below)).
 - iv) The entire process, from consideration by the AC (including the collection and analysis of evidence, and advice and recommendations) through to the designation of the ANPS, was informed by a considerable amount of specialist, expert advice to which the Secretary of State was entitled to give, and did give, great weight.
 - v) Some of the grounds particularly involve matters of scientific, technical and predictive assessment: the courts afford an enhanced margin of appreciation to a decision-maker in relation to such matters (R (Mott) v Environment Agency [2016] EWCA Civ 564; [2016] 1 WLR 4338: see paragraphs 176 and following below)
144. Mr Pleming suggested that issues on standard of review affected only three of the grounds advanced by the Hillingdon Claimants, namely those expressly pleaded as irrationality challenges: Ground 2 (adoption of a mode share target not realistically capable of delivery), Ground 5 (selection of the NWR Scheme despite a high risk that obligations under the Air Quality Directive would be breached between 2026 and 2030) and Ground 7 (failure to set out the legal test used for compliance with the Air Quality Directive). However, in our view, the question of the standard of review affects the issues they raise in respect of surface access and air quality generally. Moreover, for reasons given below under Grounds 8 and 9, the standard of review also affects the approach which should be taken by the court to alleged breaches of the Habitats Directive and the SEA Directive.
145. Mr Pleming explained that the effect of the errors of law advanced by the Hillingdon Claimants was that the Secretary of State wrongly preferred Heathrow (and, in particular, the NWR Scheme) to Gatwick as the location for the increase in airport capacity. Plainly, therefore, the context for those challenges is a policy decision at a high strategic level engaging a range of political, economic, social and planning considerations, and involving Parliament, together with a large number of consultees

and members of the public located in different parts of the country and with potentially competing interests and points of view. Furthermore, some of the grounds of challenge involve highly technical subjects, such as traffic modelling and surface access issues.

146. We should add that the grounds pursued by FoE and Plan B Earth, and Mr Spurrier, also raise the issue of standard of review. The former each raised several grounds of challenge relating to climate change, in particular alleged legal errors arising out of the Paris Agreement. These arguments are not directed at a choice between Heathrow or Gatwick or indeed other locations, but instead the principle of whether a substantial increase in airport capacity should be promoted. As we explain below, the Paris Agreement raises a policy issue for the Government and for Parliament to address, namely the future carbon reduction target for the UK as its contribution to the revised Paris Agreement target expressed solely in global terms. This is plainly a policy matter at a high strategic level, which engages the widest possible range of economic and social considerations in the UK. Most of Mr Spurrier’s submissions involve challenges to the merits of judgments reached by the Secretary of State, and were dependent on him establishing Wednesbury unreasonableness. Again, the issue of standard of review is relevant.
147. We take as a useful starting point the conclusion of Professor Paul Craig in “The Nature of Reasonableness” (2013) 66 CLP 131, endorsed by the Supreme Court in both Kennedy v Information Commissioner [2014] UKSC 20; [2015] AC 455 at [54] per Lord Mance JSC and Pham v Secretary of State for the Home Department [2015] UKSC 19; [2015] 1 WLR 1591 at [60] per Lord Carnwath JSC, that:

“[B]oth reasonableness review and proportionality involve considerations of weight and balance, with the intensity of the scrutiny and the weight to be given to any primary decision maker’s view depending on the context”.

That properly emphasises that the scrutiny of review is dependent upon the circumstances of a particular case.

148. Similarly, the requirements of procedural fairness depend on context, including the statutory framework within which the decision sought to be impugned was taken (R v Secretary of State for the Home Department ex parte Doody [1994] 1 AC 531 at page 560 E).
149. In considering the factors upon which such scrutiny may depend, the following passage from the judgment of Carnwath LJ (as he then was) in IBA Healthcare Ltd v Office of Fair Trading [2004] EWCA Civ 142; [2004] ICR 1364, approved by the Supreme Court in Kennedy at [53], is illuminating:

“91. Thus, at one end of the spectrum, a ‘low intensity’ of review is applied to cases involving issues ‘depending essentially on political judgment’ (de Smith, para 13-056-7). Examples are R v Secretary of State, Ex p Nottinghamshire County Council [1986] AC 240 , and R v Secretary of State ex parte Hammersmith and Fulham London Borough Council [1991] 1 AC 521, where the decisions related to a matter of national economic policy, and the court would not intervene

outside of ‘the extremes of bad faith, improper motive or manifest absurdity’ (per Lord Bridge of Harwich at pages 596-597). At the other end of the spectrum are decisions infringing fundamental rights where unreasonableness is not equated with ‘absurdity’ or ‘perversity’, and a ‘lower’ threshold of unreasonableness is used: ‘Review is stricter and the courts ask the question posed by the majority in Brind [R v Secretary of State for the Home Department ex parte Brind [1991] 1 AC 696] namely, ‘whether a reasonable Secretary of State, on the material before him, could conclude that the interference with freedom of expression was justifiable.’ (de Smith para 13-060, citing [Brind] at page 751 per Lord Ackner).”

92. A further factor relevant to the intensity of review is whether the issue before the tribunal is one properly within the province of the court. As has often been said, judges are not ‘equipped by training or experience, or furnished with the requisite knowledge or advice’ to decide issues depending on administrative or political judgment: see [Brind] at page 767 per Lord Lowry. On the other hand where the question is the fairness of a procedure adopted by a decision-maker, the court has been more willing to intervene. Such questions are to be answered not by reference to Wednesbury unreasonableness, but ‘in accordance with the principles of fair procedure which have been developed over the years and of which the courts are the author and sole judge’. (R v Panel on Take-overs and Mergers ex parte Guinness plc [1990] 1 QB 146 at page 184 per Lloyd LJ).”

150. It is also helpful to recall this passage from the judgment of Sir Thomas Bingham MR in R v Ministry of Defence ex parte Smith [1996] QB 517 at page 556B:

“The greater the policy content of a decision, and the more remote the subject matter of a decision from ordinary judicial experience, the more hesitant the court must necessarily be in holding a decision to be irrational. That is good law and, like most good law, common sense. Where decisions of a policy-laden, esoteric or security-based nature are in issue even greater caution than normal must be shown in applying the test, but the test itself is sufficiently flexible to cover all situations.”

151. In our view, as well as the nature of the decision under challenge, the factors upon which the degree of scrutiny of review particularly depends include (i) the nature of any right or interest it seeks to protect, (ii) the process by which the decision under challenge was reached and (iii) the nature of the ground of challenge.
152. The interests which the Claimants seek to protect include the protection of the environment against harm caused by airport expansion in terms of, for example, noise, air quality and consequential health effects, affecting the daily lives of huge numbers of people and for a long time into the future. These are matters of great public importance; but they do not operate in isolation. There are other public interest issues which are said by its proponents to weigh greatly in favour of airport expansion, notably

the contribution made to the national economy and the creation of employment. Inevitably, policy-making in this area involves the striking of a balance in which these and a great many other factors are assessed and weighed. As we have said, it is carried on at a high, strategic level and involves political judgment as to what is in the overall public interest.

153. Under our constitution policy-making at the national level is the responsibility of democratically-elected Governments and Ministers accountable to Parliament. As Lord Hoffmann said in R (Alconbury Developments Ltd) v Secretary of State for the Environment [2001] UKHL 23; [2003] 2 AC 295 at [69] and [74]:

“It does not involve deciding between the rights or interests of particular persons. It is the exercise of a power delegated by the people as a whole to decide what the public interest requires.”

(See also Lord Clyde at [139]-[141].) The nature of the interests which the Claimants seek to protect is therefore intimately bound up with the nature of the decision which they seek to challenge.

154. Here the “decision” was to designate policy in the form of the ANPS. The scope of “policy” was considered in Bushell v Secretary of State [1981] AC 75, which concerned a legal challenge to the line orders for the proposal to construct sections of the M40 and M42 comprising about 30 miles of motorway. Mr Maurici cited Lord Diplock’s seminal passage (at page 98) in which he explained how the concepts of “policy” and policy decisions may cover a wide spectrum:

“ ‘Policy’ as descriptive of departmental decisions to pursue a particular course of conduct is a protean word and much confusion in the instant case has, in my view, been caused by a failure to define the sense in which it can properly be used to describe a topic which is unsuitable to be the subject of an investigation as to its merits at an inquiry at which only persons with local interests affected by the scheme are entitled to be represented. A decision to construct a nationwide network of motorways is clearly one of government policy in the widest sense of the term. Any proposal to alter it is appropriate to be the subject of debate in Parliament, not of separate investigations in each of scores of local inquiries before individual inspectors up and down the country upon whatever material happens to be presented to them at the particular inquiry over which they preside. So much the respondents readily concede.

At the other extreme the selection of the exact line to be followed through a particular locality by a motorway designed to carry traffic between the destinations that it is intended to serve would not be described as involving government policy in the ordinary sense of that term. It affects particular local interests only and normally does not affect the interests of any wider section of the public, unless a suggested variation of the line would involve exorbitant expenditure of money raised by taxation. It is an appropriate subject for full investigation at a local inquiry and is

one on which the inspector by whom the investigation is to be conducted can form a judgment on which to base a recommendation which deserves to carry weight with the minister in reaching a final decision as to the line the motorway should follow.

Between the black and white of these two extremes, however, there is what my noble and learned friend, Lord Lane, in the course of the hearing described as a ‘grey area’. Because of the time that must elapse between the preparation of any scheme and the completion of the stretch of motorway that it authorises, the department, in deciding in what order new stretches of the national network ought to be constructed, has adopted a uniform practice throughout the country of making a major factor in its decision the likelihood that there will be a traffic need for that particular stretch of motorway in 15 years from the date when the scheme was prepared. This is known as the ‘design year’ of the scheme. Priorities as between one stretch of motorway and another have got to be determined somehow. Semasiologists may argue whether the adoption by the department of a uniform practice for doing this is most appropriately described as government policy or as something else. But the propriety of adopting it is clearly a matter fit to be debated in a wider forum and with the assistance of a wider range of relevant material than any investigation at an individual local inquiry is likely to provide; and in that sense at least, which is the relevant sense for present purposes, its adoption forms part of government policy.”

155. Lord Diplock was not dealing directly with the appropriate standard of review, but rather addressing the issue of whether certain matters were appropriate for discussion and cross-examination at public inquiries relating to the authorisation of individual projects and on whether a change in “policy”, namely departmental assessment methods, required an inquiry to be reopened. However, his observations on the scope of “policy” are instructive: some strands of a policy document will involve a greater degree of political judgment than others.
156. That theme was taken up in R (London Borough Wandsworth) v Secretary of State for Transport [2005] EWHC 20 (Admin) at [58]-[60]. Having quoted the passage from Bushell which we have set out above, Sullivan J accepted that policy in a White Paper may contain a spectrum of decisions ranging from matters of primary fact to questions of political and economic judgment. At the latter end of the spectrum, he said, “there will be a heavy evidential onus upon a claimant for judicial review to establish that such a decision is irrational, absent bad faith or ‘manifest absurdity’” (see [58]). That introduces a reference to the nature of the ground of challenge, to which we return below (see, especially, paragraphs 167 and following).
157. However, in addition to the range of political judgment involved, there is a spectrum of *finality* in policy decisions, as illustrated by R (Hillingdon London Borough Council) v Secretary of State for Transport [2010] EWHC 626 (Admin) (“Hillingdon (2010)”), another claim involving proposed expansion at Heathrow, in which ministerial policy decisions in 2009 were challenged on the basis that they would preclude opposition to

the principle of a third runway at Heathrow. Applying Lord Diplock's observations in Bushell, Carnwath LJ (as he then was) considered the extent to which the 2009 decisions and an earlier White Paper might have the effect of restricting the issues which could be canvassed at a public inquiry into a proposal held *before* the designation of any NPS. He rejected the claim. An important theme in his reasoning was that the 2009 decisions of the Secretary of State were simply policy statements without direct, substantive effects: they were only preliminary steps in a continuing process which still had a long way to go before arriving at any "substantive event" in the sense of a formal statutory authorisation for the construction of a third runway. He considered that that limited the scope for judicial review (see [48]). This view formed a counterpart to the claimants' concern in 2010 about the extent to which the 2009 decisions would have the effect of restricting the legal scope for making objections to a subsequent planning application.

158. At [69], Carnwath LJ returned to his thinking on the limited scope for judicial review of a policy statement of that nature. He did refer to the "high-level" character of some of the policy judgments made in the decisions under challenge; but, more importantly, he emphasised the *preliminary* nature of the decisions taken and said that any grounds of challenge needed to be seen in the context of a continuing process towards statutory authorisation. He said:

"A flaw in the consultation process should not be fatal if it can be put right at a later stage. There must be something not just 'clearly and radically wrong', but also such as to require the intervention of the court at this stage. Similarly, failure to take account of material considerations is unlikely to justify intervention by the court if it can be remedied at a later stage. It would be different if the failure related to what I described in argument as a 'show-stopper': that is a policy or factual consideration which makes the proposal so obviously unacceptable that the only rational course would be to abort it altogether without further ado."

159. Relying on that passage, Mr Maurici and Mr Humphries submitted that for a ground of challenge to the ANPS to succeed it would need to relate to a policy or factual consideration that makes the proposal so obviously unacceptable that the only rational course would be to abort it altogether without further ado. This was referred to as the "show-stopper" test. However, we unhesitatingly reject that submission, which takes the observations of Carnwath LJ out of context namely, in that case, that the policy statement in that case was only of a preliminary nature. The observations have no application to a judicial review under section 13 of the PA 2008 of an NPS which, in relevant respects, is of a final nature. Whereas in Hillingdon (2010) the Secretary of State had undertaken not to rely on section 12 of the PA 2008, which would have resulted in earlier policy statements having the status of an NPS, the ANPS has now been designated; and sections 87(3), 94(8) and 106(1) may operate so as to preclude challenges to the merits of policy contained in that document, as we have described above (see paragraphs 92-99).
160. In respect of the process by which the challenged decision – the designation of the ANPS – was reached, Mr Maurici and Mr Humphries relied heavily upon the role of Parliament. Relying upon various authorities, they submitted that the court should

adopt a very restrained approach to judicial review on the grounds that Parliament has considered and approved the ANPS.

161. As we have described, section 5(4) and 9 of the PA 2008 requires an NPS to be scrutinised by parliament before designation (see paragraphs 30 and 32 above). In one of the authorities to which Mr Maurici and Mr Humphries referred us, R (SG) v Secretary of State for Work and Pensions [2015] UKSC 16; [2015] 1 WLR 1449 at [94], Lord Reed JSC reiterated the observation of Lord Sumption JSC in Bank Mellat v HM Treasury (No 2) [2013] UKSC 39; [2014] AC 700 at [44] that, where Parliament has reviewed a statutory instrument, respect for Parliament’s constitutional functional calls for “considerable caution” before the courts will hold it to be unlawful on a ground falling within the ambit of Parliament’s review. In a challenge to the introduction of a cap on welfare benefits for claimants in non-working households raising discrimination arguments as between men and women, Lord Reed said that proportionality issues involving controversial issues of social and economic policy, with major implications for public expenditure were pre-eminently the function of the democratically elected institutions. The need for the court to give due weight to the considered assessment made by those institutions meant that it had to respect their view unless “manifestly without reasonable foundation”. Consistently with that principle, the Supreme Court also decided that the court could properly have regard to any consideration by Parliament of the issues raised in the proceedings for judicial review (see [93]-[95]).
162. In relation to the submission of Mr Maurici and Mr Humphries, we would first stress that an NPS is not itself a statutory instrument (although a DCO under an NPS is); and that, although as a matter of fact in this case Parliament did approve the ANPS which the Secretary of State proposed to designate, the PA 2008 does not make Parliamentary approval (as opposed to scrutiny) a pre-condition for designation (section 5(4)(a)).
163. Moreover, some of the cases to which we were referred raised issues of a different nature and in a different context to the present case, and so we have gained little help from them. For example, the high threshold for intervention by the court suggested in M v Home Office [1994] 1 AC 377 at page 413D-G related to an attempt in an earlier case to injunct a Minister from laying a statutory instrument before Parliament for approval. In O’Connor v Chief Adjudication Officer [1999] 1 FLR 1200, the court found the notion of “extreme irrationality” to be unhelpful as a way of defining a standard of review; but in any event, at page 1215, the court went on to accept that it was a matter for the Minister, subject to the scrutiny of Parliament, to decide who should qualify for income support and who should not, and, in particular, whether students in full time higher education should do so. These were essentially political judgments.
164. Similarly, we have gained little help from two authorities relied upon by Mr Maurici and Mr Humphries in respect of challenges to decisions involving national economic policy and political judgment. Nottinghamshire County Council v Secretary of State for the Environment [1986] AC 240 was concerned with a challenge to the setting of expenditure targets for local authorities throughout the country for the purposes of determining the amount of rate support grant payable. R v Secretary of State for the Environment ex parte Hammersmith and Fulham London Borough Council [2001] 1 AC 521 related to decisions to cap excessive expenditure by local authorities. In summary, the House of Lords held in each case that decisions of this kind, involving

the exercise of political judgment on matters of national economic policy, could not be challenged for irrationality, short of bad faith, improper motive or manifest absurdity.

165. The impugned decision in the present case was made within a very different statutory framework. For example:
- i) In section 13, the PA 2008 envisages, and includes express provision for, challenges to an NPS by way of judicial review.
 - ii) It is true that the policy-making here involved issues of political, social and economic judgment and was subject to prior Parliamentary scrutiny (and, in the event, approval); but the power to designate an NPS is subject to (amongst other things) the consultation requirements imposed by the PA 2008 itself, which are aimed at public participation in the decision-making process.
 - iii) Further, the procedural balance struck by the legislation envisages that the merits of policy formalised in this way cannot be challenged in the subsequent examination of an application for development consent.
 - iv) In addition, the policy-making process was subject to compliance with some relatively precise legal requirements, notably those arising from the SEA Directive and the Habitats Directive, which also involved obligations to consult widely. Some of the challenges made either relate to those other regimes or raise other planning issues of a technical nature.
 - v) Looking at the PA 2008 more broadly, the NPS regime need not relate to public sector development (as the ANPS illustrates) and it may relate to infrastructure of a relatively modest scale and cost as compared with the new runway and development at Heathrow.

For all these reasons we find it difficult to treat the local government finance cases and the approach justified there as analogous or helpful in the present context.

166. For reasons which by now will be apparent, we consider that the degree of scrutiny required by any challenge before us will be dependent upon, amongst other things, the strand of policy which is under review. However, although Parliament scrutinised and approved the content of the ANPS as later designated, generally we do not consider that the main grounds of challenge in these proceedings raise issues in respect of which Parliamentary approval is an especially weighty matter in relation to the appropriate degree of scrutiny, particularly when the nature of the grounds of challenge are considered.
167. We accept that, where a fully informed Parliament has considered and by vote approved a policy, the court would be properly cautious in intervening in favour of a challenge that the policy is irrational. Some of the claims here are framed in terms of irrationality. However:
- i) As we have already explained, despite the statutory role for Parliament in the PA 2008, section 13 expressly allows challenges to the designation of the ANPS etc by way of judicial review.

- ii) Some aspects of the ANPS relied heavily upon massive amounts of scientific and other information and analysis. It is not possible to say that Parliament could have been fully informed on all matters.
 - iii) Further, and in our view most importantly, although we accept that some grounds which are not in substance irrationality are dressed up as such, some of the grounds before us do not substantively involve an allegation of irrationality but other legal error on the Secretary of State's part. For example, there is an issue (reflected in Issue 11) as to whether the Secretary of State failed to carry out the statutory consultation exercise with an open mind, thereby breaching the first of the Gunning principles. As we will explain below (see paragraphs 508 and following), a challenge of that nature must be considered in the context of the statutory framework in which the Secretary of State was operating, and the responsibilities placed upon him. But if, after taking those factors into account, this ground of challenge were to be upheld, it would be difficult to see how (e.g.) Parliament's approval of the ANPS could overcome or avoid the consequences of a legal flaw of that nature.
168. However, we stress that the degree of scrutiny will necessarily be dependent upon the circumstances of the particular challenge. Some of the issues raised in respect of some of the grounds of challenge (e.g. noise impact issues) have been specifically addressed in the Parliamentary process, notably in the report of the Transport Committee ("Airports National Policy Statement" HC 548 - 23 March 2018) and the Secretary of State's published response to that report (Cm 9624 - June 2018). Moreover, they have formed part of an overall judgment which has involved balancing those considerations against the national economic interest. We see the force in the proposition that the court should apply "considerable caution" when reviewing such matters (see paragraph 161 above).
169. As we have said, in Wandsworth, Sullivan J accepted that policy in a White Paper may contain a spectrum of decisions ranging from matters of primary fact to questions of political and economic judgment; and he said (at [58]) that, at the latter end of the spectrum "there will be a heavy evidential onus upon a claimant for judicial review to establish that such a decision is irrational, absent bad faith or 'manifest absurdity'". That approach, he said, did not confine judicial review to issues of bad faith or manifest absurdity, but did emphasise the heavy onus placed upon a claimant to show that a judgment was irrational in any other respect.
170. That reference to a "heavy onus" mirrors the principles in relation to planning decisions set out by Sullivan J in the well-known passage in Newsmith (cited at paragraph 143(iii) above) at [5]-[8]. There he emphasised that, although a challenge to a planning decision may be made on the grounds of irrationality, the court must be astute to see that this is not used as a cloak for what is, in truth, an assault on the decision-maker's assessment of the merits. A claimant alleging that a planning inspector has reached a Wednesbury unreasonable judgment faces a "particularly daunting task."
171. Mr Fleming submitted that the approach in Newsmith is confined to statutory reviews of decisions by planning inspectors where (e.g.) a site visit takes place and where the issues relate to matters such as whether a building is in keeping with its surroundings and impact on the landscape or to accessibility by public transport. However, in our view, those were only examples given by Sullivan J to illustrate the approach he was

laying down, which is now applied generally to challenges involving planning judgments by planning authorities, including those made by local authorities (see, e.g., R (Nicholson) v Allerdale Borough Council [2015] EWHC 2510 (Admin) at [10-13]), judgments made in the context of formulating planning policies as well as decision-making (see, e.g., Tesco Stores Limited v Secretary of State for the Environment [1995] 1 WLR 759 per Lord Hoffmann at pages 780-2; and Woodfield v J J Gallagher Limited [2016] EWCA Civ 1007; [2016] 1 WLR 5126 per Lindblom LJ at [27]-[29]), and the application of planning policy by inspectors to the circumstances of a case (Suffolk Coastal District Council v Hopkins Homes Limited [2017] UKSC 37; [2017] 1 WLR 1865 at [25]-[26]). It reflects the margin of appreciation which the courts allow to planning authorities both in decision-making and in the adoption of policies or plans. The approach laid down in Newsmith and these later cases also reflects the inability of the court to determine issues of planning judgment for itself, especially in proceedings for judicial review where there is a factual conflict or a conflict of expert opinion.

172. We also consider that, generally, as matters involving planning judgment, the approach indicated in Newsmith should be applied to the irrationality challenges, or to challenges to what are essentially matters of judgment, pursued in these proceedings.
173. Both the Claimants and the Secretary of State have filed a vast quantity of evidence, some of it from experts. As they rightly acknowledged during the preliminary hearings as well as during the substantive hearing, it is not the role of a court in judicial review proceedings to resolve conflicts of this evidence, particularly not in favour of a claimant on whom the burden of proof lies. In addition to it being generally outside its role, proceedings for judicial review are not well-suited to resolve conflicts of evidence.
174. R (Law Society) v Lord Chancellor [2018] EWHC 2094 (Admin); [2019] 1 WLR 1649 is a recent illustration of the difficulties posed by reliance upon material of this nature. The claim concerned a challenge to a decision by the Lord Chancellor to reduce the amount of money made available as legal aid for defending people accused of crimes. The Divisional Court (Leggatt LJ and Carr J) held that, although expert evidence might be admissible in an irrationality challenge to show that a decision was reached by a process of reasoning which included a serious technical error, if that error is not incontrovertible but is a matter on which there is room for reasonable experts to disagree, that ground cannot be established. This situation arises where, for example, the evidence of an expert relied upon by a claimant is contradicted by a rational opinion in a statement from an expert filed by the defendant (see [36] to [41]).
175. Much of the expert evidence submitted to us was therefore superfluous.
176. In any event, the question of the correct approach to a challenge to an administrative or executive decision in the context of expert evidence was recently considered in Mott (cited at paragraph 143(v) above). The claimant alleged that the imposition of conditions on a licence by the Environment Agency to reduce the number of salmon caught in order to protect fisheries in the River Wye was irrational, albeit that the decision was supported by scientific evidence. The court considered the approach to be taken in a judicial review of a decision that is predictive, in the sense that it is based upon an evaluation of assessments as to what might happen in the future and that evaluation is wholly or partly made by reference to scientific or technical material (see [7]). It was common ground between the parties that an enhanced margin of appreciation should be accorded to decisions involving “scientific, technical and

predictive assessments”, but the claimant unsuccessfully argued that that principle did not apply to the error which he purported to identify (see [69]).

177. Giving the judgment of the court, Beatson LJ referred to R (British Union for the Abolition of Vivisection) v Secretary of State for the Home Department [2008] EWCA Civ 417; R v Director General of Telecommunications ex parte Cellcom Limited [1999] ECC 314; and R (Downs) v Secretary of State for the Environment, Food and Rural Affairs [2009] EWCA Civ 664; [2010] Env LR 7; and notably to the rejection in Downs of a challenge to a regulatory regime for the control of pesticides for non-compliance with an EC Directive on the basis that the claimant had been unable to surmount the “formidable” hurdle of “manifest error” in such a highly technical field. At [75], he said this:

“The contexts of these cases and the evidence before the bodies whose decisions were challenged are different from the position in the present case. In [Downs] there were differences between different experts, and in the Abolition of Vivisection case... the view of the decision-maker was supported by other experts. As well as those factors, the scope of judicial review is acutely sensitive to the regulatory context and, in particular, decisions involving what Professor Lon Fuller called ‘polycentric’ questions pose particular challenges to a judicial review court. Notwithstanding the differences and recognising the importance of sensitivity to context and flexibility, I consider that these cases provide general assistance in considering the approach to the decisions of the agency.”

At [78], he continued:

“In the present case the decisions were based on three principal factors. First, the agency’s assessment on the basis of the shortfall in egg deposition that the salmon fishery in the Wye is at risk of becoming unsustainable, which was not challenged. Secondly, the views of the researchers and the agency, reflecting a broad scientific consensus, that salmon return to their rivers of origin to spawn. Thirdly, the genetic data gathered from the 55 fish taken from the estuary and the ONCOR, GeneClass2 and cBayes models used in the Exeter report to estimate their rivers of origin. The decisions were thus made against an unchallenged assessment as to the risk to the Wye and a background assumption on which there is scientific consensus that salmon return to their river of origin to spawn. The decisions were then the result of an amalgam of assessments which are in part factual and in part predictive in nature. They also involved consideration of other factors, such as how to balance the interests of those primarily affected with the wider public interest, and how factors such as the ‘heritage installation’ aspect should be factored into the decision and are in this sense ‘polycentric’. I respectfully agree with the statement of Lightman J in [Cellcom] at [26] that ‘if . . . the court should be very slow to impugn decisions of fact made by an expert and

experienced decision-maker, it must surely be even slower to impugn his educated prophecies and predictions for the future”.

At [77], Beatson LJ pointed out that the adequacy of a model used to estimate the percentages of fish from a given river was a matter of scientific judgment rather than legal analysis.

178. Despite several requests from the court, the various Claimants before us – notably, the Hillingdon Claimants – made no submissions on Mott to suggest that it is not good law or how it relates to the arguments in these claims.
179. For our part, we consider Mott is a helpful reminder of well-established good law: the court should accord an enhanced margin of appreciation to decisions involving or based upon “scientific, technical and predictive assessments” by those with appropriate expertise. The degree of that margin will of course depend on the circumstances: but, where a decision is highly dependent upon the assessment of a wide variety of complex technical matters by those who are expert in such matters and/or who are assigned to the task of assessment (ultimately by Parliament), the margin of appreciation will be substantial. That will be a potentially important consideration when we examine some of the grounds of challenge, which do relate to matters of technical judgment and expertise, modelling and predictive assessments, some of which were made by independent expert bodies or by the Secretary of State assigned to make such assessments on the basis of expert evidence.
180. We also accept Mr Maurici’s submission that, by analogy with R (Prideaux) v Buckinghamshire County Council [2013] EWHC 1054 (Admin); [2013] Env LR 32 at [116], the Secretary of State was entitled to attach great weight to the reports of the AC, particularly the AC Final Report. That is consistent with Mott. The AC was an independent and expert body, which had been specifically instructed to examine the extent to which there was a need for additional airport capacity, and if so how that need should be met. It comprised a panel of independent experts, which in turn commissioned and relied upon a great body of independent expert surveys and analysis.
181. Finally, we return to the passage previously quoted from Lord Diplock’s speech in Bushell (at paragraph 154 above) and the proposition that the nature of the policy decisions brought together in a document such as the ANPS covers a wide spectrum. At one end there are broad judgments about the importance of aviation (including a “hub” capacity capable of competing internationally) to the national economy and the balance between such considerations and environmental issues (including noise, air quality and climate change). At the other end of the spectrum, a proposal to locate airport expansion in a particular locality has very direct implications for the planning of that area and the environment of those living and working there. Whereas the designation of the ANPS has settled the issues of need and the selection of the NWR to meet that need, the assessment of a specific proposal and the application of criteria laid down by the ANPS, legislation and other policies will be very much in contention through the DCO process.
182. Does this “spectrum” analysis have any additional bearing on the intensity of review? We consider that it may do so in three ways. First, it may require the court to apply “considerable caution” to challenges on matters of judgment (see, e.g., SG cited at paragraph 161 above). Second, depending on the nature of the ground of challenge, it

may affect whether that ground is made out. Third, if a ground of challenge is made out, it may affect the court's approach to the grant of relief.

183. On the second point, some grounds may be of a hard-edged nature, the legal merits of which are not affected by the fact that the ANPS deals with policy-making on a wide spectrum. Examples of errors of this kind could include a misinterpretation of a provision in the PA 2008 governing the exercise of ministerial powers, a complete failure to satisfy a procedural requirement in the statute, or a complete failure to address a legally mandated matter. But other grounds of challenge may relate to subjects which formed part of a mix of considerations in the development of policy in the ANPS. Here, it may be helpful to consider where the target of the challenge lies on the policy "spectrum": the "polycentric" question referred to in Mott. This may go to the question of, not only whether an error has been made, but whether a *material* error of law occurred.
184. On the third point, where a ground of challenge is made out and the question of relief is being considered, it may assist the court to consider where the legal error sits in relation to that policy spectrum, the ANPS and public interest considerations viewed as a whole. This could arise, for example, where the complaint relates to a failure by the Secretary of State to address a subject covered in a consultation response or irrationality in the treatment of a particular subject (see also Walton v Scottish Ministers [2012] UKSC 44: [2013] PTSR 51 at [138] and [156], and R (Champion) v North Norfolk District Council [2015] UKSC 52; [2015] 1 WLR 3710).

Surface Access

The Factual Background

185. Other than transfer passengers (i.e. passengers who simply transfer between flights within the confines of the airport), air passengers have to get to and from an airport – as do staff and freight. These grounds concern the Secretary of State's approach to the challenge posed by the NWR Scheme to surface access to Heathrow.
186. Heathrow is served by roads (notably the M25, M4, A4 and A30); and by rail services (currently the London Underground Piccadilly Line, TfL Rail and Heathrow Express). It is likely that it will be served by the Elizabeth Line (i.e. Crossrail) by the end of next year; and, somewhat later, it is expected to be connected to HS2 at Old Oak Common. Plans are being developed for further improved rail access. The proposed Western Rail Link to Heathrow ("the WRL") would connect the airport to the Great Western Main Line. That is currently in the "develop" phase in the Rail Network Enhancements Pipeline, published in March 2018: it is expected that an application for a DCO will be made later this year. The Southern Rail Access ("the SRA") is at an earlier stage of development, and its final route and scope have yet to be determined; but it is planned to give access from Heathrow to the South Western Railway network and London Waterloo Station.
187. In 2015, to and from Heathrow, there were a total of 147,000 trips by passengers per day, of which 58,800 (40.0%) were not by road, almost all of those being by public transport. In addition, there were 87,400 trips by staff, of which 31,900 (36.5%) were by public transport.

188. The NWR Scheme involves a substantial increase in operating passenger capacity – the AC Final Report forecast that the proposed expansion would result in the number of Heathrow passengers increasing from 75m in 2015 to a range of up to 148m once the three-runway airport is fully utilised. There would be a corresponding increase in numbers of passengers and staff – as well as increased freight movements – travelling to and from Heathrow.
189. From the outset, the AC recognised that “effective surface access has a critical role in mitigating the impact of airport expansion” (Jones 1, paragraph 62); and it employed Jacobs to advise on and then conduct the relevant analyses. In the AC Interim Report, whilst recognising that any expansion of airport capacity would be privately funded – the pre-ANPS emphasis being on issues and outcomes to be achieved, with detailed surface access plans being developed and brought forward as part of the DCO process – it also understood that surface access infrastructure improvements may be required. Although the private developer might contribute to such improvements, the Secretary of State would be primarily responsible for them, because improvements would be required in any event as a result of increased background transport movements. One of the conclusions of the AC Interim Report was that the Government should generally attach a greater strategic priority to transport investments which improve surface access to airports.
190. The work done on surface access prior to the AC Final Report is set out in detail in the statements of Mr Jones and Phil Graham who was the Head of the AC Secretariat. It was certainly extensive. The AC’s initial consultation on the Appraisal Framework included surface access, the Appraisal Framework eventually setting the following objectives: (i) to maximise the number of passengers and workforce accessing the airport via sustainable modes of transport (i.e. primarily public transport), (ii) to accommodate the needs of other users of transport networks, such as commuters, intercity travellers and freight, and (iii) to enable access to the airport from a wide catchment area. As we have described (see paragraph 54 above), in November 2014, the AC consulted on its initial analysis, to which the Mayor responded in February 2015. With its Final Report, the AC published thirteen reports on surface access, including the Jacobs Surface Access Assessment (see paragraph 57(iii) and (iv) above). Mr Jones described the AC’s work on surface access as “one of the most extensive and thorough strategic analysis of recent times” (Jones 1, paragraph 127); and no one suggested otherwise.
191. The AC Final Report concluded that
- 8.36. Against the objective to maximise the number of passengers and workforce accessing the airport via sustainable modes of transport, all three schemes demonstrate broadly similar levels of performance. The Gatwick [2R Scheme] achieves a slightly higher overall public transport mode share (54% vs 53%), but the Heathrow schemes demonstrate a larger increase in performance against current levels and a larger shift in the number of passengers switching to sustainable modes.
- 8.37. Against the objective to accommodate the needs of other users of transport networks, such as commuters, intercity travellers and freight, the Gatwick [2R Scheme] would see more

available capacity on key transport links serving the airport by 2030. However, this advantage reflects in part the slower growth in traffic at Gatwick under the Commission's forecasts and can reasonably be expected to diminish after 2030.

8.38. Against the objective to enable access to the airport from a wide catchment area, both schemes will have good connectivity across London within their inner isochrones. However, when the outer isochrones are taken into account, the Heathrow schemes can be seen to offer better access for passengers across the Midlands and North West, particularly due to HS2, while the [WRL] also provide a superior connection to the West of England and South Wales, enabling a wider spread of economic benefits."

192. As we have described (paragraphs 59-60 above), following the publication of the AC Final Report, the Secretary of State undertook various reviews.
- i) A Senior Review Panel chaired by the Aviation Capacity Programme Director at the DfT conducted a review of the AC's Final Report between July and December 2015, concluding that it was "a sound and robust piece of evidence upon which the Government could base decisions on whether further airport capacity was required and where that capacity could be best located" (Jones 1, paragraph 142; and see paragraph 60 above).
 - ii) The Secretary of State was aware of criticisms by TfL of the AC's analysis in respect of surface access. Therefore, in November 2014, he commissioned an engineering company, Atkins Limited ("Atkins"), to "assess the operational, cost and environmental impacts of the surface access strategies proposed to support expansion of either Heathrow or Gatwick airports, as well as impacts on existing and planned local strategic transport infrastructure", i.e. to give assurance that the AC's analysis and conclusions were sufficiently robust. Atkins reported in July 2015, the report broadly supporting the findings of the AC analysis and therefore supporting the conclusion that none of the surface access challenges for any of the three short-listed schemes were insurmountable (Jones 1, paragraphs 143-162). That report was the subject of a meeting between the DfT, Atkins and TfL in September 2016 (Jones 1, paragraph 166).
 - iii) In March 2017, the Secretary of State commissioned SDG (transport consultants otherwise retained by TfL) to carry out a study looking at the surface access requirements for travel to Heathrow at a strategic level. SDG's report concluded that, to meet a target of 50% of airport passenger journeys being made by public and sustainable transport by 2030, public transport to Heathrow would have to be improved; and "there was no single transport intervention to enable HAL to meet its targets, but a suite of interventions would be needed to support the increase in air passengers and employees taking public transport to and from Heathrow" (Jones 1, paragraphs 200-209, the quotation coming from paragraph 208). The report was discussed with TfL at a meeting in May 2017.

193. During the period between the AC Final Report in June 2015 and the designation of the ANPS in June 2018, the Mayor and TfL made further representations to the Secretary of State concerning surface access to Heathrow, notably:
- i) In October 2015, a response to the AC Report containing a critique of the surface access analysis.
 - ii) In May 2017, the TfL Surface Access Technical Note (see paragraph 70 above).
 - iii) In August 2017, the SDG Report, on “an analytical-based study to assess the transport impacts of Heathrow expansion under a range of scenarios... and provide guidance as to the likely effectiveness of a range of interventions in achieving a shift in travel behaviour towards public transport” (Executive Summary) (see paragraph 75 above).
 - iv) In November 2017, the TfL November 2017 Surface Access Technical Note (see paragraph 76 above).
 - v) In January 2018, the TfL January 2018 Surface Access Technical Note, reporting on TfL’s own analysis of the surface access impacts of a third runway at Heathrow (see paragraph 76 above).

The ANPS

194. The ANPS deals with the impact of the scheme on surface access in paragraphs 5.5-5.22. These paragraphs as designated were not materially different from the published consultation drafts.

195. This part of the ANPS recognises that the existing transport routes are already burdened, and that:

“Without effective mitigation, expansion is likely to increase congestion on existing routes and have environmental impacts such as increased noise and emissions” (paragraph 5.6).

196. Its overall objective is stated at paragraph 5.5:

“The Government... wishes to see the number of journeys made to airports by sustainable modes of transport maximised as much as possible. This should be delivered in a way that minimises congestion and environmental impacts, for example on air quality.”

It also expresses support for Crossrail, the WRL and the SRA (paragraph 5.7).

197. The requirements imposed on a DCO applicant are set out in paragraphs 5.9-5.22. These include the following.

- i) A requirement for the applicant, in conjunction with the Airport Transport Forum, to prepare an Airport Surface Access Strategy in accordance with the guidance in paragraphs B.13-14 of Annex B to the APF (which indicates that it should include amongst other things (a) targets for increasing the proportion of journeys

made to the airport by public transport by passengers and employees, (b) consideration of how low carbon alternatives could be employed, and (c) short-term actions and longer-term proposals and policy measures to deliver on targets for proposed infrastructure developments and improved provision of public transport) (paragraph 5.9). The relevant Airport Transport Forum includes representatives of the local transport authority, i.e. TfL.

ii) The applicant is required to consult with (amongst others) highway and transport authorities on the assessment of the proposal on surface access network capacity and proposed mitigation measures; and the target completion dates of any schemes included in existing transport investment plans (paragraphs 5.10-5.11). There is a requirement for the applicant to demonstrate that the relevant authorities (including, in this case, TfL) “are content with the deliverability of any new transport schemes...” (paragraph 5.12).

iii) The mitigation requirements are essentially outcome-led. They provide:

“5.15 In its application, the applicant should set out the mitigation measures that it considers are required to minimise and mitigate the effect of expansion on existing surface access arrangements.

5.16 The applicant should demonstrate in its assessment that the proposed surface access strategy will support the additional transport demands generated by airport expansion. This should be appropriately secured.

5.17 Any application for development consent and accompanying airport surface access strategy must include details of how the applicant will increase the proportion of journeys made to the airport by public transport, cycling and walking to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040 for passengers. The applicant should also include details of how, from a 2013 baseline level, it will achieve a 25% reduction of all staff car trips by 2030, and a reduction of 50% by 2040.”

iv) The applicant is required to commit to annual public reporting against the specified outcome targets.

198. Mitigation is specifically dealt with in paragraphs 5.21-5.22:

“5.21 The applicant’s proposals will give rise to impacts on the existing and surrounding transport infrastructure. The Secretary of State will consider whether the applicant has taken all reasonable steps to mitigate these impacts during both the development and construction phase and the operational phase. Where the proposed mitigation measures are insufficient to effectively offset or reduce the impact on the transport network, arising from expansion, of additional passengers, freight

operators and airport workers, the Secretary of State will impose requirements on the applicant to accept requirements and/or obligations to fund infrastructure or implement other measures to mitigate the adverse impacts, including air quality.

5.22 Provided the applicant is willing to commit to transport planning obligations to satisfactorily mitigate transport impacts identified in the transport assessment (including environment and social impacts), with costs being considered in accordance with the [DfT]’s policy on the funding of surface access schemes, development consent should not be withheld on surface access grounds.”

199. In addition to any requirements imposed on a DCO applicant by the ANPS, HAL has pledged to ensure that, if it is given consent to proceed with the NWR Scheme, “landside airport-related traffic” will be no higher than it is today.

The Grounds

200. The Hillingdon Claimants contend that the Secretary of State’s approach to the impact of the NWR Scheme on surface transport suffers from two serious flaws, namely:

- i) Ground 1: The Secretary of State erred in reaching conclusions in relation to surface access without properly analysing and taking into account new information and modelling provided to him by TfL/the Mayor as part of the consultation process after the AC Final Report and before designation. It is trite law that the product of consultation must be conscientiously taken into account before a decision is reached; but, in this case, it is submitted that it was also irrational not to take this information and modelling into account.
- ii) Ground 2: The Secretary of State erred in law in adopting mode share targets in the ANPS that TfL had shown were not realistically capable of being delivered; and, even if delivered, would fail to mitigate the impact of the scheme which would result in 40,000 additional vehicle trips every day.

Ground 1

201. It is submitted that the Secretary of State relied on the Jacobs Surface Access Assessment (see paragraph 57(iv) above) without engaging with and evaluating the substance of the submissions made by the Mayor and TfL containing new information and analysis relevant to the surface access impact of the NWR Scheme, notably the SDG Report and the TfL November 2017 and January 2018 Technical Notes.

202. The key points in those representations upon which the Hillingdon Claimants rely are set out in Williams 2, paragraph 11, as follows:

- i) Updated passenger demand forecasts: In the UK Aviation Forecasts 2017 (“DfT17”) published by the DfT on 24 October 2017 (i.e. after the AC’s Final Report), passenger demand forecasts for 2030 were revised upwards from 125 million passengers per annum (mppa) to 132 mppa, which required the surface access impact analysis to be updated. TfL’s January 2018 Technical Note

specifically referred to this increase, and reported that, on its modelling, this would result in a daily trip demand in 2030 of 370,000 compared with 277,000 on the basis of no expansion.

- ii) Updated population and employment forecasts: Mr Williams also referred to the updating of population and employment forecasts available from 2016 which show a higher growth projection to 2030 for London and the South East.
 - iii) Freight impact assessment: The AC's freight impact analysis considered only the daily period 7am-7pm. TfL produced a freight impact analysis for the full 24-hour period, which forecast 36,500 daily freight journeys by 2030, nearly double the level as at 2015.
 - iv) Catalytic demand impact: The AC did not assess the impact of catalytic demand. TfL's modelling did include those impacts. Its analysis concluded that such demand would result in more than 5,000 extra highway trips in the morning rush hour.
 - v) Infrastructure assumption: The AC assessment was based on the assumption that the WRL, the SRA and Crossrail 2 would be delivered by 2030. TfL's May 2017 consultation response suggested that that assumption was optimistic, with the estimated cost of the WRL rising quickly and the SRA being only in the early stages of development.
203. We do not accept that the Secretary of State erred in his approach to any of these matters. Before we deal with the specific matters relied on, there are two preliminary points.
204. First, Mr Jaffey relied upon Hillingdon (2010) (see paragraph 157 above), which concerned a challenge to the statement by the Secretary of State in the House of Commons giving policy support for a third runway at Heathrow if certain conditions for supporting such a project could be met. The third condition was "the provision of adequate public transport". The fundamental question raised in the claim was the status and effect of that statement, the court deciding that it was no more than a policy statement without any direct substantive effect at that stage. However, in respect of the third condition, Carnwath LJ concluded that it was impossible to determine precisely what the Secretary of State understood to be its scope; and it failed to make clear what he had made of detailed points raised by TfL. He had simply referred to increased capacity as a result of Crossrail and improvements to the Piccadilly Line without dealing with TfL's point that, for example, the increased capacity of the Piccadilly Line would have been exceeded by predicted growth in demand even in the absence of a third runway.
205. Mr Jaffey submitted that there had been a similar failure to grapple with the public transport points raised by TfL in the ANPS. However, things have moved on since the 2009 policy statement. The ANPS proceeds on the basis that the WRL and SRA (or equivalents) will be required even without expansion at Heathrow. With mitigation, the Claimants' own evidence is to the effect that the surface access requirements for 2030 as set out in the NPS can be achieved. In any event, Carnwath LJ acknowledged (at [92]) that the challenged policy statement in 2009 had implicitly recognised that the surface access issue could only be resolved at a later stage "in the context of a detailed

strategy prepared by the operator as part of the planning proposal, including a commitment to expenditure...”, i.e. at the DCO stage. We do not consider that Hillingdon (2010) assists Mr Jaffey’s cause on the surface access issues now before us.

206. Second, the Claimants rely upon TfL’s analysis; but the Secretary of State does not accept the parameters for that analysis, for example (i) TfL compared demand today with demand at an expanded airport in 2030, which failed to reflect the fact that, even for a two runway airport, the situation would develop between now and then; (ii) TfL did not take into account the proposal that Crossrail trains be increased from four to six trains per hour; and (iii) TfL’s analysis used a lower percentage of transfer passengers which the Secretary of State did not accept (Jones 1, paragraphs 222-227). In respect of the particular sub-grounds, none of these specific matters is determinative; but they emphasise the degree of evaluative assessment that is involved in such modelling to which an “enhanced margin of appreciation” should be accorded (see Mott, and paragraphs 176-179 above).

207. We now turn to the sub-grounds upon which the Hillingdon Claimants rely.

i) Updated passenger demand forecasts: The DfT17 updated demand forecasts were dealt with by the Secretary of State in the Updated Appraisal Report (see paragraph 72 above). This identified the change since the Jacobs/AC analysis, namely that, due to pent up demand for Heathrow, even under the NWR Scheme, assuming no phasing of capacity and no barriers to airlines making use of this capacity as soon as it becomes available, Heathrow is now assumed to be capacity-full by 2028 rather than 2035 in the AC assessment – although by and from 2035 the met demand is estimated to be broadly similar to that relied on in the AC assessment (paragraphs 2.19-2.20). In other words, there is now a higher rate of growth in demand than the AC had forecast: it is expected that a three-runway Heathrow will “fill up” more quickly than was assumed in the AC assessment. However, as Mr Jones points out (Jones 2, paragraph 12), that does not fundamentally change the nature of the surface access challenge at Heathrow, which is concerned with ensuring the surface access objectives are met when the expanded Heathrow is at full capacity. Mr Maurici accepted that the Secretary of State did not update the surface access analysis to reflect the updated passenger demand forecast: but submitted that that did not change the growth in passenger numbers, but only the period over which full capacity would be reached. If unconstrained demand grows at a different rate from that assumed, then that can be managed by requiring mitigation measures to be taken sooner and/or phasing additional capacity by (e.g.) constraining ATMs. That was Mr Jones’ view (Jones 1, paragraph 38).

In our view, the Secretary of State did not err in dealing with the change in passenger demand forecasts as he did.

ii) Updated population and employment forecasts: As we understand it, Mr Williams accepted (Williams 2, paragraph 27) – and, by the hearing, the Claimants accepted – that subsequent changes in population forecasts are immaterial to the AC’s surface access analysis and conclusions. In any event, we do not see how such changes could make any material difference, the points raised in (i) above applying to these changes in forecasts too.

- iii) Freight impact assessment: The AC’s freight impact analysis considered only the daily period 7am-7pm; but, in our view, although of course freight transport operates 24 hours a day, there can be no criticism of the Secretary of State for not considering the impact at night. In terms of surface access impacts, he was entitled to focus upon the potentially busiest times and ignore the times at night when there is no congestion or road capacity issue. Mr Maurici submitted that he was not required to do more. We agree.
- iv) Catalytic demand impact: The AC took the view that catalytic or induced demand would be widely dispersed, one third being outside London and the South East altogether. It concluded that such dispersal would mean that it would be impossible to assess its impact on the transport system at a granular level, but that the impact would be small at any given point (see Graham 1, paragraph 218). SDG made assumptions as to jobs created from HAL’s submission to the AC; then used HAL’s forecast of employment-related trips to identify additional jobs created by expansion; and then converted new “non-expansion” jobs into additional trips throughout London (and not just in Hillingdon and the adjacent boroughs) (see paragraph 3.14 of the SDG Report).

We do not consider that, even in the face of TfL’s further modelling, the Secretary of State acted irrationally, or otherwise unlawfully, in making the judgment (in agreement with the AC) that the effects of catalytic demand were too uncertain to draw a conclusion that there would be any adverse effect at a particular point.

- v) Infrastructure assumption: In respect of the complaint that the AC assessment was based on the assumption that unplanned and/or unfunded projects such as the WRL, the SRA and Crossrail 2 would be delivered by 2030, the AC received responses to its consultation on this point and it responded in paragraphs 2.6.3-2.6.5 of its Consideration of Consultation Responses to the effect that these schemes (or equivalent other schemes) would be required in any event to respond to the background growth with or without expansion, the traffic attributable to any airport expansion being generally a marginal addition to background demand (Graham 1, paragraphs 197 and 201).

208. The material before the court shows that the Secretary of State’s team did adequately have regard to the various points advanced by TfL. The assessments and judgments reached cannot be criticised as irrational, applying the appropriate standard of review and bearing in mind Mott. Applying the principles in West Berkshire and Buckinghamshire (see paragraphs 131 and following above), the “Government Response to the Consultations on the ANPS” cannot be criticised for failing to go into more detail on these matters. Nor can it be said that the Secretary of State failed to comply with the fourth Gunning principle.

209. We thus reject this ground.

Ground 2

210. As a second ground, it is submitted that the Secretary of State erred in adopting mode share targets in the ANPS that TfL had shown were not realistically capable of being delivered; and, even if delivered, would fail to mitigate the impact of the scheme which

would result in 40,000 additional vehicle trips every day. The thrust of Mr Jaffey's oral argument was in respect of the second limb of that submission.

211. The mode share requirement in the ANPS has to be seen in context. Paragraph 5.5 sets out the Government's objective to see that the number of journeys made to airports by sustainable modes of transport is maximised. "Sustainable modes of transport" include cycling, walking and other forms of transport with no environmental adverse effects; but in this context it is predominantly public transport. For convenience, in this part of the judgment we shall simply refer to public transport.
212. The relevant requirements in the ANPS are focused on outcomes (i.e. it sets out requirements as to *what* has to be achieved) rather than inputs (i.e. *how* it has to be achieved). This, in part, reflects the fact that the project will be privately financed, and the ANPS includes flexibility with regard to design (including mitigation measures), the burden of which falls on the developer.
213. It is a requirement of the ANPS that an applicant for a DCO prepares and submits an Airport Surface Access Strategy (paragraph 5.9); and, in its application, it must (i) set out the mitigation measures that it considers are required to minimise and mitigate the effect of expansion on existing surface access arrangements (paragraph 5.15) and (ii) demonstrate that the additional surface access transport demands generated by any airport expansion will be supported (paragraph 5.16). In addition to these general requirements, the applicant also has to specify how he will increase the relevant proportion of journeys to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040 for passengers; and a 25% reduction of all staff car trips by 2030, and a reduction of 50% by 2040 (paragraph 5.17). Where the measures proposed by the applicant are insufficiently effective to offset or reduce the impact on the transport network arising from expansion, then the Secretary of State "will impose requirements on the applicant to accept requirements and/or obligations to fund infrastructure or implement other measures to mitigate the adverse impacts" (paragraph 5.21).
214. In our view, the first limb of this ground – the Secretary of State erred in adopting mode share targets in the ANPS that TfL had shown were not realistically capable of being delivered – fails on the facts. The evidence upon which the Claimants primarily rely is the SDG Report. However, Mr Williams – rightly – accepts that TfL modelling shows that a 50% public transport mode share *could* be achieved by 2030, by way of a package of measures including the WRL and SRA (Williams 1, paragraph 10). Indeed, the SDG Report itself gives a figure of 50.1% (page 14 and table ES.3). The SDG Report goes on to say (page 14):
 - i) A further significant mode share shift to 55% is required by 2040, and the only way by which that could be met is by having some form of road charging scheme; but charging schemes have been considered as a way forward for some time, and HAL is currently looking at them. There is no evidential basis for the proposition that the required mode shares are unachievable, rather than challenging. And, as Mr Maurici submitted, if an applicant for a DCO cannot satisfy the Secretary of State that they will be achieved, then under paragraph 5.21 of the ANPS the Secretary of State will impose requirements to ensure that they are achieved or refuse the application.

- ii) A mode share of 50% by 2030 will not achieve HAL’s pledge of “no extra traffic”. That may be so; but that is an aspiration of HAL, not a requirement of the ANPS.
215. In our view, the mode share requirements in the ANPS are not arguably irrational, or otherwise unlawful. Mr Jaffey was wise not actively to press that submission before us.
216. The submission he did actively pursue was that it was irrational for the Secretary of State to impose mode share targets which would not in fact mitigate the surface access harm of a third runway: a 50% public transport mode share in 2030, or a 55% mode share in 2040, without any commitment to additional public transport infrastructure, would still mean severe adverse consequences for the road and rail network.
217. However, we do not consider there is any more force in this limb of the submission. Paragraph 5.17 of the ANPS requires a DCO applicant to show how he will increase the relevant proportion of journeys to achieve “a public transport mode share of *at least* 50% by 2030, and *at least* 55% by 2040 for passengers” (emphasis added). It is open to the Secretary of State to require a higher percentage mode share at the DCO stage, e.g. if he considers it necessary to satisfy the general requirements of paragraphs 5.15-5.16 and 5.21-5.22. 50% and 55% are minimum, not maximum, figures. The mode share requirements in paragraph 5.17, when read in context, are not arguably irrational or otherwise unlawful. Once again, the approach to such assessments advocated in Mott is relevant.

Conclusion

218. For those reasons, the answer to Issue 3 is “No”, the designation of the ANPS was not unlawful by reason of:
- i) reliance on outdated and flawed surface access impact analysis and/or the failure to take any, or any adequate, account of evidence from the Mayor and TfL or to give any explanation of why that evidence was disregarded; and/or
 - ii) the failure to take any, or any adequate, account of evidence from the Mayor and TfL on the deliverability of the mode share targets adopted in the ANPS; and/or
 - iii) adoption of mode share targets that are not realistically capable of delivery and will not adequately mitigate the impact of Heathrow expansion on the highway network.
219. The Hillingdon Claimants’ surface access grounds (Grounds 1 and 2) thus fail.

Air Quality

The Law

220. We have already referred to the Air Quality Directive (or, in this part of the judgment, just “the Directive”) (see paragraph 73 above), which imposes binding commitments on the United Kingdom aimed at “defining and establishing objectives for ambient air quality to avoid, prevent or reduce harmful effects on human health and the

environment as a whole” (article 1(1)) and “maintaining air quality where it is good and improving it in other cases” (article 1(5)).

221. For this purpose, for specific pollutants (including nitrogen dioxide (NO₂), particulate matter smaller than 10µm in diameter (PM₁₀) and particulate matter smaller than 2.5µm in diameter (PM_{2.5})), Annex XI of the Directive sets a “limit value”, i.e. “a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained” (article 2(5)).

222. Article 4 of the Directive requires each Member State to establish zones (i.e. parts of its territory delimited for the purposes of air quality assessment and management: article 2(16)) and agglomerations (defined as zones comprising conurbations with a population of more than 250,000: article 2(17)). The UK has been divided into 43 zones and agglomerations. Greater London is an agglomeration.

223. Chapter III deals with ambient air quality management. Article 12 provides:

“12. In zones and agglomerations where the levels of sulphur dioxide, [NO₂], PM₁₀, PM_{2.5}, lead, benzene and carbon monoxide in ambient air are below the respective limit values specified in Annexes XI and XIV, Member States shall maintain the levels of those pollutants below the limit values and shall endeavour to preserve the best ambient air quality, compatible with sustainable development.”

224. Under the heading, “Limit values and alert thresholds for the protection of human health”, article 13(1) provides (so far as relevant to these claims):

“Member States are required to ensure that, throughout zones and agglomerations, levels of sulphur dioxide, PM₁₀, lead and carbon monoxide in ambient air do not exceed the limit values laid down in Annex IX.

In respect of [NO₂] and benzene, the limit values specified in Annex XI may not be exceeded from the dates specified therein...”

Article 16(2) provides for a limit value for PM_{2.5}. There are no limit or target values for ultrafine particles of below PM_{2.5} (“UFPs”), although these of course fall within the PM₁₀ and PM_{2.5} classes of particles.

225. Article 13 is outcome-driven: it imposes an “obligation to achieve a certain result” (Case C-404/13 R (ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs [2015] PTSR 909 at [30]). Exceeding the limit values is in itself sufficient for a finding to be made that there has been an infringement of article 13 (see, e.g., Case C-488/15 European Commission v Bulgaria (2017) ECLI:EU:C:2017:267 at [69]).

226. Annex XI provides for two mandatory limit values for NO₂, assessed in accordance with the assessment regime and procedures laid down in Chapter II and Annex IX, namely an annual mean concentration of 40µg/m³ and a one hour mean concentration

of 200µg/m³ which is not to be exceeded more than 18 times in a calendar year. The NO₂ limit values were to be achieved by 1 January 2010.

227. Article 23(1) provides:

“Where, in given zones or agglomerations, the levels of pollutants in ambient air exceed any limit value or target value, plus any relevant margin of tolerance in each case, Member States shall ensure that air quality plans [‘AQPs’] are established for those zones and agglomerations in order to achieve the related limit value or target value specified in Annexes XI and XIV.

In the event of exceedances of those limit values for which the attainment deadline is already expired, the [AQPs] shall set out appropriate measures, so that the exceedance period can be kept as short as possible. The [AQPs] may additionally include specific measures aiming at the protection of sensitive population groups, including children.

Those [AQPs] shall incorporate at least the information listed in Section A of Annex XV and may include measures pursuant to Article 24. Those plans shall be communicated to the Commission without delay, but no later than two years after the end of the year the first exceedance was observed.

Where [AQPs] must be prepared or implemented in respect of several pollutants, Member States shall, where appropriate, prepare and implement integrated [AQPs] covering all pollutants concerned.”

228. The Air Quality Directive was transposed into domestic law in England by the Air Quality Regulations (see paragraph 73 above). It is common ground that, for the purposes of these claims, these fully and properly transposed the Directive. Article 13 was transposed by regulation 17. Article 23 was transposed by regulation 26 which, under the heading “Air quality plans”, provides that where exceedances of annual mean limit values occur, the relevant Secretary of State (now the Secretary of State for the Environment, Food and Rural Affairs (“the SSE”)) must draw up and implement an AQP to achieve the limit value. The AQP must include measures to ensure compliance with any limit value within the shortest time possible.
229. The legal effect of, and relationship between, articles 13 and 23 of the Air Quality Directive (and regulations 17 and 26 of the 2010 Regulations) was considered in a series of cases arising out of the UK’s persistent failure to comply with limit values.
230. In 2010, 40 of the 43 UK zones and agglomerations were in breach of at least one of the limit values for NO₂. The SSE drew up draft AQPs for the purposes of seeking an extension of time from the European Commission under article 22 of the Directive. ClientEarth, an environmental charity, issued judicial review proceedings, which resulted in the first AQP, published in 2011, being quashed by order of the Supreme Court after various questions had been referred to the Court of Justice of the European

Union to which we have already referred (see paragraph 225 above). The SSE was made the subject of a mandatory order requiring him to prepare new AQPs in accordance with a defined timetable (R (ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs (No 1) [2015] UKSC 28; [2015] 4 All ER 724).

231. The second AQP was published in December 2015; but it too was challenged and held by Garnham J to be deficient (R (ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs (No 2) [2016] EWHC 2740; [2017] PTSR 203). He made an order that the SSE must publish an AQP which complied with the Air Quality Directive and Regulations by 31 July 2017.
232. That third AQP (i.e. the AQP 2017: see paragraph 72 above) was published on 26 July 2017. It too was challenged, and Garnham J again found it to be deficient in that, although 45 local authorities (none of which was an authority concerned with these claims) were expected to achieve compliance within three years, there was no requirement that they did so and no measures to ensure they did so (ClientEarth (No 3): see paragraph 73 above). The AQP 2017 was therefore found to be unlawful; but it was not quashed. It was remitted to the SSE for revision to cure the identified legal defect. The AQP 2017 is therefore the current plan.
233. The AQP 2017 is said to be likely to achieve compliance with the limit values in London in 2025. A significant package of measures has been or is being introduced in London to achieve this goal, including the T-Charge payable on top of the Congestion Charge in Central London for older vehicles, the Ultra-Low Emissions Zone (“ULEZ”, a form of clean air zone (“CAZ”), which imposes tighter standards especially for diesel vehicles from April 2019 in Central London and is due to be extended to all of Inner London from October 2021), new standards for heavy vehicles across London from October 2020, bus replacement and refitting, incentives for zero-emission taxis, and stopping the licensing of new diesel vehicles.
234. In his judgments, Garnham J found – and firmly emphasised – that, where a Member State is in breach of article 13(1), it is required to prepare an AQP in accordance with the Air Quality Directive, including measures to ensure that the period the limit values is exceeded is as short as possible. In each of the ClientEarth cases, the SSE was directed to prepare an AQP that complied with the Directive within a particular period.
235. The relationship between articles 13 and 23 was taken up by the Court of Appeal in R (Shirley and Rundell) v Secretary of State for Housing, Communities and Local Government [2019] EWCA Civ 22. The case concerned an application for planning permission for 4,000 dwellings to the south east of Canterbury. Canterbury City Council had declared an Air Quality Management Area (“AQMA”) to include most of the area within the city centre ring road, because of high levels of NO₂. The Council granted the application; and the SSE refused to call it in under section 77 of the Town and Country Planning Act 1990. The claimants challenged the refusal to call the application in: they submitted that the proposed development would inevitably contribute to the pollutants in the AQMA, so that the SSE had an obligation to call the application in (and, presumably, to refuse it) because of the binding obligations in the Air Quality Directive.
236. Dove J refused the claim at first instance ([2017] EWHC 2306 (Admin)). The Court of Appeal upheld his judgment. In the leading judgment, Lindblom LJ (with whom Singh

and Coulson LJ agreed), after considering the relevant European and domestic authorities, summarised the relevant principles thus (omitting the cross references to the various authorities):

“32. In the light of the authorities, the following points seem clear. It is article 23 of the Air Quality Directive that specifies the steps a Member State must take to achieve compliance with limit values. A Member State’s failure to comply with the requirements in article 13 attracts the consequences explicitly provided for in article 23.... Article 23 does not require any steps beyond the preparation and implementation of an efficacious [AQP]. The effect of articles 13 and 23, read together, is that a Member State must meet the relevant limit values by the deadlines imposed...; that where article 13 is breached and no application has been made by the Member State to postpone the relevant deadline, article 23(1) requires it to establish an [AQP] complying with the specified requirements...; that a Member State enjoys some discretion in deciding on the content of an [AQP]...; that the measures included in the [AQP] must be proportionate [i.e. no more than necessary to remedy the continuing breach]...; that those measures must, however, ensure that the period for which the limit values is exceeded is as short as possible...; and that compliance with article 23 must be decided case by case.... The preparation of an [AQP] is the single prescribed means of addressing the breach. But it does not follow that a breach of article 13 is automatically removed when an [AQP] is adopted.

33. Dove J’s description of article 23 as providing the ‘specific and bespoke remedy’ for a breach of article 13 therefore seems apt. This does not mean that Member States may not also adopt other measures to address a breach of article 13, in addition to preparing and putting into effect an [AQP] complying with article 23. But nor does it mean that Member States are compelled by any provision of the Air Quality Directive to do that. A demonstrable breach of article 13 does not generate some unspecified obligation beyond the preparation and implementation of an [AQP] that complies with article 23. The case law does not suggest, for example, that in such circumstances a Member State must ensure that land use planning powers and duties are exercised in a particular way – such as by imposing a moratorium on grants of planning permission for particular forms of development, or for development of a particular scale, whose effect might be to perpetuate or increase exceedances of limit values, or by ensuring that decisions on such proposals are taken only at ministerial level.”

237. Thus, the Court of Appeal made clear that nothing in the Air Quality Directive requires an application for consent for development which may add to the burden of pollutants

to be rejected simply because of a Member State's failure to comply with the requirements of article 13.

The Factual Background

238. From its establishment, the AC was well aware that the expansion of airport capacity in London and the South East had the potential for adversely affecting air quality by increasing pollutants, notably NO₂ which is particularly important in terms of the potential adverse impacts on human health. The primary source of NO₂ in London is emissions from road vehicles; but aircraft and other sources also make a contribution. Thus, the AC's Appraisal Framework required consideration of the air quality implications of airport schemes at both a local and national level, the stated objective of the Air Quality Appraisal Module being "to improve air quality consistent with EU standards and local policy requirements".
239. Jacobs was employed by the AC to advise and make recommendations on the air quality implications of the schemes. It produced a first stage report in November 2014, and a further report, i.e. the Jacobs May 2015 AQ Local Assessment, which analysed the air quality impact of each of the three short-listed schemes against the detailed requirements of the Appraisal Framework (see paragraph 57(iv) above). This report was based on the worst case scenario, in the sense that it proceeded on the basis of projections of future activity levels taken from demand forecasts that resulted in the greatest likely air quality impacts consistent with the promoter's preferred business model (i.e. for the NWR Scheme, the carbon traded global growth scenario) as at 2030 (paragraph 3.5); but on the assumption that the WRL and the SRA would be implemented by then (paragraph 3.7.2).
240. The report concluded that the NWR Scheme would not cause any new exceedances of the limit level or air quality objective for NO₂; but the unmitigated incremental change associated with the scheme would cause the Bath Road A4 road links to have a marginally higher concentration than the maximum predicted concentration in the Greater London agglomeration at Marylebone Road which (if left unmitigated) would result in delay in the Secretary of State's predicted date for achieving compliance with the limit value (paragraph 5.7). However, the scheme proposed the realignment of the Bath Road A4 link; and in any event there were mitigation measures that could be employed (paragraph 5.7.1). That report was published with the AC Final Report (as supplemented by the Business and Sustainability Assessment for the NWR Scheme), which relied on the Jacobs' report and replicated its conclusions (paragraphs 9.76-9.79). The overall conclusion of the AoS was that the air quality impact was unlikely to be able to reach neutral level despite not necessarily breaching pollutant limits (paragraph 12.32); and the conclusion of the AC Final Report on air quality was that the results "did not rule out [the NWR Scheme] being deliverable within the legal framework" (paragraph 9.84).
241. The AC Final Report was published in July 2015. There followed several updates to the air quality analysis upon which the AC relied, prepared by WSP for the Secretary of State in October 2016, February 2017 and finally in October 2017, to take into account the adoption of the AQP 2017 and updated COPERT emission factors, pollution climate mapping ("PCM") and aviation demand forecasts (i.e. "the WSP October 2017 AQ Re-analysis": see paragraph 72 above).

242. The WSP October 2017 AQ Re-analysis used three datasets, but focused on the PCM model data with an assumed network of CAZs in urban areas (including Greater London) being available by 2021 (paragraph 3.1.1). It assessed compliance as $40\mu\text{m}^3$ and adopted methodologies consistent with those used by Jacobs. On those assumptions, it projected that Greater London with the NWR Scheme would be compliant with the limit values by the time the new runway would be due to open, i.e. by 2026.
243. However, it also considered the overarching uncertainty inherent in modelling conducted for the AQP 2017 (and therefore, it said, for the modelling used by Jacobs and the AC), namely $\pm 29\%$ (95% confidence interval) (paragraphs 3.3.1-3.3.12). Assuming that the analysis of modelled versus monitored concentrations followed a statistically normal distribution, WSP noted that (i) approximately 90% of modelled concentrations would underestimate concentrations by less than 20% (or would overestimate concentrations) and (ii) approximately 75% of modelled concentrations would underestimate concentrations by less than 10% (or would overestimate concentrations) (paragraph 3.3.13). The report therefore concluded (at paragraph 3.3.14):

“As such, it is considered that where modelled concentrations are less than 20% of the limit value, it is unlikely that the limit value will be exceeded (low risk) – because this would mean that 90% of modelled concentrations would be likely to be within the limit value – but that a high risk of exceedance exists when the modelled concentrations lie within 10% of the limit value – in this case, 25% of modelled concentrations would be likely to exceed the limit value.”

244. The assessment findings for the NWR Scheme, based upon that analysis, are set out in paragraph 5.3. The assessment focused on the “key link”, i.e. the critical road link so far as air quality is concerned, which for the NWR Scheme was 15km away on the A40 Westway. The report explained (at paragraph 5.3.4 and 5.3.7):

“On this road, the impact of the airport is small and the risk of noncompliance is determined to a large degree by the magnitude of the PCM model projection rather than the magnitude of the airport impact. On the critical link, the impact of the airport is small and related entirely to highway trips to the airport. The impact of airside emissions on the link, and on the compliance risks for the option overall, is negligible.

...

In the vicinity of the airport, impacts on Bath Road (A4...) and the A312... are assessed but the links are not the critical link in that, for this option, they do not trigger noncompliance of the zone or experience a worsening of exceedance of the limit value in any scenario.”

245. With CAZs, the critical link would be within the limit value for NO_2 for each year from 2026 when the NWR Scheme is due to be implemented; but there would be a high risk

of exceedance as defined in paragraph 3.3.14 until 2030, because the “headroom” as a percentage of the limit value would be less than 10% until that year (being nil in 2026, 3% in 2027, 6% in 2028, 8% in 2029 and then 11% in 2030). On those same definitions, it would be a medium risk from 2030.

246. Therefore, in relation to the NWR Scheme, the WSP October 2017 AQ Re-analysis concluded (at Table 1-1, emphases in the original):

“With the implementation of actions as set out in the [AQP 2017], the option **does not impact** on modelled compliance with limit values in any particular opening year (2026 onwards).

Given the inherent uncertainties in air quality modelling, there remains, however, **a risk that the option could delay compliance** with limit values.”

247. The following commentary accompanied those conclusions:

“The risk of an impact on compliance with limit values increases the earlier the assumed opening year for the option.

The risk of impact on compliance is high up to 2029 since the option potentially impacts on compliance in Central London and exists whether or not the [AQP 2017] actions are fully implemented. From 2030 onwards, the risk falls to medium.

The level of risk is primarily dependent on the timing of the introduction of, and effectiveness of, actions in the [AQP 2017] to reduce emissions from vehicles on the wider road network, together with effective Real-[World] Driving Emissions... legislation. It is largely independent of assumptions relating to the impact of the option itself or the direct mitigation of option-related emissions. Impacts near the airport do not, in general, affect zone compliance.

Additional measures aimed at targeting high [NO₂] concentrations at the local level and across London could potentially mitigate this risk further.”

248. The WSP October 2017 AQ Re-analysis formed the basis of the ANPS. The accompanying AoS summarised it in these terms:

“7.4.87 WSP’s updated reanalysis of the AC’s impact assessment in relation to compliance with the EU Directive limit values, taking into consideration the [AQP 2017], indicates that [NWR Scheme] does not impact on modelled compliance with limit values in the re-analysis core scenario (i.e. taking account of updated vehicle emissions factors, and with the measures set out in the [AQP] implemented).

7.4.88 The conclusion is, however, subject to uncertainty. The risk of an impact on compliance with limit values increases the

earlier the assumed opening year. For early opening (assessed for 2026 in the re-analysis), the risk is high and the option is likely to impact on compliance with limit values due to impacts in central London. The risk falls to medium in 2030.

7.4.89 Impacts near the airport do not, in general, affect zone compliance. That is to say, whilst the scheme impacts on compliance with EU limit values alongside some roads in the vicinity of the airport in some sensitivity tests in the updated re-analysis, total pollutant concentrations in central London with the scheme are generally higher.

7.4.90 As such, the level of risk is primarily dependent on the timing of the introduction of, and effectiveness of, measures in the [AQP 2017]. It is largely independent of assumptions relating to the impact of the option itself, the rate of growth in demand or the direct mitigation of option-related emissions.”

249. Appendix A to the AoS, at Question 25 (“Will it support compliance with local, national and European air quality requirements or legislation”), states that, for the operation of the NWR Scheme:

“There is a high probability that the emissions arising from operational activities will have adverse effects on air quality.”

250. The aim of the ANPS, so far as air quality is concerned, is set out in paragraph 2.18:

“The Government also acknowledges the local and national environmental impacts of airports and aviation, for example noise and emissions, and believes that capacity expansion should take place in a way that satisfactorily mitigates these impacts wherever possible. Expansion must be deliverable within national targets on greenhouse gas emissions and in accordance with legal obligations on air quality.”

251. The assessment of the impact on the scheme on air quality is dealt with in paragraphs 5.23-5.43. Having recited the relevant history, including the WSP October 2017 AQ Re-analysis, it concluded (at paragraph 5.31):

“... The [DfT] has conducted further analysis to assess the impact that this updated evidence base would have on estimated compliance with EU limit values of expansion options at Heathrow Airport and Gatwick Airport [i.e. the WSP October 2017 AQ Re-analysis]. This analysis has been updated to take account of the revised aviation demand forecasts and the Government’s final [AQP]. The result of this analysis helped inform the Government’s view that, with a suitable package of policy and mitigation measures, including the Government’s modified [AQP], the [NWR Scheme] would be capable of being delivered without impacting the UK’s compliance with air quality limit values.”

252. Under the heading, “Applicant’s assessment”, it said (at paragraph 5.32):

“The applicant should undertake an assessment of the project, to be included as part of the environmental statement, demonstrating to the Secretary of State that the construction and operation of the Northwest Runway will not affect the UK’s ability to comply with legal obligations. Failure to demonstrate this will result in refusal of development consent.”

253. It then went on to deal with “Mitigation”, setting out a list of possible mitigation measures that might be put forward; and saying (at paragraph 5.38):

“... [HAL] should continue to strive to meet its public pledge to have landside airport-related traffic no greater than today...”.

254. Finally, it emphasised again that, when it came to decision-making on a DCO application (at paragraph 5.42):

“The Secretary of State will consider air quality impacts over the wider area likely to be affected, as well as in the vicinity of the scheme. In order to grant development consent, the Secretary of State will need to be satisfied that, with mitigation, the scheme would be compliant with legal obligations that provide for the protection of human health and the environment.”

The Hillingdon Claimants’ Grounds

255. The Hillingdon Claimants challenge the ANPS’s approach and conclusion in respect of air quality on five grounds, as follows:

- i) Ground 3: The Secretary of State failed to have regard to the material changes to the information and assumptions upon which the Jacobs May 2015 AQ Local Assessment air quality modelling of the NWR Scheme was based, notably the changes in passenger demand forecasts and the additional analysis provided by TfL after July 2015. This ground has the same foundation as Ground 1 (i.e. the Hillingdon Claimants’ first surface access ground).
- ii) Ground 4: In reaching the conclusion that the NWR Scheme could be undertaken without a breach of the UK’s obligations under the Air Quality Directive, the Secretary of State failed to apply the precautionary principle.
- iii) Ground 5: It was irrational to adopt and designate the ANPS in circumstances in which it was known that, if constructed and used to full capacity from 2026, there would be a high risk that the air quality obligations will be breached in the period 2026-30.
- iv) Ground 6: In reaching the conclusion that the NWR Scheme could be undertaken without a breach of the UK’s obligations under the Air Quality Directive, the Secretary of State did not have sufficient information to be satisfied that mitigation was achievable, making unjustified assumptions regarding the deliverability of public transport schemes (such as the WRL and SRA) and the effectiveness of CAZ measures as part of the AQP 2017.

- v) Ground 7: It was irrational and/or contrary to the Secretary of State's obligation to act transparently to adopt and designate a policy based on the premise that the NWR Scheme was capable of being delivered without breaching air quality obligations – and to require a DCO applicant to satisfy him that the NWR Scheme would not breach those obligations – without identifying the correct legal test.

256. We will deal with those grounds in turn.

Ground 3

257. Mr Jaffey submits that the air quality decision is flawed for the same reason as the analysis of surface access is unlawful, i.e. the Secretary of State failed properly to assess the consequences of the updated information in particular the updated passenger demand forecasts and changes to the assumptions concerning the future availability of transport infrastructure, and failed to take into account catalytic demand and night freight. However, for the reasons we have given in relation to Ground 1, the Secretary of State did not err in the way in which he dealt with each of these matters.
258. In respect of the new passenger demand forecasts, as we have explained, they did no more than suggest an accelerated growth of demand for the new capacity resulting from the third runway which, for the reasons we have given, did not affect the surface access analysis. It was simply a matter of timing before the new capacity was filled, which could be mitigated by bringing forward mitigation measures and/or phasing the release of capacity. That also applies to this part of the claim.
259. However, as the WSP October 2017 AQ Re-analysis concluded (see paragraphs 246-248 above), the level of risk on compliance with limit values set by the Air Quality Directive is primarily dependent upon action to reduce emissions from road vehicles on the wider road network not upon the contribution from any airport expansion. We appreciate that that may make mitigation within the scope of any airport development scheme more challenging or less effective – but that is presumably why the WSP analyses (including the WSP October 2017 AQ Re-analysis) *did* take into account updated projections of passenger demand etc. It is true that WSP did not re-model – it merely adjusted or scaled to take into account the new information and assumptions including passenger demand forecasts. It is the evidence of Ursula Stevenson (who is employed by WSP, and leads for them on Environmental Assessment and Management Services) that that approach was appropriate and robust in the circumstances, particularly because the principal driver for the uncertainty and thus risk was not the airport expansion but the inherent uncertainty in the PCM modelling, and the scaling was conservative (Stevenson 1, paragraph 3.2; see also paragraph 3.6). There is no evidential basis for a submission that that was an unreasonable or otherwise unlawful approach.
260. There is simply no arguable public law error here.

Ground 4

261. It is submitted that, in concluding that the NWR Scheme could be undertaken without a breach of the UK's obligations under the Air Quality Directive, the Secretary of State failed properly to apply the precautionary principle as set out in article 191(2) of the Treaty on the Functioning of the European Union – but rather applied optimistic

assumptions that the CAZ initiative in the AQP 2017 will be fully implemented and will be effective, and that the surface access mitigation will be effective. Mr Jaffey submitted that the Secretary of State ought to have considered whether, on the basis of the objective information, the risk of breach of the air quality requirements could be excluded to a high standard of certainty. Far from doing so, he designated a policy which will probably lead to a failure to comply with air quality requirements from its proposed opening date in 2026.

262. In support of that contention, Mr Jaffey relied upon paragraph 7.4.88 of the AoS (quoted at paragraph 248 above), to the effect that, in the period 2026-30, the risk of an impact on compliance with limit values is “high” which (he submitted) is defined in Table 3.2 as “e.g. >80% e.g. highly likely that a receptor will be affected or effect will occur based on available evidence”. To adopt a policy with such a risk of breach was not only contrary to the precautionary principle, but also (Mr Jaffey submitted) irrational (i.e. Ground 5: see paragraphs 266-268 below).
263. However, in our view, the submission that there was a breach of the precautionary principle – not pressed before us with any enthusiasm by Mr Jaffey – has no force.
264. We are unconvinced that the “definition” relied upon by Mr Jaffey applies to “risk” in paragraph 7.4.88, because (a) the definition is of “probability” not “risk” (which is “defined” elsewhere in the same table as “the threat of harm or damage to receptors is stated in text where risk has been identified”), and (ii) we found compelling Mr Maurici’s submission that “risk” here was a reference to the term as used in the WSP October 2017 AQ Re-analysis, i.e. defined by reference to “headroom” with “high risk” of exceedances existing when modelled concentrations fall within 10% of the limit value (see paragraphs 243-245 above). Nevertheless, we accept that that does not in itself dispose of the ground: however it is defined, on the basis of the modelling etc there is a “high risk” of exceedance.
265. However, despite that risk as identified by the modelling, there is no possibility of there being a breach of the air quality requirements under the ANPS in practice, because the policy itself expressly provides that “expansion must be deliverable... in accordance with legal obligations on air quality” (paragraph 2.8); “in order to grant development consent, the Secretary of State will need to be satisfied that, with mitigation, the scheme would be compliant with legal obligations that provide for the protection of human health and the environment” (paragraph 5.42); and, most starkly, “failure to demonstrate [that the scheme will not affect the UK’s ability to comply with legal obligations] will result in refusal of development consent” (paragraph 5.32). Before us, it was common ground that the requirement in paragraph 5.32 drew “the reddest of red lines”: it is an absolute requirement, without caveat. There is thus no scope for the exercise of the precautionary principle. There is no risk: as a policy, the ANPS cannot result in any possible breach of the UK’s obligations under the Air Quality Directive.

Ground 5

266. Perhaps appreciating that to be the case, before us Mr Jaffey focused on his third ground under this head, namely that it was irrational for the Secretary of State to adopt and designate a policy which is probably undeliverable.

267. The risk as to deliverability of course derives, not from the NWR Scheme itself, but from the modelling uncertainties in the AQP 2017. As we have explained, the AQP 2017 is not aspirational: it is required to deliver outcomes, in the form of reductions in pollutants to Air Quality Directive limit levels by a particular date. If it transpires over time that the AQP 2017 is not up to that task, then there is an obligation to vary it – in accordance with the procedure set out in the Directive – to ensure that it does. Both the Commission and the domestic courts have made clear that the UK’s commitment to achieve the limit level will be enforced.
268. But in any event, in our view, a policy which may not be deliverable is not, by virtue of that alone, irrational. There is no evidential basis for the submission that the policy is certainly not deliverable. Deliverability will be tested at the DCO stage. In respect of the ANPS, given that the Gatwick 2R Scheme has been assessed as not fulfilling the hub policy objectives of the Government – and capacity objectives alone are insufficient to warrant the building of a second runway at Gatwick which would leave the requirement for hub capacity unfulfilled and possibly deepened – a policy to expand Heathrow, on terms which may be extremely challenging for applicants, is clearly not unlawful on grounds of irrationality. HAL and any other DCO applicants will well appreciate the air quality challenge, and the need to satisfy the air quality requirements of the policy in any application.

Ground 6

269. Mr Jaffey submitted that the Secretary of State erred in making unjustified assumptions regarding the deliverability of public transport schemes (such as the WRL and SRA) and the effectiveness of CAZ measures as part of the AQP 2017.
270. We can deal with this ground, which in part retraces parts of Grounds 3 and 5, briefly. We do not consider it to have any force.
271. The NWR Scheme, if it proceeds, will not provide any further airport capacity until 2026 at the earliest, and will deliver that capacity to 2060 and beyond. Like the AC, the Secretary of State thus had to make assessments as to future conditions.
272. Whether CAZs will be effective in London requires an exercise of judgment. On the basis of the advice he has received, the Secretary of State – like the Mayor (see, e.g., Owen, paragraph 95) – is confident that they will. In any event, that is an assessment made by the Secretary of State that cannot be challenged in this court.
273. With regard to public transport infrastructure, we have dealt with this issue in relation to the surface access grounds. Leaving aside any expansion at Heathrow, the London transport system will require additional infrastructure in the form of projects such as the WRL and SRA by 2026. It was not arguably irrational for the Secretary of State to proceed on the basis that those schemes – or their equivalent – will be available during the early life of the NWR Scheme if it proceeds. If delivery of those public infrastructure schemes is delayed, then the NWR Scheme can be phased in and/or the applicant will have to demonstrate how other forms of mitigation will enable it to comply with the air quality requirements set out in the ANPS. Contrary to the suggestion that delay in implementing the NWR Scheme may render it financially non-viable, the evidence is to the effect that sensitivity tests have shown that phasing in the

scheme over 10 years has only a small impact in this regard compared with the central case (Jones 2, paragraph 32).

274. In our view, this ground does not substantively add to Grounds 3 and 5. In any event, for the reasons we have given, we do not consider that it has been made good.

Ground 7

275. Mr Jaffey submitted that it was irrational for the ANPS not to identify the legal test for the air quality requirements, given that (i) the policy is based on the proposition that the NWR Scheme is capable of being delivered within those requirements and (ii) it obliges any applicant for a DCO to satisfy the Secretary of State that those requirements would be met.
276. However, the air quality legal requirements are set out in the Air Quality Directive and Regulations. Insofar as the scope of any of the requirements is controversial, the construction of the relevant provisions is a matter for the court not the Secretary of State. If the Secretary of State were required to set out the meaning of the requirements, his paraphrase could not in any event be authoritative. If there is any controversy over the scope of the requirements, that will be elicited (and, if necessary, determined by this court on judicial review) at the examination stage of the DCO, whether or not the Secretary of State has set out his interpretation of the provisions in the policy. For him to set out that interpretation at this stage would therefore be otiose.
277. But it would also be insufficient and misleading. To satisfy the precautionary principle, it is essential that any DCO applicant satisfies the Secretary of State that the NWR Scheme will not breach any air quality requirements as properly construed, not as construed by the Secretary of State.
278. In respect of air quality requirements, the ANPS is focused on outcome not input. However, as we have explained, it deals with many other aspects of the scheme in the same way. As Mr Maurici pointed out, if this ground were good, then the ANPS would have to set out the Secretary of State's views on the requirements of all of the relevant EU and legislative schemes, such as that relating to climate control, SEAs and habitats. That would be an extraordinary result. However, for the reasons we have given, that is not a legal requirement.

Ground 21: Mr Spurrier's Air Quality Ground

279. Mr Spurrier submitted that the designation of the ANPS relied upon work by Jacobs commissioned by the AC which contained a fundamental error by restricting its "Principal Study Area" for ground level pollutants (including generic nitrogen oxides (NO_x) and fine particulates) to a 2km radius round the NWR Scheme boundary.
280. He relies on paragraph 3.2 of the Jacobs May 2015 AQ Local Assessment, which describes the study areas which that assessment had considered:

"The contribution of airport emissions to ground-level pollutant concentrations falls off rapidly with increasing distance from the airport boundary and is very small beyond a distance of a few kilometres. The 'Principal Study Area' for each Scheme has

been selected to focus on sensitive properties and habitats likely to be substantially affected by the Scheme and encompasses a 2km radius around each Scheme boundary. In addition, a ‘Wider Study Area’ has been defined for the assessment of potential exceedances of the EU Limit Values (defined on Defra future projections) and for the potential impacts on sensitive ecosystems. This Wider Study Area includes all roads for which a substantial change in traffic characteristics has been forecast in the 2030 With Scheme scenario and has been based on criteria in the Highways Agency guidance Design Manual for Roads and Bridges Guidance (HA207/07 Air Quality) and the [AC’s] traffic change criteria set out within the Appraisal Framework.”

281. Mr Spurrier submits that to limit the area of study in that way was a fundamental error, as confirmed by three empirical studies published in 2014-16 which (he submits) suggest that areas surrounding an airport are affected by fine particulate matter (particularly UFP) up to 16km and even up to 40km away.
282. However:
- i) As Mr Spurrier readily accepts, he has no expertise in this field. The identification of areas of study in itself required professional judgment, which Jacobs exercised.
 - ii) Whatever the precise figures might be, it is clear that the vast majority of additional pollutant emissions from aircraft occur within 2km of the airport (Low 1, paragraph 423). That informed the Appraisal Framework which stated that specific outcomes of the “local assessment” were to quantify pollutant concentrations at locations “substantially affected by the Scheme” (recited in the Executive Summary of the Jacobs May 2015 AQ Local Assessment). As paragraph 3.2 of the assessment makes clear, the “Principal Study Area” was selected on that basis. It therefore complied with the Appraisal Framework, which was established only after considerable consultation – and in respect of which no complaint is made.
 - iii) As the quoted passage also makes clear, the 2km radius area was not the only study area: there was a Wider Study Area for assessing the effects of road traffic. Although Mr Spurrier focuses upon the effects of pollutants from aircraft themselves, the AoS which accompanied the ANPS provided a high level assessment of the unmitigated air quality impacts and a qualitative assessment of health impacts of the NWR Scheme beyond the 2km radius but, as Ms Low explains (Low 1, paragraphs 421-425; and Low 2, paragraphs 8-37), more precise quantification could not be done at this stage because it would be dependent on matters which are uncertain at this stage. It will be dealt with at the DCO stage.
 - iv) There are currently no limit values for UFPs. Jacobs cannot be criticised for not adopting a method of assessment which did not make a particular assessment of UFPs, as opposed to PM_{2.5} (which of course include UFPs).

283. This ground is not arguable. The choice of study parameters for the purposes of the AC and the ANPS was a matter of assessment and judgment, and the Secretary of State's reliance on Jacobs' assessment is clearly not irrational or otherwise unlawful.

Conclusion

284. For those reasons, the answer to issues 4 and 5 is "No", the designation of the ANPS was not unlawful by reason of:

- i) reliance on a flawed analysis of the surface access impacts of the NWR Scheme;
- ii) a failure to consider or apply a worst-case scenario when assessing whether the NWR Scheme is capable of being delivered in compliance with the Air Quality Directive, and thereby a failure to apply a precautionary approach;
- iii) it being irrational for the Secretary of State to have designated the ANPS when he knew, or ought to have known, that were the NWR Scheme to be constructed there would be a high risk that obligations under the Air Quality Directive will be breached from 2026-30;
- iv) the Secretary of State having made unjustified assumptions about the possibility of mitigating harm when concluding that the NWR Scheme was capable of being delivered compatibly with air quality legal obligations; and/or
- v) the Secretary of State acting irrationally and/or contrary to any obligations to act transparently to give reasons by failing to set out the legal test for compliance with the Air Quality Directive (including the obligation under Article 12 to endeavour to preserve the best ambient air quality compatible with sustainable development);

nor did the ANPS otherwise breach any provision of the Air Quality Directive.

285. Also for those reasons, the air quality grounds of the Hillingdon Claimants (Grounds 3-7) and Mr Spurrier (Ground 21) fail.

Habitats

Introduction

286. Article 6(4) of the EC Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive" or, in this part of the judgment, just "the Directive") provides that, if it cannot be established that a plan or project will not adversely affect the integrity of a "special area of conservation" ("SAC"), the plan or project may only proceed "in the absence of alternative solutions".

287. In this context, the ANPS accepted that the NWR Scheme potentially affected the integrity of a number of SACs; but rejected the Gatwick 2R Scheme as an alternative to that scheme. It did so for two main reasons.

- i) The NWR Scheme would, but the Gatwick 2R Scheme would not, meet “the objectives of the plan in relation to meeting the need to increase airport capacity in the South East and maintaining the UK’s hub status”.
 - ii) The Gatwick 2R Scheme would potentially cause harm to an SAC upon which a priority species was present.
288. It is submitted on behalf of the Hillingdon Claimants that (i) the Secretary of State erred in law in concluding that the Gatwick 2R Scheme would not meet the objectives of the plan (Ground 8.1); and (ii) there was no evidence to support his conclusion in respect of the harm to an SAC affected by the Gatwick 2R Scheme (Ground 8.2). It is common ground that the Hillingdon Claimants need to succeed on both limbs in order to make good this ground of challenge.

The Habitats Directive

289. The recitals to the Habitats Directive explain that one of its objectives is to ensure the restoration or maintenance of habitats and species of community interest at “a favourable conservation status” as defined in article 1 (e) and (i). The habitat types and species of community interest are listed in Annexes I, II, IV and V (article 1(c) and (g)). “Priority” species are those indicated in Annex II by an asterisk, for the conservation of which the community has “particular responsibility” (article 1(h)) and for which there is enhanced protection. Article 1(l) defines “special areas of conservation”.
290. Article 2 provides:
- “1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.
 2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.
 3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.”
291. Article 6(1) requires Member States to establish necessary conservation measures for SACs, involving if necessary “appropriate management plans specifically designed for the sites...”. By article 6(2), Member States are required to take appropriate steps to avoid within the SACs (amongst other things) the deterioration of natural habitats and the habitats of species.
292. This ground of challenge focuses upon article 6(3) and (4).
293. Article 6(3) imposes the requirement to undertake an appropriate assessment of the implications of any plan or project for an SAC which it is likely to affect significantly:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

In this judgment, we refer to the assessment as a “Habitats Regulations Assessment” (or “HRA”). Thus, the effect of article 6(3) is that the Secretary of State as the “competent authority” may only designate an NPS or grant a DCO after an appropriate HRA has been performed and, on the basis of that assessment, if satisfied that the NPS or DCO would not “adversely affect the integrity” of an SAC, subject only to the derogation provisions in article 6(4).

294. The first part of article 6(4) provides:

“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.”

“Natura 2000” is a network of protected areas made up of SACs and Special Protection Areas (“SPAs”) designated under EC Council Directive 2009/147/EC (replacing EC Council Directive 79/409/EEC) on the conservation of wild birds (“the Birds Directive”).

295. The second part of article 6(4) deals with cases where a “negative assessment” relates to an SAC which hosts a priority habitat type and/or a priority species:

“Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

This provides additional protection where priority species are involved by restricting the considerations which may be taken into account. It is said that “imperative reasons of overriding public interest” (“IROPI”) can only be relied on “further to an opinion from the Commission”. However, it is common ground before us that the obtaining of

such an opinion is a procedural step, and that the approval of the Commission is not a pre-condition to satisfaction of the IROPI test. We agree.

296. The Habitats Directive (with the Birds Directive) has been transposed into domestic law by the Conservation of Habitats and Species Regulations 2017 (SI 2017 No 1012) (“the Habitats Regulations”). These replaced the Conservation of Habitats and Species Regulations 2009 (SI 2009 No 490). It was common ground before us and uncontroversial that:
- i) For the purposes of these proceedings, there was no material difference between the two sets of regulations. The parties’ submissions were based on the later regulations and, where necessary, it is to those which we will refer in this judgment.
 - ii) However, each set of regulations fully and properly implemented the Directive. Therefore, generally, we will refer to the relevant provisions of the Directive, rather than the transposing regulations.
297. Articles 6(3) and (4) have been transposed by regulations 63 and 64 of the Habitats Regulations; and, in this part of the judgment, “article 6” is a reference to article 6 of the Habitats Directive, and “regulations 63 and 64” to those regulations in the Habitats Regulations.
298. Therefore, as can be seen, article 6(4) allows derogation from the requirements of article 6(3), but subject to three tests:
- i) there must be no “alternative solution”;
 - ii) there must be IROPI; and
 - iii) the Secretary of State must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.
299. During the course of oral submissions, as we understood it, it became common ground that, if and when a plan or scheme does not qualify as an “alternative solution” within the meaning of article 6(4), then it does not need to be considered any further under the Habitats Directive. If it is properly assessed as not qualifying as an “alternative solution” before an HRA has been conducted, it is not necessary for Habitats Directive purposes to consider that plan or scheme in any later HRA or otherwise at all. It was also common ground that articles 6(3) and (4) involve an iterative process, certainly for policy-making as a plan proceeds from an initial draft through consultation to its finally adopted form; and, in that iterative process, something which is considered by the competent authority to be an “alternative solution” at one stage may, in the light of further information and/or assessment, properly cease to be so regarded subsequently.
300. It seems that the three tests we have identified are to be applied sequentially, so that the second test – the IROPI test – is only reached if it is first demonstrated that there are no “alternative solutions”. That proposition was perhaps less clearly common ground before us – but it certainly appears to be the view of the European Commission (see, e.g., Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC (January 2007) at page 4; and Commission Notice: Managing Natura 2000 sites: The provisions

of article 6 of the Habitats Directive 92/43/EEC (November 2018)). However, we need not further consider whether the sequential approach is a correct or mandated approach, as the issue is not determinative of either limb of Ground 8.

301. We will return to the nature and scope of “alternatives” in this context after we have set the factual scene for this ground (see paragraphs 332-343 and following below).

The ANPS

302. The first limb of this ground of challenge relates to the basis upon which the Secretary of State decided that the Gatwick 2R Scheme was not an “alternative solution” to the NWR Scheme, in particular because it would not deliver the objective of “maintaining the UK’s hub status”. The second limb relates to the conclusion that the Gatwick 2R Scheme would potentially cause harm to a particular SAC upon which a priority species was present; and, therefore, again, it was not an alternative to the NWR Scheme. As it was not an alternative to the NWR Scheme for each of these two reasons, it is submitted on behalf of the Secretary of State that there was no obligation to consider the Gatwick 2R Scheme further in a Habitats Directive context.
303. The ANPS deals with the question of the failure of the Gatwick 2R Scheme to satisfy the policy objectives in paragraph 1.32 (emphasis added):

“The strategic level [HRA], conducted in accordance with the Conservation of Habitats and Species Regulations 2010, concluded that the potential for the preferred scheme to have adverse effects on the integrity of European sites for the purposes of Article 6(3) of the Habitats Directive could not be ruled out. This is because more detailed project design information and detailed proposals for mitigation are not presently available and inherent uncertainties exist at this stage. The [ANPS] has thus been considered in accordance with Article 6(4) of the Habitats Directive. Consideration has been given to alternative solutions to the preferred scheme, and *the conclusion has been reached that there are no alternatives that would deliver the objectives of the [ANPS] in relation to increasing airport capacity in the South East and maintaining the UK’s hub status.* In line with Article 6(4) of the Directive, the Government considers *that meeting the overall needs case for increased capacity and maintaining the UK’s hub status, as set out in chapter two, amount to imperative reasons of overriding public interest* supporting its rationale for the designation of the [ANPS]. At detailed design stage, and in so far as it may be necessary, the matters set out in the Airports NPS will be relevant to determining whether there are alternative solutions and imperative reasons of overriding public interest, provided that the design remains consistent with the objectives of the [ANPS].”

304. Paragraph 1.32 refers to the “strategic level HRA” that had been performed for the purposes of the ANPS. Paragraph 1.33 explains that, when an application for development consent is made, a “project-level HRA” will be made, based on the greater

level of information which will be available at that detailed design stage. The phrase “strategic level” reflects the fact that a lesser amount of information is generally available (and indeed needed) when plans or policies are drawn up in advance of a detailed design proposal.

305. Other parts of the ANPS also refer to the hub policy objective. Paragraph 1.3 records that the AC had been established “to examine the scale and timing of any requirement for additional capacity to maintain the UK’s position as Europe’s most important aviation hub...” (see paragraph 46 above). That makes clear that, from the outset, it was a core policy objective to maintain the UK’s hub status. Chapter 2 of the ANPS deals with the need for additional airport capacity. The importance of maintaining the UK’s hub role is further addressed in paragraphs 2.9-2.10, 2.13-2.14, 2.19 and 2.32-2.33.
306. Chapter 3 of the ANPS explains why the NWR at Heathrow was chosen by the Government as its preferred scheme. That too refers to the hub policy objective. Paragraph 3.18-3.19 state (again, emphasis added):

“3.18 Heathrow Airport is best placed to address this need by providing the biggest boost to the UK’s international connectivity. Heathrow Airport is one of the world’s major hub airports, serving around 180 destinations worldwide with at least a weekly service, including a diverse network of onward flights across the UK and Europe. Building on this base, expansion at Heathrow Airport will mean it will continue to attract a growing number of transfer passengers, providing the added demand to make more routes viable. In particular, this is expected to lead to more long-haul flights and connections to fast-growing economies, helping to secure the UK’s status as a global aviation hub, and enabling it to play a crucial role in the global economy.

3.19 By contrast, *expansion at Gatwick Airport would not enhance, and would consequently threaten, the UK’s global aviation hub status. Gatwick Airport would largely remain a point to point airport, attracting very few transfer passengers.* Heathrow Airport would continue to be constrained, outcompeted by competitor hubs which lure away transfer passengers, further weakening the range and frequency of viable routes. At the UK level, there would be significantly fewer long haul flights in comparison to the preferred scheme, with long haul destinations served less frequently. Expansion at Heathrow Airport is the better option to ensure the number of services on existing routes increases and allows airlines to offer more frequent new routes to vital emerging markets.”

307. Mr Jaffey submitted that it was important to see these parts of the ANPS in their context, and notably in the context of the material relating to the Secretary of State’s second ground for rejecting the Gatwick 2R Scheme which concerned the effects of the expansion of Gatwick upon a particular SAC. In particular, he relied upon a submission by civil servants within the Airport Capacity Policy Directorate of the DfT to the Secretary of State on 25 September 2017 which summarised key parts of the “draft

strategic level” HRA published in February 2017 alongside the draft ANPS for consultation purposes. At six sites, the expected harm related to increased levels of NO_x caused by traffic. At the remaining two sites, protected species of bird were expected to be adversely affected by matters such as noise, visual disturbance and reduction in habitat.

308. The submission document explained that, because it had not been possible at this policy-making stage to exclude the possibility of adverse effects of the NWR Scheme on European sites, an assessment had been made of potential “alternative solutions”. Increased capacity at Gatwick would generate additional traffic which was expected to have adverse effects on two European protected sites, the Ashdown Forest SPA/SAC and the Mole Gap to Reigate Escarpment SAC, by causing increases in NO_x levels. The latter site is important for wild orchids, and therefore treated under the Habitats Directive as a priority habitat requiring enhanced protection. Consequently the Gatwick 2R Scheme “was discounted as an alternative solution”.
309. That, of course, was only a summary. The assessment published for consultation in February 2017 had said that based on the information available at that stage, it had not been possible to identify alternatives to the preferred NWR Scheme. In relation to the Gatwick 2R Scheme, that conclusion was based upon the assessment that the impacts on the Mole Gap to Reigate Escarpment SAC could not be discounted, and that an opinion would need to be obtained from the European Commission on the application of the IROPI test.
310. Paragraph 11 of the submission to the Secretary of State advised that, if the proposed policy statement would adversely affect the integrity of a European site, then, under the Habitats Regulations, the Secretary of State would have to consider whether any “alternative solutions” exist which would be less damaging. Paragraph 13 suggested that the assessment of alternative solutions needed to be made, against not only the objective of increasing airport capacity in the South East (as stated hitherto in the draft HRA published in February 2017), but “also the objective of maintaining the UK’s hub status”. Of that, the submission said:
- “This is also an important objective and one which has been included a number of times in the draft [ANPS] and other government announcements.”
311. Paragraph 14 described the effect of adding this objective on the identification of “alternative solutions”:
- “The Government has already stated that only expansion at Heathrow Airport will maintain the UK’s hub status. We do not therefore consider that expansion at Gatwick is an alternative solution to the Government’s preferred scheme because it cannot meet this objective; as already stated in the draft [ANPS], expansion at Gatwick Airport would not enhance, but consequently threaten the UK’s global aviation hub status.”
312. The submission was clear as to the possible effects of adding the hub objective to the reason for rejecting the Gatwick 2R Scheme as an alternative to the NWR Scheme for Habitats Directive purposes. Paragraph 24 pointed out that the Secretary of State would

face a significant risk of severe criticism that he had identified a further reason not to treat the Gatwick scheme as an alternative to expansion at Heathrow. There would be a perception (it said) that the change was only being made because “Gatwick Airport have provided strong evidence to show that their scheme will be less damaging ecologically, and therefore the [NWR] Scheme could not be approved in compliance with the Habitats Regulations”. The document also acknowledged a risk of accusations being made of pre-determination (paragraph 25). Paragraph 26 stated:

“The argument that Gatwick does not meet the ‘hub status’ objective is also likely to be strongly challenged especially given the updated passenger demand forecasts and the strengthened economic case for expansion at the UK’s second biggest airport.”

313. Annex D to the submission explained the thinking in slightly greater detail:

“1. If we were to maintain the current approach in the draft HRA, Government's position would remain that the Gatwick [2R Scheme] is not an alternative solution to the [NWR Scheme] under the Habitats Directive from an ecological perspective, but it would be assumed to be an alternative solution in respect of meeting the overall objectives of the plan.”

“4. As part of its response to the consultation, [GAL] has undertaken its own assessment of its scheme, which concludes that based on its own consultants’ modelling there would be no significant increase in NO_x concentration at the site, even at the closest point to the M25 (junctions 8 and 9). GAL also state that the [NWR Scheme] would create increased traffic on this same section of the motorway, therefore if the Gatwick Second Runway is considered to adversely impact the SAC so too would the [NWR Scheme]. The draft HRA screening process did not consider the SAC to be within the zone of influence of the [NWR Scheme].”

“5. Whilst it is likely that air quality projections for both these schemes will improve following implementation of the Government’s updated [AQP], given the Gatwick [2R Scheme] only affects two sites and only on air quality grounds, it is possible that GAL would be able to demonstrate no likely impacts on these sites. If that were the case, Government would have no option under the Habitats Regulations but to choose the Gatwick [2R Scheme] as it would be assumed to meet the plan’s objectives.”

6. Our own consultants (WSP) have conducted a review of GAL’s critique of our draft HRA and determined that the conclusions made in the draft HRA are valid and in accordance with the data available at the time of the assessment.”

314. The Secretary of State approved the recommendation, and the amended HRA and an amended ANPS were published for consultation in October 2017.

The Nature of the Claim

315. Mr Jaffey suggested more than once during his oral submissions that the HRA was only amended to add the “hub objective” at the point when Ministers were advised that the initial ground for rejecting the Gatwick 2R Scheme as an alternative under the Habitats Directive (the effect on the Mole Gap to Reigate Escarpment SAC) had turned out to be a “bad one on the evidence” (see, e.g., Transcript, Day 1 page 102). Similarly, he submitted that the “hub objective” argument appeared in “very curious and late circumstances”; “it appeared and was adopted only because the Secretary of State’s original reasons for being able to avoid the consideration of Gatwick as an alternative had collapsed in the face of the evidence” or “the arguments are being baked in order to secure the desired outcome” (Transcript, Day 1 pages 159-160).
316. However, when asked whether his submission amounted in effect to an allegation of bad faith by manipulating the application of the Habitats Directive, Mr Jaffey first responded that he did not need to go so far; and, ultimately, that the Hillingdon Claimants were not alleging bad faith (Transcript, Day 1 pages 160-161).
317. We wholly agree that there is no basis for alleging bad faith. There is no question of the Secretary of State introducing the “hub objective” or that assessment as an afterthought.
318. As we have described, it was the Government policy objective as given to the AC in its terms of reference for the UK “to maintain the UK’s position as Europe’s most important aviation hub...” (see paragraph 46 above). As paragraph 14 of the 25 September 2017 submission accurately pointed out, the Government had already stated its view in the consultation exercise that only expansion of Heathrow would maintain the UK’s hub status and that the building of an additional runway at Gatwick rather than Heathrow would threaten that objective. There is no dispute that, for example, the substance of what is contained in paragraphs 3.18 and 3.19 of the ANPS as designated was contained in the February 2017 draft of the ANPS published for consultation (see, e.g., Low 1, paragraph 443). Both the hub objective and the need for increased capacity to meet that objective were put forward in the ANPS documentation published in February 2017, as a provisional view subject to the outcome of the consultation process. As Ms Low pointed out, both of those aspects of the draft policy were exposed through the consultation process to representations contending, for example, that the “hub objective” should be amended (i.e. omitted or reduced in importance) and/or that Gatwick could fulfil that objective. The Secretary of State’s mind was open to any such representations (see Low 2, paragraph 67: and see paragraphs 538-549 below).
319. Ms Low explained that, in a departmental review of the documentation that had been produced in February 2017, it was appreciated that the objectives of the policy set out in the draft ANPS had not adequately been reflected in the accompanying draft HRA (Low 1, paragraph 444). Accordingly, following the Secretary of State’s approval of the submission made to him on 25 September 2017, the draft ANPS and draft HRA were brought into alignment by the amendments that were published in October 2017 for a further round of consultation.

320. Mr Jaffey submitted that the making of these amendments in October 2017 was inconsistent with the Government’s treatment of the Gatwick 2R Scheme as a “reasonable alternative” for the purposes of the SEA Directive and the AoS.
321. However, we consider that this submission is unrealistic. First, given the decision in R (Medway Council) v Secretary of State for Transport [2002] EWHC 2516 (Admin); [2003] JPL 582, in which Maurice Kay J quashed the decision to exclude options for expanding airport capacity at Gatwick from a consultation document intended to lead to a White Paper on aviation transport, the Secretary of State might have been expected to act cautiously before discarding the Gatwick 2R Scheme from the process required by the SEA Directive.
322. Second, and more importantly, it is necessary to have well in mind fundamental differences in the operation of the Habitats Directive and the SEA Directive. Where a proposal (whether to adopt a policy or to grant consent for a project) adversely affects the integrity of a European site, the operation of article 6(3) and (4) of the Habitats Directive (and regulations 63 and 64 of the Habitats Regulations) determines the outcome of the process, according to the results of applying the tests laid down in those provisions. It is therefore rightly said by Mr Jaffey that these provisions are *substantive* in nature, and not merely *procedural*. In our judgment, an option which does not meet a core objective of a policy should not be allowed to affect the application of article 6(4). By contrast, the requirements of the SEA Directive for the content of an environmental report and for the assessment process which follows are entirely procedural in nature. Thus, the requirement to address “reasonable alternatives” in the environmental report (or AoS under section 5(3) of the PA 2008) is intended to facilitate the consultation process under article 6 (and section 7 of the PA 2008). The operator of Gatwick and other parties preferring expansion at that location would be expected to advance representations as to why the hub objective should have less weight than that attributed to it by the Secretary of State or that, contrary to his provisional view, the Gatwick 2R Scheme could satisfy that objective. The outputs from that exercise are simply taken into account in the final decision-making on the adoption of a plan, but the SEA Directive does not mandate that those outputs determine the outcome of that process.
323. Accordingly, for all these reasons we accept the explanation put forward on behalf of the Secretary of State as to why the draft ANPS and draft HRA were amended in October 2017 to deal with the “hub objective”. This involved no bad faith or improper motive. There is nothing suspicious about the circumstances in which the alterations were made. They were not made simply because of the strength of Gatwick’s representations or the assessment of the ecological effects of its proposal (a matter with which we deal under Ground 8.2 (see paragraphs 361-371 below).
324. There was no argument advanced by the Hillingdon Claimants as to why “airport capacity” should not have been a legitimate objective. The challenge was focused solely on the “hub objective”.
325. Consequently, the first limb of this ground (Ground 8.1) raises a narrow issue: when the Secretary of State designated the ANPS, was he entitled to conclude (as he did) that the Gatwick 2R Scheme was not an alternative to the NWR Scheme because it did not meet the policy objective of maintaining the UK’s hub status?

Interaction between the PA 2008 and the Habitats Directive

326. As we have described, section 104(3) of the PA 2008 provides that, except to the extent that one or more of the subsections in section 104(4)-(8) apply, an application for a DCO must be decided in accordance with any relevant NPS. Mr Maurici submitted that this meant that, where the NPS has rejected schemes as not being alternatives to the preferred scheme(s), those other schemes cannot be brought back into consideration at the DCO stage for Habitats Directive purposes. We do not consider matters are quite that straightforward.
327. Given that mere policy could not ordinarily have the legal effect of overriding, or derogating from, the substantive requirements of article 6(3) and (4) at the project consent stage, the question is whether the PA 2008 contains any provision expressed in language which is sufficiently clear to enable an NPS to have that effect. We do not think that it does.
328. First, insofar as Mr Maurici suggested that section 104(3) may in some way override the requirements of the Habitats Directive, we do not agree.
329. Section 104(3) provides that “the Secretary of State must decide [an application for a DCO] *in accordance with* any relevant [NPS]...” (emphasis added). The italicised phrase appears, analogously, in section 38(6) of the Planning and Compulsory Purchase Act 2004, which requires an application for planning permission to be determined “in accordance with the [development] plan...”. Just as that means “in accordance with the development plan *judged as whole*”, as Mr Maurici rightly submits, section 104(3) requires an application for a DCO to be decided in accordance with any relevant NPS *judged as a whole*, recognising that the statement’s policies (or their application) may pull in different directions and that, for example, a breach of a single policy does not carry the consequence that the proposal fails to accord with the NPS (paragraph 4(2) of the Secretary of State’s written submissions, citing R v Rochdale Metropolitan Borough Council ex parte Milne [2000] EWHC 650 (Admin); [2001] Env LR 22). Given that Parliament intended section 104(3) to have this broad effect, we do not consider that that provision contains language with anywhere near sufficient particularity to disapply any part of article 6(4) of the Habitats Directive, or the iterative process required, or to enable an NPS to have that legal effect.
330. Second, although section 104(3) requires the appropriate Secretary of State to decide the application for a DCO in accordance with any relevant NPS, that is subject to section 104(4)-(8). Section 104(5) overrides section 104(3) if the Secretary of State is satisfied that to determine the application in accordance with the NPS would lead to him being in breach of any duty imposed on him by any enactment. Under the Habitats Regulations, the Secretary of State is obliged to refuse consent for a proposal which would adversely affect the integrity of a European site under regulation 63(5) unless the requirements of regulation 64 are satisfied. They include an obligation to determine whether there are any alternative solutions as at the date of his decision on the application for a DCO. Accordingly, section 104(3) would not permit a Secretary of State to determine an application in accordance with a policy in an NPS which purports to preclude his consideration of representations made in the examination process and the conclusions of the Examining Panel on the existence of “alternative solutions”. Section 104(4) has the same effect in relation to the operation of the Habitats Directive. Section 104(6) also supports this conclusion.

331. Therefore, the PA 2008 does not enable the ANPS to avoid or override the application of the rules in article 6(3) and (4), or regulations 63 and 64, when an application for a DCO comes to be considered. Accordingly, if the proposal does not pass the test in article 6(3), the Secretary of State will be obliged to consider whether there are any “alternative solutions” for the purposes of article 6(4). He will be obliged to do so in the circumstances and on the evidence before him as at the date of his determination of the application for development consent. Plainly, a relevant and important consideration will be the ANPS. The Secretary of State will be entitled to apply the objectives of the ANPS as stated in paragraph 1.32 (including the “hub objective”) to those circumstances and evidence, to determine whether any other options satisfy those objectives so as to qualify as “alternative solutions”. If there were no legal impediment to the Secretary of State adopting the “hub objective” for the purposes of article 6(4) (and regulation 64) when he designated the ANPS, we do not see how the legal position could be any different if and when he applies that regulation in his determination of an application for development consent.

Alternative Solutions

332. Before us, there was considerable debate over the meaning and scope of “alternative solutions” in the context of article 6(4). This is a crucial issue; because, as we have indicated, if and as soon as a scheme is not an alternative, then it is not necessary to consider it any further under the Habitats Directive; and so, if it is properly assessed as not an alternative before an HRA has been performed, it is not necessary to consider that plan or scheme in that assessment. For the purposes of the Habitats Directive and Regulations, it simply drops out of account.
333. It is helpful to keep in mind the precise context in which this appears, namely as a derogation from the requirements in article 6(3) for an HRA which has or may have negative habitats implications for a relevant site, as follows (emphasis added):
- “If, in spite of a negative assessment of the implications for the site *and in the absence of alternative solutions*, a plan or project must nevertheless be carried out for [IROPI]...”.
334. Even by itself, the noun “alternative” carries the ordinary, Oxford English Dictionary meaning of “a thing available in place of another”, which begs the question what are the relevant objectives or purposes which an alternative would need to serve. However, article 6(4) does not refer simply to the absence of an “alternative” but to an “alternative solution”, “alternative” appearing as an adjective, which makes this meaning plain beyond any doubt. In our view, “an alternative” must necessarily be directed at identified objectives or purposes; but it is beyond doubt that “an alternative solution” must be so aimed.
335. In the context of an NPS, “alternative solution” has to be considered in the context of the policy objectives behind the “national policy in relation to one or more specified descriptions of development” in the statement (section 5(1)(b) of the PA 2008).
336. Mr Maurici submitted that it was permissible for a policy-maker to identify the objectives which he considers should be met in the public interest; and to assess whether (and, if so, the extent to which) options would meet those objectives. He contended that both the identification of objectives, and the assessment of the extent to which an

option met those objectives, are matters of judgment for the policy-maker, subject to review solely on grounds of irrationality. He submitted that these decisions are not subject to a proportionality test.

337. Mr Jaffey submitted that the policy objectives must not be defined so narrowly as to “unreasonably eliminate the potential alternatives” (Transcript, Day 1 page 115). In his written submissions (paragraphs 64-65), he submitted that relevant alternatives may not have identical benefits, or be the same in efficiency in satisfying the objectives sought; and the rejection of options as alternatives will depend upon considering and balancing benefits and disbenefits. In oral submissions, this was described as a “comparative assessment of the effects on European sites and a proportionate balancing of the options” (Transcript, Day 1 page 117). Indeed, he took this approach further by submitting that an “alternative solution” is *defined* by looking “at the extent to which it is suitable for achieving the aims of the project without having disproportionate or adverse effects” (Transcript, Day 1 page 125). Therefore, on the basis of these submissions, proportionality was inherent in the supervision of the compliance by a relevant competent authority with the legal requirements in article 6(4).
338. In support of these submissions, Mr Jaffey relied upon several European authorities, including Case C-209/04 European Commission v Austria [2006] ECR I-2758 and Case C-418/04 European Commission v Ireland [2008] ECR I-10951; but none of these cases addresses the correct approach to (including any legal constraints on) the identification of policy aims or objectives in this context.
339. The high watermark of the case law cited by Mr Jaffey was said to be Case C-239/04 European Commission v Portugal [2006] ECR I-10183 (“the Castro Verde case”). In relation to a road scheme passing through an SPA, the complaint related to a failure by the Portuguese authorities to examine an alternative route which avoided the SPA altogether (see [47] of the Advocate General’s opinion and [14] of the judgment). The Commission argued that the authorities had failed to examine an alignment which apparently would have served the same purpose as the proposed road, i.e. for getting from A to B. The Member State did not suggest that the alternative would have failed to meet the identified aims or objective. It merely said that it would cause serious social, economic and environmental harm (see [28]-[33]). Not surprisingly, the Court of Justice of the EU (“the CJEU”) decided that reliance on those adverse consequences was, as a matter of law, insufficient to justify ruling out as an “alternative solution” the route which avoided the SPA, and so there had been a breach of article 6(4) (see [38]-[40]).
340. Mr Jaffey relied upon the opinion of Advocate General Kokott, and particularly upon [43]. In our view, [42]-[46] of that opinion need to be read as a whole:

“42. Article 6(4) of the Habitats Directive permits authorisation of projects only in the absence of alternatives. That prerequisite for authorising a project is intended to prevent protected sites from being adversely affected even though the aims of the project could also be achieved in a manner which would affect the protected site less adversely or not at all. The absence of alternative solutions corresponds in that respect to a stage in the test of proportionality, according to which, when there is a

choice between several appropriate measures, recourse must be had to the least onerous.

43. The absence of alternatives cannot be ascertained when only a few alternatives have been examined, but only after *all* the alternatives have been ruled out. The requirements applicable to the exclusion of alternatives increase the more suitable those alternatives are for achieving the aims of the project without giving rise — beyond reasonable doubt — to manifest and disproportionate adverse effects.

44. Among the alternatives short-listed in that way, the choice does not inevitably have to be determined by which alternative least adversely affects the site concerned. Instead, the choice requires a balance to be struck between the adverse effect on the integrity of the SPA and the relevant reasons of overriding public interest.

45. The necessity of striking a balance results in particular from the concept of ‘override’, but also from the word ‘imperative’. Reasons of public interest can imperatively override the protection of a site only when greater importance attaches to them. This too has its equivalent in the test of proportionality, since under that principle the disadvantages caused must not be disproportionate to the aims pursued.

46. The decisive factor is therefore whether imperative reasons of overriding public interest require the implementation of specifically *that* alternative or whether they can also be satisfied by another alternative with less of an adverse effect on the SPA. That comparison presupposes that the various alternatives have been examined on the basis of comparable scientific criteria, both with regard to their effects on the site concerned and with regard to the relevant reasons of public interest.

The CJEU did not comment on this analysis. There was no need for it to do so in order to resolve the relatively straightforward issue before it. The adverse impacts of the alternative alignment were legally insufficient to justify ruling out that route as an “alternative solution”, given that there was no suggestion that it would fail to meet the objectives of the preferred scheme. In our view, like the other authorities to which we were referred, we do not consider that this case is of much assistance to us on this issue.

341. However, we consider the correct approach to “alternative solution” in article 6(4) of the Habitats Directive is tolerably clear. In respect of an NPS, a proposed option is not an “alternative solution” unless it meets the core policy objectives of the statement. In this regard, Mr Jaffey’s concern that, at an early stage, objectives may be defined with deliberate narrowness so that potential alternatives are (he said) unreasonably or (we say) unlawfully excluded has some force; but the objectives must be both genuine and critical, i.e. objectives which, if not met, would mean that no policy support would be given to the development. It would be clearly insufficient to exclude an option simply because, in the policy-maker’s view, another, preferred option meets the policy

objectives to a greater extent and is on balance more attractive. That would defeat the purpose of the Habitats Directive; and, as we have indicated, it was not the intention of the PA 2008 to defeat or otherwise adversely interfere with that purpose. But the extent to which an option meets policy objectives is different from an option not meeting a core policy objective at all. The Castro Verde case was an example of an authority seeking improperly to exclude an “alternative solution”, i.e. a road which connected the same start and finish points but, in doing so, did not go through an SPA. That alternative met the core policy objective of a road joining the same two places: it was simply considered by the authority to have disbenefits.

342. There may be other reasons why, at the NPS stage, an option is not an alternative – but, in our view, the most likely reason will be that an option fails to meet the core policy objectives. Any reason which requires an assessment of balancing factors (including the extent to which an option meets policy objectives) will not normally result in an option being eliminated from consideration as an alternative solution under the Habitats Directive.
343. All of the options which are not properly rejected as failing to meet the core policy objectives, before any HRA, must then be subjected to the processes required by the Habitats Directive.

Standard of Review

344. In terms of the standard of review, relying on R (Lumsdon) v Legal Services Board [2015] UKSC 41; [2016] AC 697, Mr Jaffey submitted that article 6(3) and (4) were to be construed as inherently incorporating proportionality.
345. However, the circumstances which gave rise to the claim in Lumsdon were very different from those before us, the issue in that case being whether a quality assurance scheme for advocates was proportionate as a derogation from the fundamental EU law freedom of establishment for providers of services. The relevant provision of the relevant Directive (article 9(1)(b) and (c) of Parliament and Council Directive 2006/123/EC as implemented by regulation 14(2)(b) and (c) of the Provision of Legal Services Regulations 2009 (SI 2009 No 2999), set out at [85] of Lumsdon) explicitly required the application of the same tests (including proportionality) as had been previously summarised at [52] as representing the general approach in EU law to derogations from fundamental freedoms. The Directive explicitly used a “less restrictive measures” test.
346. Mr Jaffey relied on passages in the judgment of Lord Reed and Lord Toulson JJSC referring to a “less restrictive alternative” test (see [63] and [67]). However, those passages appear in the part of the judgment which dealt with (i) national measures derogating from “fundamental freedoms”, such as the freedom of movement of goods, workers, establishment, and capital and to provide services, and (ii) national measures derogating from “rights” protected by EU Treaties, such as the right to equal treatment or fundamental rights such as the right to family life (see [50]; the same contextual point was also made earlier in the judgment, at [23]).
347. In our view, Lumsdon and the jurisprudence it cites is of no assistance in determining whether article 6(3) and (4) of the Habitats Directive are to be construed as incorporating a proportionality approach of this kind. Those provisions do not involve

any derogation from fundamental freedoms or rights of the kind with which the principles set out at [50] et seq of Lumsdon are concerned.

348. In any event, as Mr Maurici pointed out, Lumsdon does not help the Hillingdon Claimants to challenge the legality of the Secretary of State’s decision to rely upon the “hub objective” when considering whether the Gatwick 2R Scheme was an “alternative solution”. In particular, it does not deal with the *basis* upon which objectives may be selected. The analysis in Lumsdon of the EU approach to proportionality is of no assistance in ascertaining the nature or extent of any legal constraints under the Habitats Directive upon an authority identifying the objectives or aims of the policies set out in the preparation of a plan or the yardstick by which they should be reviewed by the court.
349. In short, we do not consider that Lumsdon is of any assistance in determining the issues before us.
350. In any event, in Smyth v Secretary of State for Communities and Local Government [2015] EWCA Civ 174; [2015] PTSR 1417, it was held that, although a strict precautionary approach is required for article 6(3) of the Habitats Directive, the appropriate standard of review is the Wednesbury rationality standard: the court should not adopt a more intensive standard or effectively remake the decision itself. In coming to that conclusion, Sales LJ (as he then was) said:

“78. A further issue arising from Mr Jones’s submissions concerns the standard of review by a national court supervising the compliance by a relevant competent authority with the legal requirements in article 6(3) of the Habitats Directive. Although the legal test under each limb of article 6(3) is a demanding one, requiring a strict precautionary approach to be followed, it also clearly requires evaluative judgments to be made, having regard to many varied factors and considerations. As Advocate General Kokott explained in paragraph 107 of her Opinion in Waddenzee [i.e. Landelijke Vereniging to Behoud van de Waddenzee v Staatsecretaris van Landbouw, Natuurbeheer en Visserij (2005) Case C-127/02; [2005] 2 CMLR 31] the conclusion to be reached under an ‘appropriate assessment’ under the second limb of article 6(3) cannot realistically require the attainment of absolute certainty that there will be no adverse effects; the assessment required ‘is, of necessity, subjective in nature’. The same is equally true of the assessment at the screening stage under the first limb of article 6(3). Under the scheme of the Habitats Directive, the assessment under each limb is primarily one for the relevant competent authority to carry out.

79. Mr Jones submitted that Patterson J erred in treating the assessment by the Inspector of compliance of the proposed development with the requirements of article 6(3) as being a matter for judicial review according to the Wednesbury rationality standard. He said that in applying EU law under the Habitats Directive the national court is required to apply a more intensive standard of review which means, in effect, that they

should make their own assessment afresh, as a primary decision-maker.

80. I do not accept these submissions. In the similar context of review of screening assessments for the purposes of the Environmental Impact Assessment (EIA) Directive and Regulations [see paragraph 378 below], this Court has held that the relevant standard of review is the Wednesbury standard, which is substantially the same as the relevant standard of review of ‘manifest error of assessment’ applied by the CJEU in equivalent contexts: see R (Evans) v Secretary of State for Communities and Local Government [2013] EWCA Civ 114; [2013] JPL 1027 at [32]-[43], in which particular reference is made to Case C-508/03, Commission of the European Communities v United Kingdom [2006] QB 764, at [88]-[92] of the judgment, as well as to the Waddenzee case. Although the requirements of article 6(3) are different from those in the EIA Directive, the multi-factorial and technical nature of the assessment called for is very similar. There is no material difference in the planning context in which both instruments fall to be applied. There is no sound reason to think that there should be any difference as regards the relevant standard of review to be applied by a national court in reviewing the lawfulness of what the relevant competent authority has done in both contexts. Like this Court in the Evans case (see para. [43]), I consider that the position is clear and I can see no proper basis for making a reference to the CJEU on this issue.”

The approach in Smyth was followed in R (Mynydd y Gwynt) v Secretary of State for Business, Energy and Industrial Strategy [2018] EWCA Civ 231; [2018] PTSR 1274 at [8].

351. We respectfully agree with that analysis and conclusion on this issue. We do not see any arguable justification for a different standard of review to be adopted for issues to do with compliance with article 6(4) – in respect of the identification of policies giving rise to a proposed scheme, and the assessment of whether an option meets the core objectives of those policies – as opposed to article 6(3). Indeed, if anything, the assessment of whether a policy meets the core objectives of a policy-maker, assigned by Parliament with the task, is in our view even more essentially a matter for that policy-maker, and not the court which is peculiarly ill-equipped to make such assessments. However, for the reasons we give below (see paragraphs 353-356), the nature and standard of review is not determinative in this case.
352. Having dealt with the factual and legal context in some detail, we can deal with the two limbs of the ground of challenge quite briefly.

Ground 8.1: Discussion and Conclusion

353. Whether the standard of review is irrationality or proportionality, we conclude that there is no legal basis for challenging the Secretary of State’s decision to adopt the so-called “hub objective” and/or his assessment that the Gatwick 2R Scheme failed to meet it.

354. As set out in the factual background section of this judgment (paragraphs 42 and following), at least as far back as September 2012 when the AC was established, increasing airport capacity so as to maintain the UK's position as Europe's most important aviation hub was identified as a core objective. This involves the provision of capacity for more long-haul flights (paragraphs 1.2 and 1.3 of the ANPS). The AC Final Report confirmed the economic importance of the "hub objective", and the need to increase capacity in order to reverse the decline in the UK's hub status. Reference was made to the current inability of London to develop long-haul links to new destinations, including those in emerging markets. Demand for such routes was being met by increased services at hub facilities in Europe and the Middle East. Capacity constraints affect not only passenger services but also the economically important freight sector. These points were included in Chapter 2 of the February 2017 draft ANPS, as well as in the finally designated version. The inclusion of the "hub objective" as properly one of the fundamental aims of the ANPS is simply not open to challenge.
355. Mr Jaffey's more specific attack was on the Secretary of State's conclusion in September 2017, repeated in the final version of the ANPS (paragraph 1.32), that the expansion of Gatwick through the addition of a second runway would not deliver the "hub objective", i.e. to maintain the UK's hub status. However, as Mr Maurici pointed out, there are no legal challenges to the assessments and conclusions reached in paragraphs 3.18-3.19 (or, we would add, paragraphs 3.20-3.24) of the ANPS. One of those conclusions was that the Gatwick 2R Scheme would not maintain but rather would *threaten* the UK's global aviation hub status (paragraph 3.19). This was entirely consistent with the AC's Final Report (see paragraph 55 above). Therefore, on the conclusions reached by the Secretary of State, this is not an issue about the *extent* to which the Gatwick 2R Scheme would meet the "hub objective", which would be a matter of degree or relative attainment of that aim. Rather, the Secretary of State has concluded that the scheme would not meet that policy objective at all. That conclusion is not open to challenge by way of judicial review. The Secretary of State was entitled to decide that a proposal that would threaten the "hub objective" is not an "alternative solution" for the purposes of the Habitats Directive. That conclusion too is not open to legal challenge.
356. In our view, the Hillingdon Claimants' argument would not have any better prospects of success if the proportionality approach were to be appropriate for this area of judicial review. The selection of the "hub objective" as a consideration of central importance to the ANPS and the Gatwick 2R Scheme as failing to deliver that objective, were both key points for Parliament to consider when the final version of the NPS was laid before it and for the Secretary of State when he designated the NWR Scheme. Even if proportionality were involved, for the reasons we have given the Secretary of State would have a significant margin of appreciation; and the evidence was firmly against the Gatwick 2R Scheme being able to maintain the UK's hub status function.
357. Finally, Mr Jaffey contends that the decision to reject the Gatwick 2R Scheme as an "alternative solution" for the purposes of the HRA is inconsistent with its retention as a "reasonable alternative" in the AoS for the purposes of the SEA Directive. We have already dealt with the language of these two regimes and their differing legal purposes (see paragraphs 320-322 above). The Gatwick 2R Scheme was not ruled out as an alternative at the beginning of the SEA process. An opportunity was given for the case

for it to be advanced. The “sifts” of alternatives referred to by Mr Jaffey were carried out either by the AC or before the consultation stage under the SEA Directive.

358. Mr Jaffey then relied upon the description of the Gatwick 2R Scheme as an alternative in the final version of the AoS (June 2018) and the Post Adoption Statement (26 June 2018). But these documents are not to be construed as if they were legal instruments. Moreover, they plainly state that they are to be read together with the ANPS, and so the passages relied upon should be read compatibly with the policy statement unless that is made impossible by the language used. That is not the case here. The documents referred to by Mr Jaffey state that, even with a second runway, Gatwick would largely remain a point-to-point airport. In other words, as paragraph 3.10 of the ANPS states, Gatwick would attract “very few transfer passengers”. That is an assessment by the Secretary of State that is justified on the evidence. On the basis of that assessment, Gatwick would be the antithesis of a hub.
359. Furthermore, Annex C of the submission by officials to the Secretary of State on 25 September 2017 explained why Gatwick was retained in the consideration of alternatives in the AoS, having regard to the different purposes of the SEA regime, in accordance with the analysis set out above (paragraph 322), and to record and explain how the evidence underpinning the decision to select the NWR had been tested comprehensively. We see no merit in Mr Jaffey’s criticisms, which we consider overly forensic.
360. For these reasons, we reject the Hillingdon Claimants’ challenge under Ground 8.1.

Ground 8.2

361. Given that the Hillingdon Claimants have failed on the first part of the ground, it follows that the challenge to the ANPS under Ground 8 as a whole must fail. In those circumstances, we can deal with Ground 8.2 briefly.
362. Essentially, Mr Jaffey sought to argue that there was no evidence to support the conclusions reached by the Secretary of State on potential impacts of the Gatwick scheme on the Mole Gap to Reigate Escarpment SAC. However, the detailed explanation provided in the witness statements of Charles Morrison, together with passages in the supporting documents referred to by Mr Maurici, refute this allegation insofar as it goes.
363. From the inception of the screening process under the Habitats Regulations, a Cross-Government Steering Group was established on which Natural England was represented as the relevant “nature conservation body” under regulation 5. Natural England received successive drafts of the screening assessment and agreed with the findings of the final screening assessment.
364. The “appropriate assessment” stage under the Habitats Regulations began in the summer of 2016. Throughout this process WSP consulted with Natural England. The assessment produced for the shortlisted options stated that the Gatwick scheme would result in fewer types of impact at fewer European sites than either of the two Heathrow schemes. However, impacts from Gatwick through changes to air quality in terms of NO_x could not be discounted at the Mole Gap to Reigate Escarpment SAC and adverse

effects could arise there, which contained a priority natural habitat type, i.e. one defined as being in danger of disappearance.

365. During the consultation on the draft HRA which accompanied the consultation draft of the ANPS, Natural England stated that they agreed with its conclusions on the Gatwick 2R Scheme. They added that the work had been carried out at a strategic level, i.e. for the preparation of a policy statement, which indicated the importance of the more detailed work to be undertaken subsequently through the appropriate assessment required at the project level stage.
366. During the consultation, GAL submitted a survey produced by its consultant, to the effect that the relevant area of the SAC contained no priority habitat. WSP provided a reasoned response to the Secretary of State setting out why they disagreed with that analysis. They said that the soil type would support orchids, a priority species; and they explained why having regard to the timing of the Gatwick survey, current management practices on the land, weather conditions and the precautionary principle, there was potential for orchids to be present and yet missed by the survey carried out for Gatwick.
367. In a letter dated 19 December 2017, Natural England provided their views in response to the revised draft ANPS and the HRA produced in October 2017. They stated that they were broadly in agreement with that assessment. Specifically in relation to the Gatwick 2R Scheme, they said:

“Paragraph 9.2.11, 9.2.12, 9.2.13: These sections identify the potential for air quality impacts from road traffic on Mole Gap to Reigate Escarpment SAC, with the presence of a priority natural habitat making an IROPI case challenging. This section concludes ‘based on the information available at this stage it has not been possible to identify any alternative solutions to the preferred scheme’.

Whilst we recognise this position for the strategic level assessment, we would advise that if the detailed project level HRA for Heathrow NWR also produces findings that are negative or uncertain, then a more detailed assessment of alternatives (including Gatwick) is needed. This would need to consider in more detail the ecological impacts of emissions on the Mole Gap to Reigate Escarpment SAC in view its qualifying features and conservation objectives. For example if the priority features of interest do not fall within the distance criteria for air quality impacts (200m for roads), then such an impact may be able to be ruled out, which may affect the view taken on alternative solutions.”

368. The upshot is that we are unable to accept the Hillingdon Claimants’ contention that there was no evidence before the Secretary of State to support the conclusion that potential significant effects upon the SAC arising from the Gatwick 2R Scheme could not be ruled out.
369. In addition, the assessment carried out for the Secretary of State in February 2017 had relied upon the need to obtain the opinion of the Commission on the potential effects

on the SAC (regulation 64(2)(b)). Mr Maurici accepted that this procedural requirement did not in itself prevent the Gatwick 2R Scheme from being treated as an “alternative solution”, not least because it did not amount to a pre-condition that the Commission’s approval be obtained. But as Mr Morrison said (Morrison 2, paragraph 2.12), even if an opinion had been sought in connection with the ANPS, there is no reason to think that it would have been favourable, because any such opinion would normally be linked to detailed conditions regarding compensatory schemes. Mr Maurici rightly pointed out that the level of detail needed for this purpose would not exist until the production of detailed designs at the project stage. Thus, the reference to the obtaining of an opinion from the Commission did not detract from the essential judgment that, on the information available at the stage of preparing the ANPS, and applying the required precautionary approach, the adverse impacts of the Gatwick 2R Scheme could not be discounted.

370. However, we accept that that leads to a further question: why should the Gatwick 2R Scheme have been completely discounted as an alternative solution at the ANPS stage because of this potential impact on an SAC near the M25 when, according to the advice of Natural England, a more detailed study at the project level stage for the NWR might be able to rule that impact out? In our view, before us, that question has not been satisfactorily answered.

371. However, Ground 8.2 was not put in that way; and, whatever the answer to that question might be, it could not establish a failure to satisfy article 6(4) because, in any event, the Secretary of State acted lawfully in excluding the Gatwick 2R Scheme as an alternative solution on the grounds that it failed to meet the “hub objective”.

Conclusion

372. For these reasons, we would answer Issue 6, “No”: the decision of the Secretary of State that the Gatwick 2R Scheme was not an alternative solution to the NWR Scheme was not in breach of the Habitats Directive by reason of either (i) the objectives of (a) increasing airport capacity and (b) maintaining the UK’s hub status being legally erroneous; or (ii) the conclusions on the potential habitats impacts of the Gatwick 2R Scheme being reached without any evidence.

373. Accordingly, Ground 8 fails.

Strategic Environmental Assessment

Introduction

374. These grounds of challenge relate to the environmental report which the Secretary of State was required to prepare under the SEA Directive (as transposed by the SEA Regulations).

375. Section 5(3) of the PA 2008 required the Secretary of State to “carry out an appraisal of sustainability” of the draft ANPS. The document published as the AoS was prepared by him in order to satisfy the requirement to produce an environmental report under the SEA Directive as well as section 5(3).

The Grounds

376. The Hillingdon Claimants claim that the Secretary of State breached article 5(1) and (2) the SEA Directive (taken with various parts of Annex 1, as identified below) in the following five respects.

Ground 9.1: He failed to provide an outline of the relationship between the ANPS and other relevant plans or programmes (Annex 1(a)).

Ground 9.2: He failed to identify the environmental characteristics of areas likely to be significantly affected by the ANPS (Annex 1(c)).

Ground 9.3: He failed to provide information on environmental protection objectives, established at international, EU or Member State level, which are relevant to the ANPS and the way those objectives and any environmental considerations have been taken into account during its preparation (Annex 1(e)).

Ground 9.4: He failed to provide information on the likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, in particular on the effects of air pollution and noise on human health (Annex 1(f)).

Ground 9.5: He failed to identify and describe measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the ANPS (Annex 1(g)).

377. In addition to these individual sub-grounds, there was an overarching issue between the Hillingdon Claimants and the Secretary of State as to the correct legal approach to considering alleged defects in an environmental report produced as part of the SEA process.

The SEA Directive

378. Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment as amended (“the EIA Directive”), as currently transposed by the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No 571), requires a process within normal planning procedures. (For the purposes of these claims, the transposing regulations have not materially changed over the relevant period; and we can and will refer to them in this judgment collectively as “the EIA Regulations”.) The SEA Directive as transposed by the SEA Regulations (see paragraph 30 above) concerns the environmental impact of plans and programmes. The SEA Directive and Regulations applied to the ANPS. The EIA Directive would apply when there was a particular development for which development consent was sought, at the DCO stage.

379. Recital (1) to the SEA Directive states:

“Article 174 of the Treaty provides that Community policy on the environment is to contribute to, *inter alia*, the preservation, protection and improvement of the quality of the environment, the protection of human health and the prudent and rational utilisation of natural resources and that it is to be based on the

precautionary principle. Article 6 of the Treaty provides that environmental protection requirements are to be integrated into the definition of Community policies and activities, in particular with a view to promoting sustainable development.”

As suggested here, and as Mr Pleming emphasised, the SEA Directive relies upon the “precautionary principle” where appropriate.

380. Recital (4) states:

“Environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment in the Member States, because it ensures that such effects of implementing plans and programmes are taken into account during their preparation and before their adoption.”

381. Recital (9) states:

“This Directive is of a procedural nature, and its requirements should either be integrated into existing procedures in Member States or incorporated in specifically established procedures. With a view to avoiding duplication of the assessment, Member States should take account, where appropriate, of the fact that assessments will be carried out at different levels of a hierarchy of plans and programmes.”

Thus, the requirements of the SEA Directive are essentially procedural in nature; and it may be appropriate to avoid duplicating assessment work by having regard to work carried out at other levels or stages of a policy-making process (see article 5(2)-(3) below).

382. Recital (17) states:

“The environmental report and the opinions expressed by the relevant authorities and the public, as well as the results of any transboundary consultation, should be taken into account during the preparation of the plan or programme and before its adoption or submission to the legislative procedure.”

383. The objectives of the SEA Directive are set out in article 1:

“The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.”

384. Article 3(1) requires an “environmental assessment” to be carried out, in accordance with articles 4 to 9, for plans and programmes referred to in article 3(2)-(4) which are likely to have significant environmental effects. Article 3(2) requires SEA generally for any plan or programme which is prepared for (inter alia) transport, town and country planning or land use and which sets the framework for future development consent for projects listed in Annexes I and II to the EIA Directive. SEA is also required for other plans and programmes which are likely to have significant environmental effects (article 3(4)). By virtue of sections 104 and 106 of the PA 2008, the ANPS designated under section 5 sets out the framework for decisions on whether a DCO for the development of an additional runway at Heathrow under Part 6 of that Act should be granted. That development would, in due course, require environmental impact assessment (“EIA”) under the EIA Directive and Regulations; and there is no dispute that the ANPS required SEA under the SEA Directive.
385. Article 2(b) defines “environmental assessment” for the purposes of the SEA Directive:
- “‘environmental assessment’ shall mean the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision in accordance with Articles 4 to 9”.
386. Article 4(1) requires “environmental assessment to be carried out “during the preparation of a plan or programme and before its adoption...”, which in this instance would refer to the Secretary of State’s decision to designate the ANPS.
387. Article 5 sets out requirements for an “environmental report”. By article 2(c):
- “‘environmental report’ shall mean the part of the plan or programme documentation containing the information required in Article 5 and Annex I”.
- In the case of the ANPS the environmental report was essentially the AoS.
388. Article 5(1) provides:
- “Where an environmental assessment is required under article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I.”
389. Annex I states, under the heading, “Information referred to in Article 5(1)”:
- “The information to be provided under article 5(1), subject to article 5(2) and (3), is the following:

- (a) an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes;
- (b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;
- (c) the environmental characteristics of areas likely to be significantly affected;
- (d) any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to [the Habitats and Birds Directives];
- (e) the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation;
- (f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;
- (g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;
- (h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;
- (i) a description of the measures envisaged concerning monitoring in accordance with article 10;
- (j) a non-technical summary of the information provided under the above headings.

390. Thus, the information required by the combination of article 5(1) and Annex 1 is subject to article 5(2) and (3), which provide:

“(2) The environmental report prepared pursuant to paragraph 1 shall include the information that *may reasonably be required* taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the

extent to which certain matters *are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.*

(3) Relevant information available on environmental effects of the plans and programmes and obtained *at other levels of decision-making or through other Community legislation* may be used for providing the information referred to in Annex I” (emphasis added).

391. Accordingly, the information which is required to be included in an “environmental report”, whether by article 5(1) itself or by that provision in conjunction with Annex I, is qualified by article 5(2) and (3) in a number of respects. First, the obligation is only to include information that “may reasonably be required”, which connotes the making of a judgment by the plan-making authority. Second, that judgment may have regard to a number of matters, including current knowledge and assessment methods. In addition, the contents and level of detail in a plan such as the ANPS, the stage it has reached in the decision-making process and the ability to draw upon sources of information used in other decision-making, may affect the nature and extent of the information required to be provided in the environmental report under the SEA.
392. The stage reached by the ANPS should be seen in the context of the statutory framework of the PA 2008, as set out above (see paragraph 21 and following). Section 5(5) authorises the Secretary of State to set out in an NPS the type and size of development appropriate nationally or for a specified area and to identify locations which are either suitable or unsuitable for that development. In addition, the Secretary of State may set out criteria to be applied when deciding the suitability of a location. Section 104(3) requires the Secretary of State to decide an application for a DCO in accordance with a relevant NPS, save in so far as any one or more of the exceptions in section 104(4)-(8) applies, which include the situation where the adverse impacts of a proposal are judged to outweigh its benefits (section 104(7)). Section 106(1) empowers the Secretary of State to disregard a representation objecting to such a proposal in so far as it relates to the merits of a policy contained in the NPS.
393. In the present case, the Secretary of State made it plain in the SEA process that the AoS drew upon and updated the extensive work which had previously been carried out by, and on behalf of, the AC, including numerous reports to the Commission and its own final report. It has not been suggested by any of the Claimants that the Secretary of State was not entitled to take that course. He clearly was.
394. Article 6 sets out requirements for consultation. Article 6(1) requires that the draft plan or programme and the environmental report be made available to the public and to those authorities designated by a Member State under article 6(3) which, by virtue of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes. In England, the designated authorities are Natural England, Historic England and the Environment Agency (see regulation 4 of the SEA Regulations). In the case of the ANPS, the Secretary of State also had to consult those designated authorities on the scope and level of detail of the information to be included in the environmental report (article 5(4)).
395. In relation to the consultation process, article 6(2) provides:

“The authorities referred to in paragraph 3 and the public referred to in paragraph 4 shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure.”

“The public referred to in [article 6(4)]” is a cross-reference to the rules made by each Member State for defining the public affected, or likely to be affected by, or having an interest in the decision-making on the plan. Regulation 13(2) of the SEA Regulations leaves this to be determined as a matter of judgment by the plan-making authority.

396. Article 8 requires the environmental report prepared under article 5, the opinions expressed under article 6, and the results of any transboundary consultations under article 7 to be “taken into account during the preparation of the plan or programme and before its adoption or submission to the legislative procedure”.
397. In Cogent Land LLP v Rochford District Council [2012] EWHC 2542 (Admin): [2013] 1 P&CR 2, Singh J (as he then was) held that a defect in the adequacy of an environmental report prepared for the purposes of the SEA Directive may be cured by the production of supplementary material by the plan-making authority, subject to there being consultation on that material (see [111]-[126]). He held that articles 4, 6(2) and 8 of the Directive, along with their transposition in the SEA Regulations, are consistent with that conclusion; and that none of the previous authorities on the SEA Directive (which he reviewed) suggested otherwise. He held that SEA is not a single document, still less is it the same thing as the “environmental report”. Rather, it is a process, during the course of which an environmental report must be produced (see [112]). The Court of Appeal endorsed this analysis in No Adastral New Town Ltd v Suffolk Coastal District Council [2015] EWCA Civ 88; [2015] Env LR 28, in deciding that SEA failures in the early stages of an authority’s preparation of its Core Strategy (a statutory development plan) were capable of being, and were in fact, cured by the steps taken in subsequent stages (see [48]-[54]).
398. It follows that SEA may properly involve an iterative process; and that it is permissible for a plan-making authority (e.g.) to introduce alterations to its draft plan subject to complying with the information requirements in article 5 and the consultation requirements in articles 6 and 7.
399. Regulation 12 of the SEA Regulations transposes the main requirements in article 5 of the Directive governing the content of an environmental report as follows (emphasis added):
- “(2) The report shall identify, describe and evaluate the likely significant effects on the environment of –
- (a) implementing the plan or programme; and
 - (b) reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme.

(3) The report shall include such of the information referred to in Schedule 2 to these Regulations *as may reasonably be required*, taking account of –

- (a) current knowledge and methods of assessment;
- (b) the contents and level of detail in the plan or programme;
- (c) the stage of the plan or programme in the decision-making process; and
- (d) the extent to which certain measures are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment”.

Schedule 2 replicates the list of items in Annex I to the SEA Directive. No issue is raised as to the adequacy of that transposition.

400. In our judgment, it is plain from the language “as may reasonably be required” that the SEA Regulations, like the SEA Directive, allow the plan-making authority to make a judgment on the nature of the information in Schedule 2 and the level of detail to be provided in an environmental report, whether as published initially or in any subsequent amendment or supplement.

The Adequacy of an Environmental Report in SEA

401. We now turn to consider the legal approach which the court should take when assessing compliance with these requirements in an application for judicial review, whether under section 13 of the 2008 Act or more generally.

402. Issue 7 in the list of issues is in these terms:

“The proper test for the court to apply when appraising whether an environmental report complies with the mandatory requirements of the SEA Directive. In particular, whether the court should in considering the SEA issues apply the Blewett approach, as applied to SEA in Shadwell [2013] EWHC 12 (Admin), or whether it should apply some different approach.”

This forms the first issue we have to consider under Ground 8.

403. “The Blewett approach” is a reference to a passage in the judgment of Sullivan J in R (Blewett) v Derbyshire County Council [2003] EWHC 2775 (Admin); [2004] Env LR 29 at [41], dealing with the legal adequacy of an environmental statement for the purposes of an EIA of a development project under the EIA Directive and Regulations (see paragraph 378 above):

“Ground 1 in these proceedings is an example of the unduly legalistic approach to the requirements of Schedule 4 to the [EIA] Regulations [i.e. then, the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999 No 293)] that has been adopted on

behalf of claimants in a number of applications for judicial review seeking to prevent the implementation of development proposals. The Regulations should be interpreted as a whole and in a common sense way. The requirement that ‘an EIA application’ (as defined in the Regulations) must be accompanied by an environmental statement is not intended to obstruct such development. As Lord Hoffmann said in R v North Yorkshire County Council ex parte Brown [2000] 1 AC 397 at page 404, the purpose is ‘to ensure that planning decisions which may affect the environment are made on the basis of full information’. In an imperfect world it is an unrealistic counsel of perfection to expect that an applicant’s environmental statement will always contain the ‘full information’ about the environmental impact of a project. The Regulations are not based upon such an unrealistic expectation. They recognise that an environmental statement may well be deficient, and make provision through the publicity and consultation processes for any deficiencies to be identified so that the resulting ‘environmental information’ provides the local planning authority with as full a picture as possible. There will be cases where the document purporting to be an environmental statement is so deficient that it could not reasonably be described as an environmental statement as defined by the Regulations..., but they are likely to be few and far between.”

404. It is said that the test under the Blewett approach for judging whether an environmental statement is legally inadequate (i.e. non-compliant with the Directive) comes from the final sentence of the passage cited, namely the document must be so deficient that it could not reasonably be described as an environmental statement. That observation was made in the context of the relevant EIA regulations. The “full information” needed for the assessment of a project need not be contained solely within the environmental statement. Any deficiencies may be remedied by, for example, the material supplied in consultation responses.
405. Mr Pleming submitted that the court should hold that the Blewett approach does not apply when determining whether an environmental report complies with the SEA Directive. He submitted that an environmental report for SEA purposes must comply with the mandatory requirements of the SEA Directive. In particular, it must be of a “sufficient quality”, which involves ensuring that it is “based on proper information and expertise and covers all potential effects of the plan or programme in question” (see Save Historic Newmarket Limited v Forest Heath District Council [2011] EWHC 606 (Admin); [2011] JPL 1233 at [12] per Collins J). He contends that the court should decide for itself whether the environmental report was of “sufficient quality” to meet the requirements of the SEA Directive as regards the specific matters relied on by the Hillingdon Claimants under this ground (Ground 9).
406. Mr Maurici maintained that the Blewett approach is the correct test to apply under the SEA Directive to determine the legal adequacy of an environmental report. Mr Humphries adopted those submissions. Ground 13 – a ground pursued by FoE – alleges a failure to address the Paris Agreement on climate change as a breach of the SEA

Directive. However, Mr Wolfe did not support the submissions advanced by the Hillingdon Claimants on this issue of the nature and standard of review. Mr Wolfe accepted that a judicial review of the adequacy of the AoS (or “environmental report” for the purposes of the SEA Directive) proceeds on “conventional Wednesbury grounds” (paragraph 175 of the Agreed Statement).

407. Mr Pleming accepted that his contention that the court should apply a “sufficient quality” criterion is based solely on article 12(2) of the SEA Directive and a passage from the judgment of Collins J in Forest Heath at [12]. However, we have reached the clear conclusion that neither article 12(2) nor Forest Heath lend any support to this argument.
408. Article 12 is headed “Information, reporting and review”. Article 12(1) requires Member States and the Commission to exchange information on “the experience gained in applying this Directive”. The Commission had to provide a report to the European Parliament and Council by 21 July 2006 on the application and effectiveness of the Directive, including any proposals for amending its terms in the light of the experience gained by Member States (article 12(3)). Article 12(4) required the Commission to report also on the relationship between the SEA Directive and certain European regulations.
409. It is in this context that article 12(2) provides as follows:
- “Member States shall ensure that environmental reports are of a sufficient quality to meet the requirements of this Directive and shall communicate to the Commission any measures they take concerning the quality of these reports.”
410. Mr Pleming invites us to read this provision alongside recital (14):
- “Where an assessment is required by this Directive, an environmental report should be prepared containing relevant information as set out in this Directive, identifying, describing and evaluating the likely significant environmental effects of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme; Member States should communicate to the Commission any measures they take concerning the quality of environmental reports.”
411. However, in our judgment, article 12(2) does not purport to set a legal test for determining whether an individual environmental report produced by an authority in relation to its plan or programme complies with the SEA Directive. The requirements for the content of an environmental report are set out elsewhere in the Directive (i.e. article 5 and Annex 1). Instead, article 12(2) is directed at the quality of environmental reports generally, the structural measures taken by each Member State to achieve compliance with the Directive and the information to be provided to the Commission from time to time on those measures. Article 13 recognises that Member States may implement the Directive by administrative as well as legal provisions.

412. We note that article 12(2) has not been transposed into the SEA Regulations. Given the administrative nature of that provision, we do not think that any criticism can be made of the UK's approach in that regard. Indeed, none was suggested. Its absence from the regulations supports our construction of article 12(2) in the Directive.
413. Furthermore, although in his judgment in Forest Heath Collins J referred at [12] to article 12(2), he did not mention it again; and his decision did not turn on the application of that provision. The challenge in that case related to policies in the local planning authority's Core Strategy for an extension to the North East of Newmarket involving the building of 1,200 new homes as part of a mixed-use development. The judge accepted that the SEA process may be iterative; and so an authority is entitled to reject alternatives at an early stage and, provided that there is no material change in circumstance, to decide that it is unnecessary to revisit those alternatives (see [16]). But the complaint was that reasons had not been given when alternatives were rejected at an early stage and that, when the proposed extension had subsequently been increased from 500 to 1,000 and then to 1,200 homes for delivery over a much longer period of time, the requirement to assess reasonable alternatives had not been revisited. Collins J upheld that challenge (see [17] and [39]-[40]).
414. Thus, the claimants in the Forest Heath case were successful because the environmental report failed to comply with article 5 by failing to address the rejection of alternatives to the proposal (including its subsequent enlargement) and the reasons for that rejection. The report *wholly* failed to address an explicit requirement of article 5. Forest Health is not authority for the proposition that article 12(2) provides a legal test for the court to determine whether a particular environmental report fails to satisfy the requirements of the SEA Directive. The whole thrust of domestic jurisprudence is that it is not for the courts to assume some form of quality assurance role under the guise of judicial review. We were not referred to any European authority which indicates any different view, such that the court should become involved in reviewing the adequacy of the *quality* of an environmental report's treatment of environmental effects.
415. The remaining issue is whether the Blewett approach should be applied in challenges to the adequacy of an environmental report under the SEA Directive. That involves understanding the context in which Blewett was decided and has since been applied; and, indeed, what that approach requires.
416. However, before turning to those matters, it is convenient to address Mr Pleming's submissions on differences between the SEA and EIA regimes which he suggests justify a stricter approach being taken to the adequacy of an environmental report prepared for SEA than is suggested by Blewett. In summary, he submitted that:
- i) The SEA Directive imposes mandatory requirements as to the information to be provided in a report, whereas the EIA Directive allows Member States a degree of choice as to the projects requiring EIA and the content of an environmental statement.
 - ii) An environmental statement is prepared for EIA in support of an application for development consent and can be supplemented or corrected by additional information. An environmental report is prepared for SEA by the authority promoting the plan or programme and the addition of further information at a

later stage could undermine compliance with the requirement of article 6(2) for early and effective consultation.

- iii) An environmental report for SEA is prepared by or on behalf of the authority promoting the plan or programme which may also determine whether it is to be adopted finally, whereas an environmental statement is submitted for assessment by an independent decision-maker who may require further information to be provided.

417. Whilst there are some differences between the two regimes, we do not consider that they are as stark as Mr Fleming suggested, and they certainly do not justify a difference in the intensity of review for which he contends.

- i) In the case of the EIA Directive, an Annex I project must be subjected to an assessment, whereas an assessment is required for an Annex II project if it is judged likely to have significant environmental effects (see also Annex III). Similarly, the SEA Directive requires an assessment to be made for certain categories of plans or programmes (article 3(2)) and in other cases where the plan or programme is judged likely to have significant environmental effects (article 3(4)).
- ii) Where SEA has to be undertaken, the requirement to include in the environmental report the information described in article 5 and Annex I is not absolute. Instead, a judgment is involved as to “the information that may reasonably be required”, taking into account current knowledge, assessment methods, the contents and level of detail in the plan, its stage in the decision-making process and whether matters are more appropriately assessed in other procedures (article 5(2) and see also regulation 12(3) of the SEA Regulations). Article 5(4) also requires those designated environmental authorities which are consultees on the environmental report under article 6(3) to be consulted on the scope and level of detail of that report. Similarly, the EIA Directive allows the competent authority to exercise judgment appropriate to the EIA process on the scope and level of detail to be included in an environmental statement.
- iii) Indeed, we consider the fact that the SEA Directive allows the promoter of a plan to judge the nature and amount of information which should reasonably be provided in the environmental report, *a fortiori* in the formulation of policy, is a strong indication that the standard of review in SEA cases is not materially different from that in the EIA cases.
- iv) Cogent Land (as approved in No Adastral) establishes that it is permissible to cure a defect in the adequacy of an environmental report by the subsequent publication of and consultation upon supplementary material. That procedure is compatible with the requirement in article 6(2) of the SEA Directive for “an early and effective opportunity within appropriate timescales” for those consulted to express their opinions on the draft plan and the accompanying environmental report “before the adoption of the plan or programme”. In these respects, there is some similarity to the EIA regime.
- v) Where a local planning authority wishes to obtain planning permission to carry out development which is “EIA development”, it may nonetheless determine that

application itself, unless it is called in by the Secretary of State for Housing, Communities and Local Government. The EIA Regulations do not provide otherwise. There is no material difference for present purposes between that situation and the ability of an authority to formulate draft policy, consult thereon and adopt a final policy, so as to justify a more intensive form of review on the adequacy of an assessment of environmental effects in SEA.

- vi) Furthermore, it should be noted that many statutory regimes for the adoption of plans or programmes do provide for independent scrutiny going beyond the legal requirements of a formal consultation process. For example, statutory development plans are the subject of an “examination” procedure before an independent examiner (sections 20 and 38A of the Planning and Compulsory Purchase Act 2004). A marine plan under the Marine and Coastal Access Act 2009 dealing with marine development must be subjected to a similar process of independent “investigation” (section 51 and schedule 6). An NPS under the PA 2008 must be subjected to Parliamentary scrutiny, which may include scrutiny by a select committee.
418. Accordingly, we do not consider that Mr Fleming’s submissions comparing the SEA and EIA regimes lend any substantial support for the stricter standard of review for which he contends.
419. We turn to the EIA authorities. In Blewett, the complaint was that the environmental statement for a proposed extension to a landfill site contained no assessment of the effect of the scheme on groundwater protection. Instead, the minerals planning authority decided that that matter could be left to be assessed following the grant of planning permission, by assuming that complex mitigation measures would be successful. Sullivan J held that the starting point was that it was for the local planning authority to decide whether the information supplied by the applicant was sufficient to meet the definition of an environmental statement in the EIA Regulations, subject to review on normal Wednesbury principles (see [32]-[33]). Information capable of meeting the requirements in schedule 4 to the EIA Regulations should be provided (see [34]), but a failure to describe a likely significant effect on the environment does not result in the document submitted failing to qualify as an environmental statement or in the local planning authority lacking jurisdiction to determine the planning application. Instead, deficiencies in the environmental information provided may lead to the authority deciding to refuse permission, in the exercise of its judgment (see [40]). Thus, the statement in [41], that the deficiencies must be such that the document could not *reasonably* be described as an environmental statement in accordance with the EIA Regulations, was in line with the judge’s earlier observations in [32]-[33]. It simply identified conventional Wednesbury grounds as the basis upon which the court may intervene.
420. In Shadwell Estates Ltd v Breckland District Council [2013] EWHC 12 (Admin) at [73], Beatson J referred to a number of authorities which had taken the same approach in EIA cases to judicial review of the adequacy of environmental statements or the environmental information available: R v Rochdale MBC ex parte Milne [2000] EWHC 650 (Admin); [2001] Env LR 22 at [106], R (Bedford and Clare) v Islington London Borough Council [2002] EWHC 2044 (Admin); [2003] Env LR 22 at [199] and [203], and Bowen-West v Secretary of State for Communities and Local Government [2012] EWCA Civ 321; [2012] Env LR 22 at [39]. In Bedford and Clare, Ouseley J held that

the environmental statement for the development of a new stadium for Arsenal was not legally inadequate because it had failed to assess transportation impacts using the local authority's preferred modal split, the loss of an existing waste handling capacity to make way for the development, noise effects at night and on bank holidays, contaminated land issues, and the effects of dust during construction. He considered that the significance or otherwise of those matters had been a matter for the local authority to determine. The claimant's criticisms did not show that topics such as modal split or noise effects had not been assessed at all. Instead, they related to the level of detail into which the assessment had gone and hence its quality. That was pre-eminently a matter of planning judgment for the decision-maker and not the court.

421. In R (Edwards) v Environment Agency [2008] UKHL 22; [2009] 1 All ER 57, the claimants sought judicial review of the Environment Agency's grant of a Pollution Prevention and Control Permit for the operation of a cement works, which was to include the burning of shredded tyres as a fuel. The relevant regulations required the company's application to identify the nature and sources of foreseeable emissions from the installation and to describe significant environmental effects that were foreseeable. The complaint was that PM₁₀ emissions from low level point sources (as opposed to emissions from a stack) had not been included in the air quality modelling. The House of Lords held that whether this aspect should have been addressed had been a matter of judgment for the Environment Agency to determine. They applied the observations of Sullivan J in Blewett at [41]. Once again, the complaint related to the adequacy of the quality of the assessment that had been undertaken. The applicant had carried out modelling of one source of PM₁₀ emissions; the omission of the low-level sources did not amount to a public law ground of challenge.
422. Turning to the SEA Directive, an analysis of the decisions on whether there has been compliance with the SEA Directive shows that challenges have been successful where the author of a plan has failed to give *any* consideration to a subject which article 5 and Annex I expressly required to be addressed. Challenges which have simply criticised the quality of the treatment given to a subject, such as the level of detail provided or a failure to cover a particular aspect of that subject have been unsuccessful.
423. We consider first cases in which the court has intervened.
424. As we have explained, Forest Heath was a case in which the local authority wholly failed to address the subject of "reasonable alternatives" to the proposed extensions to Newmarket, particularly the reasons why they should be rejected.
425. The court had previously reached a similar conclusion in City and District Council of St Albans v Secretary of State for Communities and Local Government [2009] EWHC 1280 (Admin); [2010] JPL 70, in which a challenge to a revision of the East of England Plan, a regional spatial strategy, was upheld. The plan proposed substantial growth in the London Arc, a belt of land to the North and East of London, lying between Rickmansworth and Brentwood. The court, referring to article 5(2) and regulation 12(3) of the SEA Regulations, accepted that the SEA Directive allows a process of decision-making in which options can be progressively narrowed and clarified (see [14]). Such decisions may not need to be revisited when alternatives to more detailed proposals are subsequently under consideration. On that basis, a complaint that the environmental report for the regional strategy had not addressed alternatives to expansion at Harlow was rejected, and so a further environmental report dealing with

that subject was not required (see [15] and [19]-[20]). However, Mitting J concluded that there had not been *any* evaluation of alternatives to policies proposing the expansion of other towns which would require the erosion of the Green Belt. Consequently, there had been a failure to comply with article 5(1) in relation to those particular policies so as to justify a quashing order (see [21]-[22]).

426. Heard v Broadland District Council [2012] EWHC 344 (Admin); [2012] Env LR 23 was concerned with a proposal in a Joint Core Strategy for a “growth triangle” to the North East of Norwich. It appears that this was to involve the development of more than 20,000 homes on several large sites. Ouseley J upheld a complaint that there had been a failure to comply with article 5(1) on the grounds that, although an alternative option had been identified which would have involved no additional development in the triangle, no assessment had been made of that option and no reasons had been given for rejecting it. The sustainability appraisal carried out for the Strategy related solely to the authorities’ preferred option. The reasons for rejecting other alternatives at earlier stages were not set out and so it was not possible to discern the reasons why the preferred option had been selected (see [58]-[70]).
427. In Ashdown Forest Economic Development LLP v Secretary of State for Communities and Local Government [2015] EWCA Civ 681; [2016] PTSR 78 a policy in a Core Strategy required mitigation measures for housing development located within 7km of Ashdown Forest (an SAC and SPA) including the provision of “Suitable Alternative Natural Green Spaces”. The Court of Appeal upheld a challenge to that specific policy on the grounds that, in breach of the SEA Directive, the authorities had failed to consider reasonable alternatives to the imposition of mitigation measures for development within the 7km zone. Richards LJ, giving the judgment of the court, accepted that the identification of reasonable alternatives was a matter of evaluative assessment for the local planning authority, subject to review on normal public law principles, including Wednesbury unreasonableness. But in order to make a lawful assessment, the authority had at least to apply its mind to the question of alternatives. In this case, there was no evidence of any consideration being given to reasonable alternatives to the policy regarding development within the 7km zone. It had not assessed that there were no such alternatives or that it was inappropriate to “drill down” further into the detailed requirements of the policy for that purpose (see [42]).
428. In Re Seaport Investments Limited [2008] Env LR 23, the High Court of Northern Ireland granted an application for judicial review in relation to two Area Plans because the environmental report in each case had failed to comply with the requirement to provide information addressing items (b), (c), (d), (f) and (h) in Annex I to the SEA Directive. Thus, in addition to there being no explanation dealing with the selection of alternatives, there was a failure to identify areas likely to be “significantly affected”; SPAs, Ramsar sites (i.e. a wetland site designated of international importance under the UNESCO Convention on Wetlands) and candidate SACs were ignored; and certain acknowledged environmental impacts were not the subject of any assessment. In an important part of his judgment, Weatherup J held that the “responsible authority must be accorded a substantial discretionary area of judgment in relation to compliance with the required information for environmental reports” (see [26]). He added that the court will not examine the fine detail of the contents of the environmental report, but will consider whether there has been “substantial compliance” with the information

requirements of the SEA Directive. Thus, the court will consider whether the matters specified in the Directive have been addressed, rather than “the quality of that address”.

429. The distinction drawn by Weatherup J is illustrated by two cases in which allegations of non-compliance with the SEA Directive were rejected.
430. First, in Shadwell Estates Ltd v Breckland District Council [2013] EWHC 12 (Admin) the challenge was to the adoption of the Thetford Action Area Plan, and in particular to a policy for an extension to the town to provide 5,000 homes. In essence, the complaint was that, in breach of paragraphs (c) and (f) of Annex I, the AoS failed to assess the environmental characteristics of a substantial area of the extension, in that it had assumed that development there would have no effect on stone curlews (a European protected species) simply because it lay beyond a 1500m buffer zone designed to protect the SPA supporting that species (see [5] and [79]), and consequently had failed to take into account and assess evidence of stone curlews within that area and elsewhere (see [66] and [70]). Beatson J reviewed the case law which we have already summarised (see [73]-[78]). Having described the claimant’s criticisms of the appraisal as “highly detailed”, the judge concluded that the authority had not been required to provide a comprehensive assessment of all of the evidence of stone curlew activity in the area, and that, in substance, it had provided an environmental report in substantial compliance with the SEA Directive and Regulations (see [80]-[81]). The challenge assumed too intrusive a standard of review for the legal adequacy of an environmental report (see [82]). Although Beatson J endorsed the “Blewett approach” (see [76]-[77]), he did so simply as a practical expression of conventional Wednesbury principles (see [73]-[75]).
431. In R (Gladman Developments Ltd) v Aylesbury Vale District Council [2014] EWHC 4323 (Admin); [2015] JPL 656, Lewis J rejected a challenge to the legal adequacy of the contents of a neighbourhood plan which sought to meet a requirement for additional housing. The SEA had identified alternatives to the settlement boundary and options for extending the town in different directions. It had given reasons for rejecting alternatives. The examiner had concluded that the SEA addressed environmental impacts at a level of detail appropriate to the contents of the plan. Nevertheless, the claimant argued that the requirements of the SEA Directive had not been met because the assessment of alternatives had been vague and lacking in precision. In particular, it was said that there was a lack of reasons to explain the drawing of the settlement boundary in certain locations and the non-allocation for housing of certain sites outside that boundary. Lewis J held that it sufficed that the report had explained why expansion had been based on the existing form of the town and why expansion in other directions would result in greater environmental impacts (see [89]-[92]). Accordingly, he concluded that a greater level of detail was not required. The report had indeed addressed the subject which the SEA Directive required to be tackled, and criticisms made about the manner in which that exercise had been carried out or the level of detail in the report did not amount to a public law ground of challenge.
432. Therefore, in conclusion, looking at the authorities as a whole, it is plain that the “Blewett approach” is not a freestanding standard or principle: it is no more and no less than a practical application of conventional Wednesbury principles of judicial review.
433. The information in article 5(1) and Annex I which is to be included in an environmental report is that which “may reasonably be required” (article 5(2)). That connotes a

judgment on the part of the authority responsible for preparing the plan or programme. Such a judgment is a matter for the evaluative assessment of the authority subject only to review on normal public law principles, including Wednesbury unreasonableness.

434. Where an authority fails to give any consideration at all to a matter which it is explicitly required by the SEA Directive to address, such as whether there are reasonable alternatives to the proposed policy, the court may conclude that there has been non-compliance with the Directive. Otherwise, decisions on the inclusion or non-inclusion in the environmental report of information on a particular subject, or the nature or level of detail of that information, or the nature or extent of the analysis carried out, are matters of judgment for the plan-making authority. Where a legal challenge relates to issues of this kind, there is an analogy with judicial review of compliance with a decision-maker's obligation to take reasonable steps to obtain information relevant to his decision, or of his omission to take into account a consideration which is legally relevant but one which he is not required (e.g. by legislation) to take into account (Secretary of State for Education and Science v Tameside Metropolitan Borough Council [1977] AC 1014 at page 1065B; CREEDNZ Inc v Governor-General [1981] NZLR 172; In re Findlay [1985] AC 318 at page 334; R (Hurst) v HM Coroner for Northern District London [2007] UKHL 13; [2007] AC 189 at [57]). The established principle is that the decision-maker's judgment in such circumstances can only be challenged on the grounds of irrationality (see also R (Khatun) v Newham London Borough Council [2004] EWCA Civ 55; [2005] QB 37 at [35]; R (France) v Royal London Borough of Kensington and Chelsea [2017] EWCA Civ 429; [2017] 1 WLR 3206 at [103]; and Flintshire County Council v Jeyes [2018] EWCA Civ 1089; [2018] ELR 416 at [14]). The "Blewett approach" is simply an application of this public law principle.
435. As we have described (in paragraphs 147 and following above), where a legal challenge of the kind described in the preceding paragraph is brought, the question whether the decision-maker has acted irrationally, be they a local planning authority or a Minister, demands the intensity of review appropriate for those particular circumstances.

The Grounds: Introduction

436. We set out the grounds above (see paragraph 376).
437. The Hillingdon Claimants sought to advance their case on these issues in considerable detail. Large parts of the extensive witness statements filed on their behalf contain detailed criticism of the AoS. The Secretary of State responded in kind, in about 250 pages of witness statements. There then followed further exchanges of witness statements in reply. By that stage, the process had already become reminiscent of a planning inquiry. More was to follow at the hearing, including five pages of tables on behalf of the Secretary of State giving dozens of references to the evidence, a response of similar magnitude on behalf of the Hillingdon Claimants, and even detailed written notes in reply.
438. It may be that the Hillingdon Claimants' decision to produce evidence on this scale from the outset was linked to their submission that, where the adequacy of an environmental report is challenged, it is the role of the court, not simply to consider lawfulness on conventional Wednesbury principles, but to decide for itself whether the report was of "sufficient quality". We have firmly rejected that submission (see

paragraphs 401-435 above): the court applies conventional Wednesbury principles, tempered by the margin of appreciation accorded to the Secretary of State because the issues involve judgment, evaluation and expert technical analysis. Furthermore, it is well-established that proceedings for judicial review generally do not enable disputes of fact and expert opinion to be resolved in claims such as this. It is not the court's job to perform a quality assurance role on the adequacy of the environmental report or to examine the detailed material upon which it relies.

439. It follows that it is not usually necessary, and is generally inappropriate, for a claimant to produce detailed evidence of the kind we have received in the Hillingdon Claimants' claims. In most cases it is sufficient to produce the environmental report (or, preferably, the relevant sections of that report), along with any supporting material which is directly relevant to the legal challenge; and to make submissions on that material as to why the report fails to comply with article 5 and Annex I of the SEA Directive. Exceptionally, it might be appropriate for a witness statement from an independent expert to be produced in order to explain a technical matter which the court might not otherwise be able to understand from the source documents, even with the assistance of Counsel and even though the court will be comprised of specialist judges from the Planning Court. That should only happen where such evidence is necessary for such a purpose; and even then, its content should be non-tendentious and comply with CPR Part 35 and with the duties owed by an expert to the court (see HK (Bulgaria) v Secretary of State for the Home Department [2016] EWHC 857 (Admin)).
440. It follows from our conclusions in regard to the appropriate approach to such challenges that we have resisted being drawn into a detailed examination of the various evidential references we have been given. Our perusal of the material before the court indicates that that would be unnecessary as well as inappropriate.
441. Sufficient background for the purposes of this ground can be found in the evidence of Ms Ursula Stevenson, who leads WSP's SEA team in the UK. As we have said, the SEA process is itself iterative, and may also form part of a larger iterative process. Ms Stevenson explains how the AoS and SEA for the ANPS drew upon the vast amount of work which had already been carried out by or on behalf of the AC (Stevenson 1, paragraphs 2.1-2.24). That included a quality assurance review of that material, and "gap analysis" to identify any further work required in order to comply with the SEA Directive. One of the gaps identified was "establishing the relationship with the other plans, programmes and environmental objectives" (paragraph 2.7). WSP relied upon a large team of independent environmental and planning specialists (paragraph 1.6). Throughout the SEA process, inputs were provided by the Cross-Government Steering Group, which included representatives of Natural England and the Environment Agency (paragraph 2.25). The SEA team checked the approach taken in the ANPS against AoSs produced for other NPSs, including those dealing with the delivery of site-specific infrastructure, so as to ensure consistency with existing good practice (paragraph 1.26). A scoping exercise was carried out, which included consultation with the bodies identified under article 6(3). It identified the information that would be relied upon in the AoS, including assessments carried out by the AC (e.g. on noise effects) and the appraisal methodology (paragraphs 2.27-2.30). WSP also engaged ClearLead Consulting, which has considerable experience in SEA, to provide independent peer reviews of the work undertaken for the AoS (Transcript, Day 4 pages 178-179).

442. That provides the background to the five sub-grounds relied upon by the Hillingdon Claimants.

Ground 9.1: Relationship with other plans

443. The combined effect of article 5(1) and (2) and Annex I of the SEA Directive was that the environmental report should (i.e. must) contain the information that the Secretary of State judged to be reasonably required in relation to:

“an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes”.

444. As Ground 9.1, Mr Fleming submitted that the AoS failed to address the “relationship” of the ANPS with other relevant plans, in particular the local plans for a number of areas the planning and environment of which would likely be significantly affected by the expansion of airport capacity at Heathrow. He also submitted that the relationship of the ANPS with the national AQP and the London Environment Strategy, including the ULEZ, was not addressed.
445. At one point in their original Statement of Facts and Grounds, the Hillingdon Claimants alleged that the local authorities’ relevant plans and programmes were not identified at all (paragraphs 321-322). That was repeated in the Amended Statement of Facts and Grounds (e.g. paragraphs 100 and 107). However, that point was effectively refuted by the Secretary of State; and is no longer pursued. Instead, Mr Fleming made a more detailed attack on the extent of the coverage of local plans in the AoS.
446. Taking Hillingdon as an example, it is pointed out that the borough lies within the Metropolitan Green Belt. It already faces great challenges in accommodating previously identified needs for additional housing and employment development. It also has a serious shortage of public open space. The NWR Scheme would have both direct and consequential impacts. It would result in (e.g.) the direct loss of about 1,000 homes and areas of open space. It would also generate a substantial increase in employment both on-site and off-site, and a consequential increase in the number of homes needing to be provided (together with educational and community facilities), and would consequently exacerbate the existing deficiencies in the provision of open space. Mr Fleming referred to estimates that in the order of 114,000 new jobs would be created and between 42,400 and 69,300 additional homes would be required in the period up to 2030. He relies on the more detailed explanation of such matters in the witness statements of Ian Thynne, a Specialist Team Leader at Hillingdon responsible for (amongst other things) SEA work. Similar problems are faced by neighbouring boroughs.
447. Mr Fleming submitted that the NWR Scheme would also have very serious impacts on existing development plans and on plan-making by Hillingdon and other affected local authorities now and in the future. For example, existing allocations in local plans would have to be deleted and attempts made to allocate substantial areas of additional development land, which would be very difficult in view of green belt and other environmental constraints. He points to a possible need to increase the housebuilding requirements for individual authorities by 50-100%.

448. Mr Fleming submitted that the AoS documentation had been inadequate in that the potential impacts for local and other plans had been addressed on a cumulative basis and not individually. He said that the nature and extent of the impacts would vary from one authority to another. Furthermore, it was insufficient simply for impacts to be identified. The AoS should also have addressed the consequences for individual local authority areas and how they should be tackled. There should have been some consideration of such matters as how consequential growth could be accommodated in each area, and which option best addresses that issue. In other words, the AoS should have considered the distribution of growth in development and other consequential needs as between different local authority areas.
449. However, we are unpersuaded by these submissions.
450. It should be noted that the legal requirement in paragraph (a) of Annex I is for the relationship with relevant plans to be dealt with “in outline”. Furthermore, the treatment of that subject is influenced by the position occupied by the ANPS in the overall decision-making process.
451. Section 2.4 and Table 5.2 of the Scoping Report for the ANPS (March 2016) stated that the local plans would be considered in terms of cumulative effects, along with other NPSs and other major proposals.
452. That is reflected in Table 6.5 of the AoS itself, which describes potential cumulative effects in relation to the identified local plans, including those of the Hillingdon Claimant Boroughs. It was expressly recognised that those local plans would have planned for residential, commercial and infrastructure development and that an increase in airport capacity would have cumulative effects with that development. The AoS stated that:

“A detailed consideration of the potential for cumulative effects arising would need to be undertaken as part of an EIA.”

The document then listed potential effects that needed to be addressed, including the reduction in land available within plan areas for development for other uses, loss of greenfield land, and noise and air quality impacts from aircraft and from additional residential, commercial or infrastructure development. The appraisal explicitly recognised the increasing difficulty of identifying suitable land for development faced by many local authorities, particularly around Heathrow, where land availability is “highly constrained”.

453. The outcome of various assessments was ultimately brought together in paragraph 3.53 of the ANPS:

“The [AoS] identifies that, in addition to changes due to local noise and air quality impacts, communities may be affected by airport expansion through loss of, and/or additional demand for housing, community facilities or services, including recreational facilities. In addition, there will be effects on parks, open spaces and the historic environment, which will affect the quality of life of local communities which benefit from access to these facilities and features. *These effects will be of a higher*

magnitude for the two Heathrow expansion schemes and a lower magnitude for Gatwick [2R Scheme]. Overall, each of the three schemes is expected to have negative impacts on local communities, with more severe impacts expected from the Heathrow schemes. Impacts of all three schemes will not be felt equally across social groups. Equality impacts are set out in chapter four.” (emphasis added)

Thus, although individual effects on local authority areas were not separately identified, the cumulative effects of such matters as additional demand for housing and community facilities, together with impacts on open spaces, were weighed in the balance; and they were assessed as counting more severely against the Heathrow schemes than the Gatwick 2R Scheme.

454. We do not derive any assistance on the interpretation of paragraph (a) of Annex I to the SEA Directive from the attempt by Mr Fleming in his reply to suggest that cumulative effects are dealt with in paragraph (f) of Annex I (see the footnote to that paragraph defining “likely significant effects” on the environment). In our view, it cannot be inferred from the reference to cumulative effects in paragraph (f) that effects cannot be considered cumulatively under paragraph (a). As his Note in Reply accepts, paragraph (f) is a *separate* description of the information which should be included in an environmental report. In our judgment, the absence of a reference to “cumulative effects” in paragraph (a) does not mean that an environmental report cannot deal with the relationship with a group of other plans in terms of “cumulative effects” rather than as impacts on individual plans.
455. Mr Maurici submitted that the approach taken of assessing cumulative effects on local plans is in line with that previously adopted for other NPSs, e.g. the Nuclear Energy NPS (Transcript, Day 5 page 12). Ms Stevenson explains that it would not have been appropriate in the SEA to analyse the effects of the draft ANPS on the policies of individual local plans and that even if that approach had been followed, the Appraisal Framework would not have changed (Stevenson 1, paragraphs 3.44-3.53). The policy and environmental effects raised by the Hillingdon Claimant Boroughs were taken into account in the AoS, but without attributing those effects to individual local authority areas. This assessment reflected local constraints; and the effects were treated as being negative in many instances (Stevenson 1, paragraphs 3.54-3.55).
456. Good SEA practice takes into account the “relationship” with local plans by ensuring that they inform the development of the SEA’s objectives in the Appraisal Framework (Stevenson 1, paragraph 3.25). Objectives 1, 2 and 3 of the Framework in this case reflected concerns raised in the Hillingdon Claimant Boroughs’ submissions (see Table 4.2 of the AoS).
457. The court was referred in Ms Stevenson’s evidence; and, in a table of key points submitted by Mr Maurici, to a large number of references where matters such as loss of housing, schools and community facilities, along with increased demand for such development and facilities, have been addressed at a strategic level. For example, the AoS states that the NWR Scheme is likely to generate a demand for 300 to 500 additional homes per local authority per year as well as support from additional schools, two additional health centres and two primary care centres per local authority to 2030. The AoS makes the judgment that overall impacts on housing demand will affect local

authorities across London and the South East and that the demand will spread and be low in comparison to existing planned housing. Those effects were assessed as being negative in relation to the NWR Scheme (see paragraph 1.12.2 of Appendix A to the AoS).

458. So, it is plain that consequences of this kind (and not just impacts) *have* been assessed for the NWR Scheme, albeit on a cumulative basis. Essentially, the Hillingdon Claimant Boroughs' complaint is limited to those consequences not having been assessed individually for each local authority area and the analysis having been carried out only at a "high level". By the end of the argument, it had therefore become clear that this was a challenge solely to qualitative aspects of the assessment.
459. In relation to the London Environment Strategy, ULEZ and the AQP, we accept Mr Maurici's submission that they were addressed during the SEA process in a number of places, e.g. in section 8.10 of Appendix A to the AoS and in the WSP October 2017 AQ Re-analysis to which the AoS cross-refers.
460. Having been taken through the relevant material at some length, we are firmly of the view that there is no merit in this complaint. The relevant plans have not been ignored, and the relationship with these plans has been addressed. The obligation to do so was "in outline" only. There is no dispute about the fact that the AoS has addressed impacts cumulatively. In our judgment, the same is also true as regards the consequences of those impacts. It was a matter for the judgment of the Secretary of State as to how far the analysis should be taken. We reject the contention that the decision not to analyse these matters in the AoS at the level of each local authority area is open to challenge.
461. Inevitably, the AoS exercise involved the making of a series of judgments as to how far the analysis should go in the SEA process for the ANPS and at what point matters should be left to EIA at the DCO stage, having regard to article 5(3) of the SEA Directive. The judgments reached by the Secretary of State did not involve any failure to comply with the explicit requirement of the SEA Directive to provide an outline of the relationship with other plans. Nor were any of those judgments irrational as regards the content and level of detail of the coverage by the AoS.
462. However, even if we had accepted Mr Fleming's submissions in relation to the nature of review of the adequacy of an environmental report, we would have concluded that the "quality" of the AoS did not fail to comply with para (a) of Annex I of the Directive.
463. Ultimately, as accepted by the Secretary of State in the hearing before us, the issues raised by the Hillingdon Claimant Boroughs, namely the consequences of the NWR Scheme for the areas of individual local authorities, taking into account environmental and planning constraints and the scope for distributing additional development across a number of areas, will remain to be considered in the EIA accompanying any application for development consent and the examination of that application through the DCO process. It follows that the Mayor and local planning authorities will be able to make representations in that process about harmful impacts of this nature, both for individual areas and cumulatively, and the findings about these matters will be taken into account and weighed in the balance under section 104(7) of the PA 2008.

Ground 9.2: Identification of Environmental Characteristics of Affected Areas

464. Paragraph (c) of Annex I to the SEA Directive requires the environmental report to contain information on “the environmental characteristics of areas likely to be significantly affected” by the plan or programme, subject to the qualifications in article 5 to which we have already referred. Thus, the Secretary of State was required to identify those areas which he judged would be likely to be significantly affected by, in the case pressed in Ground 9.2, noise. Mr Fleming submitted that this step is important because (i) it should enable a proper comparison to be made between alternative options, and (ii) it should ensure that communities likely to be affected significantly are consulted effectively on the basis of adequate information.
465. He submitted that the noise assessment carried out in the AoS failed to comply with paragraph (c) of Annex I in two respects, namely:
- i) the indicative aircraft flight paths which were used; and
 - ii) the use of a 54dB $L_{Aeq16hour}$ metric rather than the 51dB $L_{Aeq16hour}$ metric used in the Government’s UK Airspace Policy. Whilst it is unnecessary for the purposes of this judgment to descend to ultimate detail, by way of explanation, “dB” means “decibels”. L_{Aeq} is a means of expressing variable noise levels in a single value equivalent to a continuous sound level over a defined measurement period. The “A” weighting is used to reflect the perception of the human ear of the relative loudness of sound at different frequencies. The reference to “16 hour” is to the 16-hour period from 7am to 11pm.

Mr Fleming submitted that the approach used failed adequately to define the extent of the areas likely to be significantly affected by noise, because (i) the indicative flight paths used understate the geographical extent of the areas which will be subject to overflying (Mr Fleming’s primary point) and (ii) the 54dB metric underestimates the level at which noise has a significant effect on people and their amenity (Mr Fleming’s subsidiary point).

466. Mr Fleming said that aviation generated noise is central to the concerns of the population represented by the Hillingdon Claimant Boroughs. He pointed out that, in the table at page 38 of Appendix A to the AoS, WSP predict that in 2040 a second runway at Gatwick would expose 21,000 people to noise levels equating to 54dB $L_{Aeq16hour}$ whereas the NWR Scheme would expose 525,600 people to that level. This is for the simple reason that the area affected by aircraft landing at or taking off from Heathrow has a much higher density of population than the equivalent area at Gatwick. He submitted that, if either or both of the two criticisms made were accepted, then the disparity between the Heathrow and Gatwick schemes would be greater and of increased concern.
467. Paragraph 3.50 of the ANPS makes essentially the same point. Even on the basis of the assessment carried out in the AoS using the two approaches criticised by the Hillingdon Claimants, the negative effects upon quality of life, health and amenity were assessed to be of a greater magnitude for the two Heathrow schemes compared to the Gatwick 2R Scheme, because Gatwick is in a more rural location and fewer people are affected by the impact there. This self-evident point has clearly been taken into account in the decision to designate the ANPS.

468. At this stage, it is necessary to re-emphasise that, although many people may be concerned about the noise effects of airport expansion, it is not the function of this court to become involved in the technical merits of the two criticisms made by the Hillingdon Claimant Boroughs in their claim. The court's involvement is limited to deciding whether they can demonstrate that the Secretary of State has made an error of law in relation to either of those two points.

469. Before turning to the particular criticisms of the noise assessment in the AoS, it is helpful to have in mind certain relevant passages in the ANPS, particularly with regard to requirements for the DCO stage, as follows:

- i) Paragraph 5.52 sets out requirements for the noise assessment which would be required as part of an EIA. It includes changes in ATMs prior to the opening of a third runway, at the time of opening, when the airport is forecast to reach full capacity and, if different, at the point when the airport's noise impact is forecast to be at its highest. The assessment must cover "likely significant effects" of these predicted changes on any noise sensitive land uses or areas and must also provide noise exposure maps.
- ii) The ANPS lists a number of noise mitigation measures which must be addressed. These include plans for runway alternation to provide communities with predictable periods of respite (paragraph 5.61) and a ban on scheduled night flights for 6½ hours between the hours of 11pm and 7am (paragraph 5.62).
- iii) Paragraph 5.68 sets out the approach which will be taken to any decision on an application for development consent:

"Development consent should not be granted unless the Secretary of State is satisfied that the proposals will meet the following aims for the effective management and control of noise, within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life from noise;
- Mitigate and minimise adverse impacts on health and quality of life from noise; and
- Where possible, contribute to improvements to health and quality of life."

470. Turning to the indicative flight paths issue, paragraph 5.50 of the ANPS has this to say:

"The [AC's] assessment was based on 'indicative' flight path designs, which the Government considers to be a reasonable approach at this stage in the process. Precise flight path designs can only be defined at a later stage after detailed airspace design work has taken place. This work will need to consider the various options available to ensure a safe and efficient airspace which also mitigates the level of noise disturbance. Once the

design work has been completed, the airspace proposal will be subject to extensive consultation as part of the separate airspace decision making process established by the Civil Aviation Authority [‘CAA’].”

471. In the Government’s Response to the Consultation on the ANPS it was explained (at paragraph 7.13) that the use of the indicative flight paths for the three schemes was considered to be appropriate for the taking of “key strategic decisions”:

“The AoS noise assessment is based on one set of indicative flight paths. This is consistent with the approach adopted by the [AC] to compare the three expansion schemes in its final report. The purpose of this assessment is to draw out key strategic considerations relevant to noise. In light of this, the Government considers that the AoS is satisfactory, given that airspace design is currently highly uncertain, and the AoS follows the same approach as that used by the Commission to compare the three expansion schemes in its final report.”

Paragraph 7.20 explained that while the Gatwick 2R Scheme clearly performed better in terms of numbers of people significantly affected by aviation noise, that was only one factor informing the Secretary of State’s decision. When all benefits and disbenefits were considered together the Secretary of State considered that taken overall the NWR Scheme would deliver the greatest “net benefits” to the UK.

472. In relation to the process for the future design of changes to airspace, the Government’s Consultation Response said this (emphasis added):

“6.48. Airspace design falls outside the scope of the [ANPS]. As stated in the [ANPS], *precise flight path designs can only be defined at a later stage after detailed airspace design work has taken place*. Once completed, the airspace proposal will be subject to consultation with local communities and relevant stakeholders in line with the requirements of the airspace change process which is owned by the [CAA]. This is a very thorough and detailed process that covers all aspects of the proposal including safety and environmental impacts.

7.15. Proposals to change the UK's airspace design are governed by the separate [CAA] airspace change process, which was made more rigorous from 2 January 2018. The design of new flight paths is highly technical and can take several years. It is a requirement of the CAA’s airspace change process that there must be adequate consultation. Airspace change sponsors would need to take account of the Government’s new policy on appraising options for airspace design, such as considering the use of multiple routes. It is therefore through this regulatory process that communities will see and have the opportunity to comment on detailed proposals for new flight paths which may affect them.”

473. Not surprisingly, Mr Fleming does not contend that actual flight paths should have been used in the AoS. Such flight paths do not exist for any of the three options under consideration. Instead, in his written Note in Reply, Mr Fleming submitted that:

“[I]n the absence of actual flight paths, a representative spatial area should have been used – an area within which it is likely that landings and take offs causing noise pollution will occur. One set of indicative flight paths, particularly when it is known that there will be, have to be, flight path changes, does not cover the ‘areas likely to be significantly affected within Annex I (c).’”

474. However, lest there be any doubt, footnote 1 of the same Note in Reply makes the Hillingdon Claimants case clear, in the following terms:

“The Claimants’ case is that there should be use of “the geographical area over which flight paths *may* be located” – see, for example, Stanbury paragraphs 11 and 12.”

Colin Stanbury is the Aviation Project Officer for the London Boroughs of Richmond upon Thames and Wandsworth.

475. In our judgment, it is plain that an approach based on areas over which flight paths *may* be located is substantially different from one based on areas within which it is *likely* that landings and take offs causing noise pollution will occur. The former approach does not accord with the requirement in paragraph (c) of Annex I to identify areas “likely to be significantly affected”. Mr Fleming’s submission – and the Hillingdon Claimants’ case – based on that approach is misconceived.
476. So, on the material before the court, there can be no legal objection to the use of indicative flight paths as a matter of principle.
477. Mr Fleming then submitted that those flight paths should be determined on a “worst case” basis in order to respect the precautionary principle in the SEA Directive. However, even if that were to be correct, there would still remain the same difficult judgment for experts to make as to how to predict where such flight paths are likely to be located. Similarly, what factors would produce a “worst case” analysis, without arriving at something which is unrealistic and not therefore a sound basis for decision-making? To some extent this is a matter of degree. But in any event, it involves an evaluative judgment using predictive techniques and is dependent upon expert technical opinion. This is a subject to which the “enhanced margin of appreciation” described in Mott undoubtedly applies (see paragraphs 143(v) and 176-179 above).
478. Mr Fleming relied on the evidence of Mr Stanbury. He said that a strategic level assessment appropriate for SEA would be expected to consider “the likely worst-case scenario” (Stanbury 1, paragraph 20). He expressed the opinion that it was unlikely that the indicative flight paths used for the AoS would meet that description. He added that because the actual flight paths chosen in the future would be different from the indicative versions, it was more probable than not that the people who would be significantly affected by noise would not be those indicated by those indicative versions. Whilst that may well be true, it does not follow from that statement that the indicative flight paths do not adequately show the overall likely *numbers* of people who

would be significantly affected by airport noise for the purposes of strategic decision-making.

479. Mr Stanbury also suggested that the Secretary of State’s approach was intended to “minimise” the numbers of people affected by aircraft noise, or what might be described as a “best case”. Mr Fleming made a submission to similar effect, relying upon an email from the CAA to the DfT dated 14 September 2017.
480. Mr Michael Lotinga, a Chartered Engineer and acoustician employed by WSP, explained why these points did not fairly characterise the approach taken in the AoS. He summarised the basis upon which the indicative flight paths had been drawn up. In Lotinga 1, paragraph 3.3.15, he explained that three different flight path strategies had been examined. One strategy, “Minimise New” was aimed at minimising the number of people nearby affected by aircraft noise, by concentrating flight paths over areas currently overflowed. Another, “Minimise Total” aimed to minimise the total number of people affected by noise by avoiding the overflying of the most populous areas and concentrating flight paths into “noise preferential routes”. The third strategy was based on the maximisation of “respite periods”. A comparison was made between the noise effects of the three strategies. The “Minimise Total” strategy, which was adopted for the purposes of the AoS was found to be neither worst case nor best case, but lying between the other two. The “Minimise New” strategy produced more overall harm.
481. Clearly, this is a complex technical subject which is affected by many considerations. For example, it has to be borne in mind that noise impacts are influenced not only by the routes chosen for modelling, but also by the controls imposed on aircraft altitude. The court was referred to paragraph 3.9 of the DfT’s Air Aviation Guidance issued to the CAA Authority in October 2017, which states that at and above 4,000 feet, aircraft are unlikely to result in noise exposure above 51dB $L_{Aeq16hour}$ (i.e. a level lower than the 54dB $L_{Aeq16hour}$ parameter used in the AoS).
482. Mr Lotinga stated that the “Minimise Total” strategy for identifying indicative flight paths was considered to be the most representative of the strategies examined and a likely general strategy for adoption in the future (Lotinga 1, paragraphs 3.19-3.20). He did not accept that the requirement of the SEA Directive to assess “likely significant effects” required the adoption of a more pessimistic strategy than the one selected. He also explained why the Directive did not require a more detailed assessment focusing on individual communities in affected areas or on areas (not yet identified) likely to be significantly affected by growth in development (paragraphs 3.29 to 3.30).
483. It is relevant to see how Mr Stanbury responded to this evidence. In Stanbury 2, paragraph 11, he introduced the notion of the geographical area within which flight paths *may* be located. This was the approach upon which Mr Fleming relied in his written submissions in reply, and which we have already rejected as failing to accord with paragraph (c) in Annex I to the SEA Directive.
484. Mr Stanbury sought to illustrate this approach by relying upon plans produced by HAL showing, he said, the maximum extent of a “lowest observed adverse effects level” (“LOAEL”). This was chosen by HAL for the purposes of defining an area within which to carry out “enhanced consultation” (Stanbury, paragraph 13). Mr Fleming relied upon (amongst other things) a document issued in January 2019 by HAL for initial consultation on Airspace and Future Operations entitled “Heathrow’s Airspace

Envelopes for Expansion”. He pointed to the fact that the plans in these documents cover a wider area than that shown on the indicative flight path plans used by the Defendant for the AoS. However, in our view, it is important to note the explanation given in the document. It shows “design envelopes for potential flight paths at an expanded Heathrow”; and that “a design envelope is a geographical area within which *it is technically feasible* to position one or more flight paths”. The document makes it plain that “we will not spread flight paths across an entire envelope. Your feedback will help us to determine the position of one or more flight paths within an envelope”. In other words, this was one of the tools being used in a design process. HAL had previously issued consultation material of a similar nature. As Mr Humphries for HAL emphasised, these plans should not be taken to imply that the whole of the areas shown would be overflowed by aircraft using Heathrow.

485. We agree that the “composite plans” produced by the Hillingdon Claimants, which combined the various “design envelopes” put forward by HAL, are of no help in determining whether the Secretary of State’s approach to indicative flight paths in the AoS involves an error in law. Indeed, it would be misleading to treat those envelopes as indicating the geographical extent of areas likely to be significantly affected, whether on a precautionary or any other basis.
486. Mr Fleming also sought to place much reliance upon a submission from officials to the Secretary of State dated 16 November 2017. In paragraphs 10 and 11, it was noted that HAL was intending to notify individuals within a 51dB noise contour and to notify communities within areas which could be overflowed by an aircraft flying at altitudes between 4,000 and 7,000ft about proposals to amend “airspace design” in response to the NWR Scheme. The submissions noted that this approach was based upon CAA guidance on airspace design. In paragraph 12, officials expressed the view that HAL was going much further than was required by CAA both as to content and timing of the consultation. It was pointed out that consultation over such a wide area would involve people who are, and will be, affected by aircraft from other airports (paragraph 13). The view of officials was that the approach taken by HAL would cause unnecessary controversy and opposition to schemes under consideration, because many of the people notified would not be affected by overflights (paragraph 21). Read properly, as a whole and in context, this document does not provide any support for the contention that the AoS failed to comply with the SEA Directive.
487. Ultimately, it was a matter of judgment for the Secretary of State, assisted by expert advice, to determine what information was reasonably required in relation to flight paths, so as to identify areas likely to be significantly affected. On the material before the court, it is impossible to say that the judgment he reached was irrational or that there has been a failure to comply with the SEA Directive in this respect.
488. As a second limb to this ground, relying upon Mr Stanbury’s witness statements, Mr Fleming contended that the analysis carried out in the AoS should have been based upon the 51dB $L_{Aeq16hour}$ metric (instead of 54dB) as required by the UK Airspace Policy when considering changes to airspace design.
489. The Government’s Response to Consultations on the ANPS (5 June 2018) dealt with this point at pages 66-67:

“7.54 The noise analysis that is presented in the AoS represents a strategic assessment of unmitigated noise impacts, based on indicative flight paths. Its purpose is to draw out key strategic considerations relevant to noise. To this end, relevant noise metrics are presented in the AoS. The high level noise assessment presented in the AoS includes an assessment of unmitigated noise impacts at 54 dB LAeq, 16hr, which is consistent with the findings of the SoNA report as referenced at paragraph 7.12.

“7.55 The [LOAEL] recommended in the Government's response to the consultation on UK Airspace Policy (51 dB LAeq 16hr) is specifically for comparing different options for airspace design. The AoS Noise Appendix explains why it would not be appropriate at this stage of the process to assess absolute noise levels and associated local population exposure below 54dB LAeq, 16hr. For practical reasons it becomes more difficult to estimate noise exposure accurately, and therefore population numbers affected, below this noise level. This is because it is difficult to measure aircraft noise levels at greater distances from an airport where aircraft noise levels are closer to those of other noise sources. Also, due to variability in aircraft position in the air at these greater distances from the airport, the absolute noise levels have a lower level of certainty.

7.56 Any airspace change required for the Heathrow Northwest Runway scheme would be subject to the CAA's airspace change process. This would require a comparative assessment of options for airspace design with noise impacts assessed from the LOAELs set out in the new national policy on airspace - 51 dB LAeq, 16hr for day time noise and 45 dB Lnight for night time noise. This would be done using WebTAG, which is the Government's standard appraisal methodology for transport schemes, and would ensure that the total adverse effects of each option on health and quality of life can be assessed.

490. We were invited to review the extensive evidence on this subject filed by both sides. Mr Stanbury says (in Stanbury 1, paragraph 28) that in its Air Navigation Guidance 2017 the Government has set the LOAEL at 51dB LAeq16hour based upon the CAA's publication 1506: Survey of noise attitudes 2014: Aircraft. We note in passing that, in his footnotes 24 and 29, Mr Stanbury explains that, according to this survey, at the 51dB level 7% of the population would be “highly annoyed” compared with 9% at the 54dB level. The source for those results is table 31 of CAA publication 1506. To put that into context, the AoS treats 54dB LAeq16hour as signifying “a level at which significant community annoyance starts to occur” (Table 4.2 of Appendix A to the AoS).
491. Ms Low and Mr Lotinga have explained why, for the purposes of taking strategic level decisions in the ANPS, it was judged appropriate to adopt the 54dB level rather than 51dB. Mr Stanbury has explained why he disagrees and considers that the lower figure should have been used. We agree with Mr Maurici that it is inappropriate to ask this court to adjudicate upon technical differences of this nature in an application for judicial

review. Mott again underscores that point. There was nothing that could be described as irrational in the Secretary of State's approach to the selection of noise parameters. This issue did not involve any failure to comply with the SEA Directive.

Grounds 9.3-9.5

492. These three sub-grounds were not the subject of oral submissions. They were, however, not abandoned, being the subject of paragraphs 137-155 of the Hillingdon Claimants Amended Statement of Facts and Grounds, although only very lightly argued in their written submissions.
493. Ground 9.3 complains that, although the scoping report for the AoS referred to the objectives of the Environmental Noise Directive 2002/49/EC and its transposition into domestic law by the Environmental Noise (England) Regulations 2006 (SI 2006 No 2238), the AoS failed to address the central objective in article 1 of the Directive and to provide information on how it would be met, thereby failing to comply with paragraph (e) of Annex I to the SEA Directive. In summary, the Hillingdon Claimants rely upon the objective "to avoid, prevent, or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise" and to adopt action plans for preventing and reducing environmental noise where necessary, particularly where exposure levels can cause harm to human health, and for preserving environmental noise quality where it is good. The complaint is also linked to consideration of environmental policy objectives related to noise.
494. The Secretary of State submits that there is no merit in this complaint, relying on *Lotinga 1*, and notably paragraphs 3.2.1-3.2.14. We agree. This amounts to no more than a qualitative criticism of the AoS's treatment of the subject and comes nowhere near demonstrating any insufficiency, let alone irrationality.
495. Ground 9.4 alleges a breach of paragraph (f) of Annex I to the SEA Directive, by failing to provide information in the AoS on the effects on human health of air pollution and aviation noise attributable to the options. It is also said that there has been no assessment of cumulative and/or synergistic health impacts from air pollution and aviation noise across the aviation sector in London and the South East, including from airports at Stansted, Luton, Northolt and the City.
496. In part, this complaint relies upon the arguments raised by the Hillingdon Claimants under Ground 9.2, which we have rejected. As regards the other aspects, the Secretary of State relies upon the detailed explanation by Ms. Stevenson (*Stevenson 1*, paragraphs 3.139-3.173) as to how these matters were addressed in the AoS, drawing upon the accompanying Health Impact Analysis.
497. We see no legal merit in this attempt by the Hillingdon Claimants to challenge the *quality* of the information contained in the AoS. The Secretary of State's judgment on the content and level of detail of the information supplied on noise, air quality and health effects is not open to challenge on the grounds of irrationality, nor can it be said that the AoS failed to comply with paragraph (f) of Annex I to the SEA Directive.
498. Finally, under Ground 9.5, the Hillingdon Claimants submit that the AoS failed to satisfy the requirements of paragraph (g) of Annex I to the SEA Directive, namely to provide information on mitigation measures to address any significant adverse

environmental effects of implementing the ANPS. It is said that the measures are insufficiently specific or are not capable of being implemented or the delivery mechanism is unclear. Examples are given concerning the mitigation of noise effects on pedestrian areas, open spaces and school playgrounds, and the impact of an expanded airport on surface transport. The Amended Statement of Facts and Grounds also gives several examples of impacts where no mitigation is identified in the ANPS and that aspect is left to be assessed in an application for development consent by applying criteria set out in the ANPS. It is also said that the ANPS fails to “allocate” land necessary to deliver such mitigation.

499. In Stevenson 1, paragraphs 3.182-3.199, Ms Stevenson explains why these complaints are ill-founded. The identification and delivery of mitigation for a project of this scale and nature is itself complex. “The Practical Guide to SEA” recognises that some mitigation measures may be left to the detailed design and development consent stage. Where it has not been possible to make a judgment that a particular effect can be mitigated, a precautionary approach has been applied, and the assessment of a negative significant effect has been retained within the AoS and hence within the overall judgment made on the comparison between the three schemes.
500. We consider that to be a complete answer to this ground. There was no error of law in the approach taken by the Secretary of State to paragraph (g) of Annex I to the Directive.

Conclusions

501. For those reasons, we consider the answer to Issue 8 is “No”, none of the following breaches of the SEA Directive is made out:
- 8.1. failure to provide an outline of the relationship between the ANPS and other relevant plans or programmes in breach of article 5(1)-(2) of the SEA Directive with Annex 1(a);
 - 8.2. failure to identify the environmental characteristics of areas likely to be significantly affected by the ANPS, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(c);
 - 8.3. failure to provide information on environmental protection objectives, established at international, EU or Member State level, which are relevant to the ANPS and the way those objectives and any environmental considerations have been taken into account during its preparation, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(e);
 - 8.4. failure to provide information on the likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, in particular on the effects of air pollution and noise on human health, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(f); and
 - 8.5. failure to identify and describe measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of

implementing the ANPS, in breach of Article 5(1)-(2) of the SEA Directive with Annex 1(g).

502. Furthermore, each of the sub-grounds of Ground 9 as set out above (see paragraph 376) – which directly reflect the sub-issues in issue 8 – fails.

Consultation

The Grounds

503. As Ground 10, Mr Fleming submitted on behalf of the Hillingdon Claimants that the ANPS was unlawful because the Secretary of State did not conduct the required statutory consultation with an open mind.
504. Mr Fleming submitted that the Secretary of State had breached the first and fourth of the Gunning principles, which require consultation to take place when proposals are still at a formative stage and that the consultation responses be conscientiously taken into account (see paragraph 125 above), because the Secretary of State had carried out the consultation on the ANPS with a closed mind, effectively since his announcement on 25 October 2016. So, as Mr Maurici pointed out, this was an allegation of *actual* predetermination.
505. In support of that claim, Mr Fleming relied upon the following matters:
- i) an allegation that, from 25 October 2016, the Secretary of State had not been open to making any substantial changes to the policy of increasing aviation capacity in the South East of England, including the preference for the NWR Scheme;
 - ii) extracts from speeches made by the Secretary of State;
 - iii) the consultation leaflet “Heathrow Expansion: Have Your Say”, published in February 2017 (see paragraph 67 above);
 - iv) the presentation of issues in the draft NPS and at local events, which focused on the NWR and failed to refer to other options;
 - v) a decision in September 2017 that the Gatwick 2R Scheme be excluded as an “alternative solution” because of a “new” requirement, namely the “hub objective”; and
 - vi) the contention by HHL in Claim No CO/3071/2018 that the ENR Scheme had been unlawfully excluded in 2016.
506. However, the Hillingdon Claimants also advanced their ground on the alternative basis that, even if the Secretary of State did not have an actual closed mind, there was an *appearance* of pre-determination or of the Secretary of State having a closed mind. In respect of this alternative, Mr Fleming submitted, “the test is not whether the Secretary of State in fact had a closed mind (though the evidence shows that to be the case)”. Instead, relying on (R (Lewis) v Redcar and Cleveland Borough Council [2009] 1 WLR 83 at [66]-[68], [71] and [96]-[97]), he submitted that there would be an appearance of predetermination if, from the relevant circumstances as they now appear to the court, it

is satisfied that there is a “real risk” that the Secretary of State had proceeded with a closed mind. If there was no actual closed mind, he submitted that there was clearly an appearance of such sufficient to render the process unsafe and unlawful.

507. As Ground 17, Mr Spurrier contended that, in breach of section 7 of the PA 2008 and the Gunning principles, the Secretary of State failed to consult properly. However, subject to one point to which we shall return (see paragraphs 550-551 below), he simply relied upon the submissions made on behalf of the Hillingdon Claimants.

The Law

508. As we have indicated, Mr Fleming’s primary ground was that the Secretary of State had pre-determined that the NWR Scheme should get the policy go-ahead, i.e. he had had an actual closed mind; with an apparent closed mind being his alternative and subsidiary submission.
509. In our view, it is important to have the distinction between *actual* pre-determination and the *appearance* of pre-determination well in mind, particularly where, as in this case, the challenge relates to a consultation process which took place within a statutory framework which entrusted to the Secretary of State the functions of proposing a policy, promoting it through Parliament and ultimately deciding whether it should be designated as a statutory NPS. Conceptually, where a claimant is unable to show that a Secretary of State’s mind was *actually* closed, this combination of statutory functions may make it more difficult for him to demonstrate that there was nevertheless an *appearance* of predetermination, that is by showing a *real risk* of the Secretary of State having proceeded with a closed mind. That risk must be founded on something more than the operation of the statutory scheme.
510. In addition, it is necessary to distinguish between actual or apparent *pre-determination* on the one hand and *pre-disposition* on the other. The latter is not unlawful. As is so often the case in policy-making, the policy-maker does not have to be – and, usually, is patently not – detached or disinterested as between the possible policy options. Indeed, it may be difficult if not impossible for a Secretary of State discharging his policy-making functions under the PA 2008 to avoid having a pre-disposition in favour of the policies he proposes.
511. *Actual* pre-determination or closed mind involves a finding on the subjective attitude or state of mind of the decision-maker. The risk of pre-determination because of an *appearance* of a closed mind involves an assessment of that risk by the court. Given the role of a policy-maker in a statutory scheme such as this, neither is easy to prove: and, in particular, when the court is faced with an allegation of pre-determination in this context, it needs to be cautious about the inferences which may properly be drawn from statements and conduct on the part of the policy-maker, in this case the Secretary of State. The authorities, to which we shall shortly come, emphasise these challenges for a claimant making such allegations.
512. Mr Maurici submitted that, in this context, the court should only consider actual pre-determination. He relied upon the authority of the New Zealand Court of Appeal in CREEDNZ Inc v Governor General [1981] 1 NZLR 172, which concerned a statutory scheme with many similarities to Part 2 of the PA 2008. The legislation enabled Ministers in the Executive Council to authorise by Order in Council the use of an

expedited or “fast-track” consent procedure for major works which they considered to be in the national interest, in place of the normal planning process. It was claimed that numerous public statements by Ministers in support of the scheme before its promoters made any application to rely on the fast-track procedure showed that there was a real likelihood of them having pre-determined the question of whether that procedure should be followed.

513. The court held that it was necessary to look at what had happened with a degree of realism. The Government had decided that a large scale aluminium smelter project was likely to be in the national interest, and should go ahead if possible. For example, Ministers had announced that the Government had reached agreement on a price for supplying electricity to the scheme, and that two dam projects would need to be operational sooner than expected. One stated in the press that “a decision has been taken to proceed with this project”. He expressed every confidence that the smelter would be built. It was later said that an agreement in principle had been reached between the Government and the development consortium, and that a final agreement would be subject to satisfactory negotiation of some details, none of which was insurmountable. A memorandum of intent was signed committing the Government to supplying electricity to the project. It was said that having worked through the proposal very carefully, the Government believed that the project was in the national interest, being good for the country’s economy and its people.
514. The court concluded that, from an early stage, the Government had endorsed the project, including the site proposed and had favoured the use of the fast-track legislation for the planning process. However, it held that the mere fact that, when the application was made to the Minister, the Government was in favour of the project and highly likely to decide in favour of an Order in Council, did not disqualify him from dealing with the matter. It was inappropriate to apply tests for the *appearance* of pre-determination. Projects of the kind to which the legislation might be applied were likely to evolve over a long period of time and attract considerable public interest. It could not be supposed that the statutory scheme had been intended to restrain Ministers from forming and expressing, even strongly, views on the desirability of such projects unless and until the Order in Council was made.
515. Thus, Cooke J said, at page 179:
- “The only relevant question can be whether at the time of advising the making of the Order in Council the ministers genuinely addressed themselves to the statutory criteria and were of the opinion that the criteria were satisfied. If they did hold that opinion at that time, the fact that all or some of them may have formed and declared the same opinion previously does not make the Order invalid. No doubt, if ministers had approached the matter with minds already made up, the inference would readily be drawn that they could not genuinely have considered the statutory criteria when advising the making of the Order in Council. But the newspaper reports fall short of showing closed minds.”
516. Similarly, Richardson J said at page 194:

“What is fair in a given situation must depend on the circumstances. The application of the rules against bias must be tempered with realism. It would be unrealistic to expect Ministers to have completely open minds as to the criteria set out in section 3(3) of the National Development Act or as to the desirability in the public interest of a proposed work. An assumption that the Governor-General in Council may be predisposed to apply the provisions of the National Development Act to a project is not enough. It is not expected that Ministers will approach their consideration of the application under section 3(3) with perfect detachment. Before the decision can be set aside on the grounds of disqualifying bias it must be established on the balance of probabilities that in fact the minds of those concerned were not open to persuasion and so, if they did address themselves to the particular criteria under the section, they simply went through the motions.”

517. McMullin J noted that, before an application for use of the statutory fast-track procedure could be made, the Government would need to have made decisions about which projects would be most likely to benefit the national economy and make best use of electricity resources, requiring a great deal of time for consideration. Ministers would have had to become involved in these issues and to have made statements. Accordingly, “it would be unreal to expect those concerned to maintain a lofty detachment from the matter”. He continued (at page 214):

“It would be surprising if they did not have views. But that was not a disqualification so long as they approached the application with an open mind bona fide prepared to consider any contrary views on their merits. Therefore, the fact that in their investigation and consideration of various matters prior to that time the Ministers, or any one of them, may have formed views in favour of the project did not render invalid the decision reached on the advice which they tendered at the meeting of the Executive Council.”

518. The statutory context of the PA 2008 bears some similarities to the legislation considered in CREEDNZ. It is concerned with projects of national significance. The decisions which the statute requires a Secretary of State to make may well concern policies or projects which have evolved over lengthy periods of time and which give rise to controversy. It is unrealistic to expect a Secretary of State not to have formed views on many issues, perhaps even strongly held views, by the time he comes to initiate consultation on a proposal to designate a new NPS under section 7, *a fortiori* by the time he comes to lay the proposal before Parliament under section 9. The Secretary of State may not designate a proposed NPS unless either the House of Commons votes to approve it, or a certain period of time elapses without the House voting that “it should not be proceeded with” (section 5(4)). Consequently, the statutory scheme expects the Secretary of State to be prepared to promote his proposed policy in Parliament, an exercise involving political judgment. Furthermore, a policy dealing with the need for new infrastructure may be closely linked to the identification of areas or sites where that need can properly be met and so a proposed NPS may also address

that aspect (section 5(5)(d)). Thus, the views which a Secretary of State forms on a proposal to designate an NPS may also address locational issues and the merits of rival schemes.

519. Having said that, the consultation process under section 7 is not concerned with the ultimate decision of whether a specific project should be approved by the grant of development consent (which would include the striking of the balance required by section 104(7)), but with representations on a policy which, by definition, the Secretary of State has already provisionally decided should appropriately be designated. The legislation proceeds on the basis that he will already have reached that stage by the time the consultation process under section 7 begins.
520. The reasoning in CREEDNZ reflects the approach taken by the House of Lords in Franklin v Minister of Town and County Planning [1947] AC 87. The New Towns Act 1946 enabled the Minister to make an order in the national interest, designating an area of land for development as a new town by a dedicated statutory corporation. Objections could be made to a draft order. The Minister was required to consider a report from an inspector on a public inquiry into any such objections before finally deciding whether to make the order. The challenge related to an order designating the new town of Stevenage. The claimant relied upon a press statement issued by the Minister and the remarks he made at a public meeting in the area while the Bill which became the 1946 Act was before Parliament, to argue that the order he subsequently made was vitiated by predetermination.
521. Lord Thankerton remarked that it was obvious that, before the draft order had been made, the Minister would have made elaborate inquiries and consulted the local authorities affected and other Government departments. There was an implicit requirement for the Minister to satisfy himself that the proposed scheme was “sound” before taking “the serious step of issuing a draft order”. The purpose of the public inquiry into objections was for the “further information” of the Minister before he gave final consideration to the soundness of the scheme (page 102).
522. Some of those at the public meeting attended by the Minister were hostile to the proposal. Hence, he had responded by saying that it was no good for them to jeer because:

“It [i.e. the designation of Stevenage as a new town] was going to be done... [T]he project will go forward, because it must go forward. It will do so more surely and more successfully with your help and co-operation. Stevenage will in a short time become world famous. People from all over the world will come to Stevenage to see how we here in this country are building for the new way of life.”

The Minister added that he had a duty to perform which, having consulted as far as possible, he would not be deterred from performing (pages 104-105).

523. The House of Lords held that, in circumstances where there was no evidence of the Minister failing to consider the Inspector’s report and objections, the only possible ground of challenge was that “his mind was so foreclosed that he gave no genuine consideration to them”. The issue was whether he had genuinely considered the

objections and the report (page 103). It was also held that the term “bias” should be confined to the exercise of judicial or quasi-judicial functions, whereas the Minister had exercised an administrative function. Having referred to authorities which lay down the principle that judicial decision-making must not be tainted by actual or apparent bias, Lord Thankerton reiterated that in the context of the Minister’s decision, “the only question is what the [Minister] actually did, that is, whether in fact he did genuinely consider the report and the objections” (page 104).

524. The House of Lords consequently held that the remarks criticised had been made in a speech of a political nature and were insufficient to demonstrate a closed mind. They showed the Minister’s “view” that the legislation would be enacted, that the Stevenage project would go forward as the first scheme and also his reaction to hostile interruptions. They were not inconsistent with the Minister having an intention to carry out his duties under the 1946 Act properly. Accordingly, the claimant had failed to establish that the Minister “had forejudged any genuine consideration of the objections or that he had not genuinely considered the objections at the later stages when they were submitted to him.” (page 105).
525. The approach taken in Franklin was followed by the Supreme Court in R (Buckinghamshire County Council) v Secretary of State for Transport [2014] UKSC 3; [2014] 1 WLR 324, in which Lord Reed JSC (at [103-4]) emphasised that it is necessary for the court to take into account the constitutional position of the decision-maker as well as the nature of the decision taken. He drew on the speech of Lord Hoffman in Alconbury (cited at paragraph 153 above) at [69] and [74]:

“In a democratic country, decisions as to what the general interest requires are made by democratically elected bodies or persons accountable to them.

...

... [A] decision as to the public interest (what I shall call for short a ‘policy decision’) is quite different from a determination of right. The administrator may have a duty, in accordance with the rule of law, to behave fairly (‘quasi-judicially’) in the decision-making procedure. But the decision itself is not a judicial or quasi-judicial act. It does not involve deciding between the rights or interests of particular persons. It is the exercise of a power delegated by the people as a whole to decide what the public interest requires.”

526. In Lewis, the local authority argued that the challenge to its determination of an application for planning permission on the grounds of pre-determination, could only succeed if *actual* and not merely *apparent* pre-determination was established (see [89]). It had previously adopted a local plan, under which land in its ownership was allocated for major leisure use linked to housing development. Subsequently, the authority entered into heads of terms with development partners who made an application to the authority for planning permission for the project. Despite the controversy to which the application had given rise, the authority took the decision to grant planning permission and also to enter into a development agreement shortly before local government elections were held. The claimant sought to quash the grant of planning permission on

the ground that there had been an *appearance* of pre-determination on the part of the planning committee, in that they *appeared* to have considered the application with closed minds.

527. The Court of Appeal rejected the claim on the merits. But in doing so, they held that although “appearance” generally had a more limited importance in this administrative context, as compared with a judicial context, it was inappropriate to restrict this type of challenge to cases of *actual* pre-determination as a matter of law. Instead, Pill LJ (with whom Rix and Longmore LJ agreed at [98] and [108] respectively) said (at [71]):

“It is for the court to assess whether committee members did make the decision with closed minds or that the circumstances did give rise to such a real risk of closed minds that the decision ought not in the public interest to be upheld.”

However, the court emphasised that members of the planning committee had been entitled to have a predisposition in favour of granting planning permission. Predisposition was to be distinguished from actual or apparent pre-determination (see [63], [95] and [106]).

528. Pill LJ referred to the role of councillors who are elected to implement planning policies. For example, they may take part in debates which may lead to the council making planning applications to itself. They may have a predisposition in favour of granting permission. Given their role within local government, “clear pointers” are required before the court may draw an inference from the circumstances that they held a closed, or apparently closed, mind at the time of the decision (see [63]). The fact that elections were imminent and that there was a risk of the majority party losing power was insufficient to justify such inference (see [64-65]). The councillors’ constitutional position bore some similarities with that of ministers taking decisions on planning issues on which they have political views and policies (see [66]). Councillors are elected to provide and pursue policies (see [69]). Pill LJ warned that care is needed when applying the fair-minded or notional observer test to allegations of *apparent* pre-determination, because there is a danger that the constitutional role of councillors may not be fully taken into account. For example, a councillor elected on a pro-scheme manifesto is not for that reason alone unable to participate in a decision to grant permission for that scheme (see [68] and [70]).
529. Rix LJ acknowledged that the apparent bias or pre-determination test involves the risk that it is too easy to pass from a permissible appearance of predisposition to an impermissible real possibility of pre-determination, but he considered that the test is nonetheless appropriate so long as it is borne fully in mind that it has to be applied in a range of very different circumstances which may have an important or even decisive bearing on the outcome (see [92]-[93]). Democratically accountable decision-makers are not expected to be independent or impartial just as if they were judges or quasi-judges. They have political allegiances and their politics will involve policies. They are not required to be impartial, but to address the planning issues before them fairly and on their merits, even though they may approach them with a predisposition in favour of one side of an argument or the other (see [94]-[95]).

530. He said that the focus is on whether the decision-maker's mind is closed or appears to be closed. The adoption of policies supporting a planning proposal would not by itself suffice to show a real possibility of pre-determination.

“96. ... Something more is required, something which goes to the appearance of a predetermined, closed mind in the decision-making itself. I think that Collins J put it well in R (Island Farm Development Ltd) v Bridgend County Borough Council [2006] EWHC 2189 (Admin); [2007] LGR 60 when he said, at [31]-[32]:

‘31. The reality is that councillors must be trusted to abide by the rules which the law lays down, namely that, whatever their views, they must approach their decision-making with an open mind in the sense that they must have regard to all material considerations and be prepared to change their views if persuaded that they should... unless there is positive evidence to show that there was indeed a closed mind, I do not think that prior observations or apparent favouring of a particular decision will suffice to persuade a court to quash the decision.

32. It may be that, assuming the Porter v Magill test is applicable, the fair-minded and informed observer must be taken to appreciate that predisposition is not predetermination and that councillors can be assumed to be aware of their obligations.

97. In context I interpret Collins J's reference to ‘positive evidence to show that there was indeed a closed mind’ as referring to such evidence as would suggest to the fair-minded and informed observer the real possibility that the councillor in question had abandoned his obligations, as so understood. Of course, the assessment has to be made by the court, assisted by evidence on both sides, but the test is put in terms of the observer to emphasise the view-point that the court is required to adopt. It need hardly be said that the view-point is not that of the complainant.”

531. Rix LJ also (at [99]) relied upon the analysis in De Smith's Judicial Review (now to be found in the 8th edition at paragraphs 10-076 to 10-086), which recognises that some decision-makers are permitted to exhibit certain kinds of bias when exercising their judgment, for example, decisions by persons or authorities empowered to initiate a proposal and then to proceed with it in the face of objections. The learned authors link this to the “doctrine of necessity” (see paragraphs 10-070 to 10-075), to which Mr Maurici also referred in oral submissions.

532. Longmore LJ said (at [102]):

“The fundamental rule of natural justice that no one should be a judge in his own cause has been the subject of considerable

elaboration over the years. It is axiomatic that no person making a decision which is subject to judicial review should in fact be biased; in most cases it is axiomatic that there should also be no appearance of bias in the sense that a decision will be liable to be quashed if a fair-minded observer, knowing all the relevant facts, would think that there was a real possibility that the decision-maker would be biased. This latter proposition has, however, been qualified in cases in which allegations of what I may call institutional or structural bias are made. Then it is not open to a litigant to say that a person or body entrusted by Parliament to make a decision cannot be allowed to do so because there is a real possibility of bias, provided that there are sufficient safeguards in place to ensure that the decision is lawful: see [Alconbury].”

533. Having stated that predisposition towards a particular outcome is not objectionable (at [106]), Longmore LJ went on (in [107]):

“What is objectionable, however, is ‘pre-determination’ in the sense I have already stated, namely, that a relevant decision-maker made up his or her mind finally at too early a stage. That is not to say that some arguments cannot be regarded by any individual member of the planning authority as closed before (perhaps well before) the day of decision, provided that such arguments have been properly considered. But it is important that the minds of members be open to any new argument at all times up to the moment of decision.”

He defined ‘pre-determination’ (at [105]) as follows:

“The particular kind of apparent bias, the real risk of which was alleged (and found by the judge) to exist in the present case, is that of ‘pre-determination’ namely, that one or more members of the decision-making committee had made up their minds and come to a determination before the right moment for decision had come.”

534. Although Longmore LJ agreed that *apparent* as well as *actual* pre-determination could be relied upon to challenge the decisions of local planning authorities, he accepted that a less exacting approach might be justifiable in relation to ministerial decisions. He said (at [111]):

“Planning decisions entrusted to a local authority are very different from ministerial decisions taken by government and I do not consider that authorities relating to apparent predetermination in that latter context can automatically apply to the former context since the risk of bias is institutionally present and permitted to be so by the relevant legislation. The CREEDNZ Inc case is very similar to [Alconbury] and cannot carry Mr Drabble home in the present case.”

535. Counsels’ diligent researches have not found any domestic case law relying upon the analysis in CREEDNZ to hold that a pre-determination challenge to a ministerial decision can only succeed if an actual closed mind, rather than an appearance of a closed mind, is established. We accept that that appears to have been the gist of Franklin; but that was only in the context of argument which drew a straightforward distinction between decision-making in the context of judicial/quasi-judicial functions on the one hand and administrative functions on the other. We see force in the reasoning in CREEDNZ, and of Longmore LJ in Lewis; but these are matters which require to be argued and considered more fully. For the purposes of this judgment, we will proceed on the basis that either actual or apparent pre-determination could in principle suffice to establish a ground of challenge.

Discussion

536. In his witness statements, Councillor Puddifoot helpfully set out statements made by the Secretary of State which are relied upon in order to support this ground of challenge. It is unnecessary for us to set out in this judgment every passage in statements made by the Secretary of State which we have been asked to consider. It is sufficient to set out a few of them – the ones which the Hillingdon Claimants considered the stronger – by way of example.

537. Councillor Puddifoot refers to a press release issued on about 25 October 2016:

“The scheme [a new runway at Heathrow] will now be taken forward in the form of a draft “National Policy Statement” (NPS) for consultation”

He suggests that this indicates the view that the Secretary of State considered there to be only one option, i.e. the NWR Scheme; and so had made his mind up.

538. However, we do not consider this to be a fair and proper understanding of the statement, particularly when it is read in context. Even when the draft ANPS was published in February 2017, the NWR Scheme was identified as the “preferred” scheme. Although the ANPS explained why the expansion of Gatwick would not meet “the hub objective”, and why the NWR Scheme was also preferred as against the ENR Scheme at Heathrow, these views were, as the press statement had indicated, subject to consultation. However, as we have explained above (see paragraphs 318-319), the consultation process left open the possibility of consultees (e.g. GAL) persuading the Secretary of State that either less importance should be given to the “hub objective” or that Gatwick could meet that objective. In our view, the press statement does not indicate a closed mind or a real risk of a closed mind, whether read by itself or in conjunction with all the other material relied upon in support of this challenge. This material is entirely consistent with the Secretary of State being open to persuasion to alter the proposed policy in the light of the consultation responses received.

539. On 21 November 2016 the Secretary of State made a speech to the Airport Operators Association Conference in which he said:

“... [O]n October 25th I announced the government’s support for a new northwest runway at Heathrow. There were 3 good proposals on the table. But the new runway at Heathrow was the

right decision – for Britain and the aviation industry. With room for an extra 260,000 aircraft movements a year, the new runway will deliver more flights, more destinations and more growth. The benefits to passengers and the wider economy will be worth up to £61 billion. It will bring more business and tourism to Britain, and offer more long-haul flights to new markets. By expanding Heathrow, we will show that we are open for business, confident about who we are as a country, and ready to trade with the rest of the world. And the project will include a world-leading package of compensation and mitigation for local communities. Worth up to £2.6 billion, it will address air quality, noise disturbance and provide generous compensation for any loss of homes. And we’re going to get cracking building the new runway as soon as possible. That’s why we’re delivering it using [an NPS]. Once the statement has been designated by a vote in the House of Commons, we will grant a development consent order and the airport operator can submit a detailed planning application, confident that the high-level arguments are settled and won’t be re-opened by the planning inspector.”

The complaint is that that speech went further than merely explaining the reasons for the Government’s policy preference. It contains statements of intent that the new runway would be built as soon as possible and that “we are delivering it”.

540. However, these strongly expressed statements, and others in the same speech, were all uttered in the context of the statutory process for the designation of the NPS proposed by the Secretary of State. Just as in CREEDNZ and Franklin, statements of this nature are simply insufficient to show that the decision-maker had already made up his mind and was not open to persuasion, so that there would be no genuine consideration of objections and representations in the consultation process.

541. There are three further passages particularly relied upon. First, in a speech to the Conservative Party conference on 2 October 2017 (quoted in Puddifoot 1, paragraph 141), the Secretary of State is reported as saying:

“I was proud to be the Transport Secretary who announced that we intend to go ahead and build a third runway at Heathrow Airport. Subject to the necessary consultation work and securing the backing of Parliament, we are aiming to give it the formal go-ahead in the first half of next year.”

542. Second, in an extract from his speech to “Airlines UK” on 24 January 2018 (quoted in Puddifoot 1, paragraph 143), the Secretary of State said:

“We are currently considering responses to the draft [ANPS]. Plans remain on track for a vote in Parliament in the first half of this year. However, I also want to stress that now is not the time to undermine the scheme in any way. Until the Parliamentary process is complete and the vote in Parliament has been delivered, we need the whole aviation industry to support the new runway. With such manifest benefits for airlines, other UK

airports, and the wider economy, we need to keep focused on the prize to come and work together as an industry to deliver the right expansion programme at the right price.”

543. Third, in another speech to Airlines UK, this time on 24 May 2018 and not long before the ANPS was designated (quoted in Puddifoot 1, paragraphs 145-146), the Secretary of State said:

“Despite countless consultations, inquiries, commissions, reports and white papers... the key question of how we secure our long-term hub capacity in the south-east...and maintain London’s position as one of the best-connected cities in the world...remains unanswered. But today as the government makes its final considerations ahead of a likely vote in Parliament this summer on the new runway at Heathrow, we are closer than ever before to providing that answer... and delivering the long-term capacity... that passengers need... that airlines need... that London needs... and that the whole country needs. I cannot of course pre-empt the Government’s final decision. That will come after carefully considering all the consultation responses and the Transport Committee’s recommendations.

...

But that doesn’t mean we can’t continue to build support for the project at this late stage. No matter how familiar we are with its benefits... It is absolutely vital that we keep articulating the case for the proposed runway... Getting our messages across to those who may be unaware of the huge economic implications of this decision. Above all, this is a decision that should be taken in the national interest, a massive infrastructure scheme that would create tens of thousands of local jobs and apprenticeships and very many more in the wider economy, that would increase choice and value, with cheaper fares and fewer delays for passengers and that would boost domestic connections, plugging every region of Britain into the global economy. But Parliamentary support is far from a done deal. I cannot stress that enough. So over the coming days and weeks, we must continue to hammer home our message why new hub capacity is so important to Britain. With Heathrow already losing ground to competitors like Paris, Amsterdam and Dubai and with demand for air travel growing even faster than we thought a few years ago, we need to make clear the implications if Heathrow cannot grow for tourism, for inward investment and for businesses and jobs. So, I urge everyone here... in the run up to any parliamentary vote this summer, when these issues will be debated at length in the media... to give vocal support to the scheme.”

544. Undoubtedly, the passages relied upon by the Hillingdon Claimants show a strong predisposition to advance the merits of the NWR Scheme; but, in our view, they do not

go so far as to provide positive evidence that there was a closed mind, or a real risk of a closed mind, which would not genuinely consider attempts to persuade him to come to a different view. Indeed, in our view, they fall far short of doing so.

545. Paul Baker is the Lead Environmental Policy Officer at the London Borough of Hammersmith and Fulham. In Baker 1, he sets out extracts from a leaflet, equivalent to only two sides of A4 paper, issued by the DfT in February 2017 at the beginning of the February 2017 Consultation process, entitled “Have Your Say” (referred to at paragraph 67 above). He criticises this for failing to refer to potential disadvantages of the NWR Scheme or to alternatives, which was also reflected in the questions posed to members of the public. The Hillingdon Claimants also rely upon a criticism made by Sir Jeremy Sullivan, the Independent Consultation Adviser, that the leaflet was a “hard sell” for Heathrow. But it should be noted that Sir Jeremy concluded that, taken overall (and disregarding two “exceptions” which are irrelevant to the present issue), the consultation had been well-planned, well-executed and carried out to a high standard. Indeed, Mr Baker very fairly refers to key parts of the main consultation documents published by the DfT and accepts that they do not suffer from the criticism he levels at “Have Your Say” (Baker 1, paragraphs 8-18).
546. The real question remains whether this short leaflet, “Have Your Say”, can be said to indicate that the Secretary of State had a closed mind, or that there was a real risk of this being the case. Given the difference of approach between that leaflet with its headline points, and the more detailed consultation materials to which Mr Baker referred, it is impossible to say that the leaflet could be taken to indicate pre-determination of either kind. Instead, it is wholly consistent with a strong predisposition in favour of the NWR, something which is not open to legal challenge. The same analysis applies to the similar criticisms made of information presented at local events arranged for members of the public, even taking those criticisms at face value.
547. The Hillingdon Claimants also rely upon the decision by the Secretary of State taken towards the end of September 2017, and prior to the second, October 2017 consultation period, to treat the Gatwick 2R Scheme as not an “alternative solution” for the purposes of an amended HRA, on the grounds that it was judged not to fulfil the “hub objective”. In our judgment, there is no merit whatsoever in this point. As we have explained above (see paragraphs 318-319), the decision to amend the HRA reflected a policy objective of successive Governments, which had been referred to in the February 2017 draft ANPS, namely to maintain the UK’s hub status. That objective formed part of the proposed ANPS upon which consultation took place in 2017, and was entirely consistent with the Secretary of State’s policy pre-disposition. It does not indicate a closed mind during the process leading up to designation, or any real risk of there having been a closed mind.
548. The Hillingdon Claimants’ reliance upon the challenge in Claim No CO/3071/2018 to the Secretary of State’s treatment of the ENR Scheme appears wrongly to assume that the Claimants in that case have alleged pre-determination on his part. They have not done so. In any event, no attempt has been made by the Hillingdon Claimants to show that the grounds in that claim are relevant to establishing pre-determination. In our judgment, it is plain that they are not.

549. For those reasons, none of the submissions pressed by Mr Fleming on behalf of the Hillingdon Claimants has been made good.

Ground 17: Mr Spurrier's Consultation Ground

550. Mr Spurrier to a large extent simply relied upon the submissions made on behalf of the Hillingdon Claimants. The additional points which he raised in his written submissions – they were not developed orally – concern responses given by the Secretary of State on certain issues raised by consultees in the consultation exercise. We need not set them out.
551. In our view, none of these support any allegation of pre-determination, actual or apparent. At their highest, they could only go to the fourth Gunning principle; but, in the light of the principles stated by the Court of Appeal in West Berkshire and by Ouseley J in Buckinghamshire County Council (see paragraphs 131-137 above), in our judgment none of the additional complaints made involves any arguable error of law. The Secretary of State was clearly entitled, as a matter of law, to rely upon the reasoning the adequacy or merits of which Mr Spurrier seeks to dispute.

Conclusion

552. For the above reasons, the answer to Issue 11 is “No”: the ANPS is not unlawful by reason of the Secretary of State not carrying out the consultation with an open mind; and Grounds 10 and 17 fail.

Bias

553. As Ground 18, Mr Spurrier submits that the decision to designate the ANPS was tainted with bias. He submits that the Chairman of the AC, Sir Howard Davies, was tainted by actual or apparent bias because he had previously acted as an advisor to the Investment Strategy Committee and had been a member of the International Advisory Board of GIC, a sovereign wealth fund established by the Government of Singapore and a substantial shareholder in FGP Topco Limited, the holding company of HAL.
554. There is no evidence at all of actual bias. In respect of apparent bias, the test is whether the circumstances would lead a fair-minded and informed observer to conclude that there was a real possibility that the decision-maker was biased (Magill v Porter [2001] UKHL 67; [2002] 2 AC 357 at [103] per Lord Hope of Craighead).
555. The allegation of apparent bias here has no merit. It is fully answered in the Secretary of State's written submissions (at paragraph 145). In short, Sir Howard Davies resigned from his role at GIC at the point at which he accepted the Government's invitation to chair the AC as the Secretary of State's written submissions recounts. No objective observer would conclude that there was any real risk of Sir Howard Davies' judgment being distorted by his previous role. There is no arguable appearance of bias.
556. Furthermore:
- i) Mr Spurrier raised the issue of bias in correspondence in 2015 and he could have, but did not, judicially review the AC's Final Report on the grounds of bias. It is far too late for him to raise the issue again now.

- ii) A challenge to the findings of the AC falls outside the scope of section 13 of the PA 2008 under which this challenge is brought.

557. Therefore, our answer to issue 12 is “No”; the ANPS is not unlawful by reason of actual and/or apparent bias; and Ground 18 fails.

Climate Change

Background

558. Various gases, including carbon dioxide (CO₂), occur naturally in the atmosphere and are essential for living things (including man) by acting as a blanket which traps heat with the result that surface temperatures are about 30°C higher than they would be without those gases. This is the so-called “greenhouse effect”, and the gases are referred to as “greenhouse gases” (“GHGs”).
559. However, the release of additional GHGs from the use of fossil fuels and various industrial processes has added to the blanket, making it more efficient in trapping the sun’s energy, so affecting the balance between incoming and outgoing radiation and leading to a rise in global temperatures. That association has not been uncontroversial, but it is now generally accepted – and accepted by all parties before the court – that (i) the concentration of GHGs in the earth’s atmosphere is directly linked to average global temperatures, (ii) the concentration of GHGs has been rising steadily – and, with it, mean global temperatures – since the start of the Industrial Revolution and (iii) the most abundant GHG, accounting for at least two-thirds of all GHGs, is carbon dioxide (CO₂) which is largely the product of burning fossil fuels. The increase in global temperature has resulted in (amongst other things) sea level change; a decline in glaciers, the Antarctic ice sheet and Arctic sea ice; alterations to various ecosystems; and in some areas a threat to food and water supplies. It is potentially catastrophic.
560. Climate change is a global phenomenon, which can only be tackled on a global basis. Over time, global targets have thus been set by international agreement in the light of evolving information and knowledge; and each state has determined the individual contribution to that target which it considers it can make.
561. It began in 1992, when the United Nations (“the UN”) adopted the United Nations Framework Convention on Climate Change (“the UNFCCC”). The ultimate objective of the Convention is to stabilise the concentration of GHGs in the atmosphere “at a level that would prevent dangerous anthropogenic interference with the climate system” (article 2). Signatory states were required to establish a national GHG inventory, used to create 1990 benchmark levels; and they made a general commitment to address climate change through (e.g.) climate change mitigation (article 4), on the basis of “common but differentiated responsibilities” (article 3). All UN Member States, and the EU, have ratified the UNFCCC.
562. In Annex A to the UNFCCC, a specific aim was stated to be that developed countries would stabilise their GHGs at the 1990 benchmark level by 2000. However, as data continued to be collected, it was considered that that would be inadequate to address the problem. Further discussions led to the Kyoto Protocol, an international treaty adopted on 11 December 1997 and entering into force on 16 February 2005, by which a number of state parties (including the UK and the EU) were committed to reducing

emissions of six identified GHGs (including CO₂) from the 1990 benchmark in the initial reduction period of 2008-12, each by an identified percentage, that for the UK being 12.5%. That was supported by a number of emissions trading schemes (“ETSs”), including the European Union ETS under which national emission caps are approved by the EU and then distributed to national operators who may reassign or trade their allowances. In 2012, under the Doha Amendment to the Kyoto Protocol, a second commitment period to 2020 was agreed by some states.

563. The UK appreciated the desirability of tackling climate change, and wished to take a more rigorous domestic line. In the 2003 White Paper, “Our Energy Future – Creating a Low Carbon Economy”, the Government committed to reduce CO₂ emissions by 60% on 1990 levels by 2050; and to achieve “real progress” by 2020 (which equated to reductions of 26-32%). The 60% figure emanated from the EU Council of Ministers’ “Community Strategy on Climate Change” in 1996, which determined to limit emissions to 550 parts per million (ppm) on the basis that to do so would restrict the rise in global temperatures to 2°C above pre-industrial levels which, it was then considered, would avoid the serious consequences of global warming. However, by 2005, there was scientific evidence that restricting emissions to 550ppm would be unlikely to be effective in keeping the rise to 2°C; and only stabilising CO₂ emissions at something below 450ppm would be likely to achieve that result.
564. Parliament addressed these issues in the Climate Change Act 2008 (“the CCA 2008”), passed the same day as the PA 2008 (26 November 2008).
565. Section 32 established a Committee on Climate Change (“the CCC”), an independent public body to advise the UK and devolved Governments and Parliaments on tackling climate change, including on matters relating to the UK’s statutory carbon reduction target for 2050 and the treatment of GHGs from international aviation.
566. Section 1 gives a mandatory target for the reduction of UK carbon emissions, in the following terms:

“It is the duty of the Secretary of State [then, the Secretary of State for Energy and Climate Change: now, the Secretary of State for BEIS] to ensure that the net carbon account for the year 2050 is at least 80% lower than the 1990 baseline”.

The figure of 80% was substituted for 60% during the passage of the Bill, as evolving scientific knowledge suggested that the lower figure would not be sufficient to keep the rise in temperature to 2°C in 2050. Therefore, although the CCA 2008 makes no mention of that temperature target, as said in the CCC October 2016 Report (see paragraph 583 and following below):

“This 2050 target was derived as a contribution to a global emissions path aimed at keeping global average temperatures to around 2°C above pre-industrial levels.”

There is no doubt – and no party suggests otherwise – that the statutory target of a reduction in carbon emissions by 80% by 2050 was Parliament’s response to the international commitment to keep the global temperature rise to 2°C above pre-industrial levels in 2050.

567. The Secretary of State for BEIS has the power to amend that percentage (section 2(1) of the CCA 2008), but only:
- i) if it appears to him that there have been significant developments in scientific knowledge about climate change since the passing of the Act, or developments in European or international law or policy (section 2(2) and (3)): the Explanatory Note to the Act says, as must be the case, that “this power might be used in the event of a new international treaty on climate change”;
 - ii) after obtaining, and taking into account, advice from the CCC (section 3(1)); and
 - iii) subject to Parliamentary affirmative resolution procedure (section 2(6)).
568. Section 1 of the CCA 2008 sets a target that relates to carbon only. Section 24 enables the Secretary of State for BEIS to set targets for other GHGs, but subject to similar conditions to which an amendment to the section 1 target is subject.
569. In addition to the carbon emissions target set by section 1 – and no doubt to ensure compliance with it (see sections 5(1)(b) and 8) – the Secretary of State for BEIS is also required to set for each succeeding period of five years, at least 12 years in advance, an amount for the net UK carbon account (“the carbon budget”); and ensure that the net UK carbon account for any period does not exceed that budget (section 4). The carbon budget for the period including 2020 was set to be at least 34% lower than the 1990 baseline.
570. Section 10(2) sets out various matters which are required to be taken into account when the Secretary of State for BEIS sets, or the CCC advises upon, any carbon budget, including:
- “(a) scientific knowledge about climate change;
 - (b) technology about climate change;
 - (c) economic circumstances, and in particular the likely impact of the decision on the economy and the competitiveness of particular sectors of the economy;
 - (d) fiscal circumstances, and in particular the likely effect of the decision on taxation, public spending and public borrowing;
 - (e) social circumstances, and in particular the likely impact of the decision on fuel poverty;
 - (f) ...
 - (h) circumstances at European and international level;
 - (i) the estimated amount of reportable emissions from international aviation and international shipping...”.
571. Therefore, although for the purposes of the CCA 2008 emissions from GHGs from international aviation do not generally count as emissions from UK sources (section

30(1)), by virtue of section 10(2)(i), in relation to any carbon budget, the Secretary of State for BEIS and CCC must take such emissions into account.

572. Ms Low explains (Low 1, paragraph 456) that the CCC has interpreted that as requiring the UK to meet a 2050 target which includes these emissions. The CCC has advised that, to meet the 2050 target on that basis, emissions from UK aviation (domestic and international) in 2050 should be no higher than 2005 levels, i.e. 37.5 megatons (million tonnes) of CO₂ (MtCO₂). This is referred to by the Claimants as “the Aviation Target”. However, the APF explains that the Government decided not to take a decision on whether to include international aviation emissions in its carbon budgets, simply leaving sufficient headroom in those budgets consistent with meeting the 2050 target including such emissions, but otherwise deferring a decision for consideration as part of the emerging Aviation Strategy. The Aviation Strategy is due to “re-examine how the aviation sector can best contribute its fair share to emissions reductions at both UK and global level” (paragraph 9 of the Climate Change Annex to the Agreed Statement). It is due to be finalised and adopted later this year.
573. The restriction of aviation emissions to 37.5 MtCO₂ not having been adopted by the Government, but being assumed by the CCC for planning purposes, the Secretary of State in this claim does not consider the term “Aviation Target” is apt, and prefers “the Planning Assumption”; but, for ease of reference and without prejudice to that point, we shall use “Aviation Target” for the purposes of this judgment.
574. With respect to the Aviation Target, the CCC advised that, if aviation emissions at 37.5MtCO₂ were included in the 2050 aggregate carbon target, then this target could be achieved through reducing emissions in other sectors by 85% on 1990 levels. With regard to this, the CCC have said (see paragraph 11 of the Climate Change Annex to the Agreed Statement):
- “Reducing emissions in other sectors by 85% in 2050 on 1990 levels is at the limit of what is feasible, with limited confidence about the scope for going beyond this. It is of course possible that there may be scope to reduce emissions more in other sectors, which would allow aviation demand to grow by more than 60% in 2050. However, this may well be the limit, here and in other developed countries, compatible with achieving the internationally agreed climate objective.”
575. From about 2010, concerns emerged as to whether keeping global average temperatures to around 2°C above pre-industrial levels would be adequate to combat climate change effectively, because (amongst other things) it appeared that CO₂ was being absorbed at a slower rate than anticipated and some of the effects of global warming appeared to be emerging quicker than expected. As a result, a number of states (including, in line with the APF, the UK Government) invested heavily in obtaining a further international agreement.
576. The result was the Paris Agreement, an agreement within the UNFCCC but outside the Kyoto Protocol, adopted by consensus on 12 December 2015 following the 21st Conference of the Parties of the UNFCCC. The UK ratified the Paris Agreement on 17 November 2016.

577. In the recitals, the parties “[recognised] the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge”.

578. Article 2 of the Paris Agreement states:

“1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change;

(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and

(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

2. This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.”

579. So far as implementation and the commitment of individual states are concerned, article 4 states (so far as relevant to these claims):

“1. In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognising that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

2. Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

3. Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances."

580. The Paris Agreement thus comprised a firm international commitment to restricting the increase in the global average temperature to "well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", as well as an aspiration to achieve net zero GHG emissions during the second half of the 21st century. It further required each state to determine its own contribution to the article 2 target.

581. In October 2016, the CCC published a report on the implications of the Paris Agreement and recommendations for action by the UK, "UK climate action following the Paris Agreement", which, at page 16, said:

"The 2050 target is potentially consistent with a wide range of global temperature outcomes."

582. The report acknowledged that:

"The [Paris] Agreement describes a higher level of global ambition than the one that formed the basis of the UK's existing emissions reduction targets:

- The UK's current long-term target is a reduction in greenhouse gas emissions of at least 80% by the year 2050, relative to 1990 levels. This 2050 target was derived as a contribution to a global emissions path aimed at keeping global temperatures to around 2°C above pre-industrial levels.
- The Paris Agreement aims to limit warming to well below 2°C and to pursue efforts to limit it to 1.5°C. To achieve this aim, the Agreement additionally sets a target for net zero global emissions in the second half of the century."

583. However, the CCC recommended that the UK should not change the CCA 2008 target now, but rather focus on meeting that target. Section 4 stated:

"Current policy in the UK is not enough to deliver the existing carbon budgets that Parliament has set. The Committee's assessment in our 2016 Progress Report was that current policies would at best deliver around half of the emissions reductions required by 2030, with no current policies to address the other half. This carbon policy gap must be closed to meet the existing carbon budgets, and to prepare for the 2050 target and net zero emissions in the longer term.

The existing carbon budgets are designed to prepare for the UK's 2050 target in the lowest cost way as a contribution to a global path aimed at keeping global average temperature to around 2°C. Global paths to keep close to 1.5°C at the upper end of the ambition in the Paris Agreement, imply UK reductions of at least 90% below 1990 levels by 2050 and potentially more ambitious efforts over the timescale of existing carbon budgets.

However, we recommend the Government does not alter the level of existing carbon budgets or the 2050 target now. They are already stretching and relatively ambitious compared to pledges from other countries. Meeting them cost-effectively will require deployment to begin at scale by 2030 for some key measures that enable net zero emissions (e.g. carbon capture and storage, electric vehicles, low-carbon heat). In theory these measures could allow deeper reductions by 2050 (of the order of 90% below 1990 levels) if action were ramped up quickly.

The priority now should be robust near-term action to close the gap to existing targets and open up options to reach net zero emissions...

There will be several opportunities to revisit the UK's targets in future as low-carbon technologies and options for greenhouse gas removals are developed, and as more is learnt about ambition in other countries and potential global paths to well below 2°C and 1.5°C:

- 2018: the Intergovernmental Panel on Climate Change ('IPCC') will publish a Special Report on 1.5°C, and there will be an international dialogue to take stock of national actions.
- 2020: the Committee will provide its advice on the UK's sixth carbon budget, including a review of progress to date, and nations will publish mid-century greenhouse gas development plans.
- 2023: the first formal global stocktake of submitted pledges will take place.

We will advise on whether to set a new long-term target, or to tighten UK carbon budgets, as and when these events or any others give rise to significant developments."

584. Plan B Earth pressed the Secretary of State for BEIS to revise the 2050 carbon target under the CCA 2008 on the basis that, following the Paris Agreement, he was obliged to do so. The Secretary of State refused; and Plan B Earth and eleven other claimants issued proceedings against the Secretary of State for BEIS and the CCC to require them to do so ("the Carbon Target JR"). In response to the claimants' Reply to the Summary

Grounds of Defence in that claim, served on 10 April 2018, the CCC said (at paragraph 11(v)):

“The CCC recommended no change to the existing UK 2050 target (at that time, October 2016), not because a more ambitious target was infeasible, but rather because the existing UK target was potentially consistent with more ambitious global temperature goals, including that in the Paris Agreement”.

585. Following refusal of permission to proceed by Lang J on the papers, Supperstone J refused permission at an oral hearing ([2018] EWHC 1892 (Admin)), finding:

- i) The Paris Agreement does not impose any legally binding target on each specific contracting party to achieve any specified temperature level by 2050 (see [30]).
- ii) Section 2 of the CCA 2008 gave the Secretary of State a power, but did not impose a duty, to amend the 2050 target in the event of developments in scientific knowledge or international law or policy (see [38]).
- iii) The CCC’s advice as at October 2016 was that the existing 2050 target is potentially consistent with a wide range of temperature outcomes, and was compatible with the Paris Agreement (see [25]).
- iv) On the basis of the advice from the CCC, the Secretary of State was plainly entitled to refuse to change the 2050 target (see [42]).
- v) The alleged failure of the Secretary of State to take preventative measures in the face of climate change was not arguably a breach of article 2 or 8, or of article 1 of the First Protocol (“A1P1”) to, the European Convention on Human Rights (“ECHR”) (see [48]-[49]).

Asplin LJ refused permission to appeal on 22 January 2019.

586. For the sake of completeness, we should add that Plan B Earth also asked the Secretary of State to review the ANPS under section 6 of the PA 2008 (see paragraph 26 above) on the basis that the development of scientific knowledge as reflected in the Paris Agreement was a “significant change in circumstances” upon which the policy had been decided. By letter dated 27 November 2018, that request was declined (Low 1, paragraphs 288-293). That decision was judicially reviewable, but no challenge was made.

587. Again returning to the chronology, in October 2017, the Government published its “Clean Growth Strategy”, which stated (at page 8):

“The actions and investments that will be needed to meet the Paris commitments will ensure the shift to clean growth will be at the forefront of policy and economic decisions made by governments and businesses in the coming decades.”

588. In January 2018, the CCC published a report, “An independent assessment of the UK’s Clean Growth Strategy”. Having referred to the statutory targets set out in the CCA 2008, it stated:

“However, the Paris Agreement is likely to require greater ambition by 2050 and for emissions to reach net zero at some point in the second half of the century. It is therefore essential that actions are taken now to enable these deeper reductions to be achieved....

... [D]eeper reductions will be required to meet the aims of the Paris Agreement, whether by 2050 or subsequently. Development of [carbon capture and storage], combined with very low emissions from transport, buildings and power generation by 2050 (i.e. emissions reductions across those sectors of at least 90%), progress in ‘difficult to reduce sectors’ (e.g. agriculture and aviation) and, if feasible, deployment of GGR technologies, would retain the potential for reductions of more than 80% to be achieved.

In our advice on ‘UK Climate Action Following the Paris Agreement’, the Committee recommended that the Government wait to set more ambitious long-term targets until it had strong policies in place for meeting existing budgets and the evidence base is firmer on the appropriate level for such targets. The [IPCC] will produce a Special Report on the implications of the Paris Agreement’s 1.5°C ambition in 2018. At that point, the Government should request further advice from the Committee on the implications of the Paris Agreement for the UK’s long-term emissions targets.”

589. It is Plan B Earth’s case that the Government must have reviewed drafts of the IPCC Special Report (and therefore known the thrust of the report) before the designation of the ANPS on 26 June 2018 – and it is common ground that governments around the world reviewed the draft report between 8 January and 25 February 2018 (see paragraph 25 of the Climate Change Annex to the Agreed Statement) – although the content of those drafts is not known, and it common ground that the final version incorporated input from the review stage. In any event, on 17 April 2018, the Government announced at the Commonwealth Heads of Government Meeting that it would review and revise climate change targets following publication of the IPCC report.
590. The IPCC Special Report on Global Warming of 1.5°C was published on 8 October 2018. We were referred to the IPCC press release which accompanied the report, which we understand accurately sets out the main conclusions. The report concludes that limiting global warming to 1.5°C above pre-industrial levels, as opposed to 2°C, would significantly reduce the risks of “challenging impacts” on ecosystems and human health and well-being; and that meeting a 1.5°C target is possible but would require “deep emissions reductions” and “rapid, far-reaching and unprecedented changes in all aspects of society”. For global warming to be limited to 1.5°C, global net emissions of CO₂ would need to fall by about 45% from 2010 levels by 2030, reaching zero by 2050.
591. The Government has commissioned the CCC to provide advice on options for the date by which the UK should achieve (i) a net zero GHG target and/or (ii) a net zero carbon target in order to contribute to the global ambitions set out in the Paris Agreement, including whether now is the right time to set such a target (Low 2, paragraph 46).

592. In the meantime, following public consultation, in April 2018, the Government published “Beyond the horizon – The Future of UK Aviation: The Next Steps towards an Aviation Strategy”, which examines the draft Aviation Strategy in the light of the consultation responses and calls for further evidence. Following the publication of a Green Paper, “Aviation 2050 – The Future of UK Aviation”, there was a further period of consultation, which is due to end in June 2019. It is expected that a final version of the Aviation Strategy will be published later this year.

The ANPS

593. The AC was well aware that climate change too was an important matter with which it had to grapple. One of its members (Professor Dame Julia King, now Baroness Brown of Cambridge) was a member and Deputy Chair of the CCC. The work which the AC or the DfT did or commissioned on climate change for the purposes of the ANPS is set out in the evidence of Ms Low (see especially Low 1, paragraphs 471-499). The work was very substantial indeed.
594. The AC integrated the Aviation Target into its approach, and developed two sets of forecasts: one with a firm aviation emissions cap of 37.5 MtCO₂ in place by 2050, and the other assuming carbon trading. The AC Final Report concluded that, whilst the Gatwick 2R Scheme was associated with the lowest additional emissions, each of the two Heathrow schemes was capable of being delivered within the CCA 2008 obligations. Generally, the Claimants make no complaint about the AC’s analysis or conclusion.
595. Following further analysis and consultation, during which concerns were raised about the impact of expansion on the UK’s ability to meet its climate change commitments, the Secretary of State agreed with the AC: expansion through any of the three short-listed schemes was “consistent with the UK’s carbon obligations” (paragraph 8.23 of the Government Response to the Consultations on the ANPS). So far as the NWR Scheme is concerned, that is reflected in the ANPS itself, which at paragraph 3.7 states:

“The Government agrees with the [AC’s] assessment that a new runway [as part of the NWR Scheme] is deliverable within the UK’s climate change obligations.”

596. Carbon emissions are dealt with substantively in paragraphs 3.61-3.69 of the ANPS, as follows:

“3.61 Although not a differentiating factor between the three short-listed schemes, the Government has considered the issue of carbon emissions, given the Government’s commitment to tackle climate change, and its legal obligations under the [CCA] 2008.

3.62 The [AC] identified carbon impacts from expansion in four areas: a net increase in air travel; airside ground movements and airport operations; changes in travel patterns as a result of the scheme’s surface access arrangements; and construction of new infrastructure. Emissions from air travel, specifically international flights, are by far the largest of these impacts.

3.63 To address uncertainties over the future policy treatment of international aviation emissions, the [AC] used two carbon policy scenarios in its analysis.

3.64 The first was a ‘carbon capped’ scenario, in which emissions from the UK aviation sector are limited to the [CCC’s] planning assumption for the sector of 37.5 [MtCO₂] in 2050. The second was a ‘carbon traded’ scenario, in which emissions are traded as part of a global carbon market, allowing reductions to be made where they are most efficient across the global economy.

3.65 The [AC] then assessed whether the needs case could be met under each of these scenarios, that is whether expansion would still deliver the necessary improvements and provide benefits to passengers and the wider economy. The Government has updated this analysis to take account of the latest passenger demand forecasts.

3.66 This further analysis reinforces the conclusion that any one of the three short-listed schemes could be delivered within the UK’s climate change obligations, as well as showing that a mix of policy measures and technologies could be employed to meet the [CCC’s] planning assumption.

3.67 Of the three short-listed schemes, the [NWR Scheme] produces the highest carbon emissions in absolute terms. However, this is in part due to the greater additional connectivity provided by the scheme, and, in relation to the increase in emissions caused by expansion under any of the schemes, the differences between the schemes are small. Both of the carbon policy scenarios incorporated measures to ensure that the increased emissions from any of the short-listed schemes were not additional overall either at the global level (in the carbon traded case) or at the UK level (in the carbon capped case).

3.68 The further analysis also shows that, in both carbon policy scenarios, the [NWR Scheme] would deliver significant benefits to passengers and the wider economy (such as lower fares, improved frequency and higher productivity), and would do so more quickly than the [Gatwick 2R Scheme]. Both Heathrow schemes provide more passenger benefits by 2050 than the [Gatwick 2R Scheme].

3.69 The Government has considered this further analysis, and concludes both that expansion via a Northwest Runway at Heathrow Airport (as its preferred scheme) can be delivered within the UK’s carbon obligations, and that the scheme is the right choice on economic and strategic grounds regardless of the future regime to deal with emissions from international aviation.”

597. Therefore, as this passage reflects, the AC had considered all three short-listed schemes (including the NWR Scheme) in the context of two possible ways in which international aviation carbon emissions might be dealt with as a matter of policy in the future: (i) a “carbon cap” in which emissions from the UK aviation sector were limited to the Aviation Target of 37.5 MtCO₂ in 2050, and (ii) “carbon trading” which would involve capping-and-trading or (as in the current European Emissions Trading System) a process involving the buying and selling of permits and credits to emit CO₂. The AC considered that the NWR Scheme (and the other two schemes) could be delivered within the UK’s obligations on either basis; a conclusion with which, after further analysis and updating of passenger demand forecasts, the ANPS agreed.
598. Paragraphs 4.41-4.52 concern “Climate change adaptation”; and set out the assessment principles upon which such adaptation will be assessed for the purposes of a DCO application.
599. Paragraphs 5.76-5.83 set out how the carbon emissions impacts of any scheme brought forward for development consent will be assessed. The applicant is required to provide evidence of the carbon impact against the Government’s carbon obligations (paragraph 5.76); and satisfy the Secretary of State as to the acceptability of mitigation measures put forward (paragraph 5.78). In respect of decision-making on any application, paragraph 5.82 states:
- “Any increase in carbon emissions alone is not a reason to refuse development consent, unless the increase in carbon 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.”
600. Following the Secretary of State’s announcement to the House of Commons about the ANPS on 5 June 2018, on 14 June 2018 the Chair of the CCC (Lord Deben) and Deputy Chair (Baroness Brown) wrote to him expressing surprise that he did not refer to the Paris Agreement commitments, and stressing the need for any airport expansion to be compatible with the 2050 climate objectives. The letter continued:
- “In its projections, the [CCC] has made a relatively generous provision for aviation emissions compared to other sectors:
- Our analysis has illustrated how an 80% economy-wide reduction in emissions could be achieved with aviation emissions at 2005 levels in 2050. Relative to 1990 levels this is a doubling of emissions, and an increase in its share of total emissions from 2% to around 25%. We estimate that this would allow for around 60% growth in aviation demand, dependent on the delivery of technological and operational improvements and some use of sustainable biofuels.
 - Aviation emissions at 2005 levels in 2050 means other sectors must reduce emissions by more than 80%, and in many cases will likely need to reach zero.

- Higher levels of aviation emissions in 2050 must not be planned for, since this would place an unreasonably large burden on other sectors.”

601. The Secretary of State responded, reminding the CCC that the proposed ANPS made clear that an increase in carbon emissions that would have a material impact on the ability of Government to meet its carbon reduction targets would be a reason to refuse development consent; and the Government was confident that the measures and requirements outlined in the ANPS provided a strong basis for mitigating the environmental impacts of expansion. He indicated that these issues would be considered as part of the Aviation Strategy.

The Grounds: Introduction

602. The grounds relied upon by both FoE and Plan B Earth were focused solely on climate change. Mr Spurrier also relied upon a climate change ground in general terms (Ground 22), but in substance he restricted himself to supporting the grounds of FoE and Plan B Earth, notably emphasising one element in which he supported the way in which Mr Crosland put one of the Plan B Earth grounds (see paragraphs 616 and following below). As we understand it, Mr Crosland for Plan B Earth supports FoE’s grounds; but the grounds upon which he made representations were unique to Plan B Earth, not being supported by Mr Wolfe. We will deal with the Plan B Earth grounds first.

Plan B Earth’s Grounds

603. Mr Crosland relied on three grounds, numbered 14-16 in the consolidated grounds, as follows:

Ground 14

The Secretary of State’s designation was in breach of sections 5(8) and 10, because a relevant “Government policy” for the purposes of section 5(8) and a material consideration for the purposes of section 10 was a commitment to the Paris Agreement limit in temperature rise to 1.5°C and “well below” 2°C. The Secretary of State acted unlawfully in not taking into account that commitment; and in taking into account an immaterial consideration, namely the global temperature limit by 2050 of 2°C above the pre-industrial level which, by the time of the designation, had been scientifically discredited as recognised by the UK Government as a party to the Paris Agreement and other announcements of support for the 1.5°C limit upon which the Paris Agreement was based (Plan B Earth Ground 1).

Ground 15

The Secretary of State erred and failed to act in accordance with section 3 of the Human Rights Act 1998, which requires legislation to be read and given effect in a way which is compatible with the ECHR rights, by failing to read and give effect to the phrase in section 5(8) of the PA 2008, “Government policy relating to the mitigation of, and adaptation to, climate change”, as including the Paris Agreement (Plan B Earth Ground 3).

Ground 16

In any event, irrespective of the terms of the PA 2008, the Secretary of State acted irrationally in taking into account the discredited 2°C limit and not taking into account the 1.5°C limit to which, by the time of the designation, the Government was committed (Plan B Earth Ground 2).

604. As can be seen from these grounds, Mr Crosland’s overarching submission is that, by the time of the designation of the ANPS, Government policy included the Paris Agreement limit in temperature rise to 1.5°C and “well below” 2°C. Indeed, he submitted that that has been a key aspect of both international and UK Government policy on climate change from the Paris Agreement in December 2015, six months after the AC Final Report and over two years before the designation of the ANPS. As such, at the time of designation, it was “Government policy” for the purposes of section 5(8) of the PA 2008; and a relevant consideration for the purposes of section 10. The Secretary of State erred in not taking it into account. Furthermore, as the reverse side of the same coin, Mr Crosland submitted that, in December 2015 and thus by June 2018, the 2°C target in fact relied upon by the Secretary of State had been rejected as inadequate by 195 governments (including the UK Government) and was a irrelevant consideration. As such, the Secretary of State erred in taking it into account.
605. Mr Wolfe expressly distanced himself from these submissions, and particularly that based on section 5(8), accepting that the relevant policy was no more and no less than that set out in the CCA 2008. In the event, we consider that Mr Crosland’s submissions are misconceived, for the following reasons.
606. It is well-established that English law is a dualist legal system under which international law or an international treaty has legal force at the domestic level only after it has been implemented by a national statute (see, e.g., J H Rayner (Mincing Lane) Limited v Department of Trade and Industry [1990] 2 AC 418 at page 500 per Lord Oliver of Aylmerton, and Brind at page 747F-H per Lord Bridge of Harwich). Therefore, none of them having been incorporated, any obligation imposed on the UK Government by the Paris Agreement has no effect in domestic law.
607. But, in any event, as we have described, whilst expressing international objectives – notably, to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels – the Paris Agreement imposes no obligation upon any individual state to limit global temperatures or to implement the objective in any particular way. It expresses global objectives, and aspirations in respect of national contributions to meet those objectives; and it obliges each state party to “prepare, communicate and maintain successive nationally determined contributions that it intends to achieve”. Parties are required to pursue domestic mitigation measures, with the aim of achieving the objectives; and ensure they meet the requirement for successive nationally determined contributions to be progressive (article 4). But it clearly recognises that the action to be taken in terms of contributions to the global carbon reduction will be nationally determined “in the light of different national circumstances” (article 2(2)); and that, in that determination of national contributions, economic and social (as well as purely environmental) factors and the consideration of how other states are proposing to contribute will or may play a proper part. It is clearly recognised on the face of the Paris Agreement that the assessment of the appropriate contribution will be complex and a matter of high level policy for the national government.

608. Parliament has determined the contribution of the UK towards global goals in the CCA 2008. Of course, that is not framed in terms of global temperature reduction – a national contribution could not be so framed – but it was clearly based on a global temperature limit in 2050 of 2°C above pre-industrial levels. No one suggests otherwise. However, the target set in section 1 of the Act – that the net UK carbon account for 2050 is at least 80% lower than the 1990 baseline – was set, by Parliament, having taken into account, not just environmental, but economic, social and other material factors. It is an entrenched policy, in the sense that that target cannot be changed other than in accordance with the Act, i.e. only if there have been significant developments in scientific knowledge about climate or in European or international law or policy, and then only after obtaining and taking into account advice from the CCC and being subject to the Parliamentary affirmative resolution procedure.
609. Mr Crosland submits that, if Government policy in this regard is restricted to that which is set out in the CCA 2008 from time-to-time, the policy may be – and is, in fact, now – lagging behind scientific knowledge. We accept that that may be so. But Parliament has determined the response to scientific knowledge and analysis concerning climate change, insofar as they bear upon the carbon target in section 1 of the CCA 2008; and has determined the way in which it may be changed. The Secretary of State cannot change the target unless and until the conditions set out in the CCA 2008 are met; and, as Supperstone J pointed out in the earlier Plan B Earth claim (i.e. the Carbon Target JR: see paragraphs 584-585 above), even then the Secretary of State does not have an obligation, but only a power, to change the target, the exercise of which would be challengeable only on conventional public law grounds.
610. The most recent formally expressed view of the CCC is that the current target in section 1 of the CCA 2008 is potentially compatible with the ambition of the Paris Agreement to limit temperature rise to 1.5°C and “well below” 2°C, i.e. that ambition could be attained even if the current target is maintained, and therefore one possible rational response to the Paris Agreement is to retain the current CCA 2008 targets, at least for the time being.
611. However, that does not mean that retaining the current target is optimal or the policy option the Secretary of State or Parliament will decide to take. Thus, following the recent IPCC Report and in the light of the Paris Agreement, the Secretary of State has asked the CCC for advice on possible changes to the UK’s contribution to the reduction of carbon emissions, notably as to by when the UK’s emissions should be zero and when such a target should be set. As we have explained, the assessment of any change to the target – in terms of percentage and/or date – is a matter for political judgment, taking into consideration not only the evolving information and analysis in respect of climate change, but also the economic and social consequences of any change, and the position in other states with regard to proposals for their own, national actions to reduce the carbon burden.
612. Therefore, we agree with the submission of Mr Maurici (supported in this regard by Mr Wolfe) that Government policy in respect of climate change targets was and is essentially that set out in the CCA 2008.
613. Mr Crosland expressly accepted that the policy as set out in the CCA 2008 was Government policy; but, he submitted, it was only a component of it. Government policy also included the Paris Agreement temperature limit of 1.5°C and “well below”

2°C, and that temperature limit was also a relevant consideration for ANPS purposes. After Paris, Mr Crosland submitted, the “discredited” temperature limit of 2°C was neither Government policy nor a relevant consideration for the purposes of the ANPS. The fact that it (and not the Paris temperature limit) was treated as policy and a relevant consideration is clear from (e.g.) Graham, paragraph 124, where it is said that the Aviation Target was not a constraint because “all emissions are assumed to be captured within a carbon market that allows total global carbon emissions consistent with a 2 degree climate stabilisation target” (emphasis added). That submission was also pressed by Mr Spurrier.

614. However, we do not consider that the submission has any force.
615. The UK policy in this regard, now and at all relevant times, is and has been based on a national carbon cap. The cap is as set out the CCA 2008. It is based upon the 2°C temperature limit. For the reasons we have given, that policy is “entrenched” and can only be changed through the statutory process. Despite the fact that Government policy could of course be outside any statutory provisions – and despite Mr Crosland’s submissions that that, in some way, the CCA 2008 cap has to be read with the Paris Agreement (see, e.g., Transcript, day 7 pages 112 and 116) – neither policy nor international agreement can override a statute. Neither Government policy (in whatever form) nor the Paris Agreement can override or undermine the policy as set out in the CCA 2008. In our view, this way of putting the submission is inconsistent with Mr Crosland’s express and unequivocal concession that the carbon target in the CCA 2008 *is* Government policy and *was* a material consideration for the purposes of the ANPS. It seeks collaterally to undermine the statutory provisions. The same flaw permeated Plan B’s Amended Statement of Facts and Grounds and written submissions.
616. Mr Crosland – expressly supported by Mr Spurrier – sought to get around that flaw in his submission by focusing on, not a (national) carbon cap (as in the CCA 2008), but on (global, or at least international) carbon trading. The AC and the ANPS each considered both policy means of tackling climate change (see paragraph 597 above); but, as both Mr Crosland and Mr Spurrier emphasised, each considered carbon trading on the (discredited) basis of a target of limiting the 2050 global average temperature change to 2°C rather than the limits set by the Paris Agreement.
617. However:
- i) The UK’s current policy is based on carbon capping, not carbon trading. The AC and ANPS considered carbon trading only as a possible future policy.
 - ii) Both the AC and the ANPS concluded that, with appropriate mitigation, the NWR Scheme was deliverable within the UK’s climate change obligations, whether in carbon capping or carbon trading form.
 - iii) In terms of carbon capping, the cap which has been set, now and at all relevant times, is based on the premise that the global average temperature rise in 2050 should be held to 2°C above pre-industrial levels. The CCC maintain that the current cap (as set out in the CCA 2008), although derived from the 2°C target, is potentially compatible with the Paris Agreement target.

- iv) In terms of carbon trading, as we understand it, this would involve either a national cap (“cap-and-trade”) or a system of permits and credits. The former of course inherently requires a national cap; but even under the latter the Government would have to come to a view on the level of UK carbon emissions that would be compatible with the carbon trading system in which it had engaged. The terms of paragraph 5.82 of the ANPS (see paragraph 598 above) are wide enough to ensure that a DCO would be refused if the carbon emissions from the proposed specific development had a material impact on the ability of the Government to meet “carbon reduction targets” set in the context of a carbon trading scenario.
 - v) That is sufficient to dispose of this way of putting this ground, by rejecting it. However, we should say that it seems to us inherently unlikely that the UK would enter into a system of permits and credits that was more constraining for the UK than a carbon cap. It has not been explained how a change in global aspirations changes the viability of a plan under a permits/credits system which is designed to give more (not less) flexibility than simple capping; but, in any event, it seems inconceivable that a plan which is viable under a simple national carbon capping system would not be viable under a carbon trading system. In our view, the current policy focus on carbon capping is entirely understandable.
618. For those reasons, in his decision to designate the ANPS, the Secretary of State did not err in taking the CCA 2008 targets into account; indeed, he would clearly have erred if he had not taken into account the targets as fixed by Parliament.
619. Nor, in our view, did he err in failing to take into account the Paris Agreement, or the premise upon which that Agreement was made namely that the temperature rise should be limited to 1.5°C and “well below” 2°C. This way of putting the ground substantially overlaps with Ground 12 pursued by Mr Wolfe on behalf of FoE, and we will not repeat our response to that ground here (see, rather, paragraphs 633 and following below). However, briefly, the Secretary of State was not obliged to have foreshadowed a future decision as to the domestic implementation of the Paris Agreement by way of a change to the criteria set out in the CCA 2008 which can only be made through the statutory process; and, indeed, he may have been open to challenge if he had proceeded on a basis inconsistent with the current statutory criteria. Nor was he otherwise obliged to have taken into account the Paris Agreement limits or the evolving knowledge and analysis of climate change that resulted in that Agreement.
620. Ground 14 (Plan B Earth’s Ground 1) therefore fails.
621. Praying the HRA 1998 as an aid to construction does not assist Mr Crosland. He submitted that the Secretary of State erred and failed to comply with section 3 of the HRA 1998 by failing to interpret and give effect to the phrase in section 5(8) of the PA 2008, “Government policy relating to the mitigation of, and adaptation to, climate change”, in a way which is compatible with rights under the ECHR, i.e. as including the Paris Agreement.
622. Mr Maurici conceded, for the purposes of this ground, that Mr Crosland could rely on this argument and was not restrained from doing so because Plan B Earth is not a “victim” for the purposes of section 7 of the Human Rights Act 1998 (i.e. Issue 17 which, in view of that concession, we need no longer consider). However, we do not

consider the Human Rights Act can arguably assist in the construction of section 5(8). For the reasons we have given, we consider the interpretation of that section to be clear; nor, for the reasons given below (see paragraphs 661-665), do we consider that interpretation to infringe the Human Rights Act. Ground 15 (Plan B Earth's Ground 3) therefore also fails.

623. That deals with the Plan B Earth's grounds of challenge that turned on the construction of sections 5(8) and 10 of the PA 2008. However, third and finally, as Ground 16 (Ground 2 of Plan B Earth's Grounds), Mr Crosland submitted that, irrespective of the terms of the Act, the Secretary of State acted irrationally in taking into account the discredited 2°C limit and not taking into account the 1.5°C limit as set out in the Paris Agreement. We can deal with that briefly: for the same reasons as those set out in relation to Grounds 12 and 15, we do not consider that the Secretary of State acted irrationally or otherwise unlawfully in either regard.
624. Consequently, we do not consider that any of Plan B Earth's discrete grounds have merit; indeed, we do not consider any is arguable.

Ground 11: FoE Ground 1

625. On behalf of FoE, Mr Wolfe relied on three grounds.
626. First, he submitted that, in breach of the duty in section 5(7) and (8) of the PA 2008 to give reasons for policy in the ANPS – its rationale – including an explanation of how the ANPS takes account of Government policy relating to the mitigation of, and adaptation to, climate change, the ANPS fails to explain how it takes account of the 2050 carbon target as set out in section 1 of the CCA 2008. He also relied on a failure to explain how it takes account of the Aviation Target; but, as we have explained (see paragraph 573 above), although that has been taken into account by the CCC as a planning assumption, it has not been adopted by the Government and is no part of Government policy. It plays no part under this head of claim.
627. In respect of the 2050 carbon emissions target in the CCA 2008, Mr Wolfe submitted that the ANPS was internally contradictory or otherwise unclear in six respects, namely:
- i) whether the ANPS (a) determines conclusively that its policies are compatible with the CCA 2008 carbon emissions target such that, among other things, the matter will not be (re)considered as part of determining any DCO application in due course, or rather (b) accepts that that question remains to be determined at the DCO application stage;
 - ii) whether the reference in paragraph 5.82 of the ANPS to “carbon reduction targets” refers to the targets in force at the date that the ANPS was designated, or any different target in force at the date that the application for development consent is determined;
 - iii) what target is (or targets are) referred to in paragraph 5.82; and, in particular, whether it is a reference only to the 2050 Target, or whether it includes international and non-statutory targets such as the Aviation Target and the overarching goals of the Paris Agreement;

- iv) linked to (iii), whether paragraph 5.82 requires, or allows, international aviation emissions to be taken into account when deciding whether the carbon emissions resulting from the project are so significant that they would have a material impact on the ability of the Government to meet its “carbon reduction targets”;
 - v) whether, for the purposes of paragraph 5.82, any assessment at the stage of development consent will include emissions from aircraft in flight (and thus whether the decision to grant development consent will depend on the acceptability of such emissions given the requirements of the time); and
 - vi) what is meant in paragraph 5.82 by the phrase “material impact on the ability of the Government to meet its carbon reduction targets”.
628. Mr Maurici’s overarching response was that, although framed in terms of a reasons challenge under section 5(7) and (8) of the PA 2008, this claim is in substance nothing of the kind; but rather an inappropriate attempt to obtain declaratory relief as to the meaning of certain passages of the ANPS, notably paragraph 5.82.
629. We consider there is considerable force in that submission. By their nature, planning policies – particularly high level, strategic planning policies – are full of broad statements of policy, the application of which often depend upon a later and distinct exercise of judgment to be applied by a decision-maker to a given set of facts and, as such, they cannot to be construed in the same strict exegetical way that might be appropriate for statutory or contractual provisions (see Tesco Stores Limited v Dundee City Council [2012] UKSC 13; [2012] PTSR 983 at [19] per Lord Reed JSC, R (Nicholson) v Allerdale Borough Council [2015] EWHC 2510 (Admin) at [21] per Holgate J, and Hopkins Homes Limited v Secretary of State for Communities and Local Government [2017] UKSC 37; [2017] 1 WLR 1865 at [24] per Lord Carnwath of Notting Hill JSC).
630. We consider the nature of the obligation under section 5(7) and (8) above (see paragraphs 113-123). As Mr Maurici submitted, the ANPS (at paragraphs 3.17, 3.50, 3.61-69 and 5.69-5.84) gave substantial consideration to matters relating to the mitigation of, and adaptation to, climate change. In particular, the ANPS:
- i) expressly recognised that under section 5(8) of the PA 2008 the ANPS must give an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change;
 - ii) recorded the objectives in the APF in respect of aviation emissions;
 - iii) noted that the UK’s obligations on GHG emissions are set by the CCA 2008, and the position in respect of aviation emissions under that Act;
 - iv) described how climate change matters have been assessed in developing the ANPS;
 - v) explained how the ANPS had been informed by an assessment of whether expansion was capable of being achieved consistently with the UK’s carbon

obligation, the assessment being that the scheme was deliverable within the UK's climate change obligations;

- vi) set out what an applicant for a DCO must demonstrate in respect of likely significant climate factors;
- vii) addressed mitigatory measures; and
- viii) finally, set out how matters relating to climate change will be assessed under any DCO application.

We are firmly of the view that this satisfied the obligation to give reasons under section 5(7) and (8), and the complaints raised under this ground fall far short of demonstrating a breach of those provisions.

631. However, in any event, we do not consider any of the specific complaints are justified. Taking them in turn:

- i) We do not consider there is any ambiguity in the ANPS in respect of the issue as to whether the NWR Scheme is compatible with the CCA 2008 carbon emissions target. The ANPS makes clear that, like the AC and the CCC, the Secretary of State has assessed that the scheme is compatible with that target in the sense that it is capable of being delivered (constructed and operated) within the UK's climate change obligations. That is all that a policy such as the ANPS could – and certainly, purported – to do. It makes clear that it is for any DCO applicant to demonstrate that the scheme as brought forward can and will be delivered within those obligations; and that any increase in carbon emissions will have no material impact on the ability of the Government to meet its carbon reduction targets. Whether a particular scheme will be so delivered is not a matter which could be considered at the ANPS stage: it is dependent upon design features including mitigation which can only be developed at the DCO stage. Mr Maurici submitted that the ANPS was unambiguously clear in these respects. We agree.
- ii) In accordance with usual public law principles, the reference in paragraph 5.82 of the ANPS to “carbon reduction targets” in the context of an application for a DCO refers to the targets in force at the date that that application is determined. Mr Maurici submitted that the ANPS was unambiguously clear in this respect. We agree.
- iii) The reference to “carbon reduction targets, including carbon budgets” in paragraph 5.82 is to the targets (including those in carbon budgets) set by the CCA 2008. It cannot refer to “international targets” such as the objectives set by the Paris Agreement because, for the reasons we have given (see paragraphs 578-580 and 606-607 above), (i) the Paris Agreement does not specify any carbon reduction target and does not impose any obligation on the UK Government to meet any carbon reduction target (or, indeed, any other target or temperature objective); and (ii) any obligation imposed by the Paris Agreement has no domestic force and is not part of domestic policy. It does not refer to the Aviation Target which has not been adopted by the UK Government. Again, Mr Maurici submitted that the ANPS was unambiguously clear in these respects. We agree.

- iv) Although, as we have described (see paragraph 571 above), section 30(1) of the CCA 2008 provides that emissions of GHGs from international aviation do not count as emission from UK sources, section 10(2)(i) requires the Secretary of State and the CCC to take such emissions into account for the purpose of carbon budgets. In the circumstances, paragraph 5.82 (which concerns the ability of the Government to meet “its carbon reduction targets, *including carbon budgets*”) would not make sense if “carbon emissions resulting from the project” excluded emissions from international aviation. It clearly includes such emissions. Again, Mr Maurici submitted that the ANPS was unambiguously clear in this respect. We agree.
- v) The assessment of the impact of carbon emissions at the stage of development consent will clearly include emissions from aircraft using Heathrow in flight. There is nothing in paragraph 5.82 to exclude such emissions. Again, Mr Maurici submitted that the ANPS was unambiguously clear in this respect. We agree.
- vi) Finally, Mr Wolfe submitted that the phrase “material impact on the ability of the Government to meet its carbon reduction targets” is ambiguous. We have already considered the meaning of “carbon reduction targets”, and found that phrase to be clear. This sub-ground focused on “material impact”. Mr Wolfe submitted that, as a matter of law, “material” may mean “more than trivial” or “substantial” or may have some other shade of meaning; and paragraph 5.82 was unclear because it did not set out its precise meaning. However, we are unpersuaded. As we have explained, such close textual examination is inappropriate for policy documents such as the ANPS. In our view, the phrase “material impact” is a good example of “fact and degree” language in a policy document which cannot be divorced from, or sensibly interpreted by the court in advance of, the fact-finding exercise which (in this case) will have to be carried out by the Examining Panel and the Secretary of State on a DCO application. The same formulation as used in paragraph 5.82 appears to have been used in closely similar contexts, such as paragraph 5.18 of the NPS for National Networks which applies to road schemes and which was designated under the PA 2008 in December 2014. It appears to have been applied in that context since then, without difficulty. We do not accept that paragraph 5.82 of the ANPS is unlawful for want of reasons under section 5(7) and (8) as a result of the use of that phrase.

632. For those reasons, we do not consider any strand of Ground 11 (Ground 1 of FoE’s Grounds) is made good.

Ground 12: FoE Ground 2

633. Mr Wolfe’s second ground turns on the construction of section 10 of the PA 2008, which, it will be recalled, provides as follows:

“10(1) This section applies to the Secretary of State’s functions under sections 5 and 6.

(2) The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.

(3) For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of—

(a) mitigating, and adapting to, climate change;...

634. Section 5(7) and (8) provide:

“5(7) [An NPS] must give reasons for the policy set out in the statement.

(8) The reasons must (in particular) include an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change.”

635. “Sustainable development” is not defined in the CCA 2008; but it is an uncontroversial concept. Paragraph 7 of the National Planning Policy Framework (July 2018) (“the NPPF”), adopting the definition used in Resolution 42/187 of the United Nations General Assembly (“the Brundtland definition”) and in substance replicating the earlier version of the National Planning Policy Framework (March 2012), states:

“... 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.”

The NPPF goes on to say that achieving sustainable development means that a planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways, namely an environmental objective, an economic objective and a social objective (paragraph 8).

636. As we have described, Mr Wolfe accepts that “Government policy” as used in section 5(8) excludes any obligations arising out of the Paris Agreement; but he submits that section 10 is not so constrained. He submits that it would be odd – and contrary to conventional tenets of construction – if section 5(8) and section 10 were identical in substance. But, Mr Wolfe submitted, they are not. The phrase “Government policy” is not used in section 10, which rather requires the Secretary of State to have regard to “the desirability of mitigating, and adapting to, climate change”. The wording is different; but more importantly, he submitted, what section 10 describes is conceptually different from “Government policy”: irrespective of current Government policy, it requires the Secretary of State, on the basis of up to date information and analysis, to take into account the ability of future generations to meet their needs, which includes taking into account international agreements such as the Paris Agreement and the underlying science of climate change which bear upon that question.

637. Mr Wolfe submitted that, at the time of the ANPS designation in June 2018, adopted UK policy (notably the carbon emissions targets in the CCA 2008 Act) was out of sync with developments in climate science and international ambition. In particular the Paris Agreement (alternatively, the evolving knowledge and analysis of climate change that resulted in the Paris Agreement) changed the desirability of mitigating climate change, such that UK policy did not fully reflect the enhanced desirability of mitigating climate

change. The Secretary of State has been advised that the Paris Agreement was likely to result in a change to the CCA 2008 targets, in the form of a more stringent 2050 carbon emissions target and/or a new post-2050 carbon target and/or a further net zero emissions target in the near future and/or a non-CO₂ emissions target; but, prior to the ANPS designation, he simply failed to consider the desirability of mitigating and adapting to climate change against that backdrop. By focusing exclusively on existing Government policy in the form of the CCA 2008 carbon reduction targets, the Secretary of State failed properly to consider the needs of future generations as arising from the evolving knowledge about climate change as reflected in the Paris Agreement, and thus failed to discharge his obligations under section 10(2) and (3) of the PA 2008.

638. The Secretary of State accepts that, in designating the ANPS, he took into account only the CCA 2008 carbon emission targets; and he did not take into account either the Paris Agreement or otherwise any post-2050 target or non-CO₂ emissions. Mr Maurici submitted that there were two, alternative reasons why that was not unlawful. First, he submitted that, properly construed, the PA 2008 requires the Secretary of State to ignore international commitments except where they are expressly referred to in the Act, e.g. in section 104(4) which exonerates the Secretary of State from deciding a DCO application in accordance with a relevant NPS if he is satisfied that deciding it thus “would lead to the United Kingdom being in breach of any of its international obligations”. Alternatively, he submitted that, even if he was not obliged to ignore such commitments, the Secretary of State had a discretion as to whether to do so and was not obliged to take them into account. In those circumstances, the Secretary of State did not err in law in not taking those international commitments into account.
639. In our view, the starting point is R v Somerset County Council ex parte Fewings [1995] 1 WLR 1037 at 1049, in which Simon Brown LJ identified three categories of consideration, as follows:
- “... [T]he judge speaks of a ‘decision-maker who fails to take account of all and only those considerations material to his task’. It is important to bear in mind, however,... that there are in fact three categories of consideration. First, those clearly (whether expressly or impliedly) identified by the statute as considerations to which regard must be had. Second, those clearly identified by the statute as considerations to which regard must not be had. Third, those to which the decision-maker may have regard if in his judgment and discretion he thinks it right to do so. There is, in short, a margin of appreciation within which the decision-maker may decide just what considerations should play a part in his reasoning process.”
640. In respect of the preferring of the NWR Scheme in October 2016 and/or the designation of the ANPS in June 2018, into which category did international commitments fall?
641. We are unpersuaded by Mr Maurici’s first submission, namely that the Secretary of State was required to ignore international commitments except and to the extent that they had been transposed into Government policy notably the CCA 2008.
642. Mr Maurici did not suggest that “Government policy” in section 5(8) is restricted to the legislative obligations in the CCA 2008, although it includes them. The CCA 2008

carbon emission restrictions are “entrenched” Government policy. Indeed, Mr Maurici agreed with FoE that the CCA 2008 is “the legislative centrepiece of the UK’s efforts to tackle climate change” (paragraph 6 of the Climate Change Annex to the Agreed Statement). But he accepted that Government policy also included (e.g.) policies within the APF; and, when the Aviation Strategy is adopted, it will include the policies within that. International obligations and evolving science may be reflected in those other policies, as well as in the CCA 2008. Of course, policy cannot be inconsistent with legislation; but, as long as these other policies are not inconsistent with the statutory restrictions, they may equally be “Government policy”. Together, these are the policies which transpose and reflect international commitments and developing science, through the prism of domestic political desire, into domestic “law”.

643. Of course, the Secretary of State was bound by the obligations in the CCA 2008, which (as we have described) effectively transposed international obligations into domestic law. Of course, he was bound by that statute, and could not act inconsistently with its statutory obligations.

644. We consider the two Acts have to be looked at together, as Mr Maurici submitted. They were passed on the same day (26 November 2008), and are clearly to be read together. Subsection (3) of section 10 of the PA 2008 is a subset of subsection (2): “For the purposes of subsection (2) the Secretary of State must (*in particular*) have regard to...” (emphasis added). It too concerns sustainability. Its specific reference to “the desirability of mitigating, and adapting to, climate change...” appears clearly to chime with the CCA 2008. The CCA 2008 was obviously passed because of the perceived desirability of mitigating, and adapting to, climate change. As the Summary of the Explanatory Notes to the CCA 2008 states:

“The Act sets up a framework for the UK to achieve its long-term goals of reducing greenhouse gas emissions and to ensure steps are taken towards adapting to the impact of climate change.”

645. Both section 5(8) and section 10(3) of the PA 2008 refer to “mitigating, and adapting to, climate change”. That is precisely the objective of the CCA 2008. The link between the Acts is obvious; and, on their face, sections 5(7) and (8) and 10 of the PA 2008 appear to us clearly to reflect the CCA 2008 and to be read with that other Act.

646. In fact, Mr Maurici demonstrated by reference to Hansard that that was indeed the case. For the purposes of this ground, we can restrict our consideration to the Hansard Citation Notice dated 22 February 2019, which Mr Wolfe did not seek to controvert. Hansard demonstrates that sections 5(8) and 10(3) were not in the version of the Planning Bill that was introduced into the House of Commons, but they were introduced at the same time by way of Government amendment in the House of Lords, in response to members of both Houses who wished to see a more specific requirement that climate change and reduction targets set in the CCA 2008 be considered when NPSs were drawn up. The amendments were originally resisted because the Government thought that clauses 9(1)-(2) (now section 10(1)-(2)) would in any event encompass climate change issues, those issues being an integral part of the sustainability issue. The amendments were made to “clarify” or make “explicit” that the section 5(7) and 10(1)-(2) duties encompassed climate change issues. In our view, Hansard merely confirms the obvious construction that we have placed on the provisions in any event.

647. However, in our view, none of that means that as a matter of law the Secretary of State was required to ignore international commitments. Nor is there anything in the PA 2008 or elsewhere that suggests that he was required to take international commitments into account. In our view – and clearly – international commitments were a consideration in respect of which he had a discretion as to whether he took them into account or not.
648. It is well-established that where a decision-maker has a discretion as to whether to take into account a particular consideration, a decision not to take it into account is challengeable only on conventional public law grounds. In our view, given the statutory scheme in the CCA 2008 and the work that was being done on if and how to amend the domestic law to take into account the Paris Agreement, the Secretary of State did not arguably act unlawfully in not taking into account that Agreement when preferring the NWR Scheme and in designating the ANPS as he did. As we have described, if scientific circumstances change, it is open to him to review the ANPS; and, in any event, at the DCO stage this issue will be re-visited on the basis of the then up to date scientific position.
649. For those reasons, we do not consider this ground has been made good.

Ground 13: FoE Ground 3

650. Mr Wolfe submits that the Secretary of State was obliged to take the Paris Agreement into account in the environmental report prepared under article 5 of the SEA Directive in order to provide the information required under paragraph (e) of Annex I, namely:
- “the environmental protection objectives, established at international... level, which are relevant to the plan or programme and the way that those objections and any environmental considerations have been taken into account during its preparation”.
651. He relies upon that part of the Paris Agreement which contains the “overarching goals” of limiting global warming to “well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels...” by 2050 and to aim for net zero global emissions in the second half of this century.
652. Mr Wolfe’s complaint is that these matters were not addressed in the AoS at all, nor was any reasoning given to explain how they were taken into account during the preparation of the ANPS so that consultees could make representations thereon.
653. We have already pointed out that the SEA Directive only requires information to be provided on matters falling within the scope of Annex I in so far as the Secretary of State judges that to be “reasonably required”. Mr Wolfe accepts that that judgment can only be challenged in these proceedings on conventional Wednesbury grounds, notably irrationality.
654. As we have explained under Ground 12 (FoE’s Ground 2), the targets in the Paris Agreement will need to be considered by the UK Government and by Parliament to determine whether the carbon targets in the CCA 2008 should be amended. The CCC has advised Government that it is possible that they may not need to be. But on any

view, as Mr Wolfe accepts, at some point the implications of the revised global targets for our domestic targets, and whether the latter should be amended at all, and if so how, will be determined. Plainly work on that matter is currently in hand and decisions have not yet been reached. In those circumstances, we do not think that it can be said that the Secretary of State acted irrationally by not addressing the Paris Agreement in the SEA process. That same conclusion must apply to the complaint that the AoS did not address internal working documents on this subject.

655. We also note the explanation given by Ms Stevenson (Stevenson 1, paragraphs 3.125-3.134) on the detailed consideration given in the AoS to carbon reduction, including the targets in the CCA 2008, and why the objectives in the Paris Agreement were not addressed at that stage. We do not consider that that approach can be faulted on any public law grounds, or that it can be said that the Secretary of State failed to comply with article 5 of the SEA Directive by not addressing the Paris Agreement in the environmental report.

656. For all those reasons, we reject Ground 13.

Conclusion

657. In the event, Issue 17 was (for the purposes of these claims) conceded by the Secretary of State.

658. In relation to Issue 16, our response is, “No”, section 3 of the Human Rights Act 1998 is of no assistance in construing section 5(8) of the PA 2008.

659. For the reasons we have given, in response to Issues 14-15 and 18-21, the answer is “No”, the designation of the ANPS was not unlawful by reason of:

- i) the Secretary of State having failed, in breach of section 5 of the PA 2008, to explain how the policy in the ANPS takes account of UK Government policy relating to the mitigation of, and adaptation to, climate change (Issue 14);
- ii) the Secretary of State having misinterpreted and/or breached section 5(8) of the PA 2008 as regards the Paris Agreement temperature goal (Issue 15);
- iii) the Secretary of State having acted irrationally on the grounds that it was not assessed against the Paris Agreement temperature goal (Issue 18);
- iv) the Secretary of State having misinterpreted and/or failed to comply with his duties under section 10(2) and (3) of the PA 2008; and/or having failed to consider (i) the implications of the Paris Agreement, (ii) non-CO2 emissions; and (iii) the needs of future generations (Issue 19);
- v) the Secretary of State failing to discharge his duties under section 10(2) and (3) of the PA 2008 and/or failing to take into account material considerations (Issue 20); or
- vi) otherwise acting unlawfully.

660. Consequently, Grounds 11-16 and 22 fail.

Human rights

661. In grounds not actively pressed in his oral submissions, Mr Spurrier contends that the designation of the ANPS breached the ECHR and thus the Human Rights Act 1998. Although section 76 of the Civil Aviation Act 1982 excludes liability for trespass or nuisance by reason only of the flight of aircraft over any property, he submitted that, for local residents, the adverse impacts of the NWR Scheme in terms of noise and air quality will affect both the right to private life under article 8 of the ECHR and the right to enjoy property under A1P1. He emphasised that the “local residents” potentially affected by the scheme amount to hundreds of thousands if not millions of people.
662. A parallel argument was considered by Supperstone J in the Carbon Target JR (see paragraph 584 above). One argument in that claim was that the Secretary of State for BEIS’s refusal to amend the 2050 target constituted a breach of the claimants’ rights under the same provisions of the ECHR as now relied upon by Mr Spurrier. Supperstone J held that that submission was unarguable ([2018] EWHC 1892 (Admin)). On appeal, Asplin LJ agreed.
663. We do not consider that the argument is any stronger here. Assuming for the purposes of this ground that the relevant provisions of the ECHR are engaged and there are potential identified “victims”, neither article 8 nor A1P1 confer absolute rights. For example, article 8 allows interference with the right to respect for private life if that interference is “necessary in a democratic society in the interests of... the economic well-being of the country”. A1P1 allows interference with the entitlement to the peaceful enjoyment of possessions “in the public interest”; and there is express provision that the entitlement “shall not... in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest...”.
664. Of course, any such interference would have to be proportionate; but where, as here, there is substantial public interest in the form of social and/or economic factors that weigh against the relevant rights and entitlements of individuals, it is well-established that the state has a wide margin of discretion in the assessment of where the balance between rights and interests (including the public interest) lies. The ANPS involves, at a very high level, the weighing of the very substantial local, regional and national economic interest in the expansion of airport capacity by way of the NWR Scheme against (amongst other things) the rights and entitlements of the many residents around Heathrow who will potentially be adversely affected by the scheme. Particularly given that the rights and interests of those residents will be at the forefront of the planning consideration of the scheme at the DCO stage – and given the scope of section 104 (see paragraph 37 above) – it is simply not arguable that, in designating the ANPS, the Secretary of State breached either article 8 or A1P1.
665. For those reasons, the answer to issue 13 is “No” – in relation to issues of noise and air quality, the designation of the ANPS did not give rise to any breach of article 8 or A1P1 – and Grounds 20 and 21 (Mr Spurrier’s human rights grounds) fail.

Disposal

666. We consequently find that none of the grounds pursued has been made good.

667. Having heard full argument of all issues, it is a somewhat curious exercise to determine which grounds were arguable and which were not. However, we have considered the issue carefully, and we have concluded that only the following were arguable: Ground 8 (Habitats: both sub-grounds), Grounds 9.1 and 9.2 (SEA: these two sub-grounds only) and Ground 10 (consultation). In respect of those grounds, we formally grant permission to proceed, but, having done so, we refuse the substantive application. In respect of all other grounds, we refuse permission to proceed. In Appendix A, we have set out both the result in respect of each ground, and the key paragraphs of this judgment dealing with that particular ground.
668. However, the consequence of those orders is that none of the grounds has succeeded, and we dismiss each of the four claims.

Postscript

669. We understand that these claims involve underlying issues upon which the parties – and, indeed, many members of the public – hold strong and sincere views. There was a tendency for the substance of parties’ positions to take more of a centre stage than perhaps it should have done, in a hearing that was concerned only with the legality (and not the merits) of the ANPS. However, we would, finally, like to thank and commend all Counsel and those instructing them, and those who have represented themselves, for the manner in which they conducted these proceedings, which throughout has been exemplary.

APPENDIX A

THE GROUNDS

The Hillingdon Claimants (Claim No CO/3089/2018)

Surface Access

1. The Secretary of State erred in reaching conclusions in relation to surface access without properly taking into account new information and modelling provided to him by the Mayor/TfL as part of the consultation process after the AC Final Report and before designation. It is trite law that the product of consultation must be conscientiously taken into account before a decision is reached; but, in this case, it was also irrational not to take this information and modelling into account.

Permission refused (see paragraphs 200-209).

2. The Secretary of State erred in law in adopting mode share targets in the ANPS that TfL had shown were not realistically capable of being delivered; and, even if delivered, would fail to mitigate the impact of the scheme which would result in 40,000 additional vehicle trips every day.

Permission refused (see paragraphs 210-217).

Air Quality

3. The Secretary of State failed to have regard to the material changes to the information and assumptions upon which the Jacobs May 2015 AQ Local air quality modelling of the NWR Scheme was based, notably the changes in passenger demand forecasts and the additional analysis provided by TfL after July 2015. This ground has the same foundation as the first surface access ground (i.e. Ground 1).

Permission refused (see paragraphs 255-260).

4. In reaching the conclusion that the NWR Scheme could be undertaken without a breach of the UK's obligations under the Air Quality Directive, the Secretary of State failed to apply the precautionary principle.

Permission refused (see paragraphs 261-265).

5. It was irrational to adopt and designate the ANPS in circumstances in which it was known that, if constructed and used to full capacity from 2026, there would be a high risk that the air quality obligations will be breached in the period 2026-2030.

Permission refused (see paragraphs 266-268).

6. In reaching the conclusion that the NWR Scheme could be undertaken without a breach of the UK's obligations under the Air Quality Directive, the Secretary of State did not have sufficient information to be satisfied that mitigation was achievable, making unjustified assumptions regarding the deliverability of public transport schemes (such as the WRL and SRA) and the effectiveness of CAZ measures as part of the AQP 2017.

Permission refused (see paragraphs 269-274).

7. It was irrational and/or contrary the Secretary of State’s obligation to act transparently to adopt and designate a policy based on the premise that the NWR Scheme was capable of being delivered without breaching air quality obligations – and to require a DCO applicant to satisfy him that the NWR Scheme would not breach those obligations – without identifying the correct legal test.

Permission refused (see paragraphs 275-278).

Habitats

8. The Secretary of State acted unlawfully in not treating the Gatwick 2R Scheme as an alternative to the NWR Scheme for the purposes of articles 6(3) and 6(4) of the Habitats Directive.

8.1 The Secretary of State’s first reason for rejecting the Gatwick 2R Scheme was that it would not meet the objectives of the ANPS in relation to meeting the need to increase airport capacity in London and the South-East and maintaining the UK’s hub status. His approach to the “objectives” of the ANPS was unlawful.

Permission granted: application refused (see paragraphs 353-360).

8.2 His second reason was that the Gatwick 2R Scheme would potentially cause harm to an SAC upon which a priority species was present; and, therefore, it could not overcome the test of imperative reasons of overriding public importance. That was unlawful because there was no evidential basis for that conclusion.

Permission granted: application refused (see paragraphs 361-371).

SEA

9. The Secretary of State breached article 5(1) and (2) of the SEA Directive (taken with the identified Annex) in the following respects:

Ground 9.1: He failed to provide an outline of the relationship between the ANPS and other relevant plans or programmes (Annex 1(a)).

Permission granted: application refused (see paragraphs 443-463).

Ground 9.2: He failed to identify the environmental characteristics of areas likely to be significantly affected by the ANPS (Annex 1(c)).

Permission granted: application refused (see paragraphs 464-491).

Ground 9.3: He failed to provide information on environmental protection objectives, established at International, EU or Member State level, which are relevant to the ANPS and the way those objectives and any environmental considerations have been taken into account during its preparation (Annex 1(e)).

Permission refused (see paragraphs 493-494).

Ground 9.4: He failed to provide information on the likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, in particular on the effects of air pollution and noise on human health (Annex 1(f)).

Permission refused (see paragraphs 495-497).

Ground 9.5: He failed to identify and describe measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the ANPS (Annex 1(g)).

Permission refused (see paragraphs 498-500).

Consultation

10. The ANPS is unlawful by reason of the Secretary of State not carrying out the required statutory consultation with an open mind.

Permission granted: application refused (paragraphs 503-549).

FoE (Claim No CO/3147/2018)

11. In breach of section 5(7) and (8) of the PA 2008, the ANPS fails to explain how it takes account of the CCA 2008 carbon emissions target and/or the planning assumption. In particular, it is unclear in six respects:
- i) whether the ANPS (a) determines conclusively that its policies are compatible with the CCA 2008 carbon emissions target such that, among other things, the matter will not be (re)considered as part of determining any DCO application in due course, or (b) accepts that that question remains to be determined at the DCO application stage;
 - ii) whether the reference in paragraph 5.82 of the ANPS to “carbon reduction targets” refers to the targets in force at the date that the ANPS was designated, or any different target in force at the date that the application for development consent is determined;
 - iii) what target is (or targets are) referred to in paragraph 5.82; and, in particular, whether it is a reference only to the 2050 Target, or whether it includes international and non-statutory targets such as the Aviation Target and the overarching goals of the Paris Agreement;
 - iv) linked to (iii), whether paragraph 5.82 requires, or allows, international aviation emissions to be taken into account when deciding whether the carbon emissions resulting from the project are so significant that they would have a material impact on the ability of the Government to meet its “carbon reduction targets”;
 - v) whether, for the purposes of paragraph 5.82, any assessment at the stage of development consent will include emissions from aircraft in flight (and thus whether the decision to grant development consent will depend on whether emissions including those are acceptable given the requirements of the time); and

- vi) what is meant in paragraph 5.82 by the phrase “material impact on the ability of the Government to meet its carbon reduction targets”.

Permission refused (see paragraphs 626-632).

12. Whilst section 5(8) of the PA 2008 requires reasons to be given for Government policy relating to climate change at the time the ANPS is designated, the Secretary of State erred in limiting his considerations under section 10(3) (under which he is bound to have regard to the desirability of mitigating and adapting to climate change when exercising his functions under section 5 with the objective of contributing to the achievement of sustainable development) to those that are relevant to section 5(8). Section 10(3) requires him to consider the desirability of mitigating and adapting to climate change in a way that is broader than a consideration of how to meet existing legal obligations and policy commitments. As a result of this misinterpretation, the Secretary of State failed to discharge his obligations under 10(2) and (3) of the PA 2008.

Permission refused (paragraphs 633-649).

13. In not taking the Paris Agreement into account – or, at least, failing to explain how it had been taken into account – the AoS was in breach of paragraph 5 of schedule 2 to (read with regulation 12(3) of) the SEA Regulations.

Permission refused (paragraphs 650-656)

Plan B Earth (Claim No CO/3149/2018)

14. The Secretary of State’s designation was in breach of sections 5(8) and 10, because a relevant “Government policy” for the purposes of section 5(8) and a material consideration for the purposes of section 10 was a commitment to the Paris Agreement limit in temperature rise to 1.5°C and “well below” 2°C. The Secretary of State acted unlawfully in not taking into account that commitment; and in taking into account an immaterial consideration, namely the global temperature limit by 2050 of 2°C which, by the time of the designation, had been scientifically discredited as recognised by the UK Government as a party to the Paris Agreement and other announcements of support for the 1.5°C limit upon which the Paris Agreement was based (Plan B Earth Ground 1).

Permission refused (see paragraphs 604-620).

15. The Secretary of State erred and breached section 3 of the HRA 1998 by failing to read and give effect to the phrase in section 5(8) of the PA 2008, “Government policy relating to the mitigation of, and adaptation to, climate control”, in a way which is compatible with rights under the ECHR, i.e. as including the Paris Agreement (Plan B Earth Ground 3).

Permission refused (see paragraphs 621-622).

16. In any event, irrespective of the terms of the PA 2008, the Secretary of State acted irrationally in taking into account the discredited 2°C limit and not taking into account the 1.5°C limit to which, by the time of the designation, the Government was committed (Plan B Earth Ground 2).

Permission refused (see paragraphs 604-620 and 623).

Neil Richard Spurrier (Claim No CO/2760/2018)

17. In breach of section 7 of the PA 2008 and the Gunning principles, the Secretary of State failed to consult properly.

Insofar as this ground extends beyond Ground 10, permission refused (see paragraphs 550-551).

18. The Secretary of State erred in basing his decision to designate the NPS on the AC Final Report, in circumstances in which the chair of the AC was biased or apparently biased in favour of the NWR Scheme.

Permission refused (see paragraphs 553-557).

19. By designating the ANPS, the Secretary of State acted in breach of article 8 of the ECHR.

Permission refused (see paragraphs 652-656).

20. By designating the ANPS, the Secretary of State acted in breach of article 1 of the First Protocol to the ECHR.

Permission refused (see paragraphs 652-656).

21. The designation of the ANPS relied upon work by Jacobs commissioned by the AC which contained a fundamental error by restricting the “Principal Study Area” for ground level pollutants (including NO_x and fine particulates) to 2km radius round the NWR Scheme boundary. In failing properly to take into account the NO_x and particulate concentrations in a wider area, the Secretary of State breached the Air Quality Directive; and section 10 of the PA 2008 (sustainable development).

Permission refused (see paragraphs 279-283).

22. The Secretary of State acted unlawfully in designating the ANPS which would breach the Kyoto Protocol, the Paris Agreement and the CCA 2008.

Permission refused (see paragraph 602-649).

APPENDIX B

THE ISSUES

Standard of Review

1. The proper approach for the court to take as to the standard of review in all these claims.

Article 9 of the Bill of Rights

2. Whether any of the grounds and/or evidence of the parties is in breach of article 9 of the Bill of Rights, such that it may not be relied on.

Surface Access

3. Whether the designation of the ANPS was unlawful by reason of:
 - 3.1. reliance on outdated and flawed surface access impact analysis and/or the failure to take any, or any adequate, account of evidence from the Mayor and TfL or to give any explanation of why that evidence was disregarded; and/or
 - 3.2. the failure to take any, or any adequate, account of evidence from the Mayor and TfL on the deliverability of the mode share targets adopted in the ANPS; and/or
 - 3.3. adoption of mode share targets that are not realistically capable of delivery and will not adequately mitigate the impact of Heathrow expansion on the highway network.

Air quality

4. Whether the designation of the ANPS was unlawful by reason of:
 - 4.1. reliance on a flawed analysis of the surface access impacts of the NWR Scheme (see above);
 - 4.2. a failure to consider or apply a worst-case scenario when assessing whether the NWR Scheme is capable of being delivered in compliance with the Air Quality Directive, and thereby failure to apply a precautionary approach;
 - 4.3. it being irrational for the Secretary of State to have designated the ANPS when he knew, or ought to have known, that were the NWR Scheme constructed there would be a high risk that obligations under the Air Quality Directive will be breached from 2026-30;
 - 4.4. the Secretary of State having made unjustified assumptions about the possibility of mitigating harm when concluding that the NWR Scheme was capable of being delivered compatibly with air quality legal obligations;
 - 4.5. the Secretary of State acting irrationally and/or contrary to any obligations to act transparently to give reasons by failing to set out the legal test for compliance with the Air Quality Directive (including the obligation under Article 12 to

endeavour to preserve the best ambient air quality compatible with sustainable development).

5. Whether the designation of the ANPS otherwise breached any provisions of the Air Quality Directive.

Habitats

6. Whether the decision of the Secretary of State that the Gatwick 2R Scheme was not an alternative solution to the NWR Scheme was in breach of the Habitats Directive by reason of:

- 6.1. the objectives of: (a) increasing airport capacity; and (b) maintaining the UK's hub status being legally erroneous;

- 6.2. conclusions on the potential habitats impacts of the Gatwick 2R Scheme being reached without any evidence.

SEA

7. The proper test for the court to apply when appraising whether an environmental report complies with the mandatory requirements of the SEA Directive. In particular, whether the court should in considering the SEA issues apply the Blewett approach, as applied to SEA in Shadwell, or whether it should apply some different approach.

8. Whether the following alleged breaches of the SEA Directive are made out:

- 8.1. failure to provide an outline of the relationship between the ANPS and other relevant plans or programmes in breach of article 5(1)-(2) of the SEA Directive with Annex 1(a);

- 8.2. failure to identify the environmental characteristics of areas likely to be significantly affected by the ANPS, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(c);

- 8.3. failure to provide information on environmental protection objectives, established at international, EU or Member State level, which are relevant to the ANPS and the way objectives and any environmental considerations have been taken into account during its preparation, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(e);

- 8.4. failure to provide information on the likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, in particular on the issues of population and human health and climatic factors, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(f);

- 8.5. failure to identify and describe measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the ANPS, in breach of article 5(1)-(2) of the SEA Directive with Annex 1(g).

9. Whether the SEA Directive was breached by reason of a failure to consider the Paris Agreement.
10. If any or all of these alleged breaches are made out what the consequences are, if any, for the lawfulness of the ANPS.

Consultation failings

11. Whether the ANPS is unlawful by reason of the Secretary of State not carrying out the consultation with an open mind.

Bias

12. Whether the ANPS is unlawful by reason of bias and/or apparent bias, and whether some or all of the matters relied on in support of such an allegation can be pursued in these proceedings.

Human Rights

13. Whether the designation of the ANPS gives rise to any breach of the Human Rights Act 1998, article 8 or A1P1, in relation to issues of noise and air quality.

Climate Change

14. Whether the designation of the ANPS is unlawful by reason of the Secretary of State having failed, in breach of section 5 of the PA 2008, to explain how the policy in the ANPS takes account of UK Government policy relating to the mitigation of, and adaptation to, climate change. In particular:
 - 14.1. Does the NPS: (i) seek to determine conclusively that its policies are compatible with the “aviation target”/”planning assumption” of the CCC and the 2050 Target set in the CCA 2008 or (ii) leaves this question to be determined at the development consent stage.
 - 14.2. If the former interpretation is correct, was it unlawful for the NPS to purport to determine the question conclusively as part of the NPS in the absence of a broader policy on aviation and climate change.
 - 14.3. If the latter interpretation is correct is the NPS legally defective.
 - 14.4. Overall, does the NPS unlawfully fail to explain how it takes account of the aviation target/planning assumption and the 2050 target.
15. Whether the designation of the ANPS is unlawful by reason of the Secretary of State having misinterpreted and/or breached section 5(8) of the PA 2008 as regards the Paris Agreement temperature goal.
16. Whether, in the event of any ambiguity regarding the interpretation of section 5(8) of the PA 2008, the Human Rights Act 1998 section 3 requires that the phrase “Government policy relating to the mitigation of, and adaptation to, climate change” be interpreted and given effect to as including the Paris Agreement temperature goal.

17. Whether Plan B may raise an argument under section 3 of the Human Rights Act 1998 given that it is not a “victim” for the purposes of section 7 of that Act.
18. Whether the designation of the ANPS by the Secretary of State was irrational on the grounds that it was not assessed against the Paris Agreement temperature goal.
19. Whether the designation of the ANPS is unlawful by reason of:
 - 19.1. the Secretary of State having misinterpreted and/or failed to comply with his duties under section 10(2) and (3) of the PA 2008; and/or
 - 19.2. the Secretary of State having failed to consider:
 - 19.2.1. the implications of the Paris Agreement;
 - 19.2.2. non-CO2 emissions; and
 - 19.2.3. the needs of future generations.
20. In particular:
 - 20.1. Did the Secretary of State err in its interpretation of section 10 of the PA 2008, by construing it as requiring consideration only of “existing legal obligations and policy commitments” relating to climate change.
 - 20.2. If it did, did the Secretary of State fail to discharge his duties under section 10(2) and (3) of the PA 2008 and/or fail to take into account material considerations.
21. Whether the designation of the ANPS is otherwise unlawful by reason of any climate change issues.

Relief

22. What relief, if any, should be granted if any of the grounds of claim is made out.

APPENDIX C

TERMS AND ABBREVIATIONS

The following terms and abbreviations are used in this judgment:

2007 White Paper	“Planning for a Sustainable Future” White Paper (May 2007) (Cm 7120)
2017 Regulations	The Town and County Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 571)
A1P1	Article 1 of the First Protocol to the ECHR (see below)
AC	Airports Commission
AC Final Report	The Final Report of the AC (see above) (1 July 2015)
AC Interim Report	The Interim Report of the AC (see above) (17 December 2013)
Addendum to the Agreed Statement	Addendum to the Agreed Statement (see below) (March 2019)
Agreed Statement	The Parties’ Agreed Statement of Common Ground (28 January 2019)
Air Quality Directive	Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe
Air Quality Regulations	The Air Quality Standards Regulations 2010 (SI 2010 No 1001)
ANPS	Airports National Policy Statement
AoS	Appraisal of Sustainability
APF	Aviation Policy Framework
AQMA	Air Quality Management Area
AQP 2017	Air Quality Plan 2017 (26 July 2017)
Arora	Arora Holdings Limited

Atkins	Atkins Limited
ATMs	Air Traffic Movements
ATWP	Air Transport White Paper
Baker 1	The first statement of Paul Baker dated 6 August 2018
Baker 2	The first statement of Paul Baker dated 20 December 2018
Birds Directive	EC Council Directive 2009/147/EC on the conservation of wild birds, which replaced EC Council Directive 79/409/EEC
CAA	Civil Aviation Authority
Cabinet Sub-Committee	The Cabinet Sub-Committee on Economic Affairs
Carbon budget	The net UK carbon account set by the Secretary of State for BEIS (see below) under the CCA 2008 (see below)
Carbon Target JR	The claim by Plan B Earth and others challenging the refusal of the Secretary of State for BEIS to revise the 2050 carbon target under the CCA 2008 following the Paris Agreement
CAZ	Clean Air Zones
CCA 2008	The Climate Change Act 2008
CCC	Committee on Climate Change
Climate Change Annex to the Agreed Statement	Climate Change Annex to the Agreed Statement (see above) agreed between FoE, Plan B Earth and the Secretary of State (5 February 2019)
CO ₂	Carbon Dioxide
Consultation Response	The Secretary of State's response to the consultations on the draft ANPS (June 2018)
COPERT	Computer Programme to Calculate Emissions from Road Transport

DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DfT17	UK Aviation Forecasts 2017 published by the DfT (see above) (24 October 2017)
ECHR	European Convention on Human Rights
EIA	Environmental Impact Assessment
EIA Directive	Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment
EIA Regulations	The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No 571) and their predecessors, transposing the EIA Directive (see above)
ENR Scheme	Proposal of HHL (see below) to extend the existing northern runway to allow it to operate as two independent runways
ETS	Emissions Trading Scheme
EU	European Union
Examination Rules	The Infrastructure Planning (Examination Procedure) Rules 2010 (SI 2010 No 103)
Examining Authority	A panel or a single person appointed by the Secretary of State to examine a DCO application
February 2017 Consultation	Consultation on a draft ANPS launched by the Secretary of State on 2 February 2017
FoE	Friends of the Earth Limited
GAL	Gatwick Airport Limited
Gatwick 2R Scheme	Proposal for a second runway at Gatwick
GHGs	Greenhouse gases

GLA Act	Greater London Authority Act 1999
Government's Transport Committee Response	Government response to the Transport Committee report on the revised draft ANPS (5 June 2018)
Graham	The witness statement of Phil Graham dated 29 November 2018
<u>Gunning principles</u>	Principles on the duty to consult approved in <u>R v Brent London Borough Council ex parte Gunning</u> (1985) 84 LGR 168
Habitats Directive	EC Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
Habitats Regulations	Conservation of Habitats and Species Regulations 2017 (SI 2017 No 1012)
HAL	Heathrow Airport Limited
HGVs	Heavy Goods Vehicles
HHL	Heathrow Hub Limited
Hillingdon	London Borough of Hillingdon
<u>Hillingdon (2010)</u>	<u>R (Hillingdon London Borough Council) v Secretary of State for Transport</u> [2010] EWHC 626 (Admin)
HRA	Habitats Regulations Assessment
HRA 1998	Human Rights Act 1998
IPCC	Intergovernmental Panel on Climate Change
IROPI	Imperative reasons of overriding public interest
Jacobs	Jacobs UK Limited
Jacobs Carbon Emissions Assessment	Appraisal Framework Module 8: Carbon: Further Assessment Report by Jacobs (see above) (May 2015)
Jacobs May 2015 AQ Local Assessment	Appraisal Framework Module 6: Air Quality Local Assessment: Detailed Emissions

	Inventory and Dispersion Modelling Jacobs (see above) (May 2015)
Jacobs Surface Access Assessment	Appraisal Framework Module 4: Surface Access: Dynamic Modelling Report: Heathrow Airport North West Runway 6: by Jacobs, dated May 2015
Jones 1	The first witness statement of Roger Jones dated 29 November 2018
Jones 2	The second witness statement of Roger Jones dated 8 January 2019 (amended 25 January 2019)
LOAEL	Lowest observed adverse effects level
Lotinga 1	The first witness statement of Michael Lotinga dated 28 November 2018
Lotinga 2	The second witness statement of Michael Lotinga dated 9 January 2019
Low 1	The first witness statement of Caroline Low dated 29 November 2018
Low 2	The second witness statement of Caroline Low dated 9 January 2019 (amended 25 January 2019)
Low 3	The third witness statement of Caroline Low dated 22 January 2019
Mayor	Mayor of London
Morrison 1	The first witness statement of Charles Morrison dated 6 December 2018
Morrison 2	The second witness statement of Charles Morrison dated 9 January 2019
mppa	Million passengers per annum
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPPF	National Planning Policy Framework
NPS	National Policy Statement

NWR Scheme	The scheme to construct a third runway at Heathrow to the north-west of the existing runways
October 2016 decision	The decision by the Secretary of State that the Government's preferred option was the NWR Scheme, announced to Parliament on 25 October 2016
October 2016 Preference Decision JR	The claim by the Hillingdon Claimants (save for the Mayor and the London Borough of Hammersmith and Fulham) and an individual claimant (Christine Taylor) challenging the October 2016 decision (see above)
October 2017 Consultation	Consultation on revised draft ANPS launched by the Secretary of State on 24 October 2017
Owen	The witness statement of Lucy Owen dated 10 August 2018
PA 2008	Planning Act 2008
PCM	Pollution Climate Mapping
Puddifoot 1	The first witness statement of Councillor Raymond Puddifoot MBE dated 6 August 2018 (amended 1 November 2018)
Puddifoot 2	The second witness statement of Councillor Raymond Puddifoot MBE dated 20 December 2018
SAC	Special Area of Conservation
SDG	Steer Davies Gleave
SDG Report	Report by SDG (see above) entitled "Heathrow Airport Expansion Surface Access Assessment – Summary Report" (September 2017)
SEA	Strategic Environmental Assessment
SEA Directive	SEA Directive 2001/42/EC of the European Parliament and of the Council on the

	assessment of certain plans and programmes on the environments
SEA Regulations	Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004 No 1633)
Second Judgment	[2019] EWHC 1069 (Admin)
Secretary of State	Secretary of State for Transport
Secretary of State for BEIS	Secretary of State and the Secretary of State for Business, Enterprise and Industrial Strategy
SoPs	Statement of Principles
SPAs	Special Protection Areas
SRA	Southern Rail Access
SSE	Secretary of State for the Environment, Food and Rural Affairs
Stanbury 1	The first witness statement of Colin Stanbury dated 4 August 2018 (amended 1 November 2018)
Stanbury 2	The second witness statement of Colin Stanbury dated 20 December 2018
Stevenson 1	The first witness statement of Ursula Stevenson dated 29 November 2018
Stevenson 2	The second statement of witness statement Ursula Stevenson dated 9 January 2019 (amended 25 January 2019)
TfL	Transport for London
TfL January 2018 Technical Note	TfL Technical Note “Heathrow Third Runway: Surface Access Analysis” (January 2018)
TfL November 2018 Technical Note	TfL Technical Note “Revised National Policy Statement on Airport Capacity” (November 2018)
Thynne 1	The first statement of Ian Thynne dated 6 August 2018 (amended 1 November 2018)

Thynne 2	The second statement of Ian Thynne dated 20 December 2018
UFPs	Ultrafine particles
ULEZ	Ultra-Low Emissions Zone
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
Updated Appraisal Report	The October 2017 update to the October 2016 Further Review and Sensitivities Report Airport Capacity in the South East)
Williams 1	The first witness statement of Alex Williams dated 6 August 2018 (amended 1 November 2018)
Williams 2	The second witness statement of Alex Williams dated 21 December 2018
WRL	Proposed Western Rail Link to Heathrow which would connect the airport to the Great Western Main Line
WSP	WSP Parsons Brinckerhoff
WSP February 2017 AQ Re-analysis	Update of WSP October 2016 AQ Re-analysis (see below): Air Quality Re-analysis report (WSP) (see above) (February 2017)
WSP October 2016 AQ Re-analysis	“Air Quality Re-analysis impact of new pollution climate mapping projections and national Air Quality Plan” (WSP) (dated October 2016)
WSP October 2017 AQ Re-analysis	Update of WSP October 2016 AQ Re-analysis and WSP October 2016 AQ Re-analysis (see above): Air Quality Re-analysis report (WSP) (see above) (October 2017)
ZEZ	Zero Emissions Zone

**Five10Twelve Limited
Comments on
Comment on
Examining Authority's
Second Draft
Development Consent
Order published 14
June 2019 sent on 22
June 2019**

Five10Twelve Limited

Additional Submission

Comment on Examining Authority's Second Draft Development Consent Order published 14 June 2019

Number of General Aviation movements

1. On Page 10 of the Examining Authority's Second Draft Development Consent Order published 14 June 2019 [\[PD-018\]](#) the ExA proposes to modify R19a – Airport Operation as follows:

“...c) is subject to a total annual General Aviation movement limit of 38,000.”

2. The rationale provided by the ExA is *“to more closely align this Requirement with the balance of air transport movements assessed in the ES”*.

3. We note that in the Applicant's responses to second written questions [\[REP6-012\]](#) at AQ.2.1 the Applicant states:

“The air quality assessment includes 38,000 movements per year from light aircraft (Piper PA28 and PA34 aircraft). A cap on general aviation movements is included in the Noise Mitigation Plan (NMP) [APP-009]”.

4. We note that the chapter on Air Quality assessment in the Environmental Statement (Chapter 6) [\[APP-032\]](#) is silent as to the number of general aviation and training flights assessed.

5. We further note that the [\[APP-009\]](#) referred to within Applicant's response above is also silent as to the number of general aviation and training flights movements.

6. We also note that the Applicant at [\[REP8-015\]](#) Table Item 27.1 refers to 36,135 general aviation movements without a reference to the accompanying evidence in the ES.

7. The only reference to the number of general aviation and training flights assessed within the Environmental Statement submitted by the Applicant at the time of acceptance [\[APP-034\]](#) can be found in Chapter 12.

8. We respectfully draw the ExA attention to the Environmental Statement submitted by the Applicant at the time of acceptance [\[APP-034\]](#) and in particular paragraph 12.7.39.
9. Paragraph 12.7.39 states that:

*“There will also be an average of approximately **16 non-ATMs per 24-hour day in all years including general aviation and training flights**”* (bold added for emphasis)
10. This statement means 16 per day per year ie: $16 \times 365 = 5840$ non-ATMs including general aviation and training flights a year were assessed.
11. The number of general aviation and training flights therefore assessed by and submitted for Examination by the Applicant in the Environmental Statement was 5840.
12. The Applicant has provided no evidence whatsoever that an increase from the 5840 annual General Aviation movements assessed in the ES to 36,135 annual General Aviation movements or 38,000 annual General Aviation movements (an increase of over 600%) will not make a difference to the ES.
13. We note that London Biggin Hill Airport based in Bromley in the South East has an overall annual business and general aviation movements of 46,600¹ of which 35,100 are light aviation.
14. London Biggin Hill Airport has a Noise Action Plan in place in which at Table 3.2 it references noise contour levels at 69 dB LAeq, 63 dB LAeq and 57 dB LAeq².
15. It is of further note that London Biggin Hill Airport Noise Action Plan evidences 8 separate noise contours. These noise contours are shown at NAP1, NAP2, NAP3, NAP4, NAP5, NAP6, NAP7a and NAP7b³.
16. It is clear to see from these noise contours, which separate out business and general aviation movements, that there **is** a clear noise impact from annual business and general aviation movements of 46,600⁴ of which 35,100 are light aviation.

¹ London Biggin Hill Airport Noise Action Plan, 2015

² *Ibid*, at Table 3.2 Page 12 on left hand side and on right hand side labeled Page number 352

³ *Ibid*, at Appendix 3 Page number 371

⁴ London Biggin Hill Airport Noise Action Plan, 2015

17. This evidence demonstrates that the increase in annual General Aviation movements proposed by the Applicant and not assessed in the ES will have an impact and perhaps a material one.
18. In the absence of any further assessment evidence provided by the Applicant, we respectfully request that the Noise Mitigation Plan should reflect the number assessed in the ES and be amended as follows:

*“The airport will be subject to a total annual General Aviation movement limit of **5840**” (bold added for emphasis).*
19. In the absence of any further assessment evidence provided by the Applicant, we respectfully request that the draft DCO at R19a – Airport Operation should reflect the number assessed in the ES and the Second draft DCO be amended as follows:

*“...c) is subject to a total annual General Aviation movement limit of **5840**” (bold added for emphasis).*

Fleet Mix of General Aviation movements

20. The definition provided by the Applicant in the Noise Mitigation Plan submitted at the time of the Application [\[APP-009\]](#) states that:

“General Aviation means all civil aviation operations other than scheduled air services and nonscheduled air transport operations for remuneration or hire”.
21. This definition has not changed in any of the revised Noise Mitigation Plans produced by the Applicant at deadline 3, 4, 5, 6, 7a or 8.
22. We note that in the Applicant’s responses to second written questions [\[REP6-012\]](#) at AQ.2.1 the Applicant states:

*“The air quality assessment includes 38,000 movements per year **from light aircraft (Piper PA28 and PA34 aircraft)**. A cap on general aviation movements is included in the Noise Mitigation Plan (NMP) [\[APP-009\]](#)” (bold added for emphasis).*
23. As the ExA will be aware, Piper PA28 and PA34 aircraft are single propeller and small twin piston light aircraft respectively and, as such, represent the smallest, lightest and quietest categorisations of aircraft to be considered by the CAA’s ERCD as ‘General Aviation’.

24. Pursuant to the Applicant's written responses we note that the Applicant did not assess in its ES the larger General Aviation aircraft types, including but not limited to Small Twin Turboprops and Executive Jets that are included in General Aviation movements at comparable airports.
25. This is of particular note given the Applicant's inclusion of Executive Travel within its business mix and given one of the specialisation of the connected party Helix Fiduciary AG is in ownership structuring of private and corporate aircraft⁵.
26. Further, these types of larger general aviation aircraft would be caught within the current definition of General Aviation within the Second draft DCO.
27. As evidenced in our submissions of [\[AS-120\]](#) and more recently at Deadline 8 [\[COMMENTS ON APPLICANT'S ORAL SUBMISSIONS AT ISH6 \(ENVIRONMENTAL ISSUES\) OF 05 JUNE 2019, \(PM\) ADDITIONAL SUBMISSION\]](#) noise and air quality are materially impacted by a change in the fleet mix from small propeller/piston to turboprop and a change in fleet mix from turboprop to turbofan.
28. In the absence of any further assessment evidence provided by the Applicant, we respectfully request that the Noise Mitigation Plan should reflect the fleet mix that was assessed in the ES and the definition amended as follows:

*“General Aviation means light aircraft operations to be **limited to Single Propellor and Small Twin Piston light aircraft, for example Piper PA28 and PA34, other than scheduled air services and nonscheduled air transport operations for remuneration or hire**” (bold added for emphasis).*
29. In the absence of any further assessment evidence provided by the Applicant, we respectfully request that the Second draft DCO at R1 – Interpretation should reflect the fleet mix that was assessed in the ES and the Second draft DCO be amended as follows:

⁵ <https://www.helixfiduciary.com/aviation/>

*“General Aviation movement means landings or take-off of **light aircraft operations to be limited to Single Propellor and Small Twin Piston light aircraft, for example Piper PA28 and PA34,** other than scheduled air services and nonscheduled air transport operations for remuneration or hire” (bold added for emphasis).*

London Biggin Hill Airport Noise Action Plan



LONDON
BIGGIN HILL
AIRPORT

BUSINESS | TRAVEL | COMMUNITY

28 August 2015 - Final

Contents

1.0	Introduction	5
2.0	Current Noise Levels	8
3.0	Future Noise	12
4.0	Noise Action Measures	17

Tables

Table 2.1	Summary of current annual aircraft movements (2014)	8
Table 2.2	Noise Contour Areas (2014)	9
Table 3.1	Summary of 2020 forecast annual aircraft movements	13
Table 3.2	2020 Noise Contour Areas for operations of the airport	14
Table 3.3	Population Estimates for 2020 Noise Contours	15

Appendices

Appendix 1	Noise Action Plan Contours	
NAP1	Current Summer Daytime noise contours compared to Currently Adopted UDP noise contour (07:00 - 23:00)	
NAP2	Current Summer Early Morning noise contours (06:30 - 07:00)	
NAP3	2020 Forecast Summer Daytime noise contours compared to Currently Adopted UDP contour and New Maximum Limit (07:00 - 23:00)	
NAP4	2020 Forecast Summer Early Morning noise contours (06:30 - 07:00)	
NAP5	2020 Forecast Summer Late Evening noise contours (22:00 - 23:00)	
NAP6	90 dB(A) SEL footprints of Typical Arriving Business Jets from North	
NAP7A/7B	90 dB(A) SEL footprints of Typical Departing Business Jet to North and South	
Appendix 2	Summary of Noise Action Plan Measures	
Appendix 3	Residential Sound Insulation Scheme	

1.0 Introduction

- 1.1 London Biggin Hill Airport (LBHA) lies within the London Borough of Bromley (LBB) some five miles south of Bromley town centre and 12 miles from central London. The airport has direct access to the A233 which connects to the M25 motorway and the national road network. Frequent fast (16 minute) rail services operate from nearby Orpington and Bromley South stations into central London providing a total journey time of approximately 35 minutes.
- 1.2 Biggin Hill was opened in 1917 as an RAF station and went on to play a major role in the Battle of Britain as a front line Second World War fighter station. Civil flights started to replace noisy military jets in 1960 and they grew steadily to over 200,000 flights per annum in the 1980's, mostly light aircraft. This was however, insufficient to make the airfield economically sustainable and new management in 1988, new policies in 1991 and new investment from 1994 have since encouraged more commercial activity and a wider range of aircraft types.
- 1.3 The airfield is set on high ground and is predominantly surrounded by rural areas although there are generally small linear developments of residential properties nearby, Biggin Hill village is mainly to the side of the arrival and departure routes whilst the more developed areas of South East London lie several miles to the north east.
- 1.4 In 1994 LBHA acquired the business of the airport and entered into a 125 year lease from the freeholder, LBB.
- 1.5 LBHA are the relevant airport operator and the authority responsible for this Noise Action Plan (NAP).
- 1.6 The operational area of the airport covers a total of 195 hectares and includes a main Runway 1808 metres long and a shorter cross-wind Runway predominantly for light aircraft use. Biggin Hill provides a wide-range of international connections. It was calculated recently that Biggin Hill connected to over 760 different destinations over a 12 month period; three times more than can be reached by scheduled airlines from all of the other London airports.
- 1.7 LBHA is the only London airport within the M25 dedicated to meeting the needs of the General Aviation sector - that means that it does not have scheduled airline services or high numbers of passengers passing through. Aeroplanes operating in the Business and General Aviation sector are typically much smaller than scheduled airliners and are generally much quieter with new generation types being designed to meet the most stringent of environmental criteria. The General Aviation sector encompasses a wide range of aircraft types and uses, each being operated on an 'on demand' basis, and therefore the owners and commercial operators need the optimum flexibility to use their aircraft and assets when required.
- 1.8 The commercial role of the airport is to provide the flexibility, facilities and ease of operation needed by three types of customer by acting as:

- an important Gateway to and from London supporting its role as a World City, it provides ease of access for users of the business and general aviation sectors;
- the home base for a large number of corporate, commercial and privately owned aircraft;
- a provider of suitable hangars, offices and workshops for many of the world's aircraft manufacturers, their agencies and the independent operators who maintain, overhaul, redesign, supply and support the wide range of aircraft in the sector.

1.9 In order to invest and develop this role, LBHA needs to improve access and flexibility for customers by altering the existing hours set out in the Operating Criteria Schedule of its lease. The current airport operating hours were introduced by LBB, in its capacity as Landlord, 20 years ago and have been unchanged since; although prior to the lease, in 1991, the Council had approved weekend and Bank Holiday hours of 0800 - 2100hrs (i.e. two hours longer than currently permitted).

1.10 The current and rather simplistic controls on noise set out in the Third Schedule of the airport lease require that aircraft using the airport must comply with the Council's approved noise criteria which followed the then stringent ICAO Chapter 3 industry standards for modern turbo jets and turbo fans. The ICAO Chapter 3 criteria used industry noise measurement limits at locations known as Side line, Fly over and Approach. A list of older and specifically approved aircraft was also adopted and included at that time and the Operating Criteria included a limit on annual aircraft movements of 125,000 and an obligation on LBHA 'to maximise Gross Turnover consistent with the provisions of the lease unless the Tenant has good commercial reasons for acting otherwise'.

1.11 As part of the strategic review of its business and in consideration for longer opening hours LBHA has prepared this Noise Action Plan (NAP).

1.12 This NAP provides information regarding how the airport proposes to continue its efforts to develop and maintain standards of best industry practice relating to noise controls as the business grows and as its economic performance improves. In preparing the NAP, LBHA has drawn on experience from other airports which have prepared Noise Action Plans (NAPs) and from the regulations and national guidance relating to their preparation contained in:

- a The Environmental Noise (England) Regulations 2006 (as amended) which transposed the EU Environmental Noise Directive 2002/49/EC known as END into UK Legislation;
- b The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2002;
- c Aviation Policy Framework March 2013; and
- d The National Planning Policy Framework, March 2012

1.13 There is no statutory requirement for LBHA to prepare a NAP as this only extends to major civil airports with over 50,000 annual aircraft movements, excluding movements purely for training purposes using light aircraft. This

does not currently apply to LBHA. Despite this, LBHA believes that an NAP provides the appropriate format in which to address noise mitigation and community interests. LBHA has therefore prepared, on a voluntary basis, this NAP with the purpose of ensuring the airport operates as quietly as possible and with minimal effect on its neighbours.

- 1.14 A requirement exists for major civil airport operators to draw up or update NAPs every five years or whenever a major development occurs that affects the existing noise situation. Following adoption of this NAP, LBHA will formally review its NAP every five years.
- 1.15 Providing long-term reliable forecasts of General and Business Aviation is problematic given the large range of market variables and uncertainties. The shorter the forecast horizon the greater the reliability of the forecast and of the predicted noise contour. This approach has therefore been adopted by LBHA in this NAP.
- 1.16 Noise Action Plans are complex technical documents and in order to ensure it is comprehensible to a wider audience, LBHA will produce and make widely available a simplified and easily understood leaflet explaining its approach to managing noise at the airport.
- 1.17 In preparing this document extensive public consultation has already taken place as part of wider changes to the operating conditions. The NAP has also been the subject of detailed consideration and input by LBB's appointed acousticians, Cole Jarman along with the relevant LBB officers.
- 1.18 This NAP is organised as follows:
- Section 2.0 addresses existing noise levels at the airport,
 - Section 3.0 discusses future noise including the first five year forecast and associated contour
 - Section 4.0 sets out a comprehensive set of noise control measures drawing on existing and new controls which aim to reduce the number of people affected by aircraft noise.

2.0

Current Noise Levels

2.1

The current noise levels can be quantified by both production of airport noise contours and consideration of community responses as demonstrated by the comments received by the Airport. The latter are regularly evaluated by a specialist sub-committee of the Airport Consultative Committee (ACC). After their evaluation and the actions taken by the Airport, a report is given by the Chairman of the Noise and Safety sub-committee to the ACC. The ACC meets four times each year and minutes of the meetings are subsequently published on the LBHA website.

2.2

Over recent years the total number of flights at the airport has declined, reflecting the economy and disposable income available for discretionary spend in the UK and worldwide, combined with growing competition from more airports focusing on this sector of aviation, both in the UK and Europe. In 2014, the total annual aircraft movements were about 46,600. An aircraft movement is defined as either a take-off or a landing.

2.3

To assist with noise and local planning, the Currently Adopted Unitary Development Plan (UDP) included a contour representing predicted noise from anticipated future airport activity and showed the possible area exposed to the highest noise levels, thereby avoiding future development conflicts due to noise from airport operations. The contour was produced on behalf of LBB by its noise consultant using an estimation of the likely growth of the business at the airport pursuant to the terms of the airport lease.

2.4

The basis for the current (2014) noise contours are actual aircraft movements at the airport during the calendar year which are summarised in Table 2.1. The airport movement data contains details of aircraft type, operation, Runway in use and the time of day and this information has been processed for input into suitable noise computation software; in this case the FAA's Integrated Noise Model (INM). For the summer contours, the actual level of summer traffic was used. This comprised 31% of the annual traffic, with no significant changes in aircraft mix. In common with noise contouring at other airports, military aircraft movements, which are very infrequent at Biggin Hill and mainly associated with the summer air show season, have been excluded.

Table 2.1 Summary of current annual aircraft movements (2014)

Aircraft Category	2014 Annual Movements
Business Aviation	11,500
Light Aviation	35,100
Total	46,600

2.5

The noise metric and values used for the contouring provided in this NAP are based on current Government policy. The Future of Air Transport White Paper in December 2003 included policy advice on aircraft noise measurement and mapping. It advised that, based on research, the Government has used 57 dB

$L_{Aeq,16h}$ contour as marking the approximate onset of significant community annoyance. The current Aviation Policy Framework (APF) published in March 2013, confirmed policy support for retained use of the 57 dB $L_{Aeq,16h}$ criterion.

- 2.6 The APF also includes Government expectations in relation to noise mitigation and compensation. Specifically the Government expects airport operators to offer households exposed to levels of noise of 69 dB $L_{Aeq,16h}$ or more, assistance with the costs of moving house or with financial assistance towards the cost of acoustic insulation to residential properties exposed to levels of noise of 63 dB $L_{Aeq,16h}$ or more.
- 2.7 The following noise contours were therefore produced in respect of Biggin Hill Airport:
- Summer Daytime $L_{Aeq,16h}$ noise contours, based on movements in the standard daytime period 07:00 to 23:00, at 57, 63 and 69 dB, see **NAP1**
 - Summer Early Morning $L_{Aeq,30m}$ noise contours, based on movements in the weekday early morning period 06:30 to 07:00, at 57, 63 and 69 dB, see **NAP2**
- 2.8 These contours have been produced using a version of the INM software (version 7.0d), with the effects of local terrain included in the model. The areas of the contours are given in Table 2.2.

Table 2.2 Noise Contour Areas (2014)

Contour Level	Area of Air Noise Contours (km ²)	
	Summer Daytime (07:00-23:00) $L_{Aeq,16h}$	Summer Early Morning (06:30-07:00) $L_{Aeq,30m}$
>57 dB $L_{Aeq,T}$	2.1	0.6
>63 dB $L_{Aeq,T}$	0.8	0.3
>69 dB $L_{Aeq,T}$	0.3	0.1

- 2.9 The current noise impact area is shown in **NAP1**, in terms of the standard 92 day summer daytime 57, 63 and 69 dB $L_{Aeq,16h}$ contours referred to in the APF.
- 2.10 Adopting the usual assessment criteria relating to aviation noise impact, the current noise impact at LBHA shows that the daytime contour representing high levels of annoyance, 69 dB $L_{Aeq,16h}$ is completely contained within the operational boundaries of the airport except at the southern end of the main Runway where it extends to the busy A233 highway but does not impinge on any residential properties. The daytime contour representing moderate levels of annoyance, 63 dB $L_{Aeq,16h}$, is also largely contained within the airport site although it does extend to the south across the A233. Some properties on the A233 abut this contour.
- 2.11 The daytime contour representing the onset of low community annoyance, 57 dB $L_{Aeq,16h}$, extends to east of Holwood Farm, (south of Shire Lane) to the north of the airport. To the south-west of the airport it extends to the fields north of Norheads Farm. In doing so, it includes a number of properties most of which are located in Biggin Hill village. Inspection of the contours indicates that there

are no non-residential noise sensitive premises such as hospitals and schools that lie within the noise impacted areas.

- 2.12 Although it is not standard U.K. assessment for airport noise, contours have also been produced for activity in the weekday summer early morning period, 06:30 – 07:00 hours. **NAP2** indicates the approximate extent of the noise impacted area using the 57 dB $L_{Aeq,30m}$ contour as illustrative of possible risk of noise impact. It indicates no properties currently exposed to such risk.
- 2.13 Activity in the period prior to 07:00 hours is presently unrestricted for departures from the Airport for aircraft described as being ‘normally based’ at the Airport. It is restricted for arrivals and departures for aircraft not ‘normally based’ at the airport. However no restriction on the number of movements or their combined noise effect is currently in place.
- 2.14 The relatively small size of the 2014 contours and their location over largely uninhabited areas, as shown on **NAP1**, is compatible with the low level of public reaction to the airport’s activities. In 2014 the airport received 44 comments relating to its activities. In that year there were about 46,600 movements. This rate of response is about 0.9 comments per thousand movements indicating a small response to Airport activity. To put this in context, at Farnborough Airport, Hampshire, which like Biggin Hill, specialises in business aviation and has Farnborough town close to its boundary, there were 265 complaints in 2014 against annual movements of 25,984. This equates to 10.1 complaints per thousand movements, approximately 10 times the level of complaints per aircraft movement received by LBHA.
- 2.15 LBHA acknowledges that at any airport some noise intrusion occurs, particularly close to the airfield but also under arrival and departure routes. Following consideration of the comments received from local residents it appears that the majority of the noise impact close to the airport relates to aero club and private light aircraft movements, especially at the weekends and additionally from occasional noise events involving either an unusual aircraft design or an older business jet type, as well as from the unguided Runway 03 arrival procedure that is currently in use when the wind blows from the north or east. On these days, aircraft approach the airport from the north east, using the Runway 21 instrument landing system (ILS), and then depart from the ILS trajectory, break to the west and carry out a visual circuit to the west of the airport, circling to the south west before turning north to land on Runway 03. Pilots following this procedure are not following any navigation guidance system, but are operating by visual reference relative to the airport and therefore height and track of the prevailing aircraft will vary to some extent and may be affected by the pilots’ experience of Biggin Hill Airport, by the performance or characteristics of the aircraft type in question and by the prevailing weather conditions. This procedure is known to give rise to occasional noise intrusion in Keston, Tatsfield and Warlingham, in particular because aircraft are operating at relatively low level and medium or higher power settings as they manoeuvre to position for landing on Runway 03, the reciprocal of the more commonly used and south westerly oriented Runway 21.

- 2.16 A new dedicated Runway 03 approach guidance system is currently being developed, following a formal consultation procedure set down by the CAA, in the form of an Airspace Change Proposal (ACP). The proposed new Runway 03 approach is scheduled to be installed during the course of summer 2016 for implementation in the autumn of 2016. The proposed new approach procedure, when implemented, will significantly reduce traffic using the Runway 21 ILS approach. It is anticipated that all air traffic using the Runway 03 approach will no longer overfly residential areas situated the north and north east of the aerodrome (Petts Wood, Crofton and Farnborough) as part of its inbound routing potentially providing significant periods of respite in these areas when the prevailing wind is in the north or north east or east.
- 2.17 **NAP1** shows the currently adopted UDP noise contour and the corresponding current (2014) contour at 57 dB $L_{Aeq,16h}$ the contour which is used to represent the onset of significant community annoyance. The much smaller size of the current contour indicates the airport operates well within the acceptable level of noise considered in the currently adopted UDP.
- 2.18 The existing framework for noise management at LBHA was set out over 20 years ago and did not include any provision for noise monitoring, or any regular noise impact assessment using noise contours. As part of the NAP, LBHA will introduce a range of best industry practices to better address noise control at and around the airport.

3.0 Future Noise

- 3.1 In line with Department for Transport (DfT) guidance on NAPs, airport operators are required to describe the likely future development of their airport and in doing so reference should be made to how any consequential noise impact will be managed.
- 3.2 Future development at LBHA will be influenced by both internal and external factors such as government aviation policy, by the London and European economy, by runway capacity available at other airports in the London area, and by the global growth of the business aviation sector and the prosperity of its users. Many of these factors are obviously outside the control of LBHA. Legal obligations set down in both the Airport Head Lease and the many subleases granted to companies resident on the airport must also be observed. Many subleases predate the 1994 airport lease between LBHA and LBB and were granted by LBB or its appointed airport operator and all subleases have been granted with LBB's consent. Care must be taken to ensure that new limitations are not applied unreasonably, retrospectively or unlawfully to businesses that have already invested in facilities at the airport and whose interests may be adversely affected by any unreasonable measures.
- 3.3 Despite the many macro-economic uncertainties that are likely to influence the outcome of any business plan, LBHA is confident that its proposed focus on the Business and General Aviation sector will result in a significant reduction to the contour area previously forecast to be affected by aircraft noise.
- 3.4 Providing reliable long-term forecasts for air traffic movement levels at a Business Aviation and General Aviation airport is notoriously difficult due to market uncertainties and other variables, many of which lie outside LBHA's control. Because the reliability of long-term forecasts is questionable, LBHA does not believe it is appropriate to commit to long-term forecasts. Rather, LBHA prefers a more reliable and more consistent approach to generating predicted noise contours and to managing future aircraft noise levels. LBHA will therefore adopt protocols as follows:
- a a five year forecast of future operations has been prepared which includes a projection of aircraft movements during the daytime (07h00 to 23h00) and additionally and separately during the early morning period (06h30 to 07h00) and the late evening period (22:00-23:00) on weekdays;
 - b noise contours have been prepared based on these five year forecasts;
 - c LBHA will use reasonable endeavours to manage the operation of the airport in such a way as to ensure that the five year forecast contours are not exceeded (and for these purposes it will not be reasonable for LBHA to do anything that would put it in breach of any sub-lease at the airport or other contractual commitment to which LBB has consented) without a further review of the NAP;
 - d LBHA will install and operate a new Noise Monitoring and Track Keeping System (NMTKS) in order to ensure that the noise levels are accurately

recorded and contours are generated in order monitor the actual noise levels resulting from aircraft operations at LBHA so that they can be compared with the forecast values and contours. The results of this comparison will be reported to LBB on an annual basis. This annual advice to LBB will include annual contours.

- e in subsequent five yearly reviews LBHA will review procedures in order to minimise noise for the upcoming 5 year period but in any event the total area of the 57 dB $L_{Aeq,16h}$ noise contour generated by the airport in any calendar year up until and including 2030 (excluding military aircraft movements but otherwise based on actual aircraft movements and noise levels recorded by the new NMTKS) will not exceed 50% of the total area of the currently adopted UDP noise contour. This represents a new and reduced maximum noise limit.
- f LBHA does not anticipate that it will exceed the 2010 level of aircraft movements (50,000 per annum) for some time. A movement is defined as being either a take-off or a landing. In the event that this level of 50,000 per annum appears likely to be breached the NAP will automatically be reviewed to see what further improvements can be made to the noise abatement measures.

3.5 Forecast of the activity at LBHA in 2020 have been prepared and are summarised in Table 3.1. The forecasts assume that RAF Northolt remains open, there is no new runway capacity and no airport closures in the south-east, the European economy remains depressed, LBHA introduces the proposed runway 03 approach facilities, and LBHA obtains the extended opening hours sought. On this basis growth of 7% per annum is forecast for business aviation, comprising 4% underlying global market growth and 3% resulting from an increased market share. A continued gradual reduction is forecast in respect of light aviation movements.

Table 3.1 Summary of 2020 forecast annual aircraft movements

Aircraft Category	2020 Forecast Annual Movements
Business Aviation	19,750
Light Aviation	29,750
Total	49,500

3.6 The forecast noise contours for 2020, with areas given in Table 3.2, are shown on the following figures:

- 2020 Forecast Summer Daytime $L_{Aeq,16h}$ noise contours, based on movements in the standard daytime period 07:00 to 23:00, at 57, 63 and 69 dB, see **NAP3**
- 2020 Forecast Summer Early Morning $L_{Aeq,30m}$ noise contours, based on the aircraft movements in the weekday early morning period 06:30 to 07:00, at 57, 63 and 69 dB, see **NAP4**

- 2020 Forecast Summer Late Evening $L_{Aeq,1h}$ noise contours, based on the aircraft movements in the weekday late evening period 22:00 to 23:00, at 57, 63 and 69 dB, see **NAP5**

Table 3.2 2020 Noise Contour Areas for operations of the airport

Contour Level	Area of 2020 Noise Contours (km ²)		
	Summer Daytime (07:00-23:00) $L_{Aeq,16h}$	Summer Early Morning (06:30-07:00) $L_{Aeq,30m}$	Summer Late Evening (22:00-23:00) $L_{Aeq,1h}$
57 dB $L_{Aeq,T}$	2.9	2.2	1.3
63 dB $L_{Aeq,T}$	1.0	0.8	0.6
69 dB $L_{Aeq,T}$	0.4	0.4	0.3

- 3.7 In **NAP3** the 2020 forecast summer daytime contour at 57 dB $L_{Aeq,16h}$ is compared with the corresponding contour from the currently adopted UDP, and the new maximum noise footprint. The 2020 contour, with an area of 2.9 km², is significantly less in area than the new maximum noise footprint, and by definition also the currently adopted UDP contour which is some 8.7 km² in area.
- 3.8 The 2020 forecast summer daytime contour representing high levels of annoyance, 69 dB $L_{Aeq,16h}$, is contained within the operational boundaries of the airport except at the southern end of the main runway near the A233, no population exposure is estimated, see **NAP3**.
- 3.9 The 2020 forecast summer daytime contour representing moderate levels of annoyance, 63 dB $L_{Aeq,16h}$, is also largely contained within the airport site although it extends into a residential area south of the A233, population exposure estimated as 20.
- 3.10 The 2020 forecast summer daytime contour representing the onset of significant community impact, the low annoyance indicator, 57 dB $L_{Aeq,16h}$, extends to the country areas near the junction of Shire Lane and Farthing Street and south almost to Mollards Wood. It is estimated that the future population within the contour would be approximately 380.
- 3.11 Inspection of the contours indicates there are no non-residential noise sensitive premises such as hospitals and schools within the noise impacted area.
- 3.12 Table 3.3 contains estimates of the future population within the 2020 noise contours for the daytime, early morning, and late evening periods.

Table 3.3 Population Estimates for 2020 Noise Contours

Population Estimates (Current / 2020)				
Noise dB	Annoyance Rating	Summer Daytime (07:00-23:00) L _{Aeq,16h}	Summer Early Morning (06:30- 07:00) L _{Aeq,30m}	Summer Late Evening (22:00-23:00) L _{Aeq,1h}
57 dB	Low	186 / 380	0 / 320	0 / 25
63 dB	Medium	19 / 20	0 / 20	0 / 0
69 dB	High	0 / 0	0 / 0	0 / 0

- 3.13 **NAP4** indicates the area exposed to significant aircraft noise in the early morning half hour. The proposal is to restrict both the maximum number of movements in this period to eight on any day, and to restrict the average noise over the summer period such that the noise impacted area is no greater than shown in **NAP4**.
- 3.14 **NAP4** shows contours at the same values as for the daytime period. The early morning contours have a similar shape, with the exception that the cross runway is not expected to be used, and are smaller. Consequently the properties they contain are similar to those of the daytime contours, see Table 3.3.
- 3.15 **NAP5** indicates the area exposed to significant aircraft noise in the late evening hour between 22:00 and 23:00. The proposal is to restrict both the maximum number of movements in this period to eight on any day, and to restrict the average noise over the summer period such that the noise impacted area is no greater than shown in **NAP5**. In practice, it is not expected that there will be anywhere near eight movements daily, but that on rare occasions there may be up to eight movements in the period 22:00 - 23:00.
- 3.16 **NAP5** shows contours at the same values as for the daytime period. The late evening contours have a similar shape, with the exception that the cross runway is not expected to be used, and are noticeably smaller. Consequently they contain a reduced number of properties compared to the daytime contours.
- 3.17 The noise from single movements can be described by SEL noise footprints. These represent the total noise produced by a single movement and are often used when noise at night is being considered. **NAP6** shows the 90 dB(A) SEL noise footprints of current typical business jets arriving at LBHA from the north east, the common direction. No residential properties are contained within the footprints.
- 3.18 **NAP7A/7B** shows the 90 dB(A) SEL noise footprints for a current typical business jet departing LBHA from the main runway to the north east (Dep R03), and separately also to the south east (Dep R21). Compared to the arrival footprints, those for the departures are significantly larger. This is incompatible with the current restrictions which allow unlimited departure movements by based aircraft, but not any arrivals in the early morning period.

3.19

The combined extent of the departure footprints is not dissimilar to that of the currently adopted UDP contour, so they are limited to the area where aircraft noise is expected. For the departure to the north east (Dep R03) a small number of residential properties are contained within the footprint. For the departure to the south east (Dep R21) a number of residential properties are contained within the footprint generally located in north-west Biggin Hill. Such activity for based aircraft is currently allowed without any restriction on the number of occurrences.

4.0 **Noise Action Measures**

- 4.1 Noise abatement procedures presently contained in the airport lease Operating Criteria will remain in place and will be further supplemented by enhanced noise abatement measures and improved noise preferential routings (NPRs) in order to manage noise levels surrounding the airport. Output from the NMTKS will be used to assist in optimising NPRs and further to assist in ensuring that flight crew adhere to the published NPRs.
- 4.2 Many additional noise control measures can be introduced in the short-term following adoption of this NAP. Others will require further investigation and the support of external stakeholders such as National Air Traffic Services (NATS) or the UK Civil Aviation Authority (CAA). LBHA will continue to work closely with these parties with a view to implementing any reasonable measures or provisions to improve noise mitigation or controls. The principal measures anticipated by LBHA are described below. LBB will be consulted on details of the measures in order for implementation to be made on an agreed basis.
- 4.3 The table in **Appendix 2** provides a summary of the measures which will be adopted by LBHA and this list will be published in a community leaflet and on the airport website.

Noise Monitoring and Track Keeping

- 4.4 LBHA will acquire, install and maintain a continuous Noise Monitoring Track Keeping system (NMTK) that will provide the community with improved visibility of noise levels and track keeping performance of flights using the airport. This will utilise two fixed monitoring locations along with a mobile unit at the commencement of the scheme. Both the system and the location of the fixed noise monitors will be agreed with LBB and its specialist advisors. Once sufficient data has been acquired the performance of the NMTKS will be assessed and a review of its efficacy will be conducted and any improvements or enhancements will be identified.
- 4.5 The NMTKS will operate using radar information supplied by the London Heathrow radar head and supported by information from aircraft transponders in order to provide highly accurate height and track keeping data relating to aircraft using LBHA. The system will also record and display data belonging to aircraft overflying the Biggin Hill area whilst en-route to other London airports such as Heathrow, Gatwick or London City.
- 4.6 All the acquisition, installation and running costs of the NMTKS will be met by LBHA from levies raised from aircraft using the airport.

Noise Envelope and Maximum Permitted Noise Levels

- 4.7 LBHA has prepared a noise envelope based on a five year forecast of air traffic movements. This noise envelope covers the daytime period (07h00 to 23h00), the early morning period (06h30 to 07h00), and the late evening period (22h00 to 23h00) along with an associated noise contours. Future revisions to the air

traffic forecast and contours will take place at five yearly intervals. Notwithstanding this commitment, LBHA undertakes to remain within a noise envelope equivalent to fifty per cent of the currently adopted UDP contour area as show on **NAP3**. Whilst no absolute noise limit currently exists (the currently adopted UDP contour was simply an expression of the expected noise footprint and not a representation of the maximum permissible footprint), this latter noise envelope will in effect be the longer-term new maximum limit for the airport offering local residents a tangible assurance of future control over noise generated by airport activity.

- 4.8 Using industry standard methodologies, LBHA will produce noise contours based on actual aircraft movement activity and upon actual noise data recordings and will provide LBB with an annual Performance Monitoring Report (PMR) which will contain a description of the contouring methodology used, the inputs to the computations, the contours and the resulting areas.

Controls of Operating Hours

- 4.9 LBHA will clearly publish its opening hours (subject to Landlords consent) in aeronautical publications such that they are clearly understood by aircraft operators worldwide. Detailed restrictions, such as flying training times and no fly zones, will be set out in industry information circulars and other publications provided by the CAA, such as the Air Information Pilot (AIP).

- 4.10 LBHA opening hours will be:

- **Weekdays**

06:30 - 23:00 with a cap on movements each weekday (see below) in the first half hour and last hour of the day

- **Weekends and Public Holidays**

08:00 - 22:00

- 4.11 The following additional restrictions will apply to flights:

- **Monday to Friday**

- i A cap of 8 aircraft movements between 06:30 and 07:00 on any one day
- ii A cap of 8 aircraft movements between 22:00 and 23:00 on any one day

- **Saturday, Sunday and Public Holidays**

- i Circuit training will not be permitted before 09:00 or after 17:00 during British Summer Time

- 4.12 The Airport will continue to observe the Chapter 3 noise level requirement for aircraft as set out in the Operating Criteria.

Controls on Activity in the early morning

- 4.13 For new based and non-based aircraft operations in the period before 07:00 only those aircraft types that meet the ICAO Chapter 4 standard will be permitted.
- 4.14 LBHA will also use reasonable endeavours to ensure that these Chapter 4 aircraft operate within a maximum noise level set by the noise characteristics of the Learjet 35 or a comparable aircraft.

Residential Sound Insulation Scheme (RSIS)

- 4.15 LBHA will put in place a sound insulation scheme for certain residential properties in order to mitigate the effects of aircraft noise during the period 06:30 to 07:00 (the Early Morning Period). A financial contribution towards double-glazing of bedrooms within properties within an area affected by noise will be available where it can be demonstrated that there is an annual exceedance of a defined noise level. LBHA will maintain an annual budget of £15,000 for the RSIS. That will allow grants of up to £1,500 to be made to owners of residential properties for noise insulation works to mitigate effects of flying operations in the period 06:30 to 07:00. The details of the grants scheme will be in line with U.K. practice and agreed with LBB prior to implementation. Further information is provided in Appendix 3.
- 4.16 Following the first full year of NMTKS operation, LBHA will process all recorded noise data relating to the Early Morning Period and will accurately determine the geographical area that is regularly exposed to 90 dB(A) SEL contour during the early morning period. LBHA will determine the resulting area and adopt to determine properties meeting the eligibility threshold; after discussion with LBB on prioritisation RSIS implementation will proceed.

Control on Types of Aircraft Permitted to Use the Airport

- 4.17 Following adoption of the NAP, LBHA will limit use of the airport to those aircraft types that meet the ICAO Chapter 3 standard.
- 4.18 LBHA will continue to observe its Good Neighbour obligations as defined in the airport lease and will refuse access to aircraft demonstrated to be excessively noisy or to be in persistent breach of the procedures and protocols set out below.

Controls on Flying Training

- 4.19 The airport will work with operators of light training aircraft to incentivize the installation of exhaust noise suppression equipment, such as silencers and/or improved propellers in order to ensure that light aircraft using Biggin Hill Airport are operating as quietly as may be possible. Where possible and economically viable, operators will be encouraged to replace their aircraft with new technology aircraft types.
- 4.20 LBHA will not permit flying training circuits (the process of repeatedly taking-off and then landing for training purposes known as Circuit Training) before 09:00

hours and after 17:00 hours on Saturdays, Sundays and Bank Holidays during British Summer Time (BST).

Working with Existing Operators to Reduce Noise Levels

4.21 LBHA will formalise its established light aircraft "no fly zones". In future, these areas will be "policed" by the new NMTKS which will automatically record and sanction those pilots failing to observe the established protocols in order to better protect local settlements from aircraft noise. It must be acknowledged that many settlements and residences have been constructed under established airport flight paths and at peak times or when wider safety concerns require it, it may still be necessary for air traffic control to instruct light aircraft to adopt a route which takes them over some residential areas. However this will be minimised and will be within established aviation practices as today.

4.22 LBHA will continue its regular liaison with aircraft operators in order to promote adherence to existing and future operational procedures and to enforce compliance with those procedures via the NMTKS.

4.23 LBHA will continue to review the Standard Operating Procedures (SOPs) for all aircraft operations and where it believes that new SOPs would produce a significant benefit to residents without compromising safety in any way, the existing SOPs will be modified accordingly.

Introducing Global Positioning System (GPS) Based Runway Guidance System

4.24 The airport will work with NATS and the CAA to introduce improved GPS based aircraft guidance procedures for all arriving and departing aircraft, on both Runway 03 and 21.

Raising the Height of Arriving and Departing Aircraft

4.25 Wherever practicable and safe and subject to approval by NATS, LBHA will adopt appropriate operational procedures to raise the operating levels of jet or turbo-prop aircraft arriving at and departing from LBHA in order to secure any available reduction in noise on the ground surrounding the airport and under its flight paths. In order to ensure that the local community benefits from this initiative, LBHA will work with NATS and the Airport Consultative Committee (ACC), within the framework of the London Airspace Management Plan (LAMP) in order to deliver improved airspace arrangements for LBHA air traffic always with particular regard to raising the heights of arriving and departing aircraft whenever it is safe and practicable to do so.

Changing the "03-Instrument Approach"

4.26 LBHA will continue its ongoing investment in the installation of a new GPS based Instrument Approach Procedure (IAP) for Runway 03, together with the necessary changes to runway environment and approach lighting systems.

- 4.27 LBHA will work with NATS with a view to implementing the new IAP as soon as practicably possible. Implementation is currently forecast for late summer 2016. The new Runway 03 IAP will replace the existing visual 'circle to land' procedure that gives rise to varied aircraft ground tracks and extended low level circling operations by arriving aircraft when the northerly oriented runway (Runway 03) is in use.
- 4.28 The installation of a new Runway 03 IAP is expected to reduce the noise generated by aircraft arriving from the north east. The new Runway 03 arrival procedure will be the subject of a full Stakeholder Consultation expected to take place during the autumn of 2015. Full details of the proposed Runway 03 IAP and its associated flight paths, which have already been considered by focus groups formed of various stakeholders, will be provided at that time.

Supporting the Removal of the Biggin Hill VOR Beacon

- 4.29 LBHA lies beneath one of four holding patterns or 'stacks' used by aircraft seeking to land at London Heathrow Airport. National Air Traffic Services (NATS) operates a radio navigation beacon, known as a VOR (an air navigation radio aid) located centrally on the LBHA site. It is this beacon which provides the focal point of the 'hold' or stack. Aircraft enter this area as high as 17,000 feet but then descend, often to as low as 7,000 feet and sometimes lower before leaving the stack to begin an approach to land at London Heathrow Airport. Aircraft are held vertically above each other and as the lowest aircraft leaves the stack to land, so the other aircraft are each instructed to reduce their height sequentially. At any one time many large commercial passenger aircraft might be circling over the Borough of Bromley in the stack and thereby collectively contribute to the ambient noise in the area surrounding LBHA. It is important to note, however, that this noise is not in any way created by the LBHA or its operations, but rather by London Heathrow bound commercial air traffic. Noise associated with the Heathrow holding procedure is often wrongly attributed to aircraft using LBHA. The effect of the stack is particularly noticeable in the early morning period (typically between 05:00 and 07:00 daily). Once aircraft leave the stack they descend further and often overfly the Borough of Bromley a further time, routing east, before turning back to the west for a 'final approach' to London Heathrow Airport.
- 4.30 During the LAMP phase 1 consultation process NATS revealed plans to relocate the Biggin Hill holding stack to the coast. They propose to introduce continuous descent angle (CDA) approach procedures for all aircraft. The proposed changes are currently tabled for 2019, after which the Biggin Hill stack will cease operation. However, Heathrow air traffic may still cross the Biggin Hill area, both on arrival and departure, but it is anticipated that the peak and cumulative noise in the area, particularly early morning noise, will be reduced to some extent since CDA procedures require less engine thrust than level flight and are designed to provide benefit to those on the ground by keeping aircraft higher for longer thereby offering noise reduction benefits. LBHA will continue to work with NATs and other parties in order to secure the earliest possible removal of the holding stack at Biggin Hill.

Reporting

4.31 The airport will report ongoing progress of NAP actions to the Airport Consultative Committee (ACC), which meets quarterly, in the normal manner via the Noise and Safety Sub-Committee.

4.32 Following formal adoption of the NAP, LBHA, in association with LBB, will review the NAP every five years or whenever it is considered that a major event or material change has the potential to create wider noise implications for local residents. Such an event might, for example, be unforeseen changes to the air traffic forecast or a change in wider government airport related policy. In contrast to the manner in which the airport lease currently operates whereby no material changes in airport operating criteria have taken place for 20 years, regular reviews will allow the benefits of emerging technology to be evaluated and incorporated in the NAP if thought to be beneficial.

4.33 During each five year review the airport will assess performance with respect to the previously forecast noise envelope, based on the latest five year forecasts of air traffic movements along with an assessment of the effectiveness of the various measures within the NAP and by reference to the number of people and dwellings affected.

4.34 Each review will compare noise over the preceding 5 years against the forecast of that period and will use that experience to revise the air traffic forecast for the five year period immediately following that review. This process will identify the need for any changes in procedures which may help to further reduce noise disturbance. It will also monitor noise management practices at other comparable airports and investigate whether any innovations being employed elsewhere could usefully be applied at LBHA, thereby ensuring industry best practice is being employed at LBHA.

4.35 **On a quarterly basis LBHA will provide the Airport Consultative Committee (ACC) with:**

- A report on compliance with procedures given in the UK Aeronautical Information Publication (AIP) to minimize noise, i.e. EGKB AD 2.21 Noise Abatement Procedures (as revised from time to time).
- Report the number of departures and arrivals on each Runway
- Report the movements in the early morning and late evening periods
- Investigate, log, record and report on the output of the NMTKS and provide the ACC with copies of its responses to all noise complaints received from members of the public.

On an annual basis LBHA will:

- Issue a Performance Monitoring Report (PMR) on the actual summer contours which will contain a description of the contouring methodology used, the inputs to the computations, the contours and the resulting areas expressed in square kilometres. This report will go to the LBB and the Noise and Safety sub-committee of the Airport Consultative Committee. On a five yearly basis the report will also include forecast summer contours for five years ahead.

- 4.36 Where complaints are received from members of the public, community visits to investigate complaints may be conducted and the mobile NMTKS monitor may be used to record, authenticate and evaluate any such complaint.

Sanctions for Non-Compliance with Noise Abatement Measures

- 4.37 LBHA will introduce a system of fines and controls for aircraft that fail to comply with the published Noise Abatement Procedures (NAPrs) or which fail to adhere to the published Noise Preferential Routings (NPRs). The scheme of sanctions will be determined by LBHA and agreed by LBB following the installation of the NMTKS and will operate as follows:
- a preferential routes will be defined and Track Violation Limits (TVLs) set in the programming of the NMTKS;
 - b maximum Permissible Noise Levels (MPNLs) will also be set;
 - c the NMTKS will automatically identify and record details of any and all aircraft in breach of either a TVL and/or an MPNL;
 - d LBHA will issue an initial Notice of Violation (NOV) to any aircraft operator identified as having violated a TVL or MPNL, seeking an explanation for the violation within a set time period of 14 days;
 - e violation reports along with the relevant operator explanation and/or mitigation will be presented monthly to the airport Safety And Noise Abatement Review Board (SANARB) for consideration.
 - f As a result and if there exists no reasonable excuse for the reported violation(s), the SANARB may, at its sole discretion, elect to levy a fine on the flight crew or aircraft operator concerned. Should the flight crew or aircraft operator choose not to pay the requested fine, that flight crew or aircraft operator may be excluded from using Biggin Hill Airport until the fine is paid;
 - g where continuous breaches occur (i.e. more than three breaches), the SANARB may elect to permanently exclude that flight crew or aircraft operator from using LBHA in perpetuity;
 - h revenues received from fines will be used to fund the installation, implementation, upkeep and operation of the NMTKS and to operate the RSIS;
 - i sanctions will not apply where deviations or exceptions are caused by, or result from, issues of safety such as ATC traffic separation instructions, TCAS alerts, weather avoidance measures or other airborne emergencies.

Ground Noise

- 4.38 Ground noise at LBHA emanates from engine testing, mandatory pre-departure checks by aircraft, the use of Auxiliary Power Units (APUs) and aircraft taxiing on the aerodrome surface. LBHA has sought to minimise ground noise impact through the construction of noise bunds where seen to be appropriate and beneficial, the judicious siting of new hangars (ie Rizon and Terminal hangars) and other noise management and abatement measures.

- 4.39 Whilst ground noise is not normally considered as part of an airport NAP, LBHA will nevertheless draw up a Ground Noise Management Plan with the aim of minimising noise impact resulting from aircraft operations which may significantly affect noise sensitive residential locations. Such measures might, for instance, include the appropriate siting and construction of a facility for engine ground run testing, potentially incorporating a noise attenuating pen or earth bund.
- 4.40 LBHA has recently introduced a policy discouraging the use of aircraft reverse thrust on landing except where its use is required for safety reasons and this policy will be reinforced with aircraft operators.
- 4.41 LBHA will use reasonable endeavours to publish and adopt this Ground Noise Management Plan within 12 months of adoption of this NAP.

Restricting Noise Sensitive Development Close to the Airport

- 4.42 There is evidence that residential and other noise sensitive developments are being developed close to airports throughout Great Britain. This unnecessarily and avoidably exposes such development and its residential population to airport related noise and can give rise to future objections to airport operations. LBHA believes the best way to minimise noise exposure is to ensure that development does not take place at locations identified as being subject to current and predicted airport noise. LBHA will maintain its PSZ and its statutory role in airport safeguarding and will work with LBB to discourage residential and other noise sensitive development close to the airport boundaries or in areas likely to be affected by aircraft noise now or in the future. LBHA will work with LBB to ensure awareness of present and future aircraft operations in making land use allocations in the preparation and review of its local plan.

Appendix 1 Noise Action Plan Contours

- **NAP1** Current Summer Daytime noise contours compared to Currently Adopted UDP contour (07:00 - 23:00)
- **NAP2** Current Summer Early Morning noise contours (06:30 - 07:00)
- **NAP3** 2020 Forecast Summer Daytime noise contours compared to Currently Adopted UDP contour and New Maximum Limit (07:00 - 23:00)
- **NAP4** 2020 Forecast Summer Early Morning noise contours (06:30 - 07:00)
- **NAP5** 2020 Forecast Summer Late Evening noise contours (22:00 - 23:00)
- **NAP6** 90 dB(A) SEL footprints of Typical Arriving Business Jets from North
- **NAP7A/7B** 90 dB(A) SEL footprints of Typical Departing Business Jet to North and South

Appendix 2 Summary of Noise Action Plan Measures

Table B1: Action - Monitor and Manage

NO.	ACTION	TIMING
	MONITOR AND MANAGE	
1	Operate and maintain a noise and track-keeping system to (NMTK) monitor aircraft operations.	2015 - Ongoing
2	Produce noise contours, based on five year forecast of air traffic.	Ongoing
3	Undertake regular reviews of procedures to minimize noise disturbance with BHACC.	Ongoing
4	Undertake community noise surveys using NMTK.	2015 - On-going
5	Investigate, log and respond to all complaints relating to London Biggin Hill Airport, reporting details to BHACC on a quarterly basis.	Ongoing
6	Calibrate NMTK on an annual basis.	2015 - Ongoing
7	Monitor the track-keeping and maximum noise level compliance and takes actions as necessary.	2015 - Ongoing
8a	Implement a scheme to incentivize operators of light and training aircraft to install noise suppression equipment or to replace noisy aircraft.	2015 - Ongoing
8b	Implement a scheme to restrict circuit training to certain operating hours.	2015
9	Monitor the aircraft movements comprising details of movement numbers in each hour each day, and Runway use.	Ongoing
10a	Implement introduction of a Global Positioning System (GPS) based Runway guidance system.	2016 - Ongoing
10b	Implement altered 03 - Instrument approach procedures.	2017
10c	Work with NATS and others to secure the early removal of the VOR beacon at Biggin Hill.	2015 - Ongoing
11	Operate controls on requested aircraft operations to contain movements to those aircraft meeting the Biggin Hill noise limits.	Ongoing

NO.	ACTION	TIMING
	MONITOR AND MANAGE	
12	Limit airport operating hours to 06.30-23.00 on weekdays, and on Saturdays, Sundays and Public Holidays limit operating hours to 08.00-22.00.	Ongoing
13a	Operate the Airport to ensure that the resultant noise, expressed in the form of Summer Daytime noise contour area does not exceed that specified, namely 4.3 km ² at 57 dB L _{Aeq,16h} .	2015 - Ongoing
13b	Operate the Airport using reasonable endeavours to achieve actual noise contours for daytime, early morning, and late evening less than the 2020 forecast noise contours.	2015 - 2020
14a	From 1 January 2016 operate a ban on fixed wing aircraft which are not fully compliant with ICAO Chapter 3 or above noise certification numerical standards.	2016 - Ongoing
14b	Operate a ban on fixed wing aircraft that do not meet the ICAO Chapter 4 noise certification numerical standards between 06:30 and 07:00 (except for existing based aircraft)	2016 - Ongoing
14c	Operate the airport using reasonable endeavours to ensure that these Chapter 4 aircraft operate within a maximum noise level set by the noise characteristics of the Learjet 35 or a comparable aircraft	2016 - Ongoing
15	Manage compliance with the preferred noise routes and tolerance limits using the NMTK system.	2016 - Ongoing
16	Operate the Airport in accordance with the noise abatement procedures delineated in the UK AIP.	2015 - Ongoing
17	Discourage the use of aircraft reverse thrust except where its use is required for safety reasons	2015 - Ongoing
18	The airport will put in place a sound insulation scheme for residential properties (RSIS) relating to exposure to noise in the early morning	2016 - Ongoing
19	Provide information and services to the London Biggin Hill Airport Consultative Committee (BHACC).	2003 - Ongoing
20	Monitor and report progress against Noise Action Plan actions to BHACC, provide statistics in the Performance Monitoring Report.	2016 - Ongoing
21	Engage with local planning authorities to ensure awareness of aircraft operations is considered in land use development, for instance with LBB over future work on the local plan.	2015 - Ongoing

NO.	ACTION	TIMING
	MONITOR AND MANAGE	
22	Provide an information pack to local Estate Agents, and to those seeking information on local conditions prior to relocating to near the Airport or its departure and arrival tracks.	2016

Table B2: Action - Research and Reporting

NO.	RESEARCH AND REPORTING	TIMING
i	Carry out a review of arrival and departure routes, based on the results trial any new procedure with the aim of reducing further the over flight of residential areas.	2015 - Ongoing
ii	Use reasonable endeavours to promote and support airspace changes in order to benefit local residents through the creation of greater amount of controlled airspace.	2016
iii	Prepare and issue a quarterly complaints report.	Ongoing
iv	Prepare and issue Integrated Noise Monitoring (INM) report when contours are prepared.	Ongoing
v	Prepare and issue five yearly Performance Monitoring Report.	Ongoing
vi	Investigate the potential and benefit that might arise from introducing a departure noise preferential route track performance target, with penalties for recurrent failures to meet target.	2016
vii	Investigate the potential and benefit that might arise from introducing a Biggin Hill specific Code of Practice for Arriving Aircraft.	2017
viii	Investigate the potential and benefit that might arise from introducing a Biggin Hill specific Code of Practice for Departing Aircraft.	2017
ix	Dependant on the related work with NATS investigate the potential and benefit that might arise from introducing continuous descent arrival (CDA) and continuous climb departure (CCD) performance at London Biggin Hill.	2017
x	Work with operators, NATS, and other stakeholders to introduce new technologies which can reduce noise impact.	Ongoing
xi	Review communication material, and the Airports' website with respect to noise/noise management.	2017

Appendix 3 Residential Sound Insulation Scheme

The Scheme provides a grant for noise insulation works to residential buildings that meet the residential eligibility criteria. The residential eligibility criteria are as detailed below.

Airborne Aircraft Noise

Any habitable rooms which are used as bedrooms at dwellings where the airborne aircraft noise level in excess of 90 dB SEL occurs at an annual average frequency of once or greater during the night-time (23.00 to 07.00). This will be determined on an annual basis.

The Scheme will provide a grant of up to the value of £1,500.00 Index Linked per property, in order that noise insulation can be provided to bedrooms.

The Scheme Grant can only be used for works that will improve the internal noise climate within the residential property. The primary method of improving sound insulation is the installation of secondary glazing. Secondary glazing units provide an additional layer of glass inside the existing external windows. The style of secondary glazing units fitted will be dependent on the existing external window. The design will be such that both sides of the secondary glazing and the inside of the existing window can be cleaned from inside the habitable room.

The Grant may also be used to assist in installation of High-Specification Double Glazed replacement windows, with a glazing specification of 10/12/6.4 acoustic laminate or similar.

Where glazing works are undertaken it will be necessary to install sound attenuated ventilation units. These will provide background ventilation and would normally be fitted to external walls.

The works can also include installation of loft insulation.

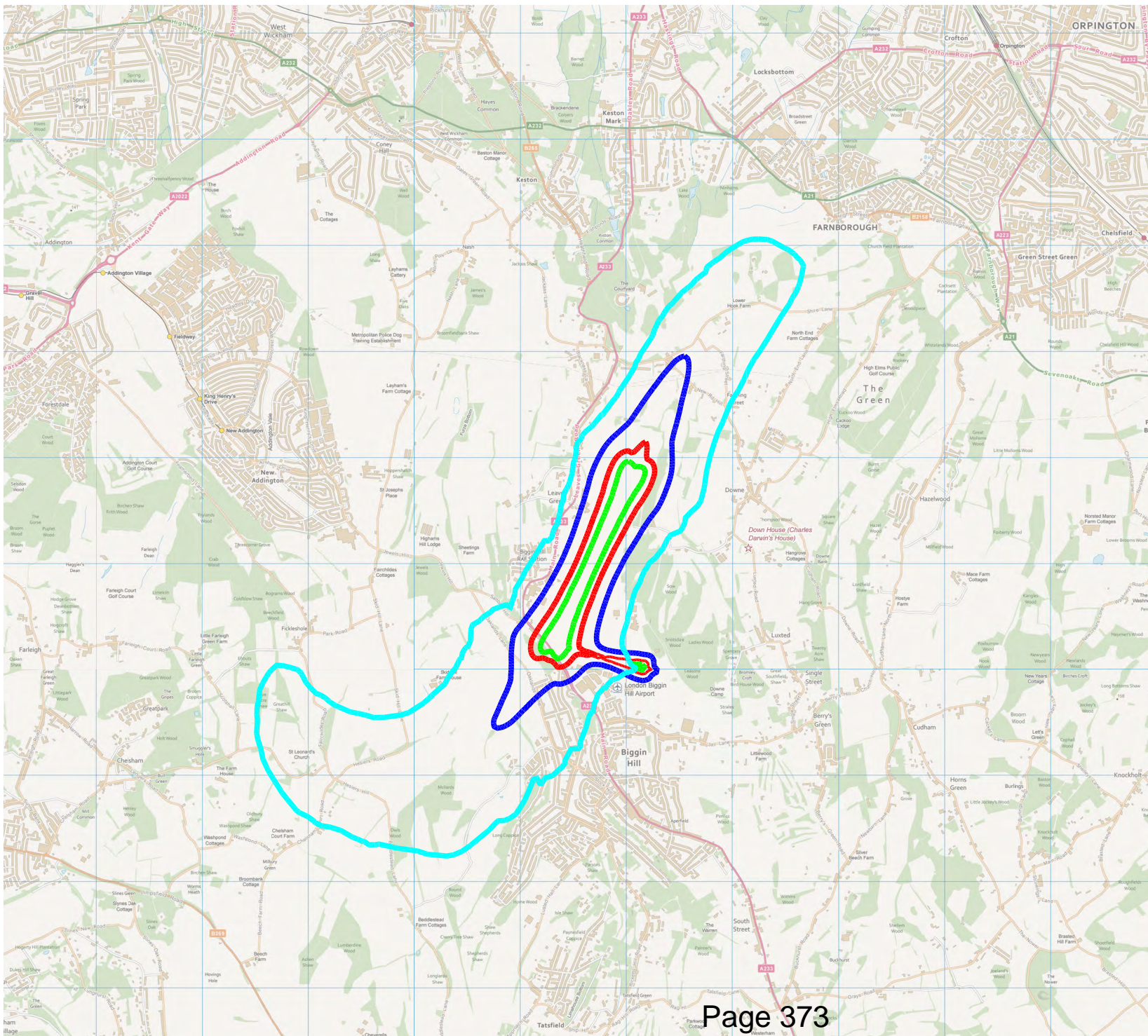
Where treated habitable rooms have an external door, the works can provide improved sound insulating external doors.

Excluded from this Scheme are residential properties built after the date of the grant of the lease variation.

Once properties have received a grant they will no longer be eligible.

The Scheme will be advertised on the Airport's website. The advertisement will describe the Scheme, and clarify that eligible property owners will be approached, and so application to the Airport will not be required.

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L_{Avg,16h} Noise Contours

- 57 dB Current
- 63 dB Current
- 69 dB Current
- 57 dB Currently Adopted UDP

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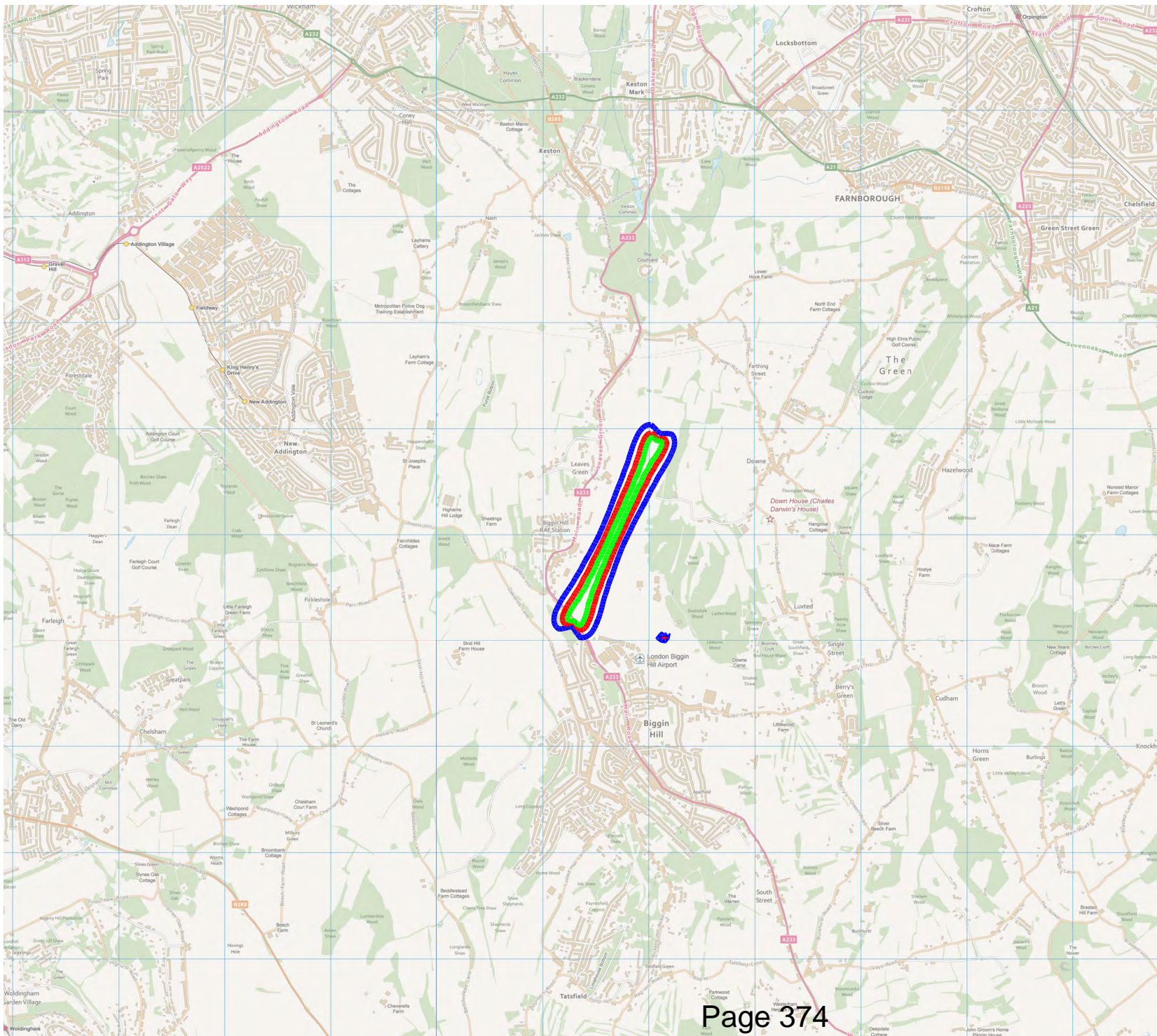
**Biggin Hill Airport
Noise Action Plan**

**Airborne Aircraft Noise Contours
Current Summer Daytime & Currently
Adopted UDP (07:00-23:00)**

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:50000@A4

FIGURE No:



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L_{Aeq,30m} Noise Contours

- 57 dB Current
- 63 dB Current
- 69 dB Current

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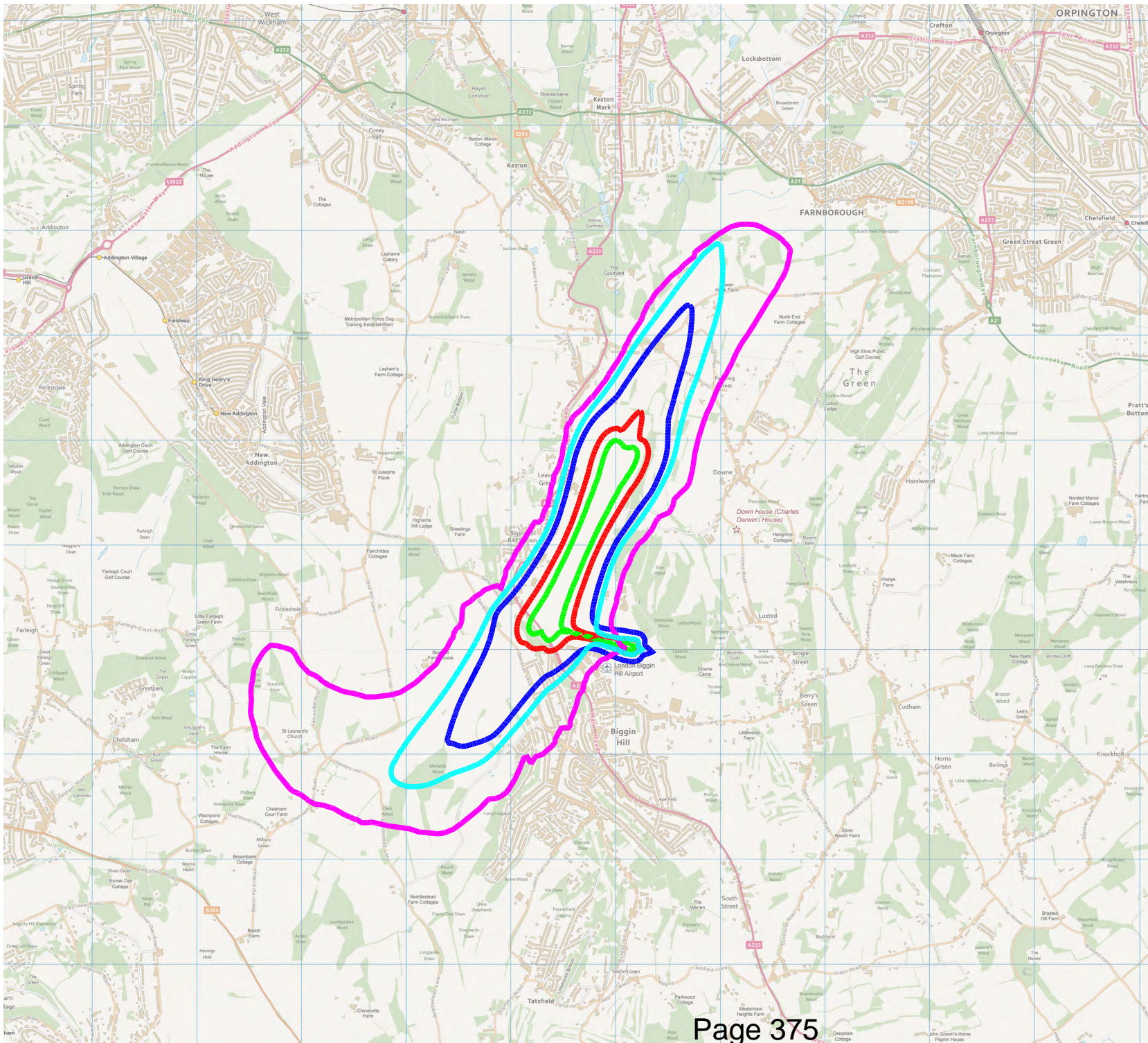
**Biggin Hill Airport
Noise Action Plan**

**Airborne Aircraft Noise Contours
Current Summer Early Morning
(06:30-07:00)**

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:50000@A4

FIGURE No:



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Leq,16h Noise Contours

- 57 dB Currently Adopted UDP
- 57 dB New Maximum Limit
- 57 dB 2020 Forecast
- 63 dB 2020 Forecast
- 69 dB 2020 Forecast

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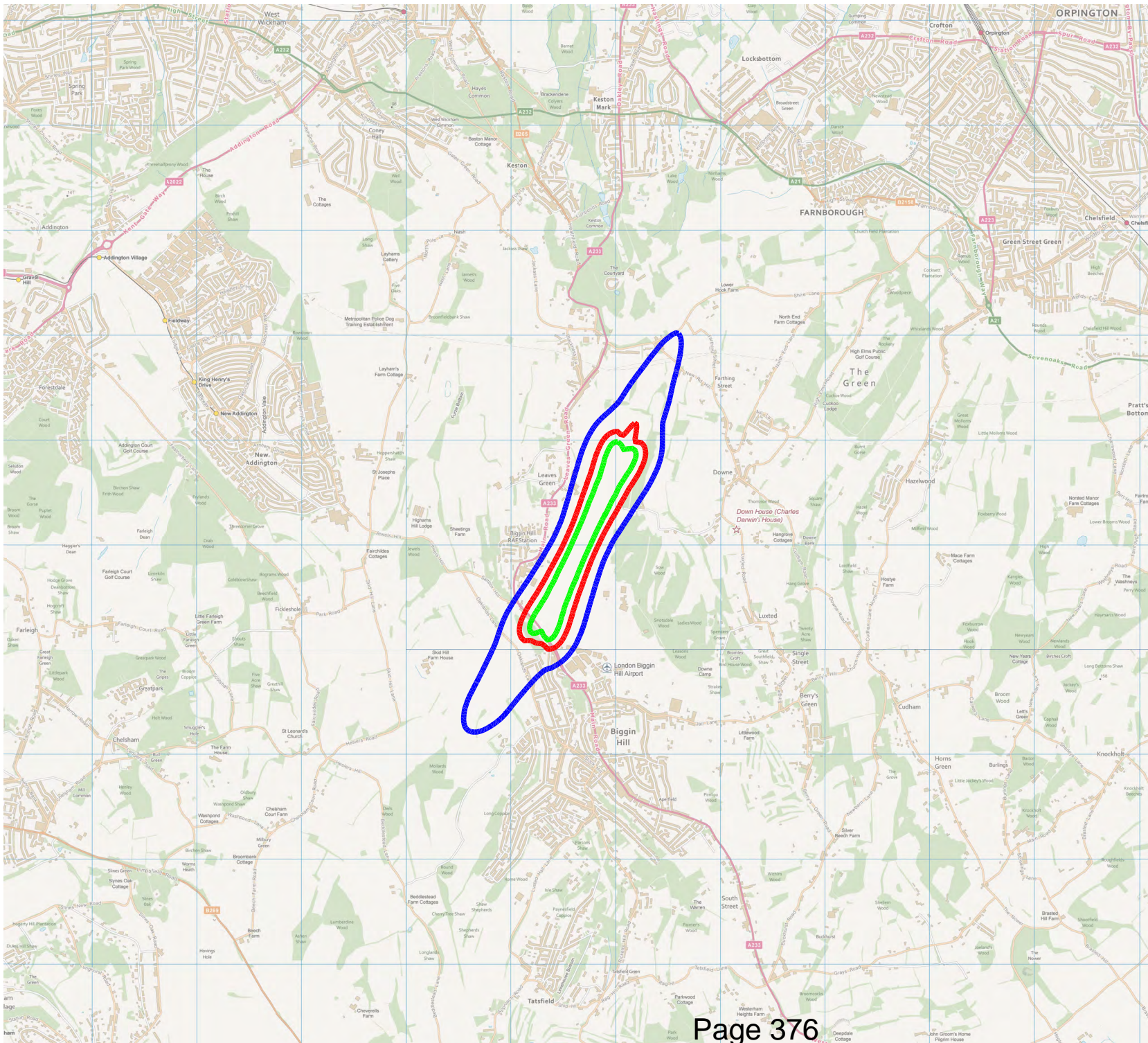
**Biggin Hill Airport
 Planning For Change**

**Airborne Aircraft Noise Contours
 Comparison of 2020 Forecast Summer Day
 Currently Adopted UDP and New Maximum**

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:50000@A4

FIGURE No:



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LAeq,30m Noise Contours

- 57 dB 2020 Forecast
- 63 dB 2020 Forecast
- 69 dB 2020 Forecast

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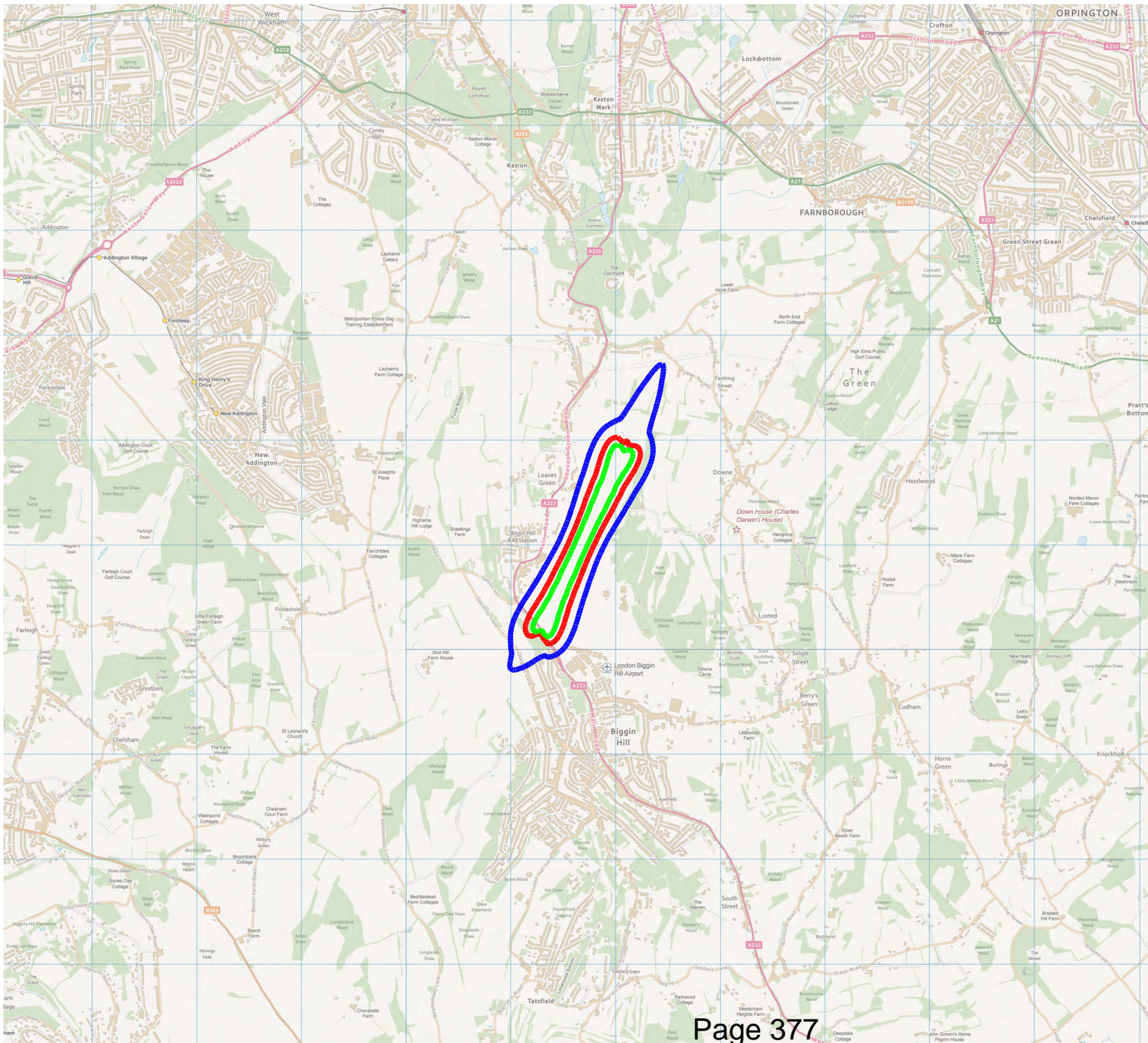
**Biggin Hill Airport
 Planning For Change**

**Airborne Aircraft Noise Contours
 2020 Forecast Summer
 Early Morning (06:30-07:00)**

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:25000@A4

FIGURE No:



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L_{Aeq,1h} Noise Contours

- 57 dB 2020 Forecast
- 63 dB 2020 Forecast
- 69 dB 2020 Forecast

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**Biggin Hill Airport
 Planning For Change**

**Airborne Aircraft Noise Contours
 2020 Forecast Summer
 Late Evening (22:00-23:00)**

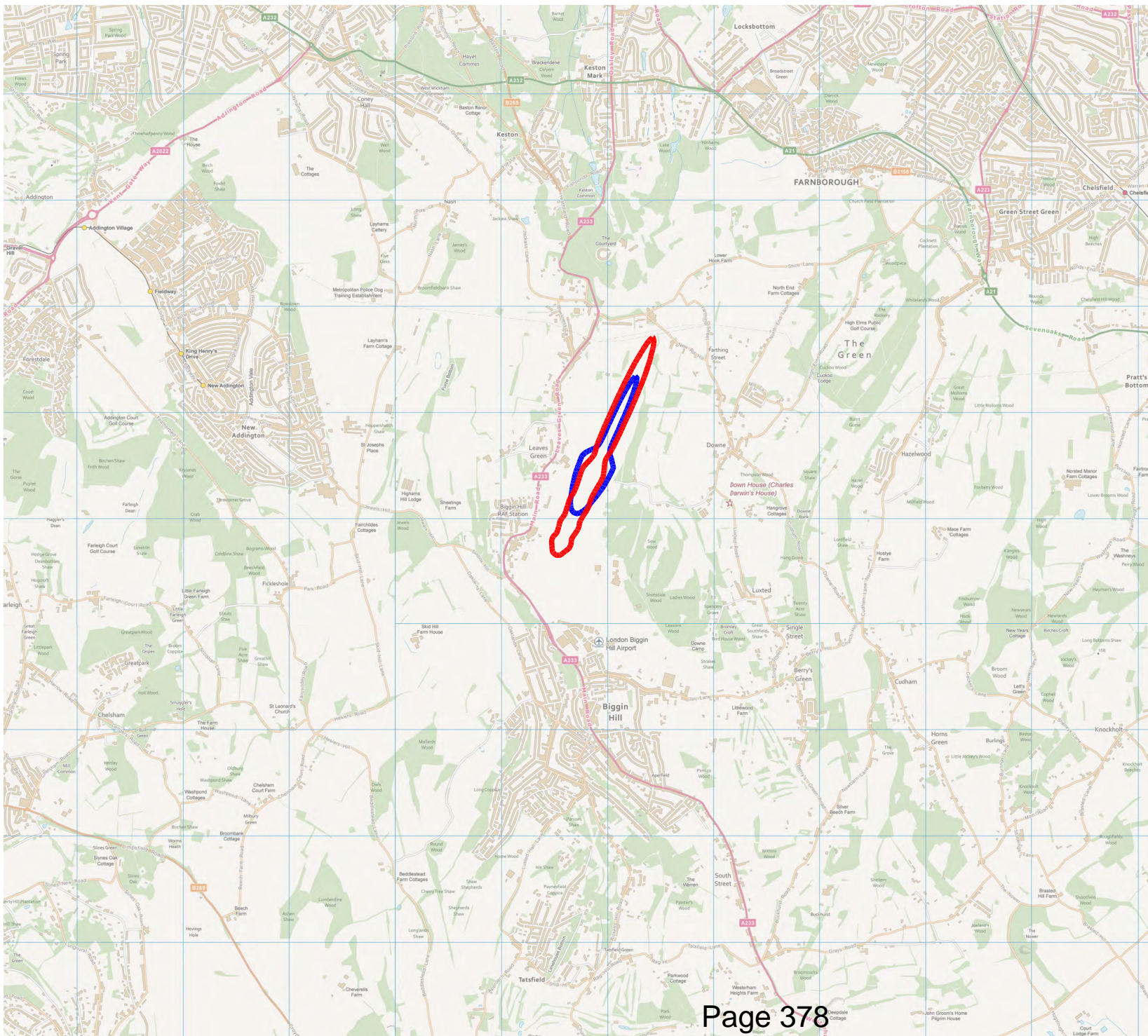
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CHECKED: DC

DATE: August 2015

SCALE: 1:25000@A4

FIGURE No:



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90 dB(A) SEL Footprints

- LEAR35 Arr R21
- CNA560XL Arr R21

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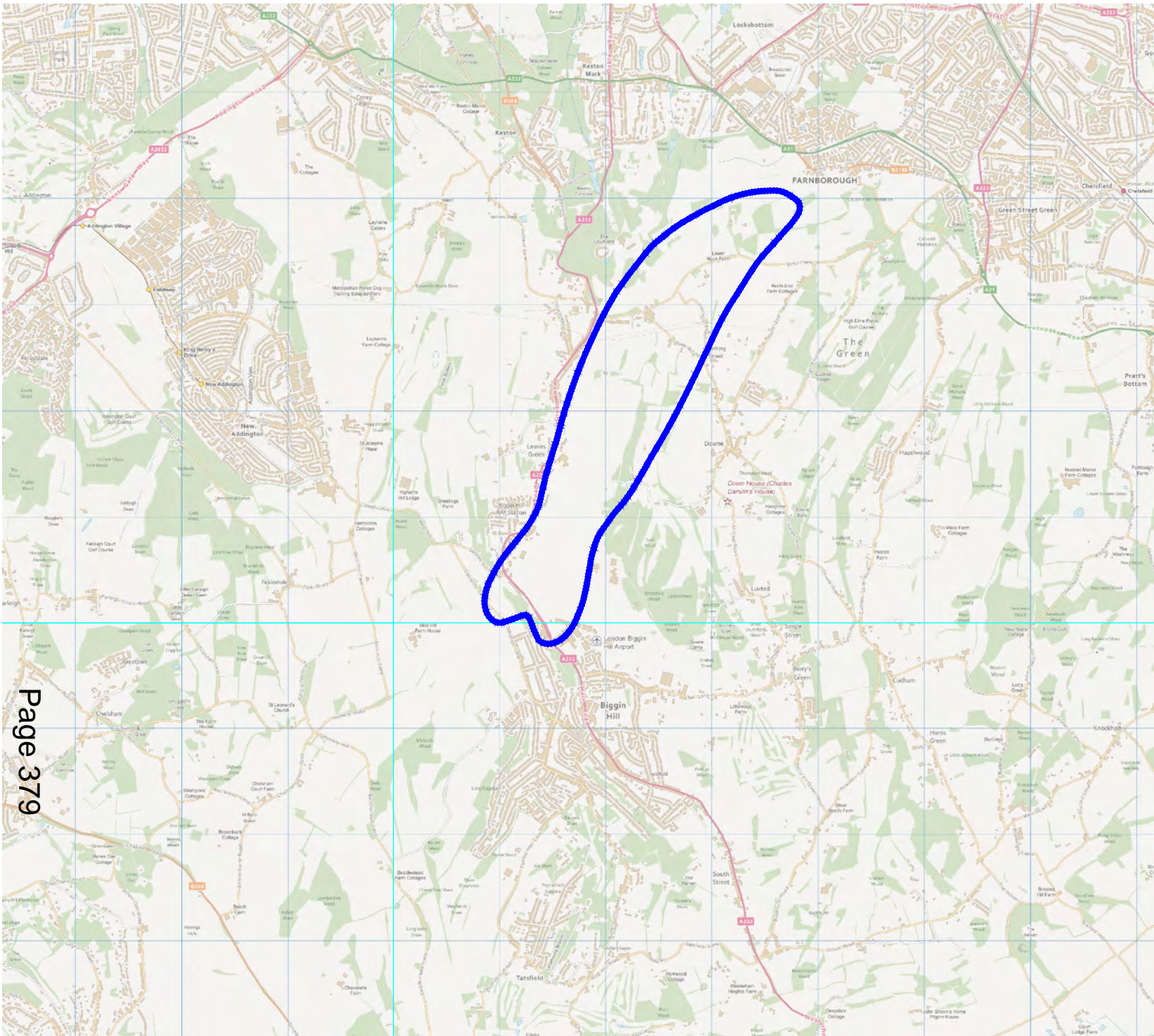
**Biggin Hill Airport
Noise Action Plan**

**90 dB(A) SEL Footprints
Typical Arriving Business Jets
from North**

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:50000@A4

FIGURE No:



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90 dB(A) SEL Footprints

— LEAR35 Dep R03

REVISIONS

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**Biggin Hill Airport
Noise Action Plan**

90 dB(A) SEL Footprints
Typical Departing Business Jet
to North

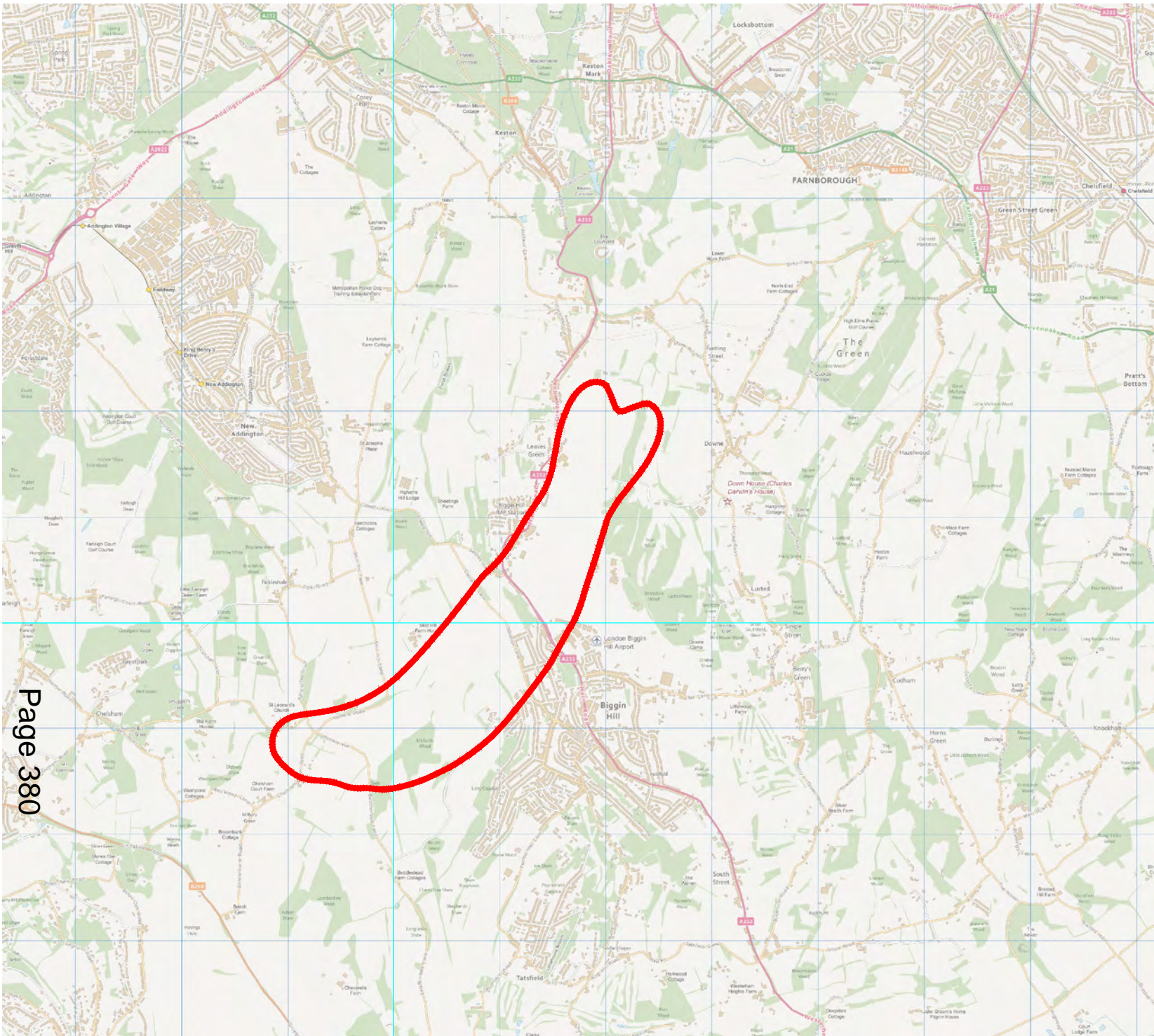
DRAWN: DR

CHECKED: DC

DATE: August 2015

SCALE: 1:50000@A4

FIGURE No:



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90 dB(A) SEL Footprints

LEAR35 Dep R21

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**Biggin Hill Airport
Noise Action Plan**

90 dB(A) SEL Footprints
Typical Departing Business Jet
to South

DRAWN: DR CHECKED: DC

DATE: August 2015 SCALE: 1:50000@A4

FIGURE No: