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APPLICATION BY LONDON LUTON  
AIRPORT OPERATIONS LTD

VARIATION OF CONDITIONS  
RELATING TO  
LONDON LUTON AIRPORT

(REF APP/B0230/V/22/3296455)

Summary Proof of Evidence:  
Carbon and Climate Change

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## Glossary of abbreviations

Abbreviation	Definition
CO <sub>2</sub>	Carbon dioxide
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
EEA	European Economic Area
ES	Environmental Statement
ESA2	January 2021 ES Addendum in relation to section 73 application 21 January 2021 with ref. 21/00031/VARCON
ESA4	July 2022 ES Addendum to update the ES in relation to some changes to the description of the proposed wording of Condition 10 and also due to the passage of time since the original application
EU	European Union
IAQM	Institution of Air Quality Management
KPI	Key Performance Indicators
LBC	Luton Borough Council
LLAOL	London Luton Airport Operations Limited
mppa	Million Passengers Per Annum
NO <sub>x</sub>	Nitrogen oxides
SAF	Sustainable Aviation Fuel
S73 Application	The application dated 8 January 2021 under section 73 of the Town and County Planning Act 1990 by LLAOL to vary Conditions 8 (Passenger Throughput Cap), 10 (Noise Contours), 22 (Car Parking Management), 24 (Travel Plan) and 28 (Approved Plans and Specifications) to planning permission 15/00950/VARCON granted by LBC on 13 October 2017 to accommodate 19 million passengers per annum and to amend the day and night noise contours (with ref. 21/00031/VARCON)
UK	United Kingdom
UK ETS	UK Emissions Trading Scheme

# 1. Introduction

## 1.1 Qualifications and Experience

1.1.1 My name is Matthew Peter Paul Ösund-Ireland and I hold a BSc (Hons) in Combined Science from the Polytechnic of Wales and a PhD in local air quality management and climate change tools for joined up policy from the University of Greenwich. I am a Chartered Environmentalist, a Member of the Institute of Air Quality Management (IAQM) and a Member of the Institute of Environmental Sciences. I have worked on numerous airport projects. Most recently I was retained by Bristol Airport Limited to advise on carbon matters concerning its successful appeal proposal. In the context of the present application, I provided the technical review of the carbon chapter for the July 2022 Environmental Statement Addendum (ESA) for the Applicant ('ESA4').

## 1.2 Scope of Evidence

1.2.1 My Proof of Evidence (PoE) addresses one of the main issues set out in the Inspectors' pre-inquiry meeting advance note. The main issue is: *'[T]he implications of the proposal for meeting the challenges of climate change'*.

1.2.2 Details of the carbon and climate change assessment for the Development are set out have previously been given in Chapter 7 of the Environmental Statement Addendum dated January 2021 (ESA2)<sup>1</sup> and in Chapter 5 of the Environmental Statement Addendum dated July 2022 (ESA4)<sup>2</sup>, which presented an update to the assessment and discussed further relevant and emerging policy.

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<sup>1</sup> CD1.09 and CD1.10

<sup>2</sup> CD1.16 and CD1.17

- 1.2.3 An Outline Carbon Reduction Plan<sup>3</sup> was prepared in support of the S73 Application made in January 2021 (21/00031/VARCON). Under the proposed Condition 29, a detailed Carbon Reduction Strategy would be submitted to LBC for approval within twelve months of the date of the permission.

## **2. Summary of evidence**

### **2.1 Legislative and Policy Context**

- 2.1.1 The relevant legislation described in my PoE identifies the following:

- a. The Secretary of State for Business, Energy and Industrial Strategy is legally obliged to reduce emissions in accordance with successive carbon budgets until the UK reaches carbon net zero by 2050.
- b. Emissions from domestic aviation are included in carbon budgets up to and including carbon budget five (i.e. up to and including 2032)<sup>4</sup>. Emissions from international aviation (to the European Economic Area (EEA) and rest of the world) are accounted for in what was identified as the 'planning assumption' of 37.5 MtCO<sub>2</sub>.
- c. Emissions from flights within the UK and to the EEA and rest of the world are now included in the sixth carbon budget (from 2033).
- d. Emissions from flights within the UK and to the EEA are included in the UK ETS and are addressed within the UK budget from 2021. Emissions from international flights not included in the UK ETS are covered by CORSIA.
- e. Regulations are in place for airlines to report their emissions, including monitoring, reporting and verification methods that comply with both the UK ETS and CORSIA.

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<sup>3</sup> CD4.05

<sup>4</sup> CD11.50

- f. The Government is keen to develop domestic production of sustainable aviation fuels (SAF) as a means of increasing energy security as well as generating employment and extending the lifetime of fuel infrastructure.
- g. Companies such as LLAOL will be required to provide climate related financial disclosure as part of annual reporting from 2025 at the latest.

2.1.2 The relevant policy described in my PoE gives rise to the following key points:

- a. Government aviation policy is to embrace innovation for a sustainable future, realising benefits for the UK.
- b. Government projections of how the UK aviation sector may reach carbon net zero factor in growth in passenger numbers, at London Luton and other airports.
- c. Government policy is that existing planning frameworks for airport growth provide a robust and balanced framework for airports that want to grow.
- d. Government's policy aspiration is for airports to be carbon zero by 2040, including airport buildings and ground operations. Reductions in aviation emissions are being driven by Government policies, incentives and participation in the UK ETS and CORSIA. Reductions in surface transport emissions are being driven by national and local transport planning policies.
- e. The Carbon Reduction Strategy provides the basis for LLAOL to reduce emissions from airport buildings and ground operations, in addition to supporting measures to reduce aviation and surface access emissions.
- f. LLAOL has submitted a Climate Change Adaptation Plan to Government<sup>5</sup>. Physical risks of climate change at Luton Airport have been identified and will be managed.

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<sup>5</sup> CD11.32

g. In terms of non-CO<sub>2</sub> impacts, the Government position remains one of monitoring the science, but inclusion of aviation emissions of NO<sub>x</sub> within the UK ETS is being considered.

2.1.3 In reviewing legislation and policy relating to aviation emissions, my conclusion is that the Government is sending a strong signal for the aviation industry to grow, supported by legislation and policy measures to enable this growth to be achieved without veering away from the pathway to carbon net zero.

## **2.2 Environmental Assessment**

### **Methodology**

2.2.1 ESA2 includes a review of relevant legislation and policy and an assessment of carbon emissions in accordance with technical guidance and best practice. ESA4 includes an update to the assessment of carbon emissions. This update largely addressed any changes in legislation, policy and technical guidance changes, and the shift in assessment years by one year.

2.2.2 The uptake of SAF was revised to reflect Government expectations. In the central emission scenario of ESA2, the uptake of SAF was assumed to be zero in all years up to and including 2040, and 10% in 2050. This was updated in ESA4 to reflect the Government consultation on SAF and an expected increasing uptake in SAF from 2028 onwards.

### **Aviation emissions – up to fifth carbon budget**

2.2.3 The impact of the Proposed Scheme is determined as the difference between the Consented Development and Proposed Scheme scenarios, expressed as a percentage of the planning assumption. In 2025 this is +0.05%, rising only to +0.07% in 2028 and rising only to +0.08% in 2032.

### **Aviation emissions – sixth carbon budget to 2050**

- 2.2.4 Aviation emissions from what is already permitted at Luton Airport during the sixth carbon budget period would contribute between 0.47% and 0.51% of the budget. The incremental change as a result of the proposed development is just +0.01%.

### **Aviation emissions – cumulative**

- 2.2.5 The cumulative impact of the five developments listed in Table 3.5 of my PoE would represent an increase in emissions within the range 2.325 – 2.549 % of the planning assumption. As referred to in paragraphs 3.2.3 and 3.2.4 of my PoE, the Secretary of State is *“satisfied that Government’s Transport Decarbonisation Plan and the Jet Zero Strategy... will ensure Government’s decarbonisation targets for the sector and the legislated carbon budgets can be met without directly limiting aviation demand.”* In this context, I conclude that the cumulative impact of the Proposed Scheme (0.017 – 0.074 % of the planning assumption) is not material.

### **Aviation emissions –Jet Zero in-sector carbon trajectory**

- 2.2.6 Emissions from Luton Airport are expected to fall by 29% (18%-43%) with the Consented Development and by 26% (12%-41%) with the Proposed Scheme by the year 2040 and by 46% (24%-84%) with the Consented Development and 44% (19%-83%) with the Proposed Scheme by the year 2050. The central scenario is slightly ahead of the Jet Zero trajectory in 2040 but may lag behind in 2050. The low emissions scenario in 2040 and 2050 would be well ahead of the Jet Zero in-sector carbon trajectory, representing the potential for reductions that could be achieved. The Jet Zero trajectory represents what Government expects can be achieved. The ESA4 results for 2050 are therefore conservative when compared to this Government expectation.

### **Non-aviation emissions**

- 2.2.7 Non-aviation emissions are predicted to fall between 2019 and 2050.

2.2.8 The reductions in surface access emissions largely reflect the decarbonisation of the road transport sector in the UK and the increased provision of public transport. I consider the measures proposed by LLAOL to reduce emissions from surface access are in line with national transport planning policy and, through agreement with LBC, will be in line with local transport planning policy.

2.2.9 Reductions in airport buildings and ground operations reflect the expected reduction in the carbon intensity of grid electricity supply. There is not sufficient information available to quantify anticipated changes in gas use, fleet vehicles or refrigerants for the future scenarios. These are therefore assumed to be constant in ESA2 and ESA4, although expected changes such as improved building management processes, further boiler upgrades (including switching to electric) and fleet upgrades to electric or alternative fuel technologies are anticipated. I consider the measures proposed by LLAOL to reduce emissions from airport buildings and ground operations are in line with Government aspirations for zero carbon airports by 2040.

## **2.3 Carbon and Climate Change Action**

### **Government Action**

2.3.1 The Jet Zero Strategy<sup>6</sup> and supporting consultation documentation describe the technical measures already in place or being implemented at the international and national levels to reduce emissions from aviation. These include: ongoing incremental improvements in the fuel efficiency of aircraft; improvements in airspace management; the development and future introduction of electric and hydrogen propelled aircraft (zero emission aircraft); uptake of SAF; the use of carbon pricing to drive investment in the above; and the development and introduction of GHG removal technologies.

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<sup>6</sup> CD11.19

### **Airport Action**

2.3.2 LLAOL has published its responsible business strategy for the period 2020 – 2025<sup>7</sup> which includes a wide range of key performance indicators (KPIs) which are reported annually. The following KPIs are highlighted from Table 4.1 in my PoE:

- a. Level 3 (Optimisation) certification with the Airport Carbon Accreditation scheme was achieved in May 2021.
- b. The Carbon Reduction Strategy is identified and being tracked.
- c. 100% of electricity is sourced from renewables.
- d. Climate change risks have been identified and addressed.

2.3.3 The open reporting of responsible business KPIs by LLAOL provides an existing framework for ensuring the Carbon Reduction Strategy can be implemented and progress reported in a robust manner.

### **Carbon Reduction Strategy**

2.3.4 The content and structure of the Carbon Reduction Strategy is to be agreed between LLAOL and LBC.

### **Rule 6 and other parties**

2.3.5 My PoE responds to statements made by the Council for the Protection of Rural England (CPRE Hertfordshire). I consider each of the three points made, referring as appropriate to my evidence to address each point. In short summary, the concerns are addressed through national policy.

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<sup>7</sup> CD.CC43

### 3. Conclusions

3.1.1 I have shown, by reference to legislation and policy, and to ESA2 and ESA4, that:

- a. Aviation emissions are regulated at a national level, with reductions being driven by Government policies, incentives and participation in the UK ETS and CORSIA.
- b. Government aviation policy is to embrace innovation for a sustainable future, realising benefits for the UK.
- c. Government projections of how the UK aviation sector may reach carbon net zero includes growth in passenger numbers, at London Luton and other airports.
- d. Reductions in surface transport emissions are being driven by national and local transport planning.
- e. A Carbon Reduction Strategy will be agreed with LBC, detailing how the airport will monitor and report emissions, set targets and continue to reduce emissions.
- f. Using several tests of impact significance, the increase in airport capacity from 18mppa to 19mppa would not materially increase carbon emissions and would not impede Government policy to achieve carbon net zero.
- g. In terms of non-CO<sub>2</sub> impacts, the Government position remains one of monitoring the science although inclusion of aviation NO<sub>x</sub> within the UK ETS is being considered.
- h. LLAOL has submitted a Climate Change Adaptation Plan to Government. Physical risks of climate change at Luton Airport have been identified and will be managed.
- i. Objections raised by Rule 6 parties are addressed by national policy.

3.1.2 Overall, my clear conclusion is that the carbon and climate change impacts of the Proposed Scheme are not proper grounds for refusing the application and the proposal complies with all relevant parts of local and national policy.

