Gatwick Airport Northern Runway Project

Environmental Statement
Appendix 16.9.4: Assessment of Aviation Greenhouse Gas Emissions

Book 5

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 16.9.4 of the Environmental Statement (ES) prepared on behalf of Gatwick Airport Limited (GAL) for the proposal to make best use of Gatwick Airport's existing runways and infrastructure (referred to within this report as 'the Project').

1.1.2 This document provides the Greenhouse Gas (GHG) Technical Appendix for the assessment of aviation impacts arising from the Project.

1.2 Overview of Methodology

1.2.1 The quantification of GHG emissions arising from aviation considers four different components each of which requires a different modelling approach. These four components are:

- GHG emissions arising from the landing and take-off (LTO) phases of flights;
- GHG emissions arising from the Climb, Cruise, and Descent (CCD) phases of flights;
- GHG emissions arising from use of Auxiliary Power Units (APU) by aircraft on the ground at the airport; and
- GHG emissions from engine testing by aircraft on the ground at the airport.

1.2.2 Detailed definitions for each of these operational components is provided in **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3).

1.2.3 The estimation of GHG emissions arising from aircraft is based on estimating fuel consumption for each of the four use categories, and then using an appropriate CO_2 emissions factor per unit of fuel to model total CO_2e emissions.

1.2.4 Of these emissions sources the LTO and CCD GHG emissions are much greater than the APU and engine testing emissions.

1.2.5 The methodologies for quantifying GHG emissions from LTO phase, and from APU use and engine testing follow the assessment methodology undertaken as part of the Air Quality assessment. Comprehensive detail on the modelling approach for specific assessment years is provided in **ES Chapter 13: Air Quality** (Doc Ref.5.1), and in **ES Appendix 13.4:1 Air Quality Assessment Methodology** (Doc Ref.5.3).

1.2.6 The quantification of emissions undertaken in the Air Quality assessment is based on modelling of specific years: 2018 (baseline); 2029, 2032, 2038, and 2047. Intermediate years are not modelled within the Air Quality assessment.

1.2.7 The quantification of emissions undertaken in the Air Quality assessment is based on fleet data for aircraft in the form of annual forecasts of aircraft movements broken down by aircraft type and time of day. This directly informs the assessment of LTO emissions, APU usage, and engine testing emissions. Further detail is set out in **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3).

1.2.8 GHG emissions from CCD phase has been carried out using details of air transport movement (ATM) forecasts, aircraft types, and flight distances using the EMEP/EEA Air Pollution Inventory Guidebook (European Environment Agency, 2019).

1.2.9 Importantly both the Air Quality methodology for LTO, and the EMEP/EEA Guidebook approach for CCD, **do not** include for specific future trends in aviation emissions expected to arise from the UK Government's Jet Zero Strategy (Department for Transport, 2022). As such, three additional considerations have been introduced into the assessment of future aircraft emissions:

- an average improvement in aircraft engine efficiency each year beyond 2038;
- the inclusion of Sustainable Aviation Fuels (SAF) which reduce the GHG emissions attributable to aviation fuel use; and
- the introduction of zero emission aircraft in future years.

1.2.10 These three mechanisms combine to reduce emissions in future years from the calculated fuel/emissions arising from the Air Quality and EMEP/EEA approaches.

2 Baseline Development

2.1 Baseline Methodology

2.1.1 For the calculation methodology for estimating fuel use for LTO, APU and engine testing emissions refer to **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3).

2.1.2 The estimation of fuel use for CCD emissions was carried out using the EMEP/EEA Air Pollution Inventory Guidebook Additional File *1.A.3.a Aviation – Annex 5 – Master emission calculator 2019* (European Environment Agency, 2019).

2.1.3 For LTO emissions the relevant GHG emissions within the scope of the assessment are those for take-off from Gatwick, and for landing at a destination airport. For the purposes of the assessment (and in the absence of data on operations at other airports) the assumption is that landing emissions from inbound flights at Gatwick are equal and equivalent to the landing emissions for outbound flights at destination airports.

2.1.4 The Air Quality assessment has assessed LTO emissions in the vicinity of Gatwick (landing emissions for inbound flights, and take-off emissions for outbound flights) and the total of these is assumed to be equal and equivalent to the sum of take-off emissions at Gatwick and landing emissions at destination airports for all outbound flights. In this way total outbound LTO emissions can be estimated. Outbound CCD emissions have then been calculated separately and added to LTO emissions to provide the total outbound GHG emissions. This approach provides consistency with national reporting in that domestic flight emissions are attributable to the origin airport location, and that international flights are attributable to the origin country. It also aligns with the UK emissions inventory approach which quantifies domestic aviation emissions, and accounts for emissions associated with international bunker fuel sales (ie fuel purchased for outward international flights).

2.1.1 ATM data for 2018 was provided by GAL detailing the source/destination for all flights in 2018 along with details of aircraft type. Each ATM aircraft type was allocated to a specific representative aircraft type for use within the EMEP/EEA Master Emissions Calculator 2019.

2.1.2 The EMEP/EEA Master Emissions Calculator was then used to determine fuel consumption for outgoing flights only based on the estimated distance between Gatwick Airport and the destination airport.

2.1.3 Flight distances for CCD emissions are based on great circle distances between airports plus an 8% uplift to allow for indirect routing.

2.1.4 Fuel consumption was then converted to GHG emissions using the appropriate carbon emissions factor detailed below. Emissions estimates were aggregated to provide summary emissions totals for Domestic and International flights for the baseline year of 2018.

2.2 Data Sources for 2018 Baseline

2.2.1 The following datasets were used for calculation of the CCD emissions for the 2018 baseline year.

Table 2.2.1: 2018 Baseline Data Sources for CCD Modelling

Data	Source	Provider
2018 air traffic movements (ATMs) by aircraft type and aircraft engine	GAL aircraft movement database	GAL
GHG intensity factors	Greenhouse gas reporting: conversion factors 2018	Department for Business, Energy & Industrial Strategy (BEIS)

2.2.2 For detail on the data sources for calculation of LTO, APU and engine testing emissions refer to **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref. 5.3).

2.3 Baseline Year Carbon Intensity Factors

2.3.1 All aviation fuel is assumed to generate emissions based on the UK Government GHG conversion factor value of 2.55 $kgCO_2e$/litre (BEIS, 2018).

3 Future Baseline Development

3.1 Future Baseline Methodology

3.1.1 The future baseline aviation emissions are based primarily on future forecasts of ATMs and route/aircraft types specified for future baseline modelling years set out in **ES Appendix 4.3.1: Forecast Data Book** (Doc Ref.5.3).

3.1.2 As with the baseline assessment, the estimation of LTO, APU and engine testing for future years are based on the approach used in the Air Quality assessment and reference should be made to **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3).

3.1.3 This provides estimated fuel consumption for the model years 2029, 2032, 2038 and 2047.

3.1.4 CCD emissions have been modelled by using estimated fuel use for CCD emissions, carried out using the EMEP/EEA Air Pollution Inventory Guidebook Additional File *1.A.3.a Aviation – Annex 5 – Master emission calculator 2019* (European Environment Agency, 2019) for future modelling years of 2029, 2032, 2038 and 2047 and for all intervening years, and for years between 2047 and 2050.

3.1.5 Emissions for future years are similarly based on estimates of fuel consumption that reflect flight numbers, aircraft profiles, APU use, and engine testing patterns.

3.1.6 For LTO emissions, APU use, and engine testing the future fuel use is also a function of the changing aircraft fleet. Fleet forecasts have been provided by GAL for the period to 2038.

3.1.7 For CCD emissions the future aircraft fleet emissions are also a function of which aircraft will operate which routes, as CCD emissions reflect the distance travelled between airports domestic and international. Changes to the balance of short haul and long-haul flights will therefore impact total CCD emissions.

3.1.8 Flight distances for CCD emissions are based on great circle distances between airports plus an 8% uplift to allow for indirect routing.

3.1.9 For the period between 2038 and 2050 there are no forecasts of aircraft fleet changes, although generally the fleet would be expected to increase in efficiency (thereby reducing fuel use and associated emissions). Beyond 2038 a standard annual energy efficiency improvement has been assumed based on the Jet Zero Strategy High Ambition scenario (Department for Transport, 2022) – this is set as a 2% improvement per year.

3.1.10 Future years are also expected to see increased use of alternative fuels – specifically Sustainable Aviation Fuels (SAF) generated from biogenic sources. As set out in Table 3.1.1, the rate of SAF use in aircraft use has been assumed as a linearly increasing rate from 2025 to 2050 to reflect the Jet Zero Strategy High Ambition scenario.

Table 3.1.1: Proportion of SAF Usage within Future Aviation Modelling

Year	Proportion of SAF Usage
2019	0%
2020	0%
2021	0%
2022	0%
2023	0%
2024	0%
2025	0%
2026	2%
2027	4%
2028	6%
2029	8%
2030	10%
2031	12%
2032	14%
2033	16%
2034	18%
2035	20%
2036	22%
2037	24%
2038	26%
2039	28%
2040	30%
2041	32%
2042	34%
2043	36%
2044	38%
2045	40%
2046	42%
2047	44%
2048	46%
2049	48%
2050	50%

3.1.1 The carbon intensity of SAF is assumed to be 30% of that for aviation turbine fuel (ie 70% lower than typical kerosene) as set out in Section 3.14 of the Jet Zero Strategy.

3.1.2 Future years are also expected to see the introduction of zero emission aircraft which will replace an increasing proportion of ATMs. Modelling of aviation emissions has assumed the following rate of introduction of these aircraft based on introduction of zero emission aircraft beginning in 2035 and increasing to 27% by 2050 (as per the Jet Zero Strategy Analytical Annex Figure 3) (Department for Transport, 2022):

Table 3.1.2: Proportion of ATMs Replaced by Zero Emission Aircraft by Year

Year	Proportion of ATMs Using Zero Emission Aircraft
2035	0.83%
2036	1.67%
2037	2.50%
2038	3.33%
2039	4.17%
2040	5.00%
2041	7.20%
2042	9.40%
2043	11.60%
2044	13.80%
2045	16.00%
2046	18.20%
2047	20.40%
2048	22.60%
2049	24.80%
2050	27.00%

3.1.3 The three future trends (fleet efficiency, SAF uptake, and introduction of zero emission aircraft) are all modelled as reduction in fuel usage, equivalent to assuming zero emissions for these portions.

3.2 Data Sources for Future Baseline

3.2.1 In addition to data sources for the 2018 baseline the data sources and forecasts set out in Table 3.2.1 have informed the future baseline development.

3.2.2 For detail on the data sources for calculation of LTO, APU and engine testing future emissions refer to **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3).

Table 3.2.1: 2018 Future Baseline Data Sources for CCD Modelling

Data	Source	Provider
Forecast ATMs	**ES Appendix 4.3.1: Forecast Data Book** (Doc Ref. 5.3).	GAL
Aircraft Splits by Domestic, Short and Long Haul	Aircraft splits by haul	GAL

4 Future With Project Development

4.1.1 The future with-Project aviation emissions are based on future forecasts of ATMs and route/aircraft types specified for future with-Project modelling years set out in **ES Appendix 4.3.1: Forecast Data Book** (Doc Ref.5.3).

4.1.2 As with the baseline assessment, the estimation of LTO, APU and engine testing for future years is based on the approach used in the Air Quality assessment and reference should be made to **ES Appendix 13.4.1: Air Quality Assessment Methodology** (Doc Ref.5.3). This provides estimated fuel consumption for the years 2029, 2032, 2038 and 2047.

4.1.3 CCD emissions are calculated in the same way as for the future baseline assessment.

4.1.4 Assumptions relating to engine efficiency and SAF uptake are consistent with those assumed for the future baseline assessment.

5 Evaluation of Aviation GHG Emissions

5.1 2018 Baseline Emissions

5.1.1 The 2018 aviation emissions baseline is set out in Table 5.1.1.

Table 5.1.1: 2018 Baseline Aviation Emissions

Activity	2018 Baseline Emissions ($MtCO_2e$)
UK domestic flights	
LTO	0.031
CCD	0.083
International flights	
LTO	0.339
CCD	4.279
APU	0.023
Engine Testing	0.0003
TOTAL excluding international flights	0.138
TOTAL including international flights	4.756

5.2 Future Baseline Emissions

5.2.1 Future baseline aviation emissions are set out in Table 5.2.1.

Table 5.2.1: Future Baseline Emissions from Aviation

Year	Aviation Emissions ($MtCO_2e$)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2019	0.025	0.067	0.324	4.159	0.021	0.0003	4.596
2020	0.004	0.009	0.043	0.481	0.003	0.0000	0.539
2021	0.019	0.050	0.249	2.890	0.016	0.0002	3.225
2022	0.023	0.059	0.270	3.284	0.018	0.0003	3.655
2023	0.023	0.061	0.288	3.829	0.019	0.0003	4.220
2024	0.024	0.063	0.304	4.066	0.020	0.0003	4.477
2025	0.025	0.065	0.323	4.314	0.021	0.0003	4.748
2026	0.025	0.067	0.339	4.524	0.022	0.0003	4.976
2027	0.026	0.068	0.354	4.715	0.023	0.0003	5.186
2028	0.026	0.069	0.365	4.843	0.023	0.0004	5.327
2029	0.026	0.068	0.360	4.729	0.023	0.0004	5.206
2030	0.025	0.066	0.351	4.661	0.022	0.0003	5.127
2031	0.025	0.065	0.342	4.588	0.022	0.0003	5.042
2032	0.024	0.063	0.333	4.514	0.021	0.0003	4.957
2033	0.024	0.061	0.326	4.458	0.021	0.0003	4.890

Year	Aviation Emissions (MtCO₂e)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2034	0.023	0.059	0.319	4.401	0.020	0.0003	4.822
2035	0.022	0.057	0.311	4.343	0.020	0.0003	4.754
2036	0.022	0.055	0.304	4.284	0.020	0.0003	4.685
2037	0.021	0.053	0.297	4.224	0.019	0.0003	4.615
2038	0.021	0.051	0.290	4.164	0.019	0.0003	4.544
2039	0.020	0.047	0.276	4.020	0.018	0.0003	4.382
2040	0.019	0.043	0.263	3.880	0.018	0.0003	4.223
2041	0.018	0.040	0.251	3.752	0.017	0.0003	4.078
2042	0.017	0.036	0.239	3.627	0.017	0.0003	3.936
2043	0.016	0.033	0.228	3.506	0.016	0.0002	3.798
2044	0.015	0.030	0.217	3.387	0.015	0.0002	3.664
2045	0.014	0.027	0.206	3.271	0.015	0.0002	3.533
2046	0.013	0.025	0.196	3.158	0.014	0.0002	3.406
2047	0.013	0.022	0.186	3.047	0.014	0.0002	3.283
2048	0.012	0.021	0.180	2.959	0.013	0.0002	3.185
2049	0.011	0.020	0.173	2.871	0.013	0.0002	3.089
2050	0.011	0.020	0.166	2.754	0.012	0.0002	2.963

5.3 Future Project Emissions

5.3.1 Future with-Project aviation emissions are set out in Table 5.3.1.

Table 5.3.1: Future With-Project Emissions from Aviation

Year	Aviation Emissions (MtCO₂e)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2019	0.025	0.067	0.324	4.159	0.021	0.0003	4.596
2020	0.004	0.009	0.043	0.481	0.003	0.0000	0.539
2021	0.019	0.050	0.249	2.890	0.016	0.0002	3.225
2022	0.023	0.059	0.270	3.284	0.018	0.0003	3.655
2023	0.023	0.061	0.288	3.829	0.019	0.0003	4.220
2024	0.024	0.063	0.304	4.066	0.020	0.0003	4.477
2025	0.025	0.065	0.323	4.314	0.021	0.0003	4.748
2026	0.025	0.067	0.339	4.524	0.022	0.0003	4.976
2027	0.026	0.068	0.354	4.715	0.023	0.0003	5.186
2028	0.026	0.069	0.365	4.843	0.023	0.0004	5.327
2029	0.024	0.068	0.358	5.113	0.025	0.0003	5.588
2030	0.024	0.066	0.373	5.315	0.025	0.0004	5.804
2031	0.024	0.065	0.387	5.490	0.026	0.0004	5.991
2032	0.024	0.063	0.398	5.633	0.026	0.0004	6.144
2033	0.023	0.061	0.388	5.552	0.025	0.0004	6.051
2034	0.023	0.059	0.379	5.471	0.025	0.0004	5.958
2035	0.022	0.057	0.370	5.390	0.024	0.0004	5.864
2036	0.021	0.055	0.361	5.308	0.024	0.0004	5.771
2037	0.021	0.053	0.353	5.226	0.024	0.0003	5.677
2038	0.020	0.051	0.344	5.144	0.023	0.0003	5.583
2039	0.019	0.048	0.327	4.954	0.022	0.0003	5.371
2040	0.018	0.044	0.311	4.770	0.022	0.0003	5.165
2041	0.017	0.040	0.296	4.590	0.021	0.0003	4.965
2042	0.016	0.037	0.281	4.416	0.020	0.0003	4.770
2043	0.016	0.034	0.267	4.246	0.019	0.0003	4.582
2044	0.015	0.031	0.254	4.082	0.019	0.0003	4.401
2045	0.014	0.028	0.242	3.923	0.018	0.0003	4.225
2046	0.013	0.025	0.229	3.769	0.017	0.0003	4.054
2047	0.013	0.023	0.217	3.619	0.017	0.0002	3.888
2048	0.012	0.022	0.208	3.495	0.016	0.0002	3.754
2049	0.012	0.021	0.200	3.375	0.015	0.0002	3.623
2050	0.011	0.020	0.192	3.237	0.015	0.0002	3.476

6 Assessment of Slow Fleet Transition

6.1.1 The Slow Fleet Transition (SFT) assumes that the rate of transition of Gatwick's airline fleet is slower than assumed in the baseline and Project cases, but that the same number of passenger and aircraft movements are present in 2029, 2032, and 2038.

6.1.2 The net effect of this is that aircraft would more slowly transition to more efficient aircraft, with the net impact that GHG emissions would reduce more slowly than for the main assessment scenario.

Table 6.1.1: Future Baseline Emissions from Aviation (Slow Fleet Transition)

Year	Aviation Emissions (MtCO₂e)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2019	0.025	0.067	0.325	4.167	0.021	0.0003	4.605
2020	0.004	0.009	0.043	0.483	0.003	0.0000	0.541
2021	0.020	0.050	0.251	2.906	0.016	0.0002	3.243
2022	0.023	0.060	0.274	3.308	0.018	0.0003	3.683
2023	0.023	0.062	0.292	3.864	0.019	0.0003	4.260
2024	0.024	0.064	0.309	4.111	0.020	0.0003	4.528
2025	0.025	0.065	0.329	4.370	0.021	0.0003	4.812
2026	0.026	0.067	0.347	4.592	0.022	0.0003	5.053
2027	0.026	0.069	0.363	4.795	0.023	0.0004	5.277
2028	0.027	0.070	0.376	4.935	0.024	0.0004	5.432
2029	0.026	0.068	0.372	4.829	0.024	0.0004	5.320
2030	0.026	0.067	0.367	4.785	0.023	0.0004	5.268
2031	0.026	0.066	0.361	4.734	0.023	0.0004	5.210
2032	0.025	0.065	0.356	4.683	0.023	0.0003	5.152
2033	0.025	0.063	0.347	4.618	0.022	0.0003	5.075
2034	0.024	0.061	0.338	4.552	0.022	0.0003	4.998
2035	0.024	0.059	0.330	4.486	0.021	0.0003	4.920
2036	0.023	0.058	0.321	4.418	0.021	0.0003	4.841
2037	0.022	0.056	0.313	4.350	0.020	0.0003	4.761
2038	0.022	0.054	0.304	4.281	0.020	0.0003	4.681
2039	0.021	0.050	0.288	4.121	0.019	0.0003	4.498
2040	0.019	0.045	0.273	3.965	0.018	0.0003	4.321
2041	0.018	0.041	0.258	3.823	0.017	0.0003	4.158
2042	0.017	0.038	0.243	3.685	0.017	0.0003	4.000
2043	0.016	0.034	0.230	3.550	0.016	0.0002	3.847
2044	0.015	0.031	0.217	3.419	0.015	0.0002	3.698
2045	0.014	0.028	0.206	3.292	0.015	0.0002	3.555
2046	0.013	0.025	0.196	3.168	0.014	0.0002	3.417
2047	0.013	0.022	0.186	3.047	0.014	0.0002	3.283
2048	0.012	0.021	0.180	2.959	0.013	0.0002	3.185
2049	0.011	0.020	0.173	2.871	0.013	0.0002	3.089
2050	0.011	0.020	0.166	2.754	0.012	0.0002	2.963

Table 6.1.2: Future With-Project Emissions from Aviation (Slow Fleet Transition)

Year	Aviation Emissions (MtCO₂e)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2019	0.025	0.067	0.325	4.167	0.021	0.0003	4.605
2020	0.004	0.009	0.043	0.483	0.003	0.0000	0.541
2021	0.020	0.050	0.251	2.906	0.016	0.0002	3.243
2022	0.023	0.060	0.274	3.308	0.018	0.0003	3.683
2023	0.023	0.062	0.292	3.864	0.019	0.0003	4.260
2024	0.024	0.064	0.309	4.111	0.020	0.0003	4.528
2025	0.025	0.065	0.329	4.370	0.021	0.0003	4.812

Year	Aviation Emissions ($MtCO_2e$)						
	Domestic		International		APU	Engine Testing	TOTAL
	LTO	CCD	LTO	CCD			
2026	0.026	0.067	0.347	4.592	0.022	0.0003	5.053
2027	0.026	0.069	0.363	4.795	0.023	0.0004	5.277
2028	0.027	0.070	0.376	4.935	0.024	0.0004	5.432
2029	0.025	0.068	0.370	5.221	0.025	0.0004	5.710
2030	0.025	0.067	0.390	5.449	0.026	0.0004	5.957
2031	0.025	0.066	0.408	5.652	0.027	0.0004	6.178
2032	0.025	0.065	0.423	5.824	0.027	0.0004	6.365
2033	0.024	0.063	0.412	5.731	0.027	0.0004	6.258
2034	0.024	0.061	0.402	5.639	0.026	0.0004	6.152
2035	0.023	0.060	0.391	5.546	0.026	0.0004	6.045
2036	0.023	0.058	0.380	5.452	0.025	0.0004	5.939
2037	0.022	0.056	0.370	5.359	0.025	0.0004	5.832
2038	0.022	0.054	0.360	5.265	0.024	0.0004	5.725
2039	0.020	0.050	0.341	5.058	0.023	0.0003	5.493
2040	0.019	0.046	0.322	4.858	0.022	0.0003	5.268
2041	0.018	0.042	0.305	4.663	0.021	0.0003	5.050
2042	0.017	0.038	0.288	4.475	0.020	0.0003	4.839
2043	0.016	0.035	0.272	4.292	0.020	0.0003	4.635
2044	0.015	0.032	0.254	4.115	0.019	0.0003	4.435
2045	0.014	0.029	0.242	3.944	0.018	0.0003	4.247
2046	0.013	0.026	0.229	3.779	0.017	0.0003	4.064
2047	0.013	0.023	0.217	3.619	0.017	0.0002	3.888
2048	0.012	0.022	0.208	3.495	0.016	0.0002	3.754
2049	0.012	0.021	0.200	3.375	0.015	0.0002	3.623
2050	0.011	0.020	0.192	3.237	0.015	0.0002	3.476

7 References

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8 Glossary

8.1 Glossary of Terms

Table 8.1.1: Glossary of Terms

Term	Description
APU	Auxiliary Power Unit
ATM	Air Transport Movement
BEIS	UK Government Department for Business Energy and Industrial Strategy
CCD	Climb, Cruise and Descent
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DCO	Development Consent Order
EEA	European Economic Area
EMEP	European Monitoring and Evaluation Programme
ES	Environmental Statement
GAL	Gatwick Airport Ltd
GHG	Greenhouse Gas
LTO	Landing and Take Off
SAF	Sustainable Aviation Fuel
SFT	Slow Fleet Transition