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Aviation Emissions Report

August 2024

Emissions analysis for largest markets - August 24 vs prior years

25 largest markets by total emissions

Date Origin Country	August 2019 Total CO2 (Tonnes)	August 2023 Total CO2 (Tonnes)	August 2024 Total CO2 (Tonnes)
United States	16,528,488	15,276,595	15,740,567
China	8,422,409	8,216,199	8,979,076
United Kingdom, UK	3,245,389	2,906,982	3,041,959
Japan	2,471,871	2,012,282	2,223,885
Spain and Canary Islands	2,002,734	1,866,616	2,063,330
United Arab Emirates	2,060,266	1,895,794	2,036,836
Germany	2,275,832	1,877,585	1,977,826
India	1,770,504	1,735,442	1,905,057
France	1,872,484	1,683,896	1,782,994
Canada	1,868,061	1,636,339	1,741,323
Turkey	1,423,199	1,601,311	1,728,101
Russian Federation	1,884,126	1,581,434	1,671,885
Australia	1,715,511	1,510,019	1,560,256
Italy	1,374,260	1,259,005	1,416,177
Brazil	1,283,610	1,184,011	1,290,705
Republic of Korea	1,242,340	1,007,747	1,129,533
Indonesia	1,117,662	975,986	1,091,228
Mexico	1,034,238	1,038,263	1,028,206
Singapore	1,021,212	885,787	988,367
Qatar	821,452	879,814	957,590
Thailand	1,197,504	824,544	955,518
Saudi Arabia	815,204	795,598	870,707
Netherlands	891,184	748,891	785,823
Greece	570,859	645,945	700,334
Hong Kong	1,109,280	552,263	688,110

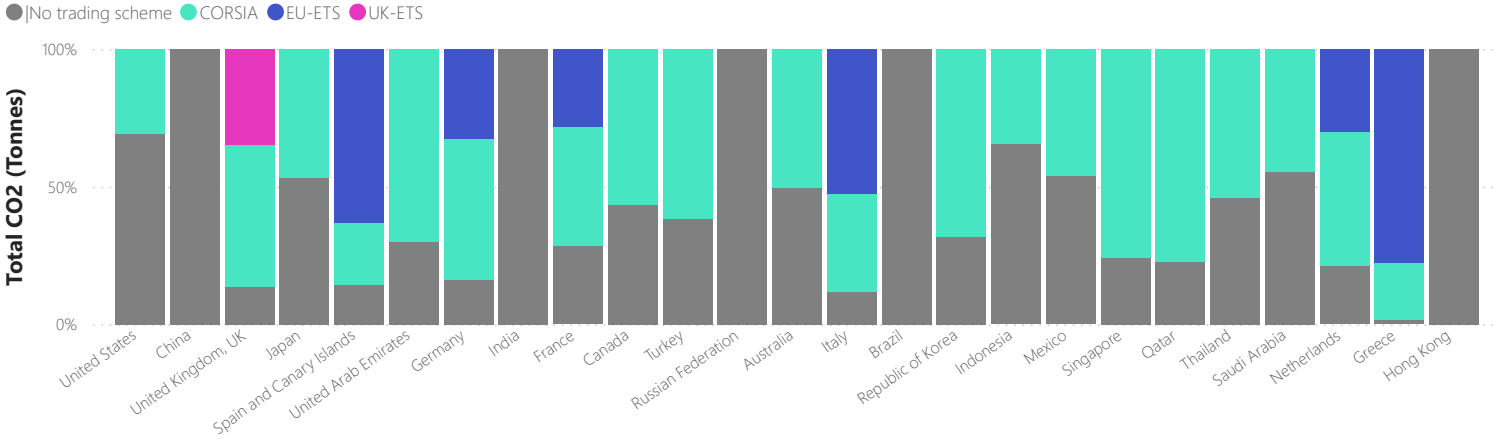
Change in Emissions - Current month vs prior years

This year vs last year	This year vs 2019
3%	-5%
9%	7%
5%	-6%
11%	-10%
11%	3%
7%	-1%
5%	-13%
10%	8%
6%	-5%
6%	-7%
8%	21%
6%	-11%
3%	-9%
12%	3%
9%	1%
12%	-9%
12%	-2%
-1%	-1%
12%	-3%
9%	17%
16%	-20%
9%	7%
5%	-12%
8%	23%
25%	-38%

Percent of Emissions covered by Compliance Programmes

August 2019 % covered	August 2023 % covered	August 2024 % covered
-	30.26%	30.81%
-	-	-
34.51%	87.24%	86.36%
-	44.70%	46.81%
61.86%	87.28%	85.79%
-	70.09%	70.00%
33.05%	86.10%	83.84%
-	-	-
27.77%	72.11%	71.30%
-	53.91%	56.38%
-	62.78%	61.41%
-	-	-
-	50.05%	50.20%
50.50%	89.38%	88.23%
-	-	-
-	69.18%	68.02%
-	34.58%	34.29%
-	45.55%	45.94%
-	77.69%	75.65%
-	75.93%	77.39%
-	55.83%	53.80%
-	47.39%	44.37%
26.56%	80.47%	78.67%
76.60%	98.93%	98.57%
-	-	-

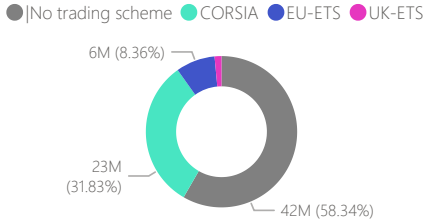
25 largest markets - emissions by Compliance Programme (current month)



Global emissions (tonnes)

72M

Emissions by compliance programme



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Emissions analysis for largest markets - YTD to Aug 24 vs prior years

25 largest markets by total emissions

YTD Period Origin Country	YTD 2019 Total CO2 (Tonnes)	YTD Last Year Total CO2 (Tonnes)	YTD This Year Total CO2 (Tonnes)
United States	122,640,684	112,045,129	118,380,983
China	62,246,473	56,909,026	64,693,987
United Kingdom, UK	22,943,320	19,879,508	21,284,321
Japan	18,531,318	14,194,860	16,599,405
United Arab Emirates	15,344,192	14,013,616	15,711,305
India	14,248,131	13,882,768	14,673,128
Spain and Canary Islands	13,369,609	12,485,218	14,012,365
Germany	16,302,861	12,535,334	13,761,774
Australia	13,712,016	11,225,224	12,701,869
France	13,117,616	11,256,858	11,986,304
Canada	12,683,987	10,838,378	11,736,149
Turkey	9,129,528	10,192,048	11,212,844
Russian Federation	12,642,371	9,651,389	10,584,504
Brazil	10,325,018	9,209,664	9,795,577
Italy	8,939,328	7,771,059	9,018,197
Republic of Korea	9,281,591	7,184,694	8,401,046
Mexico	8,059,129	8,211,106	8,231,148
Indonesia	8,749,946	7,163,150	7,928,954
Thailand	9,816,482	6,400,781	7,718,086
Singapore	8,022,326	6,563,829	7,557,013
Qatar	6,268,814	6,340,548	7,261,247
Saudi Arabia	5,812,256	5,926,522	6,507,526
Netherlands	6,364,643	5,284,587	5,684,675
Hong Kong	8,524,517	3,521,923	5,175,785
Vietnam	4,610,337	4,595,902	4,605,248

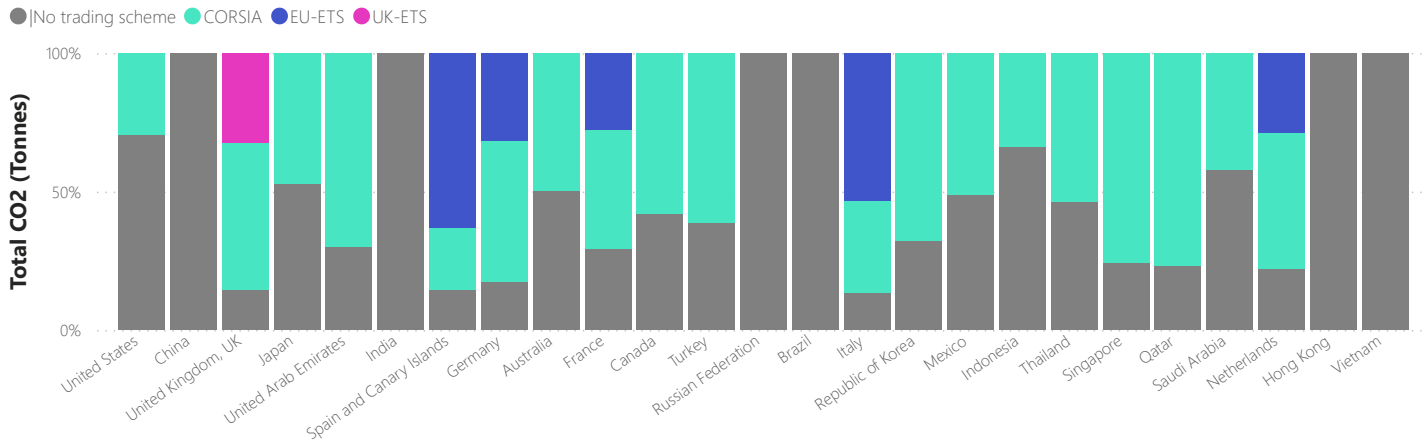
Change in Emissions - Current month vs prior years

This YTD vs Last YTD	This YTD vs YTD 2019
6%	-3%
14%	4%
7%	-7%
17%	-10%
12%	2%
6%	3%
12%	5%
10%	-16%
13%	-7%
6%	-9%
8%	-7%
10%	23%
10%	-16%
6%	-5%
16%	1%
17%	-9%
0%	2%
11%	-9%
21%	-21%
15%	-6%
15%	16%
10%	12%
8%	-11%
47%	-39%
0%	-0%

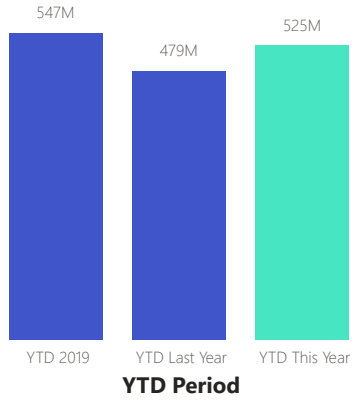
Percent of Emissions covered by Compliance Programmes

YTD 2019 Trading scheme %	YTD Last Year Trading scheme %	YTD This Year Trading scheme %
-	28.79%	29.42%
-	-	-
31.90%	87.10%	85.43%
-	44.45%	47.20%
-	70.21%	69.98%
-	-	-
62.22%	86.98%	85.30%
33.43%	85.29%	82.60%
-	50.19%	49.68%
27.73%	71.87%	70.49%
-	54.88%	58.03%
-	61.13%	61.11%
-	-	-
-	-	-
51.33%	89.47%	86.73%
-	69.64%	67.68%
-	48.24%	51.07%
-	33.26%	33.73%
-	55.63%	53.60%
-	80.42%	75.68%
-	76.06%	76.90%
-	44.55%	42.05%
25.12%	79.58%	78.02%
-	-	-
-	-	-

25 largest markets - emissions by Compliance Programme (current YTD)



Global emissions (tonnes)



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RDC CARE Index by carrier and home continent - August 24

Top 25 European Carriers

Carrier Name	CARE Index
Wizz Air UK	7.7
SmartLynx Airlines Estonia	7.6
Smartlynx Airlines Malta	7.6
Titan Airways	7.6
TUIfly Nordic	7.5
PLAY	7.4
French Bee	7.3
Iberojet	7.2
Sunclass Airlines	7.2
Norse Atlantic Airways	7.1
Marabu Airlines	7.1
European Air Charter	7.1
TUI Airways	7.0
Jet2	7.0
World2Fly	6.9
Wizz Air	6.9
La Compagnie	6.9
SunExpress	6.8
Norse Atlantic Airways UK	6.8
Smartwings Poland	6.8
Enter Air	6.8
Buzz	6.7
Freebird Airlines	6.7
Wizz Air Malta	6.7
DOT LT	6.7

Top 25 North American Carriers

Carrier Name	CARE Index
Flair Airlines	6.9
Sunwing Airlines	6.8
Air Transat	6.7
Frontier Airlines	6.6
Volaris	6.4
Porter Airlines Canada	6.3
Spirit Airlines	6.3
Allegiant Air	5.9
WestJet	5.8
Sun Country	5.7
Delta Air Lines	5.7
Alaska Airlines	5.6
VivaAerobus	5.6
Aeromexico	5.6
Air Saint-Pierre	5.5
United Airlines	5.5
American Airlines	5.5
Breeze Airways	5.4
JetBlue	5.4
Avelo Air	5.3
Air Canada Rouge	5.2
Southwest Airlines	5.1
Air Canada	5.1
ConocoPhillips Alaska Inc	5.0
Airbahn	4.6

Top 25 Asian Carriers

Carrier Name	CARE Index
ZIPAIR Tokyo	6.7
My Freighter	6.6
Akasa Air	6.6
TurboJET	6.5
AirAsia X	6.5
Scoot	6.4
Thai AirAsia X	6.3
STARLUX Airlines	6.3
Air Premia	6.2
airblue	6.2
Philippine Airlines	6.2
Ural Airlines	6.1
Aero Nomad Airlines	6.1
NordStar Airlines	6.1
Tigerair Taiwan	6.1
Fuzhou Airlines	6.1
Qanot Sharq Airlines	6.1
Hong Kong Express	6.1
T'Way Air	6.1
Greater Bay Airlines	6.0
Aero Dili	6.0
IndiGo	6.0
China United Airlines	5.9
Spring Airlines	5.9
Himalaya Airlines	5.9

Top 25 RoW Carriers

Carrier Name	CARE Index
Arajet	7.0
Wizz Air Abu Dhabi	6.8
Flynas	6.7
flydubai	6.6
Sky Airline	6.6
Red Sea Airlines	6.4
Air Tahiti Nui	6.4
Aircalin	6.4
Sky Airline Peru	6.3
SalamAir	6.2
El Al	6.2
Syrian Air	6.2
AlMasria Universal Airlines	6.1
LATAM Paraquay	6.1
Airmax Cargo	6.0
UR Airlines	6.0
Fiji Airways	6.0
Jetstar Airways	6.0
Nile Air	6.0
Nouvelair Tunisie	6.0
Jazeera Airways	5.9
Copa Airlines	5.9
FlyEgypt	5.9
Nesma Airlines	5.9
Air Arabia	5.8

The CARE Index is a measure of airline route sustainability, based around our emissions methodology and various other factors, that has been developed to give business and consumers the best information on which to make their purchasing decisions - particularly when it comes to making more environmentally friendly choices. Most 'efficiency measures' use CO2 per passenger, per seat or per available seat kilometre (ASK), which can be hard to understand for consumers. The CARE Index creates a score between 0 (worst) to 10 (best) for any air route, airline and aircraft combination, taking into account:

- fuel burn and efficiency of the aircraft type
- efficiency of the airline – using specific seat capacity, configuration and overall occupancy rates (load factor)
- use of Sustainable Alternative Fuels (SAF)
- if the route is part of a compliance or regulatory emissions programme such as EU ETS etc
- whether the operator offsets any emissions over and above that which is legally required

The CARE index has been designed to be a force for change, giving consumers better insight into the environmental impact of their chosen airline that will also help to shape airline sustainability strategies.

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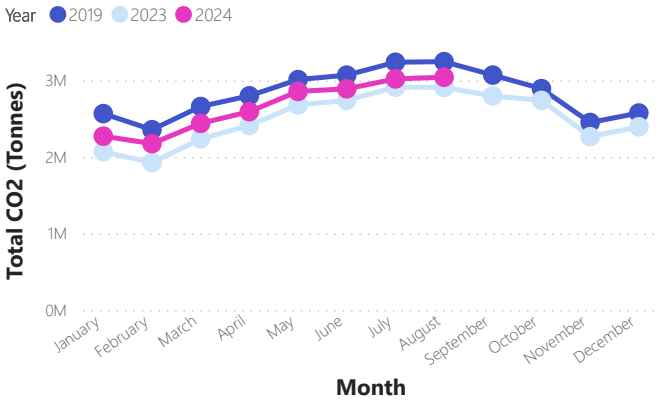
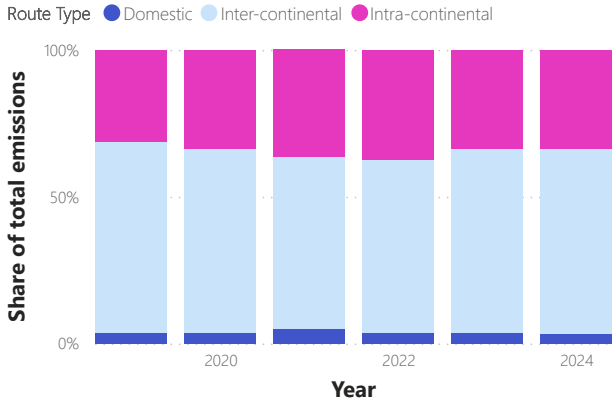
This month's focus country: United Kingdom, UK

Total CO2 (Tonnes) by Month and Year



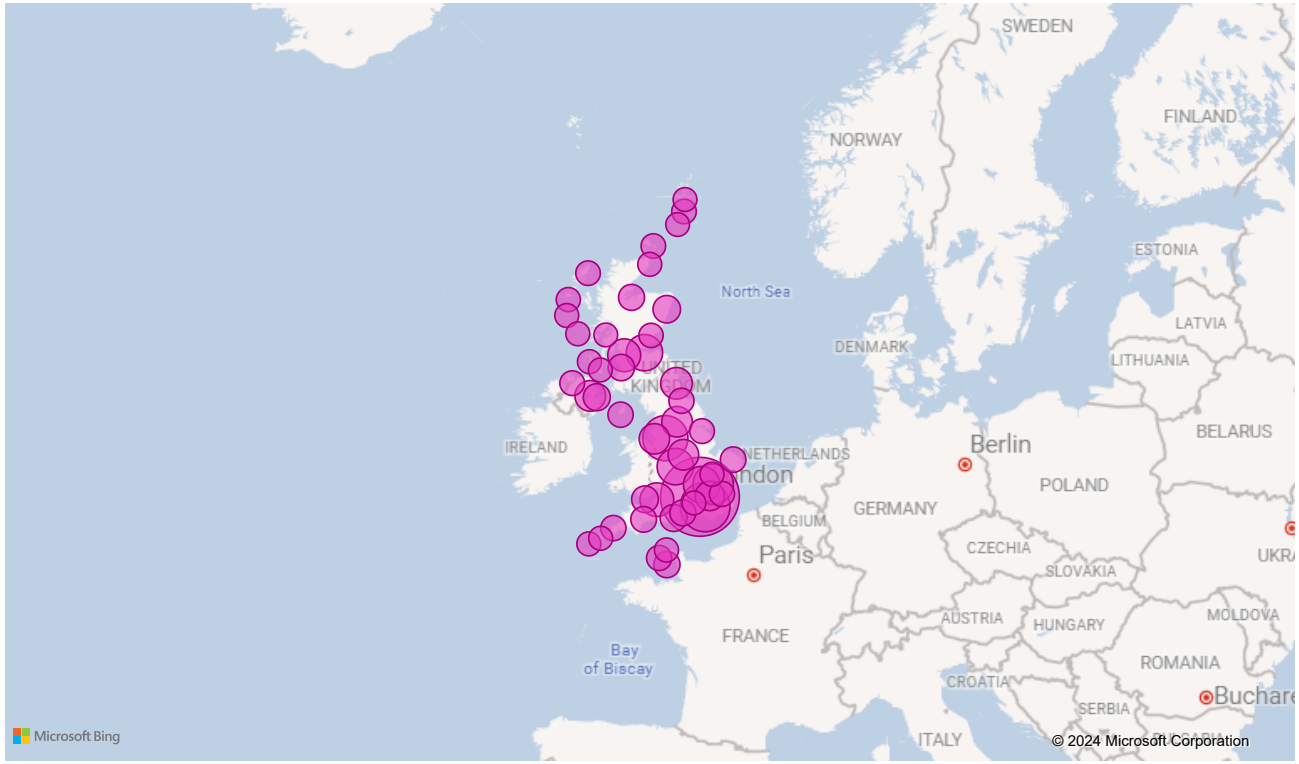
CO2 by Year and Route Type



10 largest markets by seat capacity ranked by lowest Emissions per ASK - last 12 months

Destination Country	Emissions per ASK (g)	Total CO2 (Tonnes)
Greece	55.42	873,351
Turkey	55.94	1,060,483
Spain and Canary Islands	58.63	2,911,670
Italy	62.13	764,872
Germany	71.52	453,760
France	73.56	429,084
United States	76.96	7,490,050
Ireland	83.67	297,769
United Kingdom, UK	92.19	1,080,456
Netherlands	99.73	281,901

Largest origin airports by total emissions - last 12 months



10 largest carrier by emissions ranked by highest total emissions - last 12 months

Carrier Name	Emissions per ASK (g)	Total CO2 (Tonnes)
British Airways	80.20	7,162,102
easyJet	66.77	2,791,019
Ryanair	58.74	1,860,976
Virgin Atlantic Airways	66.22	1,684,596
Jet2	58.09	1,517,672
Emirates	78.21	1,465,569
American Airlines	81.58	1,403,928
TUI Airways	53.88	1,135,352
United Airlines	78.12	1,078,578
Singapore Airlines	94.55	704,537

Emissions by airport - last 12 months

Origin Name	Total CO2 (Tonnes)	Emissions per ASK (g)
London - Heathrow Airport	17,374,122	74.81
London - Gatwick Airport	3,890,140	66.78
Manchester International Airport	2,633,022	62.99
London - Stansted Airport	1,583,251	61.20
Birmingham International Airport	937,564	61.78
London - Luton Airport	925,041	57.07
Edinburgh Airport	919,526	65.13
Bristol Airport	573,899	60.92
Glasgow International Airport	483,427	66.75
Newcastle Airport	361,523	61.51
Belfast International Airport	281,004	69.39

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For decades RDC have been monitoring and modelling the CO_2 emissions arising from the growing aviation industry. We have the ability to calculate and report detailed airline operating expenses - including fuel burn, which in turn gives us the CO_2 output from flying. For accuracy on CO_2 emissions data, our accredited and independent methodology can't be beaten.

To find out more about how RDC can deliver CO_2 emissions data for your business services, get in touch at rdcaviation.com/contact

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