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Aviation Emissions Report

January 2025

Emissions analysis for largest markets - January 25 vs prior years

25 largest markets by total emissions

Date Origin Country	January 2019 Total CO2 (Tonnes)	January 2024 Total CO2 (Tonnes)	January 2025 Total CO2 (Tonnes)
United States	14,375,143	13,708,711	13,911,542
China	7,842,820	8,021,647	8,578,914
United Kingdom, UK	2,573,429	2,277,179	2,357,166
Japan	2,285,887	2,056,307	2,195,818
United Arab Emirates	2,053,460	1,985,631	2,147,110
India	1,978,013	1,848,268	2,012,403
Australia	1,887,188	1,748,102	1,808,962
Spain and Canary Islands	1,397,468	1,428,027	1,520,003
Germany	1,847,185	1,442,782	1,448,538
Brazil	1,509,040	1,318,164	1,442,348
Canada	1,497,240	1,327,287	1,423,824
France	1,505,576	1,261,021	1,334,066
Thailand	1,412,958	1,041,002	1,248,794
Turkey	955,597	1,161,489	1,243,744
Russian Federation	1,443,263	1,124,966	1,189,364
Mexico	1,028,456	1,090,568	1,124,524
Republic of Korea	1,157,575	1,053,219	1,120,402
Indonesia	1,149,861	1,024,988	1,038,450
Singapore	1,048,612	949,417	1,036,012
Qatar	804,958	913,797	930,537
Saudi Arabia	744,061	832,846	907,465
Italy	910,933	827,435	882,778
Hong Kong	1,110,498	645,694	758,125
Malaysia	693,714	571,353	678,880
Netherlands	728,621	654,709	676,893

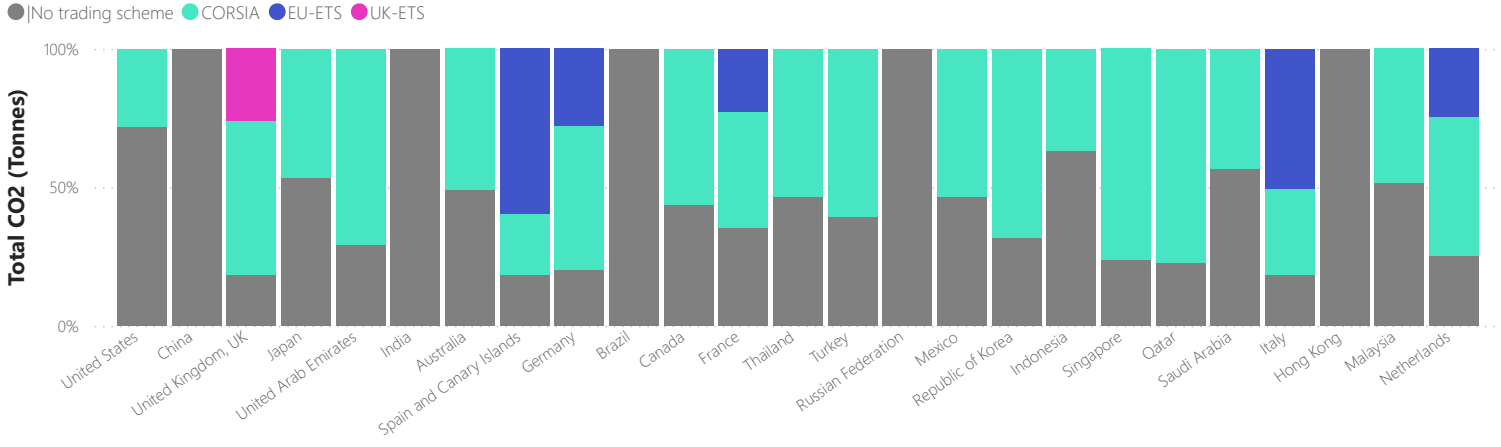
Change in Emissions - Current month vs prior years

This year vs last year	This year vs 2019
1%	-3%
7%	9%
4%	-8%
7%	-4%
8%	5%
9%	2%
3%	-4%
6%	9%
0%	-22%
9%	-4%
7%	-5%
6%	-11%
20%	-12%
7%	30%
6%	-18%
3%	9%
6%	-3%
1%	-10%
9%	-1%
2%	16%
9%	22%
7%	-3%
17%	-32%
19%	-2%
3%	-7%

Percent of Emissions covered by Compliance Programmes

January 2019 % covered	January 2024 % covered	January 2025 % covered
-	28.48%	28.12%
-	-	-
26.41%	82.25%	81.49%
-	46.28%	46.44%
-	69.85%	70.67%
-	-	-
-	49.68%	51.04%
60.35%	82.57%	81.58%
31.60%	79.75%	79.68%
-	-	-
-	58.58%	56.16%
23.82%	65.35%	64.74%
-	54.45%	53.39%
-	60.30%	60.59%
-	-	-
-	54.92%	53.41%
-	66.91%	68.10%
-	34.06%	36.71%
-	75.62%	76.22%
-	75.76%	77.14%
-	43.89%	43.29%
50.40%	82.12%	81.53%
-	-	-
-	54.86%	48.39%
22.49%	75.54%	74.81%

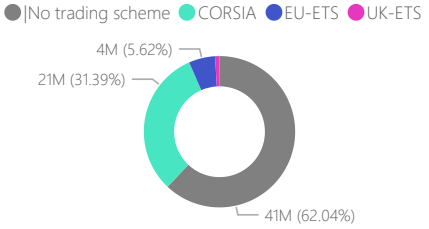
25 largest markets - emissions by Compliance Programme (current month)



Global emissions (tonnes)

66M

Emissions by compliance programme



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Emissions analysis for largest markets - YTD to Jan 25 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	14,375,143	13,708,711	13,911,542
China	7,842,820	8,021,647	8,578,914
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Change in Emissions - Current month vs prior years

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6%	-3%
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50.40%	82.12%	81.53%
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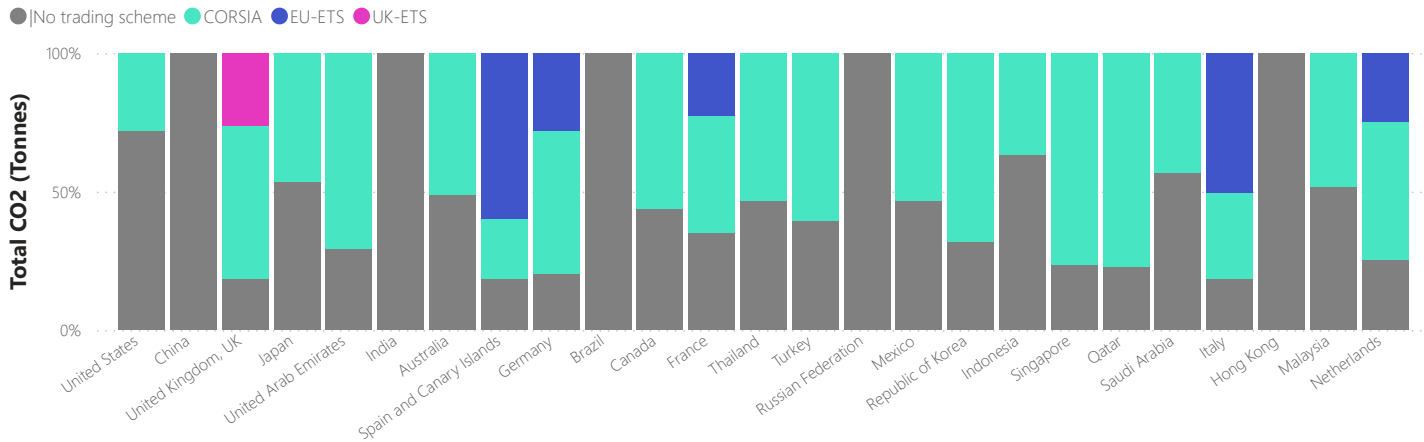
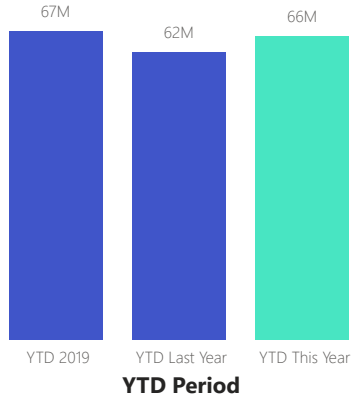
-	54.86%	48.39%
22.49%	75.54%	74.81%

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



Global emissions (tonnes)



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RDC CARE Index by carrier and home continent - January 25

Top 25 European Carriers

Carrier Name	CARE Index
Wizz Air UK	7.7
Smartwings Hungary	7.5
PLAY	7.5
Smartwings Slovakia	7.4
French Bee	7.2
Iberojet	7.0
Sunclass Airlines	7.0
TUI Airways	7.0
Wizz Air	7.0
Jet2	7.0
TUIfly Nordic	7.0
La Compagnie	7.0
SmartWings	6.9
Enter Air	6.9
Buzz	6.8
Hello Jets	6.8
Wizz Air Malta	6.8
Malta Air	6.7
Condor Flugdienst	6.7
Norse Atlantic Airways UK	6.7
Transavia	6.7
Freebird Airlines	6.7
World2Fly	6.7
Ryanair	6.7
TUIfly Deutschland	6.6

Top 25 North American Carriers

Carrier Name	CARE Index
Flair Airlines	7.1
Sunwing Airlines	6.9
Frontier Airlines	6.8
Air Transat	6.8
Porter Airlines Canada	6.7
Spirit Airlines	6.5
Volaris	6.5
Sun Country	6.1
Air Canada	6.0
Allegiant Air	6.0
WestJet	5.9
Breeze Airways	5.9
Delta Air Lines	5.7
Mexicana	5.7
Air Canada Rouge	5.7
JetBlue	5.6
Alaska Airlines	5.6
Aeromexico	5.6
American Airlines	5.5
VivaAerobus	5.5
United Airlines	5.5
Avelo Air	5.4
Air Saint-Pierre	5.3
Southwest Airlines	5.2
ConocoPhillips Alaska Inc	5.0

Top 25 Asian Carriers

Carrier Name	CARE Index
My Freighter	7.0
Akasa Air	6.7
ZIPAIR Tokyo	6.7
Hong Kong Express	6.5
Thai AirAsia X	6.5
Scoot	6.4
AirAsia X	6.4
Eznis Airways	6.3
STARLUX Airlines	6.2
Air Premia	6.2
Qanot Sharq Airlines	6.2
airblue	6.2
IndiGo	6.2
Spring Airlines Japan	6.2
Ural Airlines	6.2
Tigerair Taiwan	6.2
Nordwind Airlines	6.1
Beond-Simdi Operations	6.1
Philippine Airlines	6.1
Greater Bay Airlines	6.1
Longjiang Airlines	6.0
NordStar Airlines	6.0
Fuzhou Airlines	6.0
China United Airlines	6.0
Air India Express	6.0

Top 25 RoW Carriers

Carrier Name	CARE Index
Arajet	7.1
Wizz Air Abu Dhabi	6.9
Sky Airline	6.7
Flynas	6.6
flydubai	6.5
Sky Airline Peru	6.4
Aircalin	6.4
Air Tahiti Nui	6.3
Red Sea Airlines	6.3
El Al	6.3
Arkia Israel Airlines	6.3
SalamAir	6.2
UR Airlines	6.2
Syrian Air	6.2
Jetstar Airways	6.0
Jazeera Airways	6.0
Copa Airlines	5.9
Fiji Airways	5.9
JetSmart	5.8
Nouvelair Tunisie	5.8
Air Arabia	5.8
Nile Air	5.8
Flybondi	5.8
LATAM Paraquay	5.7
Israir Airlines	5.7

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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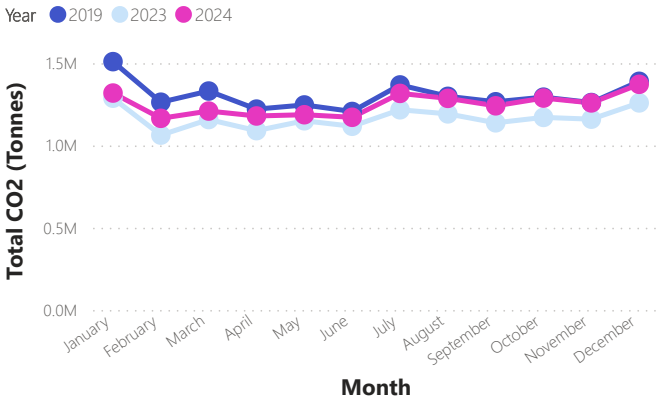
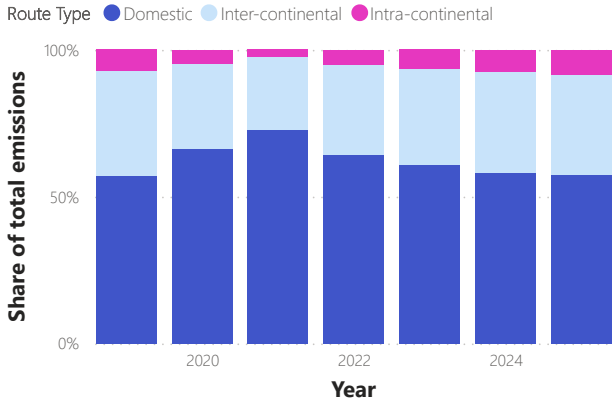
This month's focus country: Brazil

Total CO2 (Tonnes) by Month and Year



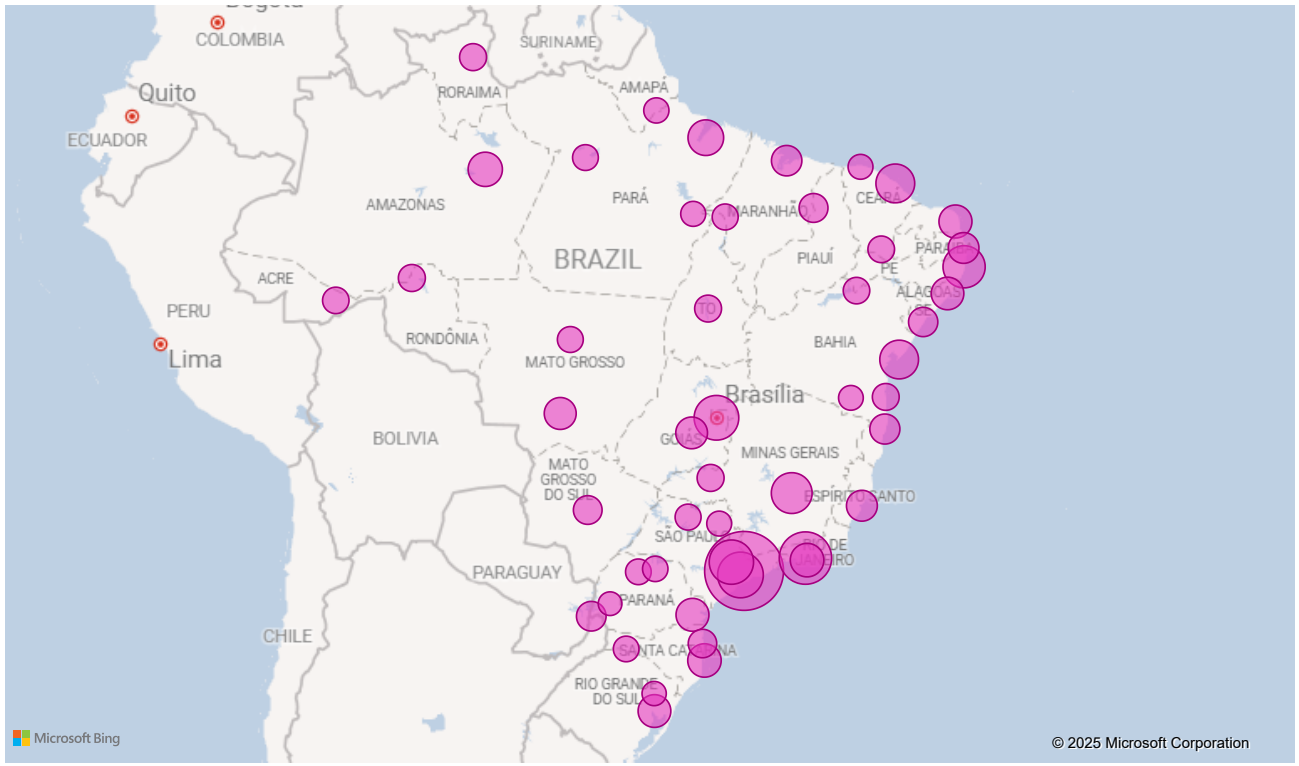
CO2 by Year and Route Type



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

Destination Country	Emissions per ASK (g)	Total CO2 (Tonnes)
Panama	52.05	189,383
Chile	56.21	308,562
Colombia	59.61	120,426
Spain and Canary Islands	60.40	371,141
Portugal	60.57	746,667
Italy	63.80	333,746
Argentina	64.62	331,251
Brazil	66.02	8,765,841
France	66.13	469,765
United States	69.15	1,352,014

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)
LATAM Airlines Brasil	65.72	4,661,574
Azul	67.84	3,166,988
Gol	61.70	2,586,197
TAP Air Portugal	58.47	544,516
American Airlines	77.88	358,043
Air France	66.63	338,784
United Airlines	73.73	307,019
Emirates	86.03	296,867
Qatar Airways	86.52	232,382
Delta Air Lines	73.15	215,663

Emissions by airport - last 12 months

Origin Name	Total CO2 (Tonnes)	Emissions per ASK (g)
Sao Paulo - Guarulhos International Airport	5,643,915	65.63
Rio De Janeiro - Internacional Airport	1,537,373	67.50
Sao Paulo - Congonhas Airport	912,014	74.17
Brasilia International Airport	827,852	62.11
Sao Paulo - Viracopos Airport	802,288	67.57
Recife - Guararapes International Airport	646,848	58.42
Belo Horizonte - Tancredo Neves International Airport	556,742	69.30
Fortaleza - Pinto Martins Airport	436,247	59.13

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RDC is a UK-based data and technology provider to the international air transport industry. The company has over 300 clients of its Apex and AirportCharges products, which provide market intelligence to operators of aircraft and airports, as well as investors, OEMs and regulators.

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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