



**RDC**

rdcaviation.com

# Aviation Emissions Report

February 2025





# Emissions analysis for largest markets - February 25 vs prior years

## 25 largest markets by total emissions

Date	February 2019	February 2024	February 2025
Origin Country	Total CO2 (Tonnes)	Total CO2 (Tonnes)	Total CO2 (Tonnes)
United States	12,940,213	12,848,125	12,718,802
China	7,340,001	8,093,080	7,759,202
United Kingdom, UK	2,362,855	2,179,830	2,202,585
Japan	2,088,265	1,915,911	1,968,972
United Arab Emirates	1,811,007	1,865,193	1,947,673
India	1,749,800	1,735,748	1,827,969
Australia	1,631,164	1,563,320	1,558,213
Spain and Canary Islands	1,263,140	1,369,598	1,455,431
Germany	1,681,166	1,379,127	1,358,698
Canada	1,348,817	1,243,912	1,278,036
France	1,348,580	1,205,075	1,237,491
Brazil	1,262,704	1,164,849	1,236,824
Thailand	1,281,142	1,003,483	1,100,749
Turkey	862,027	1,079,216	1,093,227
Russian Federation	1,251,850	1,008,638	1,039,593
Mexico	909,684	989,608	1,008,354
Republic of Korea	1,051,442	990,114	991,316
Singapore	942,395	894,056	918,266
Indonesia	1,007,492	909,218	892,189
Italy	815,447	771,804	821,433
Saudi Arabia	655,130	788,019	819,948
Qatar	729,280	846,195	819,005
Hong Kong	999,219	631,544	676,731
Netherlands	660,920	626,252	618,025
Vietnam	527,387	579,014	607,982

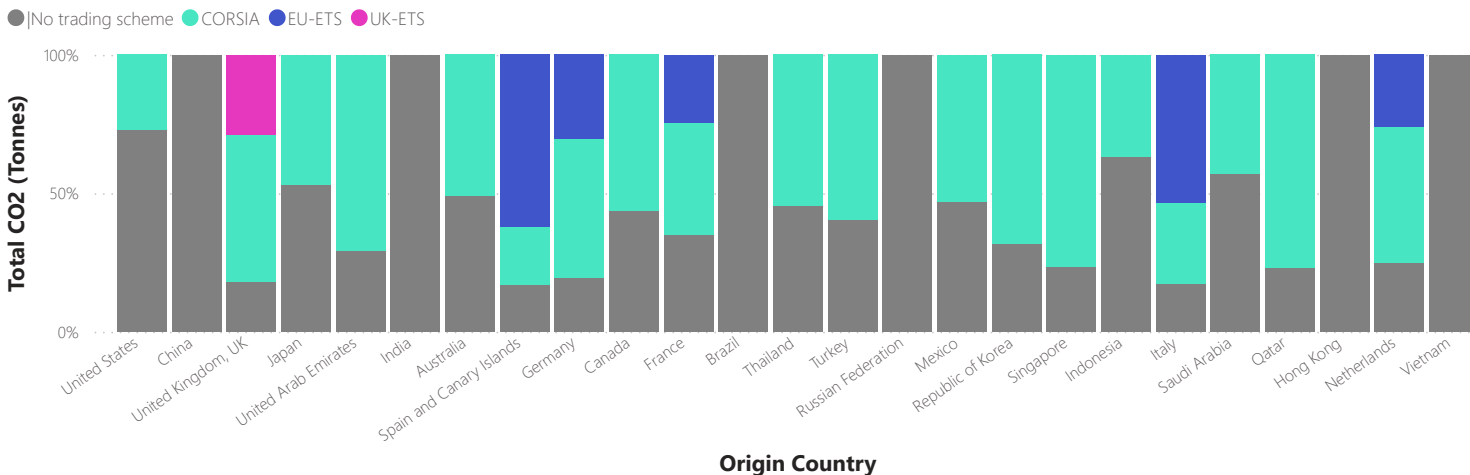
## Change in Emissions - Current month vs prior years

This year vs last year	This year vs 2019
-1%	-2%
-4%	6%
1%	-7%
3%	-6%
4%	8%
5%	4%
-0%	-4%
6%	15%
-1%	-19%
3%	-5%
3%	-8%
6%	-2%
10%	-14%
1%	27%
3%	-17%
2%	11%
0%	-6%
3%	-3%
-2%	-11%
6%	1%
4%	25%
-3%	12%
7%	-32%
-1%	-6%
5%	15%

## Percent of Emissions covered by Compliance Programmes

February 2019 % covered	February 2024 % covered	February 2025 % covered
-	27.90%	27.17%
-	-	-
27.93%	83.05%	82.08%
-	46.72%	46.76%
-	70.16%	70.73%
-	-	-
-	49.51%	51.06%
61.25%	83.85%	82.84%
32.89%	79.82%	80.46%
-	58.85%	56.48%
24.84%	66.23%	65.16%
-	-	-
-	53.69%	54.62%
-	59.14%	59.68%
-	-	-
-	56.08%	52.96%
-	66.54%	68.27%
-	74.64%	76.52%
-	35.41%	36.82%
52.31%	82.46%	82.64%
-	43.10%	43.12%
-	76.20%	76.99%
-	-	-
23.21%	75.63%	75.03%
-	-	-

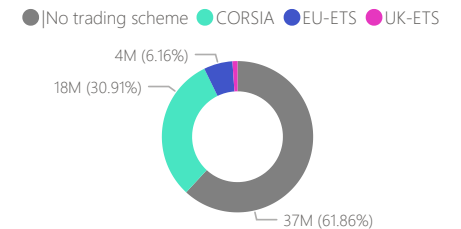
## 25 largest markets - emissions by Compliance Programme (current month)



## Global emissions (tonnes)

59M

## Emissions by compliance programme





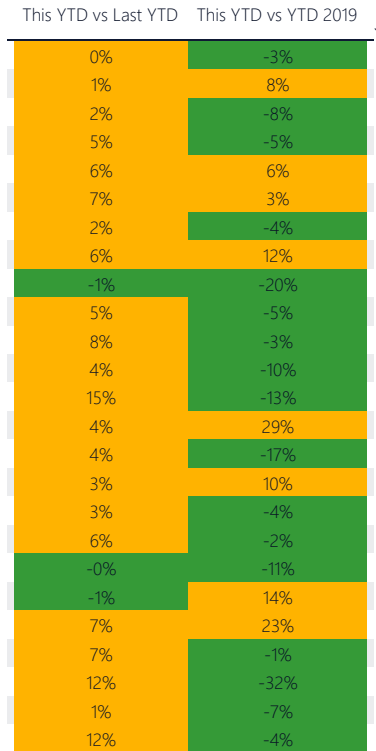


# Emissions analysis for largest markets - YTD to Feb 25 vs prior years

## 25 largest markets by total emissions

YTD Period	YTD 2019	YTD Last Year	YTD This Year
Origin Country	Total CO2 (Tonnes)	Total CO2 (Tonnes)	Total CO2 (Tonnes)
United States	27,317,160	26,558,680	26,632,236
China	15,184,038	16,115,995	16,339,465
United Kingdom, UK	4,936,621	4,457,303	4,560,056
Japan	4,374,429	3,972,505	4,165,097
United Arab Emirates	3,864,724	3,851,096	4,095,094
India	3,728,118	3,584,284	3,840,653
Australia	3,518,602	3,311,694	3,367,458
Spain and Canary Islands	2,660,799	2,797,822	2,975,645
Germany	3,528,613	2,822,123	2,807,454
Canada	2,846,284	2,571,408	2,702,081
Brazil	2,771,888	2,483,191	2,679,371
France	2,854,380	2,466,282	2,571,754
Thailand	2,694,271	2,044,648	2,349,736
Turkey	1,817,739	2,240,868	2,337,147
Russian Federation	2,695,302	2,133,768	2,229,135
Mexico	1,938,267	2,080,326	2,133,027
Republic of Korea	2,209,149	2,043,470	2,111,870
Singapore	1,991,192	1,843,665	1,954,487
Indonesia	2,157,517	1,934,363	1,930,801
Qatar	1,534,334	1,760,103	1,749,657
Saudi Arabia	1,399,286	1,620,985	1,727,546
Italy	1,726,472	1,599,352	1,704,338
Hong Kong	2,109,898	1,277,334	1,434,968
Netherlands	1,389,620	1,281,037	1,295,001
Malaysia	1,329,514	1,137,552	1,278,983

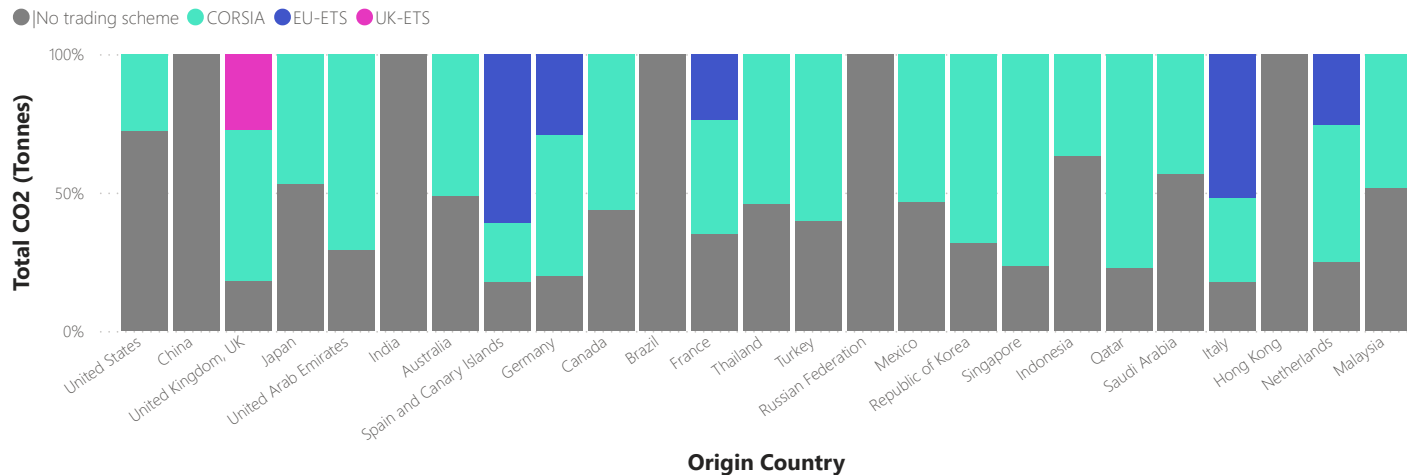
## Change in Emissions - Current month vs prior years



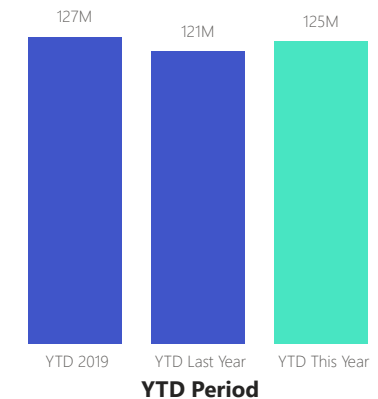
## Percent of Emissions covered by Compliance Programmes

YTD 2019	YTD Last Year	YTD This Year
Trading scheme %	Trading scheme %	Trading scheme %
-	28.20%	27.66%
-	-	-
27.13%	82.64%	81.77%
-	46.49%	46.60%
-	70.00%	70.70%
-	-	-
-	49.60%	51.05%
60.78%	83.19%	82.19%
32.21%	79.78%	80.05%
-	58.71%	56.31%
-	-	-
24.30%	65.78%	64.94%
-	54.08%	53.97%
-	59.74%	60.16%
-	-	-
-	55.47%	53.20%
-	66.73%	68.18%
-	75.14%	76.36%
-	34.69%	36.76%
-	75.97%	77.07%
-	43.51%	43.21%
51.30%	82.28%	82.07%
-	-	-
22.83%	75.59%	74.91%
-	52.95%	48.35%

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



## Global emissions (tonnes)





# RDC CARE Index by carrier and home continent - February 25

## Top 25 European Carriers

Carrier Name	CARE Index
Wizz Air UK	7.7
Marabu Airlines	7.5
Smartwings Hungary	7.5
PLAY	7.5
Smartwings Slovakia	7.4
Iberojet	7.3
French Bee	7.2
TUIfly Nordic	7.1
TUI Airways	7.1
Jet2	7.0
Sunclass Airlines	7.0
La Compagnie	7.0
Wizz Air	7.0
SmartWings	6.9
Enter Air	6.9
Buzz	6.8
Wizz Air Malta	6.8
Southwind Airlines	6.8
Hello Jets	6.8
Malta Air	6.8
Transavia	6.7
Norse Atlantic Airways UK	6.7
Condor Flugdienst	6.7
Freebird Airlines	6.7
Ryanair	6.7

## 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	6.6
Spirit Airlines	6.4
Volaris	6.4
Sun Country	6.1
Allegiant Air	6.1
Air Canada	6.0
WestJet	5.9
Breeze Airways	5.8
Delta Air Lines	5.7
Air Canada Rouge	5.7
Mexicana	5.6
JetBlue	5.6
Alaska Airlines	5.6
American Airlines	5.5
United Airlines	5.5
VivaAerobus	5.5
Avelo Air	5.5
Aeromexico	5.5
Air Saint-Pierre	5.3
Southwest Airlines	5.2
ConocoPhillips Alaska Inc	5.2

## Top 25 Asian Carriers

Carrier Name	CARE Index
My Freighter	6.9
Akasa Air	6.7
ZIPAIR Tokyo	6.7
Hong Kong Express	6.5
Thai AirAsia X	6.5
AirAsia X	6.4
Scoot	6.4
Qanot Sharq Airlines	6.3
Nordwind Airlines	6.2
airblue	6.2
STARLUX Airlines	6.2
Air Premia	6.2
IndiGo	6.2
Spring Airlines Japan	6.2
Philippine Airlines	6.2
Tigerair Taiwan	6.2
Ural Airlines	6.2
Greater Bay Airlines	6.1
Longjiang Airlines	6.0
NordStar Airlines	6.0
Beond-Simdi Operations	6.0
Fuzhou Airlines	6.0
China United Airlines	6.0
Air India Express	6.0
Suparna Airlines	6.0

## Top 25 RoW Carriers

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

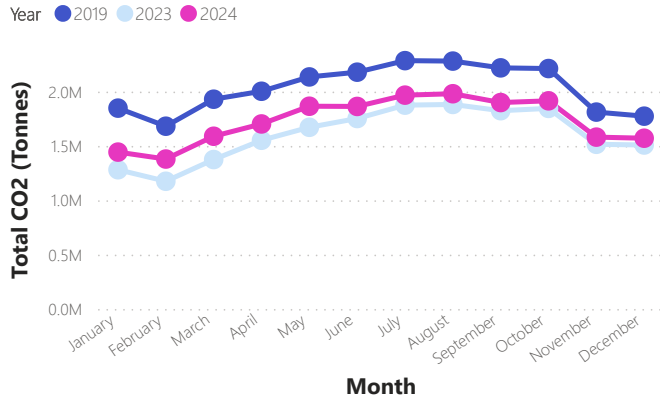
The CARE Index is a measure of airline route sustainability, based around our emissions methodology and various other factors, that has been developed to give business and consumers the best information on which to make their purchasing decisions - particularly when it comes to making more environmentally 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**

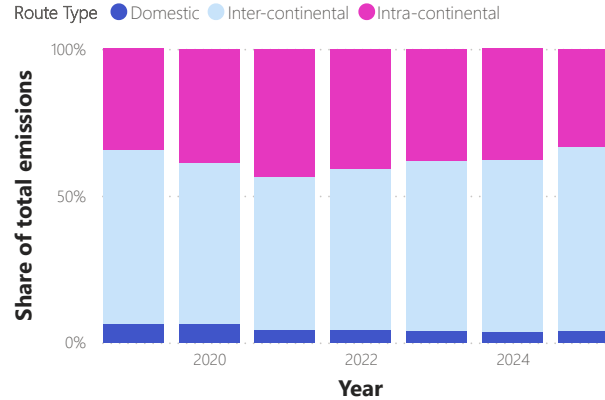
The CARE index has been designed to be a force for change, giving consumers better insight into the environmental impact of their chosen airline that will also help to shape airline sustainability strategies.

# This month's focus country: Germany

### Total CO2 (Tonnes) by Month and Year



### CO2 by Year and Route Type



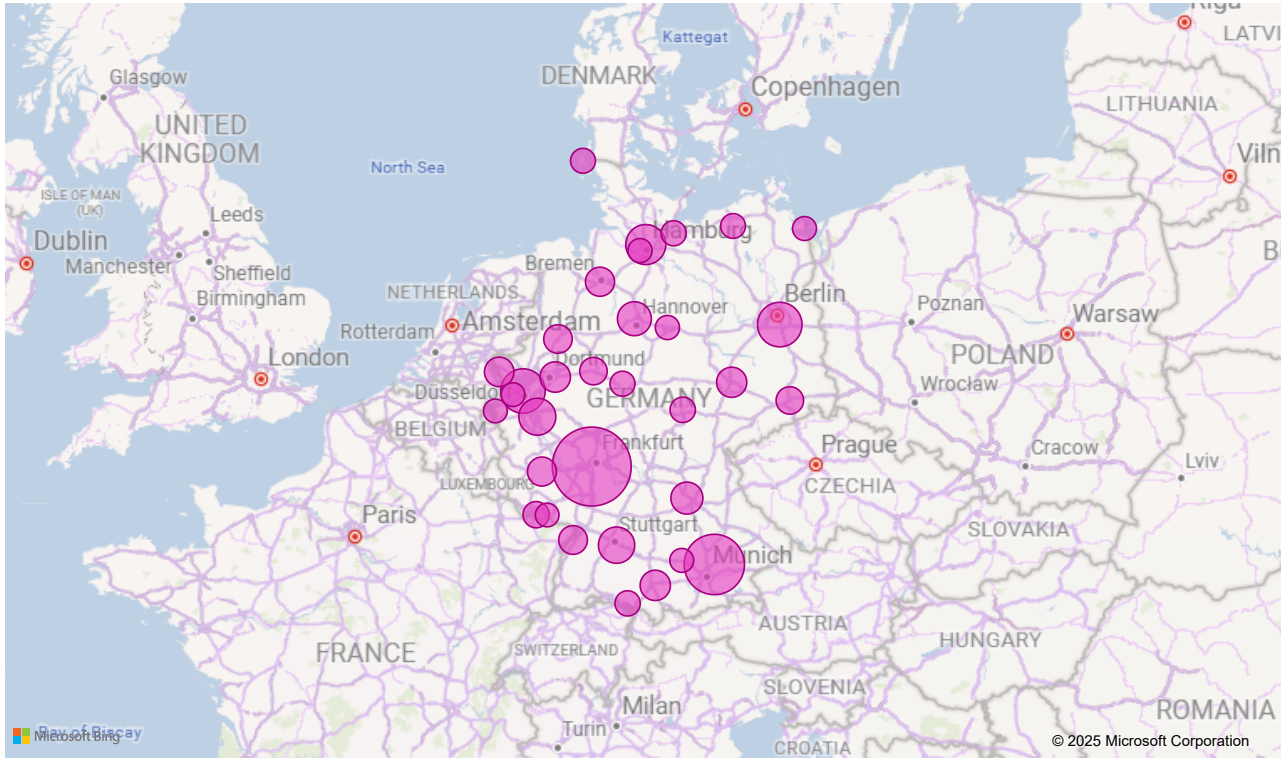
### 10 largest markets by seat capacity ranked by lowest Emissions per ASK - last 12 months

Destination Country	Emissions per ASK (g)	Total CO2 (Tonnes)
Greece	57.95	621,948
Spain and Canary Islands	58.58	1,804,922
Turkey	58.85	1,543,799
United Kingdom, UK	70.96	453,069
Italy	73.10	543,430
United States	77.53	4,047,581
France	80.25	258,091
Austria	84.16	199,779
Switzerland	90.06	165,038
Germany	97.13	756,603

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

Carrier Name	Emissions per ASK (g)	Total CO2 (Tonnes)
Lufthansa	78.10	6,796,207
Condor Flugdienst	57.99	1,169,346
United Airlines	74.80	963,808
Eurowings	63.77	838,344
Discover Airlines	70.98	693,815
SunExpress	54.63	561,844
Emirates	76.17	539,099
Malta Air	59.08	492,474
Air China	65.16	432,339
Singapore Airlines	92.88	409,341

### Largest origin airports by total emissions - last 12 months



### Emissions by airport - last 12 months

Origin Name	Total CO2 (Tonnes)	Emissions per ASK (g)
Frankfurt International Airport	9,952,373	74.81
Munich - Franz Josef Strauss Airport	4,391,871	71.05
Berlin - Brandenburg Airport	1,420,179	63.50
Dusseldorf Airport	1,400,190	63.88
Hamburg Airport	872,046	64.90
Cologne Bonn Airport	575,700	60.98
Stuttgart Airport	518,968	65.55
Hanover Airport	342,944	62.60
Nuremberg Airport	225,932	63.33
Dortmund Airport	148,210	58.64

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For decades RDC have been monitoring and modelling the CO<sub>2</sub> 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<sub>2</sub> output from flying. For accuracy on CO<sub>2</sub> emissions data, our accredited and independent methodology can't be beaten.

To find out more about how RDC can deliver CO<sub>2</sub> emissions data for your business services, get in touch at [rdcaviation.com/contact](https://rdcaviation.com/contact)

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