



**RDC**  
rdcaviation.com

# Aviation Emissions Report

March 2025





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

## 25 largest markets by total emissions

Date	March 2019	March 2024	March 2025
Origin Country	Total CO2 (Tonnes)	Total CO2 (Tonnes)	Total CO2 (Tonnes)
United States	15,343,789	14,692,129	15,243,794
China	7,606,990	7,824,147	7,759,849
United Kingdom, UK	2,667,284	2,445,992	2,496,779
Japan	2,334,102	2,086,799	2,219,543
United Arab Emirates	2,014,233	1,978,564	2,132,128
India	1,858,985	1,872,227	2,028,510
Spain and Canary Islands	1,466,699	1,582,219	1,712,002
Australia	1,740,039	1,620,588	1,645,974
Germany	1,929,967	1,589,218	1,631,990
Canada	1,522,761	1,368,586	1,457,248
France	1,514,255	1,360,409	1,406,657
Brazil	1,330,816	1,209,136	1,330,795
Turkey	974,832	1,174,491	1,207,338
Russian Federation	1,420,100	1,110,448	1,183,342
Mexico	1,047,602	1,084,992	1,162,930
Thailand	1,375,996	1,032,429	1,152,931
Republic of Korea	1,134,544	1,022,393	1,061,812
Singapore	1,031,173	946,534	998,454
Italy	940,369	918,132	997,504
Indonesia	1,087,223	920,352	915,209
Qatar	803,151	909,979	893,665
Saudi Arabia	727,599	830,808	864,486
Hong Kong	1,076,426	650,351	749,813
Netherlands	751,742	676,518	698,323
Vietnam	584,121	554,632	631,513

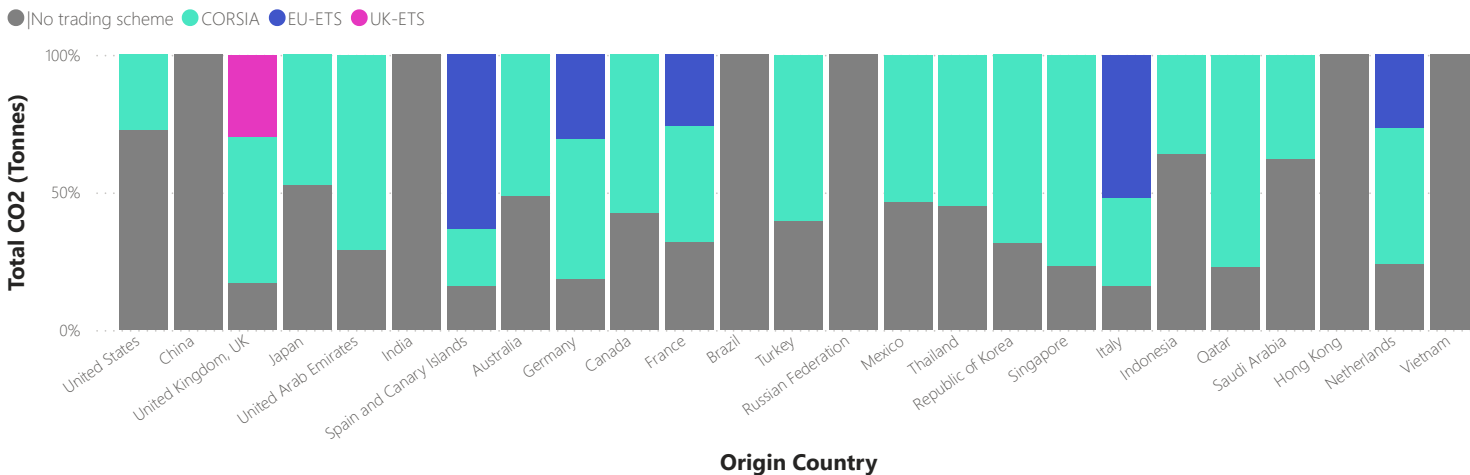
## Change in Emissions - Current month vs prior years

This year vs last year	This year vs 2019
4%	-1%
-1%	2%
2%	-6%
6%	-5%
8%	6%
8%	9%
8%	17%
2%	-5%
3%	-15%
6%	-4%
3%	-7%
10%	-0%
3%	24%
7%	-17%
7%	11%
12%	-16%
4%	-6%
5%	-3%
9%	6%
-1%	-16%
-2%	11%
4%	19%
15%	-30%
3%	-7%
14%	8%

## Percent of Emissions covered by Compliance Programmes

March 2019 % covered	March 2024 % covered	March 2025 % covered
-	28.09%	27.38%
-	-	-
28.50%	83.95%	82.97%
-	46.98%	47.25%
-	70.17%	70.74%
-	-	-
61.96%	84.85%	83.87%
-	50.05%	51.37%
32.53%	80.51%	81.31%
-	59.44%	57.47%
25.84%	68.78%	67.99%
-	-	-
-	60.93%	60.14%
-	-	-
-	56.55%	53.29%
-	53.92%	54.79%
-	67.17%	68.46%
-	75.42%	76.66%
51.00%	84.14%	83.88%
-	35.24%	35.83%
-	76.72%	76.86%
-	40.43%	37.64%
-	-	-
23.89%	76.30%	76.00%
-	-	-

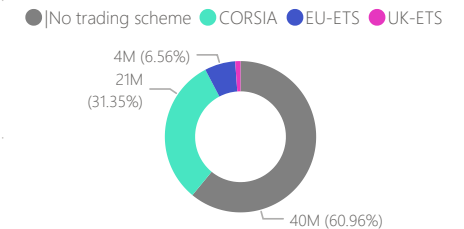
## 25 largest markets - emissions by Compliance Programme (current month)



## Global emissions (tonnes)

66M

## Emissions by compliance programme





# Emissions analysis for largest markets - YTD to Mar 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	42,666,003	41,256,114	41,881,345
China	22,794,041	23,943,338	24,102,557
United Kingdom, UK	7,604,872	6,904,188	7,057,759
Japan	6,709,289	6,060,061	6,385,422
United Arab Emirates	5,879,749	5,830,421	6,228,020
India	5,587,749	5,457,355	5,870,090
Australia	5,259,517	4,933,145	5,014,280
Spain and Canary Islands	4,128,081	4,380,622	4,688,265
Germany	5,459,350	4,411,997	4,440,098
Canada	4,369,652	3,940,615	4,159,985
Brazil	4,103,261	3,692,799	4,010,684
France	4,369,147	3,827,187	3,978,948
Turkey	2,793,094	3,415,957	3,545,098
Thailand	4,070,780	3,077,537	3,503,189
Russian Federation	4,116,049	3,244,710	3,413,001
Mexico	2,986,293	3,165,782	3,296,424
Republic of Korea	3,344,153	3,066,350	3,174,207
Singapore	3,022,758	2,790,548	2,953,295
Indonesia	3,245,214	2,855,142	2,846,416
Italy	2,667,150	2,517,817	2,702,210
Qatar	2,337,858	2,670,571	2,643,804
Saudi Arabia	2,127,167	2,452,130	2,592,406
Hong Kong	3,186,840	1,928,010	2,185,144
Netherlands	2,141,640	1,957,811	1,993,581
Vietnam	1,668,176	1,711,774	1,904,842

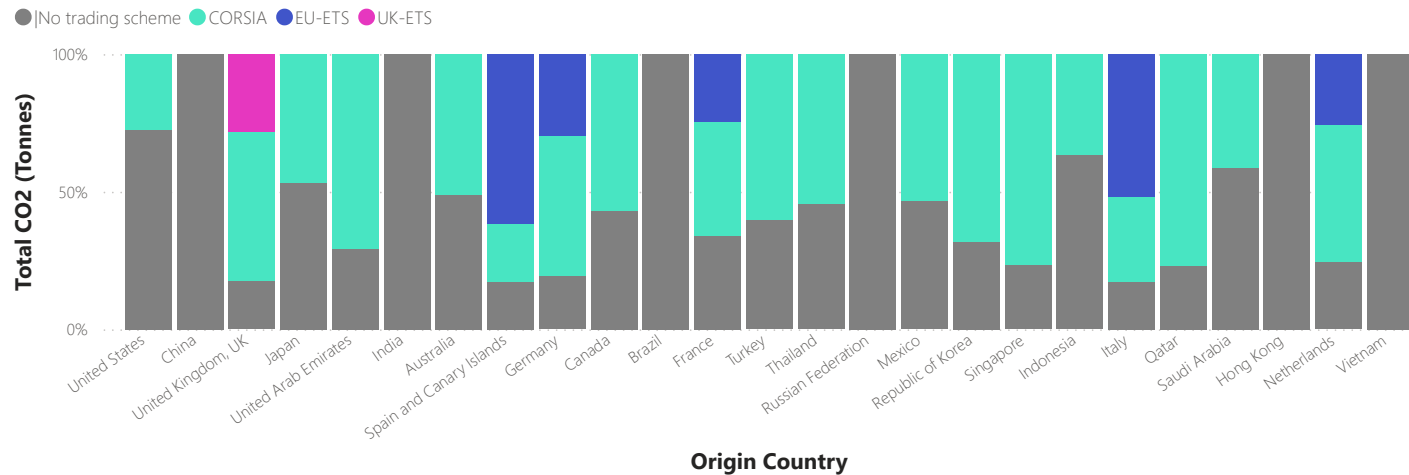
## Change in Emissions - Current month vs prior years

This YTD vs Last YTD	This YTD vs YTD 2019
2%	-2%
1%	6%
2%	-7%
5%	-5%
7%	6%
8%	5%
2%	-5%
7%	14%
1%	-19%
6%	-5%
9%	-2%
4%	-9%
4%	27%
14%	-14%
5%	-17%
4%	10%
4%	-5%
6%	-2%
-0%	-12%
7%	1%
-1%	13%
6%	22%
13%	-31%
2%	-7%
11%	14%

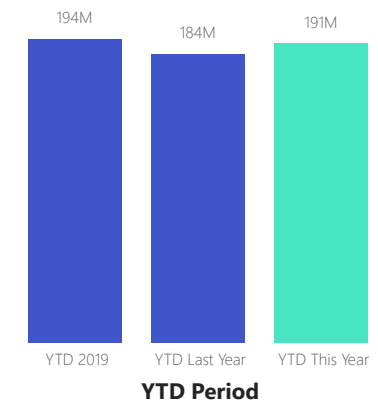
## Percent of Emissions covered by Compliance Programmes

YTD 2019	YTD Last Year	YTD This Year
Trading scheme %	Trading scheme %	Trading scheme %
-	28.16%	27.56%
-	-	-
27.61%	83.11%	82.20%
-	46.66%	46.82%
-	70.06%	70.71%
-	-	-
-	49.75%	51.16%
61.20%	83.79%	82.81%
32.32%	80.05%	80.51%
-	58.96%	56.72%
-	-	-
24.84%	66.85%	66.02%
-	60.15%	60.16%
-	54.02%	54.24%
-	-	-
-	55.84%	53.23%
-	66.88%	68.27%
-	75.24%	76.46%
-	34.87%	36.46%
51.20%	82.96%	82.74%
-	76.23%	77.00%
-	42.47%	41.35%
-	-	-
23.20%	75.83%	75.29%
-	-	-

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



## Global emissions (tonnes)





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

## Top 25 European Carriers

Carrier Name	CARE Index
Wizz Air UK	7.7
Smartwings Slovakia	7.6
Marabu Airlines	7.5
PLAY	7.5
Smartwings Hungary	7.5
French Bee	7.2
TUIfly Nordic	7.1
TUI Airways	7.1
Wizz Air	7.0
Sunclass Airlines	7.0
La Compagnie	7.0
Jet2	7.0
Iberojet	7.0
Enter Air	6.9
Wizz Air Malta	6.9
Buzz	6.8
SmartWings	6.8
Hello Jets	6.8
Transavia	6.8
Malta Air	6.7
Norse Atlantic Airways UK	6.7
Smartwings Poland	6.7
Freebird Airlines	6.7
Ryanair	6.7
TUIfly Deutschland	6.6
World2Fly	6.6

## Top 25 North American Carriers

Carrier Name	CARE Index
Flair Airlines	7.1
Sunwing Airlines	6.8
Frontier Airlines	6.8
Air Transat	6.8
Porter Airlines Canada	6.6
Spirit Airlines	6.5
Volaris	6.4
Sun Country	6.1
Allegiant Air	6.1
Air Canada	6.0
WestJet	6.0
Breeze Airways	5.8
Air Canada Rouge	5.7
Delta Air Lines	5.7
Alaska Airlines	5.7
Mexicana	5.6
JetBlue	5.6
American Airlines	5.6
VivaAerobus	5.5
United Airlines	5.5
Aeromexico	5.5
Avelo Air	5.5
Air Saint-Pierre	5.3
Southwest Airlines	5.2
ConocoPhillips Alaska Inc	5.1
Scenic Airlines	4.9

## Top 25 Asian Carriers

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

## Top 25 RoW Carriers

Carrier Name	CARE Index
Arajat	7.2
Wizz Air Abu Dhabi	6.9
Sky Airline	6.6
Flynas	6.6
flydubai	6.5
Aircalin	6.5
Red Sea Airlines	6.4
SalamAir	6.4
Air Tahiti Nui	6.3
Sky Airline Peru	6.3
Fiji Airways	6.3
UR Airlines	6.3
EI AI	6.2
Syrian Air	6.1
Jazeera Airways	6.0
Arkia Israel Airlines	6.0
Jetstar Airways	6.0
Airmax Cargo	6.0
Copa Airlines	6.0
Nouvelair Tunisie	5.9
Air Arabia	5.8
Nile Air	5.8
Flybondi	5.8
LATAM Paraguay	5.7
Nesma Airlines	5.7
flyadeal	5.7

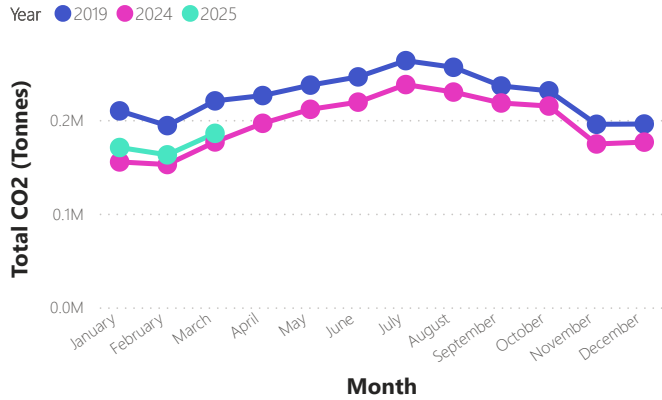
The CARE Index is a measure of airline route sustainability, based around our emissions methodology and various other factors, that has been developed to give business and consumers the best information on which to make their purchasing decisions - particularly when it comes to making more environmentally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

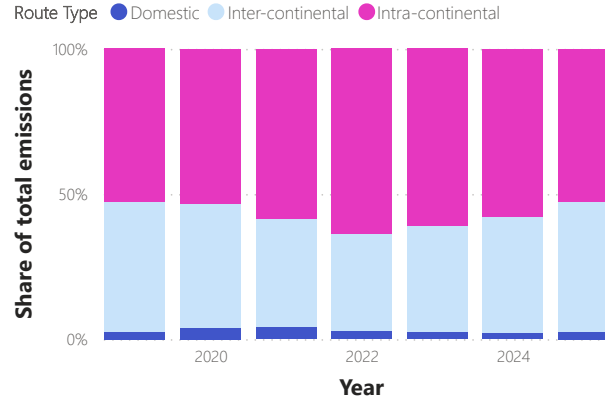
The CARE index has been designed to be a force for change, giving consumers better insight into the environmental impact of their chosen airline that will also help to shape airline sustainability strategies.

# This month's focus country: Denmark

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



### CO2 by Year and Route Type



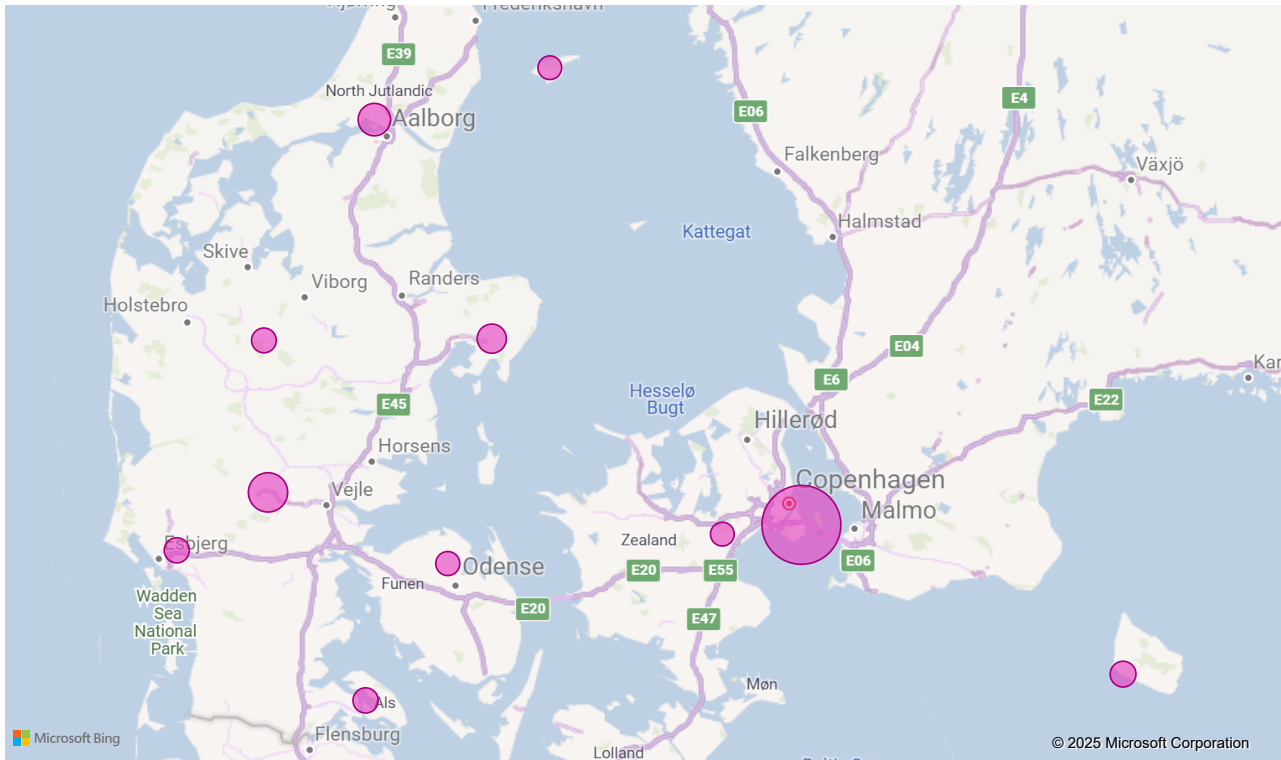
### 10 largest markets by seat capacity ranked by lowest Emissions per ASK - last 12 months

Destination Country	Emissions per ASK (g)	Total CO2 (Tonnes)
Spain and Canary Islands	52.47	218,799
Italy	58.57	98,701
France	63.40	73,881
United Kingdom, UK	65.08	139,134
Sweden	74.65	43,453
Norway	79.70	91,479
Poland	81.57	50,649
Germany	82.50	89,722
Netherlands	86.21	66,006
Denmark	112.31	53,097

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

Carrier Name	Emissions per ASK (g)	Total CO2 (Tonnes)
SAS	64.99	751,514
Norwegian Air International	60.94	165,788
Malta Air	62.87	113,445
Norwegian Air Shuttle	56.33	89,544
Thai	77.64	89,400
Singapore Airlines	79.64	71,470
CityJet	107.60	61,026
easyJet	69.00	57,702
Ryanair	58.10	57,357
Emirates	74.65	54,298

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



### Emissions by airport - last 12 months

Origin Name	Total CO2 (Tonnes)	Emissions per ASK (g)
Copenhagen Airport	2,142,941	65.16
Billund Airport	171,478	67.78
Aalborg Airport	53,664	78.23
Aarhus Airport	20,901	65.49
Bornholm Airport	3,124	98.31
Sonderborg Airport	1,668	91.68
Esbjerg Airport	1,496	139.57
Karup Airport	840	186.66
Odense - Beldringe Airport	123	59.40
Copenhagen - Roskilde Airport	41	137.26
Laeso	38	138.73

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<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)

#### Confidentiality

This document and any analysis, opinions, results, evaluations or recommendations herein or accompanying it (the "Report") and its contents are confidential.

#### Limitations

This document and any analysis, opinions, results, evaluations or recommendations herein or accompanying it (together, the "Report"), was prepared by RDC Aviation Limited (RDC) for the personal use of the recipient. Any statements made in the Report that are not historical fact are based on data and information provided by others or calculated by RDC. RDC has not verified

the accuracy of any such data and information unless otherwise specified by RDC in writing. This document may contain forward-looking statements regarding future events including, but not limited to 'forecast', 'expect', 'believe', 'estimate', 'anticipate', 'will', 'could', 'may' or 'might' and the negative of such terms or similar expressions. By their nature, forward looking statements involve risks and uncertainties, because they relate to events and depend on circumstances that may or may not occur in the future and that are beyond the control of RDC. Forward-looking statements are not guarantees of future

performance. In particular no allowance has been made for changes in government policy or regulation; economic performance; price; taxation; company failure; strategic change; ownership change; or other external factors that could cause actual results to differ materially from those shown in the Report. The information contained in the Report was produced on the date of issue and is based on the conditions encountered and information available at that time. RDC make no representations, warranties or guarantees, whether express or implied, in relation to the base data, forecasts, estimates and any projected outcomes in

the Report.

Unless otherwise specified in writing, no reliance may be placed on this Report.

#### Copyright

All rights reserved. No part of this work may be reproduced, stored in a retrieval system of any nature, or transmitted, in any form or by any means including photocopying and recording, without the prior written permission of RDC, the copyright owner. If any unauthorised acts are carried out in relation to this copyright work, a civil claim for damages may be made and/or a criminal prosecution may result. ©2023/24 RDC Aviation Ltd

**VISIT RDCAVIATION.COM**

