RDC
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# Aviation Emissions Report

January 2024

# Emissions analysis for largest markets - January 24 vs prior years

## 25 largest markets by total emissions

| Date<br>Origin Country | January 2019<br>Total CO2 (Tonnes) | January 2023<br>Total CO2 (Tonnes) | January 2024<br>Total CO2 (Tonnes) |
|---|---|---|---|
| United States | 14,335,024 | 13,048,591 | 13,700,290 |
| China | 7,748,171 | 6,284,520 | 7,908,647 |
| United Kingdom, UK | 2,558,152 | 2,060,493 | 2,261,875 |
| Japan | 2,276,486 | 1,633,802 | 2,044,089 |
| United Arab Emirates | 2,043,233 | 1,708,642 | 1,976,838 |
| India | 1,966,648 | 1,813,815 | 1,860,717 |
| Australia | 1,880,209 | 1,380,295 | 1,732,761 |
| Germany | 1,834,868 | 1,272,092 | 1,433,273 |
| Spain and Canary Islands | 1,389,752 | 1,267,583 | 1,419,073 |
| Canada | 1,470,052 | 1,189,871 | 1,309,920 |
| Brazil | 1,488,293 | 1,273,608 | 1,305,498 |
| France | 1,495,911 | 1,206,840 | 1,252,189 |
| Turkey | 954,749 | 1,044,370 | 1,159,125 |
| Russian Federation | 1,439,908 | 988,277 | 1,122,116 |
| Mexico | 1,025,962 | 1,077,896 | 1,087,580 |
| Republic of Korea | 1,154,065 | 841,820 | 1,049,685 |
| Thailand | 1,395,670 | 829,031 | 1,030,941 |
| Indonesia | 1,146,164 | 899,363 | 1,020,495 |
| Singapore | 1,041,352 | 789,721 | 942,702 |
| Qatar | 802,540 | 772,359 | 910,878 |
| Saudi Arabia | 742,494 | 739,543 | 831,017 |
| Italy | 906,219 | 695,148 | 822,547 |
| Netherlands | 725,934 | 568,036 | 649,998 |
| Hong Kong | 1,096,588 | 330,938 | 636,092 |
| Vietnam | 554,275 | 569,738 | 575,842 |

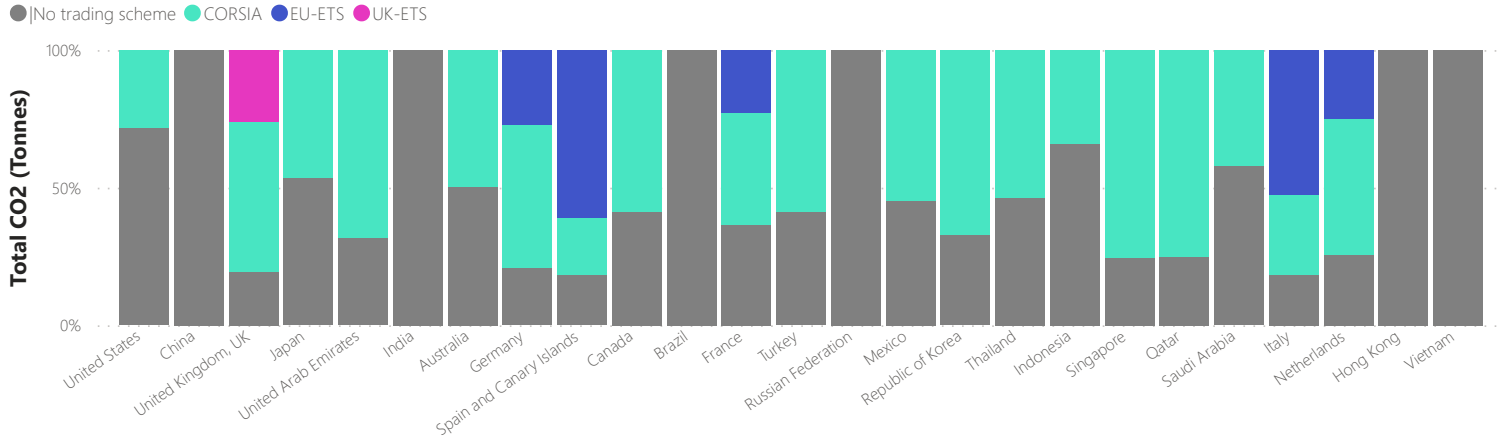
## Change in Emissions - Current month vs prior years

| This year vs last year | This year vs 2019 |
|---|---|
| 5% | -4% |
| 26% | 2% |
| 10% | -12% |
| 25% | -10% |
| 16% | -3% |
| 3% | -5% |
| 26% | -8% |
| 13% | -22% |
| 12% | 2% |
| 10% | -11% |
| 3% | -12% |
| 4% | -16% |
| 11% | 21% |
| 14% | -22% |
| 1% | 6% |
| 25% | -9% |
| 24% | -26% |
| 13% | -11% |
| 19% | -9% |
| 18% | 13% |
| 12% | 12% |
| 18% | -9% |
| 14% | -10% |
| 92% | -42% |
| 1% | 4% |

## Percent of Emissions covered by Compliance Programmes

| January 2019<br>% covered | January 2023<br>% covered | January 2024<br>% covered |
|---|---|---|
| - | 27.03% | 28.15% |
| - | - | - |
| 26.35% | 84.00% | 80.55% |
| - | 42.56% | 46.35% |
| - | 69.16% | 68.07% |
| - | - | - |
| - | 51.40% | 49.64% |
| 31.56% | 83.23% | 78.94% |
| 60.25% | 83.77% | 81.60% |
| - | 56.28% | 58.72% |
| - | - | - |
| 23.77% | 66.74% | 63.45% |
| - | 57.61% | 58.66% |
| - | - | - |
| - | 50.12% | 54.80% |
| - | 70.98% | 66.95% |
| - | 57.06% | 53.70% |
| - | 33.60% | 34.05% |
| - | 83.83% | 75.53% |
| - | 76.59% | 75.07% |
| - | 44.88% | 41.94% |
| 50.35% | 88.52% | 81.77% |
| 22.37% | 76.69% | 74.45% |
| - | - | - |
| - | - | - |

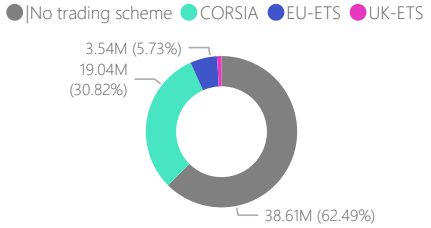
## 25 largest markets - emissions by Compliance Programme (current month)




## Global emissions (tonnes)

**61.79M**

## Emissions by compliance programme

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# Emissions analysis for largest markets - YTD to Jan 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 | 14,335,024 | 13,048,591 | 13,700,290 |
| China | 7,748,171 | 6,284,520 | 7,908,647 |
| United Kingdom, UK | 2,558,152 | 2,060,493 | 2,261,875 |
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| Vietnam | 554,275 | 569,738 | 575,842 |

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| - | - | - |
| 26.35% | 84.00% | 80.55% |
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| - | 51.40% | 49.64% |
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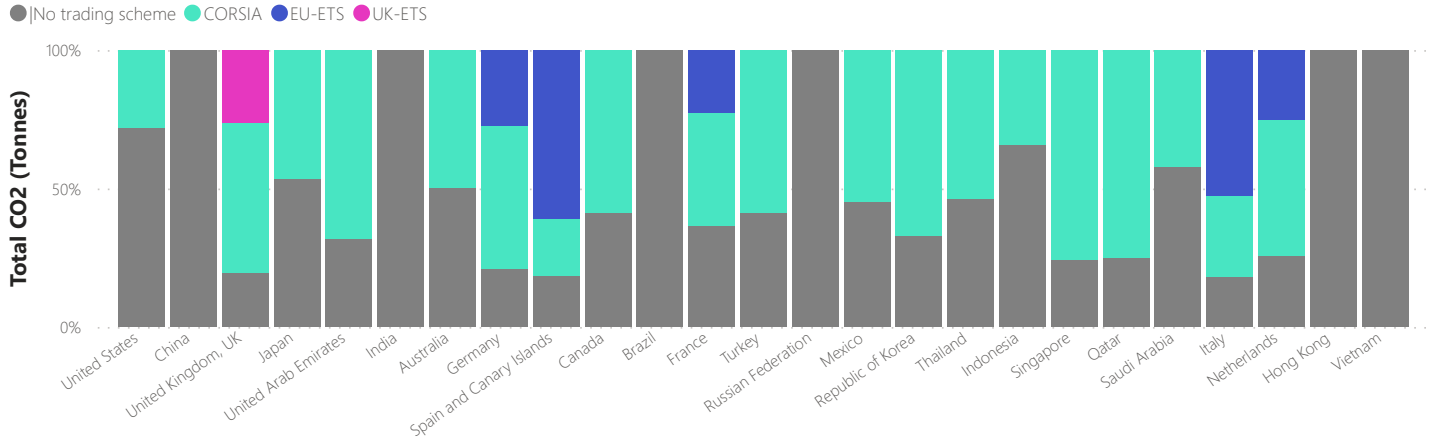
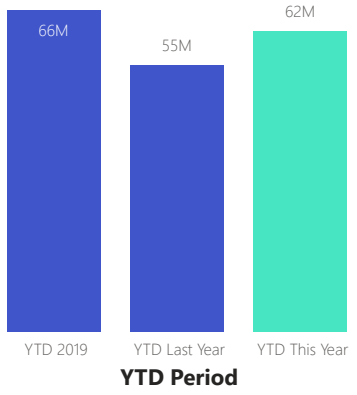
| 50.35% | 88.52% | 81.77% |
| 22.37% | 76.69% | 74.45% |
| - | - | - |
| - | - | - |

## 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 24

## Top 25 European Carriers

| Carrier Name | CARE Index |
|---|---|
| Marabu Airlines | 7.5 |
| PLAY | 7.5 |
| Wizz Air UK | 7.5 |
| Smartwings Slovakia | 7.4 |
| Smartwings Hungary | 7.4 |
| Iberojet | 7.2 |
| French Bee | 7.2 |
| TUIfly Nordic | 7.2 |
| Norse Atlantic Airways | 7.1 |
| La Compagnie | 7.0 |
| TUI Airways | 7.0 |
| Sunclass Airlines | 7.0 |
| Enter Air | 7.0 |
| Jet2 | 6.9 |
| Wizz Air | 6.9 |
| Southwind Airlines | 6.8 |
| Norse Atlantic Airways UK | 6.8 |
| Wizz Air Malta | 6.8 |
| Smartwings Poland | 6.8 |
| Buzz | 6.8 |
| Malta Air | 6.7 |
| Sundair | 6.7 |
| SmartWings | 6.7 |
| Freebird Airlines | 6.7 |

## Top 25 North American Carriers

| Carrier Name | CARE Index |
|---|---|
| Lynx Air | 7.3 |
| Flair Airlines | 7.2 |
| Volaris | 7.0 |
| Sunwing Airlines | 6.8 |
| Frontier Airlines | 6.8 |
| Air Transat | 6.8 |
| Canada Jetlines | 6.4 |
| Spirit Airlines | 6.3 |
| Porter Airlines Canada | 6.3 |
| WestJet | 6.0 |
| Allegiant Air | 6.0 |
| Sun Country | 6.0 |
| Airbahn | 5.8 |
| Aeromexico | 5.8 |
| Delta Air Lines | 5.7 |
| VivaAerobus | 5.6 |
| Alaska Airlines | 5.6 |
| American Airlines | 5.5 |
| Breeze Airways | 5.5 |
| Avelo Air | 5.5 |
| United Airlines | 5.4 |
| Air Saint-Pierre | 5.3 |
| Southwest Airlines | 5.3 |
| Air Canada | 5.2 |

## Top 25 Asian Carriers

| Carrier Name | CARE Index |
|---|---|
| Thai AirAsia X | 6.8 |
| AirAsia X | 6.7 |
| ZIPAIR Tokyo | 6.7 |
| Scoot | 6.7 |
| STARLUX Airlines | 6.4 |
| Akasa Air | 6.4 |
| My Freighter | 6.3 |
| T'Way Air | 6.3 |
| Air Premia | 6.3 |
| Ural Airlines | 6.2 |
| airblue | 6.2 |
| Philippine Airlines | 6.2 |
| Nordwind Airlines | 6.2 |
| Tigerair Taiwan | 6.2 |
| NordStar Airlines | 6.1 |
| Hong Kong Express | 6.1 |
| Himalaya Airlines | 6.1 |
| Greater Bay Airlines | 6.0 |
| Chongqing Airlines | 6.0 |
| IndiGo | 6.0 |
| Suparna Airlines | 6.0 |
| Spring Airlines | 5.9 |
| Serene Air | 5.9 |
| Longjiang Airlines | 5.9 |

## Top 25 RoW Carriers

| Carrier Name | CARE Index |
|---|---|
| Bonza Airline | 6.8 |
| Arajet | 6.8 |
| Wizz Air Abu Dhabi | 6.7 |
| Flynas | 6.5 |
| flydubai | 6.5 |
| UR Airlines | 6.4 |
| Aircalin | 6.4 |
| Air Tahiti Nui | 6.4 |
| SalamAir | 6.4 |
| TACV | 6.3 |
| Syrian Air | 6.2 |
| El Al | 6.1 |
| Fly All Ways | 6.1 |
| LATAM Paraquay | 6.1 |
| Airmax Cargo | 6.0 |
| Copa Airlines | 5.9 |
| Jetstar Airways | 5.9 |
| JetSmart Airlines S.A. | 5.9 |
| FlyEgypt | 5.9 |
| Nouvelair Tunisie | 5.9 |
| Jazeera Airways | 5.8 |
| Medsky Airways | 5.8 |
| Flybondi | 5.8 |
| JetSmart | 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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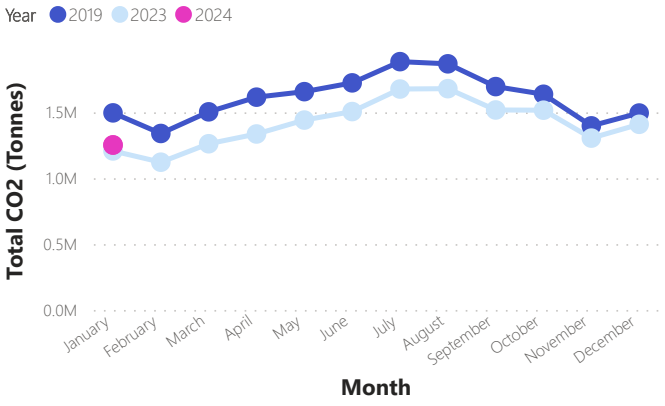
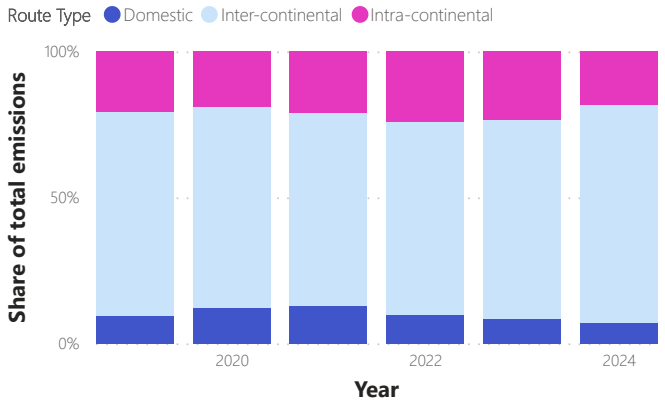
# This month's focus country: France

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



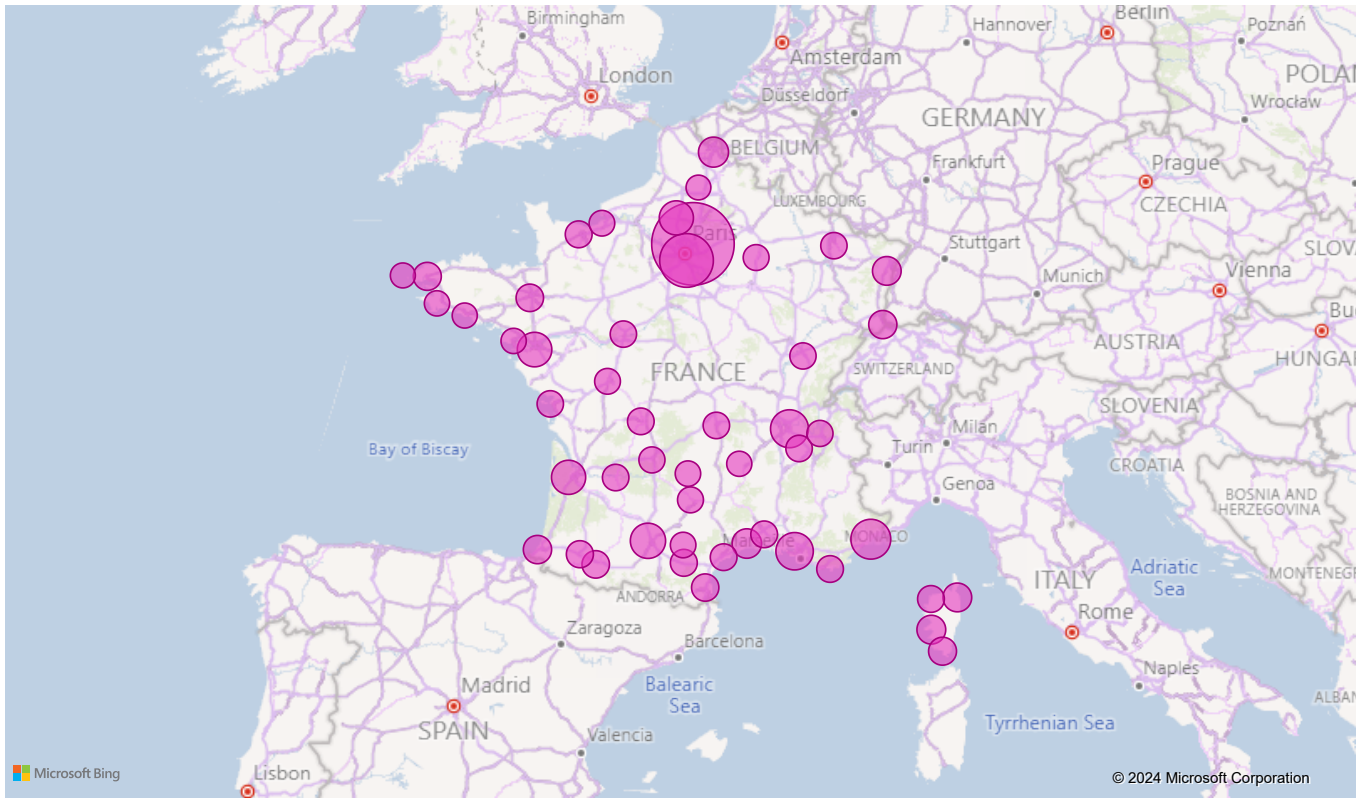

### CO2 by Year and Route Type




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

| Destination Country | Emissions per ASK (g) | Total CO2 (Tonnes) |
|---|---|---|
| Morocco | 60.84 | 578,298 |
| Portugal | 63.67 | 425,550 |
| Tunisia | 65.19 | 246,427 |
| United States | 66.63 | 2,877,979 |
| Spain and Canary Islands | 67.30 | 649,164 |
| Italy | 69.18 | 507,030 |
| Algeria | 73.01 | 318,919 |
| United Kingdom, UK | 73.65 | 416,962 |
| Germany | 80.80 | 254,680 |
| France | 82.61 | 1,401,110 |

### 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) |
|---|---|---|
| Air France | 67.65 | 6,297,791 |
| easyJet | 71.65 | 878,018 |
| Transavia France | 60.90 | 805,050 |
| Delta Air Lines | 69.38 | 645,907 |
| Corsair | 56.37 | 360,277 |
| Emirates | 77.89 | 346,898 |
| Ryanair | 64.18 | 342,649 |
| Volotea | 71.51 | 338,396 |
| United Airlines | 83.58 | 308,707 |
| Hop! | 120.82 | 307,780 |

### 10 most efficient routes according to RDC's CARE Index - current month

| Carrier Name | Aircraft | Origin | Destination | CARE Index |
|---|---|---|---|---|
| Wizz Air | A321neo | BVA | LCA | 7.9 |
| Malta Air | B737 MAX 8 | BVA | HEL | 7.8 |
| Malta Air | B737 MAX 8 | BVA | IAS | 7.8 |
| Malta Air | B737 MAX 8 | BVA | OTP | 7.8 |
| Malta Air | B737 MAX 8 | BVA | SOF | 7.8 |
| Malta Air | B737 MAX 8 | BVA | ARN | 7.7 |
| Sky Express (Greece) | A321neo | CDG | ATH | 7.7 |
| Malta Air | B737 MAX 8 | BVA | CLJ | 7.7 |
| Vueling | A321neo | ORY | FLIE | 7.7 |

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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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