# atmosfair Airline Index 2024

# Table of Contents

# Overall Ranking

(Low-Cost Carriers see page 5)

*EP: efficiency points (maximum=100), **EC: efficiency class (A – G)

| Overall ranking | | | | | | Distance Rating | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Short haul <800 km | | Medium haul 800 - 3800 km | | Long haul >3800 km | |
| # | Airline | Type | Country | EP* | EC** | EP | # | EP | # | EP | # |
| 1 | TUI Airlines Nederland | Charter | Netherlands | 85,8 | B | 68,3 | 39 | 81,2 | 5 | 90,0 | 2 |
| 2 | Starlux Airlines | NetCarrier | Taiwan | 85,3 | B | 94,2 | 1 | 83,6 | 3 | 90,3 | 1 |
| 3 | Biman Bangladesh Airlines | NetCarrier | Bangladesh | 83,5 | C | 60,0 | 72 | 80,3 | 8 | 84,3 | 6 |
| 4 | LATAM Airlines | NetCarrier | Chile | 82,3 | C | 78,5 | 10 | 80,1 | 9 | 87,1 | 4 |
| 5 | Vietnam Airlines | NetCarrier | Viet Nam | 80,3 | C | 68,0 | 40 | 79,7 | 11 | 80,4 | 12 |
| 6 | Ethiopian Airlines | NetCarrier | Ethiopia | 80,1 | C | 78,7 | 9 | 80,0 | 10 | 80,2 | 14 |
| 7 | Southwind Airlines | NetCarrier | Türkiye | 80,0 | C | 79,3 | 8 | 80,3 | 7 | 77,3 | 25 |
| 8 | TUI Airways | Charter | United Kingdom | 79,5 | C | 78,1 | 11 | 77,4 | 17 | 83,0 | 8 |
| 9 | Caribbean Airlines | NetCarrier | Trinidad and Tobago | 79,4 | C | 87,4 | 2 | 79,0 | 14 | 78,1 | 22 |
| 10 | Etihad Airways | NetCarrier | United Arab Emirates | 78,5 | C | 48,0 | 101 | 76,3 | 21 | 78,9 | 18 |
| 10 | Air Transat | Charter | Canada | 78,5 | C | 74,7 | 18 | 79,1 | 13 | 78,3 | 21 |
| 12 | Iberia | NetCarrier | Spain | 78,3 | C | 59,6 | 73 | 74,6 | 32 | 80,6 | 11 |
| 13 | Air Caraïbes | NetCarrier | Guadeloupe | 77,4 | C | 67,7 | 43 | 71,8 | 45 | 77,4 | 24 |
| 13 | TUIfly | Charter | Germany | 77,4 | C | 72,5 | 24 | 77,5 | 16 | 76,2 | 31 |
| 15 | S7 Airlines | NetCarrier | Russian Federation | 77,3 | C | 65,3 | 53 | 74,3 | 35 | 83,5 | 7 |
| 16 | Aeroméxico | NetCarrier | Mexico | 77,2 | C | 76,0 | 13 | 74,9 | 28 | 80,3 | 13 |
| 16 | Air Mauritius | NetCarrier | Mauritius | 77,2 | C | 37,4 | 112 | 79,6 | 12 | 77,2 | 26 |
| 18 | China Airlines | NetCarrier | Chinese Taipei | 76,6 | C | 75,5 | 16 | 80,5 | 6 | 73,3 | 40 |
| 18 | Air Europa Líneas Aéreas | NetCarrier | Spain | 76,6 | C | 72,6 | 23 | 75,9 | 22 | 77,4 | 23 |
| 20 | Hainan Airlines | NetCarrier | China | 76,4 | C | 80,3 | 7 | 76,6 | 18 | 73,0 | 42 |
| 21 | Ural Airlines | NetCarrier | Russian Federation | 75,9 | C | 69,4 | 34 | 74,6 | 31 | 81,9 | 9 |
| 22 | Transavia France | Charter | France | 75,8 | C | 75,8 | 14 | 75,7 | 23 | 77,0 | 27 |
| 23 | El Al Israel Airlines | NetCarrier | Israel | 75,6 | C | 48,4 | 100 | 74,3 | 36 | 76,1 | 32 |
| 24 | XiamenAir | NetCarrier | China | 75,5 | C | 65,0 | 54 | 73,6 | 38 | 78,7 | 19 |
| 25 | Air New Zealand | NetCarrier | New Zealand | 75,4 | C | 70,7 | 30 | 85,4 | 2 | 69,9 | 54 |
| 26 | Avianca | NetCarrier | Colombia | 75,3 | C | 68,4 | 38 | 75,2 | 27 | 79,5 | 17 |
| 26 | Jet2.com | Charter | United Kingdom | 75,3 | C | 80,5 | 6 | 75,3 | 26 | 74,7 | 35 |
| 26 | Nordwind Airlines | Charter | Russian Federation | 75,3 | C | 72,9 | 22 | 75,7 | 24 | 73,1 | 41 |
| 29 | SCAT Airlines | NetCarrier | Kazakhstan | 74,2 | D | 59,0 | 76 | 74,8 | 29 | 79,8 | 16 |
| 30 | TUIfly Belgium | Charter | Belgium | 73,8 | D | 63,5 | 58 | 70,5 | 55 | 85,1 | 5 |
| 31 | Juneyao Airlines | NetCarrier | China | 73,4 | D | 70,9 | 29 | 72,9 | 40 | 81,1 | 10 |
| 31 | Azores Airlines | NetCarrier | Portugal | 73,4 | D | 58,7 | 78 | 74,6 | 33 | 71,3 | 47 |
| 33 | Copa Airlines | NetCarrier | Panama | 73,3 | D | 67,5 | 44 | 70,3 | 56 | 74,5 | 37 |
| 34 | Air Canada | NetCarrier | Canada | 73,1 | D | 71,6 | 27 | 70,9 | 51 | 74,5 | 36 |
| 35 | Sunexpress | Charter | Turkey | 73,0 | D | 55,1 | 84 | 73,3 | 39 | -- | -- |
| 36 | Condor | Charter | Germany | 72,4 | D | 53,9 | 87 | 76,3 | 20 | 68,3 | 59 |
| 36 | Air Cairo | NetCarrier | Egypt | 72,4 | D | 60,8 | 70 | 72,4 | 42 | 76,8 | 28 |
| 38 | KLM Royal Dutch Airlines | NetCarrier | Netherlands | 72,0 | D | 52,3 | 91 | 64,0 | 84 | 76,4 | 30 |
| 39 | Uzbekistan Airways | NetCarrier | Uzbekistan | 71,7 | D | 69,0 | 37 | 74,7 | 30 | 62,7 | 78 |
| 40 | TAP Air Portugal | NetCarrier | Portugal | 71,6 | D | 71,7 | 26 | 81,4 | 4 | 65,9 | 68 |
| 40 | Beijing Capital Airlines | NetCarrier | China | 71,6 | D | 69,2 | 35 | 72,5 | 41 | 60,0 | 87 |
| 42 | Utair Aviation | NetCarrier | Russian Federation | 71,4 | D | 75,7 | 15 | 71,3 | 47 | 76,0 | 33 |
| 43 | Egyptair | NetCarrier | Egypt | 71,1 | D | 71,9 | 25 | 70,2 | 57 | 72,5 | 43 |

| # | Airline | Type | Country | EP* | EC** | Short haul <800 km EP | Short haul <800 km # | Medium haul 800 - 3800 km EP | Medium haul 800 - 3800 km # | Long haul >3800 km EP | Long haul >3800 km # |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | China Southern Airlines | NetCarrier | China | 71,0 | D | 65,9 | 50 | 70,1 | 60 | 87,4 | 3 |
| 45 | Aeroflot Russian Airlines | NetCarrier | Russian Federation | 70,8 | D | 67,0 | 47 | 70,8 | 52 | 70,9 | 50 |
| 46 | Asiana Airlines | NetCarrier | Republik of Korea | 70,6 | D | 55,1 | 84 | 64,4 | 83 | 75,4 | 34 |
| 47 | Sichuan Airlines | NetCarrier | China | 70,5 | D | 63,4 | 59 | 70,7 | 53 | 73,9 | 38 |
| 47 | Qatar Airways | NetCarrier | Qatar | 70,5 | D | 69,2 | 36 | 71,3 | 48 | 70,3 | 52 |
| 49 | Thai Airways International | NetCarrier | Thailand | 70,2 | D | 76,9 | 12 | 69,8 | 61 | 70,2 | 53 |
| 49 | AirBaltic | NetCarrier | Latvia | 70,2 | D | 67,5 | 45 | 70,6 | 54 | 69,1 | 56 |
| 51 | Pakistan Int. Airlines | NetCarrier | Pakistan | 70,1 | D | 68,0 | 41 | 71,5 | 46 | 45,6 | 109 |
| 52 | Sky Express | NetCarrier | Greece | 70,0 | D | 84,4 | 3 | 68,0 | 69 | 69,8 | 55 |
| 53 | Sunclass Airlines | Charter | Denmark | 69,7 | E | 42,1 | 109 | 71,0 | 50 | 67,7 | 62 |
| 53 | Air India | NetCarrier | India | 69,7 | E | 74,5 | 19 | 78,6 | 15 | 63,9 | 73 |
| 53 | Icelandair | NetCarrier | Iceland | 69,7 | E | 47,3 | 102 | 69,5 | 65 | 71,1 | 48 |
| 56 | Cathay Pacific Airways | NetCarrier | Hong Kong | 69,6 | E | 63,3 | 61 | 66,9 | 75 | 71,5 | 46 |
| 57 | Air France | NetCarrier | France | 69,5 | E | 73,5 | 21 | 75,4 | 25 | 67,6 | 64 |
| 58 | Neos | NetCarrier | Italy | 69,4 | E | 63,9 | 57 | 69,6 | 64 | 71,5 | 45 |
| 58 | Gulf Air | NetCarrier | Bahrain | 69,4 | E | 49,7 | 97 | 61,4 | 93 | 76,7 | 29 |
| 60 | Batik Air Malaysia | NetCarrier | Malaysia | 69,2 | E | 65,7 | 52 | 69,8 | 62 | 68,3 | 60 |
| 60 | Air Astana | NetCarrier | Kazakhstan | 69,2 | E | 70,6 | 31 | 70,2 | 58 | 67,7 | 63 |
| 62 | Nile Air | NetCarrier | Egypt | 69,1 | E | 74,3 | 20 | 68,8 | 66 | 68,0 | 61 |
| 63 | Finnair | NetCarrier | Finland | 68,2 | E | 61,5 | 66 | 67,1 | 73 | 69,1 | 57 |
| 64 | Malaysia Airlines | NetCarrier | Malaysia | 68,1 | E | 71,5 | 28 | 72,3 | 43 | 66,3 | 67 |
| 65 | Alaska Airlines | NetCarrier | USA | 68,0 | E | 39,2 | 111 | 66,5 | 79 | 71,1 | 49 |
| 66 | Virgin Australia | NetCarrier | Australia | 66,6 | E | 61,7 | 65 | 67,1 | 72 | 67,6 | 65 |
| 67 | United Airlines | NetCarrier | USA | 66,3 | E | 60,4 | 71 | 68,1 | 68 | 64,5 | 71 |
| 67 | ITA Airways (former Alitalia) | NetCarrier | Italy | 66,3 | E | 67,9 | 42 | 71,2 | 49 | 62,9 | 77 |
| 69 | SAS Scandinavian Airlines | NetCarrier | Sweden | 66,1 | E | 62,9 | 62 | 73,9 | 37 | 57,5 | 94 |
| 70 | Japan Airlines | NetCarrier | Japan | 65,8 | E | 51,3 | 93 | 67,1 | 74 | 73,8 | 39 |
| 71 | Bamboo Airways | Charter | Vietnam | 65,6 | E | 62,0 | 64 | 66,6 | 77 | 72,0 | 44 |
| 72 | Israir | NetCarrier | Israel | 65,5 | E | 52,5 | 90 | 66,8 | 76 | 64,1 | 72 |
| 73 | Korean Air | NetCarrier | Republic of Korea | 65,4 | E | 75,4 | 17 | 70,1 | 59 | 62,0 | 80 |
| 74 | British Airways | NetCarrier | United Kingdom | 65,2 | E | 65,9 | 51 | 72,3 | 44 | 62,4 | 79 |
| 75 | Air China | NetCarrier | China | 64,9 | F | 58,9 | 77 | 62,7 | 87 | 78,6 | 20 |
| 76 | Tianjin Airlines | Regional | China | 64,8 | F | 54,7 | 86 | 67,3 | 71 | 60,7 | 86 |
| 77 | Austrian Airlines | NetCarrier | Austria | 64,2 | F | 55,5 | 81 | 69,7 | 63 | 61,0 | 85 |
| 78 | Brussels Airlines | NetCarrier | Belgium | 63,6 | F | 61,2 | 68 | 68,6 | 67 | 58,0 | 93 |
| 78 | All Nippon Airways | NetCarrier | Japan | 63,6 | F | 55,2 | 83 | 63,6 | 86 | 63,8 | 74 |
| 78 | Philippine Airlines | NetCarrier | Philippines | 63,6 | F | 70,6 | 32 | 66,0 | 81 | 63,3 | 75 |
| 81 | Shanghai Airlines | NetCarrier | China | 63,2 | F | 66,2 | 48 | 61,4 | 92 | 68,6 | 58 |
| 82 | EVA Airways | NetCarrier | Chinese Taipei | 62,8 | F | 64,8 | 55 | 65,5 | 82 | 61,6 | 82 |
| 82 | American Airlines | NetCarrier | USA | 62,8 | F | 52,7 | 89 | 67,5 | 70 | 59,7 | 90 |
| 84 | LOT - Polish Airlines | NetCarrier | Poland | 62,5 | F | 34,0 | 114 | 52,5 | 105 | 79,9 | 15 |
| 85 | Kenya Airways | NetCarrier | Kenya | 62,4 | F | 43,1 | 106 | 54,8 | 103 | 70,5 | 51 |
| 86 | China Eastern Airlines | NetCarrier | China | 62,1 | F | 61,5 | 67 | 62,6 | 88 | 59,7 | 91 |
| 87 | Delta Air Lines | NetCarrier | USA | 62,0 | F | 62,9 | 63 | 66,5 | 78 | 57,2 | 95 |
| 88 | Emirates | NetCarrier | United Arab Emirates | 61,9 | F | 80,6 | 5 | 74,5 | 34 | 59,3 | 92 |
| 89 | Edelweiss Air | NetCarrier | Switzerland | 61,4 | F | 48,7 | 99 | 66,3 | 80 | 51,7 | 102 |
| 90 | Virgin Atlantic | NetCarrier | United Kingdom | 61,3 | F | 19,0 | 118 | 42,4 | 111 | 61,6 | 83 |
| 91 | Royal Air Maroc | NetCarrier | Morocco | 61,1 | F | 55,5 | 82 | 61,7 | 91 | 60,0 | 88 |
| 92 | Corsair International | Charter | France | 61,0 | F | 41,8 | 110 | 62,2 | 90 | 61,1 | 84 |
| 93 | SriLankan Airlines | NetCarrier | Sri Lanka | 59,4 | F | 59,3 | 74 | 58,5 | 96 | 59,8 | 89 |

| # | Airline | Type | Country | EP* | EC** | Short haul <800 km EP | Short haul <800 km # | Medium haul 800 - 3800 km EP | Medium haul 800 - 3800 km # | Long haul >3800 km EP | Long haul >3800 km # |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 94 | Oman Air | NetCarrier | Oman | 59,4 | F | 53,3 | 88 | 63,8 | 85 | 55,6 | 98 |
| 95 | Turkish Airlines | NetCarrier | Turkey | 59,0 | F | 67,5 | 46 | 62,4 | 89 | 55,3 | 99 |
| 96 | Saudia | NetCarrier | Saudi Arabia | 58,8 | F | 56,2 | 79 | 55,7 | 101 | 63,0 | 76 |
| 97 | Lufthansa | NetCarrier | Germany | 58,6 | F | 56,0 | 80 | 73,5 | 39 | 56,4 | 96 |
| 98 | Air Serbia | NetCarrier | Serbia | 57,5 | F | 50,1 | 96 | 59,2 | 95 | 51,8 | 101 |
| 99 | Qantas Airways | NetCarrier | Australia | 57,3 | F | 63,4 | 60 | 58,0 | 98 | 56,2 | 97 |
| 100 | Swiss International Air Lines | NetCarrier | Switzerland | 56,4 | F | 63,2 | 61 | 71,0 | 50 | 49,5 | 106 |
| 101 | South African Airways | NetCarrier | South Africa | 55,2 | F | 59,1 | 75 | 58,5 | 97 | 45,8 | 108 |
| 102 | Middle East Airlines | NetCarrier | Lebanon | 55,0 | F | 44,8 | 104 | 56,6 | 100 | 33,4 | 114 |
| 103 | Discover Airlines | NetCarrier | Germany | 54,7 | F | 21,8 | 116 | 49,0 | 108 | 54,8 | 100 |
| 104 | Luxair | NetCarrier | Luxembourg | 53,6 | F | 42,8 | 108 | 57,6 | 99 | 64,7 | 70 |
| 105 | Kuwait Airways | NetCarrier | Kuwait | 52,6 | F | 66,2 | 49 | 54,9 | 102 | 51,4 | 103 |
| 106 | Azerbaijan Airlines | NetCarrier | Azerbaijan | 52,0 | F | 44,7 | 105 | 53,5 | 104 | 49,5 | 107 |
| 107 | Bulgaria Air | NetCarrier | Bulgaria | 50,0 | F | 51,5 | 92 | 49,7 | 107 | 61,9 | 81 |
| 108 | Red Wings Airlines | Regional | Russian Federation | 48,4 | G | 49,5 | 98 | 47,1 | 109 | 66,9 | 66 |
| 109 | Myanmar Airways Int. | NetCarrier | Myanmar | 47,8 | G | 61,0 | 69 | 46,3 | 110 | 34,7 | 112 |
| 110 | Air Algérie | NetCarrier | Algeria | 47,1 | G | 50,3 | 95 | 50,7 | 106 | 33,0 | 115 |
| 111 | Boliviana de Aviación | NetCarrier | Bolivia | 44,2 | G | 45,0 | 103 | 26,1 | 116 | 50,6 | 105 |
| 112 | Singapore Airlines | NetCarrier | Singapore | 43,0 | G | 64,8 | 56 | 60,2 | 94 | 38,7 | 111 |
| 113 | Garuda Indonesia | NetCarrier | Indonesia | 39,1 | G | 51,2 | 94 | 35,9 | 113 | 39,9 | 110 |
| 114 | Iran Air | NetCarrier | Iran | 37,5 | G | 42,9 | 107 | 41,4 | 112 | 28,3 | 116 |
| 115 | TAAG Angola Airlines | NetCarrier | Angola | 36,9 | G | 54,9 | 85 | 35,1 | 114 | 50,7 | 104 |
| 116 | Surinam Airways | NetCarrier | Suriname | 34,5 | G | 70,5 | 33 | 76,5 | 19 | 33,8 | 113 |
| 117 | Mahan Air | NetCarrier | Iran | 25,6 | G | 34,4 | 113 | 34,6 | 115 | 11,6 | 117 |
| 118 | Air Peace | Regional | Nigeria | 25,3 | G | 28,9 | 115 | 12,6 | 118 | 9,3 | 118 |
| 119 | Air Niugini | Regional | Papua New Guinea | 23,2 | G | 19,9 | 117 | 17,8 | 117 | 50,3 | 106 |

# Ranking Low-Cost Carriers

| Airlines | EC** |
|---|---|
| -- | A |
| Frontier Airlines, IndiGo Air, Wizz Air, Wizz Air Malta | B |
| AirAsia, Allegiant Air, Azul Airlines, Cebu Pacific Air, Easyjet, Flair Airlines, Flynas, GOL Linhas Aereas, Jetstar Airways, Jetstar Asia, Lion Air, Norwegian Air Shuttle, Ryanair, Scoot, Smartavia, SpiceJet, Spirit Airlines, Spring Airlines, Sun Country Airlines, T'way Air, Thai AirAsia, Transavia, Volaris, Vuela El Salvador, Vueling Airlines, Wizz Air Abu Dhabi | C |
| Air Arabia Abu Dhabi, Citilink Indonesia, Eurowings, Jazeera Airways, Jin Air, Pegasus Airlines, SalamAir, Southwest Airlines, Sunwing Airlines, VietJet Air, Westjet | D |
| Air Arabia, Flydubai, JetBlue Airways Corporation, Jetsmart, Thai Vietjet Air | E |
| -- | F |
| -- | G |

# Methodology and Background

## atmosfair Airline Index 2024 Data

- 34 million flights analyzed
- Over 200 of the largest airlines worldwide evaluated
- 56,372 city pairs covered globally
- 92% of global aviation included
- 173 aircraft types (97% market coverage)
- 563 engines (96% market coverage)
- Renowned, independent data sources: ICAO, IATA, OAG, FlightGlobal, and others
- Data year: 2023

## Methodology of the Atmosfair Airline Index (AAI)

The fundamental unit of measurement is the $CO_2$ efficiency of flights ($CO_2$ emissions per passenger-kilometer). Since $CO_2$ efficiency naturally varies across short, medium, and long-haul flights due to physical constraints (discussed in the next section), it is converted into efficiency points for accurate airline comparison.

Steps in calculating an airline's efficiency points:

1. The $CO_2$ emissions per payload kilometer are calculated for each individual flight, factoring in: aircraft type, engine type, passenger and cargo capacity and load factors (seat and cargo utilization).
2. The $CO_2$ emissions per payload kilometer for each flight are compared to the best possible flight scenario as defined by ICAO standards.
3. Efficiency points for each city pair are assigned, with the best-case scenario receiving 100 points and other flights rated relative to this benchmark.
4. For each airline, all city pair points are aggregated into a global average efficiency score.
5. Airlines are ranked based on their global efficiency points.

The AAI calculation uses the ICAO $CO_2$ calculation method, ensuring high accuracy with a confidence level of ±1.5 efficiency points (95%).

Detailed documentation of the $CO_2$ calculation method is available at:

https://www.atmosfair.de/en/air_travel_and_climate/atmosfair_airline_index/

## Efficiency Comparison of Routes with Different Lengths

The $CO_2$ efficiency of flight routes is strongly influenced by the distance traveled. For short-haul flights, the high emissions generated during ascent to cruising altitude are distributed across fewer payload kilometers compared to medium-haul flights, resulting in higher average $CO_2$ emissions per payload kilometer. Conversely, on long-haul routes, carbon efficiency is lower than on medium-haul routes because aircraft must carry extra fuel, which remains unused until the latter stages of the flight. This variation makes it challenging to compare airlines operating flights of different lengths.

The AAI addresses this issue with an innovative method that accounts for these distance-related effects. In the AAI, airlines' performances are compared exclusively on identical routes (e.g., Paris–London), ensuring a constant flight distance for evaluation. In a subsequent step, these efficiency results are aggregated to calculate a global efficiency score for the airline (see previous section). This approach ensures that the resulting efficiency score reflects only the technical and operational $CO_2$ efficiency of the airlines, making them directly comparable from a climate perspective. The AAI's efficiency points (EP) measure how closely an airline approaches the optimal performance (e.g., best aircraft, most efficient engine, highest possible load factor, etc.). A perfect score of 100 efficiency points represents the best achievable outcome with current technology and operational practices.

## Low-Cost Carriers

Low-cost carriers (LCCs) are included in the Airline Index using a different approach. They are assessed separately due to specific methodological features in calculating and evaluating their $CO_2$ emissions, which prevent a direct comparison with other airlines in terms of climate efficiency as measured by the AAI. However, at least the direct $CO_2$ emissions of LCCs can still be evaluated. To ensure passengers have access to this information, LCCs are represented in a simplified format within the AAI.

The key methodological differences are as follows:

**1. Subsidies:**

Many LCCs receive subsidies that enable them to operate flights at significantly lower prices than would otherwise be possible. These subsidies often result in the creation of additional flights, and thus additional $CO_2$ emissions, which ideally should be included in the climate balance of the subsidized airline. However, these emissions cannot be accounted for in the AAI. While other airlines may also benefit from subsidies in various forms, they typically do not use them to lower prices in a way that directly leads to increased $CO_2$ emissions.

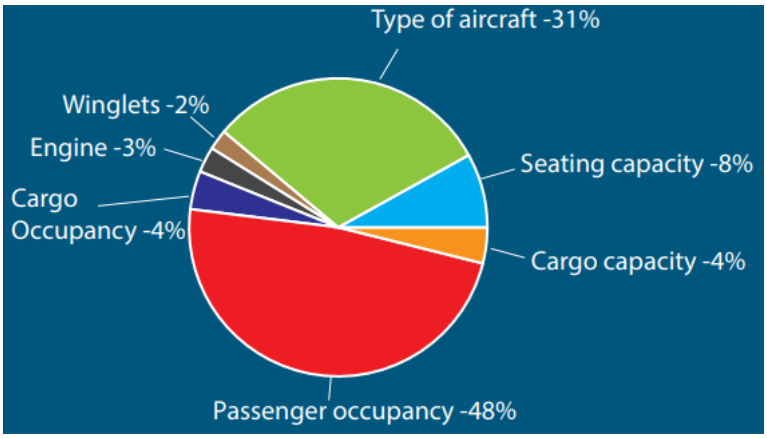
**2. Detours:**

LCCs frequently operate from regional airports, which often require longer journeys for passengers traveling to and from these locations compared to flights departing from and arriving at central city airports. These extended journeys lead to additional $CO_2$ emissions that should be considered in the rankings from a passenger-centric perspective.

It is important to note that not all LCCs are the same. atmosfair follows the definition and classification of LCCs provided by ATI, a service provider to the International Civil Aviation Organization (ICAO). The full definition and details can be found in the complete methodology documentation, available for download on the atmosfair website.

## Where Do Individual Airlines Gain and Lose Efficiency Points?

Airlines achieve the best efficiency results when they operate modern aircraft optimized for the route distance and passenger load, configure the planes with a high number of seats, and utilize both the seating capacity and cargo space effectively. In essence, airlines that maximize seat availability and maintain high occupancy rates are the most efficient in transporting passengers. However, airlines prioritize different factors when tailoring their offerings to customers. While atmosfair does not assess or critique these priorities, it evaluates the resulting $CO_2$ emissions that are influenced by them.




*Airlines can optimize various factors to improve their carbon efficiency. The chart illustrates which factors have the most significant impact on reducing carbon emissions when adjusted by one standard deviation.*

## How to Use the Airline Index

1. **Avoid**

   - Even efficient flights can exceed an individual's annual climate-friendly $CO_2$ budget (2,300 kg per year for the two-degree target). Consider whether reasonable alternatives are available, such as traveling by train.
   - Did you select a direct flight? (Rule of thumb: a direct flight in efficiency class E is generally better for the climate than a transfer flight in class C.)

2. **Optimize**

   - The Airline Index provides information on an airline's efficiency, categorized by short, medium, and long-haul flights. Start by determining the distance of your flight, then identify the most efficient airline within the corresponding distance category.
   - Typically, the airline with the highest efficiency points will be the most climate-friendly for your trip from A to B. However, since exceptions may occur, atmosfair offers detailed airline comparisons for companies, focusing on routes critical to their operations.

3. **Offset**

   - You can offset the $CO_2$ emissions generated by your flight through atmosfair, which supports the development and expansion of renewable energy in developing countries. Make your contribution to climate protection online with the multiple award-winning service at: www.atmosfair.de