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PRESS RELEASE

Climate Change Conference 2016 in Marrakesh: atmosfair presents the climate ranking of the largest airlines worldwide

Chinese airline ranked as the cleanest airline in the world. Globally, air traffic is growing faster than technical developments can keep up with – CO_2 efficiency has improved only slightly. LATAM best network carrier globally, Air Berlin in Europe.

Berlin, 5.11.2016 – For airlines in China and the Middle East, flight kilometers increased by an average of more than 10% within one year, and correspondingly, their CO_2 emissions increased by about seven percent. Globally, the airlines' CO_2 emissions increased by 3%, about half the rate of their traffic volume growth. These insights are from the new **atmosfair Airline Index (AAI)** 2016, presented today in Berlin.

Compliance with the Paris Climate Convention of 2015 requires that global CO_2 emissions peak before 2020 and begin to decline in order to achieve the target of a 1.5° C increase in average global temperatures. Air traffic is not directly regulated in the Paris agreement, while the new Montreal climate protection agreement of the International Civil Aviation Organization (ICAO) of 2016 only becomes legally binding for airlines from 2027 onwards. “Our results show that global air traffic is not on target, neither for the 1.5° C nor for the 2° C goals from Paris,” states Dietrich Brockhagen, Managing Director of atmosfair. “While some airlines have been able to significantly improve their CO_2 efficiency by purchasing new aircraft, the overall technical development is not rapid enough in light of increasing traffic volume.”

New aircraft models increase fleets’ efficiency, European and Chinese airlines among the best

The AAI calculations show that the airlines’ increasing efficiency can mostly be attributed to replacing older aircraft models like the Boeing 747 or older Boeing 737 models with the Boeing 777, Airbus 330, or Boeing 737 Next Generation. Increased use of the highly efficient Boeing 787 contributes to this. The newest generation, such as the Airbus A350, was not delivered until the end of 2014 and thus plays only a minor role in the current Airline Index. Retrofitting the aircrafts with aerodynamic winglets also had a positive effect.

These new aircraft set a higher benchmark for CO_2 efficiency. Because they are now used on many routes around the world, airlines loose in comparison which have kept the same fleet or have only improved a little. Since the new aircraft do not make up the majority of the fleet for any airline, no airline reached efficiency class A, and only the top 10 made it into class B.

With China West Air, a Chinese airline has been ranked at the top of atmosfair’s ranking for the first time: The regional airline was able to reach 83% of the technically achievable optimal potential. In general, China catches up with the EU: among the top 50 most efficient airlines worldwide, 16 are from the EU and 10 are from China.

Among German airlines, holiday carrier **TUIFly** scored best with a stable worldwide rank of second place, followed by **Condor,** which moved up to seventh place.

Among the largest international scheduled carriers, Chilean Brazilian LATAM took the lead with a modern fleet and high occupancy rates (rank 9, class B), closely followed by AirBerlin, which was ranked as Europe's most climate efficient airline (rank 16, class C). Within the EU, this was followed by Dutch KLM (rank 21, class C) and then by Portuguese TAP (rank 42, class C).

Germany´s biggest airline Lufthansa improved its efficiency as compared to the previous year through higher occupancy rates and a more modern fleet. Seating was slightly less well utilized, and therefore its efficiency potential was not fully exploited. On short and medium-distance routes, Lufthansa has used ever fewer inefficient aircraft types (e.g. B737-300/500). On long routes, Lufthansa, continues to deploy wide-body jets (A340, A330, A380, B747-8I). Despite the tougher efficiency scale, Lufthansa gained a slight advantage compared to its competitors and was ranked 77th overall (efficiency class D).

"Climate efficiency knows no country of origin," explains Dietrich Brockhagen. "The airline that knows how to adapt its modern fleet to demand and how to ideally combine technology with operations will achieve high rankings, whether that airline comes from Europe, Asia or South America."

Differences among airlines can be substantial. Fuel consumption per passenger and kilometer on the same route can be twice as high for one airline compared with another. The best results are achieved by airlines that use modern aircraft that ideally fit to the respective flight distance, have a lot of seating, and have good occupancy rates for passengers and freight.

Low cost carriers are rated in their own class in the AAI because they often benefit from subsidies and therefore can offer artificially low ticket prices in flight kilometers and produce CO_2 emissions that otherwise would not have been created in the first place. The best low cost carriers are also found in efficiency class B, but the majority landed in efficiency class C and some even in D.

Structure, data, and method
The Atmosfair Airline Index (AAI) individually compares greenhouse gas emissions of more than 200 of the largest airlines worldwide and evaluates their respective CO_2 efficiency. Overall, the AAI depicts about 92% of worldwide aviation that includes 32 million flights around the globe. The current calculations are based on the latest available data on worldwide aviation for 2014.

Every airline can score between 0 and 100 efficiency points, separated into short, medium, and long distances. This way, passengers can compare airlines before a planned flight and can choose the airline with the lowest CO_2 emissions on their desired route. This is especially relevant for companies with a huge share of business travel, which in the best case can not only cut down on their CO_2 footprint, but also on their costs.

The AAI is based on the CO_2 emissions of an airline per kilometer and passenger on a respective flight route. The CO_2 emissions are computed for all flown routes and include the aircraft type, engines, use of winglets (aerodynamic wingtips), seating and freight capacity as well as their utilization on every single flight. The data sources only include international organizations such as ICAO and IATA and a number of specialized aviation data services as well as computer models by aircraft engineers.

Find more information at www.atmosfair.de/en/atmosfair_airline_index

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Appendix: individual airlines and their evaluations

Appendix: evaluations of individual airlines

China West Air (1)
Chinese regional airline, flies only with efficient aircraft (including A320). Achieved the top ranking also through very dense seating and very high occupancy.

TUIfly (2)
Best charter airline worldwide. Flies consistently with efficient aircraft (e.g., B737-800). The aircraft almost maximizes seating and thus achieved the top position due to very high occupancy.

Condor (7)
Flies with tight seating and efficient aircraft (e.g., A320, B757). Condor, particularly on medium-distance routes, gained points compared to the previous year due to its high occupancy.

LATAM Brasil (9)
Fleet with efficient aircraft (e.g., A320, A330, B777), slightly more seating than average. In combination with a high occupancy level, LATAM once again earned a top rank.

Air Transat (14)
Very dense seating in all aircraft. About a quarter of the fleet consists of more inefficient aircraft (A310) and about three-quarters of more efficient aircraft. In combination with a very high occupancy on medium and long-distance routes, Air Transat gained many points. Lost points on short-distance routes through occupancy that was far below average.

Air Berlin (16)
Fleet with consistently modern and efficient machines (A319, A320, B737-700, B737-800, A330). Dense seating especially within the short and medium-distance fleet. In combination with the regularly high occupancy, Air Berlin is ranked as the leading net carrier in Europe.

Emirates (30)
Fleet with modern jets (i.a., B777, A330, A340, A380). However, these WideBody Jets have less seating than average and are therefore even less efficient than NarrowBody Jets with below average seating. Emirates gained points through slightly above-average occupancy. This was slightly higher compared to the previous year, which gave Emirates more points.

Delta Airlines (54)
One of the largest airline in the world. Three-quarters of the fleet consists of efficient aircraft (A320, B737-700, B737-800) and one quarter of rather inefficient aircraft (including MD-80, B747). The fleet predominantly has less seating than average, which resulted in Delta performing under its potential. Compared to the previous year, Delta gained more points through higher occupancy.

Alitalia (57)
Fleet with predominantly efficient machines (e.g. A320, A330, B777). Short-haul fleet with slightly more seating than average, long-distance fleet slightly below average. Overall, only average occupancy. This has been improved on long-distance routes as compared to the previous year, which means that Alitalia achieved more points there.

Lufthansa (77)
Lufthansa was able to increase its efficiency compared to the previous year through improved occupancy and an improved fleet. The fleet has slightly less seating than average and hence did not fully exploit its efficiency potential. On the short and medium-distance routes, Lufthansa used fewer of the more inefficient aircraft models, but this still made up about one-fifth of all aircraft (e.g., B737-300/500). On the long-distance routes, Lufthansa increasingly used modern wide-body jets (A330, A380, B747-8I). Altogether, Lufthansa gained more points compared to the previous year.