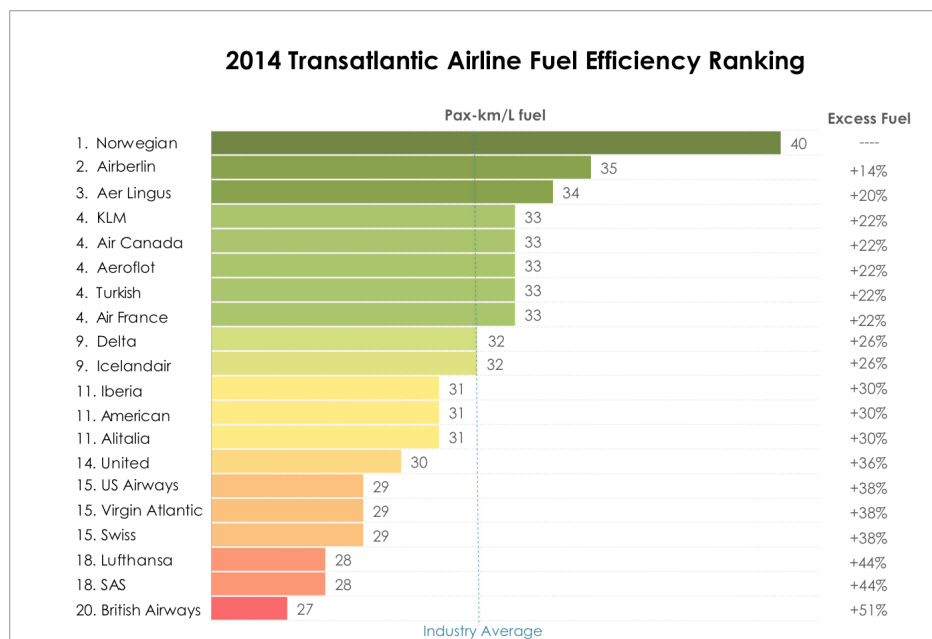


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## Transatlantic airline fuel efficiency, 2014

A new report by the International Council on Clean Transportation compares the fuel efficiency, and therefore carbon intensity, of the top 20 airlines on transatlantic routes between the United States/Canada and Europe in 2014.

It is the first analysis to combine the highest quality publicly available and commercial operations data with sophisticated aircraft fuel burn modeling to benchmark the fuel efficiency of carriers on a passenger kilometer basis. The study explains the fuel efficiencies of individual carriers and highlights the most important drivers of efficiency in the aggregate.



Norwegian Air Shuttle was the most fuel-efficient airline on transatlantic routes, on average achieving 40 passenger kilometers per liter (pax-km/L) of fuel with its predominately Boeing 787-8 fleet. Delta Air Lines, which had the largest transatlantic market share of any carrier, and Icelandair both provided the industry average fuel efficiency of 32 pax-km/L. Many legacy carriers fell below the industry average,

including the U.S. carriers American Airlines, United Airlines, and US Airways, along with Iberia Airlines and Alitalia. The three least-efficient airlines (Lufthansa, SAS, and British Airways) were collectively responsible for one-fifth of transatlantic available seat kilometers and burned 44% to 51% more fuel per passenger kilometer than the most efficient, Norwegian Air Shuttle.

Other highlights of the report:

- The gap between the most and least fuel-efficient airlines on 2014 transatlantic operations, 51%, is roughly twice the performance gap between the best and worst U.S. airlines on domestic operations (25% in 2014).
- A nonstop round-trip transatlantic flight averaged about one tonne of CO<sub>2</sub> per passenger, equivalent to a 35-kilometer daily commute in a Toyota Prius over a work year.
- Performance clearly highlights the importance of aircraft CO<sub>2</sub> standards: Airlines that have invested in newer aircraft are significantly more fuel efficient on operations.
- The impact of premium seating on emissions is substantial: first class and business seats accounted for only 14% of available seat kilometers flown on transatlantic routes but approximately one-third of total carbon emissions.

This study is an extension of ICCT's work benchmarking U.S. airline fuel efficiency on domestic operations since 2010 (see [www.theicct.org/aviation](http://www.theicct.org/aviation) for the latest study in that series).

"It's surprising to see such large differences in fuel efficiency among airlines on long-haul flights over the Atlantic. The airline you fly, and the aircraft they choose to operate, really matters if you're concerned about the climate," said the ICCT's program director for aviation, Dan Rutherford, a coauthor of the report. "The report reinforces the need for policies to reduce carbon emissions from international aviation, namely carbon pricing and aircraft efficiency standards.."

Absent policy interventions, aviation emissions are on pace to triple by 2050—a period in which many developed countries hope to reduce their emissions by up to 80%. If global aviation were a country, it would rank 21st in terms of GDP, but 7th in terms of CO<sub>2</sub> emissions, just behind Germany and well ahead of South Korea. Globally, aircraft emitted about 700 million metric tons of CO<sub>2</sub> in 2013.

Next month, delegates to the 21st session of the Conference of the Parties to the UNFCCC (COP 21) will meet at Paris's Le Bourget Airport. Among other issues, they will discuss how to incorporate greenhouse gas emissions from international aviation into a global climate protection framework. The International Civil Aviation Organization

(ICAO) has committed to develop a global framework—an aircraft CO<sub>2</sub> (efficiency) standard and a framework for market-based measures (MBMs)—for controlling CO<sub>2</sub> emissions from aviation by 2016. But the process to develop an MBM has been hampered by disagreements over how to equitably distribute reduction targets by country or carrier.

To download the report and fact sheet: [www.theicct.org/transatlantic-airline-efficiency-2014](http://www.theicct.org/transatlantic-airline-efficiency-2014)

### **Publication information**

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The International Council on Clean Transportation is an independent nonprofit organization founded to provide first-rate, unbiased research and technical and scientific analysis to environmental regulators. Our mission is to improve the environmental performance and energy efficiency of road, marine, and air transportation, in order to benefit public health and mitigate climate change. The ICCT is funded primarily by foundations, with additional support from government contracts and international bodies. Our largest funders include the ClimateWorks Foundation, the William and Flora Hewlett Foundation, the European Climate Foundation, and the Climate and Clean Air Coalition to reduce short-lived climate pollutants.

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