



A general trend the study found is the fuel burn per passenger kilometer increases along with aircraft size and weight. Very large, four-engine aircraft typically have higher fuel burn per passenger than aircraft with two engines. Airlines that predominantly use the Boeing 747 and Airbus A380 – Asiana, Korean Air, and Qantas – had the lowest overall fuel efficiency on transpacific operations. In addition, the seating densities and passenger load factors on these aircraft were typically less than the industry average.

“There’s a reason airlines around the world are starting to avoid very large aircraft like the 747 and A380,” said Dan Rutherford, ICCT’s aviation program director and co-author of the paper. “Newer twin-engine widebodies provide the payload and range capabilities needed for transpacific flights with much lower fuel burn.”

Aviation is a major contributor to climate pollution, accounting for about 2.5% of global CO<sub>2</sub> emissions. The International Civil Aviation Organization (ICAO) forecasts airline traffic in Asia/Pacific will account for 31% of CO<sub>2</sub> from international aviation in 2020, with North America at 15%. In order to achieve ICAO’s long-term, aspirational goal of increasing the fuel efficiency of international flights by 2% annually, more fuel-efficient wide-body aircraft will need to be introduced to keep up with demand.

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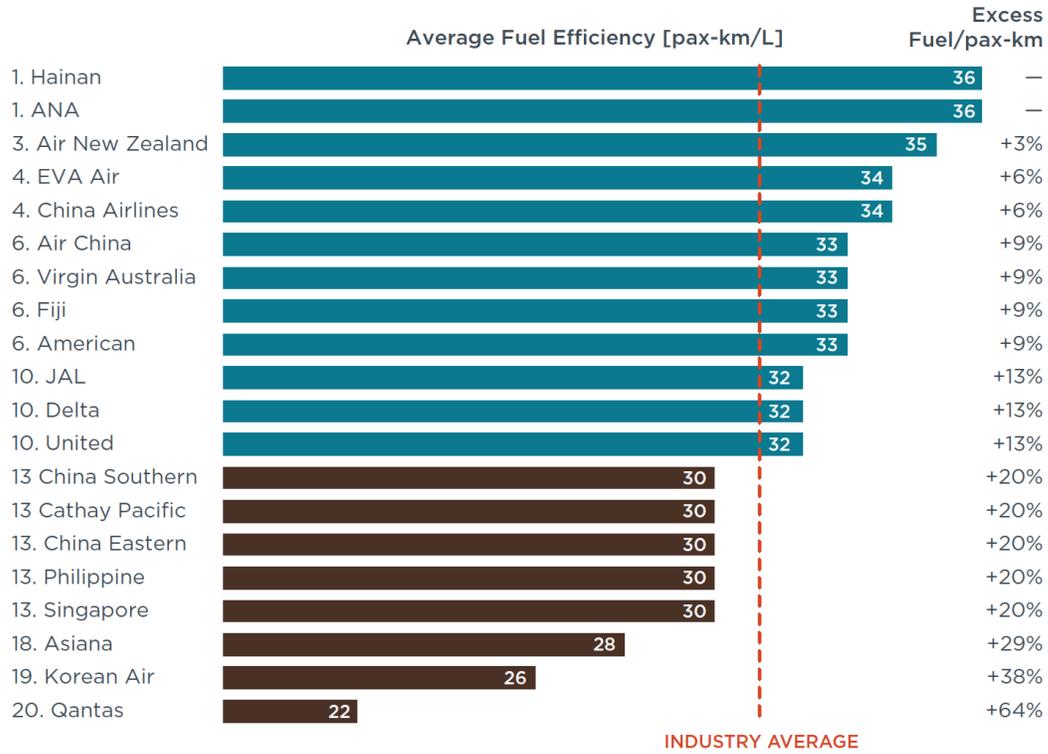


Figure 1. Fuel efficiency of 20 airlines on transpacific passenger routes, 2016



Figure 2. Difference from industry average fuel efficiency of 31 pax-km/L for 14 aircraft types used on transpacific routes, 2016

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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. Its 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.*