

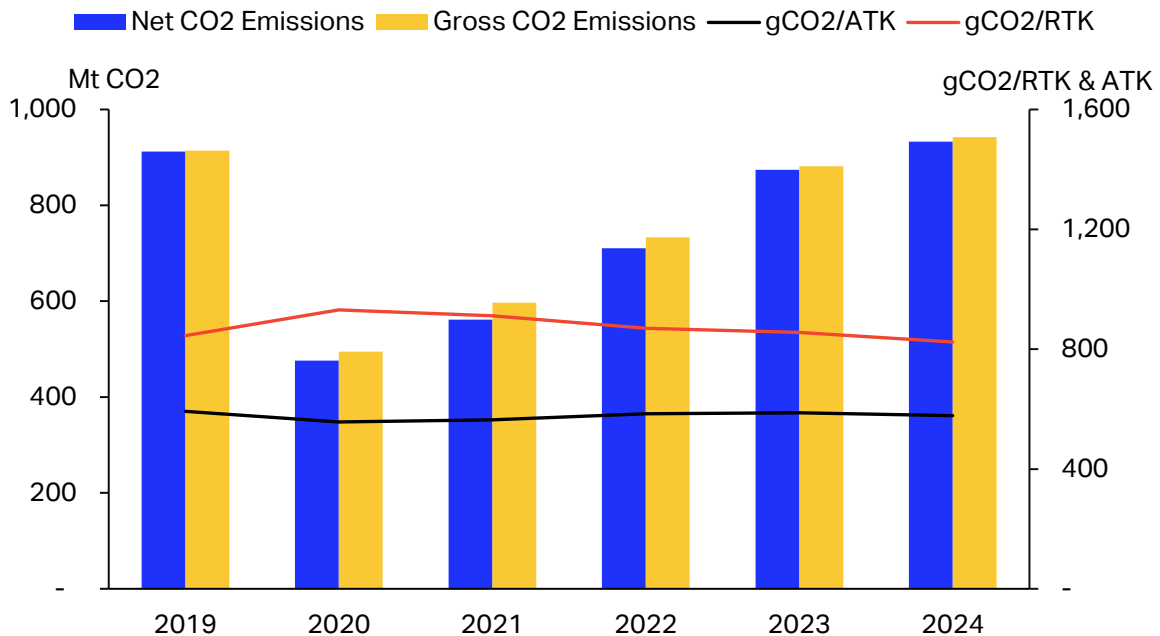


Chart of the Week

28 November 2025

2024 Aviation Emissions: Efficiency Gains vs. Rising Totals

Total airline sector gross and net CO₂ emissions, and CO₂ intensity (2019-2024)



Source: IATA Sustainability and Economics. In 2025, IATA collected the 2024 emissions data from 82 aircraft operators, representing 45% of IATA's members by revenue-tonne kilometer (RTK), via the [IATA TrackZero platform](#), in accordance with the [IATA Net Zero Tracking Methodology](#).

- In 2024, the air transport emissions landscape reflected both progress and ongoing challenges. While operational efficiency improved, driven largely by higher load factors, absolute emissions continued to rise.
- Emissions-intensity metrics show the efficiency of operations and are expressed as CO₂ emitted per unit of traffic, in metric grams of carbon dioxide (gCO₂). Traffic, in turn, can be either revenue-tonne-kilometer (RTK) for flown passengers and cargo, or available-tonne-kilometer (ATK) for capacity. In 2024, gCO₂/RTK improved by 3.7% compared to 2023, primarily thanks to the industry's exceptionally high load factors. On the other hand, gCO₂/ATK showed a more limited 1.6% improvement, due to delays in the delivery of new, more fuel-efficient aircraft.
- Notwithstanding the positive development in emissions intensities over time, absolute emissions have continued to grow. The two key total emissions metrics are gross emissions, which represent total tailpipe emissions, and net emissions, which are calculated by subtracting the airlines' emissions reductions achieved using SAF and carbon offsets from gross emissions. In 2024, gross emissions totaled 942 million tonnes (Mt) of CO₂, up from 882 Mt in 2023, but showing a more modest gain from the 914 Mt emitted in 2019.
- The industry successfully mitigated approximately 1% of total emissions in 2024. SAF output doubled in 2024 compared to 2023, resulting in approximately 2.5 million tons of emissions reductions. Moreover, the industry purchased and retired a total of 6.5 Mt of voluntary and compliance-grade carbon offsets.
- As a result, the industry's net emissions from flight operations grew by 6.7% year-on-year in 2024 while total RTK grew by 10.8%. The recently released [IATA 2024 Net Zero Progress Report](#) presents further details about the industry's 2024 emissions and mitigation efforts.

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IATA Sustainability & Economics
economics@iata.org