

Harnessing Aviation for Climate Mitigation, Adaptation, and Equity

An Introductory Look at Options

Key facts

- Aviation is highly inequitable. Both globally and nationally, most people never fly; yet frequent, premium and private jet flyers contribute disproportionately to aviation emissions.
- Aviation is one of the most carbon-intensive sectors, with higher flight classes –business or first- carrying a larger carbon footprint.
- In 2022 alone, Germany lost EUR 4 billion due to exemptions in aviation fuels taxes, the EU Emissions Trading System (ETS), and Value-Added Tax (VAT).
- If this trend continues, the German government is projected to forfeit EUR 6 billion annually by 2025, with EUR 1.4 billion of tax revenue lost solely from Lufthansa's activities.
- Germany loses EUR 566.8 million (out of the EUR 4 billion) annually due to untaxed flights by the wealthiest, who travel in private jets and business class.
- Reforming aviation taxes could redirect revenue towards sustainable technologies and fuels, accelerating decarbonisation and supporting international climate initiatives.

1 A framework of economic instruments to limit aviation emissions

At German level

- **Air Traffic Tax (Flugverkehrssteuer):** This is the most prominent national tax instrument in the sector, regulated under the **Aviation Tax Act** (Luftverkehrsteuergesetz). It is a federally regulated transport tax imposed on commercial passenger flights departing from Germany and collected by customs authorities. Revenue from the tax goes to the federal budget. The tax features higher rates for longer distances (Bundesamt für Justiz, 2023; Bundesfinanzministerium, n.d.; Zoll, n.d.-a).
- The tax applies to all tickets sold in Germany, including those from foreign airlines, on the same terms as domestic carriers (von der Heyde, 2024).
- As of 1 May 2024, the government increased the Air Traffic Tax, aiming to raise EUR 500 million (von der Heyde, 2024).

- **Other key tax policies:** Germany exempts commercial aviation from taxes on aviation fuel or kerosene under § 27 of the **Energy Tax Act** (Energiesteuerengesetz), whereas private operators are required to pay this tax (Bundesamt für Justiz, n.d.; Zoll, n.d.-b). Germany also applies a 19% VAT only on domestic flights (Klimaschutzportal, n.d.-b). Other instruments, such as ATM fees, charges and direct and indirect subsidies to airports, do exist but cannot be spelled out here.

At European level

- The **Energy Taxation Directive (ETD)** is an EU framework that taxes energy products like fuels to promote a low-carbon economy while allowing member states flexibility in their tax systems through established minimum excise duty rates. Kerosene, however, remains tax-exempt under the ETD. Although EU Member States can technically tax aviation fuel for intra-EU flights, none have done so in practice (European Commission, 2021; European Parliament, 2024). The latest revision of the ETD aimed to introduce a kerosene tax, but this effort has encountered repeated delays and has seen its initial ambition weakened (R. Hodgson 2024).
- The **EU Emissions Trading System (ETS)** is a ‘cap and trade’ system aimed at reducing emissions through a carbon market. Since 2012, it has included aviation. The ETS sets a cap on total emissions and allocates some free tradeable allowances to airlines. Airlines operating within the European Economic Area (EEA), irrespective of their origin, are required to monitor, report, and verify their CO₂ emissions as well as non-CO₂ effects. If they need more, they can purchase allowances from companies with an excess (European Commission, n.d.) or, alternatively, pay a fine of EUR 100 for each additional metric tonne of carbon (Keating, 2014).

At international level

- The **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)**, established by the International Civil Aviation Organization (ICAO) in October 2016, mandates that airlines monitor and report emissions on all international routes and offset any emissions growth above a specific level by purchasing eligible emission units from projects that reduce emissions in other sectors.
- To support CORSIA’s development, the EU has temporarily limited the scope of the ETS to flights within the EEA until 2027. An assessment is planned to take place by July 2026 to determine whether to expand the ETS or maintain its current scope, depending on CORSIA’s effectiveness (European Commission, n.d.).
- CORSIA is projected to offset merely 22% of total international aviation emissions by 2030, primarily due to its weak non-binding targets and a low baseline, set at 85% of 2019 emissions levels. The scheme’s reliance on cheap offsets does not incentivise the aviation industry to decarbonise or adopt greener fuels (Murphy, 2019; Transport & Environment, 2022).

2 Private jets: A blind spot in the taxation of air travel

- Despite being the **most polluting mode of travel** per capita, private jets and their **ultra-wealthy users** remain **exempt from aviation taxes**, revealing a significant gap in environmental accountability.

- **Carbon emissions:** Private jets are 5–14 times more carbon-intensive than commercial flights. Germany alone is responsible for nearly 10% of European private jet emissions, ranking fourth overall, behind the UK, France, and Italy (Murphy and Simon 2021).
- **Affluence of users:** The average net worth of private jet users is EUR 1.3 billion, making them largely unaffected by price increases (Murphy and Simon 2021). Chartering a private jet from Berlin to Frankfurt costs EUR 7,000–15,000. Flights beyond the EU can be far more expensive. A flight to Bali, for example, can cost up to EUR 100,000, making even a high tax on such a flight negligible in comparison (van der Graaf 2024).
- While Germany technically taxes private jet kerosene (§ 27 of the Energy Tax Act), loopholes enable large operators to avoid this tax.

The case of Volkswagen

In 2022, the VW Group operated over 2,800 private jet flights, averaging nearly eight per day, significantly more than in previous years. While primarily serving employees, VW also offers charters priced between EUR 2,000 and EUR 15,000 per hour using a fleet of eight state-of-the-art jets. As a result, VW is not only a car manufacturer but also functions as a commercial aviation provider. This status allows VW to benefit from (energy) tax exemptions it would not have if it used the jets exclusively for internal purposes. With this arrangement, VW realises substantial tax savings, all while leasing jets to itself through subsidiaries (Clark, 2010; Heubl & Kunkel, 2023).

- Most private jets are exempt from both the ETS and ETD, enabling them to avoid accountability for their significant emissions and jet fuel consumption at the EU level. Internationally, CORSIA applies only to aircraft emitting over 10,000 metric tonnes of CO₂ annually, excluding a substantial share of private jets.
- These loopholes persist despite private jets being the preferred target for air traffic reduction among the German public – with nearly 85% supporting action against their emissions and only 5% opposing any measures. (van der Graaf 2024; E. Hodgson 2024).
- Moreover, 72% of private jet flights have commercial alternatives, raising questions about their necessity (Murphy and Simon 2021).
- If private jets were taxed based on their climate impact, Germany could generate EUR 263.8 million annually. Allocating at least a portion of this additional revenue to international climate finance would help address critical funding gaps. Domestically, the tax revenue could be used to promote the production and use of CO₂-neutral, electricity-based aviation fuels, in line with the federal government’s coalition agreement. This commitment remains unfulfilled, as last year’s budget crisis led to significant cuts in funding for renewable fuels (van der Graaf, 2024), affecting the entire aviation sector, not just private jets.

3 Air Travel Tax: A missed opportunity due to its regressive structure

- The current structure of Germany’s Air Travel Tax (Flugverkehrssteuer) disproportionately impacts economy-class passengers.

- The Air Travel Tax applies a **flat rate to all passengers regardless of ticket class**. This means economy travellers pay the same tax as those in business or first class, even though premium travellers have a much larger carbon footprint per seat.

Carbon Disparity

Class of travel is a major determinant of a flight's carbon footprint. Premium seating, with its larger space requirements significantly increases emissions (Clark, 2010). Business- and first-class passengers are estimated to contribute disproportionately to CO₂ emissions at a rate of 3.7 times more on short-haul flights, and 4.3 times more on long-haul flights (van der Graaf, 2024)

- Germany's aviation tax would be more equitable if business- and first-class passengers were taxed proportionally to their larger carbon footprint. A differentiated tax in Germany could raise an additional EUR 303 million annually, impacting only 8% of passengers.
- The aviation tax is currently capped at EUR 2.33 billion per year. This means that **when flight numbers exceed projections, the Ministry of Finance must lower tax rates to remain under this cap**. This approach is counter-productive as it reduces taxes when more people are flying, while creating a disincentive to reduce emissions and undermining efforts to promote sustainable travel practices.
- The cap also limits how much tax can be collected overall, which in turn **restricts the government's ability to implement higher taxes specifically on business-class tickets**. Removing it would enable the government to collect more revenue as air travel demand grows, without the concern of exceeding the annual EUR 2.33 billion (van der Graaf, 2024).

4 International Financial Architecture Reform

- Legal obstacles to pricing fuels used in international aviation arise from both multilateral and bilateral agreements. The 1944 Chicago Convention prohibits taxing fuel that arrives in aircraft tanks, and subsequent ICAO resolutions have established a reciprocal exemption for fuels taken up for international flights. Additionally, approximately 4,000 Bilateral Air Service Agreements (BSAs) typically include similar exemptions. (IMF & World Bank, 2011)
- Changing the Chicago Convention requires two-thirds majority approval from its member states, while amending BSAs can often be simpler, needing only mutual consent where allowed. (IMF & World Bank, 2011)
- While Germany could technically tax kerosene for domestic flights, it has opted not to do so in order to safeguard the competitiveness of European airlines compared to non-EU carriers (Klimaschutz Portal, n.d.-a, n.d.-b).
- Germany could explore options for implementing measures at the international level by fully participating in the Global Solidarity Levies task force, which seeks to cultivate political support for progressive climate levies and economic instruments that align with the commitments of the Paris Agreement. The task force could help gather the political capital needed for amending the Chicago Convention or, at the very least, the BSAs. More

broadly, it can assist in developing creative approaches to effectively tax international aviation.

- At the EU level, Germany can advocate for the adoption of the EU ETD revision, currently in tripartite negotiations between the European Parliament, Council, and Commission. This revision includes provisions for taxing fossil fuels used for intra-EU transport while temporarily exempting Sustainable Aviation Fuels (SAFs) (European Commission, 2021; European Parliament, 2024).

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Edited by: Germanwatch e. V.

Suggested citation: Zaki, N., 2024, Harnessing Aviation for Mitigation, Adaptation, and Equity: An Introductory Look at Options.

Download this document at: www.germanwatch.org/en/91544

November 2024

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