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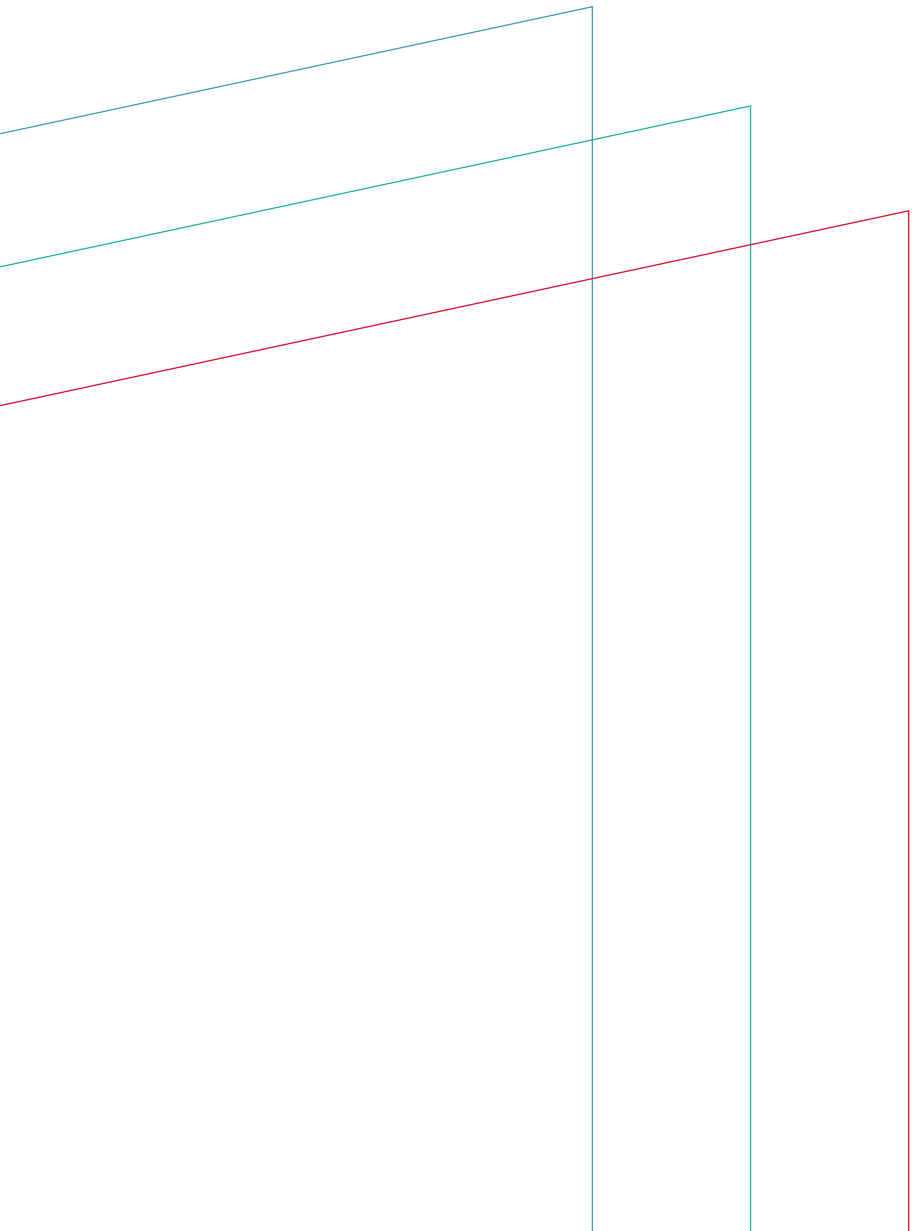
MODERNISING THE AIR TRANSPORT TAX SYSTEM

WRITTEN BY: DR ALEX CHAPMAN



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EXECUTIVE SUMMARY

The UK's air transport tax system demands urgent modernisation. Current tax rates are misaligned with government policy and, at a challenging time for government finances, luxury air travel is not contributing its fair share to the public purse. The current system contains perverse incentives that encourage environmentally damaging behaviour while failing to apply the 'polluter pays' principle to which the government has subscribed. Forecasts of future demand growth, currently being used to inform decisions such as airport expansion, are predicated on the assumption that the industry will *not* pay its fair share.

Governments across Europe, such as France, Germany, and the Netherlands, have begun recognising that aviation taxes must rise. A key concern, however, is the fairness of any increases. The UK government is right to recognise the social and economic importance of the UK's air connectivity. For communities, including recent migrants, students, humanitarian workers, and others, air travel offers a vital and unquantifiable social benefit that could be harmed by a poorly thought-through aviation tax policy. This complexity, however, is not an excuse for inaction. The current system is poorly designed and is placing an unfair burden on wider society.

As this report evidences, recent growth in air travel demand has skewed heavily towards trips taken by travellers who already travel very frequently, ie sector growth does not originate from the annual family holiday. Growth derives from more frequent flyers, flying more frequently. We document the emergence of the 'ultra-frequent flyer'. This group of individuals who fly six or more times per year (at least once every two months) make up just under 3% of the UK population but take just under 30% of all of the journeys in the UK's air network. Contrary to popular belief, the majority of the flights taken by this group are taken for leisure, not business. The group are more likely than average to take shorter-haul flights replaceable by train journeys and much more likely to travel in business or first class.

The challenge for the government is to develop a tax system which balances competing objectives and varying levels of priority need for air travel. While it is inevitable (and accepted by the government) that charges for the carbon emitted by air travel, particularly the long-haul segment, must rise, these increases should be managed in a way that is sensitive to both the realities and optics of fairness. The UK public understands the climate imperative and is open to the price of flying rising, but they show a strong desire for infrequent travel, or the family holiday, to be protected from blunt tax measures, and for the industry itself, and its heaviest users, to shoulder the lion's share of the transition cost.

This report explores how a package of policy-aligned tax reforms could better ensure that social (and business) air travel needs are fairly met while supporting the wider economy and respecting ecological limits. These policies aim to make the fairness of the green transition explicit. Key elements include:

- Increasing emissions charges on EU routes such that they align with the government's Jet Zero strategy.
- Levying a carbon tax on non-EU routes to enforce the polluter pays principle and eliminate the imbalance between EU and non-EU travel incentives.
- Significantly increasing charges on luxury travel to correct the incredibly low proportionate ticket taxes applied on the most damaging forms of travel.
- Offering a 'first-flight' discount to all UK residents to protect the family holiday.
- Implementing a new charge on the tax return of ultra-frequent flyers taking 6 or more flights per year to encourage sustainable choices from extreme emitters.

The package proposed delivers a highly progressive distributional impact with features similar to the frequent flyer levy (FFL) argued for by NEF previously. This is secured in a manner that is easier for government to administer, and more visibly targets the most excessive forms of luxury air travel. The package of policy measures presented could raise up to £6bn per year in tax revenues and deliver up to a 28% reduction in aviation CO_2 emissions by 2030 (Figure 1). These benefits are secured without any net change to the price of a UK resident's first short-haul flight of the year.

FIGURE 1: POTENTIAL EMISSIONS SAVINGS FROM FLIGHTS DEPARTING THE UK IN THE MODELLED PACKAGE OF TAX POLICY MEASURES

INTRODUCTION

The government's tax-raising powers can help to create space for the investments that are urgently needed in the UK's social and physical infrastructure. These interventions should focus tax-raising efforts on the financial flows and stocks of wealth which are least-productive (or even counterproductive) in their contribution to the UK economy. Key examples include extreme wealth, excessive consumption, and environmentally damaging consumption. Not only is air travel one of the most environmentally damaging activities an individual can engage in but expenditure on air travel is extremely unequally distributed.[1] As this report goes on to show, flying is increasingly a luxury rather than an essential good but despite this, air travel is taxed at lower rates than other comparable areas of consumption.

Modernising the state's treatment of air travel in taxation means updating policy to account for the changing roles and uses of air travel in the economy. Historically, frequent use of air travel was associated particularly with travel for business purposes, but the business share of the UK air travel market has been in rapid decline for the past two decades.[2] Today, much luxury use of air travel, whether it be private jets, business or first-class travel, or frequent flying, is primarily for leisure. Indeed, air travel has become an expression of private wealth in modern society. Those enjoying such luxury should make a fair contribution to the tax base.

Recent years have seen western European governments beginning to recognise the need to modernise air transport's tax treatment. This has led to significant increases in ticket taxes in the Netherlands, Germany, and France with changes also being debated in Spain. At the European Union level, there is also discussion of the expansion of environmental taxes on air travel, particularly the idea of increasing taxes on aeroplane fuel.

In the UK, the importance of modernising air transport taxation has been evidenced most recently by the Climate Change Committee (CCC)'s carbon budget advice to the government.[3] This advice highlighted the importance of ensuring that the climate cost of air travel is reflected in the ticket price, and also that measures are implemented that ensure that excessive passenger numbers do not threaten the country's ability to meet its climate targets.

At the 2024 autumn budget, the UK government cautiously flirted with raising taxes on air travel; increasing air passenger duty at a rate slightly above inflation,[4] but significantly less than delivered by the Netherlands and Germany; as well as increasing rates on private jets. Having tested the water, we argue that the government should now move decisively to deliver further-reaching reform of the UK's air transport tax arrangements. Doing so represents a preferable route to raising government revenue compared with freeing up resources by cutting vital public services or social security, or by increasing direct taxes on lower- and middle-income households.

Progress on closing what others term the aviation 'tax gap' (usually referring to the absence of value-added tax (VAT) and fuel duty on air travel) has been slow for three key reasons. First, concerns about harming the air transport sector's contribution to the wider economy. This issue is briefly addressed below but was the primary focus of NEF's 2023 report *Losing Altitude: The Economics of Air Transport in Great Britain.* Second, the tensions created by taxing a real and perceived generator of social value in the form of the relationships, experiences, and cultural exchange fostered by air travel. Third, the additional complexity of taxing air travel generated particularly by factors such as international air service agreements, EU and UN agreements, and legislation. The scale of these obstacles to action is greatly inflated by an aggressive industry lobbying machine.[5]

This report reviews the current state of the UK's air travel tax arrangements and considers its current and future design in light of the various, changing, social and environmental values and harms the sector creates. The report concludes by presenting a package of different potential tax policy measures which could contribute to a fairer and more environmentally sustainable air transport sector while contributing to the government's wider goals for the economy and society.

Multiple public datasets underpin the analysis presented in this report. The bulk of the results presented derive from a new NEF model of passenger air traffic in the UK built on the Civil Aviation Authority (CAA)'s passenger survey data. Full details are set out in the methodological appendix.

THE STRATEGIC ECONOMIC CASE FOR AIR TRANSPORT TAXATION

The basic rationale for taxing air transport is much the same as any consumption tax levied on the private economy – government revenue can be raised and consumer behaviour influenced. Moreover, the UK government has committed, in its Environmental Principles Policy Statement, to the polluter pays principle. The principle states that where possible, the costs of pollution should be borne by those causing it, rather than the person who suffers the effects of the resulting environmental damage, or the wider community.[6] The principle is commonly enforced via the tax system.

Air transport enjoys a form of exceptionalism. Until the early 21st century, air travel was untaxed in most parts of the world, and as of early 2025, it remains untaxed in many jurisdictions. The past two decades have seen both a steady increase in the number of governments charging ticket and airport taxes of different forms as well as raising effective rates of those taxes already levied. These changes have been aggressively resisted by the industry.

For more than two decades, the UK aviation industry has protested the level of air passenger duty (APD), claiming it represents one of, if not the highest, air travel taxes in the world. APD, however, has not prevented the UK from emerging as one of the world's best-connected economies. As of 2019, the International Air Transport Association (IATA) industry body was reporting that the UK was the best-connected country in Europe, and London was the best-connected city in the world.[7] Total passenger numbers rose rapidly during the pre-pandemic era, reaching 300 million in 2019, and by 2024 had returned to that level following the Covid-19 pandemic.

Studies on the impact of APD suggest that it has reduced passenger demand against a no-tax counterfactual, as would be expected, but that the effect has been modest.[8] The elasticities which determine the demand response from different air passengers to an increase in prices vary between groups. Passengers on long-haul routes and passengers travelling for business purposes are believed to be less elastic – ie they will continue with their travel in the face of much higher prices, particularly when compared with short-haul leisure travellers who are more price elastic (ie price sensitive).[9,10]

These dynamics of price response influence the relative wider economic impact of increasing air transport taxes. Here, wider economic impacts refer to the economic benefits facilitated by air travel rather than the jobs directly related to delivering and managing air travel. The academic literature is relatively clear on the source of the wider economic benefits that can arise from air travel: (i) growth in net inbound tourism spending and (ii) net growth in business-purposes travel (which can drive trade and productivity).[11] The former (i) is not present in the UK, where significant net outbound tourism prevails. Wider economic gains to air travel are therefore most likely to arise from business-purposes travel.

UK business passengers are very price-inelastic, relative to their leisure travel counterparts.[12] This means that any blanket increase in air travel taxes will significantly cut leisure air travel before it has any meaningful impact on business-purpose travel. Businesses will still experience an increase in costs, but this increase will be modest relative to both their willingness to pay and hence the wider economic benefits arising from their travel activity. In any case, demand for business-purpose travel has been in decline in the UK, with business passenger numbers peaking in 2006. The business market share has been in rapid decline and airlines have been forced to adjust their business models accordingly.[13]

Authors have speculated that the original willingness of the UK Treasury to impose a tax on air travel back in 1994 may have been influenced by these wider economic dynamics of UK travel spending.[14] The UK operates a significant travel spending deficit, ie UK residents spend significantly more overseas than foreign residents spend in the UK. This in turn contributes to the UK's large current account deficit and diverts spending away from UK high streets. There is an argument, therefore, that reducing leisure travel demand in the UK would be beneficial for wider economic growth. Passengers would be encouraged to spend their money either in the domestic tourism industry (a partial substitute for international leisure travel) or in other domestic sectors, as Seetaram et al. (2014) suggest:

> From a purely economic perspective, policy instruments that could induce more domestic holiday-taking instead of overseas trips are perceived as highly beneficial from a tax policy perspective as well as for retaining consumer spending in the UK.[15]

This stands in contrast to statements from the industry that frequently paints itself as vital to the UK's wider economic growth. In response to the UK government's 2024 autumn budget decision to increase APD, Michael O'Leary, the CEO of Ryanair, Europe's largest airline by passenger numbers, was quoted as saying:

> The UK has no chance of growing if this idiot chancellor thinks that the way forward is going to be increasing tax on air travel.[16]

Ryanair's primary function in the UK is to carry UK residents abroad, facilitating their leisure spending overseas, to the detriment of parts of the domestic economy.

EUROPEAN STUDIES ON THE IMPACT OF NEW AVIATION TAXES

Other European governments have also been considering the relative trade-offs involved in taxing air travel. As part of the development process for the ReFuel EU legislation package, the European Commission has published various reports on the impact of a proposal for a fuel tax on European aviation. Three levels of fuel duty were considered which were equivalent to carbon taxes of €67, €131, and €198 per tonne. The study concluded that across Europe the policy would have negligible economic downside, particularly if the revenues raised from the tax were recirculated by governments into other productive areas.[17] The duty rate equivalent to €131 per tonne of carbon was estimated to increase total tax take (after consideration of losses due to lower demand and knock-on economic impacts) by €5.4bn per year in 2050.

Another study, commissioned by the aviation industry in the Netherlands (Schiphol Airport, KLM, and the airline industry board in the Netherlands), assessed the socioeconomic impact of a range of options including tighter constraints on flights at Schiphol Airport and the implementation of a distance-based tax on long-haul flights. The report found that the implementation of a long-haul, distance-based, ticket tax resulted in a very significant net societal welfare gain.[18] This stood in contrast to the report's findings on the impact of capacity growth at Schiphol Airport, which delivered an overall welfare loss.

FLAWS OF THE CURRENT AIR TRAVEL TAX REGIME

AIR PASSENGER DUTY

Air passenger duty (APD) is the UK's primary tax on air travel. APD was brought in by Conservative Chancellor of the Exchequer Ken Clarke in 1994. At its inception, and in subsequent communications around APD, the government noted that air travel was not subject to fuel duties or value-added tax (VAT). APD aimed to fill this gap while maintaining compliance with prevailing legal restrictions at the time. European Union tax law prevented the UK from levying VAT on air travel.[19] A popular opinion also persisted that plane fuel (typically kerosene) could not be taxed due to provisions in the Chicago Convention (ratified by the United Nations in 1947) but legal experts have since clarified that this is likely not the case.[20]

When describing APD, the government typically refers to it as a revenue-raising duty, which also provides "secondary environmental benefits".[21] Reforms to APD over the years, particularly the Labour government's introduction of distance bands in 2009, have further blurred the lines between APD and an environmental tax. Government documents published in 2009 were clear that the purpose of introducing distance bands was to ensure those "contributing more to emissions from aviation, will pay more".[22]

APD is unusual as a tax due to its flat, banded design. Unlike VAT levied on most purchases in the UK, APD is not charged as a percentage of the product's price. APD is charged as a flat absolute charge per passenger (Table 1). Charges vary according to two factors: the distance from the UK to the final destination airport (including any stop-overs), and the class of travel (measured by the size of the seat offered). Separate rates apply to what are commonly called private jet flights. APD rates are set in pounds and often (but not always) uplifted to account for inflation each year.

The flat design of APD has some social advantages. The highly dynamic nature of air ticket pricing sees prices an order of magnitude higher if purchased last minute or during the peak holiday season. A proportionate tax (eg at the 20% VAT rate) would see higher absolute taxes paid by passengers travelling at peak times and could increase the cost of the family holiday.

APD's design, however, does lead to some strange incentives and outcomes. APD operates very wide distance bands. A flight from the UK to Hurghada, Egypt of 2,400 miles is charged the same flat rate as a flight from the UK to Bogota, Colombia 5,200 miles away. The peculiarities that arise as a result have a few common features:

- Within a particular distance band, destinations further away pay lower effective tax rates.
- Within a particular travel class band, more luxurious classes pay lower effective tax rates (ie business class pays a lower rate than premium economy).
- The longest distance band (Band C) pays the lowest effective rate.

TABLE 1: AIR PASSENGER DUTY RATES FROM APRIL 2026, POST-BUDGET 2024 CHANGES

Bands	Distance	Reduced rate (economy class)	Standard rate (all other classes)
Domestic	N/A	£8	£16
A	0 to 2,000 miles	£15	£32
B	2,001 to 5,500 miles	£102	£244
C	Over 5,500 miles	£106	£253

TABLE 2: ILLUSTRATIVE FLIGHT TICKET PRICES (SINGLE FARE) AND EFFECTIVE UK TAX RATES ON A SELECTION OF ROUTES AND TRAVEL CLASSES (PRICES SEARCHED APRIL 2025 FOR FLIGHTS IN JUNE 2025)

Route	Distance in miles	Baggage	Class	Price	UK taxes (2024/25)	Effective UK tax rate
London to Amsterdam, Netherlands	230 (Band A)	No	Economy	£39	£13	33.3%
		Yes	Economy	£78	£13	16.7%
London to Larnaca, Cyprus	2,000 (Band A)	No	Economy	£50	£13	26.0%
		Yes	Economy	£115	£13	11.3%
London to Hurghada, Egypt	2,400 (Band B)	No	Economy	£154	£88	57.1%
		Yes	Economy	£210	£88	41.9%
London to Bogota, Colombia	5,200 (Band B)	Yes	Economy	£597	£88	14.7%
		Yes	Premium Economy	£899	£194	21.6%
		Yes	Business	£1,807	£194	10.7%
London to Auckland, New Zealand	10,800 (Band C)	Yes	Economy	£1,007	£92	9.1%
		Yes	Premium Economy	£2,312	£202	8.7%
		Yes	Business	£4,096	£202	4.9%

Source: Skyscanner, April 2025

TABLE 3: APD AS A SHARE OF 2023 UK AVERAGE ECONOMY CLASS RETURN AIRFARES

	Return airfare (2023 Q1)	APD paid	APD as a percentage of total fare	APD as a percentage of half the base fare
Domestic economy	£141	£13	9.2%	N/A
European economy	£173	£13	7.5%	16.3%
Long-haul economy	£895	£87	9.7%	21.5%

Source: ONS CPI indices

Table 2 highlights some illustrative examples of how the effective tax rate paid can vary. Within Band A effective tax rates vary significantly, and are notably lower when additional baggage charges are paid and on peak season fares. On an off-peak short-haul flight, baggage fees can often double the base price and hence halve the effective tax rate paid. Within Band B (2,001–5,500 miles) effective tax rates vary significantly according to distance. Effective tax rates in Band B can range from 60% for the shortest-haul destinations (e.g. Egypt) to under 11% for the longest (e.g. Colombia). Flying business class to super-long-haul destinations, such as New Zealand (Band C), can result in an effective tax rate of less than 5%.

Office for National Statistics (ONS) data can be used to gauge the rate of tax paid on an average ticket at the economy class level. The latest data at the time of writing (Q1 2023) is shown in Table 3.

Effective tax rates paid are shown both for a full return fare and for half a return fare. The latter is likely the better indicator for international flights given that foreign nations often apply a departure tax on the return leg, ie on their portion of the ticket. Looking at the full fare is more appropriate for domestic flights as both legs are taxed in the UK.

This analysis reveals that the rate of APD paid on domestic and European destination flights is lower than the current rate of UK VAT (20%). Long-haul flights are typically paying slightly above the equivalent rate of VAT. However, as long-haul flights are presently exempt from any form of fuel duty or carbon tax, there is an argument that these flights are still enjoying a very favourable tax environment.

CARBON EMISSIONS CHARGES ON INTRA-EUROPEAN ROUTES

The UK emissions trading scheme (UK ETS) requires businesses in a range of sectors to purchase allowances (also described as permits or credits) for every tonne of carbon emitted. Allowances are bought from a limited pool which is auctioned by the government at regular intervals. In theory, it is not a tax but a carbon trading scheme as allowances can be bought and sold on secondary markets but, in reality, it is similar to a carbon tax. As the total number of allowances is scheduled to reduce over time, the price of purchasing an allowance is likely to rise over time. The precise level of revenue generated for the government from the ETS depends on prevailing prices which are driven by business demand to emit carbon and the relative cost of decarbonisation technologies.

Typically between 25% and 30% of UK aviation emissions are on routes covered by the UK ETS. However, until the end of 2025, airlines will continue to receive free allocations of carbon permits. In 2023, around 4.3m free permits were allocated, meaning no price was paid on around half of the air travel emissions covered by the UK ETS system (8.8m tonnes).[23] In recent months, allowances have been trading at around £40 per tonne, but thanks to these free allowances, the effective UK ETS price per tonne being paid by airlines is closer to £20. NEF's model suggests that at current prices, the removal of free allowances will increase the cost of an average short-haul flight ticket by around £2.40.

There is a strong argument that even once free allowances have been removed, the charges levied on aviation through the ETS will need to rise. The Department for Transport (DfT) has assumed in its Jet Zero modelling an ETS price of £82 per tonne in 2024, rising to £150 by 2030.[24] This assumption is essential to the DfT's strategy as the increase in ticket prices it creates is assumed to bring down the number of passengers who fly, and hence contain the sector's emissions. This source of emissions control is the most influential factor in the Jet Zero strategy, delivering around 40% of the carbon emissions savings assumed in the strategy's preferred 'high ambition' scenario.

As of late 2024, the UK ETS price was significantly lower than forecast by Jet Zero, trading at around £40 per tonne. Modelling by the Department for Energy Security and Net Zero (DESNZ) does not foresee the allowance price reaching the level required by Jet Zero any time soon. Their modelling puts the price expected in 2030 at around £80, just over half the level assumed by Jet Zero.[25] Indeed the DESNZ forecast remains a long way short of the Jet Zero assumption all the way to 2050 (Figure 2).

Emissions prices sustained at levels significantly below the policy trajectory for long periods present a threat to the integrity of the Jet Zero strategy. Low prices will allow passenger numbers to rise beyond levels compatible with the UK's legally binding carbon targets and will also provide insufficient incentive for airlines to invest in decarbonising technologies and other fuel efficiencies. Charging a price well below the true social cost of the emissions also represents a failure to adhere to the polluter pays principle. Indeed, many would argue that even the levels assumed in the Jet Zero strategy are inadequate for delivering this objective.

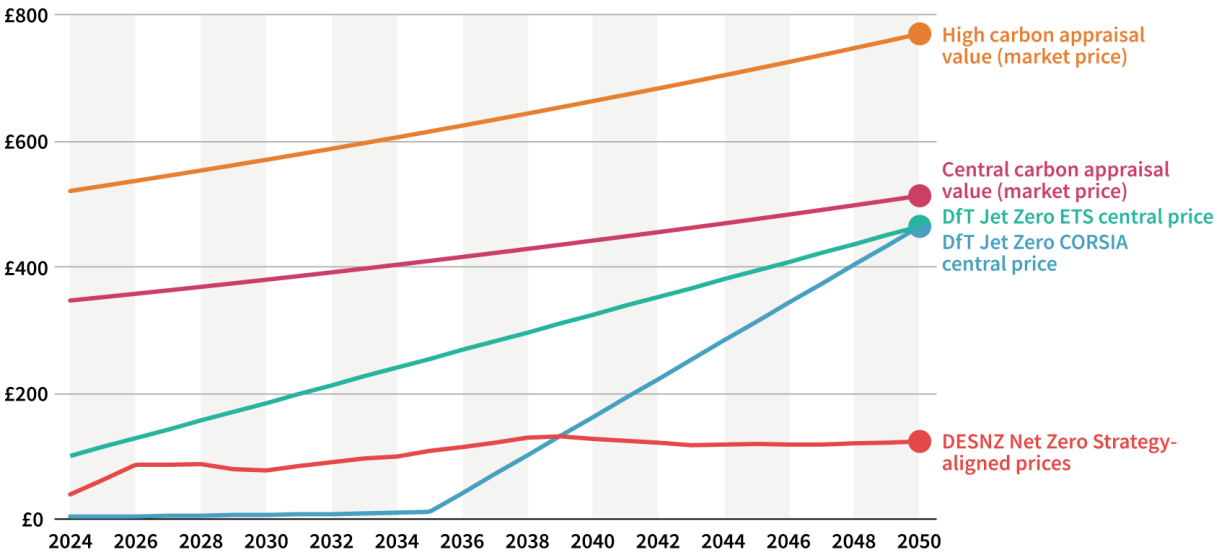
There are a range of different ways of approaching the question of how much *should* be charged for a tonne of carbon emitted by air travel. One indication is provided by the UK government's carbon values for appraisal, produced by DESNZ and used in guidance by a range of departments including the DfT. In this guidance, the government puts the central price per tonne of carbon at around £350 in 2025 (Figure 2). Hypothetically, if charged

to airlines, a carbon price at this level would cost around £40 per passenger on a typical short-haul flight, compared with around £2.50 today. With a typical one-way fare coming in at around £90, this could conceivably increase the ticket price by almost 50%.

At £350 per tonne, the true aggregate social cost of air travel emissions on flights to ETS destinations is around £3bn. This might be framed as what is owed under the polluter pays principle. This is considerably higher than both what was paid by the industry on these routes in 2023, at around £170m, and what is likely to be paid in 2026 when free allowances are removed – conceivably around £340m at current trading prices.

The Climate Change Committee (CCC) in its seventh carbon budget advice uses a higher level of carbon cost still. The CCC applies the government's 'high' carbon value to future ticket prices. This higher value is applied due to the uncertainties in aviation's path to net zero emissions, and the additional impacts the sector has on the climate through non-carbon gas emissions. The high carbon value series is shown in Figure 2 but it is important to note that the CCC modelling trends towards this level over time, rather than making an immediate adjustment.[a] Prices today are a very long way from this level and, however you cut it, the UK has an ETS pricing problem.

FIGURE 2: FUTURE CARBON PRICES (PER TONNE) ASSUMPTIONS IN DIFFERENT GOVERNMENT MODELLING EXERCISES



Source: DfT and DESNZ

a The precise pace at which prices are assumed to align with the high carbon values in CCC modelling was unknown at the time of writing.

PROPOSAL

INCREASE THE ETS MINIMUM CARBON PRICE

Background

ETS permit prices are neither on a policy-compatible trajectory nor are they expected to be any time soon. This provides insufficient incentive for airlines to invest in low-carbon technology and risks passenger numbers rising to unsustainable levels. The aviation industry is not paying for the damage it is doing to the environment and hence government taxation policy is not aligned with the polluter pays principle it subscribes to.

Action

- The price floor for aviation ETS permits should be increased to £150 per tonne by 2030 to align it with the government's Jet Zero strategy.
- This could be achieved by lifting the price floor for all ETS auctions (with wider ramifications), by levying a top-up charge just on aviation purchases, or by creating a separate market for aviation permits (similar to the way the EU has created a separate market for ETS2).

Ticket price change

- The average cost of a short-haul flight is expected to rise by around £13.

Demand response

- Overall passenger departures are estimated to decline by around 5%.

Climate impact

- Greenhouse gas emissions from the UK aviation sector are estimated to decline by around 4%.

Revenue generated

- After accounting for the decline in passenger demand, the policy would generate an additional £1.1bn from the aviation sector.
- The net revenue received by the Treasury would depend on the interaction with the wider ETS market.

Social impact

- The policy increases the price faced by all travellers on domestic and European routes.
- The policy is progressive in that it reduces the effective burden, or social cost, faced by the majority of individuals who do not fly.
- The policy is regressive in that the group which is likely to make the largest proportionate reduction in their flying behaviour is those on the lowest incomes who fly least frequently.
- The net progressivity of the policy is also affected by the government's ultimate use of the revenues generated by the policy.

CARBON EMISSIONS CHARGES ON EXTRA-EUROPEAN ROUTES

Long-haul flights cause the lion's share of air travel's climate impact. As these flights are currently subject to negligible carbon taxation they are proportionately the most under-charged under the polluter pays principle. The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) designed by the United Nations aviation body is currently being implemented by the UK government and applies to emissions from flights departing the UK for non-European destinations. But CORSIA has little-to-no meaningful impact on UK air travel. The scheme only applies to emissions above 85% of levels in 2019. Using the government's Jet Zero forecasts as a guide, this threshold could mean an offsetting obligation is charged on around 12% of emissions from travel to non-European destinations in 2025.

In addition, credit prices are so low as to be ineffectual. In 2022, credits with the CORSIA specification were traded at just £3 per tonne[26] and the DfT, in its Jet Zero strategy, assumes CORSIA prices will not rise above £12 per tonne until the end of the second implementation phase (2035). While some speculate that future prices could reach around £40 per tonne, the small share of the emissions which incur a charge under the current scheme design means CORSIA will have a negligible impact on UK air ticket prices, potentially as low as £3 on a typical long-haul flight at least until 2035. For reference, if all carbon from flights to non-European destinations were priced at the government's central carbon value for 2025 (£350), the charge on a typical long-haul flight ticket could come in at around £225. This would represent around a 50% increase in the average cost of a typical one-way long-haul fare.

With around 21.5m tonnes of carbon emitted by departing flights on non-ETS routes, the total aggregate social cost of emissions from extra-European flights comes in at around £7.5bn using the government's central carbon values. The cost would be higher still if the higher value series used by the CCC were applied. Under current policy arrangements, the industry pays effectively nothing towards this societal cost. Combining all EU and non-EU flights takes the total social cost of carbon emissions from aviation to £10.5bn against an amount paid by the sector, dependent on prevailing permit prices, well below £0.5bn.

Under-charging for carbon on non-EU routes poses an additional risk when considered alongside the higher (albeit still too low) ETS charges on EU routes. The mismatch between the two schemes creates an artificial price incentive for passengers to fly further afield. For instance, a longer-distance flight to Morocco, outside the ETS, could conceivably become cheaper than a shorter-distance flight to Spain.

Indeed, this shift towards non-ETS liable routes may already have begun. NEF analysis of CAA Airport data[b] suggests that between 2019 and 2024 the number of passengers on international ETS routes declined by 5 million (-2.8%), while the number of passengers on international non-ETS routes increased by 5.7 million (+8%). This shift contributed to around a 2% increase in passenger miles, delivered by just a 0.2% increase in passenger numbers. Many factors will have contributed to this shift, including changing use of hub airports (with passengers shifting to hub airports in the Middle East rather than Europe), and international events, but there is already a small price incentive encouraging it. This incentive will grow next year when ETS free allocations are removed, and it could grow further as the ETS allowance price begins to rise.

NON-CARBON EMISSIONS CHARGES

The climate damage caused by air travel is amplified by the impact of non-carbon emissions from aeroplanes at high altitudes such as water vapour, nitrogen, and sulphur oxides. In its guidance on business reporting of emissions, the government assumes that these emissions increase the damage caused to the climate by around 70%.[27] However, studies have suggested that over recent years they could in fact have increased the damage by as much as 200%.[28] The industry currently pays nothing for these emissions, again breaching the polluter pays principle to which the government has subscribed. At the 70% rate, and using government carbon values, the total social cost of all climate impacts from UK air travel in 2023 would come in at around £17.9bn, with under £0.5bn paid by the industry.

Clearly, there is a significant gap between the taxes currently paid by the sector and its fair share under the polluter pays principle. The claim made by some in the aviation industry that future growth in air travel demand is resilient to, and compatible with, fair environmental taxation is highly questionable. In fact, even current levels of demand for air travel are artificially inflated by the extremely generous low-tax environment afforded to air travel.

The government and industry square this circle when forecasting by assuming that the industry will never pay for its full damages. No charges have been included in any modelling produced to date, for example in support of airport expansion proposals, to account for damages caused by non-carbon emissions. Meanwhile, the full cost of carbon emissions is only levied in 2050 and only applied to residual emissions after ambitious rates of emissions reduction are assumed to be achieved through technological developments.

b NEF analysis compares CAA 2019 and 2024 airport data, dataset: Table 12.1: Intl Air Pax Route Analysis

PROPOSAL

IMPLEMENT A LONG-HAUL CARBON CHARGE

Background

The aviation industry is not paying for the damage it is doing to the environment, meaning the polluter pays principle the government subscribes to is not being followed. The current price of carbon is too low to incentivise the necessary technological and demand responses to achieve our climate targets. In addition, current government expectations of a rising carbon charge on European destinations, but a negligible charge on long-haul destinations (at least to 2035) represent a serious market distortion and a threat to the climate. This pricing framework will artificially incentivise more climate-damaging travel by making longer-haul destinations proportionately cheaper. Over time, airlines can be expected to adjust their business operations towards serving longer-haul routes. This must be avoided.

Action

- Implement an actual, or effective, carbon price on non-EU destinations rising to £150 per tonne by 2030 in line with the expected charge on European destinations.
- This charge could be levied through (i) ending the exemption of aviation fuel from fuel duty, (ii) expanding the ETS to cover non-EU aviation emissions, (iii) levying a new direct carbon tax, or (iv) increasing the size and number of price bands for long-haul APD.

Ticket price change

- The average cost of a long-haul flight is expected to rise by around £100.

Demand response

- Overall passenger departures are estimated to decline by around 13%.
- As overall air travel demand is expected to grow, this represents a relative reduction against an increasing baseline.

Climate impact

- Greenhouse gas emissions are estimated to decline by around 16%.

Revenue generated

- After accounting for the decline in passenger demand, the policy is estimated to generate an additional £3.4bn from the aviation sector.

Social impact

- The policy increases the price faced by all travellers on non-European routes.
- The policy is progressive in that it reduces the burden, or social cost, faced by the majority of individuals who do not fly.
- The policy is regressive in that the group which is likely to make the largest proportionate reduction in their flying behaviour is those on the lowest incomes flying least frequently.
- The net progressivity of the policy is also affected by the government's ultimate use of the revenues generated by the policy.

The government has done some initial exploration of the options for bringing non-carbon emissions in scope of the UK ETS but with no decisions made as yet. It has described its current status as "working with industry and academia to explore a means of estimating and tracking non-CO_2 impacts from the UK aviation industry".[29] Even if progressed, the current limited geographical scope of the ETS would leave most non-carbon climate impacts unregulated. Given there is broad consensus that harm is being done, and the government is committed to the precautionary principle in contexts of uncertainty, the lack of any regulation or taxation on this source of climate damage seems ill-advised.

PROPOSAL

SPEED UP EFFORTS TO MONITOR NON-CARBON EMISSIONS AND IMPLEMENT AN INTERIM CHARGE

As stated in the government's precautionary principle,[30] the absence of perfect data on the climate impact of non-carbon emissions from aeroplanes, and their emissions at different times and in different locations, is not an excuse for inaction given the known risk they pose. The government should seek to manage this risk with policy action. Specifically, it should consult on an interim tax, or other regulatory measure, that secures a social contribution from the sector as a collective for the harm done. This charge would increase the government's flexibility to invest in the green transition and reverse climate breakdown and might be levied, for example, through a top-up charge on APD, through a fuel duty, or a new tax on aeroplane landing fees.

UNDERSTANDING THE UK PASSENGER BASE

A range of factors including international diplomacy, historical legacies and laws, and political machinations have contributed to the current UK air transport tax, its odd range of features, and its inadequacies. However, the divergence from normal approaches to consumption taxes (eg value-added tax (VAT)) is also driven by the complex trade-offs involved in socially optimising air transport taxes. The existence of these trade-offs is recognised in the existing suite of exemptions from UK air passenger duty (APD). For example, children under two years of age, trips to remote islands, and humanitarian flights are exempt from APD, all for fairness or social purposes.

When considering the extension of air taxes to pay for climate impacts, further social optimisation considerations emerge. For example, the shortest-haul flights have the lowest relative climate impact and therefore will incur the lowest carbon price. However, on these routes, other forms of less environmentally damaging transport, such as coach or train, have more potential as a substitute. These flights might, therefore, be considered less damaging but more wasteful when considering the available alternatives. Should they be taxed higher or lower?

Another issue to consider when raising air travel taxes is the differences in travel purpose and their relative economic and social merits. Travel for business purposes is typically regarded as the most useful when it comes to stimulating wider economic activity (trade, investment, etc). At the same time, businesses typically have far higher ability and willingness to pay for air travel and are therefore the most able to absorb higher taxes.

Travel to visit friends and relatives (VFR) can entail very long-haul travel, for example, to visit friends and families in nations in South Asia, or West Africa, or commonwealth countries like South Africa and Australia. Flights to these destinations will incur very significant climate damage and therefore could face significantly higher pollution taxes. While these flights might have relatively lower direct economic benefits, they are of very high intangible social value to passengers. In some cases, these flights are desired by social groups that typically have below-average incomes and are least able to absorb higher ticket taxes. Other groups worth considering are low-income migrant workers, who bring significant value to the UK economy, and students who enjoy significant social value arising from cultural and knowledge exchange facilitated by air travel. Both groups are increasingly found on longer-haul routes as a result of the impact of Brexit on migration patterns.

These reasons and many others are promoted by lobbyists, many seeking to suppress aviation taxes for corporate benefit, as intractable. The size of these groups, however, relative to the overall UK passenger load, is often exaggerated. Similarly, the difficulties of protecting access to flying for these groups within a higher-tax aviation system are also often overstated. This report explores these issues. We begin with a detailed review of the UK air passenger base.

INCOMING VS OUTGOING TRAVEL

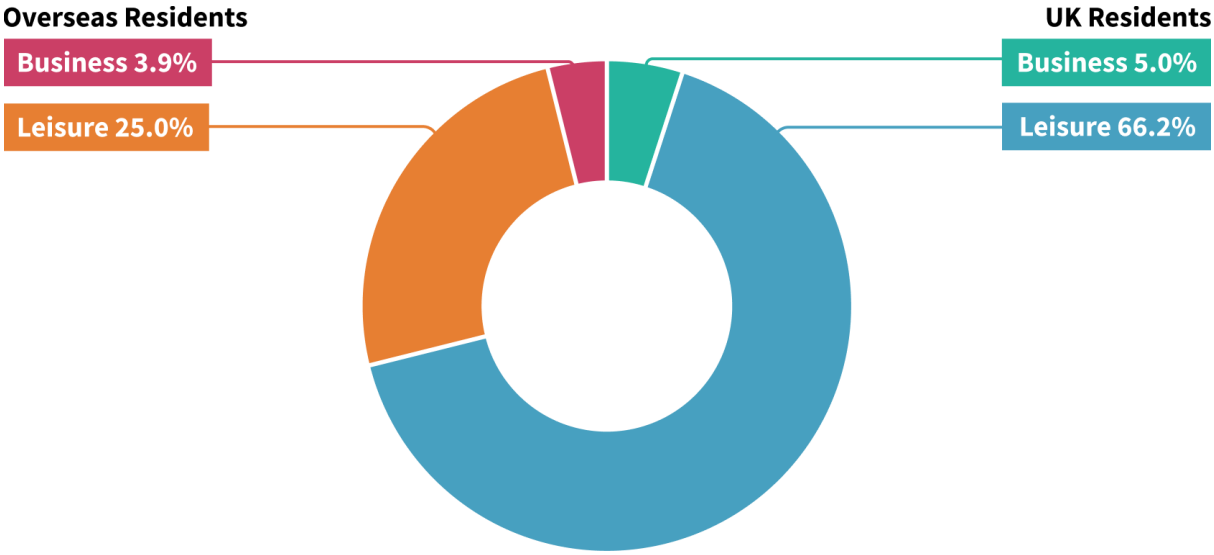
The UK passenger base is dominated by UK residents who made up 70% of the market in 2023 (Figure 3). Foreign residents, who make up 30% of the market, are proportionately more likely to be business passengers. Approximately 1 in 7 foreign-resident passengers was travelling for business in 2023 compared with 1 in 14 UK-resident passengers. The foreign resident share has remained relatively stable at around 30% for the past two decades. As a result, in absolute terms, the number of foreign residents has risen less (+8.7 million) than the number of UK residents (+22.2 million) since 2005.[c]

c NEF analysis of ONS Travelpac data (International Passenger Survey).

THE EVOLUTION OF TRAVEL PURPOSE

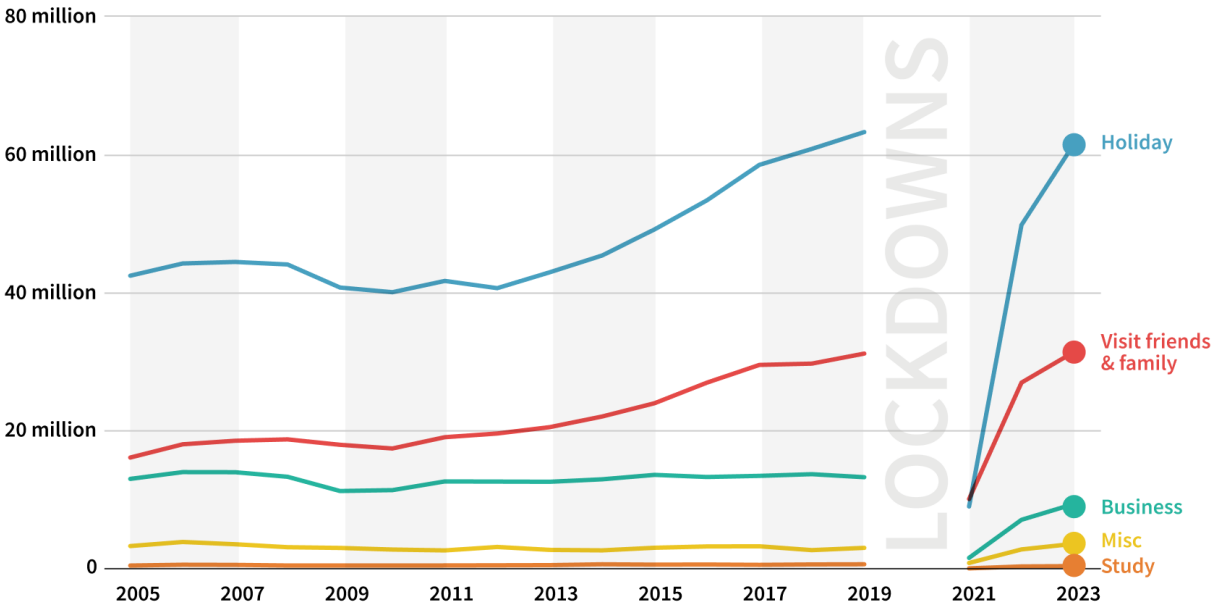
While international air passenger numbers have grown rapidly over the past two decades (ignoring the temporary dip caused by the Covid-19 pandemic), growth has exclusively taken place among those passengers travelling for holidays and VFR. The International Passenger Survey (IPS) suggests that holiday passengers made up the majority (58%) of departing passengers in 2023 (Figure 4).

FIGURE 3: OUTGOING (UK RESIDENT) PASSENGERS AND INCOMING (FOREIGN RESIDENT) PASSENGERS IN 2023



Source: Office for National Statistics, Travelpac (International Passenger Survey)

FIGURE 4: INTERNATIONAL AIR PASSENGER DEPARTURES FROM UK AIRPORTS BY PURPOSE OF TRAVEL FROM 2005 TO 2023



Source: Office for National Statistics, Travelpac (International Passenger Survey)

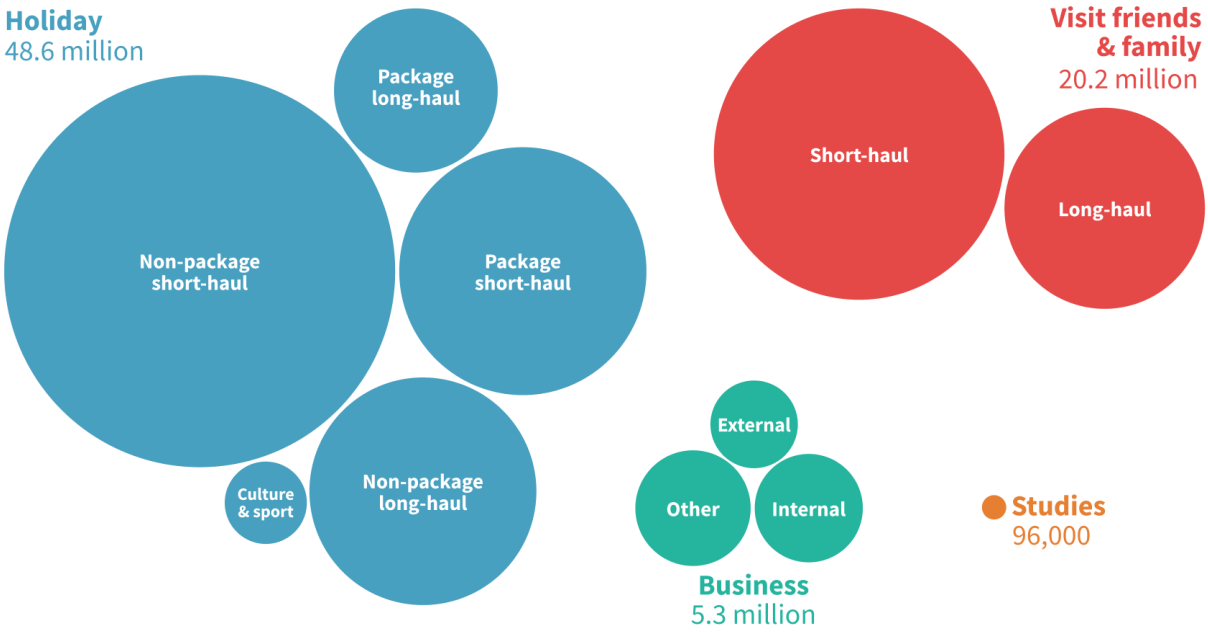
The Civil Aviation Authority (CAA)'s passenger survey, which might be regarded as slightly less reliable for national-level analysis as it does not survey a number of the UK's smaller airports, suggests that the share of passengers travelling for VFR is slightly higher.

The survey also provides finer detail on journey purpose. For instance, it suggests that just under one-third of passengers travelling for holidays were travelling on package holiday deals (Figure 5). The survey also shows that business travel is split relatively evenly between internal, external, and other (including commuting and conferences) company business, but this breakdown is modelled based on 2019 data and hence does not reflect behaviour changes since the pandemic. Short-haul travel is in the majority across all travel purposes (5), but visits to friends and family are slightly more prevalent on long-haul routes (32% of journeys) than short-haul (26% of journeys). Both the CAA and the IPS highlight the very small share of trips that take place for study/education. Most flights relating to study are made by foreign residents travelling to the UK, not by UK residents, but the share remains very small.

THE DISTRIBUTION OF PASSENGER INCOME

The relationship between income and flight habits can be explored in several different ways. Table 4 looks at the share of the whole UK population in each household income quintile taking at least one flight. Participation in flying is distributed highly unequally across income groups, with just one-third of the lowest income quintile typically flying in 12 months, compared with three-quarters of the highest income quintile. Outside the pandemic years, the share of the total population flying in any given year has remained relatively stable for some time at around half of the population. In 2023, 52.6% of the population took no flights, up from around 48.3% in 2019.

FIGURE 5: BREAKDOWN OF UK-RESIDENT AIR PASSENGERS BY PURPOSE OF TRAVEL, IN 2023 (MODELLED)



Source: NEF analysis of CAA passenger survey (2019 - proportions) and ONS Travelpac (2023 - totals)

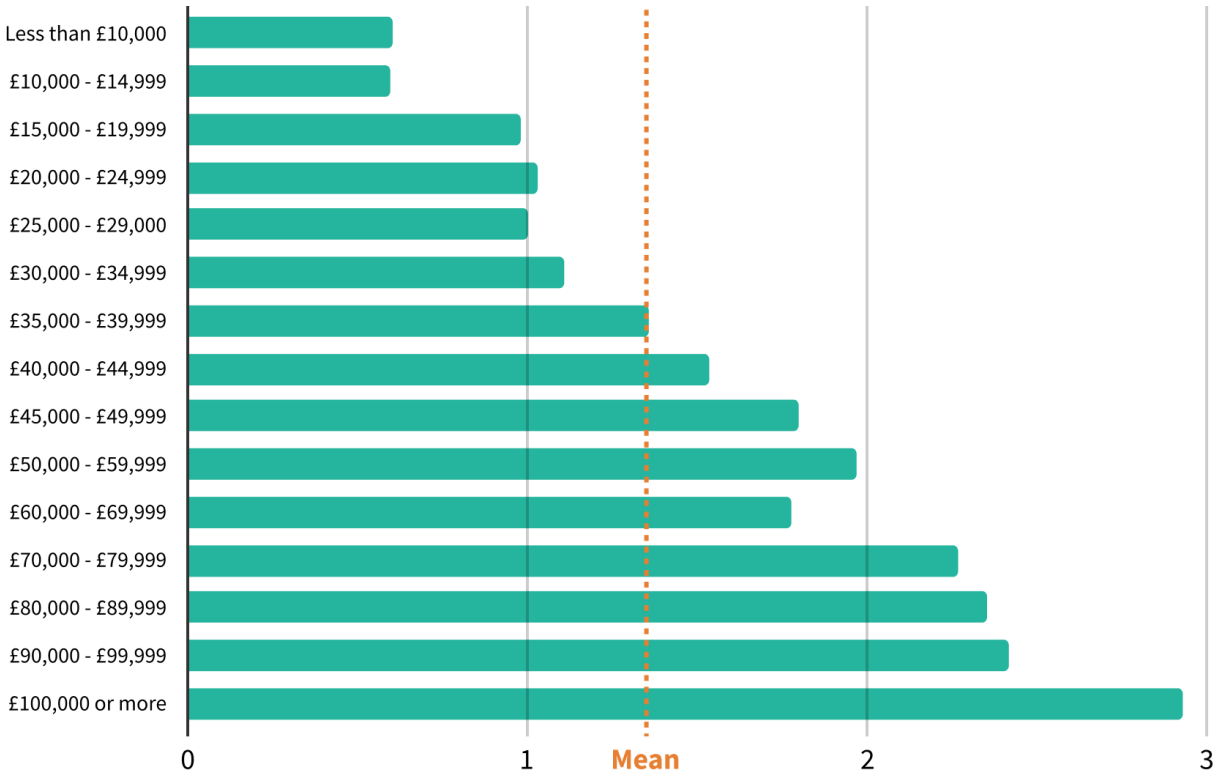
TABLE 4: PROPORTION OF ALL INDIVIDUALS WITHIN EACH HOUSEHOLD INCOME QUINTILE TAKING AT LEAST ONE FLIGHT PER YEAR IN 2019

Income quintile	Proportion taking at least one flight per year
Lowest real income level	34%
Second level	36%
Third level	52%
Fourth level	62%
Highest real income level	75%
All income levels	52%

Source: National Travel Survey

Polling conducted by More in Common in 2024 can be analysed to arrive at a rough estimate of the number of flights abroad taken by adults in 12 months in a larger range of income bands. As this data is polling data with a smaller sample size than a government survey, it should be approached with caution. In this dataset, the average household income is around £35,000. As shown in Figure 6, adults in the highest household income band (£100,000+) take more than five times as many flights on average as adults from the lowest income bands (<£15,000). Households with income between £15,000 and £35,000 take around one flight per year. Average flight numbers appear to rise steadily above that income threshold indicating that once households reach a certain level of income security their interest in travel abroad increases significantly.

FIGURE 6: ESTIMATED NUMBER OF FLIGHTS ABROAD PER YEAR (ALL PURPOSES) OF AN AVERAGE ADULT IN DIFFERENT HOUSEHOLD INCOME BANDS IN 2024



Source: NEF analysis of More in Common polling (weighted n=2,030)

THE EVOLUTION OF FREQUENT FLYING

As hinted by the income data in Figure 6, certain groups in society are far more frequent flyers than others. Here we combined National Travel Survey (NTS) data (self-reported flight frequency) with International Passenger Survey (IPS) (Travelpac) data to chart how frequent flying has developed over time.

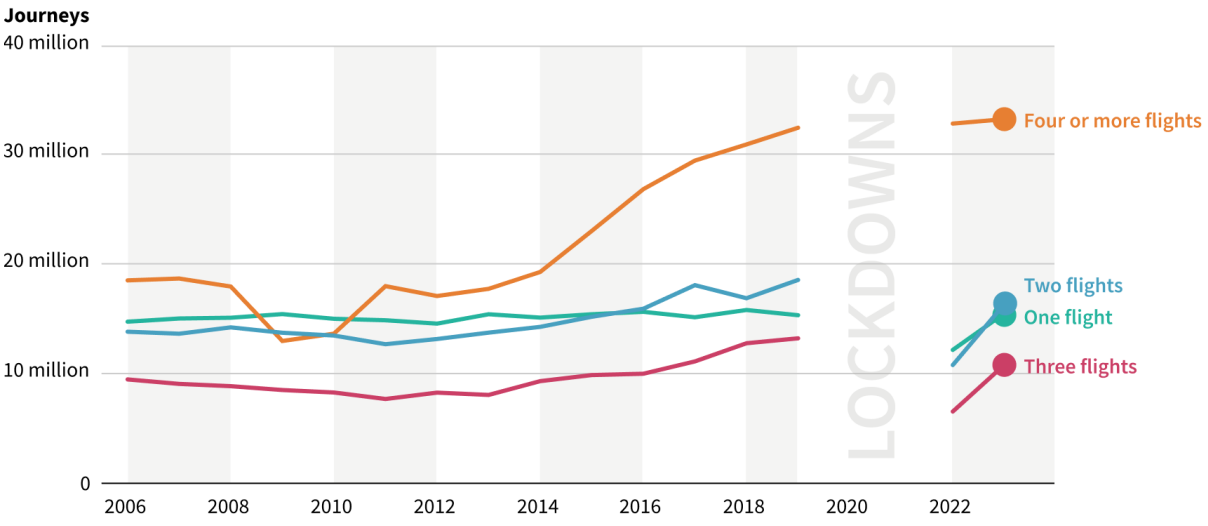
Between 2006 and 2023, the number of air trips abroad by UK residents increased by 19.4m.[31] But over this period there was no change in the proportion of residents who do not fly in any given year; this stayed static at 52% of the population and actually grew in absolute terms by around 200,000 people.[32] From this position, we can calculate who captured the air travel capacity that was added over the period (and used by UK residents).

Around 4% of new journeys were captured by individuals who flew just once per year. This group grew at a pace slightly below population growth over the period. In other words, the number of occasional travellers changed very little. It is possible that infrequent travellers have recovered at a slightly slower pace, post-pandemic, than frequent travellers and as such we might expect this figure to have risen slightly by 2025.

Respectively around 13% and 7% of the new journeys were captured by individuals flying two or three times per year. Growth in these groups slightly outpaced population growth. Around 76% of the new travel capacity was captured by individuals flying four or more times per year. This growth is related both to growth in the number of people in this category, which outstripped population growth (+22% compared with around +12%), and growth in the average number of flights they take (+47%).

As shown in Figure 7, the journey share of passengers taking four or more flights grew dramatically, particularly between 2014 and 2019, over which period this group increased their total journey count from 19m to 32m. To deliver this increase, travellers in this category increased their average number of trips per year from an estimated 4.7 to 7.0. This charts the rise of frequent flying as a consumer behaviour, and highlights that the majority of new airport capacity is captured by increasing numbers of frequent flyers flying more frequently.

FIGURE 7: JOURNEY SHARE OF UK-RESIDENT PASSENGERS GROUPED BY THEIR FREQUENCY OF FLIGHTS ABROAD OVER 12 MONTHS, IN 2023



Source: NEF analysis of Department for Transport NTS and ONS IPS data

From the same polling data presented in Figure 6 from More in Common, we can calculate that this group of passengers travelling four or more times a year are around six times more likely to have a household income of over £100,000 per year than individuals taking just one flight per year. The definition NEF has typically used for a frequent flyer covers any individual flying three or more times per year. In 2023, this group of frequent flyers made up around 12% of the population and took around 58% of the flights. This grouping took 83% of the new capacity added between 2006 and 2023.

However, as shown herein, this sub-group does not highlight quite how small the group of passengers driving growth through excessive consumption truly is. In this research, enabled by more precise data collected by the CAA, we have further expanded our typology of flight frequency, as shown in Box 1.

BOX 1

NEW CATEGORIES OF FLIGHT FREQUENCY (NUMBER OF ROUND TRIPS TAKEN IN 12 MONTHS)

- **Regular flyer:** Anyone who has taken two or more round trips in the past 12 months.
- **Frequent flyer:** Anyone who has taken three or more round trips in the past 12 months.
- **Ultra-frequent flyer:** Anyone who has taken six or more round trips in the past 12 months (i.e. flies on average once every two months).
- **Commuter flyer:** Anyone who has taken 12 or more round trips in the past 12 months (ie flies on average once every month).

Key data on these new categories of flyers is shown in Table 5. These groups are inclusive. For example, the regular flyers category includes all frequent flyers, and the ultra-frequent flyer category includes all commuter flyers. Regular flyers make up just over a quarter of the UK population and are responsible for around 84% of UK aviation emissions. This represents three times their fair share of emissions if aviation emissions were distributed equally among the population. At the highest-frequency end, commuter flyers, who represent an estimated 0.7% of the population, consume 9% of emissions, around 14 times their equal share. While commuter flyers actually occupy 12% of journeys, their tendency to favour shorter-haul routes than the wider flyer population means their emissions share is lower at 9%.

This report focuses most on the group we call ultra-frequent flyers. This group makes up just under 3% of the UK population, and takes just under 30% of the journeys. Their aviation emissions share is just over eight times their equal, or fair, share.

In Figure 8, we focus in further on which parts of the air transport market frequent and ultra-frequent flyers are found. A key insight is that frequent flyers are far less prevalent among package holiday travellers and on long-haul routes. Frequent flyers make up just 29% of package holiday journeys, compared with 53% of non-package holiday journeys. On all short-haul routes ultra-frequent flyers occupy 30% of journeys, while on long-haul routes they occupy 19%.

Where do the ultra-frequent flyers fly, and why?
Here we zoom in on the ultra-frequent flyers to look at where they go and why. Our analysis shows that contrary to popular belief, the majority (59%) of flights taken by ultra-frequent flyers in 2019 were taken for leisure, not business purposes. Changes since the pandemic, which have included a significant drop in the business travel share of the market, are likely to have further increased the leisure share. Table 6 shows the favoured destinations of business and leisure ultra-frequent flyers.

TABLE 5: POPULATION, JOURNEY, AND EMISSIONS SHARES OF PASSENGERS GROUPED BY THE NUMBER OF FLIGHTS TAKEN PER YEAR. EACH GROUPING IS INCLUSIVE OF THE HIGHER FREQUENCY GROUPINGS BELOW IT.

Category	Frequency	Share of UK population	Share of journeys (departing only)	Share of aviation emissions	Ratio emissions/ population
Regular flyer	Two or more round trips per year	27.6%	86.3%	83.8%	3.0
Frequent flyer	Three or more round trips per year	10.5%	56.9%	52.2%	5.0
Ultra-frequent flyer	Six or more round trips per year	2.8%	27.6%	23.5%	8.4
Commuter flyer	Twelve or more round trips per year	0.7%	11.9%	9.2%	13.5

Source: CAA passenger survey (data adjusted for airports excluded by the CAA survey)

FIGURE 8: SHARE OF JOURNEYS TAKEN BY FREQUENT AND ULTRA-FREQUENT FLYERS ACROSS DIFFERENT JOURNEY PURPOSE CATEGORIES

Source: CAA passenger survey

A trend of note is the number of destinations theoretically reachable by train. The data should be approached with caution because destinations such as Amsterdam and Frankfurt are hub airports, and hence a proportion of passengers are likely travelling onward to longer-haul destinations.

Passengers travelling to a hub airport may be harder to shift to a rail alternative given the nature of multi-leg tickets sold by airlines. However, the early success of Eurostar's new route from London St Pancras to Amsterdam highlights the potential for rail travel to make significant inroads into

TABLE 6: TOP 10 DESTINATIONS AND ASSOCIATED NUMBER OF PASSENGER JOURNEYS OF ULTRA-FREQUENT FLYERS IN 2019

	Leisure (including visiting friends and family)			Business		
	Destination	Journey share of ultra-frequent flyers	Journeys taken by ultra-frequent flyers (2019, modelled)	Destination	Journey share of ultra-frequent flyers	Journeys taken by ultra-frequent flyers (2019, modelled)
1	Dublin	27.3%	711,000	Amsterdam	57.9%	601,000
2	Amsterdam	20.8%	462,000	Dublin	59.4%	554,000
3	Madrid	31.9%	422,000	Edinburgh	61.2%	497,000
4	Barcelona	22.6%	383,000	Frankfurt	61.6%	384,000
5	Geneva	37.7%	381,000	Glasgow	64.1%	383,000
6	Malaga	23.1%	365,000	Copenhagen	69.2%	292,000
7	Edinburgh	31.6%	348,000	Geneva	67.2%	276,000
8	New York	19.4%	328,000	Madrid	68.2%	270,000
9	Dubai	11.5%	260,000	Munich	61.7%	257,000
10	Alicante	17.7%	257,000	Belfast	68.8%	248,000

Source: NEF analysis of the CAA passenger survey

these markets. Despite a range of surmountable infrastructure and journey experience challenges (including challenges introduced at St Pancras by Brexit), Eurostar served over a million passengers on its Amsterdam route in 2023. At the same time, between 2019 and 2024, passengers flying from the UK to Amsterdam declined by around 2 million. There is significant potential for new routes, improved infrastructure, more providers, and improved passenger experience to drive a modal shift on these routes.

Geneva, a major frequent flyer destination, but not a hub airport, provides an interesting example. The route to Geneva has an exceptionally high proportion of ultra-frequent flyer passengers, occupying 38% of all leisure passenger journeys and 67% of business passenger journeys. Geneva is currently reachable by train with one change in Paris, but a wide range of stakeholders, including the Swiss railway operator, have expressed interest in a direct service. Improving service speed and quality could also increase the volume of passengers choosing rail (and sail) to reach destinations such as Dublin and Barcelona.

DOMESTIC AND ULTRA-SHORT-HAUL AIR TRAVEL

Passenger numbers on domestic air routes in the UK declined after the 2007–08 financial crisis and, while recovering somewhat, have never returned to their pre-crisis peak. Nevertheless, in 2024, some 39m passenger journeys were recorded on domestic routes. While business passengers are more common on these routes, leisure passengers made up the majority recorded in the 2023 CAA survey at 64%. As already described, ultra-frequent flyers are particularly common.

Despite making up around 20% of departing flights, domestic routes typically only account for around 3% of carbon emissions from UK departures.[33] While emissions on domestic air routes are low relative to international routes and the sector's emissions as a whole, domestic flight is still the highest emitting mode of travel on a per-mile basis (assuming standard occupancy levels).[34] This gap will widen as the roll-out of electric road vehicles continues at pace (and a faster pace than the aviation industry's own decarbonisation).

The efficiency of travel on these routes is open to question. In 2024, around 12m passenger journeys (single flights) were taken on routes between London and domestic destinations reachable via a direct train (Manchester, Newcastle, Edinburgh, and Glasgow). A further 3.5m, 2.3m, and 0.6m passenger journeys were made between London airports and Amsterdam, Paris, and Brussels respectively – all reachable via a direct train from London.

The higher viability of zero emissions flight on these short hops should make them a priority for decarbonisation ambition. In the meantime, there is a case for a stronger price signal discouraging air travel and encouraging the rail alternative. Certainly, the current price dynamic in which domestic air travel is subject to a lower rate of APD than the rest of the market (Table 1) seems flawed.

The government should consider a surcharge on train-viable routes. We have chosen not to include such a charge in our modelled policy package for two reasons. The first is that our analysis has shown that a policy focus on frequent flyers could perform a similar function. We favour this approach and describe it herein. Second, heavier penalisation of all train-viable routes should only really be rolled out alongside significant improvements to the UK's rail network. These will take time and investment to deliver.

USE OF PREMIUM TRAVEL CLASSES

A small proportion of passengers travel in greater luxury than the majority. Across all flights departing UK airports just over 4% of passengers fly in first, business, or premium economy class. Travel in these classes is far more prevalent on longer-haul routes, accounting for just over 12% of journeys (Figure 9).

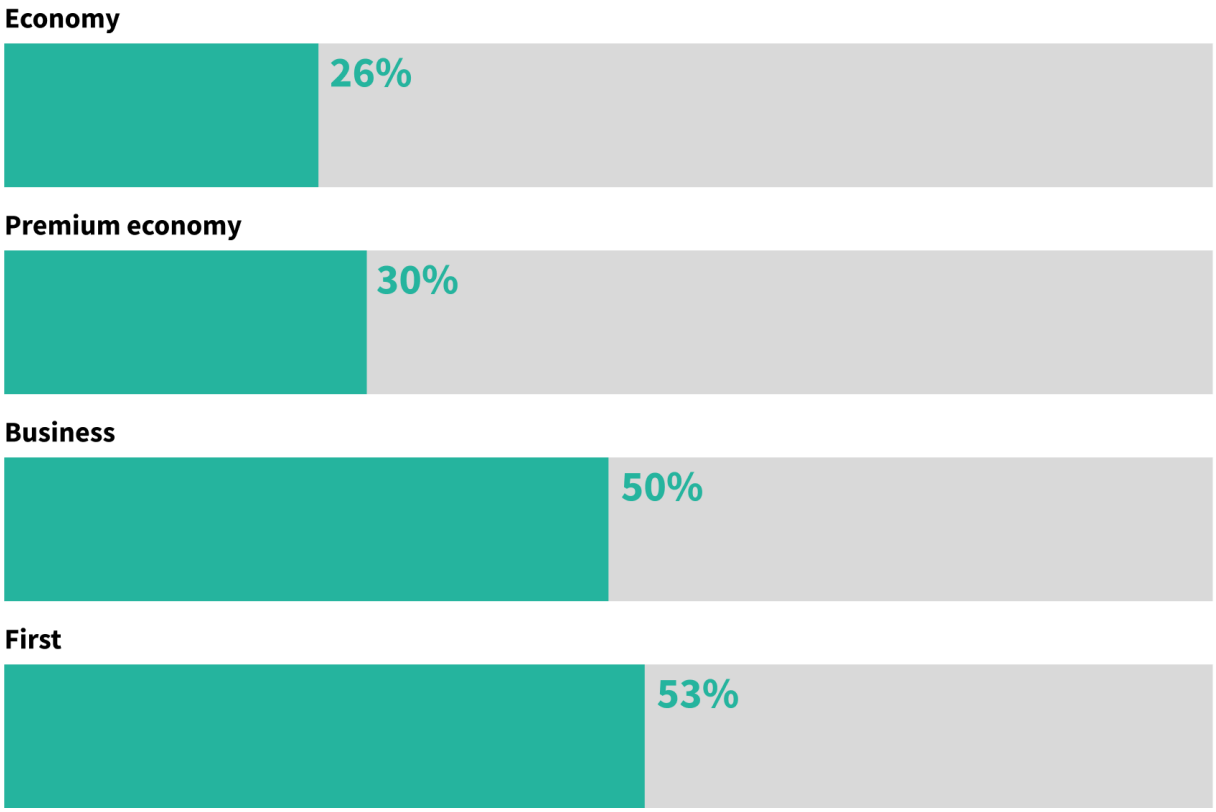
Perhaps unsurprisingly, passengers travelling in the luxury classes are more likely than average to be flying for business purposes. While travellers in premium economy are only slightly more likely to be travelling for business, travellers in business class are around twice as likely to be on a business trip. Nonetheless, and contrary to what many might assume, in total the significant majority (63% in 2019) of passengers in all of the luxury classes are travelling for leisure. A better indicator of the use of the luxury classes is flight frequency. The majority of journeys in business class (50%) and first class (53%) are taken by passengers who fly six or more times per year, compared with just a quarter (26% of the journeys in economy class (Figure 10).

The greater luxury in which this group of passengers travel, and their tendency to be found on longer-haul routes means their proportionate share of the sector's emissions is far greater than average. As shown in Table 7, NEF's model indicates that while just under 2% of the UK population fly in luxury classes, the luxury flights this group takes are responsible for around 17.5% of the sector's emissions (nine times what might be considered their fair, or equal share).

FIGURE 9: MARKET SHARE OF PREMIUM ECONOMY, BUSINESS, AND FIRST-CLASS PASSENGERS ON ALL FLIGHTS, EXCLUDING SHORT-HAUL FLIGHTS (UNDER 2,000 MILES), IN 2019

Source: CAA passenger survey

FIGURE 10: SHARE OF JOURNEYS TAKEN BY ULTRA-FREQUENT FLYERS, BY CLASS OF TRAVEL



Source: CAA passenger survey (CAA warns there is a chance of slight under-reporting of luxury class usage in the passenger survey)

TABLE 7: POPULATION, JOURNEY, AND EMISSIONS SHARES OF PASSENGERS GROUPED BY CLASS OF TRAVEL

Class	Proportion of emissions	Proportion of journeys	Proportion of individuals flying	Proportion of UK population	UK pop/ emissions ratio
Economy class	82.5%	95.5%	96.3%	50.1%	1.7
Premium economy class	7.6%	2.0%	2.1%	1.1%	7.1
Business class	8.9%	2.4%	1.6%	0.8%	10.9
First class	1.0%	0.1%	0.1%	0.03%	28.2
All luxury classes	17.5%	4.5%	3.7%	1.9%	9.1

Source: CAA passenger survey (CAA warns there is a chance of slight under-reporting of luxury class usage in the passenger survey)

As detailed in the section on APD, passengers in the premium classes are currently typically paying lower tax rates (relative to the overall ticket price) than passengers in economy class. This stands in contrast to this group's ability and willingness to pay more to fly.

PROPOSAL

A HIGHER, MORE PROPORTIONATE LUXURY CLASS CHARGE

Background

On a space-per-passenger basis, the luxury classes (premium, business, and first class) are by far the most environmentally damaging, yet the taxes they pay via APD, as a proportion of the overall fare, are some of the lowest. Over recent years, passengers in the luxury classes have transitioned from business to leisure, cementing the product as one of luxury not necessity.

Action

- Increase APD levels (and hence ticket prices) for all luxury classes. Our tested increases are £100, £150, and £500 for premium, business, and first class, respectively.
- Implement this policy either by reforming APD such that there are a larger number of bands capturing differing levels of comfort, or by applying a luxury class surcharge as a percentage of the ticket's cost.

Demand response

- NEF's model suggests overall passenger demand would decline by around 0.6%.
- Within the luxury class market, demand could decline by around 14%, but the overall decline is difficult to model given the lack of robust data on price sensitivity. We currently assume demand is inelastic, leading to small demand responses by higher revenue raising potential from the tax.

Climate impact

- The notional decline in climate impact would be 2.5%.
- In practice, the net climate impact change would depend on system effects, such as airline decisions to re-purpose space dedicated to luxury class passengers.

Revenue generated

- The scheme design tested is estimated to raise around £800m.

Social impact

- The policy is highly progressive in that it only targets a very small minority of high-income leisure passengers and business passengers.
- While wealthy passengers may continue to fly, they will be incentivised to travel either in a lower (more efficient) cabin class or will make a larger contribution under the polluter pays principle.

TAX AS DEMAND MANAGEMENT

As shown in Figure 7, demand for air travel has been growing rapidly in the UK, led principally by UK-based frequent flyers. But there are major concerns that further growth in air travel will jeopardise the UK's ability to meet its climate targets. The UK government's expert advisory body on climate change, the Climate Change Committee (CCC), regards demand management (policies to control growth or reduce passenger numbers) as playing a "critical role in ensuring GHG [greenhouse gas] emissions continue to decrease" in the aviation sector.[35] Demand management means balancing the incentives and restrictions placed on air travel by the state to ensure that travel behaviours achieve an optimal balance between winners and losers, flyers and non-flyers, people and planet. The examples of demand management policies provided by the CCC (carbon pricing, frequent flier levy (FFL), value-added tax (VAT), fuel duty, air passenger duty (APD) reform, airport capacity management) are mostly tax policies. The CCC does not prescribe which is preferable.

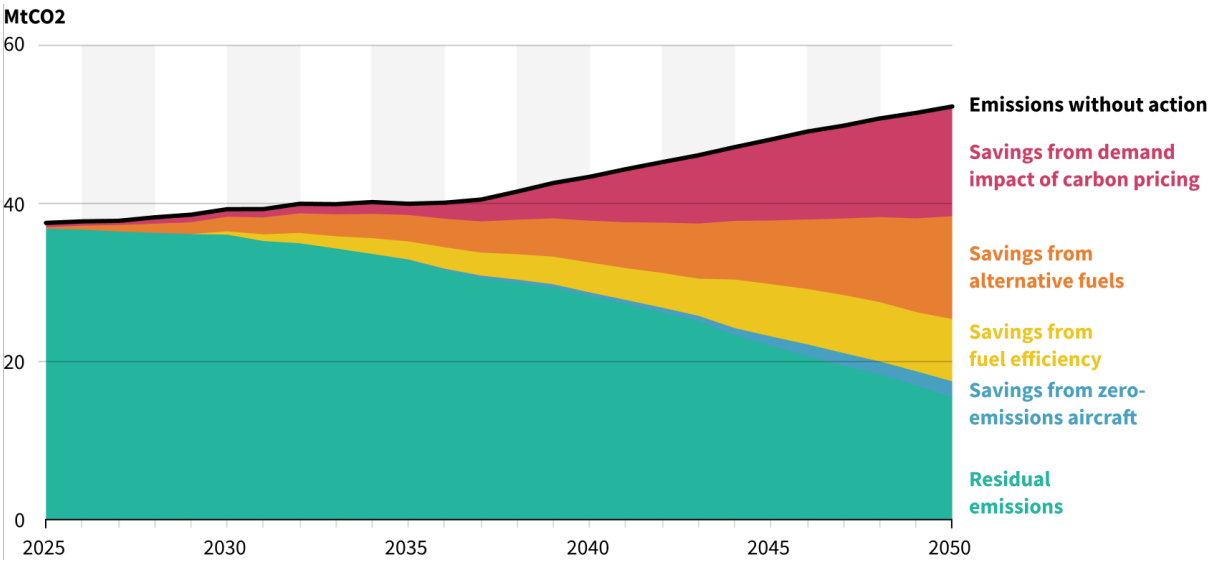
At various points over the past few years, both Labour and Conservative ministers have been at pains to state that they do not have intentions of delivering "demand management":

> While we recognise sustainable aviation fuel (SAF) may be more expensive than traditional jet fuel in the immediate term, we're ensuring decarbonisation doesn't come at the expense of consumers. This plan is part of our approach to ensure that the rationing of flights through 'demand management' is ruled out. - Lord Davies of Gower, Conservative Under Secretary of State for Transport, speaking in April 2024

> There will be no demand management on this side of the aisle. - Mike Kane, Labour Under Secretary of State for Transport, speaking in November 2024

This claim is misleading. The Conservative government delivered the Jet Zero strategy and to date the Labour government has backed it. The largest source of future emissions reduction in Jet Zero's preferred pathway (high ambition) derives from what is described as 'demand impact of carbon pricing' (Figure 11). In other words, the government intends to use carbon pricing (taxes) to manage demand. It has not signalled any intention, however, to design such policies in a way which protects low-income access to infrequent air travel.

FIGURE 11: SOURCES OF EMISSIONS SAVINGS TARGETED IN THE JET ZERO STRATEGY 'HIGH AMBITION' SCENARIO



Increasing the price constraint on air travel is essential as the current and predicted technological solutions to aviation's carbon impact do not deliver anything close to a net zero aviation system. Indeed, even with a significant role for carbon pricing in the mix, the government expects to face up to 15m tonnes of residual carbon emissions in 2050 under its Jet Zero plan (Figure 11). To deal with this, the government hopes to rely on costly and unproven carbon capture technologies,[36] but the route and funding to achieve this has yet to be set out.

FUTURE AIR TRAVEL DEMAND

The government has accepted that demand management through price signals is required. The true point of contention is the extent of demand reduction required. The CCC has long advocated a position of limiting growth in passenger numbers to 25% above 2018 levels.[37] Its latest advice to the government for the 7th carbon budget sees overall passenger departures from the UK remain stable out to 2030, increasing only 2% by 2035 and only 10% by 2040 compared with today's levels. By contrast, the latest Department for Transport (DfT)'s latest forecast modelling foresees 15% growth by 2030, 29% growth by 2035, and 42% growth above today's levels by 2040.[38] It is important to note, however, that these numbers were treated as an upper bound, against which the government was testing the effectiveness of its climate policies.[39]

These forecasts are long-range; other stakeholders have considered what responsible demand management might look like in the short-to-medium term given the uncertainty regarding the pace of development of key factors such as fuel efficiency and alternative fuels. A report by Chatham House and Possible in 2023 discussed the need to "buy time" for technological solutions to mature using more stringent demand management in the near term. Their report finds that even if technological solutions do develop, to keep emissions within carbon budgets it will still be necessary to cut air travel demand by 36% by 2030, with growth beyond that date conditional on emissions reduction targets being met.[40] Similarly, a 2024 study by CE Delft assessed aviation sector emissions pathways and concluded that emissions reductions of at least 31% by 2030 are required, on top of already planned emissions reduction activities, for aviation to achieve a fair path to net zero.[41]

Each of the studies described entails what represents a fair share of emissions for the aviation sector, and what represents a responsible approach in the face of significant risk. But, given the recent weakening in the economic benefits to further air travel expansion,[42] and the expert advice the government has received, tighter short-medium-term demand management seems both the responsible and socially optimal course.

WHAT DOES THE PUBLIC WANT TO SEE?

Detailed polling undertaken by More in Common in 2024 provides some interesting insights into the opinions of the public when it comes to managing and taxing air travel and its environmental impacts.[43] Some key insights include:

- The public does not see aviation growth as essential for economic growth (+28% net support).
- The public is more inclined to think that the costs of reducing the harmful environmental impacts of flying should be paid by taxing jet fuel (41%) or raising ticket prices (30%) than by raising other taxes (14%) or increasing government borrowing (5%).
- The public thinks that action to address the environmental impact of flying should focus on those who fly the most rather than all flyers equally (+16%).
- The public strongly supports equalising the cost of train travel versus air travel (+60%) even if it means increasing charges on flying (+40%).
- The public is highly convinced by the argument that it is unfair that fuel used by cars and trains is taxed but air travel fuel is not taxed (+53%).
- An FFL is considered a very fair policy (+30%), a majority would support it (+24%), and a majority expect it to be effective at reducing the environmental impact of air travel (+18%).

The CCC also explored public perceptions of the air travel/climate problem through its Citizens' Panel. This more qualitative exercise involved discussing the fairness of different approaches to delivering net zero in aviation. The key headlines include the following:

- Most saw flying as a choice rather than a necessity.
- Most felt that ticket prices increasing because of policy was acceptable.
- The panel emphasised the importance of protecting the ability of families to fly on holiday once per year.
- The panel felt that responsibility for reducing emissions should sit with the airline industry.
- Most strongly supported an FFL or an emissions- or distance-based tax.
- The panel was less supportive of a policy requiring airlines to offset their emissions.

In both exercises, support for protecting the ability of families to holiday abroad once a year, and the principle of an FFL was very strong. From one perspective, the public's view on this issue is logical. We have shown that serious growth in air travel emissions does not originate from the occasional flyers on their annual family holiday. Emissions from this travel segment are arguably aligned with even the most precautionary decarbonisation trajectory. However, the carbon policies proposed thus far (which are effectively already endorsed by current government strategy, just not implemented) risk coming into conflict with this perspective. The easiest way to tackle this real and perceived unfairness would be to directly address it in policy.

PROPOSAL
A FIRST FLIGHT DISCOUNT

Background
With carbon pricing materially increasing the cost of flying for all passengers, there is a need to deliver and communicate fairness. To maintain existing high levels of support for the green transition, the government should demonstrate its commitment to fairness by delivering a discount on an individual's first flight of the year. The principle is well established, through the use of rail and bus cards across the UK to discount travel for priority social groups, travel purposes, or routes.

Action
- Offer all residents of the UK a single, fixed-value, discount of £20 on one departing flight per year.
- Potential mechanisms include the creation of an 'aircard', or administration of a non-transferable discount code.

Demand response
- Departures by UK residents are estimated to increase by around 5%.

Climate impact
- Greenhouse gas emissions from UK residents are estimated to increase by around 5%.
- Greenhouse gas emissions from UK air travel are estimated to increase by 3%.

Costs generated
- The scheme is estimated to cost the government around £700m.

Social impact
- The discount will partially mitigate the impacts of rises in carbon taxes for an individual's first flight of the year.
- The policy is universal, so offers the same fixed value to all travellers, but is of greater value to lower-income households when viewed relative to their income.

PROGRESSING FREQUENT FLYER TAXATION

Recent years have seen a surge in academic research discussing the necessity[44] and social costs and benefits of (particularly frequent) flying. In light of the growing calls for tighter demand management, researchers have explored the wellbeing derived from flying, its relative value and duration, and the extent to which it can be substituted with other goods.[45] Research clearly underscores the social value of air travel to a subset of the population, particularly those who rely on it for family and other social connections. But research also questions the relative value, or necessity, of what is sometimes called 'high intensity' or even 'binge' flying. This is particularly the case in the holiday flight category, and even more so in the domain of short-haul travel. With the passenger market over-representing younger individuals, particularly between the ages of 25 and 34, higher value is placed on one or two formative long-haul trips than frequent short-haul holidays.[46]

In particular, this means exploring the social, personal, and business drivers of (frequent) flying. Büchs and Mattioli (2022)[47] and Fouquet and O'Garra (2022)[48] explore the social justice of flat taxes versus taxes in the form of a frequent flyer levy (FFL); also see Chapman et al. (2021).[49] These studies have already demonstrated the strengths of an FFL as a more progressive approach to air transport taxation. But, while the policy has piqued political interest, governments have thus far resisted implementation.

A common push-back to the FFL proposal is the complexity of implementing the policy. These complexities were discussed at greater length in NEF's report *A Frequent Flyer Levy in Europe.*[50] The report commissioned legal advice to understand the barriers to implementation in Europe and how they might be overcome. Our interpretation of the legal advice is that an FFL is technically feasible, and challenges such as compliance with GDPR data protection legislation are surmountable. It is true, however, that new systems would be needed that might take some time to develop. It is also the case that the FFL works best in tandem with other policies, such as carbon taxation, which ensure that travellers face the right price incentives on aspects such as flight distance and travel class.

With this in mind, this report considers an FFL as one part of a wider package of reforms in the sector and looks at simple ways of achieving the same fairness objectives while incurring a lower administrative burden. Our legal advice highlighted that the least administratively complex way to implement an FFL is not to apply it as a ticket tax, but to apply the charge on an individual's tax return. This approach avoids the need for a live, contactable, database of individual flight movements which ticket retailers must interact with at the point of sale, and instead only requires movements to be confirmed by tax authorities investigating compliance with the law.

AN ULTRA-FREQUENT FLYER CHARGE

Background
Several studies have shown that an FFL has high levels of public support, and is important not just for its impact on emissions but for the optics and message it sends. Previous proposals have ramped up the levy charge from an individual's second flight, but some have raised concerns about the legitimate travel needs of some groups (eg migrant workers) who fly slightly more frequently (eg 2–3 times per year).

Action
- Require individuals flying six or more times a year to complete a tax return at the end of the tax year.
- Implement a tax return charge for all individuals taking six or more flights per year starting at £100 per return flight on each additional return flight above five return flights, and rising by £100 for each additional flight.
- Consider implementation on a ramp, for example, applying the charge to individuals flying more than 10 times in year one, and subsequently reducing the threshold by one flight each subsequent year.

Demand response
- Implemented as the six-flight threshold, the policy reduces demand from UK resident passengers by an estimated 9%.

Climate impact
- The policy reduces the climate impact of UK resident passengers by 9%.
- The policy reduces the overall climate impact of the UK aviation sector by 6%.

Revenue generated
- Using our modelling approach, the policy generates an estimated £1.6bn in additional tax revenues.
- In practice, the significant increase in cost could see demand for levy-paying flights fall further, resulting in a larger decline in demand, fewer emissions, and less revenue generation.

Social impact
- Frequent flyer taxes have been shown to be the most progressive way to tax air travel.
- Starting the tax at an individual's sixth flight of the year means the tax potentially impacts under 3% of the population, the majority of whom have very high household incomes, and fly mostly for leisure.
- Ultra-frequent flyers who are approaching the six-flight threshold will be heavily incentivised to consider alternative options such as rail or online communication.
- Individuals with personal income above £150,000 are already required to submit an annual tax return. Individuals below this threshold will face a new burden of completing a tax return which will act as an additional incentive to cut their flight numbers, hence reducing emissions.

POLICY PACKAGE IN COMBINATION

The in-combination effect of the proposed aviation policy package (ie all of the above) would be to cut UK aviation emissions by 28% in 2030. This is achieved from a corresponding reduction in passenger journeys of 30%. Figure 12 provides an indicative estimate of the absolute level of emissions savings from a baseline of 38.8MTCO$_2$. This baseline is derived from the Climate Change Committee's (CCC's) seventh carbon budget underpinning assumptions. This represents the CCC's forecast for 2030 emissions *less* any savings from emissions pricing or other demand management measures but inclusive of some savings from assumed alternative fuels uptake. The full package leads to a reduction of around 10.5MTCO$_2$, this compares with an assumed saving from demand management measures of 5.4MTCO$_2$ in the CCC's balanced pathway, and 1MTCO$_2$ in the Jet Zero high ambition pathway.

As shown in Figure 13 the reduction in emissions is secured proportionately far more from higher frequency travellers. Passengers who typically only take one flight in 12 months see a 13% reduction in emissions, but this fall relates predominantly to them being incentivised to take shorter-haul flights. The price of an individual's first short-haul flight of the year sees effectively no change.

The policies, in practice, would roll out progressively and cautiously, and the price response from the public would need to be monitored carefully. However, at full implementation, the policy package presented here could conceivably raise around £6bn per year for the government.

ECONOMIC IMPACT OF THE POLICY PACKAGE

As described above, research by others, including the European Commission, suggests that well-designed air transport taxes can have impacts ranging from negligible to net positive in Western European economies. The best outcomes will be secured if the tax revenues raised are re-circulated into the economy via productive routes with high so-called multipliers, ie routes that put money in the pockets of those on lower incomes who are most in need and most likely to spend in their local economy.

FIGURE 12: POLICY IMPACT ON CARBON EMISSIONS FROM FLIGHTS DEPARTING THE UK IN 2030

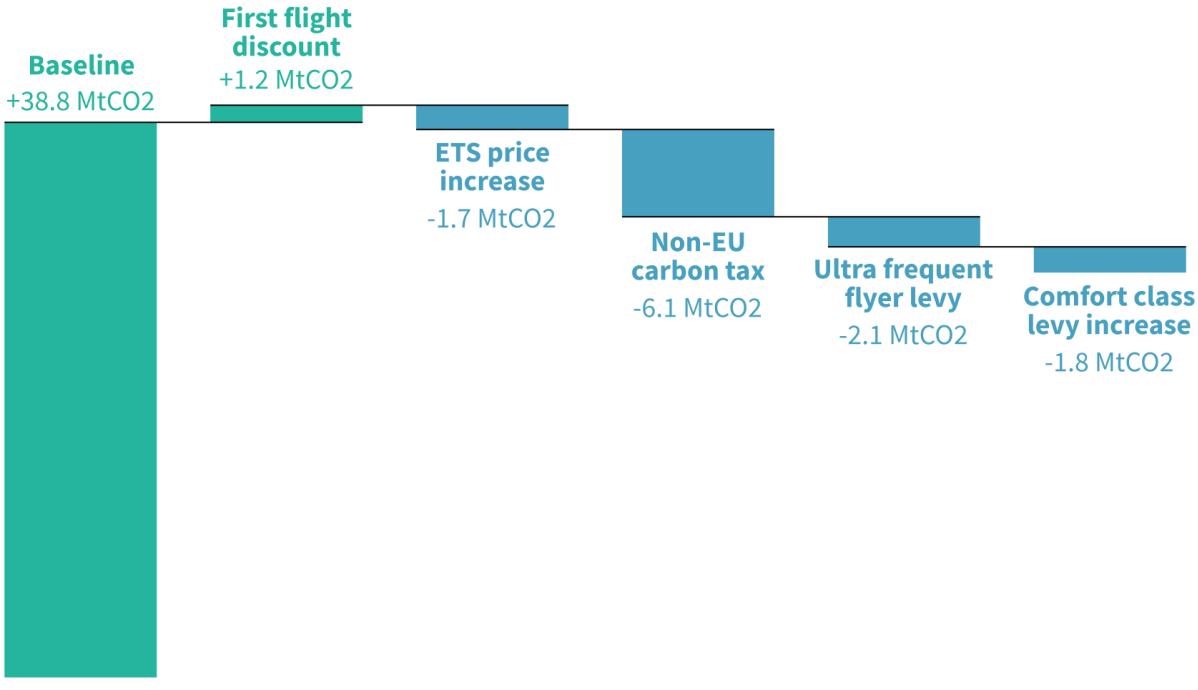
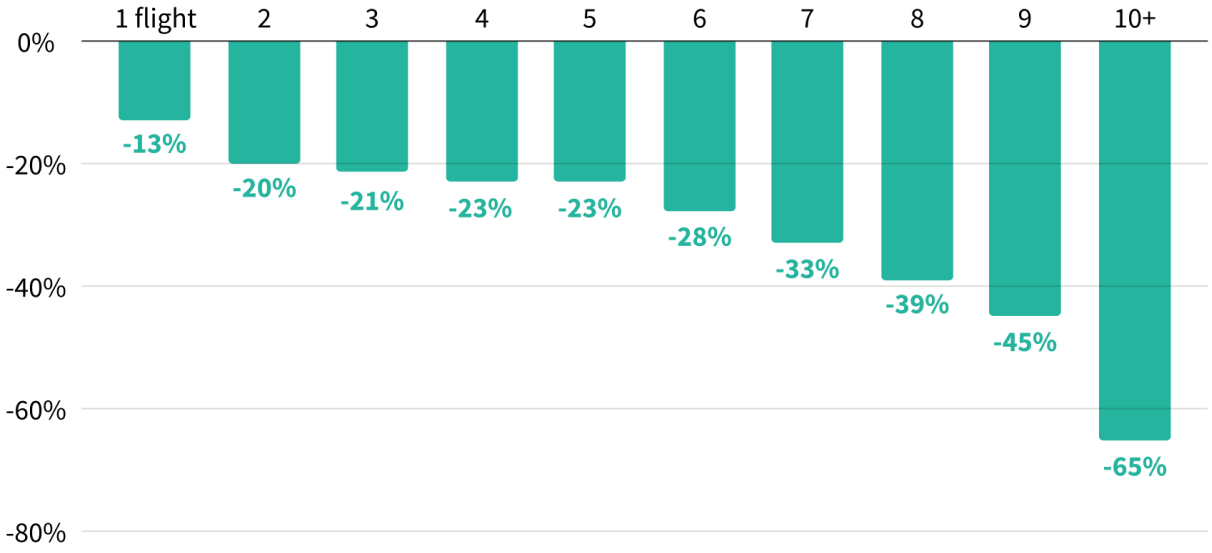


FIGURE 13: CHANGE IN EMISSIONS IN POLICY PACKAGE SCENARIO GROUPED BY THE NUMBER OF FLIGHTS TAKEN BY THE PASSENGER IN 12 MONTHS



In the UK, an international outlier, significant amounts of (net) spending flow out of local economies thanks to the spending of tourists overseas.[51] In 2023, a net £41bn left the UK via this route.[d] As a result, there is also scope for economic gains in the UK economy, on high streets, and around the UK's domestic tourism destinations, if the proposed tax package can help to insource some of this spending and bring it back to the UK high street. Precisely how much of this spending might be brought back to local communities will depend on wider policy decisions, including government policy relating to the cost of surface transport, and government support for current and emerging domestic destinations. Successfully redirecting spending to regions around the UK with tourism potential, many of which have been held back for a generation, could help cut regional and social inequality.

The government faces challenging social and financial pressures on its resources. The revenue raised by the proposed package of tax measures can make an important contribution to the government's wider programmes in areas such as housing, education, and social care. However, recent political backlash against climate, or net zero policies, has been aided by a failure to adequately communicate or realise the benefits for the public of climate-compatible policy-making, or in other words, to deliver and communicate a green dividend. To this end, we would strongly recommend that the government be explicit in articulating one or two distinct and related green policies that might be funded by higher air travel taxes. Logical candidates would be to cut the cost of rail and bus travel across the UK and to invest in improving capacity and service quality through the channel tunnel. Significantly increasing funding for devolved bodies to invest in rejuvenating, and improving connectivity to the UK's neglected historic tourist destinations would also help articulate a positive low-carbon alternative and address some of the UK's most entrenched social and regional inequalities.

d NEF analysis of Office for National Statistics Travel Trends 2023.

CONCLUSIONS

The UK's air transport tax system is inefficient, insufficient, and misaligned with government policy. Air travel supports multiple important social and business needs but this is not an excuse for inaction in the face of a pressing climate emergency and a series of harmful perverse incentives created by the tax framework that encourage environmentally damaging behaviour. Key characteristics of UK air travel have changed since the UK's air transport tax framework was established. Modernisation is required.

In this report, we have looked in detail at the nature of the UK's passenger base, who flies how frequently, and why they fly. It seems clear that while a minority of flights serve key social functions such as migration and the annual family holiday, a significant majority of the sector's emissions derive from high-luxury, low-necessity, excessive-frequency trips. Many flights are taken on routes which can, or could, be completed by train. Continuing to under-tax these trips against the backdrop of exceptional wider societal challenges straining government resources and a planet in crisis is untenable.

This report sets out a range of policy proposals that, in combination, could represent a fair and administratively achievable redesign of the UK's air tax framework. The proposed policies raise significant revenue which, as well as serving wider government objectives, should be used to clearly communicate the green dividend for the public.

METHODOLOGICAL APPENDIX

Multiple official datasets underpin the analysis presented in this report. The bulk of the results presented derive from a new NEF model of passenger air traffic in the UK built on the Civil Aviation Authority (CAA)'s passenger survey data. The CAA survey is asked of passengers at the departure gates of UK airports and includes a wide range of questions relating to passenger demographics and journey characteristics. The CAA survey output is weighted to be representative of the UK air passenger population. The survey results are not directly representative of the UK population as a whole in the way that the Department for Transport (DfT)'s National Travel Survey (NTS) might be, but simple weights can be applied to present results as a proportion of the UK population.

NEF's air travel demand model was initially developed using 2019 CAA survey data. While more recent data from the survey is available, iterations performed post-pandemic have not included questions addressing a respondent's flight frequency. As flight frequency data is critical to our analysis, this meant building the initial model on 2019 data. When presenting high-level results we have sought, where possible, to adjust model outputs for post-pandemic trends in air travel, for example, applying 2023–24 distributions of flight purpose (eg business vs leisure) and household income brackets. NEF's model calculates the ticket price paid by an air passenger, net of current and future taxes. Core price assumptions are triangulated from a review of Office for National Statistics (ONS) consumer price index data, DfT modelling assumptions, and a partial review of UK airfares in early 2025.

The CAA survey has a sample of around 175,000 passengers surveyed in UK airports. Data is reported on a route-by-route basis. While it does not survey every airport every year, in 2019 the CAA surveyed airports accounting for around 75% of all UK passengers. As the survey always includes all London system airports, and these airports have characteristics which are slightly different to airports around the UK's wider regions, the sample is not perfectly representative of the wider population. For example, it over-represents business purposes travellers who are more prevalent at London airports. Where possible, when presenting national-level impact estimates we have weighted model outputs to adjust for these discrepancies.

A key input to NEF's tax impact modelling is the frequency of travel of a passenger over the past 12 months. This data point is only available for around a third of respondents (n=58,000). Thanks to the high sample size, this data is still considered robust for modelling. National-level estimates are calculated using nationally representative weights.

The demand response, and hence emissions savings and tax revenue generation potential of different air transport tax policies is modelled using elasticities sourced from secondary data. DfT aviation modelling elasticities are used as the primary elasticities guiding price responses to ticket price changes across leisure and business-purpose flights. Research by CE Delft for the European Commission guides the relative elasticities applied to business and first class.[52] Single-point elasticities are applied, but we note that research by Fouquet and O'Garra (2022) suggests that elasticities vary based on the size of the price change and hence the relative position along the demand curve. The demand-price relationship appears more sensitive (ie more elastic) at the extremities of the demand curve. This suggests that small changes in ticket price could deliver larger changes in demand than might otherwise be expected. Further research and monitoring are required to improve the quality of the elasticities currently in use in UK research.

Given uncertainties in the price elasticity of passengers, the future national and global economic outlook, and the future demand for air transport substitutes (eg domestic tourism and international rail travel), modelled outputs presented in this report should be treated as indicative of potential policy impacts and not as an accurate forecast of the future. Should the government seek to pursue any of the policy proposals discussed in this report, analysis by government economists and transport modellers would be able to produce a more comprehensive and accurate profile of the likely policy impacts.

ENDNOTES

1 Gössling, S., & Humpe, A. (2020). The global scale, distribution and growth of aviation: Implications for climate change. Global Environmental Change, 65, 102194. https://www.sciencedirect.com/science/article/pii/S0959378020307779

2 Chapman, A. (2023). *Losing altitude: The economics of air transport in Great Britain. New Economics Foundation.* https://neweconomics.org/uploads/files/NEF_Losing-altitude.pdf

3 CCC. (2025). *The seventh carbon budget: Advice for UK government. Climate Change Committee.*

4 HMRC. (2024). *Air passenger duty: Rates from 1 April 2026 to 31 March 2027. Policy Paper. HM Revenue and Customs.*

5 InfluenceMap. (2021). *Aviation industry lobbying & European climate policy.* https://influencemap.org/report/Aviation-Industry-Lobbying-European-Climate-Policy-131378131d9503b4d32b365e54756351

6 Defra. (2023). *Environmental principles policy statement. Department for Environment, Food & Rural Affairs.*

7 IATA. (2020). *Air connectivity: Measuring the connections that drive economic growth. International Air Transport Association.*

8 Seetaram, N., Hong, H., & Page, S. (2014). Air passenger duty and UK outbound tourism. *Journal of Travel Research, 53, 476–487.* https://pure.hud.ac.uk/ws/portalfiles/portal/12612077/Air_Passenger_Duty_and_UK_Tourism.pdf

9 Seetaram, N., Hong, H., & Page, S.. (2014). Air passenger duty and UK outbound tourism. *Journal of Travel Research, 53, 476–487.* https://pure.hud.ac.uk/ws/portalfiles/portal/12612077/Air_Passenger_Duty_and_UK_Tourism.pdf

10 DfT. (2024). *DfT aviation modelling suite. Department for Transport.*

11 Chapman, A. (2023). *Losing altitude: The economics of air transport in Great Britain. New Economics Foundation.* https://neweconomics.org/uploads/files/NEF_Losing-altitude.pdf

12 DfT. (2024). *DfT aviation modelling suite. Department for Transport.*

13 Georgiadis, P. (2025, February 28). British Airways owner warns business travel will not return to pre-pandemic levels. *Financial Times.* https://www.ft.com/content/43a89a3e-0d62-4480-80da-334d581e1fac

14 Seetaram, N., Song, H., & Page, S. (2014). Air passenger duty and UK outbound tourism. *Journal of Travel Research, 53, 476–-487.* https://pure.hud.ac.uk/ws/portalfiles/portal/12612077/Air_Passenger_Duty_and_UK_Tourism.pdf

15 Seetaram, N., Song, H., & Page, S. (2014). Air passenger duty and UK outbound tourism. *Journal of Travel Research, 53, 476–487.* https://pure.hud.ac.uk/ws/portalfiles/portal/12612077/Air_Passenger_Duty_and_UK_Tourism.pdf

16 Duffy, K. (2024, November 5). Ryanair CEO blasts 'bonkers' U.K. government over travel-duty. *Fortune.* https://fortune.com/europe/2024/11/05/ryanair-ceo-blasts-bonkers-uk-government/

17 Ricardo. (2021). *Study on the taxation of the air transport sector. Report for the European Commission.* https://taxation-customs.ec.europa.eu/system/files/2021-07/Aviation-Taxation-Report.pdf

18 CE Delft, Significance, & SEO Amsterdam Economics. (2023). *Schiphol Airport Amsterdam: Fewer flights or becoming more sustainable? Report commissioned by Royal Schiphol Group, KLM Royal Dutch Airlines, and Barin Board of Airline Representatives.* https://www.seo.nl/en/publications/schiphol-amsterdam-airport-fewer-flights-or-becoming-more-sustainable/

19 House of Commons Library. (2019). *Air passenger duty: Introduction. Briefing Paper 413.*

20 Opportunity Green. (2024). *Clearing the air on how we tax aviation fuels.* https://static1.squarespace.com/static/64871f9937497e658cf744f5/t/6732275b9d892f2f60b4a7bc/1731340124957/Opportunity+Green+-+Aviation+tax+briefing+paper+-+Final+with+Annex.pdf

21 HM Treasury. (2011*). Reform of air passenger duty: Response to consultation.*

22 House of Commons Library. (2019). *Air passenger duty: The approach of the Labour government (2007-2010). Briefing Paper 6426.*

23 UK ETS Authority. (2024). *Report on the functioning of the UK carbon market for 2023. A joint report of the UK ETS Authority.* https://www.gov.uk/government/publications/functioning-of-the-uk-carbon-market-2023

24 DfT, (2024). *Jet Zero further technical consultation. Department for Transport.*

25 DESNZ. (2024). *Traded carbon values for modelling purposes, 2024. Department for Energy Security and Net Zero*

26 Diab, K. (2024). *EU's emissions trading system v UN's CORSIA: Which is better for the climate? Carbon Market Watch.*

27 DESNZ. (2024). *Greenhouse gas reporting: conversion factors 2024. Department for Energy Security and Net Zero.*

28 Lee, D., Fahey, D. W., Skowron, A., Allen, M. R., Burkhardt, U., Chen, Q., Doherty, S. J., ... Wilcox, L. J. (2021). The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018. *Atmospheric Environment, 244, 117834.* https://www.sciencedirect.com/science/article/pii/S1352231020305689

29 UK Government. (2023). *Developing the UK Emissions Trading Scheme: Main response.*

30 Defra. (2023). *Environmental principles policy statement. Department* for Environment, Food & Rural Affairs.

31 ONS. (2024). *Travelpac. Office for National Statistics.*

32 NTS. (2024). *National travel survey. Department for Transport.* https://www.gov.uk/government/collections/national-travel-survey-statistics

33 T&E. (2024, April 19). Above the clouds: UK aviation trends in 2023. *Transport and Environment.* https://www.transportenvironment.org/te-united-kingdom/articles/above-the-clouds-uk-aviation-emission-and-flight-trends-in-2023

34 DfT. (2024). *Journey emissions comparisons: Methodology and guidance. Department for Transport.*

35 CCC. (2020). *The Sixth Carbon Budget: Aviation. Climate Change Committee.* https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Aviation.pdf

36 MITEI. (2024). *Technologies to remove carbon dioxide from the air: A reality check. MIT Energy Initiative.*

37 CCC. (2020). *The Sixth Carbon Budget: Aviation. Climate Change Committee.* https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Aviation.pdf

38 DfT. (2024). *UK SAF mandate: Final stage cost benefit analysis dataset. Department for Transport.*

39 DfT. (2022). Jet Zero: Further technical consultation. Department for Transport. https://assets.publishing.service.gov.uk/media/6238736fd3bf7f6abc6582f6/jet-zero-further-technical-consultation.pdf

40 Quiggin, D. (2023). *Net zero and the role of the aviation industry: How flying less frequently and less far can buy time for decarbonization solutions. Chatham House.* https://www.chathamhouse.org/2023/11/net-zero-and-role-aviation-industry

41 CE Delft. (2024). *European frequent flying levy: Impact study. CE Delft.* https://cedelft.eu/publications/european-frequent-flying-levy/

42 Chapman, A. (2023). *Losing altitude: The economics of air transport in Great Britain. New Economics Foundation.* https://neweconomics.org/uploads/files/NEF_Losing-altitude.pdf

43 Hodgson, E. (2024). *Europe talks flying: Navigating public opinion on aviation and climate. More in Common.* https://www.moreincommon.org.uk/media/vfrjyxga/europe-talks-flying-report-9th-april-2024.pdf

44 Gössling, S., Hanna, P., Higham, J., Cohen, S., & Hopkins, D. (2019). Can we fly less? Evaluating the 'necessity' of air travel. *Journal of Air Transport Management, 81, 101722.* https://www.sciencedirect.com/science/article/abs/pii/S0969699719303229

45 Guillen-Royo, M., Nicholas, K. A., Ellingsen, T., Koch, M., & Julsrud, T. E. (2024). Flight-intensive practices and wellbeing: Current evidence and future research. *Consumption and Society, 3, 374–394.* https://bristoluniversitypressdigital.com/view/journals/consoc/3/3/article-p374.xml

46 Gössling, S., & Dolnicar, S. (2022). A review of air travel behaviour and climate change. *WIREs Climate Change, 14, 1.* https://wires.onlinelibrary.wiley.com/doi/10.1002/wcc.802

47 Büchs, M., & Mattioli, G. (2022). How socially just are taxes on air travel and 'frequent flyer levies'? *Journal of Sustainable Tourism, 32, 62–84.* https://www.tandfonline.com/doi/full/10.1080/09669582.2022.2115050

48 Fouquet, R., & O'Garra, T. (2022) In pursuit of progressive and effective climate policies: Comparing an air travel carbon tax and a frequent flyer levy. *Energy Policy, 171, 113278.* https://www.sciencedirect.com/science/article/pii/S0301421522004979

49 Chapman, A., Murray, L., Carpenter, G., Heisse, C., & Prieg, L. (2021). *A frequent flyer levy: Sharing aviation's carbon budget in a net-zero world. New Economics Foundation.* https://policycommons.net/artifacts/1940952/economics-foundation/2692721/

50 Chapman, A., Mang, S., & Heuwieser, M. (2024). *A frequent flyer levy in Europe: The moral, economic, and legal case. New Economics Foundation.* https://neweconomics.org/2024/10/a-frequent-flying-levy-in-europe

51 Chapman, A. (2023) *Losing altitude: The economics of air transport in Great Britain. New Economics Foundation.* https://neweconomics.org/uploads/files/NEF_Losing-altitude.pdf

52 CE Delft. (2019). *Taxes in the field of aviation and their impact. European Commission.*

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