NEW ECONOMICS FOUNDATION

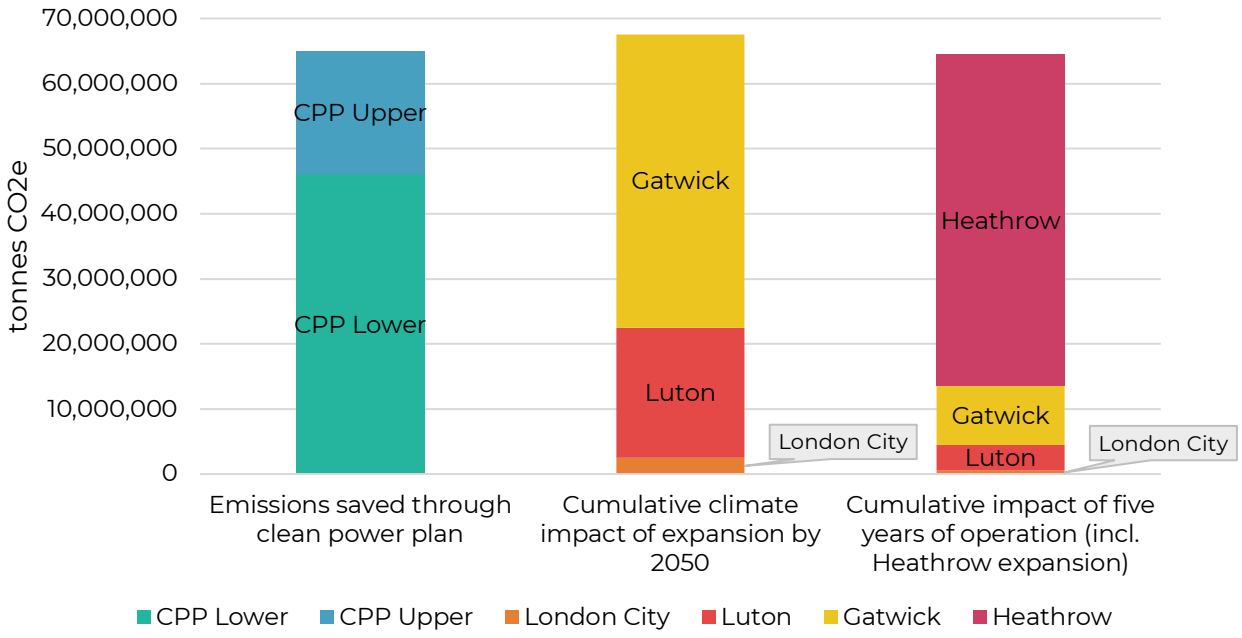
Airport expansion would cancel out carbon savings of clean power plan

Briefing note | Alex Chapman | January 2025

The government has set out a stall to be a global climate leader, with a new ambitious emissions reduction commitment made to the United Nations at last year's Cop29. At the heart of the government's climate ambitions is the clean power plan (CPP). New Economics Foundation (NEF) analysis suggests that successful delivery of the CPP by 2030 could avoid between 46m and 65m tonnes of carbon emissions (CO2).

However, early this year the government will face a key test of the credibility of their climate commitment when they decide on the proposed expansion of Luton and Gatwick airports. NEF analysis suggests that approving the expansion of these airports would wipe out the climate benefit of the CPP by 2050 (Figure 1). Additionally, approving the expansion of Heathrow airport would wipe out this benefit within five years of operation at expanded capacity. NEF analysis questions the claimed economic growth benefit of airport expansion, highlighting the decline of corporate air travel and the rise of leisure frequent flyers.

Figure 1: Climate impact of the CPP and selected airport expansion schemes



See methodological notes below

Successful delivery of the CPP will significantly reduce the UK's damage to the global climate and cement the UK's status as a global leader in the race to slow climate breakdown. Its climate

benefit derives from the emissions saved by achieving a zero-carbon electricity system in 2030 instead of the 2035 date targeted by the previous government. However, the significant effort put in to achieving the CPP could easily be wasted if other decisions are not made wisely.

Air travel causes very significant climate damage. Even under the previous government's Jet Zero Strategy, which is widely considered to be extremely optimistic about the scope for emissions reduction in aviation, there is expected to be very significant climate damage from air travel remaining in 2050. As a result, even after considering efficiency savings and alternative fuels, the expansion of Luton, Gatwick, and Heathrow airports would create very significant climate damage.

Only a minority of the emissions created by the proposed airport expansions will be captured within the UK's current legal emissions accounting framework. Currently, both international inbound/arriving flight emissions and all non-carbon emissions are outside of the framework. Government guidance is clear that these major sources of climate damage should still be considered in the impact assessment and they are factored into NEF's analysis.

Is airport expansion essential to economic growth?

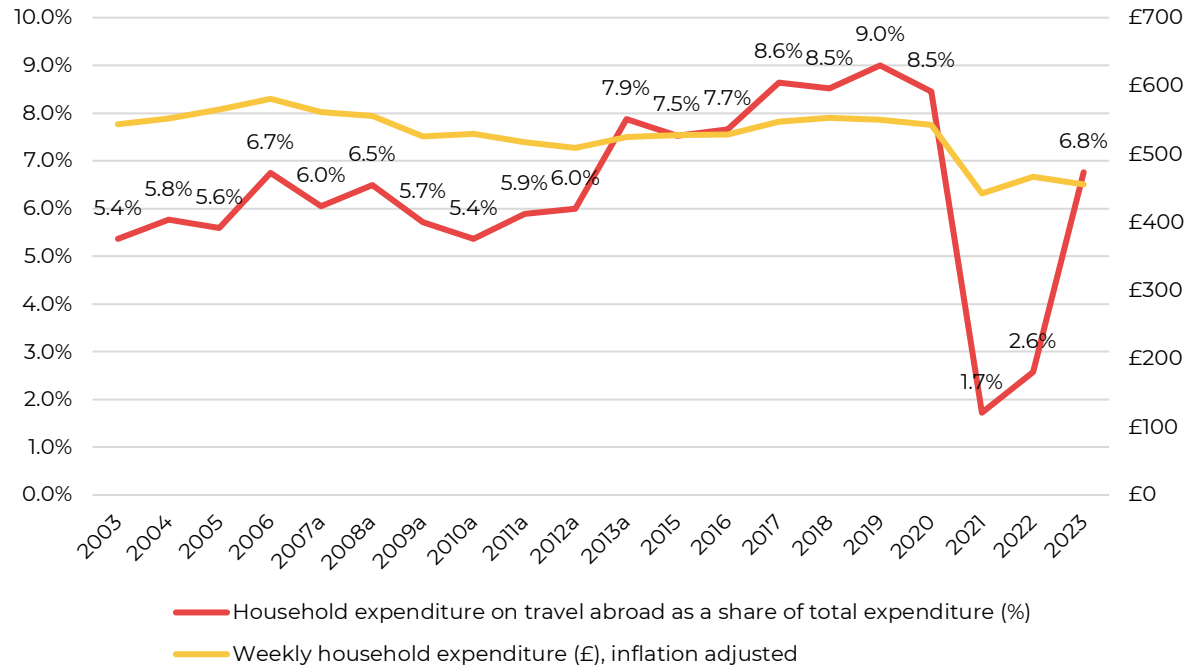
Previous NEF research[1] has shown that the economic benefits of airport expansion are often overstated. Academic research findings are variable but it is far from clear-cut that increasing air transport capacity drives economic growth in an already well-connected economy like the UK, indeed the net growth impact could be negative. Despite significant growth in air passenger numbers over the past two decades:

- There has been no net growth in air travel for business purposes.
- There has been no net growth in jobs in air transport.
- Real wages in air transport have fallen significantly.
- The UK's domestic overnight tourism industry has shrunk significantly.
- Growth has primarily driven outbound leisure travel and increased the travel spending deficit, with the greatest spending losses seen in the UK's wider regions.

There is a strong argument that by encouraging households to spend more money on travel abroad instead of in foundational sectors, the government could undermine its growth mission. After inflation, total per-household spending has changed little over the past two decades. Meanwhile, household expenditure on travel abroad has surged, rising 70% over the pre-pandemic period (Figure 2), displacing other, more productive, domestic sectors.

Figure 2: Weekly household expenditure (right axis), inflation adjusted, and the share of household expenditure spent on travel abroad (left axis) between FYE 2003 and FYE 2023

[1] Chapman, A. (2023) Losing Altitude: The Economics of Air Transport in Great Britain. New Economics Foundation



Source: NEF analysis of the ONS Living Costs and Food Survey

Moving forward, there are significant economic risks created by the growth of air travel:

- The carbon debt of the aviation sector will squeeze other sectors of the economy, forcing faster and more costly decarbonisation (eg. higher traded emissions prices).
- The aviation sector's proposed use of alternative fuels will create significant pressure on the wider economy through demand and prices for land (to create biofuels) and/or energy (to create synthetic fuels).
- Public consent for the broader green transition will suffer if policy appears not to be consistent/fair.

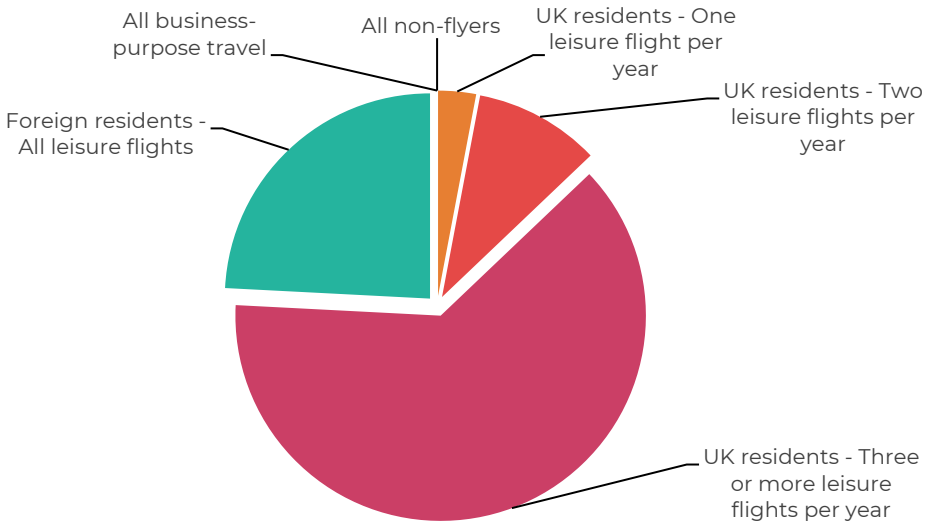
Who benefits from airport expansion?

Increased airport capacity reduces ticket prices and enables more flights. NEF analysis of the Department for Transport (DfT) and Office for National Statistics (ONS) datasets shows who has benefited from air capacity growth between 2006 and 2023:

- Total departing international passenger numbers increased by 25.6 million (32%), excluding transfer passengers.
- Leisure travel drove this increase, travel for business purposes declined.
- Approximately 6.2 million (24%) of the new passengers were foreign residents travelling to the UK for leisure, the remainder (76%) were UK residents travelling overseas for leisure (Figure 3).
- Approximately 16.1 million (63%) of the new journeys were taken by UK-resident frequent flyers (passengers taking three or more flights per year) who further increased their flight frequency.
- The remainder of the increase, 3.3 million (13%), related to an increase in infrequent air travellers resulting from population growth.

- The proportion of UK residents who did not fly in a 12-month period remained stable at 53%.

Figure 3: Share of passenger growth since 2006, by market segment



Source: NEF analysis of ONS Travelpac and DfT National Travel Survey. See further notes below.

Conclusion

Airport expansion threatens the UK's climate ambitions – a view echoed by the Climate Change Committee – and recent proposals would undermine the climate benefit of the government's clean power plan. New capacity created through airport expansion is primarily captured by UK-resident frequent flyers travelling for leisure purposes. The economic benefits of airport expansion are often overstated. Airport expansion is not required to facilitate business-purposes travel. While airport expansion does facilitate growth in inbound foreign tourists, for every inbound tourist generated, three outbound tourists are created. Continued incentivisation of outbound air travel is taking household spending away from more productive, foundational sectors of the economy. While the air transport sector, as a whole, undoubtedly has contributions to make to the government's missions for the UK, it is highly unlikely that airport expansion, which primarily increases outbound leisure travel by frequent flyers, offers any growth benefits to the UK.

Methodological notes

- NEF's lower estimate of the climate benefit of the CPP is derived from analysis of the government's Net Zero Delivery Plan. NEF's upper estimate is derived from analysis of the National Grid's Future Energy Scenarios.
- Base airport scheme carbon impacts at London City, Luton and Gatwick are derived from figures presented by the airports in planning application documents. Additional analysis has been conducted by NEF to align these estimates with DfT impact assessment guidance. Impacts for Heathrow airport expansion derive from Department for Transport (DfT) analysis from 2017, updated by NEF to account for developments in efficiency and policy since then.

- Airport emissions impacts already take account of future efficiency improvements and the impact of alternative fuels on the carbon intensity of air travel, as set out in the government's Jet Zero Strategy.
- As-per DfT Transport Analysis Guidance (TAG), the emissions of both outbound (departing) and inbound (arriving) flights are considered.
- As-per Department for Energy Security and Net Zero guidance, a multiplier of 1.7x is used to adjust aviation carbon emissions for the climate impact of non-carbon gases emitted by airplanes at high altitude. As such, aviation emissions are presented as 'CO2e' ie. carbon dioxide-equivalent emissions.

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