

AIRPORT EXPANSION AND CLIMATE CHANGE

Is a new runway compatible with climate policy?

The Airports Commission has concluded that one new runway in the South East would be compatible with the UK's climate commitments. But in reality new runways cannot be reconciled with legislated carbon goals unless a significant gap in the policy for reducing aviation emissions is addressed by the next government.

KEY ISSUES:

- The Airports Commission acknowledges that without additional policy measures beyond carbon trading, UK aviation emissions would overshoot the level that would be compatible with the Climate Change Act, even without building new runways. Yet the Commission has made no comment about what those extra measures could or should be.
- The Airports Commission argues that technology improvements and a shift to larger aircraft will permit one new runway. But this conceals the fact that if a new runway took up all the 'spare' carbon for aviation, activity at other airports, including in the regions, would need to be cut to below today's levels.
- The future government will need to identify new policy measures such as very high aviation taxes or carbon charges, and capacity restrictions at other airports in order to keep aviation emissions to a level consistent with the Climate Change Act if a new runway is built.

LIMITS TO UK AVIATION'S CO₂ EMISSIONS

Under the Climate Change Act, the UK is required to reduce emissions by 80% of 1990 levels by 2050. While aviation emissions are not formally included in the five year carbon budgets, the Committee on Climate Change (CCC) has recommended setting aside 37.5 Mt of the UK emissions budget in 2050 for aviation, equivalent to the sector's emissions in 2005. The Airports Commission refers to this as the

emissions cap. According to the CCC, a higher level of aviation emissions would be high risk and not economically optimal.

Improved efficiency of aircraft should permit some growth in the amount of flying without aviation CO₂ emissions breaching the carbon cap. The Airports Commission assumes a shift to larger aircraft would mean passenger numbers could increase by 67% and the number of aircraft movements by 38% by 2050.

THE POLICY GAP FOR AVIATION EMISSIONS

Today, aviation takes up around 6% of UK emissions and the proportion is forecast to increase. The Airports Commission's analysis suggests that emissions may breach the aviation cap even without expanding capacity (figure 1). Building a new runway would lock in future increases in CO₂ emissions through significant investment in carbon-intensive infrastructure.

Figure 5.4 Departing CO₂ forecasts without a carbon cap (carbon traded)

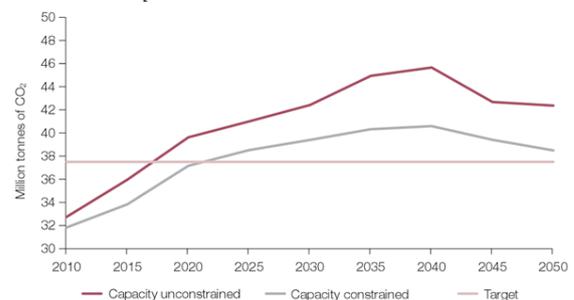


Figure 1: Airports Commission's projections of future CO₂ forecasts from aviation for scenarios with and without expansion

About the AEF:

We are a policy-focused NGO supported by individuals and community groups. We work at national, EU and international levels to secure effective regulation of the industry. We were one of only two environmental NGOs to give spoken evidence to the Airports Commission.

Airports Policy Brief: Is a new runway compatible with climate policy?

Part of a series of briefings from the Aviation Environment Federation on why the question about UK airports should be 'whether' and not just 'where' to build a new runway.

AVAILABLE POLICY OPTIONS

There are limited options available for tackling aviation emissions and none that would ensure aviation emissions are maintained at a level consistent with the Climate Change Act if a new runway is built.

1) RELY ON INTERNATIONAL AGREEMENTS

All European countries have made climate commitments at least as stringent as the UK's. In order to tackle aviation emissions from EU countries, CO₂ from all flights into or out of the EU were included in the EU Emissions Trading Scheme. This would have acted to control emissions by steadily increasing the cost of flying. But between 2012 and 2014, political and commercial pressure led to the scheme being amended to cover only flights within the EU, meaning only a quarter of EU aviation emissions are now covered.

This leaves the work of the UN aviation body, ICAO, as the only option for international action. However, ICAO's progress towards global schemes, including a system of carbon charging, still faces significant political challenges before a consensus can be achieved. The benchmark for emissions is expected to be carbon neutral growth from 2020, which falls short of the 2005 level required in the UK.

2) TECHNOLOGY AND BIOFUELS

Official aviation emissions forecasts already factor in improvements in engine and airframe design equivalent to a 1% fuel efficiency increase per year along with an estimated 2.5% emissions reduction by 2050 through biofuels. Unfortunately, historic improvements in fuel efficiency have flattened out.

3) UNILATERAL ACTION TO TACKLE AVIATION EMISSIONS THROUGH TAXES

In the absence of a global deal, the UK could take unilateral action to raise the price of flying and reduce demand to a level consistent with the Climate Change Act. In its analysis, the Airports Commission assumed the cost of emitting a tonne of CO₂ rises from £3 today to between £364 and £634 in 2050, far above the official estimate, in order to constrain emissions to this level. We see no way that this could be delivered.

4) CONSTRAINTS OTHER AIRPORTS

The Airports Commission's analysis assumes that

aviation activity will become concentrated in the South East. However, Government policy supports regional airport growth with 200% growth forecasted in regional airports by 2050. Conflict between support for regional airports and the Airports Commission's findings suggests that a future government could be left having to decide which airports to support and which to constrain.

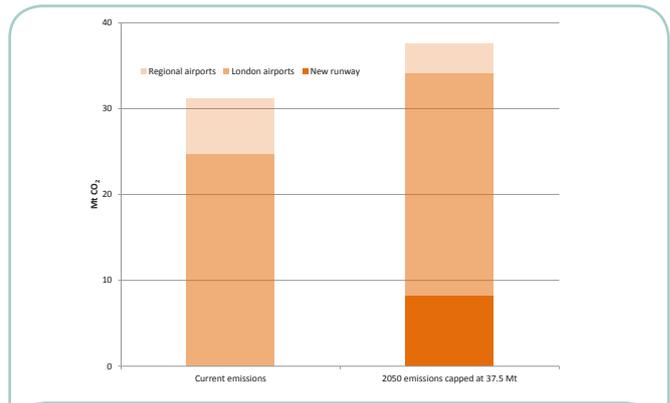


Figure 2: Division of aviation emissions between London and regional airports today, and in a carbon capped 2050 scenario where a new runway is built and London airports fill to capacity. Graph from our report

IS THE CARBON CAP TOUGH ENOUGH?

Keeping aviation emissions within the existing carbon cap will be challenging, even without a new runway. But here are two strong reasons to tighten the cap:

1. Under the existing cap, aviation is allowed 120% growth over its 1990 level compared to an 85% reduction of 1990 levels for most industries.
2. The cap takes no account of aviation's non-CO₂ impacts. In 2009, the Committee on Climate Change estimated that as the science progresses, the aviation CO₂ budget may need to be halved to allow for the warming effect at altitude of gases such as NO₂, SO_x, methane, and water vapour.

POLICY RECOMMENDATION

Allowing growth within existing airport capacity, including where planning permission has already been given, while saying no to new runways is the only feasible option compatible with climate objectives.

For more information or if you have any questions please contact us using the details below.

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