

On a Wing and a Prayer

Time to Get Real About the Consequences of Airport Expansion

Our two new reports show that hopes of expanding airport capacity while meeting UK climate change targets can only be based on a wing and a prayer, requiring either implausible increases in carbon prices or constraints on regional airports to below current traffic levels.

The UK, like all G8 countries, is committed to cutting emissions by 80% of 1990 levels by 2050. But there are particular reasons why the challenge of ensuring that airports policy is compatible with climate policy has come to the fore in the UK. The number of flights taken per person in the UK is higher than in any other developed nation¹, London Heathrow is responsible for significantly more CO₂ emissions than any other airport globally², and the Climate Change Act 2008 has made it a legislative requirement that the UK meets its political commitments on emissions.

In order for the UK economy as a whole to meet the requirement of the Act, the Committee on Climate Change (CCC) has recommended that aviation emissions should be no higher than 37.5 Mt CO₂ by 2050 – reducing emissions back to 2005 levels. This, according to the Airports Commission, need not preclude a new runway. But the Commission has yet to spell out the policy steps that would be needed to reduce aviation emissions if a new runway were to be built.

The CCC has advised that since technology take-up, more efficient operations, or increased biofuel use can only do so much to reduce UK aviation emissions, limiting aviation CO₂ requires limits on demand. Our analysis shows that the future Government would have two equally unpalatable options for constraining aviation emissions if approval was given for a new runway:

- (i) Take unilateral action to tackle aviation emissions through taxes or other market based measures even though the Commission's findings suggest that the cost would have to rise from around £3 per tonne of CO₂ today to around £600 per tonne by 2050 which would have significant consequences for businesses. This option reflects Sir Howard Davies' recent comments on the need for a higher carbon price³.
- (ii) Introduce very significant constraints on other airports, such as closure or restrictions to below current traffic levels at regional airports, to compensate for a new South East runway.

Meeting the climate target while working within existing airport capacity would, by contrast, be challenging but achievable.

¹ TGI (2007) *Green values: consumers and branding*, available from: <http://www.wpp.com/wpp/marketing/reportsstudies/greenvalues/>

² Southgate, D (2013) *Aviation carbon footprint: global scheduled international passenger flights 2012*, available from: <http://www.scribd.com/doc/137044034/Aviation-Carbon-Footprint-Global-Scheduled-International-Passenger-Flights-2012>

³ Comments made to the London Assembly, video available from: <https://www.london.gov.uk/mayor-assembly/london-assembly/webcasts1:01:10-1:02:43>

Aviation, Climate Change and Sharing the Load

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Report available from: http://www.rspb.org.uk/Images/aviationclimatechange_tcm9-372504.pdf

The Airports Commission's conclusion that new runways are consistent with the Climate Change Act assumes that aviation emissions are fully regulated. But in fact regulatory control on aviation emissions is today so weak as to be ineffective.



Regulation of aviation emissions is needed for expansion to be theoretically consistent with the Climate Change Act. However, as a result of international pressure, the European Union emissions trading scheme now covers just 25% of European aviation emissions and will do until at least 2016 with little prospect of its coverage being extended in the future. At the same time, progress towards global regulation of aviation emissions has moved extremely slowly and its chances of success and ambition remain highly uncertain. International policies therefore cannot be relied on to regulate aviation emissions. The Airports Commission should produce models of future aviation emissions based on the current level of regulation.

Without international action, the only options to tackle aviation emissions through market based measures would be prohibitively expensive.

If the UK expands its airports and attempts to control emissions unilaterally, we would need to charge £600 per tonne of carbon dioxide by 2050 rather than the £200 projected under the EU emissions trading scheme. This means that by 2025 we would be charging the aviation industry about £4 billion per year in carbon taxes or equivalent (£22 billion by 2050), which would be politically undeliverable. With capacity constrained without a new runway, by contrast, the carbon price rises required to deliver the aviation carbon cap are much more modest.

Failure to control emissions from aviation will cost the rest of the UK economy in the region of £8.4 billion per year.

If aviation emissions were allowed to soar without regulation it would impose costs on the rest of the economy, rising to between £1 billion and £8.4 billion per year or more by 2050 as non-aviation sectors would need to make even deeper emissions cuts.

The only meaningful policy lever available to UK government to control emissions from aviation is in fact to restrict capacity.

This both directly controls emissions from the UK and can be used to build the pressure necessary to obtain a global deal on aviation emissions through the UN's International Civil Aviation Organisation (ICAO).

The Implication of South East Expansion for Regional Airports

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Report available from: http://assets.wwf.org.uk/downloads/wwf_regional_airports_report1.pdf

and <http://www.aef.org.uk/2014/07/15/airport-expansion-regional-implications>

Keeping aviation emissions to within a carbon cap while building a new runway would require other airports to be closed or heavily constrained. This conflicts with Government policy in support of regional airport growth and current forecasts which anticipate 200% growth in regional airports by 2050.

The analysis considers a range of illustrative scenarios of future airport capacity based on an estimate of possible emissions from a new runway, Government airport-by-airport emissions forecasts, and maximum capacity estimates by the Airports Commission. All scenarios are considered in relation to how close they come to meeting the 37.5 Mt CO₂ emissions threshold (effectively aviation's 2050 emissions target).

The report finds that if a new runway is built, taking drastic action such as consolidating the entire aviation network into the four largest airports; closing all but one London airport; or restricting regional airports to their current levels would result in an overshoot of the emissions target.

A far more tenable policy would be to make better use of existing runway capacity

Retaining current airport capacity as defined by existing planning permissions, but not building any new runways, would by contrast keep aviation emissions to around the level of the carbon cap.

