



Can we cope with aviation emissions growth?

Before government policymakers, industry, think tanks, environmental NGOs, carbon traders, and anyone else with the slightest interest in across-the-board carbon reduction strategies, attempt to analyse and produce a comprehensive suite of measures for any sector, in this case, air transport; it might be a good idea to have some agreement on where aviation's unrestrained business-as-usual carbon trajectory might be going.

Fortunately, we have some idea of a global figure for aviation's emissions growth, courtesy of UN's Intergovernmental Panel on Climate Change and International Civil Aviation Organisation forecasts. The latter put global aviation emissions at around 1.4 billion tonnes of CO₂ by 2030; the former extend their forecasts to 2050, when they expect aircraft operations to be emitting around 2.5 billion tonnes. These are not insignificant amounts and are set to rise from today's figure of around 700 million tonnes.

And the non-CO₂ impacts of aircraft operations, including NO_x and condensation trails, mean that aviation's overall climate change impact is in the region of twice CO₂ alone. So by 2050, aviation emissions could be 5 billion tonnes of CO₂ equivalent. To which an appropriate response might simply be: Help! Or even HELP!

Within these figures the industry's conventional and welcome response is to design and purchase larger, more fuel efficient aircraft and operate them as efficiently as possible. This is largely through improved global air traffic management (ATM) systems. But the very best efficiency gains of 1-2 per cent system-wide are outpaced by emissions growth of 3-4 per cent a year over the same period. The current economic downturn will mean a couple of years reduced growth before a return to normal levels from 2011, industry sources predict.

So in addition to supporting aerospace manufacturers with massive research, development and manufacturing subsidies, and huge state investment in ATM programmes like the EU/Eurocontrol Single Sky programme, and the similar US project NextGen, governments and blocs are now inevitably looking at market-based measures as part of the menu of control and reduction strategies for aviation. Hence the EU's decision to include aviation in the EU emissions trading scheme (ETS) from 2012 onwards.

We support this move as the first small step in getting all aviation's external costs added to ticket prices. These are estimated by research endorsed by the European Environment Agency to be in the region of €54 each time one passenger flies 1,000 kilometres, and €271 per 1,000 freight tonne kilometres. We realise these costs are not going to be imposed overnight. So our support for the inclusion of aviation in the EU ETS has both an economic and political rationale – we want to see the sector's climate change costs reflected in ticket prices; and we want the EU's breakthrough ETS policy copied or mimicked either directly or in an equivalent manner by other nations.

In the US for instance, the Waxman-Markey bill currently has a provision that could see fuel producers needing to buy carbon permits as products, including kerosene, leave the refinery gates. If the permit price level and cap lead to coverage and outcomes broadly equivalent to the EU ETS framework for aviation, this would be a significant global event and could lead to US airlines being exempted from EU regulations for the outward, departing emissions of flights between the US and Europe – there are intelligent provisions with the EU ETS aviation scheme to allow this to happen.

But in real life things might not be so positive. As Point Carbon have recently reported, airline associations in Europe are continuing to question the detail of the EU scheme – and some countries are lagging behind on implementing the vital monitoring, reporting and verification legislation that will control the whole scheme. This is not good news. In fact, it seems to us that airlines are reluctant to see even one euro cent put on ticket prices for any environmental reason. They need to grow up fast, accept that this battle is one in which they have come a distant second, and move swiftly on. And all this is set against the background of just what the forthcoming UNFCCC Copenhagen negotiations will decide to do about including both aviation and shipping emissions in a global climate deal. My colleague, Tim Johnson, has an impressive grasp of what's needed post-Copenhagen, but that, as they say, is another story.

Jeff Gazzard, AEF Executive Council member, July 2009