

Aviation and Climate Change

Edinburgh Airport's submission

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Summary

- To address the environmental impacts of aviation effectively, collaboration is required between the sector and Government;
- Scotland does not benefit from the level of connectivity, and the large scale investment in rail for example, that other parts of the UK enjoy; therefore, more people need to fly;
- Emissions from aviation in Scotland are disproportionately lower per capita when compared to the rest of the UK;
- Surface access emissions need to be considered when reviewing airport growth potential.

Collaboration

For many years, aviation has carefully considered its contribution to climate change. Since 2005, UK airlines, airports and aeroplane manufacturers, along with air traffic control service providers, have been working in collaboration as *Sustainable Aviation*¹ to better understand and address various aspects of aviation. At a European level, a more recent (2008) partnership between the European Commission and aeroplane manufacturers was established under the heading of *Clean Sky*². The latter demonstrates not just the importance of the issue but need to collaborate at the highest possible level.

Edinburgh Airport is committed to Sustainable Aviation and its CO₂ 'Roadmap'³ and 'Aircraft on the Ground CO₂ Reduction Programme'⁴. We are also in a fortunate position that we do not have the capacity constraints that other airports in the South East have at various points in the landing and take-off cycle. Therefore, aircraft do not generally wait to get into Edinburgh Airport and the proximity of the airfield and terminal results in modest taxi times.

Scottish aviation

As highlighted in our recent 'Aviation Connectivity and the Economy' submission to the Commission, aviation is crucial to keeping Scotland connected and supporting the country's economy. This, along with aviation emissions in Scotland, is highlighted in the Scottish Government Carbon Account for Transport 2010⁵. This publication states that "Aviation is the only sector where emissions are disproportionately lower [per capita] than in the UK. Data from airport authorities on the number of terminal passengers at airports indicates a greater level of air activity in Scotland than across the UK as a whole. This is reflected in a total of nearly 25% more terminal passengers per resident population in Scotland. Likewise, the number of air movements at Scottish airports per Scottish resident is over 250% of the equivalent number at all UK airports. This strongly suggests that the average distance of aviation journeys commencing in Scotland must be shorter than for the UK (i.e. more domestic flights), and that the figure may also be skewed by people from Scotland making international journeys via airports elsewhere in the UK*. Direct international aviation accounts for 65% of total Scottish aviation emissions and 95% of total UK aviation emissions."

* Under the Greenhouse Gas Inventory for England, Scotland, Wales and Northern Ireland: 1990-2007 methodology, aviation emissions are allocated to the country of departure."

Based on Sustainable Aviation's CO₂ Roadmap, developments in engine and airframe technology provide the greatest potential to reduce aviation's CO₂ emissions. However, that is not to say that the other changes within the CO₂ Roadmap will not play a part. Changes to operating procedure, airspace and fuel usage will all contribute and involve collaboration between a number of aviation sectors.

The Scottish aviation sector's emissions are disproportionately lower than the UK average but CO₂ emissions can be reduced further in the medium term through the introduction of improvements advocated by Sustainable Aviation across all airports.

The EU Emissions Trading Scheme has served as a driver for change across the global aviation industry and, combined with rising fuel costs, will hopefully lead to a global action plan to reduce carbon emissions. As an island nation, with an enduring need to remain connected by air and sea, we hope that the UK can play a leadership role in promoting measures that reduce the impact of international travel on the climate.

The 2011 UK Government response to the Committee on Climate Change Report⁶ suggests that a policy response to address CO₂ emissions would be to reduce airport capacity. However, in some regions airport growth is critical to economic growth and social progress, and in Scotland this is especially true given our peripheral position in Europe and the ongoing lack of viable alternative transport options to London and beyond. Reducing airport capacity in Scotland would be disproportionately harmful to the economy and society as a whole. Furthermore, it would affect the global reputation of Scotland and the UK as a safe and stable economy in which to invest, with a knock-on effect on our collective ability to attract jobs and growth. At a simple level, we would also see an impact on service standards, as investment is reduced. Equally, if there are fewer routes, there will be less opportunity for airlines to generate the revenues required to fund research into technology to address aircraft emissions.

Airport CO₂ reduction

Every airport and surrounding area is different but all need to play a part in addressing the environmental impacts. There are issues at one airport that may not arise at another; equally, what works at one airport may not be appropriate at another. We were recently placed highest out of any UK airport in the second Carbon Reduction Commitment Energy Efficiency League Table, published annually by the Environment Agency. The Carbon Reduction Commitment scheme, which aims to significantly lower UK carbon emissions, sees participating companies annually report their energy consumption to receive a score which represents their efforts in reducing emissions.

In 2012, Edinburgh Airport successfully gained a Carbon Masters Standard for recognition of its reduction in carbon emissions by 3% compared to the previous two years. We are the first airport in Scotland to be awarded with such a standard. Any future holistic UK aviation policy should encourage airports to reduce their emissions to become as efficient as reasonably practical.

Surface access emissions

When considering aviation's contribution to climate change, we believe that it is important to also consider ground transport, therefore any new capacity has to be accessible to ensure that airlines will fly from there. Airports create the economies of scale to allow public transport operators to be able to provide a viable service. Creating the right operating environment and working with local stakeholders, such as the local authority, ensures that the services thrive. At Edinburgh Airport, we have prioritised buses on the forecourt; and this, combined with initiatives such as bus clearways to the city centre or an airport application for smart phones with travel information, are key to influencing travel behaviours. Our positive action has resulted in the highest public transport mode-share for an airport in Scotland and one comparable with other large UK airports which unlike Edinburgh Airport are generally served by rail. Partnership working at Edinburgh Airport combined with the new tram in 2014 will help to deliver the targeted 35% public transport mode share for passengers by 2017⁷.

Each airport's surface access arrangements are very different and reflect the local circumstances and the markets they serve. However, as noted in the Eddington Report⁸ the benefit to cost ratio of improving surface access to gateway facilities, such as airports, has a greater return per £1 spent than many other transport schemes, even when the environmental and social costs are taken into account. This reflects the economic benefits felt by enhancing access to such infrastructure.

Given the distance from Edinburgh to London, air travel has the majority of the market share for journeys between Scotland and London, due to the cost being competitive and journey times being significantly shorter. For the foreseeable future, this situation is unlikely to change. Flying provides passengers, in particular business passengers who make up 29% of all passengers at Edinburgh Airport⁹, with the ability to fly to London and back in one day. The train is unlikely to offer a viable alternative in the short to medium term – and perhaps even in the long-term – therefore passenger behaviours are unlikely to change significantly over the next few decades. That said, rail patronage has increased between Edinburgh and London from 17% in 2006 to 27% in 2010¹⁰ and, over time, may offer a more competitive alternative to flying. In the meantime, the environmental impact of how people access an airport requires to be considered when considering where capacity should be located.

Conclusions

Effective solutions to climate change will only come about through robust international agreements. The aviation industry has proved that it takes this issue seriously, and it has a long history of innovating to reduce noise and emissions.

To ensure this positive approach is maintained, the industry must remain profitable, in order to generate the investment required in researching and developing new technology.

In recent years, collaboration between the industry and UK and European regulators has produced some means through which the total impact of aviation is mitigated. We would encourage policy-makers, and our colleagues across the industry, to stay close and to maintain the momentum built in recent times.

As individual airports, we all have a role to play in reducing our emissions and our local impacts, and – crucially – setting an example to others in our communities to do the same. However, it is at the international level that the real, meaningful action must take place. We look forward to engaging in this important debate as those discussions continue.

References

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