

| Consultation question | Response |
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| <p>1. How does the aviation sector as a whole benefit the UK? Please consider the whole range of aviation activities including, for example, air freight, General Aviation and aerospace.</p> | <p>There was a time, in the 1950s and 1960s, when the UK aerospace industry and the UK's major airlines were closely linked. State-owned BEA and BOAC bought aircraft produced by state-owned or state-subsidised aircraft manufacturers such as Avro, De Havilland, Hawker Siddeley and Vickers. Those days are however long gone and so also the 'Buy British' tradition of the UK's major airlines. Today, the UK aerospace industry is no more closely linked to UK aviation than car manufacturing is linked to road building or taxi operators. In fact, the links are even more tenuous in relation to the aviation and aerospace industries because so much of the UK aerospace industry is focused on military products. In short, aerospace and aviation are two distinct business sectors and in seeking to develop a sustainable framework for UK aviation, it would not be helpful to blur that distinction.</p> |
| <p>2. What do you consider to be the aviation sector's most important contributions to economic growth and social well-being?</p> | <p>Only 23% of passengers using UK airports are business passengers and this falls to 16% on international flights. The vast majority of air passengers are therefore travelling for leisure purposes and more than two thirds of those are UK residents on overseas leisure trips. The large imbalance between outward tourism and inward tourism gave rise to a £13.2bn trade deficit in the UK Balance of Payments Current Account in 2009. In addition, the UK posted a £1.9bn trade deficit on sales and purchases of air tickets in 2009.¹ The tourism and travel deficit has grown rapidly since the advent of low cost airlines, from £2bn in 1995 to a peak of £19.6bn in 2008 before dipping to £15.1bn in 2009, as a result of the economic downturn.² The significance of the UK tourism and travel deficit is examined in more detail in our research paper '<i>Aviation, jobs and the UK economy</i>', attached as Annex A. The social impacts of aviation are almost impossible to monetize. There are social benefits from holidays and from connecting families and friends. There are also social costs, especially for those who live in the vicinity of airports and beneath flight paths. The social benefits should always be considered alongside the negative social impacts and they also need to be considered alongside alternatives, for example, a holiday destination reached by train/coach/ship/car rather than a holiday destination reached by air. An examination of the socio-economic profile of UK air passengers is attached as Annex B, '<i>For richer and poorer? Who really benefits from cheap flights?</i>'</p> |
| <p>3. Are some sub-sectors of aviation more important than others? If so, which and why?</p> | <p>In our view the most important sub-sectors of aviation to the UK economy are business travel, foreign leisure travel (bringing overseas tourists to spend their money in UK) and air freight. These three sub-sectors together account for about half the market. The remainder is outward leisure trips by UK residents and this sub sector should have lower priority. There is also scope for prioritisation within the sub-sectors based on the availability of reasonable alternatives such as rail travel and sea freight.</p> |
| <p>4. How do you think the global aviation sector will evolve in the medium and long term (twenty to fifty years)? What do you expect to be the most significant changes?</p> | <p>Predicting the future of the global aviation sector over the next 20-50 years is fraught with difficulty especially when there are so many major strategic considerations to contend with including climate change, peak oil and security/terrorism considerations. There is also the inevitable onset of market maturity. We do not believe the DfT has given adequate weight to the strategic fundamentals in its forecasts. It seems to us inevitable that the aviation industry will become increasingly constrained by measures aimed at tackling climate change. Regarding the issue of peak oil, we find it surprising that DfT has not addressed this since there is surely general agreement that this</p> |

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| 4. (cont'd) | <p>will, at the very least, result in additional upward pressure on prices. The Department of Energy and Climate Change ('DECC') has, so far, only published oil price forecasts to 2030 and the DfT has assumed constant real oil prices from 2030 to 2080.³ This assumption is not supported by any evidence or analysis. However, the strategic fundamentals of supply, demand and cost of extraction all point to rising real oil prices in the long term. It is difficult to understand why DfT has assumed otherwise.</p> <p>As far as security is concerned, this has already resulted in long delays at airport terminals, making the flying experience less attractive, and once again there must be the element of uncertainty. There is no indication of any diminution in the determination of terrorists to inflict damage and destruction.</p> <p>In summary we believe that the DfT's air traffic forecasts do not give sufficient weight to the strategic challenges facing the industry. It follows that we consider the assumption of 2% average annual aviation growth to 2050 (in the range 1.5%-2.3%) to be too high.</p> <p>Turning to the supply side, the DfT assumes that London's five airports will be able to handle 182mppa in 2030. This is 12% less than the 2030 capacity assumed by the DfT for the same airports in the studies which preceded the ATWP. For 2050, the DfT assumes capacity of 188mppa – just 3% more than its 2030 assumption. We see no justification for reducing the SERAS capacity assumptions since average aircraft size and load factors have both continued to grow steadily and the number of aircraft movements which can be handled per runway per hour has also continued to grow. We would expect the key drivers of capacity – aircraft size, average load factor and the number of achievable runway movements per hour – to continue to increase, as they have done throughout the 100 year history of civil aviation, delivering at least a 1% annual efficiency (passenger capacity) gain. It must be borne in mind, however, that considerations of capacity should always be subject to considerations of sustainability.</p> |
| 5. How, and within what constraints, can aviation growth occur as technological developments and improved operating procedures reduce CO ₂ , pollutant emissions and noise impacts? | <p>It should be a minimum requirement for aviation to maintain its CO₂ emissions below 2005 levels and, as scientific understanding of the climate change impact of aviation's other GHG emissions and contrails improves, it is likely that appropriate additional measures will be needed to curb these impacts. Aviation must also reduce its overall noise impacts. The ANASE research showed that people are becoming less and less tolerant of aircraft noise and so the industry needs to be subject to stricter noise controls in future. Reducing night noise should be a particular priority. In addition, the Government should set out a phased timetable for meeting its stated policy objective of complying by 2030 with the recommendations set down in the World Health Organisation ('WHO') '<i>Guidelines for Community Noise</i>'.⁴</p> <p>Finally (in response to this question) it is the duty of the Government to ensure that all UK airports comply fully with EU air quality standards. We view this as the minimum necessary to safeguard the health and wellbeing of those who live near airports and we expect the Government to take all reasonable steps to ensure full compliance.</p> |

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| <p>6. How should decision-makers address trade-offs or competing interests, where these occur both (a) between different aviation objectives, for example CO₂ emissions versus local noise reduction, and (b) between aviation and other sectors, e.g. airspace use versus renewable energy objectives, or the use of land for maintaining a viable network of smaller airfields versus housing development?</p> | <p>The prime consideration on trade-offs should be sustainability. In the case of land usage for fuel or food, consideration should be given to the global availability of food, the climate change impact of transporting food and the deforestation that may result from planting crops for biofuel.</p> <p>Assuming aircraft CO₂ emissions are subject to a fixed cap, noise abatement objectives must not be compromised for the sake of reducing emissions per flight because this would simply enable more aircraft movements. The effect would be no overall reduction in carbon emissions but increased noise per aircraft movement <u>and</u> an increase in the number of aircraft movements. This is particularly the case in relation to communities affected by aircraft taking off from airports where the noise climate is particularly harsh: here, priority should be given to reducing noise impacts.</p> <p>Trade-offs should be decided by assessing the benefits and disbenefits of competing proposals with respect to employment, economic, environmental, social and other relevant impacts. This type of comparative analysis may demonstrate (for example) that it would be overall beneficial to reduce aviation's carbon budget to allow an increased allocation to other UK businesses.</p> |
| <p>7. Should some aspects of UK aviation be considered to be of strategic national interest (e.g. certain airports, air traffic control)? If so, based on what criteria?</p> | <p>Not unless there is a need relating to military/defence/security contingency planning or emergency services such as air-sea rescue and air ambulance/emergency organ transplant.</p> |
| <p>8. How might the cost of regulation to the aviation sector be reduced, while achieving the Government's objectives of promoting sustainable aviation, improving the passenger experience at airports, and maintaining high standards of safety and security for passengers and freight?</p> | <p>There may be scope for more efficient systems of regulation but we do not believe there's a case for <u>less</u> regulation. The aviation industry has major impacts upon the quality of life for many people and upon the local and global environment. There are also major safety and security considerations.</p> <p>In our view there is already too much self-regulation with regard to environmental impacts and there is a need for independent monitoring of the impacts of the aviation industry on the local environment and communities, a role which we believe could be carried out by the CAA. See also our response to Q.53.</p> |
| <p>9. How important are air transport connections – both international and domestic – to the UK at both national and regional levels?</p> | <p>Good transport connections are important for any modern economy – especially in the case of an island trading nation – but there comes a point where business connectivity is entirely adequate even though it's not entirely comprehensive, which it never can be. Japan, which is also an island trading nation, has twice our population and twice our GDP but it has fewer commercial runways than the UK. France and Germany also have larger economies than the UK and fewer commercial runways.⁵</p> <p>The UK aviation industry should be more focused on supporting the needs of UK business and of foreign visitors</p> |

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| <p>9. (cont'd)</p> | <p>and less focused on catering for outbound UK leisure travellers. However, airlines will naturally act in their own best commercial interests and so, without Government intervention (and there are sticks and carrots which the Government could deploy⁶), there is no reason to expect any change in the current priority given to leisure destinations by airlines serving the UK market. Paradoxically, it's the business sector, not the leisure sector, which appears more determined to curb its air travel, for example, through increased use of videoconferencing. Many major UK companies now having explicit targets for reducing business air travel.⁷</p> |
| <p>10. As long as people and goods can easily reach their desired destination from the UK, does it matter if they use a foreign rather than a UK hub airport?</p> | <p>Hubbing at a UK airport generates economic benefits and jobs for the UK but there is considerable controversy about the extent of these benefits. For example, Robert Ayling, the former CEO of British Airways, in opposing a third Heathrow runway, stated: '<i>...transfer passengers, for whom such a hub would be built, spend no money in Britain, at least little beyond the price of a cup of tea.</i>'⁸ Hubbing at a foreign airport may be more convenient for many UK residents, for example, those starting their journey at a regional airport may find that the air connection to a Continental airport makes it a more convenient hub than Heathrow. Even in the south east, some residents will find it more convenient to fly from their local airport to a Continental hub rather than use Heathrow, for example, those living on the south coast may prefer to fly from Gatwick to Schiphol for an onward flight rather than make the longer road journey to Heathrow. This type of practice may create jobs in Amsterdam rather than Heathrow but any employment impacts should be seen in the context of freedom of movement for all EU citizens.</p> |
| <p>11. Are direct connections from the UK to some international destinations more important than others? If so, which and why?</p> | <p>Yes of course. Flights from Stansted to such places as Tenerife and Torremolinos (Malaga), catering for the UK leisure sector, must be less important than flights from Heathrow to world business cities such as Beijing, Tokyo, Frankfurt and New York. Thus, if there is real evidence that the UK economy is being disadvantaged by a lack of capacity at Heathrow which, for example, prevents any increase in the number of direct routes to China, the Secretary of State has powers under s31 of the 1986 Airports Act to make 'Traffic Distribution Rules' and distribute traffic between London's airports as he thinks fit. As an illustrative example of the opportunity, we note that, last year, Heathrow flew more passengers to Miami than to China. It also flew more passengers to Malaga and Nice (combined) than to Beijing and Shanghai (combined).⁹</p> |
| <p>12. How will the UK's connectivity needs change in the light of global developments in the medium and long term (twenty to fifty years)?</p> | <p>The key developments over this timescale are likely to relate to the increasing impacts of climate change and peak oil, including in relation to food production and meeting global energy needs. The increased industrialisation and economic power of the so-called BRIC nations¹⁰ will exacerbate the challenge of dealing with these issues. Our response to Q.3 (above) addressed the need to focus UK air travel more on meeting business needs and on facilitating inward tourism. We would also expect to see a geographical refocusing as the BRIC nations become more important as business partners and also more important as sources of tourism revenue for the UK. Finally, the level of demand for visits to friends and relations is likely to continue to be influenced by the scale and nature of migration, particularly immigration, and by the cumulative impact of past migration.</p> |

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| 13. What are the benefits of maintaining a hub airport in the UK? | See our response to Q.10 above. |
| 14. How important are transfer and transit passengers to the UK economy? | See our response to Q.10 above. |
| 15. What are the relative merits of a hub versus a point-to-point airport? | A hub airport will be able to offer a wider range of routes and/or greater frequency of services compared to a point-to-point airport. However, as traffic density increases, there is less need for traffic consolidation and so point-to-point routes become more viable. Aircraft size and efficiency are also important considerations and it is now no longer always the case that the largest aircraft are the most efficient in terms of cost per seat mile. A point-to-point service should also be able to command a higher price, given its added convenience for passengers. |
| 16. Would it be possible to establish a new 'virtual' hub airport in the UK with better connectivity between existing London and / or major regional airports? Could another UK airport take on a limited hub role? What would be the benefits and other impacts? | Whilst there is no clear definition of a 'hub' airport, Heathrow has a far higher proportion of transfer passengers than any other UK airport. In 2009, 37.9% of Heathrow's passengers were connecting to other flights, compared to 9.4% at Gatwick, which had the next highest percentage (and number) of transfer passengers. ¹¹ There is no reason to prevent UK airports other than Heathrow from handling more transfer passengers if there were to be demand for this and there may be some demand if and when Heathrow reaches capacity. However, this demand – so far as UK residents are concerned – could also be catered for through the development of more point-to-point services from UK airports other than Heathrow. This would mean proportionately fewer transfer passengers in future but it should be remembered that transfer passengers pay no APD and spend virtually nothing in the UK. |
| 17. Can regional airports absorb some of the demand pressures from constrained airports in the south east? What conditions would facilitate this? | The South East (including East Anglia) contains 34% of the UK population yet its airports accounted for over 61% of UK air passengers in 2010. ¹² Differential rates of APD could be used to achieve a better supply/demand balance between the South East and the Regions. Improved transport connections can also play a part, for example, we note that the Secretary of State has said that, upon completion of High Speed 2 ('HS2') to Birmingham in 2026, the journey time from Euston to Birmingham Airport will be just 35 minutes. This is less than the journey time from London to both Gatwick and Stansted and, according to enable Birmingham Airport's management, it will enable their airport to compete with London's airports for passengers, easing capacity pressures in the south east. |
| 18. What more can be done – and by whom – to encourage a switch from domestic air travel to rail? | The Government could introduce VAT for domestic air travel and could also apply higher rates of APD to domestic flights. The additional revenues generated could be used to increase the subsidies given to train operating companies, targeted at long distance domestic rail journeys – i.e. those that compete with air travel – subject to agreement with train operating companies that the full benefits – and more – would be passed on to rail customers, and that the services would be heavily promoted as an alternative to domestic air travel. |
| 19. How could the benefits from any future high speed rail network be maximised for aviation? | A high speed rail link between Birmingham, Heathrow and Manchester airports would reduce the demand for domestic flights and assist in expanding the international route network at Birmingham and Manchester airports, including long haul. All of this would ease capacity pressures at Heathrow. |

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| <p>20. How can regional airports and the aviation sector as a whole support the rebalancing of the economy across the UK?</p> | <p>The UK regions have large tourism imbalances. The ratios of outward/inward tourism spend in 2009 were: North of England, 4.7 to1; Midlands, 4.3 to1; the South East & East of England (incl. London), 1.3 to 1; South West, 2.1 to 1; Scotland, 1.8 to 1, N. Ireland, 5.4 to1; and Wales, 3.8 to1. Overall, in 2009 the UK posted a £15.1bn trade deficit on international travel¹³ and this has an employment impact of up to 430,000 UK jobs.¹⁴ The Government is right to state the need for a better balance between outward, inward and domestic tourism and its policy includes a pledge to 'increase the proportion of UK residents who holiday in the UK to match those who holiday abroad each year.'¹⁵ The UK leisure sector is more price elastic than the foreign leisure sector and it is also larger than the foreign leisure sector. This means that price can be an effective lever for dampening outward leisure visits without having too much effect on inward leisure visits. Higher rates of APD would therefore have a positive impact on the UK trade deficit and a positive impact on UK jobs and, in the light of the regional outward/inward tourism spend ratios above, it is clear that the UK regions would be the main beneficiaries of dampening the demand for air travel.</p> |
| <p>21. To what extent do UK airports meet the needs of their customers? How might those needs be more effectively met within existing capacity? What is the right balance between competition & regulation?</p> | <p>No comment.</p> |
| <p>22. Can we extract more capacity out of the UK's existing airport infrastructure? Can we do this in a way which is environmentally acceptable? To what extent might demand management measures help achieve this?</p> | <p>There would of course be major adverse impacts on local communities if, e.g., there were a move to permit more night flights, or to encourage larger aircraft, in order to squeeze more capacity out of the existing infrastructure. Demand management should be used (a) to ensure that UK aviation's CO₂ and other GHG emissions are kept below 2005 levels; (b) to help align demand and supply; and (c) to help prioritise available capacity, for example: on business rather than leisure travel, on inward tourism rather than outward tourism, and on routes where there is no realistic rail alternative rather than routes where this is a realistic rail alternative. One simple way of incentivising airlines to make best use of capacity would be to charge APD on unoccupied seats as well as occupied seats.</p> |
| <p>23. How can we support Heathrow's hub status within the constraints of its existing capacity? Can we do this in a way which is environmentally acceptable?</p> | <p>No comment.</p> |
| <p>24. How important is increased resilience at the UK's major airports to reduce delays? How best could resilience be improved with existing</p> | <p>Heathrow is the only real problem here and the problem arises because BAA and the airlines schedule to 99% of capacity. If the scheduling limit at Heathrow was capped at 95% of capacity, the resilience problem would largely be solved. This would also reduce stacking times and waiting times prior to take-off, resulting in a substantial reduction in wasteful aircraft CO₂ emissions.</p> |

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| <p>24. (cont'd) capacity, e.g. how might trade-offs between existing capacity and resilience play a role in this?</p> | |
| <p>25. Could resilience become an issue at regional airports? If so, how might this be avoided?</p> | <p>In view of the amount of surplus airport capacity in the regions, we do not consider there to be any significant risk of a resilience problem at regional airports.</p> |
| <p>26. Could existing airport capacity be more efficiently used by changing the slot allocation process, for example, if the European Commission were to alter grandfather rights? If so, what process of slot allocation should replace it?</p> | <p>Yes, the Government should own the slots and auction them (for fixed terms rather than outright permanent sale).</p> |
| <p>27. What provision, if any, should be made for regional access into congested airports?</p> | <p>We do not support the idea of either the Government or the regulator requiring congested airports to reserve a proportion of slots for flights from regional airports. Good rail connections to congested airports would, in most cases, offer a viable alternative to a domestic flight. There may however be a case for special consideration for Northern Ireland and some of the remoter parts of the UK. Route Development Fund monies could be used in these limited cases to help maintain an air connection from an isolated part of the UK to a congested UK airport.</p> |
| <p>28. What provision, if any, should be made for General and Business Aviation access into congested airports?</p> | <p>There is no justification for priority access for General and Business Aviation at any airport, least of all those airports which are operating close to capacity.</p> |
| <p>29. What is the role of airspace design and air traffic management in making better use of existing capacity?</p> | <p>Better use of airspace capacity can be achieved by a combination of operational and technological improvements. The design and management of airspace in the UK must be fully integrated with bordering European and Oceanic airspace. And this continuum of airspace should be seamless. The fact that the Government supports the EU Single European Sky initiative, underlines the need to have a more efficient pan-European air traffic management service without the current plethora of different air traffic control centres in every country. A smaller number of pan-European centres should undertake the task bringing cost savings such that airlines would pay lower user charges. Advances in satellite based technology should be brought into service faster than currently being achieved. The capability of existing ATM ground systems seems to lag behind that of aircraft airborne avionics and priority should be given to resolving this shortfall to increase operational efficiencies.</p> |

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| <p>30. What do you consider to be the most significant impacts of aviation, including its non-CO₂ emissions, on climate change? How can these impacts best be addressed?</p> | <p>According to the latest research aviation is now responsible for 4.9% of world greenhouse gas ('GHG') emissions.¹⁶ The DfT's August 2011 aviation forecasts project 470mppa by 2050 and CO₂ emissions of 49m tonnes (as the central case). In 2009, the Government made a commitment that aviation's CO₂ emissions in 2050 would be held below the 2005 level of 37.5m tonnes and the Committee on Climate Change ('CCC') concluded that this could only be achieved if air passenger numbers in 2050 were limited to about 370mppa.¹⁷ The present Government should confirm the commitment to containing UK aviation's CO₂ emissions in 2050 to 37.5m tonnes, and chart a course for so doing. Even if aviation emissions are held at 2005 levels, they will still account for 25% of total UK CO₂ emissions in 2050. The effect is that all other sectors will need to reduce their CO₂ emissions by 90% to achieve an overall 80% cut.¹⁸</p> <p>Turning to aviation's non CO₂ emissions, there are uncertainties when it comes to estimating their effects, but uncertainty should not be used as an excuse for ignoring their effects altogether. The CCC's 2009 aviation report recommended that the non-CO₂ effects be taken into account and present knowledge indicates that a multiplier of 2 (applied to the CO₂ emissions) would be appropriate, although some suggest it should be much higher. The DfT has, of course, used a factor of 1.9 in previous publications including its Emissions Cost Assessment in 2007. The Climate Change Act requires that, by 2012, international aviation is included in the UK's carbon budgets, or that the Government explains the reasons for not doing so. The Government should announce as soon as possible that international aviation will be incorporated into the UK's carbon budgets and that expansion may be permitted only insofar as actual (not potential) technological improvements offset the effect of increased activity.</p> |
| <p>31. What role should aviation play relative to other sectors of the economy in reducing greenhouse gas emissions in the medium and long term?</p> | <p>Aviation enjoys a privileged position compared to other industries. The Climate Change Act enshrines the target of reducing the UK's CO₂ emissions by 80%, compared to 1990 levels, by 2050. A target for aviation simply to hold its CO₂ emissions below the 2005 level of 37.5m tonnes is clearly generous by comparison, especially when it is recognised that aviation emissions more than doubled between 1990 and 2005.¹⁹ The Government should make clear that 37.5m tonnes is an upper limit and may be subject to further tightening. Aviation emissions of GHGs other than CO₂ also need to be tackled and it would seem appropriate – again, as a minimum – for aviation also to be required to hold its non-CO₂ emissions below 2005 levels through to 2050.</p> |
| <p>32. How effective do you believe the EU ETS will be in addressing the climate impacts of aviation? Should the UK consider unilateral measures in addition to the EU ETS? If so, what?</p> | <p>We have a number of concerns about the effectiveness of the EU ETS. The ETS does not cover non-CO₂ GHG emissions and biofuels are treated as carbon neutral even though they have approximately the same non-CO₂ emissions as aviation fuel. Also of concern is the fact that the aviation industry might gain credits by investing in other ventures through the Clean Development Mechanism ('CDM') or Joint Implementation ('JI'). Our main concern however is that the carbon price will remain too low to be effective, due to over-generous allocations (which also create the potential for a very substantial profit windfall for the aviation industry). It has been estimated that the effect of the EU ETS upon the aviation industry will be the equivalent of a tax of less than one penny per litre on fuel and so will have little effect on ticket prices or demand.</p> |

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| <p>32. (cont'd)</p> | <p>The UK Government is at liberty, unilaterally, to increase APD and extend its scope, so this is one measure which can be used to manage demand and thereby address the climate change impacts of aviation. And, as pointed out in our response to Q.20, higher rates of APD would also have a positive impact on the UK economy. The UK Government is also at liberty to constrain airport capacity and the DfT's recent work in developing marginal abatement cost curves ('MACC') for various policy options for UK aviation to 2050, shows that constraining airport capacity would be a reasonably effective policy tool for reducing the sector's carbon dioxide (CO₂) emissions.</p> |
| <p>33. What is the best way to define and quantify the UK's share of the CO₂ emissions generated from international aviation?</p> | <p>The simplest approach would be to allocate emissions from international aviation equally between the countries of departure and arrival. A more logical approach however would be to allocate aviation emissions on the basis of passengers' country of residence and if that approach were adopted the UK would be deemed responsible for about two thirds of emissions from flights to and from the UK, rather than just half.</p> |
| <p>34. What is the potential for increased use of sustainable biofuels in aviation and over what timeframe? What are the barriers to bringing this about?</p> | <p>There is currently much experimentation with biofuels produced from plant life, algae and synthetically and there are already concerns about the sustainability of feedstock supply and over whether biofuel production is causing deforestation and loss of food production. There is therefore a need for a clear definition of 'sustainable biofuel', endorsed by the international scientific community, perhaps by the Intergovernmental Panel on Climate Change ('IPCC'). It is also important to note that biofuels have broadly the same non-CO₂ emissions as kerosene and this needs to be accounted for when assessing their climate change impacts. Similarly, the GHG emissions arising from the manufacture of biofuels also need to be taken into account. The DfT's August 2011 aviation forecasts project that biofuels will penetrate only 2.5% of the market by 2050. This appears to be a conservative forecast but there is still a great deal of work to be done before there can be confidence that biofuels can be produced sustainably and at an economic cost.</p> |
| <p>35. What mechanisms could the Government use to increase the rate of uptake of sustainable biofuels in the aviation sector? In particular, how can we accelerate the successful development of second generation biofuels?</p> | <p>Since aviation is already exempt from fuel duty and VAT, the Government does not have the option of introducing a more favourable tax regime for biofuels. The EU ETS is likely to encourage the use of biofuels and we repeat the points made in response to Q.34 about the need for genuine sustainability and to recognise that biofuels are not emissions free. Given the global nature of the research and development effort on biofuels, we do not believe it is either necessary or desirable for the UK Government to intervene to incentivise development of biofuels. Moreover, we do not agree with the industry argument that APD revenues should be hypothecated and used to fund this type of research and development. Aviation is lightly taxed and should be expected to fund its own research and development.</p> |
| <p>36. Which technologies (e.g. for aircraft and air traffic management) have the most potential to help reduce aviation's CO₂ emissions (noting potential trade-offs with local environmental impacts)?</p> | <p>Improved air traffic management offers the greatest potential for early reductions, and at relatively low cost. The Civil Air Navigation Services Organisation ('CANSO') estimates that worldwide improvements of only 2-4% are realistic and a 'Single European Sky' has the potential for reductions of 10% on short haul traffic. Most potential engine improvements have side effects of more noise and greater NO_x emissions, or they apply only to short haul traffic, while the blended wing body proposal would need high levels of investment and has issues concerning the passenger experience. In all cases the lead times are very long. The CCC estimates that fuel efficiency will</p> |

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| 36. (cont'd) | improve at about 0.8% per annum. Over the last 20 years, however, aircraft CO ₂ emissions have grown in line with the increase in passenger numbers because the gains in fuel efficiency have been almost exactly offset by passengers flying longer distances. |
| 37. What more could be done to encourage the aviation industry to adopt new technology to reduce its climate change impacts? | The global nature of the aviation industry, and of climate change, makes it more difficult for individual countries to act unilaterally. It is also proving difficult to reach global agreement on tackling aviation emissions. Meanwhile, the aviation industry will continue to act in its own best financial interests and governments do not have the option of offering tax concessions for improved environmental performance (or of using the tax regime to penalise airlines for poor environmental performance) since aviation already enjoys a general exemption from fuel duty and VAT. In our view the best option available to Governments is to build on the current EU ETS, by seeking to extend it geographically and by improving its effectiveness. In particular we would advocate the ring-fencing of aviation within the EU ETS so as to restrict its ability to purchase carbon permits from other industries. This would strongly incentivise the aviation industry to adopt new technology to reduce its climate change impacts and it would also avoid the risk of aviation becoming the 'cuckoo in the nest', forcing up the price of carbon to the detriment of traditional EU manufacturing industries and jobs. |
| 38. What more can the UK aviation industry do to reduce the climate change impact of its ground operations and surface access to and from the airport (which can also help reduce local environmental impacts)? | Such matters appear to be considered seriously only when an airport operator is seeking planning approval for increased capacity. For the rest of the time, airports are so reliant on airport parking revenues that they have no incentive to reduce car travel. More might be achieved if there was a requirement to invest 50% of all airport car parking revenue in the development and encouragement of public transport surface access alternatives. A combination of 'stick and carrot' measures and clear information can influence customer behaviour. Stop Stansted Expansion ('SSE') produced a 'Lo Car Strategy' paper for Stansted Airport in 2004. Whilst this gained support from many, including Government ministers, BAA failed to trial any measures or engage in discussion. Proposals which are still valid include restrictions on airport parking capacity, improved rail services, park-and-ride interchanges, an airport access levy, measures to combat local 'fly' parking, and cessation of the monopoly taxi franchise which results in unnecessary empty running by local taxis when leaving the airport and unnecessary empty running by the airport franchise taxis when returning to the airport. |
| 39. What scope is there to influence people and industry to make choices aimed at reducing aviation's climate change impacts, e.g. modal shift, alternatives to travel, better information for passengers, fuller planes, airspace management (which can also help reduce local environmental impacts)? | There should be scope to reduce domestic flights both through the development of better rail links (HS2 etc) and taxation (VAT on domestic flights). Videoconferencing technology is improving rapidly and the Government should look at ways of encouraging its wider use. For example, a national network of state-of-the-art videoconferencing facilities (sponsored perhaps by one of the major telecommunications companies) could open up the option of videoconferencing, as an alternative to (costly) business flights, for small and medium sized enterprises ('SMEs'). In March 2011 the Government published its Tourism Policy which includes the central objective of increasing the proportion of UK residents who holiday in the UK to match those who holiday abroad each year. Aviation policy has a key role to play in supporting this and helping to reduce the current UK Balance of Payments deficit on international travel and tourism. The Government estimates that, if we could increase the number of UK residents |

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| 39. (cont'd) | who holiday in the UK to match the number of UK residents who holiday abroad, it would inject an extra £2bn into the UK tourism industry and create 37,000 UK jobs. ²⁰ It would also reduce UK aviation's GHG emissions. |
| 40. What do you consider to be the most significant impacts – positive and negative - of aviation for local communities? Can more be done to enhance and / or mitigate those impacts? If so, what and by whom? | <p>Overall, the most negative local impact from airport operations is noise annoyance, especially noise in the late evening, early morning and overnight which causes sleep disturbance. Claims that noise impacts are reducing because aircraft are becoming quieter ignore the fact that the increase in the number of flights far outweighs the benefit of each flight being slightly less noisy.</p> <p>The current Government-approved method of noise measurement using the Leq noise averaging system paints a false picture and understates the true impact of aircraft noise intrusion on local communities – especially in rural areas where the ambient noise level (excluding aircraft noise) is very low and consists largely of pleasant, natural noise, e.g. birdsong. At the very least, and as a first step towards properly tackling aircraft noise disturbance, the Government must introduce an improved measurement system for aircraft noise, such as that described in the ANASE report. Moreover the evidence gathered in the course of the ANASE study clearly showed that the DfT is not only relying upon the wrong system for measuring aircraft noise impacts but also is applying the wrong standards of what constitutes low, moderate and high levels of noise annoyance. We expect the DfT to take forward the work of ANASE as a priority and develop a new framework for the measurement and control of aircraft noise impacts. The new framework should also take full account of the recommendations set down in the WHO <i>Guidelines for Community Noise</i>.</p> <p>The Government also needs to pay more attention to the impact of aircraft noise on the health of local communities and on children's education at schools located near to airports/flight paths. There is a wealth of academic evidence, independently peer reviewed, which indicates that aircraft noise disturbance gives rise to significant adverse impacts upon community health and children's education.²¹ The aviation industry has sought to dismiss and/or discredit much of the academic evidence on the health and education impacts of aircraft noise. However, the Government must take full account of these health and education impacts before deciding what constitutes a 'sustainable framework for UK aviation' and where there is any doubt about the academic evidence, the Government should commission an independent review of the evidence base relating to the health and education impacts of aircraft noise and then act in accordance with the conclusions of that review.</p> <p>If the level of operation at Stansted were to increase from the current 18mppa back to the 24mppa seen during the airport's peak in 2006/07, or to rise to 35mppa, for which the airport has planning consent, the range and intensity of negative impacts on the local community would be much greater. Perhaps the second most negative impact from expansion, after noise, arises from airport surface access traffic. Increased activity would also elevate the 'invisible' impacts – pollution generally and the impact of emissions on climate change – as well as upsetting the balance of the local economy, making the local community even more dependent on a single, vulnerable industry. The fragmentation of the established community around Stansted is also a particular concern for many across the district given the reluctance on BAA's part to sell back hundreds of homes which it took over as part of its plans for</p> |

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| <p>40. (cont'd)</p> | <p>a second runway. The influx of new and often transitory rental tenants who play little or no part in local life has had a significantly adverse impact on the spirit and cohesion of the local community. All major developments should be subject not only to an Environmental Impact Assessment ('EIA') but also to a Health Impact Assessment ('HIA'), conducted independently. The Royal Commission on Environmental Pollution ('RCEP'), in its 2007 report, <i>'The Urban Environment'</i>²⁵, recommended that HIAs should be a statutory requirement and this recommendation should now be taken up. We would go further and recommend that regular audits of health, noise and other pollution impacts should be undertaken around airports to enable the emergence of health and social problems to be properly tracked over time. And in carrying out an HIA relating to an airport expansion proposal, the health effects of climate change²² should not be excluded from the assessment, as was the case (on the instructions of the airport operator) in relation to the 2006 Stansted G1 planning application.</p> |
| <p>41. Do you think that current arrangements for local engagement on aviation issues, e.g. through airport consultative committees and the development of airport master plans, are effective? Could more be done to improve community engagement on issues such as noise and air quality? If so, what and by whom?</p> | <p>Current arrangements are insufficient and BAA's dialogue with the community around Stansted Airport is wholly inadequate. What little information is issued by the airport is generally of a PR nature, motivated by a desire to present the airport in the most favourable light possible rather than to provide objective, evidence-based information on the airport's operations and impacts. Community concerns are rarely reflected in the airport's plans. The 2003 Air Transport White Paper called upon airport operators to produce master plans '<i>as quickly as possible and preferably within the next 12 months</i>'. The best that BAA managed to do at Stansted was to produce an interim master plan and that was not published until May 2006. A final master plan was supposed to follow '<i>within a few months</i>' but it never did. Moreover, the Stansted interim master plan now bears no relation to reality. On the basis of our experience with BAA at Stansted, the master plan process seems to be a waste of time and money. Also of concern is that the Stansted Airport Consultative Committee ('STACC') recently reduced the representation of elected local councillors and increased the representation of users of the airport. In addition, discussion of environmental and community matters has now largely been relegated to a sub-committee and members of the public – i.e. the local community – are not permitted to attend meetings of this sub-committee. Furthermore, the arrangements for the operation of the STACC are wholly inadequate in terms of the flow of information and issue of papers. There is no active communication by the Committee with the community other than via a very out-of-date website and the late issue of agenda papers seems deliberately timed to prohibit proper advance briefing of committee members before meetings and consultation with those they represent. The STACC chairman also refuses to allow 'Matters Arising' and 'Any Other Business' on the agenda, making it extremely difficult for outstanding issues to be followed up with BAA. The independence of the STACC is also called into question because BAA appoints and (quite generously) remunerates the chairman.</p> |
| <p>42. Do you think that current arrangements for ensuring sustainable surface access to and from airports, e.g. Airport Transport</p> | <p>Airport transport forums and airport surface access strategies are similar to airport consultative committees and airport master plans in that they are largely superficial, 'box ticking' exercises which are carried out by airport operators either to comply with some bureaucratic obligation or as part of the airport operator's PR strategy to present the airport in the most favourable possible light.</p> |

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| <p>42. (cont'd) Forums and airport surface access strategies, are effective? Could more be done to improve surface access and reduce its environmental impacts? If so, what and by whom?</p> | <p>By far the most meaningful action which could be taken to reduce surface access impacts upon local communities would be to reduce car travel to/from airports. However, airport operators have little interest in doing this because car parking charges account for such a large part of their revenue. For example, for the year ended 31 December 2010, Stansted Airport Ltd ('STAL') posted an operating profit of £45.9m (before exceptionals) which included net car parking income of £25.9m. – i.e. 56% of operating profit.²³ Stansted Airport has permission for 42,700 car parking spaces for airport passengers of which some 29,000 are currently in use. By comparison, Hong Kong Airport has just 4,000 car parking spaces for airport passengers and it handled 50.9m passengers last year compared to Stansted's 18.6m. A far more ambitious approach is required to reduce car travel to/from airports and the example of Hong Kong Airport gives an indication of what could be achieved. See also our response to Q.38 above.</p> |
| <p>43. What are your views on the idea of setting a 'noise envelope' within which aviation growth would be possible, as technology and operations reduce noise impacts per plane? What do you consider to be the advantages and disadvantages of such an approach?</p> | <p>We reject this idea outright. The term 'noise envelope' is vague and whilst designed to convey the impression of containing noise impacts, it would in practice allow the number of flights to substantially increase even if there were just a slight reduction in the average noise produced per aircraft. Local communities look forward to the time when aircraft become noticeably less noisy, such that they will suffer less sleep disturbance, less disruption to their enjoyment of their local environment and less general intrusion into their lives by overflying aircraft. It would be totally unacceptable if these benefits were to be diluted or even neutralised by an increase in the number of flights in line with the average noise reduction achieved per aircraft. As stated in response to Q.40 above, the Government's first priority in seeking to address the problem of aircraft noise disturbance should be to introduce an improved measurement system for aircraft noise, which the public could have trust in, such as that described in the ANASE report.</p> |
| <p>44. Is it better to minimise the total number of people affected by aircraft noise (e.g. through noise preferential routes) or to share the burden more evenly (e.g. through wider flight path dispersion) so that a greater number of people are affected by noise less frequently?</p> | <p>Changing flight paths or the location of stacking areas is to be avoided except where there are compelling reasons for change. The reason we attach such importance to consistency is that people make long term decisions about where to live based on the known situation at the time. Aircraft noise is an unfair intrusion on the quality of life of everyone adversely affected by it but it is a particularly unfair intrusion when it arises because of a sudden change to a flightpath or stacking area. The 'concentration' versus 'dispersion' question should be judged in that context. Furthermore people hear aircraft as specific separate events of each passing flight compared to the normal background noise levels. While it might appear sensible to place routes over less densely populated areas, we must bear in mind that aircraft noise is more noticeable and more annoying where there is less ambient noise, i.e. in tranquil parts of the countryside where the population is not as great as in urban areas. This is of particular significance at Stansted where large areas of tranquil countryside are overflowed. Moreover around Stansted we not only suffer from aircraft using this airport but also impacts resulting from the routing of air traffic using Heathrow and Luton airports in particular. A balance needs to be struck and there will be winners and losers. The noise abatement departure procedures could also be tailored to optimise noise reduction under the departure routes close to the airport. The CAA needs to be open-minded towards effecting such improvements. The height of</p> |

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| <p>44. (cont'd)</p> | <p>aircraft is an important factor and it may be that arriving aircraft above 5,000ft should be more dispersed and below that height be more concentrated and mirror the existing departure procedures with noise preferential routes. Holding stacks are a form of noise concentration and these should be phased out as new technology and improved air navigation procedures are introduced for arriving aircraft.</p> |
| <p>45. What is the best way to encourage aircraft manufacturers and airlines to continue to strive to achieve further reductions in noise and air pollutant emissions (notably particulate matter and NOx) through the implementation of new technology?</p> | <p>It is important to support the continued practice of ICAO noise classification of aircraft by the progressive reduction of noise levels permitted and phasing out of noisy aircraft (e.g. Chapter 2 aircraft in 2002). However, any system of protection that depends on voluntary initiation is likely to be ineffective and therefore inadequate. We already have EU Directives on standards and international agreements on (aspirational) aims for improvement but the weaknesses are exposed in the absence of effective remedies and enforcement when companies fail to implement the objectives because of economic considerations. The best way to encourage aircraft manufacturers and airlines to further reduce noise and emissions is to set more challenging standards (especially in relation to night noise), to have stricter enforcement (see also our response to Q.53) and to apply tougher sanctions for non-compliance.</p> |
| <p>46. What are the economic benefits of night flights? How should the economic benefits be assessed against social and environmental costs?</p> | <p>Quantification of social and environmental costs needs to be undertaken in a more systematic manner which reflects the true value of a decent night's sleep to individuals contributing to the wealth of the UK economy whose efficacy is impaired by interrupted sleep. The cost benefit analysis carried out on Heathrow night flights by CE Delft²⁴ earlier this year concluded that a ban on night flights was likely to be beneficial to the UK economy '<i>as the economic costs of the ban will be outweighed by the savings made by the reduced health costs of the sleep disturbance and stress caused by the noise of the night flights</i>'. We would expect the DfT to attach due weight to the CE Delft findings.</p> <p>The vast majority of Stansted's night flights do not need to take place during the night and so the economic conclusion reached by C E Delft in the case of Heathrow would – we believe – be just as applicable to Stansted. There is also a social cost associated with adverse health impacts and educational impairment associated with poor quality sleep which has a further detrimental impact on the economic cost of aviation on the nation. Stansted is primarily a leisure airport, and the number of UK passengers being flown out and the money they spend abroad greatly exceed the foreign passengers being flown in and the money they spend in the UK. In this context should the 'benefit' of one person's holiday flight (especially when that flight could well have been made during the day) have precedence over the disbenefit of impaired performance of another person at work, or of the sense of well-being of those who suffer the impacts of night flying as reduced quality of life?</p> <p>The problem of flights within the night 'shoulder' periods (11pm-11.30pm and 6am-7am) is of particular concern around Stansted, producing an intensity of take-offs and landings which is designed around the low cost carriers' business model of using aircraft for four round trips per day, in spite of the considerable intrusion which this causes to those beginning or ending their sleep. Night should mean night and the core night period should be extended to include these 'shoulder' periods to make it a full eight hours.</p> <p>Flights within the core 6.5 hour night period (11.30pm to 6am) at Stansted consist almost entirely of cargo flights</p> |

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| 46. (cont'd) | <p>(only a small proportion of which carry goods which are so time sensitive that they must be shipped overnight) and holiday charter flights by UK residents (which, again, very rarely need to take place at night). Night flights are a major source of community annoyance at Stansted and this arises from both aircraft movements and ground noise. This should not be surprising in view of the low levels of background noise within this largely rural environment. There is also a knock-on effect in terms of sleep disturbance caused by road traffic related to early morning and late night flights. Roads around Stansted are busy from about 4am until midnight.</p> <p>Any assessment of the economic, social and environmental costs should take into account recommendations made by the RCEP in 2002 and 2007²⁵ including the need for HIA's to be made mandatory. We would reiterate that there is also a need for such assessments to be made independently and not by airport operators who have a vested interest in their outcomes. Adverse effects on health should be considered as a major priority for those involved locally in public health and funding should be made available to support quantification of health costs and benefits. Finally, we question whether it is the role of the DfT to determine the number and type of night flights that should be allowed at Stansted Airport. Consistent with the Government's localism agenda, this matter should be devolved to the local planning authority, as is already the case with all UK airports except Heathrow, Gatwick and Stansted.</p> |
| 47. How can the night flying regime be improved to deliver better outcomes for residents living close to airports and other stakeholders, including businesses that use night flights? | <p>There should be a re-evaluation of the need for night flights based on clear evidence to establish whether there is a real and urgent need and the introduction of legislation to move them to the day wherever possible. The night quota period should be extended from 6.5 hours to 8 hours starting in 2012. A further reduction of the current (5%) year-by-year total annual quota points based on aircraft noise should be implemented in the new night flying restrictions period for Stansted due to start in 2012. There should be an eventual total prohibition of night flights, except in emergency, between 11pm and 7am in a phased programme starting in 2012.</p> |
| 48. Should extended periods of respite from night noise be considered, even if this resulted in increased frequency of flights before/ after those respite periods? | <p>Yes in the case of Stansted with the proviso that 'night means night' – i.e. a full 8 hours as described in answers to questions 46 and 47 – and if restrictions on noisier aircraft were implemented simultaneously to reduce their use.</p> |
| 49. Any additional comments. | <p>We refer to the covering letter which accompanies this submission and to the additional evidence provided in our two research papers – '<i>Aviation, jobs and the UK economy</i>' and '<i>For richer and poorer? Who really benefits from cheap flights?</i>' which are attached as annexes to this submission.</p> |
| Additional questions which, in January 2011, SSE asked DfT to include in the Scoping Consultation | |
| 50. How satisfactory are the arrangements for property acquisition by airport operators including the arrangements for | <p>The Land Compensation Act 1973 may be a suitable basis for compensation of those adversely affected by new road and rail schemes but at Stansted it has proved itself to be entirely inadequate for airport schemes. The key example of this relates to the 1999 approval for Stansted to grow beyond the then limit of 8mppa to 15mppa. BAA defined the physical infrastructure which would be needed for this expansion and, under the Land Compensation</p> |

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| <p>50. (cont'd) compensating property owners where their properties are bought for airport expansion?</p> | <p>Act, local residents who would be adversely affected by the airport's near doubling in size/scale would be eligible to apply for compensation 12 months after the final piece of the physical infrastructure – 'Taxiway Echo' – was completed. Passenger throughput climbed above 8mppa in 1999 and above 15mppa in 2002, yet Taxiway Echo has still not been built. In fact, BAA has decided that it does not envisage needing Taxiway Echo until 2019/20 and so no-one will be eligible for compensation until 2020/21 at the earliest (when the airport is expected to be handling 35mppa), 20 years after compensation was expected to be paid. Taxiway Echo is the so-called "golden rivet". It may never be built and if that is the case, compensation will never be paid. In compensation terms, local residents around Stansted Airport continue to live next to an airport handling less than 8mppa.</p> |
| <p>51. How can greater longevity be achieved in national airport policy so that blight and uncertainty for local communities is kept to a minimum?</p> | <p>On four separate occasions in the past 50 years the local community around Stansted Airport has been threatened by proposals to make Stansted bigger than Heathrow. On each of these occasions the community has ultimately defeated the threat but only to find that similar proposals are resurrected a decade or so later. We believe this is profoundly unfair and that there should now be a long term moratorium on any additional runways at Stansted. A moratorium on airport expansion is not without precedent: in 1979, the then British Airports Authority, when under the control of the Department of Transport, agreed to a legally binding 40 year moratorium on any new runways at Gatwick. We look to the DfT to consult on ways of achieving a similar long term moratorium for Stansted (and perhaps also other UK airports where local communities have been threatened and blighted for far too long) as part of the new '<i>Sustainable Framework for UK Aviation</i>'. And given the need for, and benefits of, a stable long term aviation strategy the Coalition Government should ask DfT civil servants to initiate discussions with the Labour Party (who are also currently carrying out a review of transport policy) with a view to securing the maximum cross party agreement on the '<i>Sustainable Framework for UK Aviation</i>'.</p> |
| <p>52. What measures can be taken to underpin future airport policy and planning decisions with a more reliable and genuinely independent evidence base? This applies at the DfT policy formulation stage (e.g. in relation to assessment of economic costs and benefits, and projections for aviation's GHG emissions) and at the policy implementation stage (e.g., in relation to the EIA and the HIA for a planning application).</p> | <p>i) DfT should place less reliance on industry-funded studies of the contribution of the aviation industry to the UK economy and UK jobs. There is a dire need for genuinely independent assessment in this area, for example, by academic institutions.</p> <p>ii) In the case of major infrastructure projects, consideration should be given to transferring the responsibility for commissioning the EIA and the HIA to the Local Planning Authority, who would then cross-charge the applicant, at cost (and would be subject to normal value-for-money safeguards including competitive tendering).</p> |

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| <p>53. Should the environmental impacts of airports be monitored, reported and policed by an independent 'watchdog' body such as the CAA or the Environment Agency, rather than (largely) by the airport operators themselves.</p> | <p>There is widespread mistrust amongst local communities close to airports, in relation to the fairness, objectivity and transparency of the current 'in-house' arrangements for reporting upon aircraft noise, emissions and track-keeping and for recording and handling public complaints regarding aircraft noise and other environmental impacts. There should be independent monitoring and policing of the environmental impacts of airports and we believe this a role which could be given to the CAA. This would fit well with the Government commitment to provide the CAA with a wider environmental duty and to make '<i>environmental considerations a mainstream issue for the organisation and a strategic priority for its Board</i>'.²⁶</p> |
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References

- ¹ Exports = foreign residents' purchases of air tickets from UK airlines; imports = UK residents purchases' of air tickets from foreign airlines.
- ² 'Travel Trends', ONS, 2010, Tables 2.09 and 3.09 and 'The Pink Book', ONS, 2010, Table 3.2 (Passenger air services).
- ³ 'UK Aviation Forecasts', DfT, Aug 2011, Annex C, Table C3.
- ⁴ 'Night Flying Restrictions at Heathrow, Gatwick and Stansted: Stage 1 of Consultation on Restrictions to apply from 30 October 2005', DfT, Jul 2004, para 3.12.
- ⁵ Boeing Airport Directory, CIA World Factbook 2010, azworldairports.com and NATS AIS. A commercial runway is defined as paved and >1523 metres.
- ⁶ For example, where two or more airports are serving the same area of the UK, the Secretary of State has powers under Section 31 of the 1986 Airports Act to make Traffic Distribution Rules '*...providing for air traffic, or any class or description of air traffic, to be distributed between those airports in such manner as he thinks fit.*' Other tools available to the Government include targeted route development funding and differential rates of APD.
- ⁷ 'Travelling light: why the UK's biggest companies are seeking alternatives to flying', WWF, May 2008 and 'Moving on: why flying less means more for business', WWF, Mar 2011.
- ⁸ Robert Ayling, former CEO of British Airways, *Sunday Times*, 4 May 2008.
- ⁹ CAA Airport Statistics 2010, Table 12.1.
- ¹⁰ Brazil, Russia, India and China.
- ¹¹ CAA Annual Passenger Survey, 2009.
- ¹² CAA Airport Statistics, 2010, Table 1.
- ¹³ 'Travel Trends', ONS, 2010, Tables 2.09 and 3.09 and 'The Pink Book', ONS, 2010, Table 3.2 (Passenger air services).
- ¹⁴ Annex A: 'Aviation, jobs and the UK economy' (attached).
- ¹⁵ Government Tourism Policy, DCMS, Mar 2011, para 3.3.2.
- ¹⁶ 'Aviation and global climate change in the 21st century', Lee et al, Apr 2009.
- ¹⁷ 'Meeting the UK aviation target – options for reducing emissions to 2050', CCC, Dec 2009, p22.
- ¹⁸ Ibid, p36.
- ¹⁹ CO₂ emissions from UK aviation in 1990 were 16.9m tonnes (data included in DfT 2004a, in support of the Air Transport White Paper).
- ²⁰ Government Tourism Policy, DCMS, Mar 2011, para 2.2.

²¹ Examples include: *'Aircraft and road traffic noise and children's cognition and health: a cross national study'* (The 'RANCH' Study), Stansfield et al, The Lancet, Jun 2005; *'A prospective study of some effects of aircraft noise on cognitive performance in schoolchildren'* (The Munich Airport Study), Hygge, Evans & Bullinger, Sep 2002; and *'Children's cognition and aircraft noise exposure at home'* (The West London Schools Study), Matsui et al, Oct 2004.

²² See submission to Committee on Climate Change in July 2008 by Professor Banatvala entitled *'Health Effects of Climate Change: Role of Aviation'*, available at <http://www.publications.parliament.uk/pa/cm200708/cmpublic/climate/memos/ucm0102.htm>

²³ *'Stansted Airport Limited: Annual report and financial statements for the year ended 31 December 2010'*.

²⁴ *'Ban on night flights at Heathrow Airport: a quick scan social cost benefit analysis'*, CE Delft, Jan 2011.

²⁵ *'The Environmental Effects of Civil Aircraft in Flight'*, RCEP, Nov 2002 and *'The Urban Environment'*, RCEP, Mar 2007.

²⁶ *'Regulating Air Transport: Consultation on Proposals to Update the Regulatory Framework for Aviation'*, DfT, Dec 2009, para 1.24.