

EAT YOUR OWN SMOKE!

A 21st Century Air Transport Policy Framework:
Protecting People and the Environment

Response to the Scottish Executive/Department for Transport consultation
"The Future Development of Air Transport in the United Kingdom: Scotland"

TRANSform Scotland
the campaign for sustainable transport



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Eat Your Own Smoke!

Introduction

"During my 18 undistinguished months as a minister whose responsibilities included aviation, I learned two things. First, that the demands of the aviation industry are insatiable. Second, that successive governments have usually given way to them.

Although nowadays the industry pays lip service to the notion of sustainability, its demands are essentially unchanged. It wants more of everything - airports, runways, terminals."

Chris Mullin MP, "Government and airlines" article,
Evening Standard, 14th January 2003.

Air transport is a growth industry. With forecast expansion rates of 5-7% annually, an effective doubling of demand every 15 years or so, the UK Government is currently engaged in developing a 30 year policy blueprint for, so it tells us, sustainable air transport through to the middle years of the 21st Century.

UK air passenger numbers are set to increase from 180 million per annum today to anywhere between 349 to 461 million in 2020 or as high as 600 million by 2030! Will the Government stick with the old, discredited "predict and provide" model for this industry, and simply and wilfully attempt to shoehorn all the forecast flights and associated airport infrastructure into our crowded island, with uncontrolled environmental damage? Or will the Government have the political will and courage to develop a truly sustainable future for air transport, a bold vision that aims to control and reduce the negative environmental impacts of air transport, allowing growth within sustainable limits?

We hope our submission will encourage the Government to actively promote a sustainable air transport policy for the UK.

"Simply building more and more roads is not the answer to traffic growth. "Predict and provide" didn't work...that is why we promised an integrated transport policy to fight congestion and pollution."

The Government's White Paper on Transport, published in July 1998, laid out an exciting vision of an integrated transport system for the UK - heralding a commitment to sustainable transport, exemplified by the statement above (paragraph 1.4 of the White Paper). And in March 1999, the then Minister of Transport, Dr. John Reid, had this to say when announcing a study into airport capacity in the South East:

"I must emphasise, however, that the study will not be an exercise in meeting demand and then just mitigating the environmental effects."

When the Department for Transport publish the Air Transport White Paper later this year, we will learn the results of the 3 year consultation and policy development exercise based on the December 2000 "The Future of Aviation" document and the series of regional air transport capacity studies for all the UK's regions. We understand how hard it will be to find the right balance between economic activity, activity that in the case of the air transport industry brings with it worrying environmental impacts that cannot be successfully mitigated, and ensuring we have an air transport system that doesn't damage our health and provides a better quality of life now – for everyone – without passing onto future generations a poorer world. A policy of "predict and provide" cannot achieve the latter aim.

An air transport policy based on ignorance of the real, growing and lasting environmental burdens of air transport, that panders to the understandable fear of missing out on jobs and inward investment – which sadly too often prove illusory – would be a gigantic confidence trick.

Why "Eat Your Own Smoke"?

The title of the paper, "Eat your own smoke", comes from a comment made by Richard Jeffrey, Managing Director of BAA's Edinburgh Airport, at the Scottish Executive's air transport conference held in Edinburgh on 12/11/02. Jeffrey said that the aviation industry had to "learn to eat its own smoke." *We couldn't agree more.*

1. A 21st Century Air Transport Policy Framework: Protecting People and the Environment

The overriding aim of policy should be to control and reduce the local, national and global environmental impacts the air transport industry is increasingly implicated in. We would like to see the following policy recommendations taken up by the Scottish Executive and UK Government as key components of a sustainable air transport policy for the next 30 years:

- **Airports policy**
The Scottish Executive should categorically rule out the construction of a major new Central Scottish airport in perpetuity.

Furthermore, we believe that plans to at least safeguard land at both Glasgow and Edinburgh for future new runway capacity should also be ruled out on environmental and sustainability grounds. We accept that there may be a case for the carefully controlled expansion of both major Scottish airports, within their present physical boundaries and in line with the sustainability criteria we set out in our response.

We also want to see the current environmental impacts at all Scotland's airports controlled and reduced. The only way this can be done given the current planning system would be to limit passenger throughput. A comprehensive environment protection programme would then stand a chance of moving beyond "mitigation" to real control and reduction of the impacts around each airport and across the entire Scottish system, including the worrying forecast climate change contribution air travel to and from Scotland causes.

This is the only acceptable strategic outcome of the consultation exercise for our members and we want to see policies that would achieve the principles above "set in stone" in the forthcoming White Paper.
- **Climate change**
Greenhouse gas emissions from aircraft are uniquely damaging and are likely to increase substantially over the next 50 years. By 2050 global emissions from aircraft will contribute to between 4 - 15% of predicted man-made climate change. Technological and operational improvements will not be sufficient to offset the effects of increasing emissions. **The Government must aim to stabilise greenhouse gas emissions from all UK origin flights at levels forecast for the year 2005. An urgent study is therefore needed to establish this prognosis and follow-on national and international policies. We do not believe that emissions trading schemes as currently envisaged will be effective. We need to see clear evidence of real greenhouse gas reductions by this sector.**
- **International aircraft noise and emissions standards**
The body that sets and controls the environmental performance standards for aircraft noise and emissions, the UN International Civil Aviation Organisation (ICAO) is, unfortunately, a kind of private members club for the industry. The standards it sets are invariably lowest common denominator, low cost, low effectiveness, pretend "solutions". Technology forcing, not technology following, innovative performance targets to achieve the very highest environmental standards should be this body's watchword. **We would strongly recommend that the UK government takes the lead in increasing the role of Environment Ministry and Environment Protection Agencies within ICAO's standard-setting bodies and urgently sets out a regime of ambitious technological goals for emissions and noise reductions targets at source. We know this can be done, the industry tells us so. R&D and manufacturing subsidies given to the industry should be linked to achieving the highest possible performance standards.**
- **Local and regional airport-linked impacts**
Quite simply, noise and air quality environmental impacts will deteriorate as flight and passenger numbers increase. At the moment, local impacts get a completely "free ride". Local authorities and environment protection agencies need statutory responsibility for aircraft noise and air pollution enforcement standards in line with the World Health Organisation Charter on Transport, Environment and Health guidelines and policy recommendations that the Government says it has a "political commitment" to applying to the air transport sector. **The Government must confirm that it will unhesitatingly apply the WHO Charter on Transport, Environment and Health, and linked action plans, to the air transport policy development process under way right now. We**

would like to see an independent pollution control agency – or SEPA’s remit extended – for this industry as well.

- **Airport access**

Strenuous, immediate efforts need to be made to reduce car dependency as the prime method that most passengers and staff use to travel to and from airports. We would like to see real reductions in car parking places at all UK airports and much greater investment in rail, bus, coach, light rail, minibus and taxi use. Airport-based car hire should attract an environmental levy equivalent to 15% of the contract value. These aims will reduce the significant contribution vehicle movements make to local air quality pollution impacts around UK airports. **We expect the Government to set a minimum figure of 60% as the target for public transport use for both passengers and staff access at all UK airports.**

- **Switch short haul air to rail**

Rail travel is substantially less environmentally damaging than air transport when comparing emissions per passenger kilometre. And if you consider door-to-door journey times for distances up to 1,000 kilometres, rail can be quicker! **We want the Government to urgently begin a 10-year programme to transfer all flights of up to 1,000 kilometres around the UK and to our near European neighbours from air to rail. Eurostar have recently confirmed that the CTRL capacity could shift 40 million passengers from air to rail by 2030.**

We are confident that simply by encouraging an air to rail shift within the UK as well, NO extra runway capacity would be needed, permanently removing up to 30 million internal UK air passengers from planes to trains.

- **Patterns of consumption**

As we move towards a low-carbon economy, all sectors of our industrial and personal transportation activity must play their part in reducing how, when and where we consume fossil fuels. The ways in which businesses ship people and goods around need to be challenged – for instance does any business or profession really need to ship paper-based documents overnight by express air courier when they can be sent electronically at 3,500 kilometres per second? Can video-conferencing installations and their use be linked to cuts in air travel emissions by business? Could we get by without air freighting strawberries from Mexico?

We recommend that the Government looks at ways in which alternatives to air transport can be encouraged and consumer education programmes used to highlight the need to decide how much air transport the environment can afford in our low carbon, sustainable mobility future. This should include mandatory “health warnings” and environmental information at airports and in airline and travel adverts and on websites.

- **Subsidies to the air transport sector**

We need to see the early and progressive removal of inappropriate subsidies to the air transport sector. The immediate imposition of a tax on kerosene or emissions charging, the introduction of VAT on ticket sales and aircraft purchases would go some way towards removing the tax advantages that lead to the current massive over-supply of aircraft seat capacity.

The best current estimate for the external costs of air transport – the climate change, health, accident, noise, air pollution, landscape, nature loss and so on – presently unaccounted for and unpaid, is about 44 Euros (£28.39) per 1000 passenger kilometres (UK figure, European Environment Agency TERM 2001 report, INFRAS/IWW study). So, for instance, on a return flight from Luton to Glasgow each passenger should pay an additional £28 for the external costs of their environmental impacts. We believe these figures may be on the low side.

The Government is committed by European legislation, the Amsterdam Treaty, to incorporate the external costs of transport in ticket prices. We want to see this happen in the 2004 Budget at levels which will encourage the switch from air to rail for short distance travel; facilitate the rapid introduction of video-conferencing and form part of a demand-management programme designed to control and reduce – *not mitigate!* – all forms of pollution and emissions from air transport.

- **Planning policy**

We strongly suggest that land-use planning policies need to facilitate and ensure the physical separation of affected populations and airport development to reduce the

inevitable noise, air pollution, health and third party safety problems. We urge the Government to set up an appropriately funded scheme for the fully-compensated removal and demolition of what we know to be large numbers of affected properties around the UK's major airports today, let alone in the future.

We eagerly await the development of a sustainable Air Transport Policy for the UK for the next 30 years, which we hope will feature a range of environmental limits and demand management options. We fervently hope that the Scottish Executive will tell the Government to act to control and limit the harmful expansion of an industry that badly needs "sustainable" as its watchword not "predict and provide" and which reflects the guidance set out by the Royal Commission on Environmental Pollution in 1994:

"An unquestioning attitude towards future growth in air travel, and an acceptance that the projected demand for additional facilities and services must be met, are incompatible with the aim of sustainable development..." and that "The demand for air travel might not be growing at the present rate if airlines and their customers had to face the costs of the damage they are causing to the environment."

2. How to deliver a sustainable air transport policy

The following paragraphs provide additional explanation of these themes and conclude with our views on where the balance between air transport's benefits and environmental costs might lie.

Climate change studies, and commentaries on the effects of air transport emissions on the global atmosphere, stem from the seminal 1999 UNIPCC Special Report, "Aviation and the Global Atmosphere". There is no doubt that the entire range of emissions and consequent greenhouse effects from flight operations are a major and growing source of climate change. We would make three observations at this point:

- the climate change contribution from aircraft emissions is more than CO₂ alone and all impacts should be considered when developing control strategies. ***The total impact of atmospheric aircraft emissions is 2.7 times greater than CO₂ alone***
- the present enthusiasm from industry and policymakers for emissions trading solutions is speculative and misplaced
- the industry is unfortunately still engaged in wilful attempts to "deny, minimise and delay" the science of climate change.

The DfT, to its credit, has realised that these global impacts are a significant problem. The regional study documents forecast the likely range of both internal and international CO₂ emission increases but unfortunately omitted a base case for comparisons to be made. We are glad that following our prompting, DfT did commission its consultants, Halcrow, to identify and publish this baseline.

The table below puts all the UK aviation CO₂ emission forecasts in the context of current national reduction targets for this gas.

The UK CO₂ & Aviation CO₂ Emissions Scenario

Total UK CO ₂ emissions in 1990 (source: Netcen)	603.0 million tonnes (mt)
Reduction required to meet Kyoto target by 2012 (5.2% below 1990 levels)	31.4 mt
Reduction required to meet UK voluntary target under "Kyoto Plus" by 2012 (12% below 1990 levels)	72.4 mt
UK Aviation	
(a) 1990 Total UK aviation CO ₂ emissions in 1990 from bunker fuels (source: Netcen)	14.8 mt
Estimated total UK aviation CO ₂ emissions including domestic in 1990 (approx. 4%)	15.4 mt
(b) 2000 Total UK aviation CO ₂ emissions including domestic in 2000 (source: Halcrow. Netcen is 31.8 mt)	33.4 mt
(c) 2030 Total UK aviation CO ₂ emissions including domestic in 2030 (source: Halcrow)	66.99 mt – low traffic growth 76.5 mt – high traffic growth

Between 1990 and 2030, UK CO₂ aviation emissions are forecast to increase by up to 60.1 million tonnes. This nearly offsets (83%) the total reduction in CO₂ emissions required to meet the Government's commitment, treaty plus voluntary, under the Kyoto Protocol.

This level of emissions growth is unsustainable. Any workable emissions trading scheme would have to identify savings elsewhere in our economy, or further afield, at least in the region of the 60mtC UK "aviation

excess", which would be allocated to and then purchased at an appropriate cost within any trading scheme. And an "open" scheme would pit aviation against other industrial sectors that may also want to buy growth through this mechanism. Environmental taxation in whatever form should, in our view, aim to achieve a significant reduction in air transport's forecast contribution to climate change not be a means of paying a low price to ensure "business as usual".

When we say "at least" in the previous paragraph, this is because of the complications involved in establishing an emissions trading scheme for this, and indeed any other, sector:

- any scheme would have to be on an agreed "cap & trade" basis i.e. an absolute base level of emissions is set and then the excess traded from verifiable sources **but**
- the emissions "bank" can only come from reductions over and above Kyoto and any subsequent international or voluntary targets to avoid double counting – it is extremely difficult to avoid what is termed "hot air" (non-existent savings) creeping into schemes which essentially are variants on a "robbing Peter to pay Paul" scenario
- as yet there is no agreement on how to allocate international emissions from air transport
- aviation emissions are not exempt from the Kyoto agreement: the sector's regulatory body ICAO, through its CAEP entity, and the UNFCCC SBSTA (technical) and COP (negotiating) bodies have been charged with developing an appropriate allocation system for international emissions and an emissions trading scheme as part of a range of market-based options to control and reduce emissions from the sector – progress is painfully slow
- our research into the claims made for existing emission trading schemes have left us very, very sceptical about their real effectiveness.

And on this last point, the Scottish Executive/DfT might like to know our views on the DEFRA-managed UK Emissions Trading scheme, which began in March 2002.

The UK's flag carrier, British Airways, became the first airline in the world to take part in an emissions trading scheme with the aim of stabilising CO₂ emissions. In doing so, it will qualify for Government grants worth more than £6.5 million. The airline has promised to reduce CO₂ emissions from its domestic flights and premises by 125,000 tonnes (out of a total of approx. **17 million tonnes** that the company produces each year right now!). BA has reduced its global CO₂ emissions by over 500,000 tonnes in the past 2 years. But this has been achieved largely through cutting loss-making flights and downsizing its workforce to reduce operating costs. BA claims to be making savings by moving to newer more fuel-efficient aircraft. The airline is also shifting parts of its older, smaller regional fleet to be operated by other airlines.

So the mix of CO₂ emissions BA is currently trading comes from some small energy efficiency gains but mainly from reduced economic activity due to route cuts; transferring some emissions to other airlines outside the scheme by giving them some of its internal UK routes and planes; and loss of market share to low-cost carriers who are outside the scheme as well.

Even if BA fails to reach its reduction targets, and assuming a market price of £5/tCO₂ (a high estimate) it would need to buy emission credits worth about £1.9 million over the scheme's five years. But this figure is dwarfed by the £6.67 million incentive BA will receive from the Government. It is plainly wrong that less successful companies should be receiving payouts of this magnitude largely for "virtual" savings. And set against the future growth in UK air transport CO₂ emissions, of which BA will have its fair – and massively increased – share, the short term nature of such schemes are exposed plainly and simply as climate fraud. This is a most perverse reversal of the "polluter pays" principle!

[The previous paragraphs are based on the article "*Hot air blows gaping hole in emissions trading scheme*" from The Ends Report, March 2002. www.endsreport.com]

We hope the Scottish Executive/DfT will join us in asking the National Audit Office to investigate this scheme as a matter of urgency.

For an in-depth look at the range of transport's environmental externalities in Europe across all modes, including air transport, we would ask your team to read the summary of the comprehensive report by INFRAS/IWW "*External Costs of Transport*" at www.infras.ch

This report gives the average external cost in Europe for air passengers as 46 euros per 1000 kilometres. For air freight, the figure is a staggering 205 euros per 1000 tonne kilometres. Useful comparisons between all modes, air, rail, bus, car and commercial vehicle, are made.

We would also like to take this opportunity to endorse the recent publication of the joint HM Treasury and DfT report "*Aviation and the Environment, Using Economic Instruments*", March 2003. This is a clear consultation document that sets out the framework of using environmental economics to reduce and control pollution from this sector and we look forward to any subsequent policy development discussions. We believe the INFRAS/IWW analysis would be a good starting point to help this process along.

For us, the key question posed in the December 2000 DfT document "The Future of Aviation" was this:

"If aviation covers its environmental costs, should capacity then be provided to meet demand?"

Our answer is a firm no. Environmental taxation is not a "get out of jail" card for any industry. Allowing willing companies to simply pay a small premium for, in the case of airlines, the "right" to use the atmosphere as a global dumping ground for their pollution exemplifies the twisted logic behind emissions trading schemes. The effect of emissions trading is to monetise a value and convert it into a right, which is then conferred on a polluter - thus trading expressly sanctions pollution. Trading also converts common ownership into a commodity - the atmosphere is a common good, available to all at no cost. Trading converts it into a commodity for the storage of waste, becoming private property or something akin to it at least. Trading has a rigidity and narrow focus that will kill environmental innovation, being entirely about lowest cost solutions, actually requiring less of a polluting source, industry sector or company than its best all-round efforts to control and reduce pollution.

That is why we stress the need for a menu-driven approach, as set out in our initial comments above.

We would also like to commend the series of past and recent reports on aviation and the current responses to the DfT consultation process produced by the Royal Commission on Environmental Pollution since 1994. It is simply not possible to either understand, let alone develop, a sustainable air transport policy without reference to these seminal studies and commentaries. We find it difficult to understand quite why the present and assorted recent iterations of the DfT have so studiously ignored or disparaged the views of the RCEP.

The publication of the Government's Energy White Paper "Our energy future - creating a low carbon economy" in March this year also puts massive pressure on the aviation sector, saying *"...the industry is encouraged to take account of, and where appropriate reduce, its contribution to global warming."*

We believe that the expansion levels forecast by the DfT for the next 30 years are rendered useless by the straightforward endorsement in the White Paper of the Royal Commission on Environmental Pollution views that as a nation we will need to move way beyond the current Kyoto levels of greenhouse gas reductions to a further 60% reduction in CO2 emissions.

One of the four goals set out in the White Paper to achieve this vision is as follows:

"...to put ourselves on a path to cut the UK's carbon dioxide emissions - the main contributor to global warming - by some 60% by about 2050 with real progress by 2020."

Whilst this target has been described as aspirational, it is an aspiration we share wholeheartedly.

We hope that the forthcoming White Paper might be able to comment on the relationship between aviation growth and the UK's future low carbon economy.

Improved international standards for aircraft performance are crucial. In January 2001, European aerospace manufacturers drew up the ACARE programme of ambitious specifications for air transport in 2020. The 5 major goals are to:

- reduce accidents by one-fifth
- reduce aircraft noise pollution by half
- reduce carbon dioxide emissions per passenger kilometre by half (by reducing fuel consumption)
- reduce nitrogen oxide emission by 80% and
- develop an air traffic control system able to manage 16 million flights a year with airports operational 24 hours a day.

We would support the first 4 points but not the fifth - especially not 24 hour round the clock operations! Like any other major infrastructure project the proposal, via Eurocontrol, to have a 16 million flight capacity ATM system by 2020 needs a strategic environmental impact assessment. It doesn't yet have one planned.

But whilst we support the environmental points 2 to 4 in particular we should point out that in just 18 years these targets will be almost impossible to reach.

Take noise first. The target is actually to reduce perceived noise to one half of current average levels by 2020 i.e. 30 EPNdB cumulative reduction relative to Chapter 3 standards. Given the slow rate of technology through to production development, new international standard-setting agreement through ICAO, fleet renewal rates and the recent debacle of Chapter 4 standards - an extremely under-whelming 10db improvement with no phase-out provisions, a standard met by over 90% of aircraft in production today - we can't see this happening.

Similarly, attempting to reduce NOx emissions by 80% by 2020, i.e. LTO NOx, is laudable but very difficult to

achieve. We do think these standards are technically possible but would require the airline industry and ICAO to fundamentally alter their behaviour. We are not holding our breath.

Local and regional airport-linked impacts need to be reduced. Yet the regional study documents show a refreshing honesty in their acknowledging that significant detrimental impacts will occur at all the existing or new sites identified for potential expansion.

Sustainable development should surely aim to reduce the following impacts:

- noise – predicted to worsen or impact previously unaffected populations at all options under consideration
- local air pollution – absolute volumes predicted to rise, with some statutory air quality management problems
- health impacts – combination impacts of noise and air pollution worrying
- heritage and ecology – significant impacts on nature sites and listed buildings and the tranquillity of public open spaces.
- road traffic – very large car parking, road improvement and air/noise pollution issues identified
- resource depletion – increased energy and large water supply demands, waste management problems, massive construction activity.

The mitigation efforts covered in these studies are unimpressive and overwhelmed by growth, as the sheer scale of the remaining impacts clearly show.

We are also frankly troubled by the range of different scenarios used throughout the entire regional study set. Although the range of impacts has been readily identified, we feel that their scale may well be more than the figures presented.

There are several main policy scenarios: 2000 base, RRC, SEC, FG, UKC, plus 2 FL and CG plus 2 further sensitivity tests; the nine combinations at the main SE airports plus the individual options at each airport; a rather throwaway option of no runways but maximum growth at STN, LTN, LGW and LHR of 201mppa; then there are 3 different forecasts used for noise and air quality modelling, a reference case, an environmental case and a high growth case; with 2 more scenarios, constrained and high capacity, used for national CO₂ modelling that are different again. We have tried hard to relate all of these scenarios and different bases one to the other but even with close examination of the background documents **we reluctantly have to inform the Executive that we believe the noise and air quality work and assessments in particular are somewhat opaque and overly-optimistic, especially with regard to the speed and contribution of the introduction of new technology, and therefore understate the likely future environmental impacts.**

The UK is a signatory to the UN WHO Charter on Transport Environment and Health and its subsequent action plans and programmes. The growth of air transport and its increasing impacts are mentioned in the latest WHO Transport Health & Environment Pan-European Programme as well as the WHO's aim of applying the "precautionary" and "polluter pays" principles to all forms of transport, in an effort to make them more sustainable. WHO also recommends that its comprehensive analysis of standards, targets and guidelines should be integrated into transport infrastructure planning policies.

For instance, the latest WHO guidelines for Community Noise Exposure are firm on the subject of night flights:

"Night time aircraft movements should be discouraged where they impact residential communities."

But the DfT position towards such integration is slightly churlish - witness the following response in a letter to George Osborne MP from David Jamieson MP, the Aviation Minister, dated 20th December 2002:

"The World Health Organisation guideline figure of 60dBA Lmax for noise measured outside bedrooms is derived on the basis of assuming absolute protection from even infrequent and/or transient sleep disturbance while sleeping with the windows open. In a great many areas, including the vicinity of major airports, this – however desirable in an ideal world – is not a realistic aspiration in the short to medium term. The Government is committed to take account of the WHO recommendations, alongside other material considerations, when setting targets and regulations in this area."

The policy developments documents issued by DfT are looking 30 years ahead, which we would gently suggest to Mr Jamieson, and his civil servants, is long term.

Compare this response with the answer Mr Osborne received from the Department of Health in November 2001 to the following Parliamentary Question:

"Mr George Osborne: To ask the Secretary of Health if the Government are committed to achieving the targets set out in the World Health Organisation Charter on Transport Environment and Health.

Jacqui Smith: Yes. In adopting in 1999 the World Health Organisation Charter on Transport Environment and Health the Government confirmed their commitment to making transport sustainable to health and the environment, and is striving to implement the measures in the charter's plan of action, especially those aimed at attaining its health targets. Our White paper on Transport defined the national framework for creating a better, more integrated transport system and tackling the problems of pollution and congestion. The subsequent 10-year plan set out the long term spending plans for delivering the policies described therein. The United Kingdom is an active participant in the steering group set up to push forward implementation of the WHO Transport Charter and is the lead actor for the Charter's action point on public participation, public awareness and information."

We acknowledge that a comprehensive programme of technology, international agreement and fleet renewal would be needed to reduce aircraft noise at source to levels that meet the WHO exposure guidelines.

It may well be that these guidelines may be very difficult to achieve through the previously described route, so some creative thinking might be in order. Preventing night flights at unsociable times might be another way of meeting these guidelines. High performance home insulation and air conditioning packages for affected properties might be another. Interpreting land use planning rules so that airport operations and flights do not physically affect their neighbours could work too. And removing homes from high disturbance areas could be yet another method of securing compliance with the WHO Community Noise guidelines. We have made some policy suggestions about this in our compensation discussion paper.

We would ask that the Scottish Executive/DfT produces policies that offer effective environmental protection solutions, not ineffective mitigation, that reflect the WHO Charter's desire to protect the health of UK citizens.

Airport access issues are important and must have the reduction of car dependency for airport journeys as their number one priority for both passengers and staff. We would want to see targets for public transport access set not just in percentage penetration terms but also directly related to real downward movements in road traffic generated noise and pollution levels. Surface rail and tram links should be subjected to environmental impact assessments. We strongly believe that airports and particularly airlines should be encouraged to make strenuous efforts to sell greater public transport use at the time of flight ticket purchase, rather than exhort their customers simply to buy airport car parking slots at favourable discounts!

The Scottish Executive should urgently consider **a more financially realistic way in which rail access can be provided into Edinburgh Airport, obviating the need for the excessively expensive tunnel currently proposed.** The tunnelled option appears to be a poor use of scarce financial resources in terms of improving railways in the Edinburgh area, especially given the lack of secured funding for delivering much-needed major enhancements to Waverley Station.

Rail access to the Airport could be provided by taking the proposed Edinburgh tram route Line Two via a new heavy rail station on the Fife line north-east of the Gogar Roundabout. With four-tracking from Saughton Junction to Dalmeny South (likely to be relatively easy using vertical retaining walls rather than sloping embankments) then a new double track chord linking across to the Dalmeny-Winchburgh line, the following benefits, amongst others, would be achieved:

- direct access into the heart of the airport complex by light rail
- frequent light rail shuttle from the heavy rail station (with trains from Glasgow, Fife, Aberdeen, etc.) on existing line would avoid mammoth expenditure tunnelling under airport (with a heavy rail station potentially 5 or 6 storeys below the terminal building)
- diversion of Edinburgh to Glasgow and Dunblane trains via new Gogar station and Dalmeny chord would reduce maintenance requirements on Almond Viaduct and Winchburgh Tunnel, and free up capacity on Saughton Junction - Newbridge Junction section for Bathgate (and, eventually, Airdrie) trains.

This proposal would not rule out future development of a rail line underneath the Airport should finances become available to make this a realistic proposition.

Switching short haul air to rail seems to us to be an essential component of sustainable transport policies. The joint Aviation Environment Federation/Friends of the Earth study published in October 2000, *"From planes to trains"*, clearly sets out the benefits gained by moving internal UK flights, and those to our

near European neighbours on to rail. Significant emission savings are identified and a thorough route-by-route examination shows that several million air passengers could make the switch annually within an investment-dependent range of 12 to 40 million trips. The report can be downloaded from the publications section at the Friends of the Earth website www.foe.co.uk Equally as important is the recent submission to the DfT from Eurostar which we fully support. It outlines the CTRL potential for up to 40 million air passengers to shift to rail from air and further opportunities for high speed rail connections beyond Paris and Brussels in the foreseeable future. This investment has already been made and it seems both economically illiterate and utterly unsustainable to build further airport capacity much of which will be in direct competition with the CTRL services and improvements in the UK intercity rail network currently underway.

Patterns of consumption need to be changed. Our profligate consumption of fossil-fuelled transport of all forms needs to be challenged. Influencing the way people consume air travel requires public information campaigns to be developed urgently. The DfT/ONS "*Attitudes to Air Travel*" survey, April 2002 (see DfT website www.airconsult.gov.uk) is important because it shows a "high willingness to pay" response by the public when they realise the environmental impacts of air travel. These attitudes, and further developing them, will play a key role in the acceptance of environmental taxation.

We would ask the Scottish Executive and UK Government to consider whether "health warnings" in travel agents, on websites, on tickets and at airports could and should be introduced to inform the travelling public of the harmful noise, air quality and climate change impacts of their journey. A simple CO2 calculator would allow people to see just how much of this greenhouse gas their flight is generating and also give air travel some context in respect of other everyday household emissions. We are currently developing a campaign, which will be launched over the summer, aimed at both business and individuals, explaining the environmental impacts of their flight and encouraging changes in the way we consume air travel. Tellingly, the Department/ONS attitudinal survey confirms our belief that there is a general lack of knowledge about air transport's impacts but that there is both a "willingness to pay" for them once the public understand the range and seriousness of the impacts and a reservoir of, as it were, "green" consciousness to be exploited.

Subsidies to the air transport industry encourage a rate of over-supply that results in high, above GDP growth rates. Economic theory tells us this should result in high profits. But even with high growth airlines struggle to make money. We believe that the almost continuous expansion of this sector with its high capital and operating costs results in low margins and causes its self-inflicted structural failure – high subsidies encourage growth for growth's sake. We have a seat mountain in this sector just as the agribusiness has wine lakes. Supply runs consistently ahead of demand due to these subsidies and the inability of airlines to entirely shake off the feather-bedded nature of their state-owned beginnings.

If there is one lesson the monoliths of the airline industry can learn from the low-cost sector, it is that consolidation through takeovers, ruthless cost-cutting, clever marketing and severe attention to overhead controls leads to profits. However, we have no doubt that even the most cost-conscious of the current crop of low-cost airlines will overreach themselves.

We would also unhesitatingly support any relaxation of the current barriers to cross-border ownership of airlines as we feel the consequent shakeout of excess capacity through mergers and acquisitions would see a reduction in unnecessary competition that would generate large environmental benefits in turn. There is something fundamentally wrong with a global airline industry that has lost as much money as it has made during the post-war period.

The recent Aviation Environment Federation publication "*The Hidden Cost of Flying*" makes the case for removing air transport's subsidies, and with the help of the DfT SPASM demand and traffic allocation model, shows that the UK would need no new runways if this were to happen. The report is available at www.aef.org.uk

Air transport has an unfair position compared to other modes because it pays no fuel tax, pays no VAT on any aspect of its operation, and has an effective subsidy because of duty free. Removing these market distortions, according to the DfT SPASM model, would see Glasgow grow to only 12 million passengers per annum (mppa) by 2030, instead of the 10.2-19.6 mppa predicted by the DfT. Edinburgh would grow to 11 mppa, instead of the 9.0-22.5 mppa predicted by the DfT.

Planning is an area that should solve environmental impacts not create them! We are unimpressed with the system's litany of broken promises to limit airport growth and are highly critical of the current crop of Section 106 agreements, which do little to control and reduce the local environmental impact of airport developments. We have devised a comprehensive and equitable scheme for the physical removal of the worst affected properties around airports based on noise and public safety zone contours and an "impact banding" system. The high costs of this proposal would be met by a Local Environmental Impact tax on passengers and freight. We have discussed this scheme with a major airline. A well-attended high level day

long facilitated workshop between interested parties, including DfT, has also recently looked at the merits of such a scheme. Full details of this package can be found at www.aef.org.uk but it is not intended as a reason to allow airport development, rather a scheme of last resort should the Government decide to press ahead with any of the expansion proposals under consideration. The updated discussion paper is part of this submission document set.

There are two further areas for comment. The first is to express **our profound disappointment at the intimate collusion between the Department for Transport and the air transport industry that resulted in the Oxford Economic Forecasting study "The Contribution of the Aviation Industry to the UK Economy."** The co-sponsorship of this study with the majority of its funding coming from industry is unsettling. The report ramps up the industry's importance to the economy and attempts to create an unassailable case for expansion because of the scale of its economic importance.

If the air transport growth rate to 2030 was reduced by implementing in full the range of methods we put forward to control and reduce the sector's environmental impacts, including demand management through taxation in one form or another, then the increased tax take to the Treasury would create significant employment elsewhere in the economy. Any disposable income not spent on air travel would be re-allocated and spent throughout the economy, also sustaining and creating jobs. **We are frankly deeply depressed that the DfT seems unwilling or unable to accept this straightforward fact of economic life.**

We would like to draw the Scottish Executive's and DfT's attention to a balanced review of the OEF study by Berkley Hanover Consulting on behalf of the SASIG group of the Local Government Association, which can be found at www.sasig.org.uk We would respectfully ask you to look at both reports and try to understand this area better as you try to find the right balance between air transport's economic activity and its worrying environmental impacts.

Secondly, we frequently hear complaints from the industry and its supporters that the UK's international competitiveness would suffer if our airports could not expand and that other continental airports would grow at our expense. Existing and planned capacity at the 5 airports in the London system is already way in advance of Paris, Amsterdam or Frankfurt but there is nothing to prevent airlines operating from those airports if they wish. For more than 30 years the French Government has struggled to find a site for a third airport in the Paris region and last year was forced to drop its plans for a new airport in Picardy on environmental grounds. It is true that Amsterdam has built a new takeoff only runway and that Frankfurt has a similar project planned, one that has been more than 10 years in the German planning system! But all of these Heathrow competitors still lag behind the passenger throughput here. **It would be very useful if the DfT could produce a simple template of current and future passenger and movement targets and construction projects at Paris, Amsterdam and Frankfurt through to 2030 in the hope of shedding some light on this subject – some factual analysis would be good.**

Concluding comments

We believe that abandoning "predict and provide" is the only route to controlling and reducing air transport's environmental impacts. We accept that aviation is by far the most difficult and costly area of transport energy use in which to replace fossil fuels. But the industry's days as a protected species must end. We recommend that air transport growth is limited to the forecast environmental efficiency gains identified by IPCC, namely 50% by 2050, with additional operational improvements, including CNS/ATM of 18% over the same period. This gives an average gain about of 1.3% per annum. However, with the addition of regulatory and economic incentives, we believe there could be an extra 0.5% efficiency gain and thus total forecast efficiency gains of 1.8%, in line with what we can reasonably expect technology, operations, regulation and economic incentives to achieve. There is therefore a strong case for setting future growth rates for air transport in the UK at 1.8% annually.

3: Submission to the joint DfT/HMT “Aviation and the Environment: Using Economic Instruments” consultation on behalf of the Aviation Environment Federation

TRANSform Scotland supports the recent AEF submission to the joint DfT/HMT investigation into the issue of aviation’s environmental costs. The AEF recently submitted evidence to the UK Parliamentary Environmental Audit Committee’s look at this area and answered their questions as follows. We submit the same points to you for the Scottish Executive to consider.

1. *Can the full environmental costs of aviation be identified? What are the main issues of principle and methodological difficulties in attempting to do so? Can remote but potentially catastrophic risks be properly reflected in such an approach?*

The range of aviation’s environmental impacts can be identified. These are: climate change; local air quality and noise; health impacts; safety (accidents/third party risk); land take; habitat (biodiversity), heritage and tranquillity losses; property devaluation; congestion; and an element of up/downstream processes. It is possible to arrive at reasonable cost estimates of these impacts. The best study we have found that tries to comprehensively assess these factors and apportion costs accordingly is the INFRAS/IWW study “External Costs of Transport”, March 2000. This can be located at www.infras.ch. See also the CE Delft study “Economic incentives to mitigate greenhouse gas emissions from air transport in Europe” at www.cedelft.nl

The INFRAS/IWW estimate for the external costs of UK air transport presently unaccounted for and unpaid, is about 44 euros (£28.39) per 1000 passenger kilometres. So, for instance, on a return flight from Luton to Glasgow each passenger should pay an additional £28 for the external costs of their environmental impacts. If we take the INFRAS European average 46 euros and multiply by the 250 billion seat kilometres flown by UK airlines in 1999/00 the UK external cost total is around £6 billion. We believe these figures may be on the low side.

This study also ranks the external costs of different modes of transport and provides an important contextual framework for sustainable mobility policy development, i.e. the transfer of short haul air to rail. The main practical issue is reaching agreement on the real costs of each impact.

We feel that an assessment of catastrophic risk can reasonably be made - take for instance, DEFRA’s long term assessments of climate change. Over this coming summer, we will be asking re-insurance companies for their views on catastrophic climate change risk/cost factors and also whether transport companies using fossil fuels might face increased insurance premiums and possible legal liability claims in the future because of their easily identified contribution to climate change.

2. *How comprehensive and accurate are the environmental costs included in Aviation and the Environment: Using Economic Instruments, and in the Department for Transport’s consultation The Future Development of Air Transport in the United Kingdom.*

Not very, but they are an acceptable start. We find it somewhat confusing that both Ministries seem to believe that the costs of air transport in the UK will continue to keep falling over the next 30 years and that they appear to dismiss the impact of internalising the sector’s costs on demand. The DfT states that in its view, external costs will add 10% to ticket prices over this period and that for every 1% increase in ticket prices there will be a corresponding 1% fall in demand, with a minimal effect on demand. This may be because the elasticity of ticket prices means only a very high increase will affect demand. Over 30 years, a 10% rise in ticket prices would unfortunately in our view have precisely zero impact on growth.

3. *Has the Government defined the correct environmental policy objective for aviation – that, where appropriate, the industry should pay for its environmental costs? How does this relate to the Government’s primary objective for airports – to maximize the significant social and economic benefits, whilst seeking to minimize the environmental impacts?*

No. The correct environmental policy objective for air transport is to set realistic targets to control and reduce the sector’s environmental impacts. An appropriate level of taxation, whether internalising external costs and/or an alternative policy of equitable tax treatment for aviation (see the AEF paper “The Hidden Cost of Flying”) should form part of such a policy.

The DfT’s policy objectives are “predict and provide”, pure and simple. “Mitigating” aviation’s environmental impact is a million miles away from controlling and reducing them.

We would like to point that if this sector pays more tax, in whatever form, that income to the Treasury creates and sustains economic activity and employment elsewhere in the economy. Similarly, if the UK population finds its future consumption of air transport limited by demand management, then those very same consumers will spend that slice of their disposable income previously allocated to flying elsewhere in the economy too, also adding to economic activity and sustaining the UK economy. And because air transport is highly capital intensive, money spent elsewhere in the wider economy might create even more jobs!

Whilst we welcome the joint DfT/HMT consultation and policy development exercise, it must not be used as an excuse to add a very small sum to ticket prices, then claim externalities have been met, allowing and indeed facilitating “business as usual”.

We would also like to state that the current Air Passenger Duty is emphatically **NOT** an environmental tax in any way, size, shape or form. It is simply a tax placed on a severely under-taxed sector of the economy as a revenue raiser.

4. *Would the incorporation of environmental costs be sufficient to achieve sustainability in the air transport sector? What additional measures, if any, would need to be taken if this were to have little impact on rates of growth? To what extent is there a tension between the policy of incorporating environmental costs (especially of carbon) and the Government’s long-term objective of a 60% reduction in CO₂ by 2050?*

Probably not. Our recent submission to the UK Parliamentary Transport Committee (*note for readers: this is essentially the same as the previous AEF document above*) outlined our comprehensive views on how best to reduce and control aviation’s impacts. Sadly, we are of the view that this sector is already environmentally unsustainable.

In practice, a range of approaches are required to develop an effective strategy to reduce aviation’s environmental impact, although an emphasis on regulatory control will always be required.

Voluntary measures can often be introduced quickly and can encourage companies to go beyond any legal requirements, but ultimately it is not in their shareholders interest to voluntarily impose measures that will restrict their business.

Experience also suggests that many voluntary and even some statutory agreements only remain in force while an airport is able to comply with them. As soon as an agreement starts to hinder the day-to-day operation of an airport, or requires any significant growth restricting action, many agreements are amended, renegotiated or ignored.

Economic instruments are important for several reasons: in addition to being used as a demand management tool, they may be applied, as already discussed, to internalise the external environmental and social costs of aviation; create an incentive to operate clean and quiet aircraft; help other modes of transport such as high speed rail to compete more effectively; and to stimulate R&D projects. As noted in the Arthur D Little report for the current DfT consultation process, although new technologies are a possibility, they may require economic or regulatory measures to create the necessary “market” that makes it commercially viable for manufacturers to go from the design stage to production.

Without these measures acting as a driver, there is no incentive for airlines to go beyond minimum environmental standards – a cynic might say undoubtedly so, as Transport Ministries, Civil Aviation Authorities, regulatory bodies such as ICAO and airlines and airports regularly collude to prevent the industry “suffer” what in their collective view might be “unnecessary” cost burdens.

However, since it is often difficult to predict how the market will react to the introduction of environmental levies, there is no guarantee that economic instruments will deliver a given target. For this reason, the Government will always need to provide regulatory safeguards to protect residents and the global environment from unacceptable levels of noise, air pollution and so on.

Hence, regulation should establish limits, while other measures should be used to encourage best practice. Without local or global limits, the industry will probably continue to become more efficient through some supply-side improvements but its cumulative environmental impacts will continue to grow.

In the first section of our consultation submission we also covered the obvious tension that exists around climate change scenarios. We are not big fans of emissions trading schemes as currently envisaged for this sector. We include the relevant section below to complete our answer to Question 4.

Climate change studies, and commentaries on the effects of air transport emissions on the global atmosphere, stem from the seminal 1999 UNIPCC Special Report, “Aviation and the Global Atmosphere”. There is no doubt that the entire range of emissions and consequent greenhouse effects from flight

operations are a major and growing source of climate change. We would make three observations at this point:

- The climate change contribution from aircraft emissions is more than CO₂ alone and all impacts should be considered when developing control strategies
- The present enthusiasm from industry and policymakers for emissions trading solutions is speculative and misplaced
- The industry is unfortunately still engaged in wilful attempts to “deny, minimise and delay” the science of climate change

The DfT, to its credit, has realised that these global impacts are a significant problem. The regional study documents forecast the likely range of both internal and international CO₂ emission increases but unfortunately omitted a base case for comparisons to be made. We are glad that following our prompting, DfT did commission its consultants, Halcrow, to identify and publish this baseline.

The table below puts all the UK aviation CO₂ emission forecasts in the context of current national reduction targets for this gas.

The UK CO₂ & Aviation CO₂ Emissions Scenario

Total UK CO ₂ emissions in 1990 (source: Netcen)	603.0 million tonnes (mt)
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Reduction required to meet Kyoto target by 2012 (5.2% below 1990 levels)	31.4 mt
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Reduction required to meet UK voluntary target under “Kyoto Plus” by 2012 (12% below 1990 levels)	72.4 mt
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UK Aviation

(a) 1990

Total UK aviation CO ₂ emissions in 1990 from bunker fuels (source: Netcen)	14.8 mt
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Estimated total UK aviation CO ₂ emissions including domestic in 1990 (approx. 4%)	15.4 mt
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(b) 2000

Total UK aviation CO ₂ emissions including domestic in 2000 (source: Halcrow. Netcen is 31.8 mt)	33.4 mt
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(c) 2030

Total UK aviation CO ₂ emissions including domestic in 2030 (source: Halcrow)	66.99 mt – low traffic growth 76.5 mt – high traffic growth
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Between 1990 and 2030, UK CO₂ aviation emissions are forecast to increase by up to 60.1 million tonnes. This nearly offsets (83%) the total reduction in CO₂ emissions required to meet the Government’s commitment, treaty plus voluntary, under the Kyoto Protocol.

This level of emissions growth is unsustainable. Any workable emissions trading scheme would have to identify savings elsewhere in our economy, or further afield, at least in the region of the 60mtC UK “aviation excess”, which would be allocated to and then purchased at an appropriate cost within any trading scheme. And an “open” scheme would pit aviation against other industrial sectors that may also want to buy growth through this mechanism. Environmental taxation in whatever form should, in our view, aim to achieve a significant reduction in air transport’s forecast contribution to climate change, not be a means of paying a low price to ensure “business as usual”.

When we say “*at least*” in the previous paragraph, this is because of the complications involved in establishing an emissions trading scheme for this, and indeed any other, sector:

- Any scheme would have to be on an agreed “cap & trade” basis i.e. an absolute base level of emissions is set and then the excess traded from verifiable sources **but**
- The emissions “bank” can only come from reductions over and above Kyoto and any subsequent international or voluntary targets to avoid double counting – it is extremely difficult to avoid what is termed “hot air” (non-existent savings) creeping into schemes which essentially are variants on a “robbing Peter to pay Paul” scenario

- As yet there is no agreement on how to allocate international emissions from air transport
- Aviation emissions are not exempt from the Kyoto agreement: the sector's regulatory body ICAO, through its CAEP entity, and the UNFCCC SBSTA (technical) and COP (negotiating) bodies have been charged with developing an appropriate allocation system for international emissions and an emissions trading scheme as part of a range of market-based options to control and reduce emissions from the sector – progress is painfully slow
- Our research into the claims made for existing emission trading schemes have left us very, very sceptical about their real effectiveness

And on this last point, the Committee might like to know our views on the DEFRA-managed UK Emissions Trading scheme, which began in March 2002.

The UK's flag carrier, British Airways, became the first airline in the world to take part in an emissions trading scheme with the aim of stabilising CO₂ emissions. In doing so, it will qualify for Government grants worth more than £6.5 million.

The airline has promised to reduce CO₂ emissions from its domestic flights and premises by 125,000 tonnes (out of a total of approx. **17 million tonnes** that the company produces each year right now!). BA has reduced its global CO₂ emissions by over 500,000 tonnes in the past 2 years. But this has been achieved largely through cutting loss-making flights and downsizing its workforce to reduce operating costs. BA claims to be making savings by moving to newer more fuel-efficient aircraft. The airline is also shifting parts of its older, smaller regional fleet to be operated by other airlines.

So the mix of CO₂ emissions BA is currently trading comes from some small energy efficiency gains but mainly from reduced economic activity due to route cuts; transferring some emissions to other airlines outside the scheme by giving them some of its internal UK routes and planes; and loss of market share to low-cost carriers who are outside the scheme as well.

Even if BA fails to reach its reduction targets, and assuming a market price of £5/tCO₂e (a high estimate) it would need to buy emission credits worth about £1.9 million over the scheme's five years. But this figure is dwarfed by the £6.67 million incentive BA will receive from the Government. It is plainly wrong that less successful companies should be receiving payouts of this magnitude largely for "virtual" savings. And set against the future growth in UK air transport CO₂ emissions, of which BA will have its fair – and massively increased – share, the short term nature of such schemes are exposed plainly and simply as climate fraud. This is a most perverse reversal of the "polluter pays" principle!

[The previous paragraphs are based on the article "Hot air blows gaping hole in emissions trading scheme" from The Ends Report, March 2002. www.endsreport.com]

5. Given the international context, what practical options for incorporating environmental costs are really available to the Treasury and the Department for Transport, and how should any revenues be used?

The Government should aim to internalise aviation's external costs on all internal UK air transport in the 2004 Budget. The forthcoming 2005 UK Presidency of the European Union provides a real opportunity for the Government to aim for a Europe-wide fair taxation policy for air transport.

The Amsterdam Treaty commits European Governments to internalise the external costs of transport modes and recent Commission policy proposals commit Europe to taking unilateral action if discussion at ICAO fails to produce meaningful results on how best to deal with aviation's climate change impacts. A UK-led Europe wide diplomatic and technical initiative on fair taxation/internalising external costs should be spelt out with targets and a timetable in this autumn's White Paper.

Here at home, DEFRA and the Environment Agency should play a larger statutory role in developing policies to control and reduce the sector's impacts. The DfT should be made to respond formally to the Royal Commission on Environmental Pollution's various reports since 1994 concerning aviation.

The sums for the alternative "equal tax" route are as follows:

Taxing aviation fuel at the same rate as motor fuel (45.8 p per litre); adding VAT at 17.5% to air travel; abolishing duty free on all flights; and abolishing APD would amount to £9.2 billion at 2002 levels. These changes could be phased in from 2005 to 2025 and would allow any Government to spend more money on a range of public services as it sees fit.

Whether externalities are internalised or aviation is taxed just like any other business, the most important starting point is to set environmental limits within which the air transport sector must operate and develop a menu of policy options to achieve those targets. Large decreases in aviation's impacts can only be achieved by a combination of methods including large increases in ticket prices to dampen demand.

4: UK Parliament Environment Audit Committee Aviation Inquiry AEF Supplementary Response June 2003

1. *The Government argues that equality of tax treatment between aviation and other modes of transport is not an objective of fiscal policy. To what extent does the AEF think it should be? Is there not an argument that the proper comparison is with rail and buses – both of which are heavily subsidised – rather than cars?*

We have been told on many occasions, both face to face and in writing by the DfT and its various past iterations, that the tax-free status of aviation fuel is an anomaly and that it is Government policy to remove this status through action at ICAO. However, the European Commission, in its Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions – *"Air transport and the environment: Towards meeting the challenges of sustainable development"* 1999, stated that if action internationally through ICAO doesn't remedy this anomaly, then the EC reserves the right to take unilateral action as a bloc. This stance has been reinforced by the EU White Paper "European Transport Policy for 2010".

The Communication also said this, for instance, in the 1999 Communication about the importance of sending price signals through internalising external costs:

"The Commission intends to continue its work on the creation of equitable conditions for competition within the overall transport system. This implies working towards integration of environmental costs into charging systems and significant improvement of the infrastructure at inter-modal connecting points so that users and operators can actually orient their choice towards the environmental quality of transport services and avoidance of congestion. This will contribute to replacing shorter flights by truly competitive rail transport."

There are 3 routes to get aviation taxed at an appropriate level – one is internalising its external costs (our current conservative [low] estimate puts the total external costs of UK aviation at around £6 billion a year), another is to add fuel tax and VAT. We have researched this latter route extensively in our report *"The Hidden Costs of Flying"*.

The third is a combination of both the above! As Kenneth Clarke, the Chancellor who introduced APD said at the time:

"...air travel is under-taxed compared to other sectors of the economy. It benefits not only from a zero rate of tax: in addition, the fuel used in international air travel, and nearly all domestic flights, is entirely free of tax."

It is true that the UK rail and bus network are heavily subsidised. Our view is that the very high utility nature of both modes and their significantly lower environmental impact per passenger kilometre renders these subsidies publicly and politically acceptable.

The environmental impacts of all forms of fossil fuel based travel should be carefully considered when developing sustainable mobility policies.

In addition to Kenneth Clarke's view, which we share, there is taxable capacity available particularly in terms of the flying public's "willingness to pay" both for the privilege of flying (the perceived benefit cost) and, as the DfT/ONS research "Attitudes to Air Travel" 2002 shows, an acceptance of increases in air fares to cover environmental costs. 25% of the survey's respondents said they would find an increase of 15% in airfares for environmental reasons acceptable.

The above GDP growth rates of air transport are effectively subsidised by the tax exemptions the industry enjoys. These may have played a role in establishing a fledgling industry in the immediate post-war period but are simply no longer appropriate.

2. *Even when the AEF re-ran the DfT computer model with its own assumptions, the results still showed a significant growth in aviation. Does the AEF accept the need for growth? How, in this context, would it define "sustainability" in terms of the aviation industry?*

The re-run of the Government's SPASM model, based on a revised set of assumptions put forward by the environmental NGOs (1), showed a reduction in forecast demand from the projected figure of 501 million passengers per annum (mppa) in 2030 to 315 mppa.

The base case scenario is 180 mppa in 1998. At a forecast level of 315 mppa in 2030, the SPASM model shows that there is no need to provide additional runways in the UK to meet demand over this period, as existing runway infrastructure is sufficient to meet the demand both nationally and in the regions. This avoids the large-scale demolition and land-take impacts associated with the Government's options for airport expansion.

However, as highlighted in the question, this still implies considerable growth compared to the base case. Do we accept the need for growth? We would ask this question in a different way, namely, can our environmental objectives be met and in turn allow for controlled growth of the industry?

Our environmental objectives have been determined based on published advice from expert and scientific communities. We support the RCEP's recommendation that the UK needs to reduce its CO₂ emissions by 60% by 2050; the World Health Organisation's guidelines that no-one should be exposed to noise levels likely to cause high annoyance in excess of 55 dBA Leq and full compliance with the EU Directive on air quality. Achieving these goals will be fundamental to delivering a sustainable aviation policy. We accept that in the short-term more flexible goals could be adopted.

To return to the question about growth, we believe that these short-term goals can be met whilst permitting growth in demand perhaps up to 315 mppa. To reach 315 mppa by 2030, traffic will grow at the rate of 1-2% per annum (We should state that we believe an element of this total demand would not occur as some market maturity would set in; regional airports would, in our view, be unlikely to show any significant "claw-back" growth, which we think SPASM overestimates; and the physical infrastructure at and around airports would become congested unless very carefully planned).

This, by general consensus, is roughly the rate of technological improvement forecast by the industry. While the business as usual forecast assumes a rate of efficiency improvement of 1% per annum, reports (such as the Arthur D Little study commissioned by the Government as part of the consultation process) indicate that higher gains can be achieved if the right economic or regulatory drivers are provided (a situation taken into account in our revised assumptions for SPASM).

In conclusion, we would like to restate our view that the key factor in a sustainable aviation policy is setting and achieving environmental goals, not agreeing a target level for demand and then try unsuccessfully to "mitigate" the resulting environmental impacts.

(1) The revised assumptions included imposing VAT on air travel and a tax on fuel equivalent to the rate paid by motorists (on the basis that the environmental effects of aviation are of a similar or greater magnitude, per passenger km, when compared to road transport). We assumed that a tax on fuel would be gradually introduced over the period to 2030, and that the existing Air Passenger Duty would be phased out.

We were asked to respond directly to the above 2 supplementary questions by the Committee. We also set out below 2 further short clarification statements.

1. Air quality at Heathrow.

The DfT SERAS study clearly identified significant local air quality problems with growth on the scale predicted at Heathrow with NO_x volumes exceeding statutory limit values with 35,000 people affected by 2015. We understand this is an issue the Committee is concerned about and would comment as follows.

The DfT Heathrow air quality study, contained in the SERAS report, was carried out by consultants AEA Technology. The same consultants have also previously produced a study looking at exactly the same issues at and around the airport for BAA plc for the Heathrow Terminal 5 Public Inquiry. And AEA Technology also produced the recent Heathrow air quality update/revision post-SERAS, again for BAA plc. We now have 3 reports from the same consultants with, we understand, similar baseline calculations of emissions at Heathrow but different outcomes.

The baseline inventory for this latest study uses, we are told, "real life" measurements gained over recent months from air pollution monitors around the airport. However, the final results differ significantly, with less negative air quality impacts being claimed by BAA plc. This is because the latest revised study uses, in our view, highly optimistic assumptions about future aircraft technology performance and their rate of in-service introduction. It is these assumptions that cause the air quality problem to apparently be reduced although still not in compliance with limit values for NO_x.

And to further muddy the waters, British Airways have stated that they believe the air quality problem is overstated because their pilots frequently avoid the use of full throttle take-off power, thus reducing emissions of NO_x in particular.

We are keen to see some independent resolution in this important area. To this end, we would respectfully ask the DfT to consider supporting our suggestion for a peer review of all 3 studies into local air quality at Heathrow.

2. Climate change and the re-insurance industry.

We will be pursuing this area over the summer months of 2003. In the meantime, we recommend your team studies the UNEP press release below:

Financial Sector, Governments and Business Must Act on Climate Change or Face the Consequences

Too few financial companies including banks, pension funds and insurance companies are taking the risks and opportunities posed by climate change seriously, members of the United Nations Environment Programme's (UNEP) Finance Initiatives are warning.

Zurich/Nairobi, 8 October 2002 - Losses as a result of natural disasters appear to be doubling every decade and have reached one trillion US dollars in the past 15 years. Annual losses, in the next ten years, will reach close to \$150 billion if current trends continue. The massive economic losses stemming from the devastating summertime flooding in central Europe are in line with the kinds of increasingly severe weather events anticipated by scientists as a result of human-induced climate change. This year has also seen a failure of the Monsoon in Asia, dramatic forest fires in the United States and the onset of another El Nino event in the Pacific. Members of the UNEP Finance Initiatives, a unique partnership between UNEP and 295 banks, insurance and investment companies, argue that climate change-driven, natural disasters, have the potential to wreak havoc across the world's stock markets and financial centres.

"The increasing frequency of severe climatic events, threatening the social stability or coupled with significant social costs, has the potential to stress insurers, re-insurers and banks to the point of impaired viability or even insolvency," the report, Climate Change and the Financial Services Industry, says.

The property market, where loans for houses and buildings are made over relatively large periods, could be particularly vulnerable as a result of extreme weather events. Homeowners and companies with property holdings may find that their insurance cover is cancelled at short notice, leaving them highly exposed.

Government action to arrest the problem will inevitably mean a reduction in emissions of the main sources of greenhouse gases linked with global warming. This will require cut backs and the more efficient use of fossil fuels such as coal and oil.

Asset managers, such as pension funds which are slow to appreciate the climate change threat, may see the value of energy or power company holdings decline as investors become more aware of the liabilities linked with carbon intensive industries, the report further concludes.

Yet opportunities are emerging that should allow the financial services industry to reduce or hedge against the risks and even help curb emissions of the greenhouse gases linked with the de-stabilisation of the Earth's climate and weather systems. The report says that the annual market in trading greenhouse gases, emerging as a result of international agreements to reduce emissions, could be worth as much as US \$ two trillion by 2012. The market for clean energy could stand at \$1.9 trillion by 2020, according to some estimates.

Meanwhile the financial services industry, with over \$26 trillion in assets under management, could if mobilized "wield significant influence over future economic development ... and therefore the future global greenhouse gas emissions" for the benefit of itself and society as a whole.

However a survey of mainstream financial institutions carried out for the report indicates that most are "unaware of the climate change issue" or have adopted a "wait and see policy". These attitudes are due to the prolonged wrangling over the Kyoto Protocol, the international treaty designed to deal with the threat of global warming, compounded by practical issues like the lack of solid information on emissions and delays in finalising the regulations of the new greenhouse gas markets.

As a result, only a small group of forward looking financial companies are addressing the issue many of whom are re-insurers whose businesses are already feeling the economic impact of rising, weather-related, insurance claims.

Klaus Toepfer, UNEP Executive Director, said today at the launch of the report: "This report is a wake up call for the global financial community. It highlights the real risks and economic perils they are facing as a result of human-influenced climate change. It also highlights how the industry can make a real difference through harnessing the new market instruments and mechanisms made possible by the Kyoto Protocol and by developing their own imaginative solutions."

"It also underscores how, given the financial muscle available to them, these institutions could move markets and minds to deliver a cleaner, healthier and less vulnerable world for the benefit of the world economy, for the benefit of people everywhere," he said.

The report and its studies, supported by a group of the world's biggest banks, insurers and re-insurers, were launched today at the Swiss Re Greenhouse Gas conference in Zurich, Switzerland. The findings will also be

presented to governments at the next round of climate change negotiations set to commence in New Delhi, India, on 23 October until 1 November.

"In addition to the emitting industry needing to take a carbon constrained future into account", concluded John H. Fitzpatrick, CFO and member of the Executive Board of Swiss Re, "the financial services industry, of which we are a part, also has an obligation to contribute to the solution of these problems through its own investments and business expertise. After all, climate change and substantial emissions reductions - like any other strategic global business challenge - ultimately becomes a financial issue. The problems associated with environmental disasters quickly become measured in dollars and cents. Our industry needs to lead by developing financial solutions and risk mitigation techniques to assist our clients in achieving global emission reductions."

The report has drawn up a blueprint for action, designed to galvanize the financial services industry to address the climate change threat more directly. The blueprint is also aimed at assisting governments to create the right conditions for the industry to operate swiftly and effectively in delivering new climate-related businesses and markets.

Recommendations include urging insurers and re-insurers to better reflect the risks from climate-related perils in policies and to develop public/private partnerships in high-risk areas so that cover can be maintained.

Commercial banks should fully price risks from climate change into loan agreements and give incentives to schemes that encourage energy efficiency or cleaner fuels.

Asset managers, such as pension funds, should request the companies in which they invest better information on their carbon emissions and their exposure to greenhouse gases.

Accountants, actuaries, analysts, credit rating agencies and others providing professional services should help corporate clients to better understand the threats and opportunities of climate change. Greenhouse gas trading markets need standardized accounting methods to operate and is thus another area where professional people and their professional organizations can help.

Meanwhile governments are urged to adopt a long term, global plan, to keep greenhouse gases at safe levels. This is vital because the Kyoto Protocol runs out in 2012 whereas carbon dioxide, methane and the other greenhouse gases can persist in the atmosphere for many tens of decades. At home, governments should also take a variety of actions including a clear commitment on how greenhouse gas reduction targets will be met alongside economic incentives for investing in clean energy schemes and clean energy research and development.

Governments are also asked to work with stock market regulators to help boost understanding of the impacts of global warming on publicly listed companies and new offerings.

The report concludes by calling for a major drive to mobilise the financial sector on this issue and recommends that new financial techniques and methods are developed to help investors and project financiers factor in climate change into the valuation of their assets.

Notes to Editors: The UNEP Finance Initiatives is a partnership between UNEP and 295 financial institutions worldwide. The report, Climate Change and the Financial Services Industry, was prepared by Innovest Strategic Value Advisors of Richmond Hill, Toronto, Canada, under the direction of the UNEP FI Climate Change Working Group which comprises : Andlug Consulting; Citigroup; Corporacion Andina de Fomento; Dresdner Bank AG; Gerling Sustainable Development Project GmbH; Munich Reinsurance Company; Prudential; SAM Sustainable Asset Management; and Swiss Re.

It is available on-line in PDF format from 8 October at www.unepfi.net

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About this paper

UK air passenger numbers are set to increase from 180 million per annum today to anywhere between 349 to 461 million in 2020 or as high as 600 million by 2030!

Will the Government stick with the old, discredited “predict and provide” model for this industry, and simply and wilfully attempt to shoehorn all the forecast flights and associated airport infrastructure into our crowded island, with uncontrolled environmental damage? Or will the Government have the political will and courage to develop a truly sustainable future for air transport, a bold vision that aims to control and reduce the negative environmental impacts of air transport, allowing growth within sustainable limits?

About TRANSform Scotland

TRANS*form* Scotland was launched in November 1997. Our fifty-nine member organisations - including transport operators, local authorities, national environment campaigns and local transport groups - support the development of sustainable transport policies and structures for Scotland.