

# **Missed Opportunity**

**Summary critique of the  
Air Transport White Paper**

**a report by  
the sustainable development  
commission**

**June 2004**

# Summary Critique of the Air Transport White Paper

Contents	Page
1. Principal Conclusions and Recommendations	1
2. General Comments	2
3. The Air Transport White Paper	3
4. Sustainable Development Appraisal	3
5. Climate Change	5
6. Emissions Trading	5
Annex 1	7

SDC PRINCIPLES FOR SUSTAINABLE DEVELOPMENT

UK Airport Transport White Paper 'The Future of Air Transport'  
An Analysis and Report to the Sustainable Development Commission

## MISSED OPPORTUNITY

### Summary Critique of the Air Transport White Paper

#### 1. Principal Conclusions and Recommendations

1.1. The Sustainable Development Commission has been tracking the debate about the future of air transport in the UK since the publication of the Air Transport White Paper – The future of Air Transport - (ATWP) in December 2003. We feel it is timely to issue a 'Summary Critique' of the ATWP, focussing in particular on two areas:

- the degree to which the ATWP's analysis and conclusions are based on a proper understanding of sustainable development
- the contribution of aviation to the problem of climate change and the adequacy of the DfT's response to the contribution.

1.2. We have not attempted to respond to all the different elements in the ATWP, and it should therefore be understood that this Summary Critique does not constitute a detailed analysis of the White Paper.

#### Recommendations

1. We have concluded that the cost-benefit estimates for additional airport capacity are misleadingly optimistic. **We therefore support the Environmental Audit Committee's recommendation that the Department for Transport (DfT) should address this by publishing a new and fully documented appraisal, which takes account of the overall, forecasted increase in air traffic and call on the Department for Transport to publish this appraisal by the Autumn of 2004.**

**2. We recommend that the DfT and Defra should jointly commission a range of forecasts for how air traffic and its greenhouse gas emissions are likely to evolve over the next thirty years, and what contribution they will therefore make to overall global warming on a range of scenarios. We further recommend that the UK actively seeks to ensure that a similar exercise is initiated at the European level, both to inform the stance which Europe takes globally, and to provide the basis for some initial programme for restraining emissions growth at the European level.**

**3. We recommend that in the short-term, DfT and Defra clarify the basis on which greenhouse gas projections are being made to ensure that full account is being taken of the radiative forcing of aviation.**

4. It is an extraordinary anomaly that one of the most serious and rapidly growing contributors to climate change should be so lightly taxed throughout the world because of the absence of international agreement on a common approach, and the threat to the competitiveness of any country acting unilaterally. **We call on the Government to take measures to ensure that the aviation industry is taxed according to the environmental costs it imposes as externalities on others (with adequate compensation for those most directly affected).**

5. Carbon emissions in the developed world (including the emissions from international aviation, allocated to the countries of departure and arrival on a 50-50 basis) need to be cut by a minimum of 60% from 1990 levels by 2050. **We call on the Government to affirm that this target (given in the Energy White Paper) includes the radiative forcing from emissions from domestic and international aviation.**

6. We welcome the decision by the DFT to press for the incorporation of aviation into the EU's Emissions Trading Scheme (EUETS). We concur with its view that this is likely to be provide both the most effective and the fairest mechanism for ensuring that aviation is required to internalise the full costs of its contribution to the problem of climate change. But there is still a huge amount of work to be done on both the design and the implementation of the EUETS before it delivers that outcome. **We call on the Government to take all steps within the EU to ensure that the EUETS is taken forward.**

**7. We recommend that the inclusion of aviation in the EUETS is secured before the Department for Transport sanctions any airport expansion, not least so that it can be assessed whether such expansion is really necessary and feasible. The resulting economic framework should include measures to make best use of existing capacity and more determined measures to reduce aviation's current environmental impacts.**

**8. We recommend that pending the inclusion of aviation into emissions trading schemes, an emissions charge should be levied on all flights: first, by the UK Government on domestic flights (to show it is serious about the issue); second, by the EU (with revenues being re-allocated to Member States) on all (not just intra-EU) flights.**

## 2. General Comments

2.1. The rapid growth of air traffic throughout the world is one of the most severe threats to the global environment today. It causes noise and air pollution, and exacerbates local traffic congestion on the land. But above all, it is making a rapidly increasing contribution to the build-up of greenhouse gases in the atmosphere, and to the climate change which they are causing. Governments around the world have failed completely to confront this problem so far. On the contrary, they have done everything they can to encourage further growth in order to promote short-term economic growth and development. It is now becoming urgent that they face up to this contradiction, and begin the challenging task of building public

awareness of the fact that air traffic cannot be allowed to continue to grow at its present pace, and that policy must be reoriented towards restraining rather than encouraging growth in air traffic.

2.2. This is of course an immense task. It has to start with building a stronger public awareness throughout the world of the general problem of global warming and climate change and of the urgent need to take action to mitigate this. It has to go on to educate the public about the need to restrain the excessive growth of CO<sub>2</sub> and other greenhouse gases in sectors such as aviation, and the need to alter the economic activities and behaviour that give rise to the production of these gases.

2.3. To be fair, the aviation industry has done a certain amount to deal with some of its adverse environmental impacts. Planes are considerably quieter than thirty years ago, although noise still blights many areas near airports. Some forms of air pollution from aircraft have been much reduced over the same period. But on the all-important question of CO<sub>2</sub>, progress has been very limited. It is true that planes are larger and somewhat more efficient in terms of fuel consumption per passenger mile than thirty years ago, and some further improvements in fuel efficiency are foreseeable in the years ahead. More might also be done to reduce emissions of water vapour, which exacerbate cloud formation and the greenhouse effect, and to reduce stacking and other wasteful consumption of energy.

2.4. But all of the past and projected changes in efficiency are dwarfed by the impact of the continuous growth of air traffic throughout the world. There is at present no viable alternative to fossil fuels as a propellant for aircraft remotely in prospect, and no possibility that improvements in efficiency could get anywhere near the growth in traffic.

2.5. As regards climate change, the aviation sector has so far remained largely outside the debate and outside the scope of the policy measures being developed to restrain CO<sub>2</sub> and other greenhouse gas emissions. Air traffic emissions have not been included in national inventories of greenhouse gas emissions, and are so far omitted from emerging restraint schemes such as the EUETS. Aviation fuel is not significantly taxed anywhere in the world, and countries and localities vie with one another to develop more and larger airports and to provide incentive packages to lure traffic towards them. Old-fashioned growth ambitions for this sector remain the common currency of political, commercial and public discussion.

### 3. The Air Transport White Paper

3.1. The UK Government's recent White Paper 'The Future of Air Transport' is still firmly rooted in this tradition. It reads as though the increasing demand for air traffic is an ineluctable fact, and one that is automatically linked with increased growth and prosperity for the country. It assumes that the primary responsibility of government must simply be to ensure that this demand is catered for as smoothly and efficiently as possible. It urges acceleration in the process of designating and constructing new airports and facilities, whose effect will be to sustain and encourage further growth of traffic many decades into the future.

3.2. The ATWP acknowledges the importance of climate change and promises a government initiative to try to bring aircraft emissions within the scope of the EUETS over the next four years (see section 6 below). But this proposition is not put forward with any urgent conviction; and past experience does not suggest the likelihood of any early or easy success in this initiative. Meanwhile, the Government intends to press onwards as fast as possible with creating new airport capacity, thus fuelling further traffic growth.

3.3. This fundamental contradiction at the heart of policy is the more disappointing in that the present UK Government has prided itself on its ability to achieve joined-up thinking so as to achieve more sustainable development, and on its leadership role in relation to the climate change debate. There is a serious risk that the failure to reshape aviation policy to take proper account of the seriousness of the climate change threat may undermine the UK Government's leadership role on climate change and its ability to carry conviction through leading by example.

3.4. To an outside observer, the Department for Transport still appears to be too closely respondent to the industry it is supposed to regulate, and resistant to outside influences and wider policy considerations. The Department has not responded to the Commission's previous reports on aviation and rejected offers by the Sustainable Development Commission to help build a wider sustainability framework for policy analysis and appraisal while they were preparing their White Paper. While this may not be very significant in itself, it is symptomatic of a departmental culture that is in danger of becoming semi-detached from the sustainable development imperative, which the Government has wanted to put at its heart.

### 4. Sustainable Development Assessment of ATWP

#### 4.1 Consistency with the Government's Sustainable Development Strategy

4.1.1. The Government's Sustainable Development Strategy sets out four objectives which the Government believes, *if achieved at the same time*, would deliver sustainable development in the UK:

- Social progress, which meets the needs of everyone.
- Effective protection of the environment.
- Prudent use of natural resources.
- Maintenance of high and stable levels of economic growth and employment.

4.1.2. In his Foreword to the Strategy, the Prime Minister makes clear that its objective is "to ensure that our economy, our society and our environment grow and develop in harmony". Elsewhere, and in the italicised phrase above, the document makes clear that this conception of sustainable development does not conform to the standard economic model of trade-offs, whereby more economic output means less environmental quality, and a better environment can only be achieved through economic sacrifice.

4.1.3. In contrast to these declarations, the ATWP is entirely couched in terms of environmental sacrifice for economic gain. The environmental sacrifice does not just consist of increased greenhouse gas emissions, but also includes increased noise, increased local air emissions and despoliation of the countryside around sites proposed for airport expansion. The expansion is justified entirely in terms of the economic benefits it will bring, which are estimated to exceed the environmental and other costs incurred.

4.1.4. As will be seen in the detailed report from Brian Pearce of the Centre for Sustainable Investment, there is some doubt about even this exceedance of benefits over costs. But the whole point of sustainable development, in the Government's formulation of the concept, is that developments should benefit *both* the economy *and* the environment - and achieve social progress. The proposals in the ATWP dramatically fail on this assessment to be consistent with the Government's strategic commitment to sustainable development.

4.1.5. The Government publishes fifteen 'headline indicators' to assess progress towards sustainable development. The indicators are: economic output,

investment, employment, poverty and social inclusion, education, health, housing, crime, climate change, air quality, road traffic, river water quality, wildlife (as indicated by birds), land-use and waste. The Strategy makes clear that “The Government’s aim is for all the headline indicators to move in the right direction over time”. There is some doubt as to whether the expansion of aviation will increase output, investment or employment more than would otherwise have occurred, but it seems certain to increase greenhouse gas emissions, reduce air quality (and increase noise), increase road traffic and develop previously undeveloped land.

4.1.6. The principal failure is that full account is not taken of ‘all costs and benefits’, which implies that there has also been a failure to take an adequately long-term perspective. The key cost-benefit estimates supporting decisions to expand capacity are misleadingly optimistic as the result of the omission of some key costs. More important for the long-term framework is that passengers and the industry will not face the true resource costs of providing that capacity, and so decisions will continue to be based on a distorted view of the underlying strength of demand for additional capacity.

## 4.2 Consistency with the SDC’s Principles of Sustainable Development (SD) – see Annex 1

4.2.1. A brief assessment of the ATWP against each of the Commission’s Six Principles follows:

**Putting Sustainable Development at the Centre:** as has already been stated, the ATWP provides a classic example of being prepared to trade-off the environment for economic output. This Principle rejects ‘crude trade-offs’, in favour of ‘the pursuit of mutually reinforcing benefits’. The ATWP makes absolutely no attempt at such a pursuit. It clearly violates this Principle.

**Valuing Nature:** the ATWP values nature, in the sense of giving it monetary value, in order to justify the trade-off it is proposing. This is not what is meant by this Principle, which speaks of constraining economic activity within environmental limits. It has been seen that the growth of aviation threatens to make meaningless (according to the Environmental Audit Commission) perhaps the most important current environmental limit – the UK contribution to radiative forcing which, with similar action by other countries, could limit climate change to tolerable levels. The ATWP clearly violates this Principle.

**Fair Shares:** this Principle talks about meeting people’s basic needs across the world, of improving quality of life within the Earth’s carrying capacity, and of economic efficiency. The expansion of aviation is not about meeting people’s basic needs – but its contribution to climate change will make it more difficult for some of the world’s poorest people to meet their basic needs in future. It will contribute to some people’s quality of life, but only by reducing the quality of life of others, and by breaching the atmosphere’s carrying capacity for greenhouse gases. The ATWP clearly fails to be consistent with this Principle.

**Polluter Pays:** the ATWP says that it intends “that the price of air travel reflects its environmental and social impacts”, and recognises the ‘polluter pays principle’. But it recommends no firm measures to ensure that this will be achieved. There is no general principle that all those affected locally by the external costs of aviation expansion will be compensated. There is no action by the Government to internalise the costs of emissions where it could have done so (for example, in respect of domestic flights). There is no commitment to emissions charges at the EU level. There is only a stated commitment to (the uncertain) incorporation of the aviation sector in the EUETS some years in the future. (See below). The ATWP as it stands is therefore inconsistent with this SD Principle, but this situation may or may not change depending on future government policy.

**Good Governance:** opinions will probably differ as to whether or not the process of preparing the ATWP was an example of “effective, participative systems of governance and institutions, engaging the interest and creativity of all citizens”. In the absence of detailed research, no assessment of the ATWP is given here in respect of this Principle.

**Adopting a Precautionary Approach:** it has been noted above that the expansion of aviation as envisaged in the ATWP threatens to render meaningless the Government’s targets on greenhouse gas emissions, and provides a classic example of ‘unsustainable development that pays insufficient regard to wider impacts’. The ATWP therefore clearly violates this Principle.

4.2.2. This brief assessment, on the basis of the analysis in BP 2004 and evidence from other sources, therefore suggests that the ATWP violates no fewer than five out of the six Principles of the Sustainable Development Commission.

## 5. Climate Change

5.1. The Government's Chief Scientific Adviser, Professor Sir David King, has recently warned that climate change is a more serious threat to humanity even than international terrorism. In response to the threat of climate change, the Government adopted in its Energy White Paper of February 2003 an objective of reducing UK CO<sub>2</sub> emissions to 60% below their 1990 level by 2050; the only Government to have announced such an ambitious objective.

5.2. Europe, with the UK prominent amongst its leaders, has done more than most to keep the climate change issue firmly on the map, and to seek decisive international action for the control of greenhouse gases. Europe and its Member States have ratified the Kyoto convention and are pressing forward with an emissions trading scheme for carbon emissions intended to restrain relevant emissions within a ceiling or cap. And although they have so far failed to agree on a common basis for carbon taxation throughout the Union, individual countries, including the UK, have in place a variety of measures to tax energy and fuel that at least exercise a little more restraint on the consumption of fossil fuels than prevails in the USA and some other parts of the world.

5.3. Aviation poses very special challenges in respect of climate change. Its radiative forcing is a multiple (somewhere between 2 and 4, but normally taken to be 2.5) of its CO<sub>2</sub> emissions (IPCC 1999). According to the Royal Commission on Environmental Pollution, the scope for technological change in order to mitigate these impacts is relatively small, certainly much smaller than the increases in aviation, which are now in prospect. There is therefore little doubt that, if these increases (with passenger numbers growing from around 100 million in 1990 to 300-500 million by 2030) are realised, UK aviation will very substantially increase its contribution to climate change.

5.4. The scale of this increase was calculated recently by the Environmental Audit Committee of the House of Commons (EAC 2004). It showed that the contribution of aviation to UK radiative forcing in 2050 would, with the projected growth in aviation, amount to 66% of the Government's CO<sub>2</sub> emission target (not including aviation) for 2050 (EAC 2004, p.23). (The calculation by the Royal Commission on Environmental Pollution was that aviation in 2050 would contribute nearly 75% of UK radiative forcing (*including* that from aviation). The

difference is due to the EAC assuming that the 60% carbon reduction target by 2050 applied only to *non-aviation* UK emissions, while the RCEP assumed that the 60% carbon reduction target applied to *total UK radiative forcing*. This is something on which clarification would be desirable).

5.5. The only actual policy measure in the ATWP to address the impact of aviation on climate change is an expressed intention to bring aviation within the EUETS from 2008. This is discussed below.

## 6. Emissions Trading

6.1. As noted above, the only real policy measure in the ATWP to address the climate change impacts of the aviation sector was a statement of intent to get the sector incorporated in the EUETS from 2008 "or as soon as possible thereafter" (DfT 2003, p.40).

6.2. First, it should be noted that the EAC (2004) was unimpressed by the Government's stated commitment to incorporate the aviation sector in the EUETS and, in due course, in a global ETS. The Committee pointed out the uncertainty of adapting the EU scheme to include aviation, the time this would take (making the proposed 2008 date at least difficult, and probably impossible, to achieve), and the non-existence as yet either of a global scheme or the political will to establish one. The Committee further pointed out: "It is inconceivable that any emission trading system could generate sufficient credits to allow aviation to expand as forecast, while at the same time delivering carbon reductions of the order needed. The price of carbon could, in such circumstances, go through the roof – provided there was sufficient political will to maintain targets and enforce penalties". The Committee also noted that the Government had turned its back on more promising policy instruments, such as an EU emissions charge, on which substantial preparatory work had already been done, and which could in all probability be implemented relatively quickly if the political will were there.

6.3. The EAC concluded: "If aviation increases on the scale predicted by the DfT, the UK's 60% carbon emission reduction target which the Government set last year will become meaningless and unachievable".

6.4. In respect of emissions trading, it has been noted that, in principle, the only economically efficient environmental policy instruments are environmental taxes and *auctioned* emission permits. This is because these are the only instruments that require users of

resources to pay for *all* their use of the resource. There is no mention in the ATWP of auctioned emission permits.

6.5. The implications of the ATWP for future public policy on climate change, for the aviation and other sectors, are stark. If the new facilities envisaged are actually built, the industry will (not implausibly) claim that the ATWP is an implicit social contract that they should be operated so that they can generate the revenue required to pay for them. If a future Government seeks to maintain the carbon targets, with aviation in an emissions trading scheme, such that aviation has to buy very large numbers of permits, the price of these permits is likely, as foreseen by the EAC, "to go through the roof". The price of aviation would need to increase substantially to pay for the permits. The demand for aviation would fall. The new facilities might not manage to generate the required passenger numbers to provide the revenue the industry needs and is expecting.

6.6. The position taken by the ATWP will also make it harder to argue the climate change issue with other economic sectors, which can respond quite reasonably that if such an emissions increase can be envisaged for aviation, they should be granted similar treatment.

6.7. This is the contradiction at the heart of the emissions-trading approach to addressing aviation's climate change impacts, in the context of the expansion proposed in the ATWP. In fact, this approach does little to resolve the contradiction between the expansion of aviation and climate stability. Unless aviation is allocated lots of permits commensurate with its expansion (and one might expect that there would be opposition to this from other sectors in the trading scheme if this meant that their allocations would be reduced, as they would have to be if the overall targets were to be maintained), aviation would end up paying huge sums for permits, which would inevitably cut back the demand for aviation, which the sector will need to pay for the facilities it will have built

6.8. In principle, the SDC agrees that it highly desirable that aviation should become incorporated into an emissions trading scheme that is eventually both global and with auctioned permits, but the problems with the approach in the ATWP may be summarised as follows:

- It pushes well into the future any measures to tackle the climate change impacts of aviation. The aviation sector may not be included in the EUETS for nearly ten years (if the EU 2008 window is missed, which it almost certainly

will be, then 2013 becomes the earliest realistic date for inclusion in the EU scheme).

- It fails to resolve the essential contradiction between the sector generating the huge *increase* in demand it will need to fill the facilities, which will shortly be constructed, and the *reduction* in emissions, which is required for climate stability. The whole idea that a single carbon-intensive sector can expand its contribution to climate change by a factor of 3 (from 1990 to 2050) while other sectors are somehow going to reduce theirs by more than half *plus* an amount to offset the increase in aviation emissions, simply defies objective credibility.
- If aviation does buy lots of permits in a tight emissions market, the price will choke off the demand that is needed to fill the new facilities that are to be built.

Jonathon Porritt  
Chairman – Sustainable Development Commission  
June 2004

## Annex 1 THE SDC'S PRINCIPLES FOR SUSTAINABLE DEVELOPMENT

### **1. Putting sustainable development at the centre**

Sustainable development should be the organising principle of all democratic societies, underpinning all other goals, policies and processes. It provides a framework for integrating economic, social and environmental concern over time, not through crude trade-offs, but through the pursuit of mutually reinforcing benefits. It promotes good governance, healthy living, innovation, life-long learning and all forms of economic growth, which secure the natural capital upon which we depend. It reinforces social harmony and seeks to secure each individual's prospects of leading a fulfilling life.

### **2. Valuing nature**

We are and always will be part of Nature, embedded in the natural world, and totally dependent for our own economic and social wellbeing on the resources and systems that sustain life on Earth. These systems have limits, which we breach at our peril. All economic activity must be constrained within those limits. We have an inescapable moral responsibility to pass on to future generations a healthy and diverse environment, and critical natural capital unimpaired by economic development. Even as we learn to manage our use of the natural world more efficiently, so we must affirm those individual beliefs and belief systems, which revere Nature for its intrinsic value, regardless of its economic and aesthetic value to humankind.

### **3. Fair shares**

Sustainable economic development means "fair shares for all", ensuring that people's basic needs are properly met across the world, whilst securing constant improvements in the quality of peoples' lives through efficient, inclusive economies. "Efficient" simply means generating as much economic value as possible from the lowest possible throughput of raw materials and energy. "Inclusive" means securing high levels of paid, high quality employment, with internationally recognised labour rights and fair trade principles vigorously defended, whilst properly acknowledging the value to our wellbeing of unpaid family work, caring, parenting, volunteering and other informal livelihoods. Once basic needs are met, the goal is to achieve the highest quality of life for individuals and communities, within the Earth's carrying capacity,

though transparent, properly-regulated markets which promote both social equity and personal prosperity.

### **4. Polluter pays**

Sustainable development requires that we make explicit the costs of pollution and inefficient resource use, and reflect those in the prices we pay for all products and services, recycling the revenues from higher prices to drive the sustainability revolution that is now so urgently needed, and compensating those whose environments have been damaged. In pursuit of environmental justice, no part of society should be disproportionately impacted by environmental pollution or blight, and all people should have the same right to pure water, clean air, nutritious food and other key attributes of a healthy, life-sustaining environment.

### **5. Good governance**

There is no one blue-print for delivering Sustainable development. It requires different strategies in different societies. But **all** strategies will depend on effective, participative systems of governance and institutions, engaging the interest, creativity and energy of all citizens. We must therefore celebrate diversity, practice tolerance and respect. However, good governance is a two-way process. We should all take responsibility for promoting sustainability in our own lives and for engaging with others to secure more sustainable outcomes in society.

### **6. Adopting a precautionary approach**

Scientists, innovators and wealth creators have a crucial part to play in creating genuinely sustainable economic progress. But human ingenuity and technological power is now so great that we are capable of causing serious damage to the environment or to peoples' health through unsustainable development that pays insufficient regard to wider impacts. Society needs to ensure that there is full evaluation of potentially damaging activities so as to avoid or minimise risks. Where there are threats of serious or irreversible damage to the environment or human health, the lack of full scientific certainty should not be used as a reason to delay taking cost-effective action to prevent or minimise such damage.

# **UK Air Transport White Paper 'The Future of Air Transport'**

An analysis and report to the  
Sustainable Development Commission

## **AN ASSESSMENT OF THE AIR TRANSPORT WHITE PAPER**

**A report to the UK Sustainable Development Commission by Brian Pearce, Director of the Centre for Sustainable Investment (Forum for the Future)**

### **OBJECTIVE**

The Centre for Sustainable Investment was asked by the Sustainable Development Commission to analyse the Air Transport White Paper (ATWP) 'The Future of Air Transport'. The aim of this analysis is to identify the extent to which it has set out a 30-year framework that is consistent with the development of a sustainable aviation industry, as predicated by the SDC's six principles for sustainable development (see Annex 1).

### **BACKGROUND**

The Government has quite rightly realised that a long-term policy framework needs to be put in place for key infrastructure assets. Market liberalisation and competition are insufficient to deliver the investment required. Energy and Water have had their own long-term reviews. It is clear that a sensible, 30-year framework for Air Transport is also essential if that infrastructure investment is to be consistent with the sustainable development of the UK economy. The current situation is far from satisfactory. As Dieter Helm points out:

'Decisions based on a[n economic regulation] structure in which one of the busiest airports in the world (Heathrow) has among the lowest prices, where cross-subsidy is endemic, and where environmental damage is largely unpriced, are certain to be wrong by a very considerable degree.'<sup>1</sup>

Yet the publication of the ATWP reveals very little in the 'long-term framework' that will correct these market price distortions. It announces a number of decisions to expand airport capacity, but little that will make aviation prices reflect the true resource cost of providing that capacity, which itself would provide a true test of the strength of underlying demand for additional capacity.

The ATWP itself points out that:

'A sustainable approach entails first making better use of existing airports before supporting the provision of additional capacity'<sup>2</sup>.

---

<sup>1</sup> See Helm, D and D. Holt (2003) p2.

It is hard to understand how this is to be achieved without pricing of existing capacity being based on the sort of economic approach routinely applied in other industries. Economic efficiency, moreover, is but one aspect of achieving a sustainable air transport industry.

The DfT's professed overall aim is to ensure 'transport that works for everyone', balancing the need to travel with the need to improve the quality of life, which means seeking solutions that meet long-term economic, social and environmental goals.<sup>3</sup> To realise this aim, the DfT states that decision-making (including the ATWP) will adopt the following principles:

- Putting people at the centre;
- Taking a long-term perspective;
- Taking account of costs and benefits;
- Creating an open and supportive economic system;
- Combating poverty and social exclusion;
- Respecting environmental limits;
- The precautionary principle;
- Transparency, information, participation and access to justice;
- Making the polluter pay.

## **SUMMARY CONCLUSIONS**

We argue below that the ATWP fails to meet the DfT's own principles (or those of the Sustainable Development Commission) in a number of respects:

- The principal failure is that full account is not taken of all 'costs and benefits', which implies that there has also been a failure to take an adequately long-term perspective. The key cost-benefit estimates supporting decisions to expand capacity are misleadingly optimistic as a result of the omission of some key costs. More important for the long-term framework is that passengers and industry will not face the true resource costs of providing that capacity, and so decisions will continue to be based on a distorted view of the underlying strength of demand for additional capacity;
- The adoption of environmental limits on local air pollution and noise around Heathrow airport is clearly consistent with 'respecting environmental limits'. However, this principle has not been consistently applied across the country in the case of noise, for instance at Manchester airport.
- Perhaps the most significant inconsistency with this principle is the impact of increasing airport capacity on UK air transport's contribution to climate change. Such is the scale of forecast increases in greenhouse gas emissions from the industry that it is hard to see how this is consistent with the Government's target of a 60% reduction in CO<sub>2</sub> emissions by 2050.

---

<sup>2</sup> See DfT (2003) p24.

Estimates by the RCEP suggest that the rest of the economy would have to reduce its emissions from the 2000 level of 150 million tonnes to 17 million tonnes, if aviation's forecast emissions are to be accommodated.

- 'Making the polluter pay' is a key principle if market mechanisms are to be used to help deliver environmental goals. Air transport prices need to reflect the true resource costs of providing infrastructure, including environmental costs. This does not mean that profitability needs to be cut. It does mean the industry should face the costs of its emissions and noise, even if the financial costs of this are offset by, for instance, lower taxes on labour as with the UK Climate Change Levy. The ATWP makes some steps towards this but, as discussed below, it appears to be a commitment that is much weaker than is necessary. The measures to get prices to reflect noise and local air pollution costs are even weaker. As a result there is no guarantee that the polluter will pay, and therefore no guarantee of the most effective incentives to reduce and mitigate pollution.

### **The key issues**

The key issue to be addressed is the adequacy of the 30-year strategic framework for the air transport industry that the ATWP describes, emphasising "the need for a balanced approach, recognising both the costs and benefits of air travel."<sup>4</sup>

There are two principal mechanisms in which such a framework can recognise such costs and benefits, and both of these are examined in some detail below:

- The first is that the Government can recognise them in its cost-benefit analysis of airport capacity expansion decisions;
- The second is that the industry and passengers can recognise them if they are all reflected in prices paid, in which case the underlying strength of demand for additional capacity will be revealed as passengers and airlines respond to these prices.

In both, it appears as though the ATWP only partially recognises the associated costs and benefits, with the result that it exaggerates the net benefits of, and demand for, additional airport capacity. More fundamentally, the framework appears to be a mixture of 'predict and provide,' forecast-based capacity provision and partial measures to correct the distortions in the market by getting prices to reflect the true resource costs of aviation.

The 'predict and provide' element is clear from the use of passenger forecasts out to 2030 to estimate economic benefits and support the cost-benefit calculations used in the decisions to provide additional airport capacity. All experience has shown these forecasting exercises will fail,

---

<sup>3</sup> See [Hwww.dft.gov.uk/stellent/groups/dft\\_transstrate/documents/page/dft\\_transstrat\\_027569.hcspH](http://www.dft.gov.uk/stellent/groups/dft_transstrate/documents/page/dft_transstrat_027569.hcspH).

which is exactly why market-based approaches have been introduced in most other industries. A market-based approach would have put in place measures to allow the underlying strength of demand for additional capacity to be revealed by getting prices to reflect the true resource costs of providing that capacity. Measures to achieve this have only been addressed to a limited extent in the ATWP.

If airport service prices are to reflect their true resource costs, they must take into account the value placed by users on existing capacity, the long-term incremental cost of building new capacity and the environment costs of using that capacity. There is some discussion of the trading of slots and carbon emission allowances in the White Paper, but a proper discussion of how a market-based framework for getting airport service prices to reflect their true resource costs is nowhere to be found.

The discussions on these issues is structured as follows:

## **1 Airport capacity expansion decisions**

We conclude that the cost-benefit estimates for additional capacity are misleadingly optimistic. As the Environmental Audit Committee says:

“The quality of the economic appraisal of options carried out by the DfT is poor, and the supporting analysis contained in ‘Aviation and Global Warming’ (DfT 2004), is opaque and unhelpful. The DfT should address this by publishing a new and fully documented appraisal, which takes account of the overall forecast increase in air traffic.”

### **1.1 Net economic benefits**

#### **1.1.1 Lower discount rate**

Net economic benefit estimates for the additional runways at Stansted and Heathrow have been doubled to £17 billion by the use of a much lower discount rate. However, it is sensible for public policy to value future outcomes more highly – and it will also raise the cost of climate change.

#### **1.1.2 Inclusion of Air Passenger Duty**

Supporting documentation shows that 40% of economic benefits consist of Air Passenger Duty (APD), a tax. This looks odd since transfers such as the ticket price from passengers to carriers are not counted as creating economic value. However, in this case, APD is quite rightly included since in its absence either

---

<sup>4</sup> DfT (2003) p21.

ticket prices would be lower, boosting 'user benefits', or profit margins higher, boosting 'producer benefits'.

### **1.1.3 Inclusion of foreign passengers in economic benefits**

One major criticism is that the ATWP does not clearly identify the net benefits to the UK from additional airport capacity, as opposed to benefits accruing to overseas passengers. Yet HM Treasury guidance states clearly that 'Generally proposals should not proceed if, despite a net benefit overall [i.e. including overseas residents], there is a net cost to the UK (for instance, after taking into account environmental costs.'<sup>5</sup> Based on earlier research for the SERAS consultation, we have been able to identify that almost half of estimated 'user benefits' accrue to foreign passengers. Excluding these benefits reduces the estimated net economic benefit of the new runway at Stansted from £9 billion to £6 billion.

### **1.1.4 Inclusion of people outside the UK in climate change costs**

However, if the capacity decision is to take into account the resulting costs of climate change, then overseas residents should be included. Much of the costs of climate change will fall on overseas residents (largely in low-lying, low-income developing countries). If costs to overseas residents are included then so should benefits. In which case the benefits of the Stansted runway net of construction, noise and climate change costs are estimated at between £6 and £8 billion.

### **1.1.5 Wider economic impacts**

It has been found that some of the claims by the ATWP for wider economic benefits from capacity expansion cannot be supported. Although wider economic impacts are not included in the cost-benefit estimates, they are used in the ATWP to support the case for capacity expansion: 'Failure to provide additional capacity would become a barrier to future economic growth and competitiveness'<sup>6</sup>. Yet an influential analysis by Berkley Hanover Consulting published some time ago doubted that other industries or UK business generally would be significantly

---

<sup>5</sup> See HM Treasury (2003), 'Greenbook, Appraisal and Evaluation in Central Government', chapter 5 'Appraising the options'.

<sup>6</sup> See DfT (2003) p25

harmed by restricting airport capacity. It pointed out that the resulting higher air transport prices would reduce the more price-sensitive leisure travel, not business. Since leisure travel makes up around two-thirds of passenger trips it may not take much of a rise in prices to free up capacity for the needs of UK business. There is little evidence that restricting airport capacity would significantly damage UK business.

## **1.2 Social impacts**

### **1.2.1 Compensating local communities**

One failure of the ATWP has been the lack of any substantial measures to deal with the losers from airport capacity expansion. It is clear that the 'winners' (the 35 million additional passengers forecast to result from the proposed extra runways at Stansted and Heathrow) in aggregate place greater value on flying than the value placed on the resulting environmental cost by the residents around those airports. Nonetheless, there are 10,000 households living around Stansted who are estimated to lose £16 million in housing value. There are 232,000 households living around Heathrow who are estimated to lose £427 million. Yet the well-established principle of compensating losers from the gains of the winners appears to be rejected by the ATWP. Instead of proposing an extension of the existing BAA scheme at Stansted (that compensates residents for the loss of housing value from additional aircraft noise), it suggests losers should seek compensation under the Land Compensation Act 1973.

### **1.2.2 Exposure to accident risk**

While the ATWP quite rightly says that safety continues to be of prime importance, it is not clear that in practice there will not be an increased risk of accident from the predicted rise in aircraft movements. Although new developments around airports will be adequately controlled by Public Safety Zones, there is concern that local authorities may not be enforcing the requirement for airports to relocate those in occupied buildings within the 1:100,000 accident risk zone.

### **1.2.3 External costs of land-take, local air quality and congestion**

The major omission from the cost-benefit estimates has been any measure of the environmental costs from the additional airport infrastructure itself. As Prof.

David Pearce observes<sup>7</sup>: 'The government's consultation on airport expansion in the South East of England – the area with the highest level of passenger demand – has pursued only a truncated form of cost-benefit analysis, with the potential for producing misleading results...No attempt has been made to monetise the environmental cost of the land-take (use and non-use values), air pollution or surface disamenity from added road and rail congestion. Reference is made to additional benefits from airport expansion, such as raised productivity elsewhere in the economy, but no mention is made of reduced productivity effects from added noise, pollution and disamenity-related stress...Failure to conduct the cost-benefit studies in a more comprehensive fashion to allow for all environmental impacts produces misleadingly optimistic results for airport expansion.' Whether or not the inclusion of these costs would eliminate the estimated net benefit is impossible to say without further research, but it is clear that the benefits have been exaggerated by this omission.

#### **1.2.4 Developing country equity issues**

The major equity or distributional issue associated with providing additional capacity for air transport is not so much the access to flying for low-income residents of the UK – who are relatively rich by world standards – but the costs of climate change imposed on the low-income residents of developing countries.

## **2 An economic framework for airport capacity use**

The main failure of the ATWP is the lack of an adequate economic framework. The distortions in the market are apparent from Heathrow's position as one of the busiest airports in the world, but with airport charges at less than half those in the US and Japan. There is only a partial attempt to correct market distortions by getting air transport prices to reflect the true resource costs of providing additional capacity, including environmental costs.

### **2.1 Economic incentives**

#### **2.1.1 Dual-till price regulation or cross-subsidies**

The cross-subsidy from shopping to aviation activities reduces the extent to which airport prices reflect the true resource costs of providing that capacity. A 'dual-till' calculation of activities solely associated with air transport suggests that airport charges at Gatwick, Stansted and Manchester do not, or only barely, cover operating profits. A 'dual-till' rather than 'single-till' approach to price regulation

---

<sup>7</sup> See Helm, D and D. Holt (2003).

(based solely on the cost of providing aviation services) are therefore likely to be considerably higher at these airports. The Civil Aviation Authority has argued this case strongly, but in the most recent 5-year regulatory review was over-ruled by the Competition Commission, which argued shopping was an integral and inseparable part of the airport 'product'.

### **2.1.2 Peak-load pricing**

Price mechanisms to balance fluctuating demand with available capacity have been long used in major utility industries, particularly electricity and telecommunications. Indeed airlines' use of 'dynamic pricing' is standard practice. Yet it is generally restricted to a difference between summer and winter charging in the airport industry. In the power sector, peak-load pricing was found to have saved up to 20% of new capacity requirements. A major omission of the ATWP is the use of use peak-load pricing to test the underlying strength of demand for additional airport capacity.

### **2.1.3 Slot auctions**

There are some strong signals that airport charges do not reflect either the resource cost of providing capacity or the value placed by users on that capacity. Capital values attributed to the exchange of some slots at Heathrow airport translate to a value of £50 per passenger trip, some eight times the maximum allowed airport charge in 2003-04 of £6.48 per passenger. The existing system of 'grandfathering' slots to incumbent users appears to have led to exceptional asset value gains for carriers at congested airports, as well as potentially higher returns from operating in markets that are less open to competition because of the scarcity of slots. It is encouraging to see in the ATWP that the Government does wish to see European legislation to promote a market-based slot allocation system that encourages the more efficient use of scarce airport capacity.

## **2.2 Environmental incentives**

### **2.2.1 Climate change**

It is encouraging that the ATWP recognises the problem of climate change and makes some small steps in the right direction of providing a solution. However, these steps are inadequate. The Government promises to use its Presidency of the EU in 2005 to prepare for the inclusion of aviation in the EU Emissions Trading Scheme, but there is no guarantee that this will occur. Even if it does, it is

unlikely to occur soon. Moreover, many find the fall-back plan of a unilateral or bilateral alternative economic instrument (e.g. a tax) to lack credibility. The ATWP could have lent support to an early application of the much discussed and analysed EU-wide emissions charge, which would cover pollutants excluded from the EU ETS and provide an incentive for prompt entry into the trading scheme. The UK should moreover take full advantage of its Presidency in 2005 to widen the coverage of any inclusion of aviation in the EU ETS by pressing the ICAO and the UNFCCC for a resolution of the problem of the omission of aviation bunker fuels from national inventories.

### **2.2.2 Air quality**

The use of EU air quality standards will ensure that some environmental objectives are met around Heathrow airport. However, it remains to be seen whether full use will be made of market mechanisms to help achieve these targets at the lowest resource cost. The Secretary of State promises legislation to allow an emissions-related element in landing charges – but only if Parliamentary time permits. Since the new ICAO engine emission standards do not require an accelerated phase-out of existing dirtier engines, there may not be much reduction of aircraft emissions. An emissions-related charge would provide an incentive for faster action as well as revenue for the investment required to reduce emissions from vehicles driving to and from airports.

### **2.2.3 Noise**

The noise 'budget' set at Heathrow in the ATWP will ensure that an additional environmental standard is met at this airport. 'Any further development could only be considered on the basis that it resulted in no net increase in the total area of the 57 dbA noise contour compared with summer 2002, a contour area of 127 sq.km.' It is disappointing that there is nothing in the ATWP to reduce the resource cost of complying with this regulation through permitting the trading of noise 'allowances'. More importantly, the noise 'budget' approach has not been consistently applied across the country. For instance, in the case of Manchester airport, the ATWP recognises that capacity expansion plans will increase the number of people living within the 57 dbA noise contour from 45,000 to 70,000. However, it states that 'we do not believe, on balance, that these impacts are so severe that constraints should be imposed on the development of the airport to prevent it growing to the levels of demand forecast.'

### **3 Joined-up Government policies**

#### **3.1 Consistency with 60% carbon reduction target**

The forecast growth in air transport permitted by the airport capacity expansion proposed in the ATWP does not appear to be consistent with the Energy White Paper target to reduce carbon emissions by 60% from 2000 levels by 2050. The Royal Commission on Environmental Pollution estimates that, if this target were to be enforced, then aviation would have a 75% share of UK carbon emissions and other industries would have to cut their emissions from 150 million tonnes in 2000 to just 17 million tonnes by 2050. A senior DfT official admitted this point to the Environmental Audit Committee recently '...What you said was, would other sectors need to contract further in order to accommodate aviation. The answer to that would only be yes if you stuck to your existing target, but added in another huge chunk of emissions from aviation which was not previously there.'<sup>8</sup>.

#### **3.2 Consistency with integrated transport plans**

The elasticity with which higher prices for air transport encourage a switch to alternative forms of transport depends on the availability of capacity in those substitutes. Public and private investment in rail, ferry and road infrastructure will increase this elasticity and the effectiveness of price-based policies to switch travel away from air. The ATWP acknowledges that Eurostar has already gained 60% of the market for London-Paris passengers and 50% of the market on the London-Brussels route. However, there is little discussion about how capacity investment in rail and other forms of transport will be integrated with airport capacity decisions.

---

<sup>8</sup> Oral evidence to the Environmental Audit Committee in response to Q345 on 24<sup>th</sup> February 2004 by Mr Graham Pendlebury, Head of Aviation Environmental Division, DfT.