Briefing

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Air Transport Key Facts

Air traffic trends and forecasts

In 1994, the world's commercial airline industry comprised about 15,000 aircraft serving nearly 10,000 airports[1]. Globally, total scheduled air traffic between airlines registered in countries belonging to the International Civil Aviation Organisation (excluding former USSR) increased by 74 per cent between 1985 and 1995[2]. Total passenger kilometres flown (scheduled and non-scheduled) increased by 67 per cent in the same period[3] and total freight tonne-kilometres flown by scheduled services more than doubled[4].

The number of aircraft using British airports rose by 55 per cent between 1986 and 1996[5]. During the same period, the number of people who flew into or out of British airports increased by 82 per cent[6] and the cargo handled by British airports by 105 per cent[7]. Unsurprisingly, some British airports are amongst the busiest in the world[8].

The Department of Transport expects the number of passengers passing through UK airports to rise by 73-163 per cent between 1992 and 2010, with the proportion using regional airports increasing[9]. Meanwhile the International Air Transport Association (IATA) expects the number of passengers using UK airports to more than treble by 2025[10]. At the international level, British Airways told the Royal Commission on Environmental Pollution (RCEP) that it expected passenger travel worldwide to grow at five to six per cent a year between 1994 and 2010, which means it would more than double. RCEP considered this reflected a general view in the airline industry[11].

Environmental effects of air travel

Air travel, like other forms of powered movement, has a diverse range of environmental effects.

Aeroplane use consumes scarce fossil fuels and leads to emissions of carbon dioxide, water vapour, nitrogen oxides, carbon monoxide and hydrocarbons. Emissions of carbon dioxide, nitrogen oxides and water vapour contribute to the greenhouse effect that is threatening the world's climate. Emissions of nitrogen oxides in the stratosphere are believed to damage the ozone layer. Emissions of nitrogen oxides and hydrocarbons at lower levels contribute to regional smog problems by reacting to form low level ozone on calm summer days[12].

Globally, aircraft are estimated to contribute about three per cent of carbon dioxide from human sources and two-three per cent of human emissions of nitrogen oxides[13]. However, because of the disproportionate effect of

emissions of nitrogen oxides in the upper troposphere, aviation is believed to responsible for five to six per cent of the total warming effect caused by 'greenhouse gases'[14]. Some scientists believe it may be responsible for as much as ten per cent of the warming effect[15].

The use of aircraft necessitates the construction of airports (and their surrounding infrastructure) which themselves lead to local environmental damage. The paved area of a large airport such as Heathrow is the equivalent of 200 miles of three-lane motorway[16]. It is inevitable that the construction of such a large facility has enormous potential, if wrongly sited, to damage valuable wildlife habitats.

Regardless of the site, such large facilities can have potentially enormous impacts on local water quality through the accidental spillage of oil and the routine use of de-icing chemicals, unless measures are taken to clean run-off before it enters local river systems.

And, of course, noise from aircraft is a major environmental nuisance, especially where flightpaths pass over densely populated areas. Aircraft were the second most commonly reported source of noise in the 1991 National Noise Attitude Survey and were heard by 40 per cent of the respondents (though only half of these heard commercial airliners)[17]. The number of complaints made about aircraft noise to Environmental Health Officers (EHOs) rose by 640 per cent between 1984/5 and 1994/5 despite the fact that EHOs have no power to control aviation noise[18].

Notes.

1. Intergovernmental Panel on Climate Change (1998) *Aviation and the Global Atmosphere* draft report [1.2]

2. Department of the Environment, Transport and the Regions (1997) *Transport Statistics Great Britain* Table 8.10 - Total aircraft kilometres flown by airlines registered in ICAO states (excl. former USSR) was 10,483 million in 1985 and 18,331 million in 1995.

3. Ibid. Table 8.10 - Total passenger kilometres flown between and within ICAO states (scheduled and non-scheduled) were 1413.2 billion in 1985 and 2328 billion in 1995.

4. Ibid. Table 8.10 - Total freight tonne kilometres flown between and within ICAO States increased from 39.6 billion in 1985 to 83.1 billion in 1995 - an increase of 110 per cent.

5. Ibid. Table 7.1(a) - Total Air Transport Movements (all operators) were 871,000 in 1986 and 1,352,000 in 1996.

6. Ibid. Table 7.1(b) - Total Terminal passengers (all operators) numbered 66.3 million in 1986 and 120.7 million in 1996.

7. Ibid. Table 7.1(c) - Total Cargo handled (all operators) was 838 thousand tonnes in 1986 and 1,722 thousand tonnes in 1996.

8. Ibid. Table 7.5 - Heathrow was the fourth busiest airport in the world in terms of terminal passengers in 1993, while Gatwick was twentieth.

9. Department of Transport (1994). *Air Traffic Forecasts for the United Kingdom 1994* HMSO, quoted in Royal Commission on Environmental Pollution (1994) *Transport and the Environment* HMSO [5.6]

10. SRI International (no date) "European Congestion - The Way Out". Summary of report for IATA entitled "A European Planning Strategy for Air Traffic to the Year 2010". Quoted in *Royal Commission on Environmental Pollution (1994)* op cit [5.8].

11. *Royal Commission on Environmental Pollution (1994)* op cit. [5.8].

12. Ibid.

13. Ibid. [5.20-21]

14. Pearce F "Air Emergency" *New Scientist* 11 April 1998 - writing on Intergovernmental Panel on Climate Change(1998) *Aviation and the Global Atmosphere* draft report

15. Pearce F "Air Emergency" *New Scientist* 11 April 1998

16. B.A.A. plc *Heathrow Environmental Performance Report October 1993-March 1994* p.18

17. Department of the Environment, Transport and the Regions (1997) *Digest of Environmental Statistics* Tables 6.4 and 6.7

18. Ibid. Table 6.10

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