



House of Commons  
Environmental Audit  
Committee

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**Aviation: Sustainability and  
the Government Response**

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**Seventh Report of Session 2003–04**





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## The Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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A list of Reports of the Committee in the present Parliament is at the back of this volume.

### Committee staff

The current staff of the Committee are: Mike Hennessy (Clerk); Lynne Spiers (Second Clerk); Eric Lewis (Committee Specialist); Elena Ares (Committee Specialist); Anna O'Rourke (Committee Assistant); Caroline McElwee (Secretary); and Robert Long (Senior Office Clerk).

### Contacts

All correspondence should be addressed to The Clerk, Environmental Audit Committee, Committee Office, 7 Millbank, London SW1P 3JA. The telephone number for general inquiries is: 020 7219 6150; the Committee's e-mail address is: [eacom@parliament.uk](mailto:eacom@parliament.uk)

### References

In the footnotes of this Report, references to oral evidence are indicated by 'Q' followed by the question number. References to written evidence are indicated by page number as in 'Ev12'.





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## Conclusions and recommendations

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1. The quality of the Government response is poor and not of the standard we would normally expect. In rejecting so much of our report without adequate consideration or explanation and in such an overtly challenging manner, the Department for Transport is failing to address not only our concerns but the similar concerns expressed by many other organisations including the Sustainable Development Commission and the Royal Commission on Environmental Pollution. (Paragraph 7)
2. A policy which estimates future demand and then aims to satisfy almost all of it is self-evidently based on a 'predict and provide' approach. The Department for Transport should respond fully to our original conclusion, and explain why it believes it is wrong to describe the White Paper in that way, particularly when the Government is actively promoting growth on the scale envisaged. (Paragraph 10)
3. The Government response fails to set out what detailed studies the Department for Transport has carried out to explore the social and behavioural impacts of the forecast growth in aviation, and the manner in which these impacts may vary for different rates of growth. It should do so, taking into account the growing sense that the real price of oil is unlikely to remain at the level assumed in the White Paper. (Paragraph 12)
4. The Department for Transport must publish a formal statement of what it understands by sustainable consumption in the context of air travel. As part of this statement, it should explain how the projected growth from 180 mppa to 476 mppa by 2030 can be reconciled with the commitment made by the UK Government in Johannesburg to encourage more sustainable approaches to consumption; and it should also set out what policies it is pursuing to discourage unnecessary air travel. (Paragraph 13)
5. We calculated the environmental impacts of the forecast growth in aviation to be minus £42 billion (net present value), but were unable to identify from departmental appraisals the total producer and consumer surpluses to set against this figure. The Department for Transport has entirely ignored this point and should respond in full to our original conclusion. (Paragraph 15)
6. The Department for Transport should also respond to our conclusion that the Integrated Policy Appraisal appended to the White Paper was particularly weak in its assessment of climate change impacts and the difficulties posed by the growth in aviation emissions in the light of the Government's 60% carbon reduction target. (Paragraph 16)
7. We expressed our astonishment at the lack of essential research to underpin the incorporation of aviation in the EU Emissions Trading System, and recommended that the Department for Transport should set out what needed to be done and by when to achieve this goal. Our conclusion and recommendation was totally ignored, and the Department should now provide a full response. (Paragraph 18)

8. We reject the accusation contained in the Government response that our figures for the impact of aviation in relation to other UK emissions are misleading and inappropriate. The underlying truth is not in dispute: that the global warming impacts from aviation are forecast to increase massively just as we are striving to make huge cuts in emissions from all other sectors of the UK economy. (Paragraph 22)
9. Given the priority apparently being accorded to the need to tackle global warming, we find it bizarre that the Government response, in calculating aviation in relation to other UK emissions, assumes that there will be no reduction in greenhouse gases, other than carbon dioxide, over the next 50 years. In setting the 60% carbon reduction target last year, the Government failed to clarify how it relates to greenhouse gases other than carbon dioxide and what baseline should be used to measure achievement against. It must do so as a matter of urgency. (Paragraph 25)
10. Figures presented by the Government, both in the Government response and in *Aviation and Global Warming*, contain apparent inconsistencies. This reflects the poor quality of documentation and appraisal carried out by the Department for Transport in this area. It would be helpful if the Department could set out comprehensive and well documented statistics to inform further discussion of this topic. (Paragraph 27)
11. We said last year that the airports consultation “*fails to take on board the new direction in policy initiated by the Government’s Energy White Paper; while the growth proposed in aviation—even on a constrained basis—would wreck the aspirations it contains.*” *The Future of Air Transport* White Paper has done nothing to alter our view: aviation policy remains the most glaring example of the failure of Government to put sustainable development at the heart of policy making. (Paragraph 30)

## Introduction

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1. In the last twelve months, the Environmental Audit Committee (EAC) has published two reports on the environmental impacts of aviation. The first, *Budget 2003 and Aviation* published in July 2003, arose out of our regular appraisal of the Treasury's environmental tax policy and the scope for using fiscal instruments to shift the burden of taxation from 'goods' to 'bads'.<sup>1</sup> It was prompted by our concern that the Treasury and the Department for Transport (DfT) should give full weight to environmental impacts in developing the Government's future aviation strategy. The Government response to our report was published with *The Future of Air Transport* White Paper in December 2003.<sup>2</sup>

2. Our reaction to *The Future of Air Transport* White Paper was one of disappointment and we decided to focus on aviation as part of our review of the December 2003 Pre-Budget Report. We published this second report, *Pre-Budget Report 2003: Aviation follow-up*, on 15 March 2004.<sup>3</sup> The nineteen conclusions and recommendations contained in it are reproduced here at Appendix 2 to this report. In accordance with the normal two month deadline, the Government formally responded on 18 May. Its response is printed at Appendix 1 to this report.

3. In our view, the quality of this latest response is poor and not of the standard we would normally expect. For this reason we are now asking the Government to provide a further response to some of the specific issues we raised. We have also taken the opportunity to comment on some additional issues which have emerged in analysing the figures provided in the department's response.

## The Government Response

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### *Form and Content*

4. Government responses to Select Committee reports normally follow an established protocol: departments set out individual conclusions or recommendations and respond in detail to each. They may sometimes group together two or three recommendations, and this may be acceptable where the latter are interrelated in such a way that discussion of one necessarily entails consideration of the others. However, in this case, the Government has not only failed to quote the emboldened text from our report, but has grouped them together *en masse* in such a way as to avoid having to respond individually to each.<sup>4</sup>

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1 EAC, Ninth Report of Session 2002-03, *Budget 2003 and Aviation*, HC 672.

2 HM Treasury, *The Government Response to the Environmental Audit Committee's Report on Budget 2003 and Aviation*, December 2003, Cm 6063.

3 EAC, Third Report of Session 2003-04, *Pre-Budget Report 2003: Aviation follow-up*, HC 233.

4 Appendix 1 (Government response). Recommendations 1 to 10, 11 to 15, and 16 to 19 are grouped together.

5. The following table sets out in a highly summarised form the nineteen conclusions and recommendations our report contained, together with an analysis of the extent of coverage in the Government response.

<b>EAC Recommendation</b>	<b>Is there a response?</b>	<b>EAC comment</b>
1. Early availability of supporting documents	Yes	Response does not fully address the issue of early availability of documents – in particular, <i>Aviation and Global Warming</i> .
2. The White Paper adopts a ‘predict and provide’ approach, and the Government is actively promoting growth.	Partial	Response fails entirely to address the second part of the Committee’s conclusion.
3. Lack of detailed studies on future distributional impacts of growth.	Partial	The DfT has not indicated what research it has carried out and with what results.
4. Need for a formal statement of what the DfT understands by sustainable consumption in the context of air travel, and how forecast growth relates to J’Burg commitments.	No	The response nowhere even mentions sustainable consumption or discusses this recommendation.
5. The Integrated Policy Appraisal in the White Paper is very weak on climate change impacts.	No	No specific consideration.
6. Specific consideration must be given in all policy appraisals to impact on carbon target.	Yes	EAC welcomes progress on this. (It made a similar recommendation in July 2003.)
7. Need to consider including the risk of catastrophic impacts in the cost of carbon.	Yes	EAC awaits with interest the report of the interdepartmental group.
8. The DfT did not include in appraisals the full environmental costs of aviation growth.	No	[See 9 and 10]
9. The DfT has not calculated total producer and consumer surpluses to set against the total environmental NPV of minus £42 billion.	No	No specific consideration.
10. Need for a revised environmental appraisal	Partial	The DfT only states that it has no plans to publish any new or revised appraisal.
11. No policy instruments proposed other than including aviation in the EU ETS.	Partial	The response refers cursorily to this topic, but only in an international context. It does not discuss any measures the UK could take such as introducing VAT on air ticket sales, increasing APD, or developing a UK emissions charge.
12. Lack of commitment to promoting within the EU an interim emissions charge.	Partial	The response contains only the briefest of comments on the difficulties of introducing a charge on an international basis.

13. Lack of research to underpin the inclusion of aviation in an EU ETS. DfT should set out what needs to be done and by when.	No	No specific consideration of this conclusion and recommendation, despite evidence by a DfT official of the need for urgent action here.
14. Extent of consensus in EU on including aviation in ETS from 2008 is unclear.	Partial	Some discussion of this topic, but no indication of the range of opinions.
15. Poor prospects for progress internationally (in ICAO etc)	Yes	The DfT appear to have misunderstood the Committee's comments here. EAC agrees that the prospects of any progress within ICAO are very poor.
16. Acceptance of EAC figures for aviation emission and need to take account of radiative forcing.	Yes	The DfT appears to accept the principle of including radiative forcing and the scale of the figures set out by EAC.
17. The ETS cannot accommodate a huge growth in aviation at the expense of other sectors.	Partial	The DfT does not address this fully on the grounds that the issue can only be faced if and when international emissions are assigned to national inventories.
18. The 60% target is unattainable.	Partial	The figures in the Government response would imply that the UK might only manage a 34% total reduction.
19. Need to acknowledge difficulties in order to focus policy development. Govt should not rely on technological improvements as the scope for these is limited.	Partial	The response acknowledges the difficulties, but fails to indicate any commitment to developing any alternative policy responses.

6. The table above demonstrates that the DfT has entirely failed to respond to five conclusions and recommendations, even though some of these are very specific and do not overlap with any others. In addition, the responses to many other conclusions and recommendations were inadequate. We therefore do not accept the Government's opinion that the Committee's criticisms are 'unfounded', particularly since the DfT has made scant effort to refute them.

**7. The quality of the Government response is poor and not of the standard we would normally expect. In rejecting so much of our report without adequate consideration or explanation and in such an overtly challenging manner, the Department for Transport is failing to address not only our concerns but the similar concerns expressed by many other organisations including the Sustainable Development Commission and the Royal Commission on Environmental Pollution.**

### ***Demand forecasts and behaviour***

8. One of the key criticisms of the White Paper which we set out in our previous report is that it adopts a "predict and provide" approach to future growth and that the Government is actively promoting growth on the scale envisaged. As examples of the latter, we set out in paragraph 10 of our report the statements in the programme of action in the White Paper: "*we expect the airport operator to move quickly to develop the detailed design for a*

*new runway at Stansted and associated development ..... We will institute immediately a programme of work on how to make the most of Heathrow's existing runways and add a new runway after the Stansted runway."*

9. Yet the Government response contains only one paragraph relating to this issue and even that is largely irrelevant.<sup>5</sup> Two of the bullet points cited relate to the need for economic growth, one to the need for planning certainty, and three to the need to mitigate the impacts of airport development at a local level. The last point relates to the wider environmental impacts of air transport, yet the claim that the White Paper "*ensures that over time aviation pays the external costs its activities impose on society at large*" is misleading: the Government's only proposal on this score is the commitment to incorporate aviation within the EU Emissions Trading System, but in our view the likelihood of achieving this in the foreseeable future is minimal. There are no proposals or stringent criteria here to ensure that future growth is contingent on it being truly sustainable, and indeed the DfT has conspicuously failed to explain what sustainable consumption means in the context of air travel.<sup>6</sup>

**10. A policy which estimates future demand and then aims to satisfy almost all of it is self-evidently based on a 'predict and provide' approach. The Department for Transport should respond fully to our original conclusion, and explain why it believes it is wrong to describe the White Paper in that way, particularly when the Government is actively promoting growth on the scale envisaged.**

11. The Government response also misleadingly implies that we recommended that aviation growth should be "stopped in its tracks" with airport capacity limited to its 2000 level. It is unhelpful when the Department wilfully misunderstands and misrepresents the position we have set out—namely, that it should have based its strategy on a reduced rate of growth, rather than on either no growth at all or satisfying forecast demand. We remain deeply concerned that the White Paper assumes a 1% decrease in air fares in real terms until 2030. Among the other questionable assumptions on which this is based was the crucial forecast that the price of oil will remain on average 25\$ a barrel in real terms (2000 prices).<sup>7</sup> The events of recent months make this look increasingly dubious, and there is a certain irony in the fact that growth may ultimately be restricted by external factors rather than the adoption of a positive strategy by the Government itself.

12. In this connection we also expressed concern about distributional impacts of the proposed rate of growth. **The Government response fails to set out what detailed studies the Department for Transport has carried out to explore the social and behavioural impacts of the forecast growth in aviation, and the manner in which these impacts may vary for different rates of growth. It should do so, taking into account the growing sense that the real price of oil is unlikely to remain at the level assumed in the White Paper.**

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5 Appendix 1 (Government response), paragraph 3.

6 See paragraph 13 below.

7 Department for Transport, *The Future of Air Transport*, Cm 6046, December 2003, Annex A paragraph 7.

13. The concept of sustainable consumption is fundamental to any discussion of this topic. The recommendation in our report specifically on this topic was completely ignored in the Government response. We restate it here and invite the DfT to consider it. **The Department for Transport must publish a formal statement of what it understands by sustainable consumption in the context of air travel. As part of this statement, it should explain how the projected growth from 180 mppa to 476 mppa by 2030 can be reconciled with the commitment made by the UK Government in Johannesburg to encourage more sustainable approaches to consumption; and it should also set out what policies it is pursuing to discourage unnecessary air travel.**

### **Appraisals**

14. A number of our recommendations related to the manner in which DfT appraised the environmental impacts of the proposed growth in aviation. Individual studies undertaken as part of the SERAS and RASCO exercises included substantial modelling of environmental impacts at a local level—some of which revealed potentially serious issues. The environmental appraisal of a third runway at Heathrow, for example, revealed that further development might not only breach NO<sub>x</sub> statutory emission limits but could also have a serious impact on the availability of water resources.<sup>8</sup>

15. However, our main concern was that environmental impacts were not being adequately addressed at a strategic level. **We calculated the environmental impacts of the forecast growth in aviation to be minus £42 billion (net present value), but were unable to identify from departmental appraisals the total producer and consumer surpluses to set against this figure. The Department for Transport has entirely ignored this point and should respond in full to our original conclusion.**

16. **The Department for Transport should also respond to our conclusion that the Integrated Policy Appraisal appended to the White Paper was particularly weak in its assessment of climate change impacts and the difficulties posed by the growth in aviation emissions in the light of the Government's 60% carbon reduction target.**

### **Inclusion of aviation in the EU ETS**

17. The Government's only policy response to address the impact of aviation on global warming is to work for the inclusion of aviation in the second round of the EU Emissions Trading System from 2008, and this is to form a key objective of the UK presidency in 2005. In our previous report, we quoted evidence from DfT officials that further work—especially on modelling cross-sectoral impacts—was essential even to draw up initial proposals, but that nothing was currently being done.

18. **We expressed our astonishment at the lack of essential research to underpin the incorporation of aviation in the EU Emissions Trading System, and recommended that the Department for Transport should set out what needed to be done and by when to**

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8 DTLR, SERAS Stage 2: Appraisal Summary Tables, February 2002.

achieve this goal. Our conclusion and recommendation was totally ignored, and the Department should now provide a full response.

### Aviation and the 60% target

19. In our previous report on aviation, we were concerned at the lack of readily available and commonly agreed statistics on aviation emissions and their impact on future carbon reduction targets. We therefore set these out in a table which we reproduce here for reference, and highlighted the fact that by 2050 aviation emissions would amount to 66% of total UK domestic emissions.

	Millions of tonnes carbon (MtC)			
	1990	2000	2030	2050
1. Aviation (excluding RF)	4.6	8.8	17.7	17.4
2. Aviation (including RF @ 2.5 times) [line 1 x 2.5]	11.5	22.0	44.3	43.5
3. UK domestic emissions	164.8	147.0	98.7	65.8
4. Total UK emissions, including aviation but not RF [line 1+ line 3]	169.4	155.8	116.4	83.2
5. Total UK emissions, including aviation plus RF [line 2 + line 3]	176.3	169.0	143.0	109.3
6. Aviation (including RF) as a percentage of UK domestic [line 2 ÷ line 3]	7%	15%	45%	66%
7. Aviation (including RF) as a percentage of total UK [line 2 ÷ line 5]	7%	13%	31%	40%

Notes:

(1) Figures for aviation and UK emissions are based on DfT's *Aviation and Global Warming* (DfT, January 2004).

(2) The radiative forcing (RF) factor is based on that used by the Treasury in its document *Aviation and the Environment: using economic instruments* (March 2003).

20. The Government response criticises this table for being 'misleading and inappropriate' on three grounds:

- double counting of domestic aviation;
- portraying aviation as a percentage of UK domestic emissions (rather than of total emissions including aviation); and
- not including other greenhouse gases in total UK domestic emissions.

21. On the first point, we accept that there is a minor inaccuracy in the table. But the scale of it is very small and the effect is that we have actually underestimated the impact slightly. If domestic aviation is excluded from the 65.8 MtC 2050 target, the figure will fall to about 64.2 MtC and total aviation emissions as a percentage of UK domestic carbon emissions will rise from EAC's original estimate of 66% to 68%.<sup>9</sup>

22. On the second point, the DfT have entirely failed to notice that we did indeed include in our table figures for aviation as a percentage of total UK emissions (including its share of international aviation emissions). However, our purpose in comparing aviation emissions with the 60% target for 2050 (65.8 MtC) was to emphasise the unsustainability of DfT's projections. It is inconceivable that the UK will allow aviation to expand to emit the equivalent of 44 MtC in 2050 at a time when all other sectors of the UK economy are

<sup>9</sup> The figure of 64.2 MtC is derived from DfT's figures in Appendix 1 (81.6 MtC combined total emissions minus 17.4 MtC total aviation).

constrained by a target of about 64MtC. The larger the growth of aviation the more misleading it would be not to compare it directly in this way. We therefore stand firmly by the manner in which we have highlighted this percentage (66%). Indeed, we note that the DfT agreed to the scale of our original figures in a previous response;<sup>10</sup> and that RCEP has itself quoted a figure of 70% for aviation as a percentage of UK emissions on much the same basis as ourselves.<sup>11</sup> **We reject the accusation contained in the Government response that our figures for the impact of aviation in relation to other UK emissions are misleading and inappropriate. The underlying truth is not in dispute: that the global warming impacts from aviation are forecast to increase massively just as we are striving to make huge cuts in emissions from all other sectors of the UK economy.**

23. On the third point, it is quite true that we based our figures on the 65.8 MtC target for 2050 which was set in the Energy White Paper, and on figures contained in DfT's own document "*Aviation and Global Warming*". We did so for the very good reason that the Government has failed to clarify how its 60% reduction target relates—or does not relate—to greenhouse gases other than carbon dioxide. In the Energy White Paper itself, the Government constantly refers to the 60% carbon reduction target in the same breath as the need for greenhouse gas reductions—as exemplified in the very paragraph in which the target is set:

*2.12 Our ambition is for the world's developed economies to cut emissions of greenhouse gases by 60% by around 2050. We therefore accept the RCEP's recommendation that the UK should put itself on a path to a reduction in carbon dioxide emissions of some 60% from current levels by about 2050. In this white paper, we therefore set out the first steps to achieving this goal.*

24. But in its response, the Government has attempted to massage the aviation percentages downwards by including non-CO<sub>2</sub> greenhouse gas emissions at a fixed level until 2050. It states that "*the UK total including radiative forcing comprises CO<sub>2</sub> from the EWP [Energy White Paper] target envelope plus GHGs [Greenhouse Gases] put conservatively at 25.8 MtC equivalent in 2030 and 2050.*" This figure of about 26 MtC represents exactly the same amount of greenhouse gases (excluding carbon dioxide itself) as were emitted in 2002.<sup>12</sup> In calculating its own figures for aviation emissions in relation to other UK emissions, the Government is therefore assuming that there will be no reduction in greenhouse gases, other than carbon dioxide, over the next 50 years. Indeed, on the basis of DfT's figures, the forecast percentage reduction in combined total emissions by 2050 (including all aviation) will only amount to 34% rather than 60%.<sup>13</sup> This figure agrees very closely to the 35% which we calculated.<sup>14</sup>

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10 EAC, Third Report of Session 2003-04, *Pre-Budget 2003: Aviation Follow-up*, HC233-ii, Ev76.

11 DfT, *Aviation and Global Warming*, January 2004, paragraph 4.7.

12 Provisional figures for 2003 show total emissions at 179 MtC and CO<sub>2</sub> at 153 MtC. See <http://www.defra.gov.uk/environment/statistics/globalatmos/gakf05.htm>.

13 Based on DfT figures in Appendix 1 (ie the reduction from 202.0 MtC in 2000 to 133.5 MtC in 2050).

14 EAC, Third Report of Session 2003-04, *Pre-Budget Report 2003: Aviation follow-up*, HC233, paragraph 45.

25. Given the priority apparently being accorded to the need to tackle global warming, we find it bizarre that the Government response, in calculating aviation in relation to other UK emissions, assumes that there will be no reduction in greenhouse gases, other than carbon dioxide, over the next 50 years. In setting the 60% carbon reduction target last year, the Government failed to clarify how it relates to greenhouse gases other than carbon dioxide and what baseline should be used to measure achievement against. It must do so as a matter of urgency.

### **Accuracy of figures in the Government Response**

26. The table included in the Government response is itself not unproblematic.<sup>15</sup> The figures for UK domestic emissions of carbon dioxide in 2000 and 2030 (152.2MtC and 100.4MtC) do not agree with the equivalent figures in DfT's *Aviation and Global Warming* (147 MtC and 98.7 MtC). Moreover, the figures for UK domestic emissions in 2030 and 2050 do not appear to be consistent in both parts of the table. The figure of 94.0 MtC in part 2 of the table, for example, does not equal 65.8 MtC (part 1 of the table) plus 25.8 MtC (note to table).

27. Such inconsistencies, while admittedly relatively minor, reflect the fact that the DfT has devoted insufficient attention to these issues. Part 4 of DfT's *Aviation and Global Warming* contains a relatively brief discussion, and fails to set out the data in a comprehensive and transparent way. It does not, for example, contain any data on UK domestic aviation emissions or UK greenhouse gas emissions (either excluding or including domestic aviation). **Figures presented by the Government, both in the Government response and in *Aviation and Global Warming*, contain apparent inconsistencies. This reflects the poor quality of documentation and appraisal carried out by the Department for Transport in this area. It would be helpful if the Department could set out comprehensive and well documented statistics to inform further discussion of this topic.**

## **Conclusions**

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28. The forecast growth in aviation represents one of the most unsustainable trends in UK society. It will contribute hugely to global warming and will exacerbate the difficulty of achieving the reductions in greenhouse gases which will be vital if we are to avoid the worst effects of climate change. But it is also based on a form of consumerism which is hard to reconcile with the need to develop the concept of sustainable consumption.

29. We have never advocated a 'hair shirt' response to such challenges. However, we do believe that aviation represents one area where it is incumbent on Government to lead the way. Yet the White Paper represents a lost opportunity in various ways: a failure to begin the arduous task of changing hearts and minds; a failure to utilise available policy instruments to promote sustainable—rather than unsustainable—growth; and a failure to learn from our experience in other related areas such as road transport.

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<sup>15</sup> Appendix 1 (Government response), table.

30. We said last year that the airports consultation “*fails to take on board the new direction in policy initiated by the Government’s Energy White Paper; while the growth proposed in aviation—even on a constrained basis—would wreck the aspirations it contains.*” *The Future of Air Transport* White Paper has done nothing to alter our view: aviation policy remains the most glaring example of the failure of Government to put sustainable development at the heart of policy making.

# Appendix 1

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## Government Response to the Environmental Audit Committee's Pre-Budget Report 2003 – Aviation Follow-up

### INTRODUCTION

1. The Environmental Audit Committee's report Pre-Budget Report 2003: Aviation Follow-up (HC 233) records the Committee's findings and recommendations following further evidence taken after last year's report on Budget 2003 and Aviation and the Government's Response thereto.
2. The Department for Transport recognises the importance of tackling climate change and shares with the rest of Government the Energy White Paper commitment to set the UK on a path to reduce CO<sub>2</sub> by 60% by 2050. The Department is also committed to taking action to limit or reduce emissions from international aviation. However, the Department considers that the Committee's criticisms are largely unfounded.

### RESPONSE TO THE FOLLOW-UP REPORT

#### *THE FUTURE OF AIR TRANSPORT WHITE PAPER (recommendations 1-10)*

3. The Department accepts that more needs to be done to reduce the environmental impacts of air travel but does not accept the Committee's conclusion (rec 2) that the White Paper adopts a "predict and provide" approach. The Future of Air Transport White Paper sets out a balanced and measured approach, which ensures that aviation takes its share of responsibility for tackling the problem of climate change. In particular, the White Paper:
  - recognises the importance of air transport to our national and regional economic prosperity, and that not providing key infrastructure improvements where they are needed would significantly damage the economy and national prosperity;
  - reflects the desire of people all over the world to travel further and more often by air and to take advantage of the affordability of air travel and the opportunities this brings;
  - seeks to reduce and minimise the impacts of airports on those who live nearby and on the natural environment;
  - ensures that over time aviation pays the external costs its activities impose on society at large—in other words that the price of air travel reflects its social and environmental impacts;
  - minimises the need for airport development in new locations by making best use of existing capacity where possible;
  - respects the rights and interests of those affected by airport development;

- provides greater certainty for all concerned in the planning of future airport capacity, but at the same time is sufficiently flexible to recognise and adapt to the uncertainties inherent in long-term planning.

The whole underlying principle and strategic theme of the Future of Air Transport is that the economic and social benefits of air travel should be balanced against its environmental impacts.

4. The Committee (rec. 1) criticizes the Department for publishing supporting material after the White Paper and questions whether the underlying analyses were available when the key decisions were taken. They were. Collating the data and analyses into publishable form took time and the Department's first priority was to honour its commitment to the House and to the country at large, to publish the White Paper itself by the end of the year. The supporting material was published in line with open government principles and all documents are now available on the Department's web site at <http://www.dft.gov.uk/aviation/whitepaper/supporting/index.htm>. The publication of Aviation and Global Warming as part of this material in no way implies that the issue had been previously overlooked in determining the policies set out in the White Paper, as the Committee alleges (rec. 8). Paragraphs 3.35ff and the graph on page 25 of The Future of Air Transport, plus Annex B on emissions trading, as well as other material in our earlier consultation documents, show clearly that it was not.

5. Growth in the air transport sector (rec. 3) will be a combination of more frequent trips by existing travellers and journeys by those who haven't previously flown. Many of these travellers will not be UK citizens. Making international travel accessible to a wider range of people is desirable provided that there are appropriate environmental safeguards. The Department's demand forecasts used best available models based on CAA survey data for UK and foreign residents. They are broadly consistent with forecasts produced by ICAO and commercial organisations. The Department has no immediate plans to commission further studies, but accepts that its projections are sensitive to change in underlying costs [and resulting changes in prices], and are based on assumptions which may change. The Department therefore recognises that there is a need to keep the forecasts under review, to monitor the effects of policies on demand and revise the forecasts as necessary.

6. The Department has never suggested that achievement of the UK domestic carbon reduction targets would be easy, neither has it neglected the need for aviation to contribute to the UK's efforts to limit greenhouse gas emissions. The modelling in Aviation and Global Warming demonstrates that the projected increase in CO<sub>2</sub> emissions from future growth in air travel was fully considered during the development of The Future of Air Transport. Following one of the commitments of the Energy White Paper, the Government is developing guidelines for carbon impact assessment, which will in future form an integral part of assessing environmental impacts of proposed policies and regulations. Meanwhile, Government departments including DfT will continue to cover CO<sub>2</sub> and other greenhouse gas emissions in appraisals according to standard guidance in the Green Book and elsewhere. Illustrative estimates for the social cost of carbon (the marginal social cost of carbon emissions) form part of this toolkit. An interdepartmental group reviewing the Government estimates for the social cost of carbon (SCC) is expected

to report later in the year. Pending the outcome of this review, the interdepartmental group has suggested that an approach that emphasises sensitivity analysis should be adopted when making use of SCC values in policy assessment (recs. 4-7).

7. The Department is ready to assist the Committee, Members of Parliament and others if they have queries about the information in Aviation and Global Warming or other documentation. Although it has described this as "opaque and poorly documented", the Committee has not set out which parts of the report it finds unclear. The Department has no plans to publish any new or revised appraisal at the current time.

8. As explained in the supporting documentation underlying the consultation exercise preceding the White Paper, there would be a very substantial increase in fare premia—reflecting large economic costs—if growth of aviation were to have been stopped in its tracks with airport capacity limited to accommodating traffic at its 2000 level of 180Mppa (recs. 9-10).

#### ***EMISSIONS TRADING AND GLOBAL WARMING (recommendations 11-15)***

9. The Government has consistently shown leadership on environmental matters in aviation—most recently at the 6th meeting of the ICAO Committee on Aviation Environmental Protection (CAEP), where the UK helped to secure further work on international trading regimes that are either linked to existing structures under the United Nations Framework Convention on Climate Change or pursued voluntarily but avoiding new ICAO bureaucracy. The Environmental Audit Committee seems to have appreciated the hurdles to be overcome in securing agreement on incorporating aviation into the EU emissions trading scheme (ETS), but not the greater difficulties in securing international agreement to emissions charges (recs. 11-12).

10. On the specific issue of the EU ETS, while we do not underrate the difficulties, we believe there will be more support from other States and the Commission than the Committee assumes. Our commitment to press for aviation joining the EU ETS in 2008 or as soon as possible thereafter is one which we shall pursue vigorously during the UK Presidency next year and beyond (recs. 13-14). Work on this has started. If the EU can lead by example and demonstrate through successful inclusion of intra-EU aviation emissions in the EU emissions trading scheme that this is a practicable and effective way forward to tackle aviation emissions, it should help advance similar action at international level. The Committee at rec. 15 has, we think, misunderstood the Department's evidence. Our reference to "ploughing a pretty lonely furrow" (response to Q309) was in the context of the European CAEP members' position in respect of the possible use of charges to limit or reduce emissions from international aviation, a position which is isolated within ICAO due to the resistance to such policies from the rest of the world.

11. The Department will be working with colleagues in other government departments over the next few months to persuade EU member states and the European Commission that inclusion of intra-EU air services in the EU ETS is the most cost-effective and viable way to address aviation's climate change impacts. This will build on existing contacts and discussions, as well as the support for emissions trading already embodied in ICAO

Assembly Resolution A33-7 (which all EU member states are committed to support). We will also be working to resolve the problems that we have already identified, such as how aviation-related emissions are allocated, who will be the trading entities, how aviation emission will be capped, how to deal with non-EU carriers operating intra-EU services, and how to address non-CO<sub>2</sub> emissions from aircraft (given that the EU ETS is a CO<sub>2</sub>-based system).

12. The Government will also continue to explore the use of other economic instruments building on discussions held with stakeholders following publication in March 2003 of the paper *Aviation and the Environment, Using Economic Instruments*.

### **AVIATION AND THE 60% CARBON TARGET (recommendations 16-19)**

13. The Department is committed to the goal set out in the Energy White Paper *Our energy future—creating a low carbon economy*, of setting the UK on a path towards a 60% reduction in CO<sub>2</sub> emissions by 2050 compared with 1990, equating to a domestic CO<sub>2</sub> emissions total of around 65 MtC. Domestic transport is a significant contributor to UK CO<sub>2</sub> emissions, and Chapter 5 of the Energy White Paper sets out the Government's strategy for delivering clean low carbon transport. However, although the UK's commitment to reduce emissions is economy wide, in drawing up the Energy White Paper it was recognised that the targets could not apply equally to each individual sector and that circumstances would differ depending on factors such as the underlying growth in demand, trends in technology and the potential for using alternative fuels (rec 17).

14. The Energy White Paper focuses on domestic emissions, and domestic emissions reductions. This is because emissions from international flights do not currently count in the national inventories of greenhouse gas emissions, there being no international agreement yet on ways of allocating such emissions. The extent to which our 60% goal might apply to a revised national account including a share of international aviation emissions would have to be decided if such a revision were made (rec 18). However it is clear that we remain committed to achieving the 60% goal. In paragraph 3.36 of *The Future of Air Transport* the Government re-iterates its commitment to taking a lead in tackling the problem of climate change. This paragraph goes on to state:

"International flights from the UK do not currently count in the national inventories of greenhouse gas emissions as there is no international agreement yet on ways of allocating such emissions. However, the Government's Energy White Paper makes it clear that we should ensure that the aviation industry is encouraged to take account of, and where appropriate reduce, its contribution to global warming. The aviation sector needs to take its share of responsibility for tackling this problem."

15. Specifically, the Department does not accept the Committee's implication, at rec. 16, that there is any difference between DfT and HM Treasury on the relative impact of aviation emissions compared with the UK domestic emissions. The table shown at paragraph 42 of the Committee's report is misleading and inappropriate, as it expresses aviation's radiative forcing effect as a percentage of a denominator which includes neither international aviation (or other international sectors) nor non-CO<sub>2</sub> greenhouse gases from

other domestic sources. There is an additional minor inaccuracy in that it includes a double counting of domestic aviation emissions. The table appended to this memorandum shows the Department's reconciliation of the forecasts, and is consistent with the figures used in the Future of Air Transport White Paper and in the Pre-Budget Report 2003. The footnote to the table identifies the key assumptions used for these calculations.

16. The Department does not underestimate the difficulties (rec. 19) of making real progress in this area, and our commitment to press for the inclusion of aviation in the EU ETS is one illustration that we are not relying solely on technological advances, though Government support for research is also an important part of our response to the challenge.

17. We are committed to a comprehensive approach, consistent with sustainable development principles, using economic instruments to ensure that growth is compatible with our broad environmental objectives and that growing industries—such as aviation—are catered for within an overall reducing total.

## **CONCLUSIONS**

18. For the reasons set out above, the Department does not accept the Committee's criticism of the Government's policies on aviation and the environment as set out in The Future of Air Transport White Paper and in the Department's evidence, and previous response, to the Committee.

Department for Transport  
May 2004

TABLE

### AVIATION AND UK TOTAL DOMESTIC EMISSIONS

This is the illustrative tabulation referred to in the response above. It does not purport to represent a definitive set of forecasts, but is intended to help explain the Department's calculations.

Aviation and UK total emissions (MtC)				
Year	Aviation (domestic + international) actual/central forecast	UK total as in Energy White Paper (including domestic aviation but excluding international aviation) actual/60% goal	Combined total emissions (EWP + international aviation)	Aviation as % of <u>combined</u> total
<b>(1) CO<sub>2</sub> as carbon</b>				
2000	8.8	152.2	160.2	5.5%
2030	17.7	100.4	116.8	15.2%
2050	17.4	65.8	81.6	21.3%
<b>(2) radiative forcing, applying factor of 2.5 to aviation*</b>				
2000	22.0	182.0	202.0	10.9%
2030	44.3	128.1	169.1	26.2%
2050	43.5	94.0	133.5	32.6%

\* The UK total including radiative forcing comprises CO<sub>2</sub> from the EWP target envelope plus GHGs put conservatively at 25.8 MtC equivalent in 2030 and 2050.

The aviation column is the *central case* forecast, as in *Aviation and Global Warming* para 3.56; it excludes benefits from potential economic instruments like the EU emissions trading scheme, whereas in other sectors the impact of policies to reduce CO<sub>2</sub> is taken into account. The radiative forcing factor for aviation is scientifically uncertain but is currently believed to lie in the range 2-4. Radiative forcing in other sectors is not taken into account (estimates range from 1.1-1.5 times the impact of CO<sub>2</sub>)

## Appendix 2

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### **Conclusions and recommendations from the Committee's Third Report of Session 2003-04, Pre-Budget Report: Aviation Follow-up** *(paragraph references are to the text of the Third Report)*

1. It is extraordinary that, after such an extensive period of consultation on aviation policy, the DfT was unable to publish the documents supporting the White Paper until nearly two months later. This raises questions about the extent to which such analyses were fully available during the autumn at the time when the key decisions contained in the White Paper were being made. (Paragraph 6)
2. Despite protestations to the contrary, it is abundantly clear that the aviation White Paper adopts a “predict and provide” approach. The DfT has forecast future demand and then provided the framework to meet practically all of it. It is actively promoting growth on the scale envisaged, and indeed the urgency with which it is requiring airport operators to implement expansion plans bears this out. (Paragraph 12)
3. We do not know to what extent future growth in air travel will be fuelled by existing passengers travelling more frequently rather than by the 50% of the population who do not currently fly at all. The DfT has failed to carry out any detailed studies to explore the social and behavioural impacts of the proposed growth in aviation, and the manner in which these impacts may vary for different rates of growth. It must do so as soon as possible and publish the results. (Paragraph 16)
4. The DfT must publish a formal statement of what it understands by sustainable consumption in the context of air travel. As part of this statement, it should explain how the projected growth from 180 mppa to 476 mppa by 2030 can be reconciled with the commitment made by the UK Government in Johannesburg to encourage more sustainable approaches to consumption; and it should also set out what policies it is pursuing to discourage unnecessary air travel. (Paragraph 18)
5. The Integrated Policy Appraisal which supports the White Paper offers a particularly weak assessment of climate change impacts. The entries are not only very slim compared to other parts of the IPA, but they entirely fail to reflect the scale of aviation emissions by 2030 in relation to UK domestic emissions or to give any hint of the difficulties which will face the UK in meeting its carbon reduction targets. (Paragraph 21)
6. We agree with the Chief Scientist that climate change is a profoundly serious threat to mankind. The Government has in principle accepted our recommendation that specific consideration must be given in policy appraisals to the impact on carbon targets. It must ensure that this priority is in future fully reflected in appraisals conducted by all departments. (Paragraph 24)
7. We welcome the fact that the Government will consider including the possibility of catastrophic or sudden climate changes in its estimate of the price of carbon— notwithstanding our conviction that the value of our climate is literally priceless. (Paragraph 26)

8. The DfT has implicitly admitted that it failed to include the environmental costs of aviation emissions in its appraisals and has sought to rectify this omission in the supporting document *Aviation and Global Warming*. (Paragraph 27)

9. As far as we can identify, the DfT has nowhere calculated a figure for the net consumer and producer surplus arising from the overall increase in aviation forecast in the White Paper from 180 mppa to 476 mppa. In other words, we have no net benefit figure with which to compare our figure of minus £42 billion NPV for the increase in environmental costs. In this sense, the DfT has failed to evaluate the impact of new terminals, runway extensions, and operational improvements aimed at maximising the use of existing runways. (Paragraph 28)

10. 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* 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. (Paragraph 28•)

11. On the key issue of the impact of aviation on global warming, the White Paper contains no specific proposals apart from the commitment to work towards the inclusion of aviation in the second phase of the European Emissions Trading System from 2008. We are disappointed at the failure of the Government to show leadership in this area. (Paragraph 30)

12. It is regrettable that the Government did not take the initiative in promoting an interim emissions charge in view of the difficulties and timescales involved in developing an ETS to cover aviation. We believe that such an approach could offer the scope for flexible adoption by like-minded member states and could therefore be a more practical option than emissions trading which requires an all or nothing approach. (Paragraph 33)

13. We are astonished at the lack of essential research to underpin the incorporation of aviation in the EU Emissions Trading System (ETS). In view of the timescales involved in developing and ratifying EU directives, we suspect it may soon be too late to achieve the Government's professed intention of incorporating aviation in the second phase of the EU ETS from 2008. The DfT must set out, in response to this report, what needs to be done and by when to achieve this goal. (Paragraph 36)

14. It is unclear if any consensus exists among EU member states on incorporating aviation within the EU Emissions Trading System; and whether the political will exists to resolve the complex and contentious issues which need to be addressed for this to be achieved. It is not even clear to what extent, and at what level, any of these issues are even being discussed. (Paragraph 38)

15. In commenting on the recent ICAO meeting, the DfT official referred to the UK as 'ploughing a pretty lonely furrow' in its advocacy of emissions trading, and—given the opposition of some important players—we conclude that the likelihood of any significant progress being made is remote. (Paragraph 39)

16. We welcome the fact that the DfT has accepted our figures for the relative impact of aviation emissions compared to UK domestic emissions. We trust that the Treasury will do so too, and will in future provide figures on a consistent basis which take account of the radiative forcing effect. (Paragraph 43)

17. It is inconceivable that any emissions 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. (Paragraph 45)

18. If aviation emissions increase 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. The most we could hope to attain would be about 35%. The DfT admitted that the target would need to be looked at should international emissions be allocated to national inventories—and this can only mean with a view to watering it down. (Paragraph 50)

19. The Government should recognise the difficulties it faces in meeting its long-term carbon targets. If it did so, it would be forced to take more action now and develop an adequate policy response. It should not continue to hope that the solution lies in technological advances as the weight of evidence suggests that the scope for these is limited. (Paragraph 51)

# Formal minutes

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**Wednesday 26 May 2004**

Members present:

Mr Peter Ainsworth, in the Chair

Mr Colin Challen

Mr Malcolm Savidge

Mr David Chaytor

Mr Simon Thomas

Sue Doughty

Joan Walley

Mr Paul Flynn

Mr David Wright

The Committee deliberated.

Draft Report (Aviation: Sustainability and the Government Response), proposed by the Chairman, brought up and read.

*Ordered*, That the Chairman's draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 30 read and agreed to.

*Resolved*, That the Report be the Seventh Report of the Committee to the House.

*Ordered*, That the Chairman do make the Report to the House.

*Ordered*, That the provisions of Standing Order No. 134 (Select Committees (reports)) be applied to the Report.

*Ordered*, That the Government reply and list of the Committee's conclusions and recommendations in its third report be appended to the Report.

[Adjourned till Wednesday 9 June at 3.30pm.]

# Past reports from the Environmental Audit Committee since 1997

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## 2003-04 Session

First	Annual Report 2003, HC 214
Second	GM Foods – Evaluating the Farm Scale Trials, HC 90
Third	Pre-Budget Report 2003: Aviation follow-up, HC 233
Fourth	Water: The Periodic Review 2004 and the Environmental Programme, HC 416
Fifth	GM Foods – Evaluating the Farm Scale Trials: the Government Response, HC 564
Sixth	Environmental Crime and the Courts, HC 126

## 2002-03 Session

First	Pesticides: The Voluntary Initiative, HC100 ( <i>Reply, HC 443</i> )
Second	Johannesburg and Back: The World Summit on Sustainable Development–Committee delegation report on proceedings, HC 169
Third	Annual Report, HC 262
Fourth	Pre-Budget 2002, HC 167 ( <i>Reply, HC 688</i> )
Fifth	Waste – An Audit, HC 99 ( <i>Reply, HC 1081</i> )
Sixth	Buying Time for Forests: Timber Trade and Public Procurement - The Government Response, HC 909
Seventh	Export Credits Guarantee Department and Sustainable Development, HC 689 ( <i>Reply, HC 1238</i> )
Eighth	Energy White Paper – Empowering Change?, HC 618
Ninth	Budget 2003 and Aviation, HC 672 ( <i>Reply, Cm 6063</i> )
Tenth	Learning the Sustainability Lesson, HC 472 ( <i>Reply, HC 1221</i> )
Eleventh	Sustainable Development Headline Indicators, HC 1080 ( <i>Reply, HC 320</i> )
Twelfth	World Summit for Sustainable Development – From rhetoric to reality, HC 98 ( <i>Reply, HC 232</i> )
Thirteenth	Greening Government 2003, HC 961

## 2001-02 Session

First	Departmental Responsibilities for Sustainable Development, HC 326 ( <i>Reply, Cm 5519</i> )
Second	Pre-Budget Report 2001: <i>A New Agenda?</i> , HC 363 ( <i>HC 1000</i> )
Third	UK Preparations for the World Summit on Sustainable Development, HC 616 ( <i>Reply, Cm 5558</i> )
Fourth	Measuring the Quality of Life: The Sustainable Development Headline Indicators, HC 824 ( <i>Reply, Cm 5650</i> )
Fifth	A Sustainable Energy Strategy? Renewables and the PIU Review, HC 582 ( <i>Reply, HC 471</i> )
Sixth	Buying Time for Forests: <i>Timber Trade and Public Procurement</i> , HC 792-I , ( <i>Reply, HC 909, Session 2002-03</i> )

## 2000-01 Session

First	Environmental Audit: <i>the first Parliament</i> , HC 67 ( <i>Reply, Cm 5098</i> )
Second	The Pre-Budget Report 2000: <i>fuelling the debate</i> , HC 71 ( <i>Reply HC 216, Session 2001-02</i> )

### 1999-2000 Session

First	EU Policy and the Environment: An Agenda for the Helsinki Summit, HC 44 ( <i>Reply, HC 68</i> )
Second	World Trade and Sustainable Development: An Agenda for the Seattle Summit, HC 45 (Including the Government response to the First Report 1998-99: Multilateral Agreement on Investment, HC 58) ( <i>Reply, HC 69</i> )
Third	Comprehensive Spending Review: Government response and follow-up, HC 233 ( <i>Reply, HC 70, Session 2000-01</i> )
Fourth	The Pre-Budget Report 1999: pesticides, aggregates and the Climate Change Levy, HC 76
Fifth	The Greening Government Initiative: first annual report from the Green Ministers Committee 1998/99, HC 341
Sixth	Budget 2000 and the Environment etc., HC 404
Seventh	Water Prices and the Environment, HC 597 ( <i>Reply, HC 290, Session 2000-01</i> )

### 1998-99 Session

First	The Multilateral Agreement on Investment, HC 58 ( <i>Reply, HC 45, Session 1999-2000</i> )
Second	Climate Change: Government response and follow-up, HC 88
Third	The Comprehensive Spending Review and Public Service Agreements, HC 92 ( <i>Reply, HC 233, Session 1999-2000</i> )
Fourth	The Pre-Budget Report 1998, HC 93
Fifth	GMOs and the Environment: Coordination of Government Policy, HC 384 ( <i>Reply Cm 4528</i> )
Sixth	The Greening Government Initiative 1999, HC 426
Seventh	Energy Efficiency, HC 159 ( <i>Reply, HC 571, Session 2000-01</i> )
Eighth	The Budget 1999: Environmental Implications, HC 326

### 1997-98 Session

First	The Pre-Budget Report, HC 547 ( <i>Reply, HC 985</i> )
Second	The Greening Government Initiative, HC 517 ( <i>Reply, HC 426, Session 1998-99</i> )
Third	The Pre-Budget Report: Government response and follow-up, HC 985
Fourth	Climate Change: UK Emission Reduction Targets and Audit Arrangements, HC 899 ( <i>Reply, HC 88, Session 1998-99</i> )

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