



House of Commons
Environmental Audit
Committee

Reducing Carbon Emissions from Transport

Ninth Report of Session 2005–06

Volume I



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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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Committee staff

The current staff of the Committee are: Mike Hennessy (Clerk); Richard Douglas (Committee Specialist); Oliver Bennett (Committee Specialist); Louise Combs (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

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'. number HC *-II

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Conclusions and recommendations

1. Transport has an especially important role to play in responding to the challenge of averting dangerous climate change. The Prime Minister was right to emphasise this in the letter of appointment he sent to the new Secretary of State for Transport in May, where he wrote: “in particular transport will be critical to our long-term goal of reducing carbon emissions”. (Paragraph 2)
2. Progress to date indicates both that reducing carbon emissions from transport is particularly challenging, and that the Department for Transport (DfT) needs urgently to accelerate its efforts: transport is the only sector of the UK economy in which carbon emissions were higher in 2004 than the baseline year of 1990, and the only sector in which emissions are projected to be higher in 2020 than in 1990. (Paragraph 3)
3. Government projections for future years emissions should be treated with a certain degree of caution. There is some reason to expect that, unless new measures are added, these projections will have to be revised upwards in time. Government projections have often overestimated the future impacts of carbon reduction measures and underestimated total future emissions. There are important discrepancies between the emissions projections made by DfT and those made by the DTI. The Government should review the different methods used by these departments, and look at establishing a more concerted and accurate approach for greater certainty and clarity. (Paragraph 15)
4. If the Government’s estimate of a 1.7MtC saving from the two new measures in CCP 2006 were correct, emissions from domestic transport would be projected to stand at around 43.1MtC in 2010, roughly the same as they were in 2004. This would represent the first time in years in which the growth in carbon emissions from domestic transport had flattened out, certainly a significant achievement. (Paragraph 20)
5. Given that overall projections of carbon savings in the 2000 Climate Change Programme have had to be revised downwards in the 2006 version, we should treat these projections with some caution. And even if they are accurate, their value is reduced because they do not take into account emissions from the fastest growing source, aviation. In fact, none of the existing measures in the Climate Change Programme has any impact on this sector. (Paragraph 20)
6. Even with the addition of the two new measures in CCP 2006, transport’s net annual carbon savings in 2010 are now estimated to be some 0.5MtC below the lower end of the Government’s original projections made in 2000. This betrays a dismal failure of purpose from the Department for Transport. (Paragraph 21)
7. We find it disappointing that, following the abolition of the fuel duty escalator, and with other policies not coming into effect for several years, the Government currently has only one policy instrument—the “Voluntary Agreement package”—fully in operation and delivering significant savings in carbon emissions from transport. (Paragraph 22)
8. In defending his Department’s record on this issue, the Secretary of State was keen to point out that nearly a quarter of all the carbon reductions in the Climate Change Programme 2006 come from transport. However, the existing measures which are the

responsibility of the Department for Transport itself amount to only around 3.6% of the CCP's 2010 savings. Considering that this department has policy responsibility for the worst-performing sector of the economy in terms of carbon emissions, this is not nearly good enough. (Paragraph 23)

9. In view of the imperative to take bold actions in order to help avert dangerous climate change, the Department should actively encourage modal shift towards lower carbon modes of transport, and discourage marginal car and plane journeys. As part of this, the Government should take much more decisive action to shift the balance of affordability more in favour of trains, buses, and lower carbon cars and lorries. (Paragraph 26)
10. While we recognise the difficulties in decoupling economic growth from increases in carbon emissions in the transport sector, we are concerned that the Department seems to have a fatalistic attitude which sees carbon-intensive activities and economic growth as going hand in hand. The Department must be much bolder in intervening to break the upward spiral of economic growth leading to higher emissions.
11. Because it is a global problem, whose worst effects we have not yet felt and are concerned to avert, climate change is a case in which it makes less sense to hand over decisions on infrastructure priorities to local and regional control, where more local and short term priorities will naturally predominate. At the very least, local and regional authorities need to be given very strong leadership and guidance on reducing carbon emissions by central Government. This is certainly not the case in guidance on the Transport Innovation Fund. The Government must ensure that TIF-funded projects give greater prominence to averting climate change. (Paragraph 30)
12. DfT's PSA on climate change is failing as a mechanism that might shine a light on the Department's efforts and hold it to account. DfT reports progress against all its PSA targets in an appendix of its Annual Reports. At no point does the Department quantify the carbon emissions resulting from transport as a sector, much less report that transport is the only sector in which emissions have been rising consistently since 1990 and are projected to carry on rising. In this way, the Department is able to claim credit for being on course to meet the UK's Kyoto target, even while it is presiding over the worst performing sector of the economy in terms of trends in emissions. (Paragraph 32)
13. Whether a formal PSA target or not, the Government should establish a sector-specific target for carbon emissions from transport. DfT should be given ownership of this target, and should clearly and in detail report progress against it in its Annual Reports. (Paragraph 33)
14. The VIBAT study should be an enormously useful resource in that it has quantified different policy instruments and examined the timelines in which they could be introduced and take effect. We were therefore dismayed by the Secretary of State's defensive distancing of the Department from this study. We urge the Department to closely examine the VIBAT study in order to construct an ambitious and well-thought out target, specifically for reducing carbon emissions from transport. (Paragraph 34)
15. Average emissions of new cars in the UK have certainly been declining in recent years, reaching 169.4 grammes CO₂ per kilometre in 2005, a reduction of 20g/km, or 10.7%, since 1997. All the same, at this rate of progress, the average will only be reduced to

around 164g/km by 2008, meaning that the UK would not achieve the EU target of 140g/km until around 2022. In addition, the UK is lagging behind other European countries: for 2004, the UK ranked ninth out of the 13 EU states for which data are currently available, with new car emissions standing some 7g/km above, and the rate of progress since 1998-9 behind, the EU average. The Department for Transport should lead the Government in taking decisive action to improve this record. (Paragraph 44)

16. Given that increasing the proportion of new cars that run on diesel is a very major factor in the Voluntary Agreement package—transport’s biggest contribution to the UK Climate Change Programme—it is surprising that the Government does not provide any direct financial incentives for diesel over petrol. While there may be concerns about the air quality implications of increased diesel use, and about availability and price of diesel in the European market, the Government should at least set out explicitly why it is not providing such incentives, and what impact their absence is having on the UK’s progress towards the Voluntary Agreement target for reducing the average carbon emissions of new cars. (Paragraph 47)
17. The Government deserves praise for being the first in Europe to introduce vehicle taxes specifically based on CO₂ emissions. In particular, its boldness in reforming Company Car Tax from 2002 has been rewarded by the visible progress made in that market. (Paragraph 51)
18. Reforms to Vehicle Excise Duty, however, have been much less impressive, even allowing for the changes announced in Budget 2006. Tax differentials between higher and lower carbon cars must be made much wider if they are to drive market transformation. We note that in its submission to the Climate Change Programme Review, the Sustainable Development Commission stated it had “modelled the carbon savings that could be achieved through new VED rates. Our proposal is that [...] that there is a £300 gap between each band. So the top band of VED would rise dramatically to £1800/yr [...] and below this the bands would be at £1500, £1200, £900, £600, £300, and £0”. The Department should publish its calculations of resulting carbon savings from adopting such £300 differentials between Bands. (Paragraph 52)
19. In particular, the new Band G is ineffective—and needs to be substantially raised in cost. As things stand, the VED paid by the highest emitting 4x4s and luxury saloons in Band G represents a lower percentage of their sales price, and works out at half the cost per gramme CO₂ emitted, than lower emitting hatchbacks in Band C. (Paragraph 53)
20. Progress against the central target in the Powering Future Vehicles Strategy—that by 2012, 10% of all new cars would emit under 100g/km—has so far been microscopic. Given that around 2.5 million new cars are sold each year in the UK, the Government’s target would require sales of some quarter of a million low carbon cars in 2012. In 2004, the number of such sales reached a grand total of 481. In 2005, this figure declined to 467; and as of July 2006 there was only one such model available for sale at all, with sales for the first half of the year of 188. (Paragraph 54)
21. In order to help increase sales of the lowest carbon cars, the Department should work with the Energy Saving Trust to ensure that its transport fuel infrastructure grants

significantly increase the availability of fuelling stations and electrobays for electric cars. (Paragraph 54)

22. The Department's argument for scrapping its low carbon car grants is that these would only cover 30-40% of the additional purchase costs of such vehicles, and that this is not enough to achieve market transformation. This would seem to apply equally to the existing VED structure, and support the case for much higher differentials. (Paragraph 56)
23. At the same time, we welcome the announcement that these grant monies will be reallocated to a new communications campaign to promote consumer information on the most carbon-efficient cars. However, the Energy Saving Trust also told us that they had previously proposed setting up just such a package, but that DfT had turned them down. The result is that for 18 months there was neither the grants programme nor the communications campaign. This suggests a lack of focus and leadership from within the Department. In order to play a truly effective role in nurturing new technologies and achieving market transformation, it is essential that the Government is both clear in its own mind as to how to achieve its goals, and shows long term commitment to them. (Paragraph 57)
24. There is great scope for progress using currently available technology, simply by influencing consumers to choose the lowest emitting cars in each class. But in order for this to be realised, car manufacturers and traders need to be given a greater incentive to sell more lower carbon cars, and this means a much stronger regime of sticks and carrots. We welcome the hints made by the new Secretary of State that he would consider pressing for the successor to the current EU Voluntary Agreement to be made mandatory—and we urge him to do so. In addition, and in advance of a new Europe-wide Agreement, the Government should implement a feebate or certificate trading scheme, in order to give the industry a genuine incentive to develop and promote more low carbon vehicles. (Paragraph 60)
25. In the meantime, given the urgent need for a step change in the take up of low carbon emission vehicles we strongly recommend that the existing differentials in VED between different categories of cars are widened substantially. These changes could be introduced at once on a revenue neutral basis and would reward consumers for making greener choices as well as encouraging manufacturers to produce more greener cars. We also urge the Government to examine whether differential rates of VAT can be charged on new cars to benefit the lower emission models. (Paragraph 61)
26. Even if the Voluntary Agreement very substantially increases the carbon-efficiency of car travel, it is less certain when—or if—it will start reducing carbon emissions from road transport in absolute terms. If cars with inferior g/km are not scrapped but remain on the road, then the reduction in emissions of new cars will only have a limited effect; and will in addition be offset by the simple increase in car journeys resulting from an increase in the number of cars owned. Equally, it is important that the sustainable production of new cars and disposal of old cars is central to whatever succeeds the current Voluntary Agreement. Finally, we are also concerned that technology is not moving fast enough. All this strongly suggests that the VA approach is not enough; it must also be complemented by measures to curb the amount that people drive. (Paragraph 63)

27. We welcome the announcement in CCP 2006 that “Obligated companies will be required from day one to report on the level of carbon savings achieved and on the sustainability of their biofuel supplies.” However, it is not clear whether the proposed assurance scheme is intended, not just to assure the sustainability of biofuels imported into the UK, but to have an effect on global biofuels production. The Government should emulate the leadership it has shown on sustainable timber, and work to establish a rigorous international standard on sustainable biofuels production and procurement. (Paragraph 68)
28. The fuel duty escalator has played an important role in helping to reduce the increase in CO₂ emissions from road transport. Given the transport sector continues to present seemingly intractable problems of emissions growth, the Government should seriously reconsider the case for annual increases in fuel duty, with appropriate exemptions for lower carbon fuels, and accompanying investments in public transport to provide revenue neutrality. Given the huge sensitivities of this issue, particularly at a time of high oil prices, there can be few more urgent issues on which those who have argued for an all-party consensus on climate change policy should now focus their attention. (Paragraph 71)
29. We strongly support the introduction of a national road user charging scheme as soon as technically possible—and would support the revival and early introduction of the formerly proposed Lorry Road User Charge. However, it is absolutely vital that such a scheme is designed to reduce carbon emissions, not just congestion. The Secretary of State must clarify his position on this, and make an unequivocal commitment to using road charging markedly to reduce CO₂ emissions. Failure to do so would undermine any claims DfT has to take climate change seriously. (Paragraph 75, 77)
30. Given that the range of Smarter Choices measures do not require large material infrastructure projects, they can deliver significant carbon (and congestion) reductions rapidly and cost-effectively. We welcome the Department’s announcement of forthcoming campaigns to promote eco-driving, its expansion of the Travelling to School Initiative, and its increase of funding of Cycling England. But it must broaden and accelerate implementation of such measures, and set itself an ambitious target of CO₂ savings to be achieved as a result. In conducting promotional campaigns, the Department should also learn from Transport for London’s experience in using advertising to promote individual choice of low carbon modes of transport. Eco-driving should be incorporated into the driving test, and eco-driving simulators should be used in schools (Paragraph 79)
31. We understand the Government’s reluctance to lower the motorway speed limit, or rigorously enforce the current 70mph limit, given the likely public controversy such a policy would provoke. However, compared to the potential danger which this could help to avert, proper enforcement of the legal speed limit would be a trivial incursion on personal liberty. The Government cannot forever duck the hard decisions in its duties to face up to “the greatest long-term challenge facing the human race”, in the words of the Prime Minister. In matters of such grave importance, the Government does a disservice to future generations by running scared of critical tabloid headlines. Beyond its direct impact, a new policy on speed limits would help to raise awareness of the reality of climate change, and of the need for everyone to take action on it. Finally, in considering a

design for a national road charging scheme, the Government should choose one that could cost-effectively aid enforcement of the motorway speed limit. (Paragraph 82)

32. One of the most effective means the Government has of constraining emissions from road transport is to reduce reliance on car use through planning regulations which can shape the areas in which people live. The Department for Transport and the Department for Communities and Local Government must work more closely together to ensure that new developments, especially in the housing growth areas, are designed to minimise car use. Planning policy, in particular, should include specific measures for reducing road journeys. (Paragraph 83)
33. We warmly welcome the announcement of increased funding for Cycling England. But the Department should accelerate progress by implementing lessons from the Dutch commitment to continuous improvement of cycling infrastructure. (Paragraph 85)
34. We were unimpressed by the Secretary of State's defence of the Government's record on road building. Estimates of CO₂ emissions arising from road proposals should be subject to independent audit. Furthermore, given that, by its own admission, more road space leads to more traffic and emissions, the Department should deliberately apply more stringent criteria to appraisals of proposals for the construction of new roads relative to lower carbon alternatives, such as the combination of public transport improvements and demand management measures. (Paragraph 88, 89)
35. Allowing regions the freedom to nominate projects for funding seems mainly to have resulted in a very high proportion of bids for road projects, although there have also been some major public transport proposals such as the Manchester Metrolink extensions. The Government should ensure that infrastructure proposals from both national agencies and local authorities are governed by a more integrated planning and appraisal process, and that rail proposals are assessed alongside competing road proposals. In putting forward and assessing the merits of different proposals, such a process should take into account the transport needs of each region as a whole, while assessing the combined national impact of such proposals on the UK's overall carbon reduction targets. (Paragraph 90)
36. Buses can make a significant contribution to carbon reductions, *if they can attract passengers out of their cars*. But CCP 2006 makes no mention of seeking to achieve modal shift from cars to buses. The Department should explicitly adopt modal shift from cars to buses as an environmental objective, and set itself a target of emissions savings to be gained as a result. (Paragraph 91)
37. Given that the Climate Change Programme 2006 contains a mere 79 words on the role which buses can play in reducing carbon emissions, we are somewhat surprised that 31 of these words are devoted to the Department's policy on Quality Contracts. Not only has there never been a single Quality Contract established, the previous Secretary of State seemed to admit it was a failed policy. Something much more effective in enabling authorities throughout England to apply the kind of powers currently enjoyed only by Transport for London should be introduced as an urgent priority. The current deregulated system has been heavily criticised by both the Transport Committee and the Public Accounts Committee. The fact that the arrangements outside London are also

undermining climate change policy should be the final straw for the deregulated system in its current form. (Paragraph 94)

38. We warmly welcome the recent statement by Ms Merron to the Transport Committee, as to the Department's examination both of the evidence behind the differing success of different bus services, and of the legislative and funding options which could be employed in shaping the future of bus policy. This hopefully indicates a very positive move on the part of DfT, and we look forward to developments under the leadership of the new Secretary of State. (Paragraph 95)
39. We are surprised that the Department does not intend to reinstate the Low Carbon Bus Grant programme. We are left asking: just how is the Department going to incentivise bus operators to introduce low carbon vehicles on a large scale? This must be explicitly addressed as part of the review of the Powering Future Vehicles Strategy. (Paragraph 98)
40. The example of Sweden's local bus fleets demonstrates the progress that can be made today in using sustainably produced biofuels to meet a significant element of society's transport needs. By acting early, Sweden appears also to be handing its bus manufacturing industry a potential competitive advantage. The Department must accelerate progress in the use of biofuels and biogas buses in England, beginning by identifying and tackling the current barriers to take up. (Paragraph 99)
41. With a new sense of stability, and with the Department's announcement of work on a long term strategy, the time is right for the rail industry to incorporate climate change policy into its major priorities. In particular, the advantages of rail over road and air travel in terms of carbon emissions must be fully taken into account in, and add weight towards, any consideration of investment to expand capacity the network. This must apply equally to consideration of whether to cut or retain existing local services. (Paragraph 100)
42. We would support proposals for the construction of new high speed rail links, both for the role they would play in directly achieving modal shift from air to rail, and for leading to a freeing up of capacity on the existing network. At the same time, it is important that in taking forward any proposals for new high speed services, the Department looks to choose a design which is as energy efficient as possible. (Paragraph 102)
43. Local rail services are vital for creating sustainable communities. They help to boost long term economic prosperity while managing demand for car journeys, and hence carbon emissions. We cannot see the logic, at a time when we need to be accelerating the UK's carbon reduction efforts, in proposals to reduce local train services. All decisions on the future of individual local services must be subject to thorough and transparent assessment, which views them extremely negatively if they are estimated to lead to an individual rise in carbon emissions. (Paragraph 104)
44. We second the Transport Committee's conclusion that the current ticketing structure of train operating companies is "not fit for purpose". In order to assist modal shift, the Department should take responsibility for ensuring rail fares and booking are simplified and made more transparent, and should also encourage the creation of user-friendly means of booking rail tickets to European destinations. (Paragraph 107)

45. Given that the railways are such important customers of power companies, the industry could make a significant contribution to expanding renewable energy generation in the UK. The Department should act to enable it to do so. At the same time, now that service levels of the network have regained stability, the Department should look to addressing barriers to improved energy efficiency. (Paragraph 108)
46. There are clear advantages in terms of carbon emissions of shifting freight from road to water, and the Department for Transport needs to do more to actively encourage this shift. (Paragraph 110)
47. We urge the Government to lead the international community in drawing attention to carbon emissions from international shipping, and to make sure they are brought under an effective reduction regime in the post-Kyoto phase. The Government should work to achieve earlier progress by pressing for an effective EU strategy on reducing emissions from shipping at European ports, and for bilateral agreements on taxation of shipping fuel with other Member States. As a first step, the Government should press the European Commission to give greater prominence to publishing annual figures on emissions from international shipping, both aggregated for the EU as a whole and by individual countries. (Paragraph 111)
48. Sadly, little has changed for the better since EAC's last report on aviation. Progress on introducing financial mechanisms to reduce the growth in emissions from flying is slow, and both the Government and the industry are as intransigent as ever. We urge the Department to widen the terms of its current progress review of the 2003 Future of Aviation White Paper into a fundamental rethink of its airport expansion policy. (Paragraph 113)
49. The Government is right when it acknowledges that flying is a big contributor of carbon emissions and therefore to climate change, in addition to its negative contribution to air quality and noise pollution. But what this means is that while the aviation industry can be allowed to thrive and even to grow, this can only take place within strict limits. We note the proposal of the Aviation Environment Federation, that demand for flights be managed to ensure that emissions from UK aviation remain constant in absolute terms, by limiting growth in passenger numbers to no more than the rate at which the industry improves its fuel (hence carbon) efficiency, currently some 1-2% a year. We would support such a proposal if it could be guaranteed to prevent an absolute rise in emissions. The Department should implement demand management measures straightaway; but to develop its use of such policies, it should commission and publish research on demand management policies which would generate predictable levels of passenger numbers and emissions outcomes. (Paragraph 114)
50. Even under the Government's own and most optimistic projections, every other sector of the economy would have to cut its share of UK emissions, while that of aviation would be assisted to almost quintuple. Given that these are both "best case" figures and do not take into account radiative forcing, this is likely to be a very substantial understatement of the actual figure to which the Government's current expansion policies are leading. Power companies, manufacturers, retailers, households, motorists and hauliers are already going to have to make significant efforts to decarbonise their lives and livelihoods. If the Government continues in its policy of allowing just this one industry to grow, it will

either cause severe pain to all other sectors or provoke so much opposition as to fatally undermine its 2050 target. If their joint PSA target is to mean anything, the Department for Transport must work with the Department for Environment, Food and Rural Affairs to construct a new approach to aviation which constrains its future growth. (Paragraph 116)

51. While we acknowledge the significant potential benefits of including aviation within the EU ETS, there remain very considerable uncertainties to be resolved before we can have confidence that such benefits would actually be realised. This underlines the need for the Government to step up still further its negotiations with European partners—and to take much bolder action unilaterally in the meantime. (Paragraph 122)
52. On the timing of inclusion of aviation in the ETS, we noted that the Secretary of State would not give an opinion on when he thought it would happen, but merely confirmed that it was still the Government’s “ambition [...] to try and secure that entry from 2008 or as soon as possible thereafter.” Indeed, the Secretary of State himself drew attention to ongoing opposition to the inclusion of aviation in the ETS from European airlines and governments. We also learned that the Government has not even begun to talk to the UK aviation industry about what level of carbon allocations it should receive within the ETS. While we commend the very significant leadership which the Government has shown in raising this issue up the European agenda, the evidence we have received suggests that inclusion of aviation within the ETS is still several years away. (Paragraph 123, 124)
53. This highlights the need for the Government to start actively preparing a “Plan B” for dealing with CO₂ from UK aviation. However, when we pressed the Secretary of State on what this alternative plan was, he claimed that even to hint at what and when it might be would undermine the Government’s efforts to persuade other EU governments to agree on inclusion of aviation in the ETS. We fundamentally reject this argument. Indeed, we would argue that to publish proposals and a timetable for UK action (to be taken if the ETS route were taking too long) would actually increase the pressure on all parties to agree to an early inclusion of aviation in the ETS. The Department should publish such a timetable and set of proposals as soon as possible. (Paragraph 125)
54. It is scandalous that governments around the world have failed to grasp the nettle of taxing aviation fuel. It is equally scandalous that no Member State within the EU charges VAT on international air tickets. While this would require co-ordination across the EU, individual States are free to impose VAT on domestic tickets. Beyond this, in 2001, the Government made reforms to Air Passenger Duty (APD) which had the effect of cutting the tax on most short-haul flights from £10 to £5. Budget 2006 froze APD for the fifth year running with its only reform being to cut the tax on economy flights to Croatia by £15. (Paragraph 126)
55. The Government has no excuses for not raising Air Passenger Duty. When we have recommended this in the past, the response has been that APD is a “blunt instrument” that does not differentiate between the relative carbon-efficiency of different flights. Our response to this is that APD could be levied per flight, rather than per passenger. Above all, however, whether reformed or not, APD should be raised so as to slow the growth of aviation and stabilise its absolute level of emissions. (Paragraph 130)

56. At the same time, we welcome the Secretary of State's acknowledgement of the potential role that differential landing fees could play, and urge him to introduce them. They could be used to complement a reformed and increased APD, in that they could specifically target the fuel efficiency of different models of aircraft. (Paragraph 131)
57. The Government has the power to increase taxes on domestic flights: it should do so, and as soon as possible. It should further work to conclude bilateral agreements with European partners to levy additional taxes on flights between them. Revenue generated as a result could be put towards investment in improving rail services, including high speed rail links, and to accelerating the development and introduction of more energy efficient aircraft designs. (Paragraph 132)
58. We heard from BAA that airport vehicles are allowed to run on "red diesel"—taxed at 6.44p a litre—because they do not run on public roads, even though airports are major sources of both carbon emissions and air pollution. This anomaly should be ended forthwith. (Paragraph 133)
59. The Government should study how best to raise public awareness of the climate change impacts of flying, and of the undesirability – and ultimately impossibility – of ongoing increases in flights within a declining carbon budget. As part of this, the Department should force airlines which operate services from and within the UK prominently to display (eg, on all their adverts, tickets, and webpages) a fuel efficiency label, similar to that for new cars, based on the average fuel efficiency of their entire fleet which flies out of UK airports. Additionally, wherever airlines advertise the routes which they operate from the UK, they should be compelled to state the relevant carbon emissions per passenger—according to a nationally-set methodology for calculating them – alongside the fare. (Paragraph 135)
60. We welcome the Government's new commitment to offset all its air travel through the new Government Carbon Offsetting Fund. Equally, we share its enthusiasm for voluntary offsetting schemes. Given that offsetting payments are relatively cheap, help to tackle climate change, and can be used to improve the lives of deprived communities in the developing world, the Government should make them a compulsory charge on all airline tickets. It is important, however, that this is accompanied by rigorous auditing of the projects funded as a result. Moreover, the public should not be encouraged to think that offsetting implied that growth in aviation emissions was environmentally tenable. (Paragraph 137)
61. We welcome the Government's commitment to keep its assessment of the radiative forcing (RF) of aviation under review, as further scientific evidence becomes available. This is particularly welcome, given that the paper it relies upon states that, depending on the results of further study into the effects of cirrus clouds, "It is possible that the total aviation RF could be twice as large as the total RF given here." In its current progress review of the Future of Aviation White Paper, the Department should clearly state how it proposes to alter its aviation policies, should further research indicate that the effects of cirrus clouds are indeed so large. (Paragraph 140)
62. We note that while CCP 2006 cites several examples of international co-operation with developing economies, designed to help them make carbon reductions—it does not

mention any projects designed to help other countries reduce their emissions from *transport*. The Government must work with international partners to develop such projects on a wide scale. (Paragraph 141)

63. There are conflicting views in the “peak oil” debate. We would observe, however, that even if the Government’s projections of conventional reserves extending to 2030 are correct, this is still quite a short time, given transport’s current 99% reliance on oil, and the lifetime of major infrastructure projects. While the Government also projects that improved technology and unconventional reserves could extend this period by another 30 years, we are concerned that the recovery and refining of such reserves could itself lead to higher “well-to-wheels” emissions. All this speaks of an extra imperative for the Department to make a step-change in funding and policies to wean the UK off the use of fossil fuel oil. The Government should commission its own equivalent to the US Hirsch Report, and study the example of the Swedish policy to reduce oil use by 2020. (Paragraph 149)
64. Growing political pressures over the need to reduce carbon emissions, the possibility of a sharp and prolonged fuel shock following peak oil, the complications caused by the development and rolling out of new fuels and technologies, and the potential divergent economic outcomes that follow rapid change to transport and communications, are projected to put transport at the very heart of public policy. The Department should closely examine the findings of the Intelligent Infrastructure Systems programme, in terms of both measures that could be taken to reduce carbon emissions, and ways of winning public support for them. (Paragraph 150)
65. As this report sets out, transport is both the most technically difficult sector in which to reduce carbon emissions and also the most politically difficult. Indeed, the latter is a result of the former. Significant cuts in emissions from transport also require widespread behavioural change. Such change challenges one of the very keystones of modern society – the deeply cherished and ever-expanding sense of personal freedom and mobility that has followed the increasing affordability of both driving and flying but which involves profligate consumption of energy. (Paragraph 151)
66. Governments at home and abroad must urgently inform the public about the reality and dangers of climate change, and the measures we can all take to avert it. We do not underestimate the problem which this poses for any elected politicians. This underlines the need, as this Committee has consistently argued, for a cross-party approach to the important and difficult measures necessary to tackle climate change. In taking forward the recent Energy Review and switching the focus of transport policy, we urge the Government to show courage in challenging popular preconceptions in order to serve the people’s long term interests. (Paragraph 152)

Introduction

1. The Prime Minister's Foreword to the updated UK Climate Change Programme, published in March 2006, underlined the Government's recognition of the scale and urgency of the challenge posed by global warming:

Climate change is probably the greatest long-term challenge facing the human race. [...] The scientific evidence is now overwhelming. [...] If the anticipated growth in emissions is left unchecked, global average temperatures could be as much as 5.8C higher by the end of this century, with a devastating impact on our economy and natural world, in the UK and, above all, in the most vulnerable developing countries.¹

2. **Transport has an especially important role to play in responding to the challenge of averting dangerous climate change. The Prime Minister was right to emphasise this in the letter of appointment he sent to the new Secretary of State for Transport in May, where he wrote: "in particular transport will be critical to our long-term goal of reducing carbon emissions."**²

3. **Progress to date indicates both that reducing carbon emissions from transport is particularly challenging, and that the Department for Transport (DfT) needs urgently to accelerate its efforts: transport is the only sector of the UK economy in which carbon emissions were higher in 2004 than the baseline year of 1990, and the only sector in which emissions are projected to be higher in 2020 than in 1990.**³

4. Transport is an especially challenging sector in which to reduce carbon emissions largely because it is so dependent on oil: 99% of all transport in the UK currently runs on oil products, and transport accounts for 74% of the UK's consumption of oil.⁴ While alternatives to fossil fuels within the transport sector are being increased, these are growing from a very low starting point; and there remain profound difficulties in finding alternatives to oil in aviation, as well as, to a somewhat lesser extent, in shipping and long distance road transport. Additionally, transport is obviously intimately involved in transactions of all material goods; it has been estimated, for instance, that 95% of all goods in the shops currently arrive there using oil.⁵ This means that it may be especially difficult to decouple carbon emissions in the transport sector from economic growth.

5. However, in the case of road transport, the principal source of emissions from transport, technological advances have already made available low emission engines. If these were more widely used in cars and lorries, significant reductions in carbon emissions could be achieved

1 Department for the Environment, Food and Rural Affairs (Defra), *Climate Change: The UK Programme 2006*, Cm 6764, March 2006, p iii

2 "Letter from PM to Douglas Alexander", 10 May 2006, www.pm.gov.uk

3 In "end user" terms. "Table 5: Carbon dioxide emissions by end user", Cm 6764, p 28

4 "The 2006 Energy Review Regional Stakeholder Seminar: Energy RD&D and Transport", Department of Trade and Industry, 23 February 2006, www.dti.gov.uk; Department of Trade and Industry (DTI), *The Energy Challenge*, Cm 6887, July 2006, p 126

5 Jeremy Leggett, *The Empty Tank* (New York, 2005), p 3

quickly without either inhibiting economic growth or requiring uncomfortable changes in lifestyles.

6. Notwithstanding the areas in which there are undoubted practical difficulties, then, the fact that rapid progress is possible, but that transport stands out for having consistently rising emissions, raises major questions over whether the Department for Transport is taking the need to tackle climate change seriously enough. This report sets out to answer this question, and to make practical recommendations to improve future progress.

Focus of this report

7. In recent years our predecessor Committee issued four reports on aviation and the environment.⁶ This report builds on but expands beyond those reports, to tackle the full range of transport's contributions to climate change, notably road transport. In addition, this report forms part of the Committee's policy of examining climate change as our overall priority for this Parliament, and complements our evidence sessions with the new Secretary of State for Environment, and other witnesses, on the UK Climate Change Programme 2006.⁷

8. Two main notes on the scoping of this report need to be made at the outset. First, this report focuses solely on the contributions of transport to global warming (mainly through emissions of carbon), and not at all on emissions of those gases and particles (eg, from exhaust pipes) which are mainly of concern in relation to air quality and related health issues. Second, while this report does engage with the potential of biofuels, it does not focus on this area in detail; in this, the Committee has been mindful not to duplicate the concurrent work of the Environment, Food and Rural Affairs (EFRA) Committee, whose report *Climate change: the role of bioenergy* will be published later in 2006.

9. In carrying out this inquiry we considered over 70 memoranda, and held eight oral evidence sessions, culminating in a session with the new Secretary of State for Transport, Douglas Alexander MP. In addition, we travelled to Sweden, primarily to learn about its policies to reduce oil use, as well as to the Netherlands, to learn about a variety of policies including the national promotion of "eco-driving" and the introduction of a tax on domestic aviation. We would like to express our gratitude to all who contributed to the inquiry.

The nature of the challenge for DfT

10. As the Climate Change Programme 2006 (CCP 2006) announced, the UK is on course to meet its Kyoto target, but is not on course to meet its domestic target to reduce CO₂ emissions by 20% by 2010.⁸ Carbon dioxide emissions were 161.5MtC⁹ in 1990; in 2004 they stood at

6 Environmental Audit Committee, Ninth Report of Session 2002-03, *Budget 2003 and Aviation*, HC 672; Third Report of Session 2003-04, *Pre-Budget Report 2003: Aviation Follow-up*, HC 233; Seventh Report of Session 2003-04, *Aviation: Sustainability and the Government Response*, HC 623; Eleventh Report of Session 2003-04, *Aviation: Sustainability and the Government's second response*, HC 1063

7 Uncorrected transcript of oral evidence taken before the Environmental Audit Committee on 12, 13, and 20 July 2006

8 The UK has three overall targets for reducing greenhouse gas emissions: the Kyoto target of reducing emissions of the basket of six greenhouse gases by 12.5% below base year levels by 2008-2012; the domestic target of reducing carbon dioxide (CO₂) emissions by 20% below 1990 levels by 2010; and the longer term target of cutting CO₂ emissions by 60%

152.5MtC, a reduction of 5.6%, only just a quarter of the way towards the target for 2010. The Government estimates that, with the additional package of measures unveiled in CCP 2006 and subject to the UK's recently proposed carbon allocation within the second phase of the EU Emissions Trading Scheme, CO₂ emissions will be around 16.2% below 1990 levels by 2010, closer to though still not meeting the target.¹⁰

11. To what extent is transport responsible for the slow progress to date in meeting the 2010 target? Certainly, transport is both a major source of emissions and the only sector of the economy from which CO₂ has been rising consistently since 1990. Measured in terms of end user emissions,¹¹ transport within the UK (i.e., excluding international aviation and shipping refuelling in the UK) was responsible for 43.1MtC in 2004 (or around 28% of total UK domestic carbon emissions), a rise in transport emissions of around 10% since 1990. Government projections (absent the new measures announced in CCP 2006) are for this trend to continue up to 2015 before starting to decline very gently, with internal UK transport emissions estimated to lie at 45.3MtC in 2020, 16% higher than 1990 levels and 5% higher than 2004 levels, and with transport making up some 31% of total carbon emissions for 2020. These trends contrast strongly with other sectors of the economy: the "Agriculture, forestry and land management", "Public", "Business", and "Domestic" sectors all saw reductions in carbon emissions in 2004 from 1990 levels—by around 53%, 28%, 12% and 2% respectively.

12. When international aviation and shipping are included,¹² these trends are even starker. Carbon emissions from international flights departing the UK stood at 9.1MtC in 2004, a rise of 111% from 1990, and equivalent on their own to 5% of the UK's total carbon emissions in 2004. This is without even factoring in the extra contribution which aviation makes to global warming due to the radiative forcing of the greenhouse gases it releases at altitude.¹³ Adding international aviation and shipping, total CO₂ emissions (not counting radiative forcing) from UK transport stood at 53.9MtC in 2004 (some 33% of total UK emissions from all sectors), a rise in transport emissions of 18% from 1990.

13. While aviation has seen the steepest rises in emissions, the most significant source of emissions within the transport sector is road transport; and here, too, emissions are still rising.

by 2050, with real progress by 2020. Neither the Kyoto nor the 2010 domestic targets encompasses emissions from international aviation and shipping travelling to and from the UK.

9 All greenhouse gas emissions are expressed throughout this report as million tonnes of carbon equivalent (MtCe). One tonne of carbon is contained in 3.67 tonnes of carbon dioxide (which is the ratio of the molecular weight of carbon dioxide to the atomic weight of carbon). Other greenhouse gases are expressed in terms of carbon equivalent by multiplying their emissions by their global warming potential relative to carbon dioxide, and dividing by 3.67.

10 "UK announces measures to move to low carbon economy", Defra press release 291/06, 29 June 2006

11 In this classification, the emissions from power stations, refineries and other energy supply industries are re-allocated to the end users of electricity, petroleum products and other fuels. *Climate Change: The UK Programme 2006* states: "This classification gives the most complete account of the relationship between emissions and the production of goods and services." Cm 6764, p 27

12 "Emissions from international aviation and shipping can be estimated from refuelling from bunkers at UK airports and ports (whether by UK or non-UK operators). [...] Under the guidelines agreed for UNFCCC, reporting emission from international aviation and shipping are not included in the UK's emissions, but these estimates are reported as memo items in national greenhouse gas inventories." "UK Emissions of Greenhouse Gases - Latest figures", Defra, 2006, www.defra.gov.uk

13 See paras 139-140.

Measuring emissions on a “by source” basis,¹⁴ road transport emitted some 33MtC in 2004 (21% of domestic UK carbon emissions in that year), an increase of around 10% since 1990.¹⁵ Meanwhile, latest projections from the DTI are for road transport emissions (absent the new measures in CCP 2006) to rise to 34.6MtC in 2010, and again to 36.2 MtC in 2020.¹⁶ Carbon emissions from private cars have risen by 8% between 1990 and 2004, while emissions from Heavy Goods Vehicles (HGVs) have risen by 25%.¹⁷

14. Figure 1 summarises these rises in carbon emissions from transport in the context of total UK emissions. Unlike the equivalent table in the Climate Change Programme 2006, this adds figures for international aviation and shipping to present total transport emissions, for added transparency. Figure 2 depicts the share of emissions by sector (for 2004), to illustrate at a glance the relative contribution of transport. Figure 3 shows the percentage change in emissions per sector since 1990, illustrating the fact that, measured on a “by source” basis, two of the three sharpest increases have come from aviation and road transport.

15. One final point needs to be made about these figures. **Government projections for future years emissions should be treated with a certain degree of caution.** Going by their track record, **there is some reason to expect that, unless new measures are added, these projections will have to be revised upwards in time.** The Environmental Audit Committee has several times observed that **Government projections have often overestimated the future impacts of carbon reduction measures and underestimated total future emissions.**¹⁸ In particular, we have expressed doubts about DfT’s projections for carbon emissions from aviation; while a recent paper by Steer Davies Gleave for Transport 2000 has severely, and with great weight of analysis, criticised the accuracy of emissions projections from road transport.¹⁹ Further, both that paper and more than one memo we received²⁰ demonstrated that **there are important discrepancies between the emissions projections made by DfT and those made by the DTI. The Government should review the different methods used by these departments, and look at establishing a more concerted and accurate approach for greater certainty and clarity.**

14 In other words, counting only the emissions from vehicles’ tailpipes, and discounting the emissions arising from the oil refining process required to supply the fuel for road transport.

15 “UK Emissions of Greenhouse Gases - Latest figures”, Defra, 2006, www.defra.gov.uk

16 “Table 18”, DTI, UK Energy and CO2 Emissions Projections: Updated Projections to 2020, February 2006, p 32

17 Department for Transport (DfT), *Transport Trends: 2005 Edition*, January 2006, “Trends 8.7b and 8.7c”, pp 92-3

18 Most recently in the Environmental Audit Committee’s Sixth Report of Session 2005-06, *Keeping the Lights On: Nuclear, Renewables, and Climate Change*, April 2006, paras 23-28.

19 Driving up CO2 Emissions from Road Transport: An Analysis of Current Government Projections, Transport 2000, July 2006

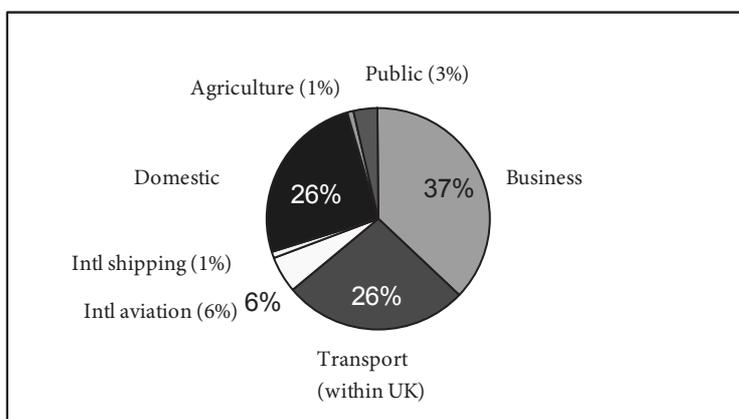
20 Ev2, Ev29

Figure 1 End user carbon emissions in MtC, by sector

Sector	1990	1995	2000	2004	2010	2015	2020
Business	68.8	61.2	60.3	60.5	56.4	58	58.1
Transport	39.2	39.8	40.9	43.1	44.8	45.7	45.3
Transport as % of total(1)	24%	27%	27%	28%	31%	31%	31%
Intl aviation*	4.3	5.6	8.3	9.1	n/a	n/a	n/a
Intl shipping	1.9	1.9	1.6	1.6	n/a	n/a	n/a
Total transport (incl intl aviation & shipping)*	45.4	47.3	50.8	53.8	n/a	n/a	n/a
Total transport as % of total(2)*	27%	30%	32%	33%	n/a	n/a	n/a
Domestic	42.4	39.1	39.8	41.7	36.5	38	36
Agriculture	3.2	2.5	1.9	1.5	0.7	1.3	1.7
Public	7.9	7.2	6.1	5.7	5.9	6	5.5
Total (1) emissions by sources minus removals by sinks	161.5	149.9	149	152.5	144.3	149	146.6
Total (2) emissions, minus sinks, adding intl aviation and shipping*	167.7	157.4	158.9	163.2	n/a	n/a	n/a

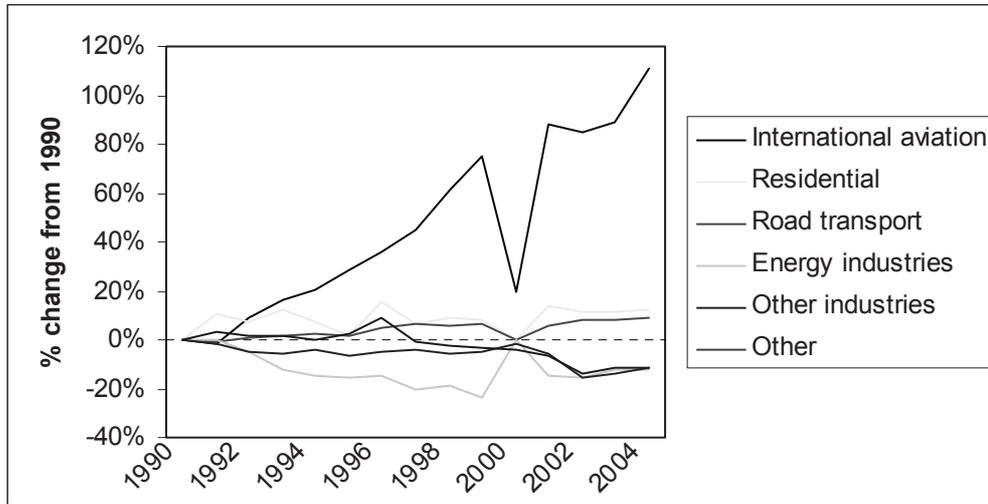
Sources: Table 5, UK Climate Change Programme 2006; Figure 20int, "UK Greenhouse Gas Emissions – Latest Figures", 30 March 2006, <http://www.defra.gov.uk/environment/statistics/globalatmos/gagginvent.htm>
Note: *Does not include radiative forcing of emissions from aviation. Actual MtCe are therefore likely to be **considerably higher** than shown.

Figure 2 Total transport (including international aviation and shipping) makes up 33% of total UK carbon emissions



Sources: Table 5, UK Climate Change Programme 2006; Figure 20int, "UK Greenhouse Gas Emissions – Latest Figures", 30 March 2006, <http://www.defra.gov.uk/environment/statistics/globalatmos/gagginvent.htm>

Figure 3 International aviation is the fastest growing source of emissions, road transport the third fastest (measured by “source”, rather than by “end user”)



Sources: Figure 6int, “Carbon dioxide emissions by source”, Figure 20int, “Greenhouse gas emissions arising from use of fuels from UK ‘international bunkers’: “UK Greenhouse Gas Emissions – Latest Figures”, 30 March 2006, <http://www.defra.gov.uk/environment/statistics/globalatmos/gagginvent.htm>

Government strategy – priorities and effectiveness

DfT's response to this challenge

16. The Government has very clearly set out both its explanation for why transport is the odd one out in terms of consistently rising emissions, and its defence of its approach to managing these emissions, in the opening paragraphs of the Transport chapter of *Climate Change: The UK Programme 2006* (CCP 2006):

It is important to be clear why transport emissions are rising, especially at a time when emissions from most other sectors are falling. As the economy grows, people travel much further than they used to and buy more goods from all over the world.

As they get more prosperous, they also tend to choose to travel in a way that uses more carbon. Instead of walking, they are more likely to take the bus and instead of taking the bus they go by car or by train. They also heat their homes more and their businesses use more fuel. But the impact on travel is larger because in a growing economy the demand for transport fuel grows faster than the demand for other kinds of fuel and so transport's share of total emissions is likely to increase. [...]

This is the difficult backdrop against which the Government's decisions are made. What we need to do is on the one hand reduce the environmental impact of the journeys people make and on the other hand help people make more informed travel choices, which will benefit both them and the environment.²¹

17. In slightly more detail, the Department's strategy for achieving its carbon reduction aims is composed of four main priorities for action, as the Secretary of State for Transport outlined before the Committee:

Firstly, to reduce how much fossil carbon there is in transport fuel. [...] An important step towards this is ensuring that a certain percentage of transport fuel sold in the UK is made up of biofuels. [...]

Secondly, improving technology to make vehicles more fuel efficient. That means working closely with manufacturers to deliver cleaner and greener cars. [...]

Thirdly, encouraging people to be more aware of the environmental impact of the journeys they make and encourage them to make more environmentally friendly journeys. [...] We need to continue to help people make informed choices about when and how they travel, and what type of vehicles they choose to buy in the future.

Fourthly, working towards including transport in Emissions Trading Schemes and using market mechanisms for environmental ends. [...] In the United Kingdom we continue

21 CM 6764, pp 61-2

to push for a well-designed Emissions Trading Scheme to ensure that the aviation sector tackles its emissions. In time, extending emissions trading to other forms of surface transport, not just the aviation industry, could have a big impact on the reduction of carbon as well.²²

18. In turn, these priorities break down into a number of individual policy instruments, summarised, along with their projected impacts, in Figure 4. The Government projects these policies to save around 6.8MtC by 2010. Overall, the Government estimates that as a result of the two new measures announced in CCP 2006, carbon emissions from transport in 2010 will be 5% lower than its previous projections for that year; and that, taking these together with the existing measures from the initial Climate Change Programme launched in November 2000, carbon emissions will be some 13% lower than they would have been had the Government taken no action at all.²³ We would, however, note that in absolute terms, even assuming a 6.8MtC saving from Government initiatives, annual emissions from transport are still projected to have risen by around 3.9MtC or 10% since 1990.

Figure 4 Principal policy instruments for reducing carbon emissions from transport

Key policy instruments	Start date	Original planned annual impact ¹ in 2010 (Million tonnes carbon)	Latest projected annual impact ² in 2010 (MtC)
Existing measures (preceding CCP 2006)			
Voluntary Agreement package (includes manufacturers' voluntary agreement, company car tax reform and graduated Vehicle Excise Duty)	1998 onwards (in stages)	4	2.3
<i>(of which, Company Car Tax reforms</i>	<i>2002</i>	<i>-</i>	<i>0.5)</i>
Fuel Duty Escalator ³	1993	1 - 2.5	1.9
Wider transport measures ⁴	2000	1.6	0.8
Sustainable distribution (Scotland & Wales)	2000	0.1	0.1
Total (existing measures)	1993-	6.7 – 8.2 MtC	5.1 MtC

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23 Cm 6764, p 63

New measures (introduced in CCP 2006)			
Renewable Transport Fuels Obligation	2008-09; in full effect 2010-11	-	1.6 (net reduction=1) ⁵
Future Voluntary Agreement	After 2009?	-	0.1
Total (new measures)	2008-	-	1.7 (1.1 net)
TOTAL (preceding and new measures)	1993-	6.7 – 8.2	6.8 (6.2)
Future and unquantified measures			
Assorted measures to promote “smarter travel choices”	Ongoing	?	?
Inclusion of aviation in the EU Emissions Trading Scheme (ETS)	2008-13?	?	?
Inclusion of surface transport in the EU ETS	After 2013?	?	?
National road pricing scheme	2014?	?	?
<p>Sources: <i>Synthesis of Climate Change Policy Projections</i>, Defra, 2006; and <i>Climate Change: The UK Programme 2006</i></p> <p>Notes:</p> <p>1 Projections in UK Climate Change Programme 2000, DETR, November 2000</p> <p>2 Projections in <i>Climate Change: The UK Programme 2006</i>, Defra, March 2006</p> <p>3 Fuel duty escalator - The Government has compared the impact that the fuel duty escalator between 1993-99 had on demand to the impact on demand that simple revalorisations (rises in line with inflation) in fuel duty between 1993-99 would have had. Using this as a basis, it found that because of the ongoing higher fuel price due to the fuel duty escalator, demand for fuel in 2010 will be lower, and that this lower demand equates to a carbon saving of around 1.9MTC in 2010.</p> <p>4 Refers to the impact of a programme of investment, announced in the 2000 Ten Year Plan and revised in the <i>Future of Transport White Paper</i>.</p> <p>5 <i>Climate Change: The UK Programme 2006</i>: This figure follows the internationally agreed methodology for allocating emissions to individual states, which prevents global double counting of emissions. As such it does not take into account the carbon emitted during the production of biofuels produced abroad but consumed in the UK. When this is taken into consideration the net global reduction in carbon dioxide emissions is 1MtC.</p>			

19. Even without looking at the appropriateness and effectiveness of the main policy instruments individually (which we shall do in subsequent sections of this report), there is much that can be said about this overall package of policies. Notably, we can ask whether the scale of projected savings is great enough, whether the trend in achieving reductions is moving in the right direction, and whether important measures are being introduced fast enough.

20. On the scale of impacts, **if the Government’s estimate of a 1.7MtC saving from the two new measures in CCP 2006 were correct, emissions from domestic transport would be projected to stand at around 43.1MtC in 2010, roughly the same as they were in 2004. This**

would represent the first time in years in which the growth in carbon emissions from domestic transport had flattened out, certainly a significant achievement. However, if the carbon emitted during the production of imported biofuels were taken into account, the net estimated savings from the new measures would be cut to 1.1MtC.²⁴ Furthermore, **given that overall projections of carbon savings in the 2000 Climate Change Programme have had to be revised downwards in the 2006 version, we should treat these projections with some caution. And even if they are accurate, their value is reduced because they do not take into account emissions from the fastest growing source, aviation. In fact, none of the existing measures in the Climate Change Programme has any impact on this sector.**

21. On the trend in policy instruments and projected savings from them, there have been some important slippages in delivery against carbon savings that were originally projected. Notably, the Voluntary Agreement package had been projected to save 4 MtC annually by 2010, but this has now been revised down to 2.3MtC. Overall, Figure 4 shows that, **even with the addition of the two new measures in CCP 2006, transport's net annual carbon savings in 2010 are now estimated to be some 0.5MtC below the lower end of the Government's original projections made in 2000. This betrays a dismal failure of purpose from the Department for Transport.**

22. On the timing of major measures, while the Government states that inclusion of aviation within the EU ETS still might come as early as 2008, the Aviation Environment Federation suggested to us it was more likely to be 2010 at the earliest and more probably 2013. We feel the latter date to be much more credible given the formidable number of details still to be agreed before this can go ahead. We could expect the inclusion of surface transport in the ETS, which is at a much more speculative stage than is the case with aviation, to take still longer. As for the introduction of road pricing, the Department has suggested that a national system would not be technologically feasible before 2014.²⁵ This seems a considerable time to wait, especially in the context of the proposed Lorry Road User Charge which had been due to come into operation in 2007-08, but which the Government last year cancelled, with the explanation that this would be subsumed into the forthcoming national scheme to cover all road users. Overall, **we find it disappointing that, following the abolition of the fuel duty escalator, and with other policies not coming into effect for several years, the Government currently has only one policy instrument—the “Voluntary Agreement package”—fully in operation and delivering significant savings in carbon emissions from transport.**

23. **In defending his Department's record on this issue, the Secretary of State was keen to point out that nearly a quarter of all the carbon reductions in the Climate Change Programme 2006 come from transport.**²⁶ However, two main elements of the Voluntary Agreement package – Company Car Tax and Vehicle Excise Duty – are the preserve of the Treasury, while the other is an agreement made by the European Commission and implemented by private car firms. Moreover, other policies are yet to begin operation, while the separately listed “Sustainable distribution” measures come under devolved authorities. What this means is that, in fact, **the existing measures which are the responsibility of the**

24 Cm 6764, p 64

25 Transport Committee, Seventh Report of Session 2004-05, *Road Pricing: The Next Steps*, HC 218-I, March 2005, p 29

26 Q 647

Department for Transport itself amount to only around 3.6% of the CCP's 2010 savings.²⁷ Considering that this department has policy responsibility for the worst-performing sector of the economy in terms of carbon emissions, this is not nearly good enough.

DfT's analysis of the problem

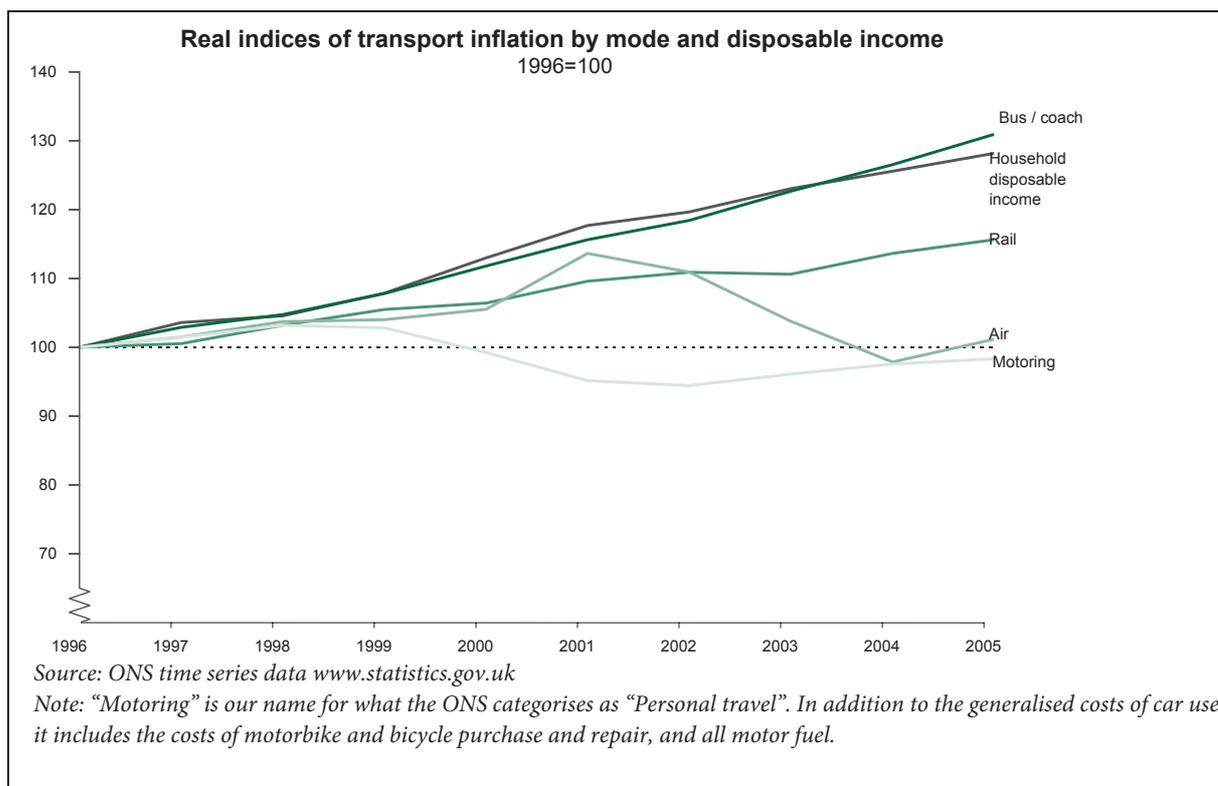
24. We warmly welcome the seriousness with which the new Secretary of State described his approach to working across Government to tackle carbon emissions, and look forward to the positive impact he promises to have on DfT's climate change strategy.²⁸ At the same time, we would characterise DfT's policy package, up to this point, as being projected to make some important contributions, but lacking in ambition, and suffering from a stuttering and piecemeal application. We could see this, for instance, in the facts that the Government initially increased the fuel duty escalator before abolishing it in 1999, that projected carbon savings from transport have had to be revised downwards since 2000, and that the Government proposed a Lorry Road User Charge scheme to start from 2007-08, only to scrap these plans last year in favour of a comprehensive road user pricing scheme, to be developed and trialled on a local basis but not implemented nationally until around 2014. Considering that "Climate change is probably the greatest long-term challenge facing the human race", this appears a case, ultimately, of acting neither fast nor far enough. To a great extent this would seem to be a natural consequence of the Department's analysis of both the problem it faces and its room for manoeuvre.

25. This situation is brought into further relief by an analysis of recent trends in the relative costs to consumers (i.e., passengers/drivers) of different modes of transport. Looking back simply over the past decade (looking back further, to 1980, shows a continuation of the same trends), Figure 5 shows that the real costs of motoring have declined for the past six years, while the average real cost of airline tickets is around the same as in 1996. Given that disposable income has increased appreciably, this has made driving and flying considerably more affordable than before. Meanwhile, the real cost of bus and train fares has increased sharply, by 31% and 16% respectively; in the case of buses, this has outpaced the rise in disposable income, meaning they are not just less affordable relative to car use, but absolutely less affordable than they used to be.

27 Based on the calculation in Defra, *Synthesis of Climate Change Policy Projections*, April 2006, p 18. This original calculation gave transport (at 5.1MtC of a total 22MtC) a 23% share of 2010 carbon savings. If only currently operating programmes under the direct responsibility of DfT are selected ("Wider transport measures", some 0.8MtC) this represents around 3.6% of the 22MtC total.

28 Qq 646-7

Figure 5 Higher carbon modes of transport have become cheaper than lower carbon modes



26. Here is a clear reason for the ongoing rise in emissions from transport. But it is certainly not an inevitable state of affairs, over which the Government could or should have no influence. **In view of the imperative to take bold actions in order to help avert dangerous climate change, the Department should actively encourage modal shift towards lower carbon modes of transport, and discourage marginal car and plane journeys. As part of this, the Government should take much more decisive action to shift the balance of affordability more in favour of trains, buses, and lower carbon cars and lorries.**

27. More widely, some of the non-governmental organisations (NGOs) which gave evidence to us expressed their concern about the Department's fundamental thinking on the relationships between transport, economic growth, and climate change. Sustrans, for instance, questioned the strength of the link between the expansion of transport infrastructure and economic growth, which forms a major platform of the Department's beliefs and activities.²⁹ Friends of the Earth, meanwhile, questioned whether the Department's understanding of economic growth was too narrow, implying that it would not focus enough on overall wellbeing.³⁰ In the past our predecessor Committee severely criticised the expansion of airport infrastructure envisaged in the 2003 *Future of Aviation* White Paper, not just for its projected impacts on climate change, but also taking issue with the Department's assessments of the likely effects on the UK economy.³¹ **While we recognise the difficulties in decoupling economic growth from increases in carbon emissions in the transport sector, we are concerned that the**

29 Ev176

30 Q 581

31 Environmental Audit Committee, *Budget 2003 and Aviation*, paras 34-49

Department seems to have a fatalistic attitude which sees carbon-intensive activities and economic growth as going hand in hand. The Department must be much bolder in intervening to break the upward spiral of economic growth leading to higher emissions. The need for this is highlighted by the listing in CCP 2006 of “Increased traffic growth due to GDP growth” as by far the biggest factor—plus or minus—on domestic transport emissions in the period 1990-2010.³² At over 10MtC, it shown greater than the quantified savings from all of the Government’s package of transport policies combined.

DfT’s priorities and targets

28. The Department conveys the consistent impression that, while it does acknowledge climate change as a serious problem, and while it is pursuing some dedicated policies to this end, it treats climate change as simply one priority among many others it must juggle, such as road congestion, economic productivity, and air quality. In other words, it is not treating climate change seriously *enough*. This was certainly Friends of the Earth’s argument, in drawing our attention to recent comments about a future national road charging scheme made by the Transport Minister, Stephen Ladyman MP.³³

29. To take another high profile example, in the 2004 *Future of Transport* White Paper, the Department announced the creation of a Transport Innovation Fund (TIF), which is set to become the single largest source of public investment in transport. In guidance published in January 2006, the Department states: “Through the TIF, we will be able to direct resources towards the achievement of two very high priority key objectives—specifically tackling congestion and improving productivity.” It then explains that there will be two kinds of proposals for funding: “proposals which are principally “congestion schemes”—for which bids are invited from local authorities—and those which are principally “productivity schemes”—for which the Department will identify potential schemes after seeking the views of the Regional Development Agencies (RDAs) during the early part of 2006.”³⁴ Given that one set of proposals are to come from individual local authorities, who are directed to make bids to ameliorate congestion, and that the others are to be influenced by RDAs, who are directed to think about regional economic development, it looks less than likely that, as currently designed, the TIF will bring forward many proposals primarily targeted at tackling climate change.

30. Because it is a global problem, whose worst effects we have not yet felt and are concerned to avert, climate change is a case in which it makes less sense to hand over decisions on infrastructure priorities to local and regional control, where more local and short term priorities will naturally predominate. At the very least, local and regional authorities need to be given very strong leadership and guidance on reducing carbon emissions by central Government. This is certainly not the case in guidance on the Transport Innovation Fund. The Government must ensure that TIF-funded projects give greater prominence to averting climate change.

32 Cm 6764, p 63

33 See para 72.

34 DfT, Transport Innovation Fund: Guidance January 2006, paras 1-1.1, www.dft.gov.uk

31. Since Spending Review 2004, DfT has had a Public Service Agreement (PSA) target on climate change:

To reduce greenhouse gas emissions to 12.5% below 1990 levels in line with our Kyoto commitment and move towards a 20% reduction in carbon dioxide emissions below 1990 levels by 2010, through measures including energy efficiency and renewables.

However, DfT shares this PSA with the Department for Environment, Food and Rural Affairs (Defra) and the Department of Trade and Industry (DTI), and there are no sectoral targets for reductions in emissions specifically from transport. We received a number of submissions criticising this arrangement as failing to provide precisely the impetus to action, through accountability for a set target—“representing a contract between the public and Government”³⁵ – that the PSA regime is meant to achieve. As an example, Greg Archer of the Low Carbon Vehicles Partnership told us:

Mr Archer: [...] The Department for Transport has a whole number of different priorities around managing demand and congestion, infrastructure to meet increased capacity, social equality issues; CO₂ issues are just one of their many priorities. The Partnership has felt for some time that the absence of a sectoral target for transport emissions and for road transport emissions specifically means that there has not been the focus on controlling transport emissions generally within the Department for Transport because there is not an overall target that the Department is trying to achieve. We recognise that they share in the PSA 20 per cent target but there is no clarity as to what proportion of that overall burden the Department for Transport is actually taking. I am not saying that transport should have the same target as other sectors; it should just have a target that it is working towards so we can see what progress it is actually making. [...] Without that clarity and that directional policy I am afraid the Department for Transport will never put together the package of measures which are needed to address this issue.³⁶

32. It would certainly appear that **DfT’s PSA on climate change is failing as a mechanism that might shine a light on the Department’s efforts and hold it to account. DfT reports progress against all its PSA targets in an appendix of its Annual Reports.** In the relevant part of its Annual Report 2006, while the Department does (though still in extremely skimpy detail) report progress against the “Fuel efficiency of vehicles” and “Carbon content of fuel”, this is not put into context to allow a reader to judge what the contribution of these measures is to the overall PSA target. Against this *overall* target, the Department solely gives the *collective* progress against the Kyoto target and 2010 domestic targets. **At no point does the Department quantify the carbon emissions resulting from transport as a sector, much less report that transport is the only sector in which emissions have been rising consistently since 1990 and are projected to carry on rising. In this way, the Department is able to claim credit for being on course to meet the UK’s Kyoto target, even while it is presiding over the worst performing sector of the economy in terms of trends in emissions.**

35 DfT, *Annual Report 2006*, Cm 6817, “Appendix D: Public Service Agreement (PSA) targets”, p 252

36 Q 121

33. Whether a formal PSA target or not, the Government should establish a sector-specific target for carbon emissions from transport. DfT should be given ownership of this target, and should clearly and in detail report progress against it in its Annual Reports.

34. The question this begs then is what exactly that target should be. The Department has already commissioned a major piece of work which should shed very useful light on this—the “Visioning and backcasting of UK transport policy”, or VIBAT report, by Professor David Bannister and David Hickman. This examined the potential for a 60% CO₂ reduction in the UK transport sector over the period 1990-2030. The report concluded that this target is achievable, and came up with a series of individual policy proposals that would add up to the specified savings, while stressing that reaching the overall target would require a combination of both technological improvements and behavioural changes. While the Government would be free to set whatever specific target it would like, which would not necessarily be 60% by 2030, **the VIBAT study should be an enormously useful resource in that it has quantified different policy instruments and examined the timelines in which they could be introduced and take effect.** In other words, VIBAT should be capable of giving policymakers invaluable assistance in constructing a challenging but deliverable target for carbon reductions from transport. **We were therefore dismayed by the Secretary of State’s defensive distancing of the Department from this study.³⁷ We urge the Department to closely examine the VIBAT study in order to construct an ambitious and well-thought out target, specifically for reducing carbon emissions from transport.**

Reducing carbon emissions from road transport

35. Road transport is responsible for the biggest share of carbon emissions from the transport sector. In 2004 it made up around 95% of domestic transport emissions, the same percentage as 1990.³⁸ Within this sector, cars are responsible for over 60% of emissions, with heavy goods vehicles (HGVs) and light duty vehicles (vans) making up almost all the remainder.³⁹ Fittingly, most of the Department’s carbon reduction policies are aimed at road transport, and in particular cars. Indeed, the Department’s three main policy instruments (the Renewable Transport Fuel Obligation, Voluntary Agreement package, and fuel duty escalator), and three of the Department’s four main carbon reduction priorities (reducing the fossil fuel content of transport fuel, increasing vehicle efficiency, and fostering more environmentally aware consumer choice) are concentrated here; and this could even extend to the fourth overarching priority, if and when debate on including surface transport in the EU ETS advances.

36. The Transport chapter of CCP 2006 begins with a simple explanation for why, despite the efforts of the UK Climate Change Programme since it was launched in 2000, road transport

37 Q 659

38 DfT, Transport Trends: 2005 Edition, p 86

39 DfT, Transport Trends: 2005 Edition, pp 92-3

emissions have continued to rise. Growth in the economy has led to an increase in journeys by car and lorry which has outpaced progress in fuel efficient technology:

This is why road transport CO₂ emissions grew by 8 per cent between 1990 and 2000 even though average new car fuel efficiency has improved by 10 per cent since 1997. And this is why forecasts indicate that road transport emissions will grow by another 8 per cent between 2000 and 2010, although the link between traffic growth and economic growth has weakened in recent years.⁴⁰

More particularly, CCP 2006 contains the following analysis of the problem faced by the Government, and summary of the Government's response:

Carbon dioxide emissions from transport depend on three key variables:

- I) the fossil carbon content of fuel consumed;
- II) the fuel efficiency of vehicles; and
- III) the distance travelled and the means of transport chosen.

It is essential that we address all three of these in the most cost-effective and practical way possible. To achieve this we need to take action on a range of levels and that is exactly what we are doing by developing policies for:

- reducing the fossil carbon content of road transport fuels;
- improving the fuel efficiency of vehicles;
- encouraging a move towards more environmentally friendly means of transport;

and

- [...] developing the evidence base around the possibility of including surface transport in emissions trading schemes in the future.⁴¹

37. It appears to us that the accent in the Government's policies is on reducing the carbon *intensity* of car journeys (the net carbon emitted per unit of fuel consumed or distance driven), with the aim of this achieving net reductions in the long run by eventually overtaking the upward trend in emissions due to a continued rise in traffic, more than on limiting the number and length of vehicle journeys to achieve greater reductions in the short term. This would seem to form a clear contrast to the philosophy which this Government began with, notably reflected in the Deputy Prime Minister's remarks in June 1997: "I will have failed if in five years time there are not many more people using public transport and *far fewer journeys by car*. It's a tall order but I urge you to hold me to it".⁴²

40 Cm 6764, p 61

41 Cm 6764, p 64

42 John Prescott MP, quoted in the *The Guardian*, 6 June 1997. (Emphasis added.)

38. Certainly, the Government continues to pursue a range of objectives and policies which relate to constraining road use by cars and lorries. *The Future of Transport* White Paper, for instance, importantly acknowledged: “We must manage the growing demand for transport. While additional infrastructure will be necessary, simply providing ever more capacity on our roads and railways, ports and airports is not the answer in the long term.”⁴³ In terms of specific policies, as is most recently set out in *Climate Change: The UK Programme 2006* and *The Energy Challenge* (Energy Review 2006), the Government is providing “record investment in transport infrastructure, to give more people real alternatives to travelling by car”, and is promoting “a package of policies entitled Smarter Choices, aimed at helping people choose sustainable travel options.” The Government has also recently doubled funding of Cycling England, and has announced a programme “to ensure individuals and manufacturers have the right information and incentives to encourage them to make the most environmentally friendly choices on transport.”⁴⁴ Additionally, the Department is pursuing other measures, one of the notable ones being an “exploration of the role road pricing could play, in particular through the development of local pathfinder packages which include demand management, with financial support from the Transport Innovation Fund.”⁴⁵

39. However, it is notable that neither the *Future of Transport* White Paper, CCP 2006, nor the 2006 Energy Review, contains any explicit statement that there should be a reduction in the number or length of car and lorry journeys (even though this would appear to be the logical conclusion from CCP 2006’s analysis of one of the key factors in emissions being “the distance travelled and the means of transport chosen”.) Two of the three Departmental carbon policy priorities which relate to road use (the fourth, on promoting the EU Emissions Trading Scheme, relating mainly to aviation) are concerned with reducing carbon intensity. The third – “encouraging a move towards more environmentally friendly means of transport” – implies the possibility of measures to encourage modal shift away from cars, but appears also to refer to measures to promote sales of lower carbon cars; or in other words also to relate to carbon intensity. This certainly appears to be the case from what the Secretary of State said to us under this heading – “We need to continue to help people make informed choices about when and how they travel, and what type of vehicles they choose to buy in the future”⁴⁶ – and from the transport section of the 2006 Energy Review. We could also note that of transport’s largest contributions to the UK Climate Change Programme, the largest (the VA package) and third largest (RTFO) relate to carbon intensity, and that while the second largest (fuel duty escalator) does indeed relate to demand management, the Government abolished it in 1999. The fourth largest (Wider transport measures) refers to the range of transport investments made since the beginning of the Ten Year Plan, and thus encompasses the provision of alternatives to car use; however, its planned impact has now been halved from 1.6MtC to 0.8MtC. It appears to us that the first half of the Deputy Prime Minister’s objective has been achieved, but, as for the latter, the emphasis is now on managing the growth of road journeys.

43 DfT, *The Future of Transport: a network for 2030*, Cm 6234, July 2004, para 8, p 13

44 Cm 6887, paras 6.26-31, pp 130-1

45 DfT, *Delivering better transport: Priorities for 2006-07 to 2008-09*, para 8.1, p 22, www.dft.gov.uk

46 Q 646

40. The Department's current outlook leads to a number of obvious questions to focus on: whether DfT's policies are delivering their own stated objectives; whether the Department should have bolder objectives to quicken the pace of progress in new car efficiency; and whether it should be doing more to curb the *demand* for road journeys. In examining DfT's road transport policies, we have followed the conceptual design common to many of the submissions we received, and divided measures into "hard" factors (affecting vehicle fuels and technology, including taxes and incentives to drive market take-up) and "soft" factors (affecting the way people drive, and their demand for car journeys). In addition, we have focused on the effects and coherence of land use planning guidance and road building policy.

Achieving reductions through "hard" measures

Voluntary Agreement package

41. The second of DfT's carbon reduction priorities is "working closely with manufacturers to deliver cleaner and greener cars", with the third being to help people make more environmentally informed choices about their transport options, including "what type of vehicles they choose to buy in the future." These apply to the Department's single largest measure in terms of carbon reductions, the "Voluntary Agreement (VA) package". This in turn comprises four main elements:

- **Manufacturers' Voluntary Agreements:** Between 1998 and 1999 the European Commission concluded an agreement with major car manufacturers, committing them to reduce the average carbon emissions from new models sold within the EU by 25%, down to 140 grammes CO₂ per kilometre (g/km) by 2008-09;
- **Company Car Tax reforms:** Since April 2002, Company Car Tax (CCT) has been based on CO₂ emissions: "Under the new system, charges for petrol cars range from 15% to 35% of the list price (diesel cars pay a 3% supplement to reflect local air quality emissions), and increase by 1% for each 5g/km rise in the CO₂ emissions figure for the car between minimum and maximum thresholds (set at 140g/km and 240g/km respectively for the 2006/07 tax year, reducing to 135g/km and 235g/km in 2008/09). [...] From 2008/09 there will be a new 10% band for company cars with very low emissions of 120g/km or less. The Company Car Tax Fuel Benefit Charge—paid by those who receive employer provided fuel for unlimited personal use—was also reformed in 2003 to follow the company car tax carbon basis. The figure is set at £14,400, and since 1997 the number of employees in receipt of free fuel for unlimited private use has fallen by around 600,000, partly as a result of the 2003 reforms."⁴⁷
- **Vehicle Excise Duty reforms:** For new cars purchased since 1 April 2001, Vehicle Excise Duty (VED) charges have been grouped into bands, based on carbon emissions of each model. In Budget 2006, duty on the lowest emitting band was reduced to zero and, for cars purchased from 23 March 2006, a new upper band added, creating a maximum differential of £210 (for petrol cars) per year between the highest and lowest emitting models;

- **Car efficiency labels:** DfT has worked with the Low Carbon Vehicle Partnership and the motor industry to introduce colour coded efficiency labels for cars, similar to those for electrical goods but based on the new VED bands. These are “currently available in most UK showrooms [to] enable consumers to make informed choices about fuel efficiency when buying a new car”.⁴⁸

42. In addition, and complementary to the VA package, in 2002 the Government launched the Powering Future Vehicles (PFV) Strategy, designed “to promote new vehicle technologies and fuels, and ensure the involvement of the UK automotive industry in the development of new technologies.”⁴⁹ This contained a main target that “By 2012, 10% of all new car sales will be cars emitting 100g/km CO₂ or less at the tailpipe”.⁵⁰ To help achieve this target, the Government established the Low Carbon Vehicle Partnership (LowCVP), a coalition of public, industry, and academic groups, to help to co-ordinate research and drive on innovation; and implemented a package of measures, including “TransportEnergy grants to encourage take-up of cleaner, more efficient vehicle technologies; and support for industrial and academic research, development and demonstration.”⁵¹ The Government also counts the CCT and VED reforms detailed above as counting towards the PFV Strategy. The Strategy is currently being reviewed, with a report due this year.

Progress of the VA package

43. CCP 2006 forecasts the Voluntary Agreement package to deliver 2.3MtC savings in 2010, making it by far transport’s biggest contribution to the UK Climate Change Programme. However, progress has faltered since its inception, and these savings are smaller than the 4MtC originally projected. Indeed, Defra’s *Synthesis of Climate Change Policy Evaluations*, published in April this year, reports: “Projected savings in 2010 from the transport sector have been revised downwards, based on new estimates of the GHG [greenhouse gas] emissions reductions achievable in the voluntary agreement package.”⁵²

44. Average emissions of new cars in the UK have certainly been declining in recent years, reaching 169.4 grammes CO₂ per kilometre in 2005, a reduction of 20g/km, or 10.7%, since 1997.⁵³ All the same, at this rate of progress, the average will only be reduced to around 164g/km by 2008, meaning that the UK would not achieve the EU target of 140g/km until around 2022.⁵⁴ Indeed, while the European Commission envisaged progress accelerating towards the end of the agreement, CCP 2006 reports that the rate of progress has actually been slowing down in recent years.⁵⁵ In addition, the UK is lagging behind other European countries: for 2004, the UK ranked ninth out of the 13 EU states for which data are

48 DfT, Annual Report 2006, p 268

49 DfT, description of July 2002 Powering Future Vehicles strategy document, www.dft.gov.uk

50 This corresponds to the current VED Band A.

51 DfT, Powering Future Vehicles: The Government Strategy Second Annual Report, October 2004, para 2.2, p 9

52 Defra, Synthesis of climate change policy evaluations, para 1.25, p 15

53 Society of Motor Manufacturers and Traders (SMMT), UK New Car Registrations by CO₂ Performance: Report on the 2005 market, p 1

54 Ev38

55 Cm 6764, p 66

currently available, with new car emissions standing some 7g/km above, and the rate of progress since 1998-9 behind, the EU average.⁵⁶ The Department for Transport should lead the Government in taking decisive action to improve this record.

45. One of the main reasons given for this slow progress is summarised in the DfT's *Updated Emissions Projections*: "recent moves towards the purchase of larger and heavier vehicles will have offset some of the technical advances that improve efficiency."⁵⁷ The Society of Motor Manufacturers and Traders (SMMT) described to us how, although the industry has been making technological advances, these were being to an extent counteracted by market demand for safety and comfort features: these consume more fuel, either directly by drawing on power (such as air conditioning) or indirectly by adding weight (such as roll bars).⁵⁸ The Energy Saving Trust (EST) told us, for example, that air conditioning could increase fuel consumption by up to 25%.⁵⁹ As for why the UK is doing worse than the EU average, we were told that this stems from, first, a market preference for larger and heavier cars in the UK compared to countries such as France and Italy,⁶⁰ and second, as the Secretary of State himself put it, "the level of dieselisation in Britain [which] is significantly below, certainly, that of France" among some other European countries.⁶¹

46. This latter point is important because diesel engines give on average over 28% more miles per gallon than petrol,⁶² and hence emit less g/km. In fact, "dieselisation" appears to be the single biggest factor in making progress towards the Voluntary Agreement's targets. The SMMT baldly states, for instance: "The improvements in average new car CO2 emissions stem from increased dieselisation of the fleet."⁶³ This was also the conclusion of the VIBAT authors: "The main reason [...] has been diesel penetration into the car fleet".⁶⁴ At the same time, the SMMT argued that this trend towards diesel will not continue for very much longer in the UK under the present fiscal regime, in which duty on diesel is slightly higher than on petrol⁶⁵—in contrast to countries such as France and Germany, in which diesel prices are "20 to 40 per cent lower than petrol prices."⁶⁶ If this is true, it would beg the question why the Government does not directly incentivise the use of diesel relative to petrol – especially given the conspicuous success in using of duty differentials in the past, notably to transform the market for unleaded petrol. The LowCVP, however, described two potentially serious problems with seeking to increase and rely on dieselisation in order to meet the VA target. First, high and increasing demand in Europe has the potential to drive up diesel prices relative to petrol, thus dampening

56 SMMT, UK New Car Registrations by CO2 Performance: Report on the 2005 market, p 27

57 DTI, UK Energy and CO2 Emissions Projections: Updated Projections to 2020, February 2006, para 33, p 26

58 Ev28

59 Q 147 [Mr Veitch]

60 Ev40

61 Q 680. "Dieselisation" refers to the proportion of the national car parc that runs on diesel.

62 DfT, Transport Statistics: Great Britain 2005, October 2005, Table 3.4, p 52

63 SMMT, UK New Car Registrations by CO2 Performance: Report on the 2005 market, p 3

64 Ev2

65 Q 103

66 Q 107 [Mr Archer]

demand once more (perhaps especially in less mature markets for diesel such as the UK); second, diesel vehicles are worse for air quality.⁶⁷

47. Given that increasing the proportion of new cars that run on diesel is a very major factor in the Voluntary Agreement package—transport’s biggest contribution to the UK Climate Change Programme—it is surprising that the Government does not provide any direct financial incentives for diesel over petrol. While there may be concerns about the air quality implications of increased diesel use, and about availability and price of diesel in the European market, the Government should at least set out explicitly why it is not providing such incentives, and what impact their absence is having on the UK’s progress towards the Voluntary Agreement target for reducing the average carbon emissions of new cars.

48. Linked to the importance of diesel use, another pronounced feature of the way in which the Voluntary Agreement package is working in the UK is, as CCP 2006 puts it, the “increasing split between the company car market, where average emissions of new vehicles continue to fall, and that for private cars, where progress has stagnated.”⁶⁸ In 2001, new company cars emitted over 2g/km more than new private cars (179g/km compared to 176.5g/km); but by 2005, this had reversed, with new company cars emitting some 5g/km less than private cars (167g/km compared to 172g/km).⁶⁹ Indeed, not only has progress of private car emissions been much slower, in 2004 average emissions from new private cars actually went *up* slightly. The SMMT firmly puts this difference down to the greater penetration of diesel vehicles in the company car market, something which has accelerated since the CCT reforms of 2002.⁷⁰ According to HM Revenue & Customs (HMRC), while there is a general market trend towards diesel cars, CCT reforms alone are responsible for a full third of the marked increase in new company cars that run on diesel since 2002. In addition, HMRC finds that CCT reforms have led to more people choosing smaller and lighter—hence more fuel efficient—company cars. Altogether, HMRC estimates that the net effects of CCT changes, taken on their own, are to have reduced average company car emissions by 15g/km from what they would otherwise have been, and to deliver total net savings of 0.35-0.65MtC by 2010.⁷¹

49. The picture is somewhat different, meanwhile, if we turn to Vehicle Excise Duty. The Government does not publish any disaggregated estimates of the carbon savings from the VA package which result specifically from its VED reforms. However, the fact that average emissions from company cars have reduced more rapidly than the average from all cars strongly suggests that VED reforms have been markedly less successful than CCT. Indeed, HMRC estimates that, since the CCT reforms were announced, some 400,000 company cars have been directly replaced by privately-bought vehicles (for which employees are sometimes receiving a cash bonus to assist with the purchase), and which on average emit 5g/km more

67 Q 110 [Mr Archer]

68 Cm 6764, p 66

69 Email from SMMT to Environmental Audit Committee staff, 3 July 2006

70 SMMT, UK New Car Registrations by CO2 Performance: Report on the 2005 market, p 13

71 HM Revenue & Customs (HMRC), *Report on the Evaluation of the Company Car Tax Reform: Stage 2*, March 2006, www.hmrc.gov.uk, p 4

than new company cars.⁷² The implication is clearly that VED on its own does not impose nearly as effective a financial incentive to opt for a lower carbon vehicle. This was certainly the view of the Low Carbon Vehicle Partnership: “The incentives in the company car sector are significantly larger than those that bear down on the private motorist and the outcomes are similarly more obvious.”⁷³ And indeed this is strongly backed up by DfT’s own research. A study it commissioned in 2004 found that: “Key players in the industry, as well as the car drivers themselves, feel that for these initiatives to be taken up they need to ‘hit people in the pocket’. The current VED scheme does not.”⁷⁴

50. Since that DfT research was carried out, the Government has made further reforms to VED. In Budget 2006 the Chancellor raised VED for higher emitting cars and reduced it for lower emitting cars. Notably, he introduced a new top band (Band G) for cars emitting over 225g/km, and reduced VED to zero for cars emitting under 100g/km (Band A). The Energy Saving Trust told us this was “a very important initial step”,⁷⁵ which might help to shift the middle of the market towards Band B (101-120g/km). However, EST thought it would be less likely to have an effect at the higher carbon end, and LowCVP thought that overall the differentials were still very small in comparison to CCT, and commensurately less effective: “If you ask private consumers they normally require about £1000 to £1700 incentive before they are willing to downsize their vehicle and select a smaller vehicle. [...] Vehicle Excise Duty gives you a range of between nought and about £220”.⁷⁶

51. The Government deserves praise for being the first in Europe to introduce vehicle taxes specifically based on CO2 emissions. In particular, its boldness in reforming Company Car Tax from 2002 has been rewarded by the visible progress made in that market.

52. Reforms to Vehicle Excise Duty, however, have been much less impressive, even allowing for the changes announced in Budget 2006. Tax differentials between higher and lower carbon cars must be made much wider if they are to drive market transformation. We note that in its submission to the Climate Change Programme Review, the Sustainable Development Commission stated it had “modelled the carbon savings that could be achieved through new VED rates. Our proposal is that [...] that there is a £300 gap between each band. So the top band of VED would rise dramatically to £1800/yr [...] and below this the bands would be at £1500, £1200, £900, £600, £300, and £0”.⁷⁷ The Department should publish its calculations of resulting carbon savings from adopting such £300 differentials between Bands.

53. In particular, the new Band G is ineffective—given that it is so wide and represents so little of the purchase price of the vehicles it covers—and needs to be substantially raised in

72 HMRC, Report on the Evaluation of the Company Car Tax Reform: Stage 2, p 23

73 Q 94 [Mr Smith]

74 DfT, Assessing the Impact of Graduated Vehicle Excise Duty: Qualitative Report, March 2004, www.dft.gov.uk, p 4

75 Q 135 [Mr Tarboton]

76 Q94 Mr Archer

77 Sustainable Development Commission, *Climate Change Programme Review: SDC Submission*, May 2005, www.sd-commission.org.uk, p 5

cost. As things stand (see Figure 6), the VED paid by the highest emitting 4x4s and luxury saloons in Band G represents a lower percentage of their sales price, and works out at half the cost per gramme CO₂ emitted, than lower emitting hatchbacks in Band C. To take an extreme example, the VED on a Bentley Arnage V8 (495 g/km) works out at 0.1% of the sales price, and £0.42 per g/km, where for a Smart forfour diesel (121 g/km) the figures are 0.9% and £0.89 respectively. If VED were designed effectively to weight purchases towards lower carbon cars, we might expect the charge per g/km to shift down markedly as it moves through the bands. This is clearly not the case – other than for the newly reformed Band B, which EST singled out for praise. (While it is obviously even more the case for the new Band A rates as well, sales within this band are currently extremely limited.)

Figure 6 Highest carbon cars are taxed disproportionately lightly

VED Bands (in g/km)	Model	Type of car	VED charge ¹	Sales price	CO ₂ emissions ² per km	VED charge as % sales price	VED charge per g/km	% new car sales by Band in 2005
G 225>	Bentley Arnage R 6.75 V8 auto	Petrol saloon	£210	£160,203	495g/km	0.1%	£0.42	23.8% ³
	Toyota Land Cruiser Amazon 4.7 32V V8 auto	Petrol 4x4	£210	£50,770	387 g/km	0.4%	£0.54	
	BMW 5 Series 540i 4.0 M Sport	Petrol saloon	£210	£40,045	264g/km	0.5%	£0.80	
	Ford Mondeo 3.0 Ghia X	Petrol saloon	£210	£22,245	247g/km	0.9%	£0.85	
F 186-224	Ford Mondeo 2.0 Ghia	Petrol saloon	£190	£18,495	187g/km	1%	£1.02	
E 166-185	Toyota RAV4 2.2 D-4D XT3	Diesel 4x4	£160	£20,290	173g/km	0.8%	£0.92	17.2%
D 151-165	BMW 3 Series 320d 2.0d	Diesel saloon	£135	£23,485	153g/km	0.6%	£0.88	24.9%
C 121-150	Ford Ka 1.3i Design ii	Petrol 3dr hatch	£100	£7,395	147g/km	1.4%	£0.68	30.8%
	Toyota Yaris 1.3 VVT-i T3 mmt ⁴	Petrol 5dr hatchback	£100	£11,290	136g/km	0.9%	£0.74	
	Smart forfour 1.5 CDI passion 95bhp ⁵	Diesel 5dr hatch	£110	£12,370	121g/km	0.9%	£0.89	

B 101-120	Ford Fiesta 1.6 TDCi Zetec Climate	Diesel 5dr hatch	£50	£12,295	116g/km	0.4%	£0.43	3.3%
	Toyota Prius 1.5 VVT-i T3 hybrid	Alternative 5dr hatch	£30	£17,790	104g/km	0.2%	£0.29	
A <100	'No Frills' G-Wiz (fully electric) ⁶	Alternative 3dr hatch	£0	£6,999	0g/km	0%	£0.00	0.0%

Sources: SMMT "New Car Registrations by CO2 performance – Report on the 2005 market"; http://www.newcarnet.co.uk/co2_car_emissions.html; <http://www.goinggreen.co.uk/index.html?PageID=NewGWiz>
Note: Models chosen at random to illustrate a typical range of outcomes across the VED bands.
¹Petrol rates are £10 higher than Alternative rates, and £10 cheaper than diesel rates, for all Bands B-G.
²By source (i.e., not taking into account the emissions from the refining or electricity generating process).
³Band G was created in Budget 2006, therefore 2005 sales figures for Band F also cover models now in Band G.
⁴Lowest-emitting Toyota Yaris is 119 g/km; ⁵lowest-emitting Smart forfour is 116g/km.
⁶This is currently the only Band A model currently registered for sale in the UK. According to the SMMT, 188 were sold in the first half of 2006.

54. Another feature which Figure 6 starkly illustrates is the almost total absence of available models in Band A. Indeed, **progress against the central target in the Powering Future Vehicles Strategy—that by 2012, 10% of all new cars would emit under 100g/km—has so far been microscopic.** Given that around 2.5 million new cars are sold each year in the UK, the Government's target would require sales of some quarter of a million low carbon cars in 2012. In 2004, the number of such sales reached a grand total of 481. In 2005, this figure declined to 467; and as of July 2006 there was only one such model available for sale at all, with sales for the first half of the year of 188.⁷⁸ Given that this model is a fully electric car, but that availability of recharging points is currently limited (Transport for London told us there were 12 in Greater London),⁷⁹ **in order to help increase sales of the lowest carbon cars, the Department should work with the Energy Saving Trust to ensure that its transport fuel infrastructure grants significantly increase the availability of fuelling stations and electrobays for electric cars, among other low carbon fuels.**

55. Some of the evidence we received⁸⁰ argued that one of the contributing factors to this slow progress was the Department's suspension and then closure last year of its TransportEnergy grant programmes—including the low carbon car grant scheme—as it awaited a decision from the European Commission on whether or not to give them approval under State Aid regulations. Earlier this year, the Commission approved the low carbon car programme, albeit with some conditions. In June, however, the Transport Minister, Dr Ladyman, announced that the Department would not be reintroducing these grants, as "state aid rules limit the level of grant available to 30 to 40 per cent of additional costs and it is clear that the level and number of grants available would not be sufficient to kick-start market transformation."⁸¹ Instead, the

78 Q 86 [Mr Archer]; email from SMMT to Environmental Audit Committee staff, 11 July 2006

79 Ev86

80 For example, Q 117 [Mr Kingston]

81 HC Deb, 7 June 2006, col 31WS

Department will be spending the funds on “a new communications campaign to promote consumer information on buying greener vehicles and on eco-safe driving”, among other green transport initiatives. In making this announcement, the Minister drew attention to research by the SMMT to the effect that, if every consumer chose the most carbon-efficient car in each segment of the market, there would be a reduction in average new car emissions of up to 30%. The implication was clear that, amongst its objectives, the Department’s new information strategy will highlight such lower emitting models to potential buyers.

56. The Department’s argument for scrapping its low carbon car grants is that these would only cover 30-40% of the additional purchase costs of such vehicles, and that this is not enough to achieve market transformation. This would seem to apply equally to the existing VED structure, and support the case for much higher differentials.

57. At the same time, we welcome the announcement that these grant monies will be reallocated to a new communications campaign to promote consumer information on the most carbon-efficient cars—especially since EST told us that a package of such measures was “certainly a lot more carbon effective than grant systems.”⁸² However, the Energy Saving Trust also told us that they had previously proposed setting up just such a package, but that DfT had turned them down. The result is that for 18 months there was neither the grants programme nor the communications campaign. This suggests a lack of focus and leadership from within the Department. In order to play a truly effective role in nurturing new technologies and achieving market transformation, it is essential that the Government is both clear in its own mind as to how to achieve its goals, and shows long term commitment to them.

58. The research by the SMMT which the Minister alluded to, that average new car emissions could *this year* be reduced from 169g/km to 118g/km, simply by all purchasers choosing the lowest emitting car in each class, only underlines the slowness of current progress, and the collective underperformance of the state and the market. The SMMT explained the shortfall in progress by arguing: “To some extent the technology is there, but there is a lack of propensity of the public towards buying it.”⁸³ One of the reasons which the SMMT, in turn, gave for this was the lack of variety of models at the lower end of the scale, in particular the technical difficulties in producing mass market family cars that emit under 100g/km. EST, meanwhile, contradicted this latter point, arguing that the ultra low carbon car demonstration project showed that it was possible to produce such vehicles; it was more a case of whether there was sufficient incentive for manufacturers to develop and market them.

59. This, it appears to us, is indeed the major issue with the Voluntary Agreement package: what exactly is in it for the car manufacturers and traders? Friends of the Earth (FoE) described to us research they had carried out which shows that car firms spend much more on advertising 4x4s and other high emitting cars than smaller, lower carbon cars. This is no surprise since such cars also tend to be more expensive to buy, hence creating the potential for higher profit margins. Accordingly, FoE called for “some mandatory agreements which will have some

82 Q 163 [Mr Tarboton]

83 Q 90 [Mr Barnes]

binding force on manufacturers [...] because the voluntary approach [...] has failed.”⁸⁴ EST, meanwhile, described to us how the simple economic motive for promoting high carbon cars extends also to showrooms: “The incentives in terms of commission for sales people tend to be higher and therefore no matter what you do in terms of fiscal measures or information you are still going to be fighting against an economic driver which just drives those sales to continue.”⁸⁵ EST, however, further gave us their proposal for how to address this:

Mr Tarboton: [...] What we see as necessary is something like a “feebate” system [in which taxes on high carbon cars would pay for incentives on low carbon cars] or a certificate trading system [in which manufacturers of high emitting fleets would have to buy permits from makers of low emitting fleets] which would allow profits to be made from low carbon vehicles, and if you can change the balance to create greater profits for the kind of B rated cars than profits in the F and G bands then I think you will get more advertising, more promotion, more aspirational elements being brought into those vehicles so that people start purchasing them.⁸⁶

We note also that the Low Carbon Vehicle Partnership supported the idea of a feebate scheme.⁸⁷

60. There is great scope for progress using currently available technology, simply by influencing consumers to choose the lowest emitting cars in each class. But in order for this to be realised, car manufacturers and traders need to be given a greater incentive to sell more lower carbon cars, and this means a much stronger regime of sticks and carrots. We welcome the hints made by the new Secretary of State that he would consider pressing for the successor to the current EU Voluntary Agreement to be made mandatory⁸⁸ – and we urge him to do so. In addition, and in advance of a new Europe-wide Agreement, the Government should implement a feebate or certificate trading scheme, in order to give the industry a genuine incentive to develop and promote more low carbon vehicles.

61. In the meantime, given the urgent need for a step change in the take up of low carbon emission vehicles we strongly recommend that the existing differentials in VED between different categories of cars are widened substantially. These changes could be introduced at once on a revenue neutral basis and would reward consumers for making greener choices as well as encouraging manufacturers to produce more greener cars. We also urge the Government to examine whether differential rates of VAT can be charged on new cars to benefit the lower emission models.

62. A final word of caution needs to be said about the basic policy underlying the Voluntary Agreement – of relying on the reduction in average emissions of new cars as the key means of reducing net carbon emissions from transport. Our concern here is that, even if the Voluntary Agreement very substantially increases the carbon-efficiency of car travel, it is less certain

84 Qq 582, 585

85 Q137 [Mr Tarboton]

86 Q137 [Mr Tarboton]

87 Q 117 [Mr Archer]

88 Q 680

when—or if—it will start reducing carbon emissions from road transport in absolute terms.

The VA approach depends on drivers frequently upgrading their cars by purchasing latest models; only in this way can the decreasing emissions of new cars rapidly and significantly affect the emissions of road transport as a whole. One issue with this is what happens to the cars that have been upgraded. The number of households with more than one car has risen from 23% in 1990 to 30% in 2003, overtaking the number with no cars at all in 2000.⁸⁹ Lord Clanmorris referred us to research to show that “although cars older than 15 years represent between 30% and 35% of the numbers they are responsible for between 60% and 70% of the pollution.”⁹⁰ While this was mainly in the context of air quality, it would seem reasonable to expect similar results in respect of CO₂.

63. If cars with inferior g/km are not scrapped but remain on the road, then the reduction in emissions of new cars will only have a limited effect; and will in addition be offset by the simple increase in car journeys resulting, all things being equal, from an increase in the number of cars owned. Equally, another aspect of this policy that needs to be taken into account are all the resources which go into making and selling each new car—as well as disposing of old ones. It is important that the sustainable production of new cars and disposal of old cars is central to whatever succeeds the current Voluntary Agreement. Finally, we are also concerned that technology is not moving fast enough—for example, Volkswagen told the EFRA Committee recently that the mass market hydrogen fuel cell car “has been a perpetual 10 or 20 years away for as long as I can remember”,⁹¹ and this was echoed to us by the SMMT.⁹² This might mean that, even with mandatory regulations and a stronger fiscal regime, for a considerable time there could be a floor for average emissions, below which it is very difficult to go. This might certainly be the case once dieselisation of the UK market reaches something like saturation point. All this strongly suggests that the VA approach is not enough; it must also be complemented by measures to curb the amount that people drive.

Renewable Transport Fuel Obligation

64. The first of the Department’s carbon reduction priorities is “to reduce how much fossil carbon there is in transport fuel”, an objective which is mainly being implemented through the Renewable Transport Fuel Obligation (RTFO).⁹³ The RTFO, announced by the Government in November 2005, will require transport fuel suppliers to ensure that a set percentage of their sales are from a renewable source (which in practice, at least for a mass market and in the foreseeable future, will mean biofuels—from crops such as oilseed rape, wheat, sugar cane and sugar beet—rather than renewably produced electricity or hydrogen). The RTFO will be introduced in 2008-09, with the obligation level set at 2.5% volume of fuel sold, rising to 3.75%

89 DfT, *Transport Trends: 2005 Edition*, p 14

90 Ev248

91 Uncorrected transcript of oral evidence taken before the Environment, Food and Rural Affairs Committee on 8 March 2006, HC (2005-06) 965-ii, Q 132

92 Qq125-6 [Mr Barnes]

93 In addition to the RTFO, the Government is supporting the growth of biofuels through measures such as a 20 pence per litre duty incentive (with a commitment to a three-year rolling guarantee for biofuels duty rates, offering extra certainty to support market take-up), an Enhanced Capital Allowance scheme for the cleanest biofuels production plant (still subject to State Aid approval), and a grant programme to support alternative refuelling infrastructure.

in 2009-10, and again to 5% in 2010-11. The Government estimates that the net effect of reaching this 5% level will be to reduce emissions by 1MtC per year or, as it says, “equivalent to taking one million cars off the road”.⁹⁴

65. Beyond this, the Government announced in the July 2006 Energy Review that it “now intends the level of the Obligation to rise above 5% after 2011/2011 provided three critical factors are met”: the development of robust carbon and sustainability standards, new fuel quality standards at EU level, and “costs to consumers being acceptable.” As it expands, “If these criteria are met, and for example we were able to raise the level of the obligation to 10% by 2015, we would save up to a further million tonnes of carbon a year, equivalent to removing yet another one million cars from our roads.”⁹⁵

66. This would certainly represent substantial progress. However, groups such as the Renewable Energy Association (REA) made the argument to us that this was still lacking in ambition, and that the Department should take bold measures to accelerate progress beyond 2010. Certainly, progress in the UK is lagging behind the “reference value” targets set by the 2003 EU Biofuels Directive,⁹⁶ which envisaged biofuels making up 2% of fuel sold in 2005, rising to 5.75% in 2010. Against this Directive, the UK Government set itself a target of only 0.3% sales in 2005; and in terms of what impact this is currently having, the DTI reported in February this year: “Sales of biofuels are currently too low to impact significantly on the carbon intensity of transport.”⁹⁷ Furthermore, the EU targets are expressed in terms of percentages of the *energy* content of fuel, rather than its physical volume—the latter being how the UK Government has chosen to frame its targets. As currently available biofuels contain less energy by volume than conventional fossil-fuel products, this means that the UK’s targets are further behind the European targets than they at first appear; the REA estimates that, translated into “by volume” terms, the European 2010 target stands at 8%, compared to the UK’s goal of 5%.

67. We have not examined biofuels policy in great detail in this inquiry—mindful of the concurrent study by the EFRA Committee—so it is difficult for us to assess in full either the net environmental benefits of biofuels or DfT’s performance in advancing the market for them. However, the evidence we received clearly identified a number of key issues which the Department will need to focus on, and which we may choose to monitor in future inquiries:

- **Progress beyond 5%:** One of the obstacles to increasing the level of the RTFO is current fuel standards and engine specifications, which are not guaranteed for petrol-ethanol or diesel-biodiesel blends containing over 5% biofuels. The REA’s submission suggested two complementary ways forward. One is for the Government to press strongly for an early reform to the relevant EU Fuel Quality Directive,⁹⁸ so as to allow blends of 10% biofuels or higher to be approved for sale. The other is for the Government to encourage more imaginative ways of meeting a higher obligation level —such as developing the market for

94 DfT, Annual Report 2006, p 268

95 Cm 6887, paras 6.11-12, p 127

96 Council Directive 2003/30/EC

97 DTI, UK Energy and CO2 Emissions Projections: Updated Projections to 2020, February 2006, para 33, p 26

98 Council Directive 2003/17/EC

specialist vehicles which are designed to run on 85% or 100% biofuels (for which the fuel quality concerns pertaining to conventional engines would not apply). Since the obligation does not specify that all fuel sold must contain a set percentage of biofuels, but rather refers to an aggregate percentage of a fuel supplier's entire sales, suppliers could still increase their output of biofuels above 5% even under current fuel quality standards, by selling high blend biofuels to a dedicated market. Swiftest progress might be made by beginning with "captive fleets" (eg, local bus fleets, municipal vehicles).

- **Long term and effective financial framework:** Submissions from organisations involved in the nascent UK biofuels industry (such as British Sugar) stressed the need for the Government to provide long term commitments to this policy in order to encourage investment.⁹⁹ In addition to this broader point, the REA underlined the importance of the level at which the Government sets the RTFO "buy out" price, in order to ensure that oil companies are incentivised to invest in biofuels.¹⁰⁰ Specifically relating to the fuel duty differential which biofuels enjoy, the Freight Transport Association cited the need to avoid a repeat of the Government's treatment of Liquid Petroleum Gas (LPG), which for environmental reasons was given a significant duty differential in the late 1990s, only for this differential to be narrowed from 2004 onwards following a reassessment of its environmental benefits – leaving "operators who invested in this technology high and dry".¹⁰¹
- **Ensuring biofuels come from sustainable sources:** Sustrans issued "some words of caution" by arguing that different biofuels sources have varying environmental impacts, and that: "Very few of these produce a net gain in carbon savings across the total system." The Environment Agency, while welcoming the use of biofuels, developed this point, recommending that the Government focus grants on options with the lowest environmental impact, and suggested that: "A labelling certification scheme would enable buyers at the point of sale confidently to choose biofuels with the lowest overall environmental impact across the whole-life cycle and allow the fuels with the best environmental performance to be treated differently, for example for tax purposes."¹⁰² In terms of which options to favour, the Sustainable Development Commission (SDC) strongly recommended the use of agricultural waste products (including crop and forest residues and animal wastes), as the main source for biofuels, as the best means of validating carbon savings and minimising the potential impacts on biodiversity and water tables, while having the additional benefit of productively managing a waste stream.¹⁰³ Currently, however, the technologies for converting waste to liquid biofuels (second generation biofuels) are not yet commercially available.

99 Ev242

100 As with the Renewables Obligation, which is already operating in the UK electricity sector, obligated parties will have the option of "buying out" of their obligation through the payment of a penalty charge.

101 Ev277

102 Ev269

103 Ev354

68. On the sustainability of biofuels, we have previously recommended that only biofuels which are from sustainable sources be rewarded with Renewables Obligation Certificates.¹⁰⁴ Accordingly, we welcome the announcement in CCP 2006 that “the Government is developing a robust carbon and sustainability assurance scheme as part of the Obligation. **Obligated companies will be required from day one to report on the level of carbon savings achieved and on the sustainability of their biofuel supplies.**”¹⁰⁵ However, it is unclear whether such a scheme will simply examine the specific sources of biofuels bought for distribution in the UK, or whether it will assess the sustainability of the entire biofuels output of producers which are supplying the UK among other countries. In other words, **it is not clear whether the proposed assurance scheme is intended, not just to assure the sustainability of biofuels imported into the UK, but to have an effect on global biofuels production. The Government should emulate the leadership it has shown on sustainable timber, and work to establish a rigorous international standard on sustainable biofuels production and procurement.**

Fuel duty escalator and national road pricing scheme

69. The fuel duty escalator was a Treasury commitment to automatically increasing fuel duty rates above inflation in each Budget. Introduced in 1993 at a rate of 3% above inflation, it was increased to 5% in 1995, and again to 6% in 1997, before being abolished in Pre-Budget 1999. CCP 2006 projects the combined effects of these duty increases, in terms of an ongoing reduction in demand for road fuel, as still delivering annual savings of 1.9MtC in 2010, making it transport’s second biggest contributor to the UK Climate Change Programme. Given the effectiveness of this policy, we are disappointed that since the escalator was abolished, the Chancellor has only raised fuel duty twice, in 2000 and 2003—and this was simply in line with inflation in both cases. In a recent debate, the Financial Secretary explained that this had had the effect of cutting fuel duty by 7 pence per litre in real terms since 1999.¹⁰⁶ Indeed, CCP 2006 projects that the ten years from 2000 will see lower real fuel prices than the previous decade, and that this on its own will raise emissions by over 1MtC by 2010.

70. When we pressed the Secretary of State on why the Government has abandoned such an effective policy, he suggested that it had been introduced, by the previous Government, as much simply to raise revenue as to achieve environmental ends.¹⁰⁷ If this was an attempt to suggest that the fuel duty escalator was never a truly effective environmental policy and that its abolition had not weakened the Climate Change Programme, then the Secretary of State is surely seeking to have his cake and eat it—considering that he is still counting its ongoing effects towards his argument that transport is responsible for a quarter of the Government’s carbon reductions.

71. The fuel duty escalator has played an important role in helping to reduce the increase in CO2 emissions from road transport. Given the transport sector continues to present

104 Environmental Audit Committee’s Fourth Report of Session 2005-06, *Pre-Budget 2005: Tax, economic analysis, and climate change*, HC 882, para 25

105 Cm 6764, p 65

106 HC Deb, 4 July 2006, col 763

107 Q 671

seemingly intractable problems of emissions growth, the Government should seriously reconsider the case for annual increases in fuel duty, with appropriate exemptions for lower carbon fuels, and accompanying investments in public transport to provide revenue neutrality. Given the huge sensitivities of this issue, particularly at a time of high oil prices, there can be few more urgent issues on which those who have argued for an all-party consensus on climate change policy should now focus their attention.

72. Another policy instrument which, though several years away from possible implementation, has received much recent attention is a potential national road charging scheme. As it is generally understood, this would utilise satellite technology to charge all road users for the specific journeys they made. It would thus be possible to vary charges, according to both type of vehicle and time and place of journey. The central issue with such a scheme is whether it would be aimed primarily at cutting congestion, or whether it would be equally or mainly targeted at reducing carbon emissions. The danger with the former is that by optimising road use it could actually increase the volume of traffic overall, and with it emissions of CO₂,¹⁰⁸ and these effects would be intensified if road charges were offset by reductions in fuel duty, as is sometimes mooted. In this context we were surprised and disappointed in the Transport Minister, Dr Ladyman, for his reported comments from a recent conference: “We have to keep focused on the main prize, congestion. It’s complex enough to design a system to deal with congestion without trying to tackle environment issues as well. That doesn’t mean that at some point in the future we won’t see how we can bring the two together.”¹⁰⁹

73. In terms of the evidence we received on this subject, it was notable that the Low Carbon Vehicle Partnership believed that failing to include an environmental objective in such a scheme would be a “missed opportunity”.¹¹⁰ Friends of the Earth pointed to research from the IPPR which showed “that a revenue-raising road pricing system could reduce carbon emissions from road transport by 8% whereas a revenue-neutral system [...] would increase emissions by 5%”.¹¹¹ The Social Market Foundation (SMF), meanwhile, argued that since the rise in road emissions since 1990 has come disproportionately from HGVs and vans, one of the main functions of a road charging scheme should be to differentiate between freight and private traffic—and between the least and most polluting lorries and vans. The SMF cited an example from Switzerland as demonstration of the potential of such a scheme:

[T]he Swiss LSVA lorry charge is based on distance, weight and emissions class. By explicitly incorporating emissions and weight classes into the charge, the Swiss scheme was able to optimise freight and fleet management; to encourage consolidation and cooperation within the industry; and to improve allocative efficiency and thus lowering the trend in mileage for HGVs. Annual increases of 7% in HGV mileage in the years before the charge were followed by a 4% drop in 2001, a further 3% decline in 2002 and

108 We should note, for instance, that DTI’s latest projections have revised down previous projections for emissions from road transport on the basis that increasing congestion is likely to impede the growth of traffic. DTI, *UK Energy and CO₂ Emissions Projections: Updated Projections to 2020*, February 2006, p 65

109 “Ladyman backs road pricing ‘radicals’”, *Transport Times*, 1 June 2006

110 Q121 [Mr Smith.]

111 Ev168

no change in 2003. Emissions of NO_x, CO₂ and PM₁₀ are predicted to drop 6-8% by 2007.¹¹²

74. Considering this latter point, it is particularly disappointing that the Lorry Road User Charge, which was scheduled to be introduced from 2007-08, was cancelled last year, to be incorporated into a future scheme (covering all road users) that is still some years away.¹¹³ Commenting on this earlier this year, the Transport Committee concluded:

Lorry Road User Charging was expected to contribute to the congestion, air quality and greenhouse gas targets. The Department is already struggling to achieve these two environmental targets, and the abandonment of this scheme may prevent them being met. Unfortunately the Department told us it had not attempted to quantify what reduction in pollution would result from a Lorry Road User Charging scheme with the capacity to differentiate charges according to emissions standards, the sort of scheme which Government was procuring. [...] This has been an embarrassing muddle which might have been avoided with appropriate foresight.¹¹⁴

Again, this is especially disappointing, considering there is no equivalent of the Voluntary Agreement package for vans and lorries, despite these having highest rising emissions.

75. **We strongly support the introduction of a national road user charging scheme as soon as technically possible—and would support the revival and early introduction of the formerly proposed Lorry Road User Charge. However, it is absolutely vital that such a scheme is designed to reduce carbon emissions, not just congestion.** We welcome the recognition in CCP 2006 that demand management on the road network can play a role in encouraging a move towards more environmentally friendly means of transport.¹¹⁵ We were also reassured by the Secretary of State in his evidence to us. When pressed by questions from the Chairman on road pricing and its potential use to tackle climate change as well as congestion, the Secretary of State made clear the high level of priority he will accord to climate change in his Department. However, the comments from the Transport Minister (as set out in para 72 above) are clearly at variance with this and raise questions as to where the Department's actual priorities lie.

76. Putting Dr Ladyman's comments to the Secretary of State, we asked Mr Alexander why the Department seemed to view reducing congestion rather than cutting carbon emissions as a higher priority in a future road pricing scheme. He responded that "I do not see the two areas of work as being exclusive", before stressing that a feature of the London Congestion Charge was its accompanying investment in public transport alternatives to the car, leading him to argue:

112 Ev349

113 HC Deb, 5 July 2005, cols 172-3

114 Transport Committee, Fourth Report of Session 2005-06, *Departmental Annual Report 2005*, HC 684, paras 18, 20

115 Cm 6764, p 69

Mr Alexander: [...] My strong sense is that congestion charging will have to come to be seen, if it is to become acceptable not just to the motoring public but to the general public, to be part of a wider package of measures so that you address issues of network management but at the same time you give people genuine choices. [...] If we are to secure a consensus on the issue of road pricing, an absolutely key element of that will be being able to strengthen public transport, which of course has environmental impacts, and so in that sense while it is important to recognise road pricing's potential contribution to the challenge of congestion, I do not see it as being inimical to the work that we are taking forward in terms of carbon emissions.¹¹⁶

We welcome his clarification that the government appreciates that road pricing can address both climate change and congestion.

77. The only explicit reference which the Secretary of State gave to using road pricing to reduce carbon emissions was the need to accompany such a scheme with improvements in public transport. He stated that this “of course has environmental impacts” – but this would only be true if public transport improvements resulted in fewer journeys by cars, in particular high carbon cars.¹¹⁷ (Moreover, this would have no effect on reducing emissions from road freight.) The Secretary of State has not yet said whether or not the road pricing mechanism *itself* would be designed to reduce carbon emissions, either through reducing the absolute volume of car and lorry journeys, or reducing the carbon intensity of these journeys, or both. In particular, he has not yet given his views on whether a national road pricing scheme should be revenue-neutral or revenue-raising,¹¹⁸ nor whether it should be designed to increase the costs of motoring relative to lower carbon modes, or more particularly whether it should penalise higher carbon cars and lorries relative to lower emitting vehicles. **The Secretary of State must clarify his position on this, and make an unequivocal commitment to using road charging markedly to reduce CO2 emissions. Failure to do so would undermine any claims DfT has to take climate change seriously.**

Achieving carbon reductions through “soft” measures

78. One of the key conclusions of the VIBAT study was that technology and associated fiscal measures to drive its take up would not be enough on their own to drive significant cuts in transport emissions in the short to medium term. Instead, programmes such as the Voluntary Agreement needed to be accompanied by a varied package of demand management measures. In 2004 DfT published a study entitled *Smarter Choices: Changing the way we travel* which identified a range of options for reducing car use; altogether, these were projected to reduce UK traffic levels by up to 11% by 2014. Among the options put forward were: schemes in which

116 Q 650 Mr Alexander

117 In 2003 the IPPR projected that a revenue-neutral road pricing scheme would lead of itself to some increased bus use, but to even more car journeys. A revenue-raising scheme would lead to additional bus use on top, but also to decreased car journeys. IPPR, *Putting the brakes on climate change*, October 2003, p 28

118 The Environment Agency's memo said on this: “We would be concerned if eventual schemes were revenue neutral and solely based on congestion, since this could theoretically lead to higher road transport emissions. A revenue raising scheme could cut emissions by 8 per cent in the year 2010. [...] We would be concerned if the introduction of a system of limited ‘hot-spot’ coverage for congestion charging was combined with a scaling back of fuel duty. This would be likely to increase driving and worsen fuel efficiency in uncongested areas.” Ev269

local authorities construct travel plans with schools and workplaces to help to rationalise commuting, and promote low carbon modes of transport while disincentivising car use; travel planning for individuals and families, to show how they could personally benefit from available walking, cycling, and public transport options; and car sharing schemes, whether formal car clubs that people can join, in order to drive a vehicle as and when they need without owning one, or measures to promote the sharing of car journeys such as high occupancy vehicle lanes. The academic team behind the *Smarter Choices* paper submitted a memo to us, recommending that the key measures in the shorter term included:

[C]hanges to the planning system to make workplace travel plans more rigorous and effective, fiscal changes to make travel planning more attractive to companies and an overhaul of Government policy on parking. For personalised travel planning, priority should be given to assisting local authorities in building internal capacity to deliver large-scale programmes.¹¹⁹

79. Given that the range of Smarter Choices measures do not require large material infrastructure projects, they can deliver significant carbon (and congestion) reductions rapidly and cost-effectively. We welcome the Department's announcement of forthcoming campaigns to promote eco-driving, its expansion of the Travelling to School Initiative, and its increase of funding of Cycling England.¹²⁰ But it must broaden and accelerate implementation of such measures, and set itself an ambitious target of CO2 savings to be achieved as a result. In conducting promotional campaigns, the Department should also learn from Transport for London's experience in using advertising to promote individual choice of low carbon modes of transport. Eco-driving should be incorporated into the driving test, and eco-driving simulators (such as used widely in the Netherlands) should be used in schools to ingrain such habits from an early age.

80. Several of the memos we received argued very strongly for a reduction of speed limits, given that fuel efficiency decreases markedly at higher speeds. Slower Speeds Initiative, for instance, argued that reducing the speed limit on motorways to 60mph, and properly enforcing it, would cut emissions from cars by 0.82 MtC a year, reducing their emissions overall by 18%; and that simply enforcing the existing 70mph limit would reduce CO2 emissions from cars on motorways by around 0.45MtC a year.¹²¹ SDC, meanwhile, reported that: "France enforced strict speed limits on main motorways in 2004 and succeeded in reducing carbon emissions by 19% and accidents by 30%."¹²²

81. We asked the Secretary of State why, if this were the case, the Department were not taking such action. We received the interesting information from one of his officials that a proposal to reduce to 60mph or rigorously enforce the existing motorway speed limit (quantified by Department officials in our evidence session as delivering annual savings of 0.8MtC or 0.56MtC respectively), had been discussed within Government for inclusion within CCP 2006—but had

119 Ev226

120 Cm 6887, para 6.30, p 130

121 Ev342

122 Ev354

been withdrawn following concerns as to the costs in manpower and finances of policing it.¹²³ We asked the Secretary of State whether this policy could not be delivered more cheaply by fixing speed cameras on motorway bridges. His reply suggested to us that, ultimately, the overriding reason why this policy was not included in CCP 2006 was a fear of popular antagonism.¹²⁴

82. We understand the Government’s reluctance to lower the motorway speed limit, or rigorously enforce the current 70mph limit, given the likely public controversy such a policy would provoke. However, compared to the potential danger which this could help to avert, proper enforcement of the legal speed limit would be a trivial incursion on personal liberty. The Government cannot forever duck the hard decisions in its duties to face up to “the greatest long-term challenge facing the human race”, in the words of the Prime Minister. In matters of such grave importance, the Government does a disservice to future generations by running scared of critical tabloid headlines. Beyond its direct impact, a new policy on speed limits would help to raise awareness of the reality of climate change, and of the need for everyone to take action on it. Finally, in considering a design for a national road charging scheme, the Government should choose one that could cost-effectively aid enforcement of the motorway speed limit.

Land use planning and road building

83. One of the most effective means the Government has of constraining emissions from road transport is to reduce reliance on car use through planning regulations which can shape the areas in which people live. Residential developments that are more densely populated, include a mix of local shops and public services, and feature good public transport links and favourable provision for walking and cycling, will necessarily give rise to fewer car journeys than their opposite. SDC told us that improvements in land use planning, to favour such good examples of development, could result in reductions in traffic of up to 2% even by 2010.¹²⁵ They warned us, however, that some developments in the housing growth areas (under the Government’s Sustainable Communities plan) exhibited a “failure to embed sustainable transport practices into the community, [such] as the provision of good bus services”.¹²⁶ The memo from Living Streets, meanwhile, expressed concern that the former ODPM, now Department for Communities and Local Government (DCLG), appeared to be backtracking from its previous position on the use of planning to minimise car usage.¹²⁷ The memo from the VIBAT authors developed this point, arguing that since changes in travel behaviour are often the result of wider policy changes— “e.g. land use planning, the centralisation of health facilities or “widened choice” in education”—it was vital for different agencies and strategies to work together to reduce the demand for car travel. They concluded, however, “There is little current evidence of this.”¹²⁸ **The Department for Transport and the Department for Communities**

123 Q 687 [Mr Webb]

124 Q 693

125 Ev 355

126 Ev 355

127 Ev301

128 Ev4

and Local Government must work more closely together to ensure that new developments, especially in the housing growth areas, are designed to minimise car use. Planning policy, in particular, should include specific measures for reducing road journeys.

84. Cycling in the UK is certainly on the increase: in London, trips by bike have increased by 50% in five years to 450,000 per day, while use of the National Cycle Network (covering 10,000 miles of urban and rural pathways) rose last year by 15% to 232 million journeys.¹²⁹ The Government has recently announced a doubling of Cycling England's budget to £30 million over the next three years,¹³⁰ which will assist this, for instance, by providing:

More money for the cycling Links to Schools project—which ties in schools to the wider 10,000 miles of the National Cycling Network reducing need for school children to cycle on busy roads. 70% of the links to schools built by the end of 2005 were off-road; Funding to support the new more rigorous cycling proficiency test fit for the 21st century not the 1970s. Potentially training a further 100,000 children to a new, tougher standard including on-road training.¹³¹

85. But this is still building from a very low base: Britain has one of the lowest rates of cycling in the EU, with only 2% of all journeys made by bike. The Netherlands comes first, with a rate of 27%. For this reason we studied Dutch cycling policy and planning in some detail. We were impressed with Houten, the new town we visited that was designed specifically to make cycling the primary mode of transport, but the extremely extensive top-down planning requirements involved do not necessarily make it an example that could—or perhaps even should—be copied widely in the UK. More widely and easily applicable was the general public policy commitment to cycling in Holland, as evidenced by the widespread provision of cycling lanes and new and secure bike parking facilities. Accordingly, **we warmly welcome the announcement of increased funding for Cycling England. But the Department should accelerate progress by implementing lessons from the Dutch commitment to continuous improvement of cycling infrastructure.**

86. A number of memos we received criticised the way in which, even though the Department has made many high profile statements acknowledging that more road capacity leads to more traffic and CO₂, and agreeing that “we cannot build our way out of congestion”,¹³² it is still committed to an ongoing series of major road building projects. The continued importance attached by the Government to road building is highlighted by the fact that the Prime Minister drew attention to the “Thirty five major road schemes [that] have been completed since 2001” as one of the Department's key successes in recent years, in the letter of appointment he sent to the new Secretary of State.¹³³

87. Several submissions criticised Government policy, not simply for being incoherent and leading to increased emissions, but for being governed by a guidance and appraisal regime

¹²⁹ “Revolution!”, *The Independent*, 7 June 2006

¹³⁰ Cm 6887, para 6.30, p 130

¹³¹ “£15m pedal power boost for greener, safer, healthier travel”, Department for Transport press release 061, 26 June 2006

¹³² Cm 6234, p 44

¹³³ “Letter from PM to Douglas Alexander”, 10 May 2006, www.pm.gov.uk

which was at best faulty and at worst biased. Salisbury Transport 2000, for instance, argued that a local road proposal had been approved on the basis that, while it *would* result in increased carbon emissions, these would only represent a fraction of national emissions, and therefore would not make a major contribution to national targets. As the submission argued, if all road projects were assessed individually in this way, then surely all would be approved on CO2 grounds—leading to a much larger aggregate impact. Sustrans, meanwhile, drew attention to reports that, of all bids for capital funding under the Regional Transport Strategies, 72% were on roads, while in fast-growing areas such as the South East and the East Midlands, the figure was 95%.¹³⁴

88. We were unimpressed by the Secretary of State’s defence of the Government’s record on road building. His first argument was that all of the Highway Agency’s road improvement projects this decade would only lead to an increase of 0.1MtC, a tenth of the net figure projected to be saved by the RTFO. His second was that, through the Regional Transport Strategy system, different regions had been given the freedom to decide most of their own infrastructure priorities, so that they could make bids for capital funding for public transport projects if they wanted to.

89. Following our session with the Secretary of State, we received supplementary evidence from the Department which set out in some detail the Department’s systems for estimating the carbon impacts of proposed new road projects, and for appraising such proposals overall.¹³⁵ However, we also received a copy of a report, prepared for Transport 2000 and other parties by consultants Steer Davies Gleave, which cast doubt on their accuracy and fitness for purpose. In view of this conflicting evidence, we recommend that the Department’s **estimates of CO2 emissions arising from road proposals should be subject to independent audit. Furthermore, given that, by its own admission, more road space leads to more traffic and emissions, the Department should deliberately apply more stringent criteria to appraisals of proposals for the construction of new roads relative to lower carbon alternatives, such as the combination of public transport improvements and demand management measures.**

90. **Allowing regions the freedom to nominate projects for funding seems mainly to have resulted in a very high proportion of bids for road projects, although there have also been some major public transport proposals such as the Manchester Metrolink extensions.** This is hardly surprising, considering the evidence we heard from Transport 2000:

Regions have been asked to give advice on the priorities within the regions and they had to give advice on the basis of which trunk road, local road or local public transport schemes were worth having and rail schemes were completely excluded on the grounds that the office of the rail regulator had to go through a detailed exercise to allocate precisely the different costs of the railway to each individual line and region before you could even think about doing that, which we thought was specious really. There are some good rail projects out there which could stand comparison with road.¹³⁶

134 Ev176

135 Ev217-220

136 Q 59 [Mr Joseph]

The Government should ensure that infrastructure proposals from both national agencies and local authorities are governed by a more integrated planning and appraisal process, and that rail proposals are assessed alongside competing road proposals. In putting forward and assessing the merits of different proposals, such a process should take into account the transport needs of each region as a whole, while assessing the combined national impact of such proposals on the UK's overall carbon reduction targets.

Buses, trains, and water freight

Increasing the number of bus passengers and low carbon buses

91. Because of the high volumes of passengers which they can carry, buses are much more carbon efficient than cars. **Buses can therefore make a significant contribution to carbon reductions, if they can attract passengers out of their cars**—“modal shift” as it is known in the jargon. **But CCP 2006 makes no mention of seeking to achieve modal shift from cars to buses.** The danger with this is that to achieve substantial modal shift it may not be enough simply to improve bus services in their own right; it may also be necessary to implement measures—the London Congestion Charge being an example—which discriminate in favour of buses relative to cars. **The Department should explicitly adopt modal shift from cars to buses as an environmental objective, and set itself a target of emissions savings to be gained as a result.**

92. The Government's failure to explicitly endorse modal shift as a policy would not matter so much if bus services were performing well in their own right. But—with London as the major exception—this is not the case. In December 2005 the National Audit Office and the Audit Commission issued a joint report, which found that although bus use in London had risen by over 30% since 2000, it had fallen in every other region of the country (although some individual authorities had had success in raising passenger numbers, such as Brighton, York, and Cambridge).¹³⁷ Following up this report, the Public Accounts Committee (PAC) concluded that achieving the factors responsible for a successful bus service was “more complex outside London, where bus services are largely provided commercially and are unregulated”.¹³⁸ While Transport for London is free to specify the routes to be served and the types of vehicles to run on them, to subsidise routes that would not otherwise be commercially attractive to private bus operators, and to ensure that bus and light rail operators run complementary rather than competitive services, local transport authorities outside London have much less freedom.¹³⁹

137 National Audit Office and Audit Commission, *Delivery Chain Analysis for Bus Services in England*, HC (2005-06) 677, December 2005

138 Public Accounts Committee, Forty-third Report of Report of 2005-06, *Delivery Chain Analysis for Bus Services in England*, HC 851, para 2

139 For example, Dr Roger Sexton of Nottingham Trent University told us: “in regulated continental Europe, if a tram route is built, parallel bus routes are reduced or withdrawn. In deregulated Britain that does not usually happen. Just visit the Hillsborough area of Sheffield to see how daft things can become.” Ev340

93. The Department sought to address this problem in 2000, when it enabled local transport authorities to gain a greater degree of control over local services by entering Quality Partnerships with bus operators, and in limited circumstances to achieve London-like powers by entering into a Quality Contract. However, the legal requirements to be met before a local transport authority could issue a Quality Contract were set so high that none was issued. The Department sought to lessen the obstacles to arranging Quality Contracts somewhat in its 2004 White Paper. However, this has not been a success: to date, not a single local transport authority has established a Quality Contract. The Transport Committee recently reported that:

The Secretary of State has now acknowledged that the bus Quality Contract scheme has failed. It must be discontinued. We recommend that the Department grants the additional powers to local authorities to enable them to have more effective control over local public transport, and buses in particular.¹⁴⁰

94. Given that the Climate Change Programme 2006 contains a mere 79 words on the role which buses can play in reducing carbon emissions, we are somewhat surprised that 31 of these words are devoted to the Department's policy on Quality Contracts. Such prominence would naturally lead the reader to think that these were a very major contribution to DfT's climate change policy. But **not only has there never been a single Quality Contract established, the previous Secretary of State seemed to admit it was a failed policy. Something much more effective in enabling authorities throughout England to apply the kind of powers currently enjoyed only by Transport for London should be introduced as an urgent priority. The current deregulated system has been heavily criticised by both the Transport Committee and the Public Accounts Committee, in terms of leading to administrative muddle and poor value for money, a lack of local control and accountability, and an undermining of buses as providing a public service. The fact that the arrangements outside London are also undermining climate change policy should be the final straw for the deregulated system in its current form.**

95. In this context we were extremely heartened to follow the recent comments of the Transport Minister, Gillian Merron MP, before the Transport Committee:

Gillian Merron: [...] Over the coming months I would like to assure the Committee that we intend to take a long, hard look at the issues so that we can come to a decision about what needs to be done to reverse that trend [of declining bus use outside London]. No decisions have yet been made and it would be premature to do so without the evidence. [...] First of all, we are gathering evidence. [...] In parallel, we have also asked our officials to carry out more analysis of the legislative, funding and practical issues and, as I said, Chairman, we intend in the autumn to take decisions about the future of buses. This will allow us [...] time, if we decide it is necessary, to introduce legislation next year.¹⁴¹

We warmly welcome the recent statement by Ms Merron to the Transport Committee, as to the Department's examination both of the evidence behind the differing success of different bus services, and of the legislative and funding options which could be employed in shaping

¹⁴⁰ Transport Committee, *Departmental Annual Report 2005*, para 37

¹⁴¹ Uncorrected transcript of oral evidence taken before the Transport Committee on 28 June 2006, HC (2005-06) 1317-ii Q427

the future of bus policy. This hopefully indicates a very positive move on the part of DfT, and we look forward to developments under the leadership of the new Secretary of State.

96. After modal shift, the other aspect of climate change policy which relates to buses is that of reducing the average emissions of buses themselves. As part of the 2002 Powering Future Vehicles Strategy, the Department set a target of seeing 600 low carbon buses entering service each year by 2012. Much as with the target for low carbon cars, progress has so far been very slow: according to the Energy Saving Trust, only 23 were sold in 2005.¹⁴² Even London, by far the best performing transport authority in terms of bus services, is only trialling three hydrogen fuel cell buses (as part of a major European pilot)¹⁴³ and six diesel-electric hybrids. This contrasts with New York City, for instance, which will shortly be running 800 hybrid buses,¹⁴⁴ and Stockholm, which will shortly have almost 400 bioethanol buses.¹⁴⁵

97. In its memo, the Energy Saving Trust essentially attributed this slow progress to three things: (i) the higher capital cost of low carbon buses (especially hydrogen fuel cell buses); (ii) the Bus Service Operators Grant (BSOG), which by subsidising fuel costs effectively works to offset the advantage in running costs that low carbon buses would otherwise enjoy; and (iii) the closure of DfT's Low Carbon Bus Grant programme, pending State Aid approval. Since then the Transport Minister announced that the Low Carbon Bus Grant would not be reinstated.

98. We are surprised that the Department does not intend to reinstate the Low Carbon Bus Grant programme. While in the case of the low carbon car grants there may have been genuine grounds for concern that these would merely go to people who were likely to buy such vehicles anyway, the same cannot surely be said for buses. Firstly, buyers of low carbon cars enjoy other financial incentives, such as reduced fuel costs: this does not apply in the same way to bus operators, because their fuel costs are already heavily subsidised. Secondly, potential buyers of low carbon cars are likely to be motivated by the desire to make a high profile "ethical purchase", and may be prepared to pay a certain premium as a result: this is less likely to apply to bus operators, since these are private companies and must justify business decisions to their shareholders. **We are left asking: just how is the Department going to incentivise bus operators to introduce low carbon vehicles on a large scale? This must be explicitly addressed as part of the review of the Powering Future Vehicles Strategy.**

99. One aspect of low carbon bus policy the Department might prioritise is the introduction of high blend biofuels and biogas buses. We were very impressed on our visit to Sweden with the significant progress made by local and regional transport authorities, such as in Stockholm and Malmo, in converting their bus fleets from conventional diesel. These bus fleets lend themselves to conversion to new fuels, in advance of the general motoring market, both in that they are operated by a single authority (having the control to systematically convert their fleets, and the resources to fund the installation of new refuelling stations) and because they travel in circuits around a single area (meaning they only need a small number of refuelling stations to serve

142 Ev60

143 The EU CUTE (Clean Urban Transport in Europe) project. The Government has provided over £450,000 for the trial in London. See Cm 6887, para 6.20, pp 128-9

144 Ev86

145 Email from British Embassy, Stockholm, to Environmental Audit Committee staff, 4 July 2006

them all). This in turn means that progress can be made more swiftly than among private motorists or long distance hauliers, where growth in the take up of new fuels could be delayed pending the building of an extensive national or international refuelling infrastructure. A further advantage from these Swedish examples, from an energy security perspective, is that they are aiming to be as self-sufficient in the production of bus fleet fuel as possible. While Sweden enjoys a particular advantage in this respect due to its forestry resources, the Swedish bus manufacturers, Scania, discussed the significant potential for fuelling buses from biobutanol produced from a plant the size of that being built in Norfolk by British Sugar, while in Malmo we were told of the potential for large cities to become self-sufficient in biogas buses. **The example of Sweden’s local bus fleets demonstrates the progress that can be made today in using sustainably produced biofuels to meet a significant element of society’s transport needs. By acting early, Sweden appears also to be handing its bus manufacturing industry a potential competitive advantage. The Department must accelerate progress in the use of biofuels and biogas buses in England, beginning by identifying and tackling the current barriers to take up.**

The railways: high speed rail, local services, and low carbon power

100. The Director General of the Railway Forum told us that: “The railways have come through quite a dramatic period [...] where the issues, of course, of performance, industry structure and safety have loomed very large indeed, and to be quite honest sustainable development issues have not received the priority which I think many of us would like to have seen.” However, he believed that “the industry is significantly more stable than it was a few years ago and the sustainable development debate and activity is now beginning to emerge”.¹⁴⁶ Indeed, in 2004 rail journeys exceeded one billion for the first time since the pre-Beeching era, reliability is now accepted as having returned to levels preceding the Hatfield crash of 2000, and in March this year DfT announced that it was working on a major strategy that will “set out the future shape of rail for the longer term—over the next 20 to 30 years”.¹⁴⁷ **With a new sense of stability, and with the Department’s announcement of work on a long term strategy, the time is right for the rail industry to incorporate climate change policy into its major priorities. In particular, the advantages of rail over road and air travel in terms of carbon emissions must be fully taken into account in, and add weight towards, any consideration of investment to expand capacity the network. This must apply equally to consideration of whether to cut or retain existing local services.**

101. We heard that capacity is, indeed, the main issue. Rail travel is very popular: since 1996-97, rail passenger kilometres have grown by 30%, and rail freight is up by 36%.¹⁴⁸ Demand for rail freight, in particular, outstrips the capacity of the network to supply it.¹⁴⁹ Furthermore, as the Railway Forum told us: “The network is tiny in relation to roads and it is a very simple

146 Q 278 [Mr Lyons]

147 DfT, Speech to the National Rail Conference 2006, 15 March 2006, www.dft.gov.uk

148 Cm 6887, para 6.26, p 130

149 Q 310

calculation that every one per cent shift from road equals a ten per cent increase in demand on the railway network.”¹⁵⁰ This speaks of the need for major projects to expand the network.

102. The Eddington Review was tasked with considering the economic case for high speed rail, among other issues, but we would argue that the *environmental* case is two-fold. Firstly, new high speed links between London and Scotland would free up capacity on existing lines, and help to increase modal shift from road to rail. Secondly, high speed rail would itself increase modal shift from air to rail: the experience of other such services, such as the Eurostar between London and Paris/Brussels, the Paris-Lyon TGV, or the Paris-Brussels Thalys, shows that high speed rail wins market share from short-haul air services. According to the Commission for Integrated Transport: “Domestic aircraft have emissions of 200-300 gCO₂/passenger km compared to around 40gCO₂/passenger km for high-speed rail.” Moreover: “The CO₂ emissions from aircraft landing and take-off are the same irrespective of journey distance and this increases the emissions per passenger km for shorter aircraft trips, i.e. from London to Leeds and Manchester.”¹⁵¹ Sustrans expressed some scepticism towards these figures, and cautioned that high speed rail was likely to consume much more power and hence be less carbon efficient than conventional rail. The Secretary of State went some way to acknowledging that this was a concern: “One of the features that one needs to be aware of is that these high speed trains, if they travel at the kinds of speeds that are often discussed, use a lot of energy.”¹⁵² In the light of these discussions, **we would support proposals for the construction of new high speed rail links, both for the role they would play in directly achieving modal shift from air to rail, and for leading to a freeing up of capacity on the existing network. At the same time, it is important that in taking forward any proposals for new high speed services, the Department looks to choose a design which is as energy efficient as possible.**

103. High speed links are not the only form in which rail can play a major role in achieving reduced emissions through modal shift. In many ways, indeed, it is local services which do most to meet the need for journeys which would otherwise be made by car. As the TUC’s memo stated:

Rail links can help to discourage medium distance car journeys thereby reducing harmful emissions. The presence of a dedicated rail service encourages business to invest in the local economy in a way, which is not the case if a town is served only by buses. Such investment can help to create employment opportunities, retail outlets and other leisure facilities thereby encouraging social development and economic regeneration. The creation of a vibrant local economy encourages people to work and shop locally thereby reducing the need to commute to work or travel to shops and other leisure facilities outside of the local area.¹⁵³

The TUC warned that unless capacity was expanded, “the likelihood remains that the private train operators will resort to pricing passengers off the network thorough [sic] increased fares.

150 Q 280 [Mr Lyons]

151 Commission for Integrated Transport, A comparative study of the environmental effects of rail and short-haul air travel, September 2001, www.cfit.gov.uk

152 Q 700

153 Ev371

This will inevitably lead to an increased use of the private car [... and] to a further increase in the emission of harmful greenhouse gases.” The TUC further argued that provisions in the Railways Act 2005 had made it easier to close railway lines, and cautioned: “A cuts agenda on rail will be extremely detrimental to the Government securing and delivering their environmental objectives.”¹⁵⁴ Transport 2000 also touched on this point in discussing the Department’s recent

draft guidance on the consideration of rail closures. You might think that the idea of having a railway line is so that if oil prices suddenly doubled or doubled over a period of five to ten years the case for having a railway line might be rather stronger than it is at the moment. That is nowhere in that draft guidance and it is an example of what I would describe as the Department for Transport being environment blind, or at least blind to these kinds of issues.¹⁵⁵

104. Local rail services are vital for creating sustainable communities. They help to boost long term economic prosperity while managing demand for car journeys, and hence carbon emissions. While we have not examined in detail the Department’s legislation or consultations on possible line closures (or any train operating companies’ proposals for service reductions), **we cannot see the logic, at a time when we need to be accelerating the UK’s carbon reduction efforts, in proposals to reduce local train services. All decisions on the future of individual local services must be subject to thorough and transparent assessment, which views them extremely negatively if they are estimated to lead to an individual rise in carbon emissions.**

105. Another way in which modal shift from air to rail can be assisted is by ensuring the fare structure and booking process is as simple and transparent when buying a train ticket as when buying an air ticket. As things stand this is far from the case. The Transport Committee recently heavily criticised current practice within the rail industry:

The current system has had more than a decade to prove its worth, but in terms of value for money and user-friendliness it has proven to be an abject failure. Fares structures are chaotic and pricing absurd because they are determined by commercial considerations rather than considerations for the public good and the value for money of passengers and tax payers. This is not acceptable, and the current system is not fit for purpose.¹⁵⁶

We also received evidence on the difficulties of booking through-tickets to Continental destinations, compared to the ease with which flights can be booked to the same cities.

^{106.} The Association of Train Operating Companies (ATOC) defended the industry by telling us: “I could go to the GNER website this afternoon and book you a fare between London and Edinburgh for £25 return by doing the same as going onto the British Airways website and booking in advance.”¹⁵⁷ However, when we asked the House of Commons Library to research

¹⁵⁴ Ev371

¹⁵⁵ Q 54 [Mr Joseph]

¹⁵⁶ Transport Committee, Sixth Report of 2005-06, *How fair are the fares? Train fares and ticketing*, HC 700, para 148.

¹⁵⁷ Q 308 [Mrs Shaw]

comparative rail and air fares, they told us: “There is very little that we can meaningfully conclude about the actual cost of air v rail even on specific routes. The large number of different [train] fares, availability of tickets, alternative routes, various ticket limitations, discounts, special offers and the large number of operators means that any comparison that is made—say the cost of travelling from London to Edinburgh – has extremely limited applicability”.¹⁵⁸

107. We second the Transport Committee’s conclusion that the current ticketing structure of train operating companies is “not fit for purpose”. In order to assist modal shift, the Department should take responsibility for ensuring rail fares and booking are simplified and made more transparent, and should also encourage the creation of user-friendly means of booking rail tickets to European destinations.

108. On the issue of reducing carbon emissions from trains themselves, it is clear that there is a keen debate within the industry as to the best way to move beyond the remaining fleet of diesel trains, centring around whether to complete the electrification of the network or to introduce diesel-electric hybrids, with a view towards developing hydrogen fuel cell engines. We have not looked at the merits of these different arguments. However, we would make the following points. We were told that a large part of the cost of electrifying lines was the need to contribute to upgrading of the National Grid, since trains—especially newer, heavier trains, with power-hungry features such as air conditioning—consume significant amounts of power. At the same time we heard that contractual arrangements prevent train operating companies from being able to specify that their electricity comes from renewable sources. **Given that the railways are such important customers of power companies, the industry could make a significant contribution to expanding renewable energy generation in the UK. The Department should act to enable it to do so. At the same time,** the current network could become more energy efficient. There are a number of trains fitted with regenerative braking, enabling them to generate some of their own power, but which are not currently using it; while a number of diesel trains continue to run beneath electrified wires. **Now that service levels of the network have regained stability, the Department should look to addressing barriers to improved energy efficiency.**

Water freight: missing the boat

109. More than 95% of freight by volume (around 75% by value) is moved into and out of Great Britain by shipping, while within the UK a quarter of all freight by volume is moved by water.¹⁵⁹ The industry group Sea and Water told us of the significant environmental benefits to be gained by increasing this proportion at the expense of road freight: according to their estimates, water transport emits up to 80% less carbon and 35% less nitrogen oxides (NOx) than road freight. In addition, while UK roads account for around 90 million tonnes of aggregates each year, the water “network” is naturally occurring.

¹⁵⁸ *Air fares and carbon emissions*, Research note 2006/5/17&555G, House of Commons Library, May 2006

¹⁵⁹ Ev113

110. Despite this, CCP 2006 did not make any mention of the potential contribution of modal shift from road to water. Sea and Water argued that the benefits and needs of water freight were often overlooked, and drew attention to what already appeared to be the lost opportunity of using waterways to carry waste from and deliver supplies to sites for the 2012 London Olympics.¹⁶⁰ Aside from arguing for extra financial support for water freight, and a road pricing system to ensure that road hauliers pay more of their external costs, Sea and Water called for simplified planning processes for the development of UK ports, and an identification of sites for interchanges between road, rail and water. We agree with Sea and Water that **there are clear advantages in terms of carbon emissions of shifting freight from road to water, and the Department for Transport needs to do more to actively encourage this shift.**

111. The remaining water transport issue we looked at was emissions from international shipping. There is no international agreement on how these emissions should be allocated to individual states. Thus they do not form part of any country's national inventories of emissions, and no Kyoto targets exist for them. This means that sometimes very significant sources of carbon emissions are being effectively ignored; to take an extreme example (by virtue of the fact that Rotterdam is the biggest port in Europe), when we visited the Netherlands we learned that emissions from ships leaving Dutch ports (in 2003) stood at 43MtC, 6MtC more than the entirety of emissions from land-based transport, and yet not subject to its national targets. Indeed, this issue received very little coverage across the 70 memos we received, and our impression is that there may be insufficient attention, from both governments and NGOs, on this issue to generate the kind of pressure on the negotiating process overseen by the International Maritime Organization required to generate a timely solution. The Tyndall Centre for Climate Change Research, for instance, wrote to us: "This, almost wholly, neglected sector is growing rapidly yet remains essentially outside the DfT's emissions brief".¹⁶¹ While the Secretary of State told us of the efforts of the Government within this process,¹⁶² **we urge the Government to lead the international community in drawing attention to carbon emissions from international shipping, and to make sure they are brought under an effective reduction regime in the post-Kyoto phase.** Given that a significant proportion of the international shipping which visits UK ports will refuel at other ports within Europe, **the Government should work to achieve earlier progress by pressing for an effective EU strategy on reducing emissions from shipping at European ports, and for bilateral agreements on taxation of shipping fuel with other Member States. As a first step, the Government should press the European Commission to give greater prominence to publishing annual figures on emissions from international shipping, both aggregated for the EU as a whole and by individual countries.**

160 Q 366

161 Ev374

162 Q 719

Aviation

112. Between July 2003 and September 2004, our predecessor Committee produced no fewer than four very critical reports on the Government's aviation policy. Among the key criticisms made by the Committee were that:

DfT's plan for a large expansion of aviation was incompatible with the Government's very demanding target for 60% carbon reductions by 2050—especially when taking into account the wider global warming contribution of aviation (previously accepted by the Treasury as equivalent to 2.5 times the weight in emissions simply of CO₂);

the 2003 *Future of Aviation* White Paper was based on a “predict and provide” model, of a kind seen not to work in the case of roads; and

the Department had significantly overstated the environmental benefits to the UK that would accrue from airport expansion (for instance, by including the benefits to foreign tourists).

In the last of these reports on aviation, the Committee left the matter thus:

The growth of aviation remains of immense concern to us in terms of the enormous local environmental quality of life and landscape impacts, the huge forecast increase in carbon emissions, and the need to develop more sustainable lifestyles. There remain fundamental and apparently irreconcilable differences between the DfT and ourselves, and we fully expect to return to these issues on future occasions.¹⁶³

113. In framing the terms of reference for this inquiry we announced that, because the Committee had explored aviation in some detail in the last Parliament, this inquiry would focus mainly on the other forms of transport (road, rail, and the maritime sector). However, we made it clear that “the Committee is also interested in assessing what has changed with regard to aviation emissions since the last EAC inquiry into that subject.”¹⁶⁴ Having received written evidence on aviation from, among other bodies, the Tyndall Centre, Aviation Environment Federation (AEF), British Airports Authority (BAA), and Manchester Airports Group (MAG), we decided to take oral evidence from BAA and MAG, along with British Airways (BA) and Easyjet, as well as devoting some time to this issue with Friends of the Earth and, finally, the Secretary of State. Our conclusion is that, **sadly, little has changed for the better since EAC's last report on aviation. Progress on introducing financial mechanisms to reduce the growth in emissions from flying is slow, and both the Government and the industry are as intransigent as ever. We urge the Department to widen the terms of its current progress review of the 2003 Future of Aviation White Paper into a fundamental rethink of its airport expansion policy.**

114. **The Government is right when it acknowledges that flying is a big contributor of carbon emissions and therefore to climate change, in addition to its negative contribution**

¹⁶³ Environmental Audit Committee, *Aviation: Sustainability and the Government's second response*, para 6

¹⁶⁴ “Reducing Carbon Emissions from Transport”, Environmental Audit Committee press release, 19 January 2006

to air quality and noise pollution.¹⁶⁵ But what this means is that while the aviation industry can be allowed to thrive and even to grow, this can only take place within strict limits. We note the proposal of the Aviation Environment Federation, that demand for flights be managed to ensure that emissions from UK aviation remain constant in absolute terms, by limiting growth in passenger numbers to no more than the rate at which the industry improves its fuel (hence carbon) efficiency, currently some 1-2% a year. Aside from simply ensuring that aviation emissions remained manageable within a declining carbon budget, this would naturally provide the most effective incentive to the industry to make fuel efficiency innovations, since this would be the only way in which it was allowed to grow. While we have not examined the practicality of designing a mechanism (such as through a rise in Air Passenger Duty) to manage demand to such a specific rate of growth, and while we have some doubts as to whether the industry's claimed fuel efficiency rates will apply to the overall average of all planes in service, **we would support such a proposal if it could be guaranteed to prevent an absolute rise in emissions. The Department should implement demand management measures straightaway; but to develop its use of such policies, it should commission and publish research on demand management policies which would generate predictable levels of passenger numbers and emissions outcomes.**

Growth in aviation within a declining carbon budget

115. The Tyndall Centre referred us to research it published in February 2006,¹⁶⁶ giving the most authoritative demonstration yet of how the Government's airport expansion policy is on a collision course with its Climate Change Programme. Based on a recommendation from the Royal Commission on Environmental Pollution, the Government has set a target for total UK CO₂ emissions to stand at around 65MtC by 2050, a reduction of 60% from 1990 levels. Even taking DfT's own "best case" projections for carbon emissions from UK aviation in 2050¹⁶⁷—some 15.7MtC, a projection even lower than the "central case" about which our predecessor Committee was sceptical¹⁶⁸—this means that by mid-century aviation will be taking up some 24% of the economy's entire capacity to emit carbon. And this is without even applying an "uplift factor" to quantify, in Millions of tonnes Carbon equivalent (MtCe), the extra radiative forcing of emissions released at altitude.

116. Under DfT's "best case" projections, then, aviation will grow from around 5% of the UK's carbon emissions today to 24% in 2050 (in neither case counting radiative forcing, which would increase these proportions). In other words, **even under the Government's own and most optimistic projections, every other sector of the economy would have to cut its share of UK emissions, while that of aviation would be assisted to almost quintuple.**¹⁶⁹ Given that these

165 Cm 6764, p 70

166 A. Bows, K. Anderson, and P. Upham, "Contraction and Convergence: UK Carbon Emissions and the Implications for UK Air Traffic", Tyndall Centre for Climate Change, February 2006 www.tyndall.ac.uk

167 DfT, *Aviation and Global Warming*, January 2004, www.dft.gov.uk, para 3.57. The Department in this context defines "UK aviation" as encompassing both domestic and international departures.

168 Environmental Audit Committee, *Pre-Budget Report 2003: Aviation Follow-up*, para 42

169 For reference, if aviation emissions in absolute terms were kept at their current levels through to 2050, then aviation's share of the UK carbon budget would still rise, given the cuts made by all other sectors. To put it another way, if aviation does not join in the carbon reduction process, it will still force all other sectors to make steeper cuts, even if its emissions do not grow at all in absolute terms. Given the projected improvements to fuel efficiency which the industry forecasts,

are both “best case” figures and do not take into account radiative forcing, this is likely to be a very substantial understatement of the actual figure to which the Government’s current expansion policies are leading. Power companies, manufacturers, retailers, households, motorists and hauliers are already going to have to make significant efforts to decarbonise their lives and livelihoods. If the Government continues in its policy of allowing just this one industry to grow, it will either cause severe pain to all other sectors or provoke so much opposition as to fatally undermine its 2050 target. If their joint PSA target is to mean anything, the Department for Transport must work with the Department for Environment, Food and Rural Affairs to construct a new approach to aviation which constrains its future growth.

117. In one of our sessions, we referred to findings from a previous Tyndall Centre report,¹⁷⁰ which on the basis of its own projections for aviation growth, and applying an uplift factor of 2.7, argued that, unless constrained by Government action, aviation would take up over 100% of the UK’s carbon budget in 2050. Joe Irvin, BAA’s Director of Public Affairs, responded:

Mr Irvin: Not to be taken by surprise, I have a copy of the report of the Tyndall Centre so obviously I am aware of it. It would be alarming if all of it were true. Obviously, a lot of interesting work has gone into it, but it depends on the assumptions that you make. It makes some very contentious assumptions, rather like *The Da Vinci Code*.

Emily Thornberry: Do you say it is the same as *The Da Vinci Code*? Can we quote you on that?

Mr Irvin: No, but, in the same way, if one makes certain assumptions one can perhaps go in the wrong direction. [...] ¹⁷¹

He then criticised it, on the basis that its forecasts for passenger growth were higher than the Government’s, that there were issues with the way in which it applied uplift factors to account for radiative forcing, and that a reference to runway capacity was substantially inaccurate. While we would take issue with much of what he said, we might here simply observe that none of his criticisms applies to our arguments from the 2006 Tyndall Centre report above.

Aviation and the EU ETS

118. The Government’s preferred policy on dealing with emissions from aviation is to include it within “a well-designed emissions trading regime, because it allows a specific emissions limit to be set and achieves that limit in the most cost effective way.”¹⁷² In practice this means including flights to destinations within the UK and throughout Europe within the EU Emissions Trading

fixing emissions at their current levels would still allow for a substantial increase in passenger numbers. This questions still further the need for an aggressive airport expansion plan. It also suggests that there is actually significant room for both an expansion of aviation and an enforcement of some level of *absolute reductions* in aviation emissions at some point by 2050.

170 A. Bows, P. Upham, K. Anderson, “Growth Scenarios for EU and UK Aviation: contradictions with climate policy”, Report by Tyndall Centre for Climate Change (North) for Friends of the Earth, April 2005, www.foe.co.uk

171 Qq 566 -7

172 Cm 6764, p 71

Scheme (ETS), with departures to long haul destinations being left for the foreseeable future, pending ongoing discussions within the International Civil Aviation Organization (ICAO).¹⁷³

119. Under the ETS, overall limits on CO₂ emissions are set by National Allocation Plans. High-emitting companies are compelled to participate, and allocated a certain number of allowances, each representing a tonne of CO₂; they can either buy permits to allow them to emit in excess of their initial allocation, or sell allowances if they have reduced their emissions. Phase I of the ETS will run to 2008, with Phase II running until 2012. Overall allowances will be reduced in each Phase, bringing downward pressure on all emissions. The European Commission now aims to produce a legislative proposal and impact assessment on the inclusion of aviation in the EU ETS by the end of 2006.¹⁷⁴

120. As we understand it, including aviation in the ETS is intended both to constrain (though not to stop, still less to reverse) the absolute growth in carbon emissions from aviation itself, and to increase the reduction in emissions from other sectors, thus helping the ETS to achieve significant absolute reductions in emissions from the EU overall. By purchasing carbon credits, airlines will a) incur costs that will be passed on to customers, hence proportionately depressing demand; b) become incentivised to seek fuel efficiencies, to make the most efficient use of their carbon credits; and c) to enable their continued growth in emissions, increase the demand for emissions credits and raise the price of carbon, effectively tightening the emissions cap on all industries.

121. However, a great many complications and uncertainties remain in the way of turning this model into reality. For instance, a report published earlier this year by DfT and Defra concluded that adding aviation to the ETS (using an assumed allocation base year of 2008), “will not have a discernible impact on average annual prices of carbon instruments”¹⁷⁵—implying that inclusion would have little effect on either dampening demand for flights or increasing the downward pressure on other sectors. Conversely, manufacturing groups have been expressing concern that inclusion of aviation could have a very significant and unfair impact on them—both in that the Government is committed to a policy which supports the expansion in absolute emissions from aviation, and that airlines may be able to outbid other industries for carbon credits through being better able to simply pass costs onto customers. As Friends of the Earth explained in our recent inquiry into *Pre-Budget 2005*:

Mr Juniper: [...] There are concerns being expressed, for example, by cement, steel and aluminium companies [...] because they fear that the purchase of credits by the aviation sector could mean that they would have to go to China in order to remain in business and that the aviation companies [...] can pass on the cost very quickly to their customers. If you want to fly from Stansted, you can only fly from Stansted. If you want to buy cement, you can buy it from England but you can also buy it from China. So they see this as being

173 The Government says it “is also continuing to press for the development and implementation, through the International Civil Aviation Organization, of emissions trading at the international level.” Cm 6764, p 71

174 Cm 6887, para 6.38, p 132

175 Ev 236

potentially quite a negative impact on those other sectors which are included in the ETS [...]”¹⁷⁶

Such concerns led the Aviation Environment Federation to suggest to us that pre-emptive opposition from such industries might lead to the terms on which aviation enters the ETS—the emissions cap it is given—being watered down.¹⁷⁷ The AEF also expressed scepticism about the idea that one of the effects of inclusion would be to drive on carbon efficiency improvements within aviation: “We have a gut feeling that if and when aviation emissions are part of any ETS all these supply-side efficiency gains will be smartly attributed to an “ETS effect”. We believe that the technology and operational gains identified as possible [...] would in all likelihood, happen anyway.”¹⁷⁸

122. While we acknowledge the significant potential benefits of including aviation within the EU ETS, there remain very considerable uncertainties to be resolved before we can have confidence that such benefits would actually be realised. This underlines the need for the Government to step up still further its negotiations with European partners – and to take much bolder action unilaterally in the meantime.

123. On the timing of inclusion of aviation in the ETS, in 2004 our predecessor Committee expressed its astonishment “at the lack of essential research to underpin the incorporation of aviation in the EU Emissions Trading System (ETS)”, and concluded: “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.”¹⁷⁹

124. None of the evidence we have heard in our inquiry has given us any reason to alter this view. We noted that the Secretary of State would not give an opinion on when he thought it would happen, but merely confirmed that it was still the Government’s “ambition [...] to try and secure that entry from 2008 or as soon as possible thereafter.”¹⁸⁰ **Indeed, the Secretary of State himself drew attention to ongoing opposition to the inclusion of aviation in the ETS from European airlines and governments:**

Mr Alexander: [...] In terms of where we are in those negotiations, the evidence from the public statements of Lufthansa, even in the last 48 hours, evidences that the argument is not yet won within the aviation community. It is also no secret that some of our international partners are less than convinced of the merits even of a European scheme, never mind a wider scheme given the global nature of air travel.¹⁸¹

Furthermore, we also learned that the Government has not even begun to talk to the UK aviation industry about what level of carbon allocations it should receive within the ETS.¹⁸²

176 Oral evidence taken before the Environmental Audit Committee on 1 February 2006, HC (2005-06) 882, Q 18

177 Ev236

178 Ev230

179 Environmental Audit Committee, *Pre-Budget Report 2003: Aviation Follow-up*, para 36

180 Q703

181 Q703

182 Q573 [Mr Dowds]

While we commend the very significant leadership which the Government has shown in raising this issue up the European agenda, the evidence we have received suggests that inclusion of aviation within the ETS is still several years away.

125. This highlights the need for the Government to start actively preparing a “Plan B” for dealing with CO₂ from UK aviation. CCP 2006 states that: “The Government has made it clear that it reserves the right to act alone or bilaterally if progress at an international level proves too slow.”¹⁸³ However, when we pressed the Secretary of State on what this alternative plan was, and when the Government would decide it was time to adopt it, he claimed that even to hint at what and when it might be would undermine the Government’s efforts to persuade other EU governments to agree on inclusion of aviation in the ETS.¹⁸⁴ His argument was essentially that simply outlining an alternative would be to give the impression that the UK was not serious about the ETS, and give other States an excuse to raise objections to it themselves. We fundamentally reject this argument, and are concerned that it may simply be a cover for the fact that the Government does not have, in the end, any substantial idea for a “Plan B”. Indeed, we would argue that to publish proposals and a timetable for UK action (to be taken if the ETS route were taking too long) would actually increase the pressure on all parties to agree to an early inclusion of aviation in the ETS. The Department should publish such a timetable and set of proposals as soon as possible.

Flying and taxation

126. It is scandalous that governments around the world have failed to grasp the nettle of taxing aviation fuel. It is equally scandalous that no Member State within the EU charges VAT on international air tickets. While this would require co-ordination across the EU, individual States are free to impose VAT on domestic tickets. Beyond this, in 2001, the Government made reforms to Air Passenger Duty (APD) which had the effect of cutting the tax on most short-haul flights from £10 to £5 – a cut which meant that, even while passenger numbers went up by 35% from 2000 to 2004, with emissions rising by 10%, APD revenue went down by 8%.¹⁸⁵ And Budget 2006 froze APD for the fifth year running (since it was reformed in 2001, when its main effect was the cut referred to above), with its only reform being to cut the tax on economy flights to Croatia by £15.¹⁸⁶

127. In previous reports, EAC has consistently called for Air Passenger Duty to be raised. The Government has consistently insisted that APD is a blunt instrument and “not an environmental tax”, given that it does not differentiate between flights in terms of their carbon emissions per passenger. In our report on Pre-Budget 2005, we recommended that APD be reformed in a way that ensured aviation paid more of its external environmental costs. Since then there has been further public discussion—for instance, from the Liberal Democrats—of

183 Cm 6764, p 72

184 Q 710

185 Environmental Audit Committee, Pre-Budget 2005: Tax, economic analysis, and climate change, para 17

186 That is, it reclassified Croatia as a destination to which the EU rates of Air Passenger Duty, rather than the more expensive long-haul rates, should apply.

reforming APD to levy it per plane rather than per passenger. We asked Friends of the Earth about this, who told us:

Mr Dyer: It makes sense because it would hopefully encourage airlines to fill the planes better, whereas very often they have up to a quarter of empty seats. [...] The other thing I would hope it would do would be to encompass freight flights as well, which are entirely untaxed at the moment. Obviously they pay no air passenger duty and they benefit from tax-free fuel, which is somewhat unfortunate when they burn magnitudes more fuel and carbon compared to surface transport for a lot of freight which does not need to go by air.

128. However, FoE were in addition very clear that the most important contribution could be made simply by raising the levels of APD, regardless of how it was charged:

Mr Bullock: [...] It is caricatured as being a blunt instrument, but that is a smokescreen, in my view. It is blunt and they do not like it because it is effective. If you run it through the Department for Transport's own models, if [set at a level simply] to stop the fall of aviation's cost, then that runs through their models and massively affects the demand projections for 2030 to the point that you do not actually need the new runways that they claim are necessary at the moment. There are not so many problems. APD does not need to be reformed before it can be increased, basically, although it could be worthwhile having reform.¹⁸⁷

129. Speaking to members of the Swedish government, we learned that Sweden has recently introduced a policy of differential landing fees. Landing fees can be used to financially penalise less carbon efficient aircraft relative to more modern and carbon efficient aircraft. Appearing before the Committee, the Secretary of State acknowledged the potential for landing fees to be used in this way, and appeared to outline a Departmental preference for this above a reformed version of Air Passenger Duty, but seemed to rule out any action in this direction for the foreseeable future:

As my predecessor has said, APD seems to us a fairly blunt instrument. On a previous occasion it has been suggested that if you were interested in terms of incentives to the industry to effect the kinds of changes we want to see, given the changes that have taken place in airline technology and the fact that the fleet coming into Heathrow tends to be a younger and therefore more fuel efficient fleet than other airports across the world, one of the things that could be considered would be whether you can incentivise the right kind of aircraft to be landing in terms of your landing charges at Heathrow. We are not actively participating in that discussion at the moment because my main focus is on making sure that we see the progress we want to see in terms of aviation in the ETS.¹⁸⁸

130. The Government has no excuses for not raising Air Passenger Duty. When we have recommended this in the past, the response has been that APD is a “blunt instrument” that does not differentiate between the relative carbon-efficiency of different flights. Our response to this is that APD could be levied per flight, rather than per passenger. Above all,

187 Q603 [Mr Dyer, Mr Bullock]

188 Q705

however, whether reformed or not, APD should be raised so as to slow the growth of aviation and stabilise its absolute level of emissions.

131. At the same time, we welcome the Secretary of State's acknowledgement of the potential role that differential landing fees could play, and urge him to introduce them. They could be used to complement a reformed and increased APD, in that they could specifically target the fuel efficiency of different models of aircraft.

132. On our trip to the Netherlands, we met officials at the Ministry of Transport and the Ministry of Environment, who gave us details of a recently-imposed aviation tax levied specifically on domestic flights. We discussed the possibility of another State concluding a bilateral agreement with the Dutch government, expanding such a tax to cover both internal flights within each country and international flights between them. While no such an agreement was actually being talked of, they agreed that it would be allowed by international regulations. **The Government has the power to increase taxes on domestic flights: it should do so, and as soon as possible. It should further work to conclude bilateral agreements with European partners to levy additional taxes on flights between them. Revenue generated as a result could be put towards investment in improving rail services, including high speed rail links, and to accelerating the development and introduction of more energy efficient aircraft designs.**

133. In this inquiry we heard from BAA that airport vehicles are allowed to run on “red diesel”—taxed at 6.44p a litre¹⁸⁹—because they do not run on public roads, even though airports are major sources of both carbon emissions and air pollution.¹⁹⁰ (Although BAA told us they “have a fast-moving programme of change to get away from fossil fuel-based vehicle fleets to renewable energy fleets”,¹⁹¹ the use of red diesel naturally means there is less financial incentive for airports to invest in low carbon vehicles—fully electric vehicles would be particularly suited to this role, given the short distances and low speeds involved—which would also improve local air quality.) **This anomaly should be ended forthwith.**

Consumer information and carbon offsetting

134. One of the Department's four carbon reduction priorities is “encouraging people to be more aware of the environmental impact of the journeys they make and encourag[ing] them to make more environmentally friendly journeys.”¹⁹² As part of this, the Department has helped to introduce the fuel efficiency labelling of new cars in car showrooms. There is, however, nothing equivalent to this in respect of aviation. That this is particularly needed is illustrated by the Department's own research which has shown that only one in eight air travellers associate flying with its impacts on climate change.¹⁹³

189 Rate given for “Marked gas oil and ultra low sulphur diesel not for road fuel use”. HM Revenue & Customs, “Current Hydrocarbon Oil duty rates”, viewed 13 July 2006, www.hmrc.gov.uk.

190 Q546 [Mr Dowds]

191 Q546 [Mr Dowds]

192 Q646

193 DfT, *Attitudes to Air Travel*, 2002, www.dft.gov.uk, p 15

135. **The Government should study how best to raise public awareness of the climate change impacts of flying, and of the undesirability – and ultimately impossibility – of ongoing increases in flights within a declining carbon budget. As part of this, the Department should force airlines which operate services from and within the UK prominently to display (eg, on all their adverts, tickets, and webpages) a fuel efficiency label, similar to that for new cars, based on the average fuel efficiency of their entire fleet which flies out of UK airports. Additionally, wherever airlines advertise the routes which they operate from the UK, they should be compelled to state the relevant carbon emissions per passenger—according to a nationally-set methodology for calculating them – alongside the fare.**

136. Carbon offsetting is one means of both raising awareness of the climate change impacts of aviation, and of helping to reduce them. Offsetting is an attempt effectively to cancel out a calculable amount of carbon one is responsible for emitting (eg, from a specific plane journey), by paying a fee which goes towards a carbon reduction project. This sometimes involves planting trees, but increasingly now means funding a low carbon energy project in a developing economy.

137. **We welcome the Government’s new commitment to offset all its air travel through the new Government Carbon Offsetting Fund. Equally, we share its enthusiasm for voluntary offsetting schemes.** At the same time, we fully recognise that offsetting is not the solution to the global warming problems caused by growth in aviation, which fundamentally requires a stabilisation of its absolute emissions. Also, we retain concerns as to the potential for offsetting schemes to be subject to fraud. **Given that offsetting payments are relatively cheap, help to tackle climate change, and can be used to improve the lives of deprived communities in the developing world, the Government should make them a compulsory charge on all airline tickets. It is important, however, that this is accompanied by rigorous auditing of the projects funded as a result. Moreover, the public should not be encouraged to think that offsetting implied that growth in aviation emissions was environmentally tenable.**

138. Given that in CCP 2006 the Government went out of its way to praise “recent airline initiatives, allowing customers to voluntarily calculate and offset emissions from their flights”¹⁹⁴ as a contribution to the UK Climate Change Programme, we feel it only right to report our observations on the scheme operated by British Airways through Climate Care. In our recent experience of flying with British Airways, we found that at “no point in the passenger experience from booking to landing was it ever mentioned [...] as an option by anyone involved in that process.”¹⁹⁵ Indeed, Dr Andrew Sentance of BA confirmed that take-up of the scheme had been low: “We have offset between 1000 and 2000 tonnes of CO₂ with Climate Care in the past year.”¹⁹⁶ Considering that, according to BA’s own website, a *single* fully loaded jumbo jet will account for 1574 tonnes CO₂ on one return flight between Heathrow and Sydney—based on a load of 410 passengers, each calculated to emit 3.85 tonnes CO₂ and paying an offsetting charge of £28.83—this is not very impressive.¹⁹⁷ What seems just as

194 Cm 6764, p 72

195 Q530 [Mr Hurd]

196 Q 531

197 <http://www.climatecare.org/britishairways/index.cfm>

unimpressive is that, if one goes direct to Climate Care's own website, the figure it gives per passenger on the same flight is 5.61 tonnes CO₂, at a charge of £42.11.¹⁹⁸ The difference is due to the different methodology which BA use to calculate emissions from flights.

Latest research on radiative forcing

139. One of the things which has changed since EAC's last report on aviation is the state of scientific research on the extent of radiative forcing from aviation's non-CO₂ contributions to global warming. As DfT explained to us:

The original and previously most widely supported work relating to the non-CO₂ impacts of aviation is that of the IPCC in 1999, which suggested a reference factor of 2.7. [...] The multiplier of 2.5 was used in a March 2003 joint report by HMT and DfT on 'Aviation and Economic Instruments' to estimate the climate change related external costs of aviation.

More recent research: *Trade-Off in 2000*¹⁹⁹ updates the estimate of carbon dioxide forcing to the year 2000 and improves the accuracy of the impact assessment, resulting in a factor of 1.9. [...]

In order to reflect the most recent and robust scientific evidence currently available, Government has therefore decided to recognise the more recent TradeOff work and use a multiplier of 2. The multiplier of 2 has been adopted for the Government Carbon Offsetting Fund.

This decision will be kept under review as further scientific evidence becomes available. [...] ²⁰⁰

140. We would simply observe that in neither the original IPCC report nor the more recent TRADEOFF paper do the multipliers take the possible effects of aviation-induced cirrus clouds into account (essentially, because the science is still too uncertain to quantify them with adequate confidence).²⁰¹ For this reason, **we welcome the Government's commitment to keep its assessment of the radiative forcing (RF) of aviation under review, as further scientific evidence becomes available. This is particularly welcome, given that the paper it relies upon states that, depending on the results of further study into the effects of cirrus clouds, "It is possible that the total aviation RF could be twice as large as the total RF given here." In its current progress review of the Future of Aviation White Paper, the Department should clearly state how it proposes to alter its aviation policies, should further research indicate that the effects of cirrus clouds are indeed so large.**

198 http://www.climatecare.org/calculators/flights_calc.cfm

199 Sausen R., Isaksen I., Grewe V., Hauglustaine D., Lee D. S., Myhre G., Köhler M. O., Pitari G., Schumann U., Stordal F. and Zerefos C. (2005) "Aviation radiative forcing in 2000: and update on IPCC (1999)", *Meteorologische Zeitschrift* 114, 555 – 561

200 Ev221-2

201 Sausen, R., et al, (2005), p 559

Other issues: developing economies, peak oil, and the future

Emissions from developing economies

141. Recent press headlines such as “India is on the road to a transport revolution”²⁰² and “Fears for environment as China plans 48 new airports”²⁰³ highlight the upward trajectory of emissions from transport in developing economies. Indeed, the International Energy Agency (IEA) is predicting an increase in demand for oil in China and India of almost 3% per year for the next 25 years.²⁰⁴ **We note that while CCP 2006 cites several examples of international co-operation with developing economies, designed to help them make carbon reductions** – for instance, work to accelerate the deployment of renewable energy and to improve energy efficiency in China through the Renewable Energy and Energy Efficiency Partnership (REEEP)—**it does not mention any projects designed to help other countries reduce their emissions from transport. The Government must work with international partners to develop such projects on a wide scale**, and for two reasons. First, this will play a part in curbing emissions from developing economies which would otherwise threaten to more than cancel out any reductions made by policies in the UK. Second, by doing so it would help to overcome the argument made within the UK that any such domestic action was futile, due to the growth in emissions elsewhere.

Future price and availability of oil

142. In assessing future demand for transport, the Department uses assumptions of future oil prices which are established, and periodically updated, by the DTI. In the 2003 *Future of Aviation* White Paper, the Department’s assumption was that aviation fuel prices would remain at \$25 dollars per barrel in real terms (2000 prices) until 2030.²⁰⁵ In the 2004 *Future of Transport* White Paper, the Department referred to the DTI’s May 2004 projections of the price of crude oil standing at \$23 a barrel (2003 prices) in 2010, and rising to almost \$28 a barrel by 2020.²⁰⁶

143. Since those White Papers were published, the price of oil has risen markedly; as of 11 July 2006 a barrel of Brent crude stood at \$74.16.²⁰⁷ In our first session, Transport 2000 discussed their concerns about the Department’s projections, arguing that if a higher level of oil prices were to continue it would undermine the case for an expansion in oil- and carbon-intensive transport infrastructure, such as roads and airports, and strengthen the case for investment in

202 “India is on the road to a transport revolution”, *The Guardian*, 2 May 2006.

203 “Fears for environment as China plans 48 new airports”, *The Guardian*, 10 May 2006

204 International Energy Agency, *World Energy Outlook 2005*, November 2005, p 83

205 DfT, *The Future of Air Transport*, Cm 6046, December 2003, p 150

206 HC Deb, 23 June 2005, col 1129W

207 International Energy Agency figure for “NYMEX WTI”, www.iea.org.

fuel-efficient programmes and modes of transport.²⁰⁸ As the following Parliamentary Question (from 14 March 2006) illustrates, such concerns are not confined to NGOs:

Chris Grayling: To ask the Secretary of State for Transport what assumptions of (a) prices and (b) range of prices for crude oil in (i) 2010, (ii) 2015, (iii) 2020, (iv) 2025, (v) 2030 and (vi) 2050 are being used by his Department in (A) the National Transport Model, (B) the forthcoming review of the aviation White Paper and (C) the draft guidance on railway closures; when the Department last reviewed these prices; and whether these price assumptions have been subject to independent external review. [58326]

Ms Buck: The Department's National Transport Model uses fuel prices that are based upon DTI crude oil price projections. [...] Their latest projections are for crude oil to fall from its current high levels to \$35 (in 2004 prices) in 2010 and then remain at that level in real terms through to 2020—the end of their projection.

The Aviation White Paper published in December 2003 says that DfT will continue to update forecasts in the light of trends. Movements in the oil price since publication of the White Paper are clearly one material factor; any further forecasts would need to take into account up-to-date departmental assumptions.

The draft guidance on rail closures is not itself based on any particular assumption about crude oil prices. Prevailing and anticipated future fuel costs are one of a range of issues which we will expect to be taken into account at the time a specific proposal is made.²⁰⁹

144. The then Transport Minister's response was not quite correct. The \$35 figure she cited was in fact one of three price projections given by the DTI,²¹⁰ based on different investment and world events scenarios (Figure 7).

Figure 7 – February 2006 DTI projections for oil prices up to 2020

Scenario	2010	2015	2020
High	\$50	\$50	\$50
Central	\$35	\$35	\$35
Low	\$20	\$20	\$20

Indeed, in the 2006 Energy Review, published in July 2006, the DTI has updated these figures again (Figure 8): “Since the previous CO₂ projections were published in February 2006, [...] here has [...] been a re-assessment of fossil fuel prices. Generally, fossil fuel prices in 2010 are

208 Q54 [Mr Joseph]

209 HC Deb, 14 March 2006, col 2056W

210 In fact, overall DTI uses four scenarios. Its “Central” scenario is divided into two, one in which gas prices are favourable to coal, and one in which coal prices are favourable to gas. However, in both cases the oil price is the same. DTI, *UK Energy and CO₂ Emissions Projections: Updated Projections to 2020*, February 2006.

assumed to be higher than previously and to rise further between 2010 and 2020. This is to reflect the signs that demand for oil appears more robust to higher prices than previously assumed and supply is still expected to remain relatively tight even after expected increases in supply in the next few years.”²¹¹

Figure 8 – July 2006 DTI projections for oil prices up to 2020

Scenario	2010	2015	2020
High	\$67	\$69.5	\$72
Central	\$40	\$42.5	\$45
Low	\$20	\$20	\$20

145. The important question is whether the recent rise in oil price is merely a temporary spike, reflecting bottlenecks in refining capacity and current political uncertainty in oil producing areas in the Middle East, Africa, Russia, and Latin America,²¹² or whether it is due to continue or rise even higher. This brings us onto the “peak oil” debate. A vocal minority of oil analysts argue, against the projections of bodies such as the International Energy Agency, that the global production of oil will peak in the short-term future, and that this will create extremely profound convulsions to the global economy and to international relations. We received three submissions which discussed this theory and argued that it needed to be taken into account in the Department’s policies;²¹³ and heard evidence from a prominent speaker on peak oil, Chris Skrebowski, editor of the Energy Institute publication, *Petroleum Review*. In his view, “in 2010-11 the numbers cease to add up and you start getting less oil at the end of the year than you had at the beginning on a global scale. That is when peak oil occurs. In my view, it is really quite imminent.”²¹⁴ By contrast, the UK Petroleum Industries Association (UKPIA) told us: “We as an industry are seeing something like 40 to 100 years of oil supply left. If we look at the production profiles that are produced by our industry, when they look ahead they do not show a peak in global oil production up to 2030, the limit of the forecasts.”²¹⁵

146. The Government’s view of this debate is given in the following Parliamentary Question and answer (to date, the only one that has been asked on this subject):

John Hemming: To ask the Secretary of State for Trade and Industry what estimate the Department has made of when global production of conventional crude oil will peak. [11302]

211 Cm 6887, p 201

212 Claude Mandil interview in *Nikkei*, 24 April 2006, <http://www.iea.org/journalists/headlines.asp>

213 Ev175, Ev240, Ev370

214 Q443

215 Q371 [Mr Watson]

Malcolm Wicks: The Government's assessment of the remaining lifespan of global oil reserves is set out in the Energy White Paper 2003 "Our energy future—creating a low carbon economy" (<http://www.dti.gov.uk/energy/whitepaper/index.shtml>). Paragraph 6.15 of the White Paper notes that

"Globally, conventional oil reserves are sufficient to meet projected demand for around 30 years, although new discoveries will be needed to renew reserves. Together with non-conventional reserves such as oil shales and improvements in technology, there is the potential for oil reserves to last twice as long".

This is consistent with the latest assessment by the International Energy Agency (IEA) in its 2004 World Energy Outlook. The IEA concludes that

". . . global production of conventional oil will not peak before 2030 if the necessary investments are made."

The Government remain committed to working with producers, consumers and the international community to improve the conditions for investment in the international oil sector, as well as implementing policies to maximise the economic recovery of the UK's own oil (and gas) reserves and to ease the UK economy away from power supplied primarily through fossil fuel supply. We are also supporting efforts to promote greater transparency in reporting of global oil reserves.²¹⁶

147. It should be noted that in this statement the Minister is only really citing one source rather than two: the source given in Paragraph 6.15 of the 2003 Energy White Paper is also the IEA's *World Energy Outlook*, albeit from 2002. In his session with us, the Secretary of State said:

Mr Alexander: Our view is that global oil production will not peak before 2030, but again that is a cross-governmental view rather than simply the view of the Department for Transport. That is contingent on sufficient investments being made. This is consistent [...] with the view of the IEA, most other governments round the world and, indeed, the oil industry itself, and reflects what we have judged to be several flaws in the argument that was put to this Committee by one individual who clearly takes a very different view in terms of the timing at which peak oil will be reached.²¹⁷

148. While, as the Secretary of State himself suggested, this could be said to represent the broad consensus of governments worldwide, it is notable that the Swedish government has announced a policy of reducing oil dependency as much as possible by 2020, and has held a public hearing on when peak oil will be reached. Meanwhile, in 2005, a report sponsored by the US Department of Energy (*Peaking of World Oil Production*, known as the Hirsch Report) found that, although it was difficult to predict when peak oil would occur, when it did it would result in an unprecedented transport fuels crisis that would cause protracted economic

216 HC Deb, 18 July 2005, col 1338W

217 Q 668

hardship. It recommended that oil depletion deserves immediate and serious attention, if the risks are to be fully understood and mitigation begun on a timely basis.²¹⁸

149. **There are conflicting views in the “peak oil” debate**, and we have not examined them closely enough to take an informed view ourselves. **We would observe, however, that even if the Government’s projections of conventional reserves extending to 2030 are correct, this is still quite a short time, given transport’s current 99% reliance on oil, and the lifetime of major infrastructure projects. While the Government also projects that improved technology and unconventional reserves could extend this period by another 30 years, we are concerned that the recovery and refining of such reserves could itself (given the extra energy required to process them) lead to higher “well-to-wheels” emissions. All this speaks of an extra imperative for the Department to make a step-change in funding and policies to wean the UK off the use of fossil fuel oil. To appraise the risks, inform priorities, and raise public awareness, the Government should commission its own equivalent to the US Hirsch Report, and study the example of the Swedish policy to reduce oil use by 2020.**

Looking to the future

150. Since 2004 the Foresight project, run by the DTI’s Office of Science and Innovation (OSI),²¹⁹ has been carrying out a research programme entitled “Intelligent Infrastructure Systems”, which has concentrated on anticipating the future shape of transport in the UK up to 2050. Drawing on the work of more than 300 science experts and key stakeholders, the programme developed four scenarios—intended to help guide current policy making—of how the future might develop, based around different projections of the availability of oil, the pace of alternative technologies, and the outcome of political debate on climate change. Despite their differences, these four visions of the future hold some consistent messages. Most of all they argue that the next 45 years are not going to see a simple continuation of trends experienced since 1960. **Growing political pressures over the need to reduce carbon emissions, the possibility of a sharp and prolonged fuel shock following peak oil, the complications caused by the development and rolling out of new fuels and technologies, and the potential divergent economic outcomes that follow rapid change to transport and communications, are projected to put transport at the very heart of public policy. The Department should closely examine the findings of the Intelligent Infrastructure Systems programme, in terms of both measures that could be taken to reduce carbon emissions, and ways of winning public support for them.**

151. **As this report sets out, transport is both the most technically difficult sector in which to reduce carbon emissions and also the most politically difficult. Indeed, the latter is a result of the former** because neither technological progress nor centralised efficiency improvements by themselves result in the same speed or scale of reductions as in other sectors.

218 Robert L Hirsch, Roger Bezdek, and Robert Wendling, *Peaking of World Oil Production: Impacts, Mitigation, and Risk Management*, February 2005, pp 4-7

219 The OSI was formed on 3 April 2006, following a merger of the DTI’s Innovation Group (IG) into the Office of Science and Technology (OST). Foresight was first established in 1994, and formerly belonged within OST.

Significant cuts in emissions from transport also require widespread behavioural change. Such change challenges one of the very keystones of modern society – the deeply cherished and ever-expanding sense of personal freedom and mobility that has followed the increasing affordability of both driving and flying but which involves profligate consumption of energy.

152. Governments at home and abroad must urgently inform the public about the reality and dangers of climate change, and the measures we can all take to avert it. We do not underestimate the problem which this poses for any elected politicians. This underlines the need, as this Committee has consistently argued, for a cross-party approach to the important and difficult measures necessary to tackle climate change. In taking forward the recent Energy Review and switching the focus of transport policy, we urge the Government to show courage in challenging popular preconceptions in order to serve the people's long term interests.

Formal minutes

Wednesday 19 July 2006

Members present:

Mr Tim Yeo, in the Chair

Mr Martin Caton
Mr David Chaytor
Mr David Howarth
Mr Mark Pritchard
Mr Graham Stuart

Emily Thornberry
Dr Desmond Turner
Mr Edward Vaizey
Joan Walley

The Committee deliberated.

Draft Report (Reducing Carbon Emissions from Transport), 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 152 read and agreed to.

Resolved, That the Report be the Ninth Report of the Committee to the House.

Ordered, That the Appendices to the minutes of Evidence taken before the Committee be reported to 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.

The Committee further deliberated.

[Adjourned till Monday 24th July 2006 at 4.00pm]

Witnesses

Wednesday 8 March 2006

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Professor David Banister , the Bartlett School of Planning, UCL, and Mr Robin Hickman , the Halcrow Group.	Ev5
Mr Stephen Joseph , Executive Director, and Mr Jason Torrance , Campaigns Director, Transport 2000.	Ev19

Wednesday 29 March 2006

Mr Simon Barnes , Technical Manager, Environment Team SMMT (and Chair, LowCVP Working Group on Passenger Cars), Mr John Kingston , Environment Manager, Honda UK, Mr Steve Cautley , Director, Vehicle Environmental Engineering, Ford Motor Company, Mr Greg Archer , Director, LowCVP, Mr Graham Smith , Chairman, LowCVP and Managing Director, Toyota GB and Mr Nick Hartley , OXERA Board Member, LowCVP.	Ev43
Mr Richard Tarboton , Head of Business Unit, Transport and Mr Alex Veitch , Transport Strategy Manager, Energy Saving Trust.	Ev61

Wednesday 19 April 2006

Dr Kevin Austin , Head of Transport (Greater London Authority); Ms Isabel Deding , Director of Policy Unit, and Mr Mark Evers , Analyst, Policy Unit, Transport for London.	Ev72
Cllr Tony Page , Transport Spokesperson, LGA Environment Board, and Cllr Shona Johnstone , Transport Spokesperson, LGA Environment Board, Local Government Association.	Ev86

Wednesday 26 April 2006

Mr Adrian Lyons , Director General, the Railway Forum, and Mrs Louise Shaw , Systems and Standards Manager, the Association of Train Operating Companies.	Ev99
Ms Heather Leggate , Vice-Chair, Sea and Water, and Mr David Laphorn , former Chairman, Laphorn Shipping Limited.	Ev116

Wednesday 10 May 2006

Mr Nick Vandervell , Communications Director, and Mr Malcolm Watson , Technical Director, the UK Petroleum Industry Association.	Ev126
Mr Chris Skrebowski , Editor, Petroleum Review, and member of the Association of the Study of Peak Oil (ASPO).	Ev136

Wednesday 24 May 2006

Dr Andrew Sentance , Chief Economist and Head of Environmental Affairs, British Airways, and Mr Chris Essex , Head of Business Development, Easyjet Airline Co Ltd.	Ev142
Mr Donal Dowds , Divisional Managing Director, BAA Scotland and USA, Mr Joe Irvin , Director of Public Affairs, BAA plc, Dr Tim Walmsley , Head of Environment, and Mr Chris Paling , Environmental Adviser, Manchester Airports Group.	Ev160

Wednesday 7 June 2006

Mr Tony Bosworth , Senior Transport Campaigner, Mr Simon Bullock , Economic Adviser, and Mr Richard Dyer , Aviation Campaigner, Friends of the Earth, and Mr Peter Lipman , Director, Liveable Neighbourhoods and Low Carbon Travel, Sustrans,	Ev178
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Wednesday 14 June 2006

Rt Hon Douglas Alexander, a Member of the House, Secretary of State for Transport, **Mr Simon Webb**, Director General for Delivery and Security, and **Mr Nigel Campbell**, Head of Transport Analysis and Review, Department for Transport.

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