

## **Climate change : UK emission reduction targets and audit arrangements fourth report / Environmental Audit Committee.**

### **Contributors**

Great Britain. Parliament. House of Commons. Environmental Audit Committee.

### **Publication/Creation**

London : Stationery Office, 1998.

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## ENVIRONMENTAL AUDIT COMMITTEE

## Fourth Report

**CLIMATE CHANGE: UK EMISSION  
REDUCTION TARGETS AND AUDIT  
ARRANGEMENTS**

Report together with an Appendix, Proceedings of the  
Committee and Minutes of Evidence

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*Ordered by The House of Commons to be printed  
29<sup>th</sup> July 1998*

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# ENVIRONMENTAL AUDIT COMMITTEE

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## Fourth Report

# CLIMATE CHANGE: UK EMISSION REDUCTION TARGETS AND AUDIT ARRANGEMENTS

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The Environmental Audit Committee is appointed under Standing Order 152(A) 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.

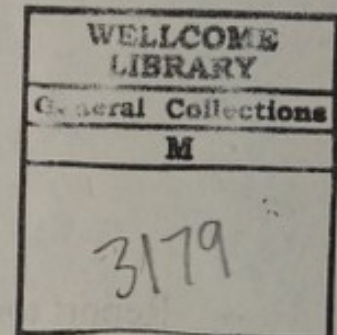
The Committee consists of sixteen Members. It has a quorum of four. Unless the House otherwise orders, all Members nominated to the Committee continue to be members of it for the remainder of the Parliament.

The Committee has power:

- (a) to send for persons, papers and records, to sit notwithstanding any adjournment of the House, to adjourn from place to place, and to report from time to time;
- (b) to appoint specialist advisers to supply information which is not readily available or to elucidate matters of complexity within the committee's order of reference;
- (c) to communicate its evidence and any other documents relating to matters of common interest to any committee appointed by this House or by the Lords; and
- (d) to meet concurrently with any committee appointed under Standing Order No. 152 (Select committees related to government departments), or any sub-committee thereof, or with any committee appointed by the Lords, or any sub-committee thereof, for the purposes of deliberating or examining witnesses.

The membership of the Committee since its appointment on 10<sup>th</sup> November 1997

Mr Norman Baker (appointed 2 December)  
 Mr Bob Blizzard  
 Mrs Helen Brinton  
 Mr Cynog Dafis (appointed 17 November)  
 Mr Dominic Grieve  
 Mr John Horam  
 Dr Brian Iddon  
 Mr Tim Loughton  
 Rt Hon Michael Meacher (appointed 19 December)\*  
 Mr Laurence Robertson  
 Mr Malcolm Savidge  
 Mr Jonathan R. Shaw  
 Mr Matthew Taylor (appointed 17 November, discharged 2 December)  
 Mr Gareth R. Thomas  
 Mr Paul Truswell  
 Joan Walley



Mr John Horam was elected Chairman on 25 November 1997.

\*The Minister for the Environment has *ex-officio* membership of the Committee in like manner to the Financial Secretary's membership of the Committee of Public Accounts.

The texts of Committee Reports and Press Notices are available on the Internet ([www.parliament.uk](http://www.parliament.uk)).

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1. The Committee was set up in 1997 to monitor the Government's progress in meeting its obligations under the EU commitment to reduce greenhouse gas emissions by 20 per cent by the year 2010. The Kyoto Protocol requires that the first part of these commitments, "developed countries agreed to cut their emissions by 5.2 per cent in total over the period between 2008 and 2012". The EU and the UK signed the Protocol in April 1998.

2. The Kyoto Protocol made provision for countries, jointly to fulfil their commitments. On this basis the European Community agreed to reduction of the six greenhouse gases of 8 per cent. Agreement on Member States' shares of this commitment was reached on 17 June 1998 at the EU Environmental Ministers' Council. The UK share has been set at 12.5 per cent on the 1990 level. The European Community has to meet its target as a whole each member State will be held individually responsible for achieving its reduction targets within the joint agreement.

3. On current trends overall UK emissions of the six greenhouse gases will be 7.8 per cent below the 1990 baseline by 2010. To meet the UK Kyoto target for greenhouse gases of 12.5 per cent, new policies will be needed to deliver further reductions totalling 4.7 percentage points. The current trends for 7.8 percentage point decrease for the basket of six greenhouse gases, but within this, CO<sub>2</sub> emissions are projected to rise by one per cent while the other five greenhouse gases are projected to fall by 17 per cent. This means that to meet its own target for a 20 per cent reduction in CO<sub>2</sub> emissions the Government will need these new measures to deliver a reduction of 31 percentage points in CO<sub>2</sub> emissions by 2010.

4. Discussions on outstanding issues under the Kyoto Protocol will continue at the next annual Conference of the Parties to the Convention in November 1998 in Buenos Aires, since

The Minutes of Evidence are available on the Committee's website at <http://www.eac.gov.uk>

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The six greenhouse gases are CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride

The percentages of Annex I countries will be taken to their average over the 5 years of the methods are used

EU Directive 1990/269

EU Directive 1990/269

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## FOURTH REPORT

The Environmental Audit Committee has agreed to the following Report:--

### CLIMATE CHANGE: UK EMISSION REDUCTION TARGETS AND AUDIT ARRANGEMENTS

#### Introduction

1. This Report sets out the Committee's views on emission reduction targets and audit arrangements in advance of the Government's consultation on its Climate Change Programme, which is expected to be published in the summer of 1998.

2. The UK signed the United Nations Framework Convention on Climate Change in 1992. At the time this was seen as a major first step in dealing with the emissions of greenhouse gases which cause climate change. Developed countries and other parties in Annex I to the Convention (the Annex I countries) agreed to adopt national policies aimed at returning emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases not controlled by the Montreal Protocol<sup>1</sup> to their 1990 levels by the year 2000. But by December 1997, when the Conference of the Parties met to review the Convention in Kyoto, few countries were on course to meet these voluntary commitments: within the EU—the UK, Germany, and Luxembourg; and outside the EU—Switzerland, Russia, the Ukraine and other Eastern European countries with economies in transition.<sup>2</sup>

3. The current UK Government came to office committed to strengthening co-operation in the EU on environmental issues, including climate change; and to leading the fight against global warming, setting itself a target for reducing CO<sub>2</sub> emissions by 20 per cent by the year 2010.<sup>3</sup> The Kyoto Protocol negotiations were the first test of these commitments.<sup>4</sup> Under the Protocol the Annex I countries agreed to quantified emission limits that would result in a reduction of at least 5 per cent in their overall emissions of six greenhouse gases<sup>5</sup> below 1990 levels in a commitment period between 2008 and 2012.<sup>6</sup> The EU and the UK signed the Protocol in April 1998.<sup>7</sup>

4. The Kyoto Protocol made provision for countries jointly to fulfil their commitments. On this basis the European Community agreed to reductions of the six greenhouse gases of 8 per cent. Agreement on Member States' shares of this commitment was reached on 17 June 1998 at the EU Environment Ministers Council. The UK share has been set at 12½ per cent less than 1990 levels. If the European Community fails to meet its target as a whole each Member State will be held individually responsible for achieving the reduction targets within the joint agreement.

5. On current trends overall UK emissions of the six greenhouse gases will be 7½ per cent below the 1990 baseline by 2010.<sup>8</sup> So to meet the UK Kyoto target for greenhouse gases of 12½ per cent, new policies will be needed to deliver further reductions totalling 5 percentage points. The current trends for UK emissions project a decrease for the basket of six greenhouse gases, but within this, CO<sub>2</sub> emissions are projected to rise by one per cent while the other five greenhouse gases are projected to fall by 37 per cent. This means that to meet its own target for a 20 per cent reduction in CO<sub>2</sub> emissions the Government will need these new measures to deliver a reduction of 21 percentage points in CO<sub>2</sub> emissions by 2010.

6. Discussions on outstanding issues under the Kyoto Protocol will continue at the next annual Conference of the Parties to the Convention in November 1998 in Buenos Aires. Once

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<sup>1</sup>The Montreal Protocol on substances that Deplete the Ozone Layer

<sup>2</sup>Ev p19 paragraph 8

<sup>3</sup>Labour Party Manifesto

<sup>4</sup>The Kyoto Protocol is appended to this Report at p xvii

<sup>5</sup>The six greenhouse gases are CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride

<sup>6</sup>The performance of Annex I countries will be taken as their average over the 5 years of the commitment period.

<sup>7</sup>HC Deb, 15 July, col 366

<sup>8</sup>Ev p2 paragraph 7



the Protocol has come into effect, meetings of the Parties to the Protocol will approve procedures and mechanisms for the operation of the Protocol and any proposed amendments to the Protocol.

7. This Report considers the UK's targets for emission reductions stemming from both its unilateral target and its international obligations. It addresses the global target and negotiations under the Convention, the national target and forthcoming Programme, and the audit and enforcement arrangements under the Convention and domestically.

8. We are grateful for memoranda from the Department of the Environment, Transport and the Regions and for the oral evidence provided by the Rt Hon Michael Meacher, MP, Minister for the Environment. We are also grateful for the advice of Mr Derek Osborn CB, Chairman of the European Environment Agency.

### **The global target and negotiations**

9. For some time there has been debate about the existence of global warming, its cause and likely effects. Mr Meacher told us that the science on climate change is "pretty complete". He concluded that it is clear enough for the world's governments to take action. He believed that virtually everyone, with the exception of the Global Climate Coalition in the United States, now agrees with that conclusion.<sup>9</sup>

10. The ultimate aim of the Framework Convention on Climate Change is to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.<sup>10</sup> Atmospheric concentrations of CO<sub>2</sub> totalled some 280 parts per million by volume at the end of the eighteenth century.<sup>11</sup> In 1994, the latest year for which data are available, the level of concentration was 358 parts per million by volume.<sup>12</sup> This will be increasing all the time as a result of past and current emissions. Mr Meacher told us that the EU takes the view that greenhouse gas concentration in the atmosphere should not exceed 550 parts per million by volume CO<sub>2</sub> equivalent.<sup>13</sup> We were pleased to hear that the Government is prepared to state this clearly. Mr Meacher told us that this needed a global reduction of 60 to 70 per cent in CO<sub>2</sub> emission levels compared to 1990.<sup>14</sup> We understand that what would be required would be year on year global reductions of emissions from about 2010, resulting in stabilisation of atmospheric concentration at 550 parts per million by volume in about 150 years time with emissions then at 60 to 70 per cent below their 1990 levels.<sup>15</sup> Given the enormity of that task the reduction agreed at Kyoto of 5 per cent of developed countries' emissions must be seen as a small first step. Further, larger steps will be needed with the prospect of only reaching the global reduction required over several generations.

**11. We believe that Kyoto has marked a turning point and the agenda has now moved on from whether there is global warming. The focus of international and national attention should now be on action to ensure that we deliver against our commitments to reduce emissions.**

#### *Developed and developing countries' responsibilities*

12. In 1990, Annex I countries accounted for some 60 per cent of global emissions of CO<sub>2</sub>.<sup>16</sup> The US has some four per cent of the world's population but 25 per cent of the world's emissions, that is a six-fold difference, and in the case of Europe the difference is two-fold.<sup>17</sup>

<sup>9</sup>Q12

<sup>10</sup>United Nations Framework Convention on Climate Change, Article 2

<sup>11</sup>Q3

<sup>12</sup>Climate Change 1995 — The Science of Climate Change Technical Summary of the Working Group I Report, Intergovernmental Panel on Climate Change (IPCC)

<sup>13</sup>Q3

<sup>14</sup>Ibid

<sup>15</sup>Stabilisation of Atmospheric Greenhouse Gases: Physical biological and socio-economic implications. IPCC Technical paper 3 February 1997

<sup>16</sup>Ev p20 paragraph 10

<sup>17</sup>QQ 62 & 64



Some developing countries also have significant emissions of greenhouse gases. In 1992 China accounted for 13 per cent of global emissions of carbon dioxide from industrial sources and India accounted for some 4 per cent.<sup>18</sup> Mr Meacher told us that economic growth in the developing countries will lead to a very rapid expansion in global emission levels: for instance China's emissions will exceed US emissions by 2015 and within 30 to 40 years developing country emissions will exceed emissions from developed countries.<sup>19</sup>

13. It is against this background that it is important for international efforts to address both developed and developing countries' emissions. The Protocol is based on the principle that those who are the main cause of the problem, the developed countries, should take action first. Mr Meacher told us that there is the expectation that the developing countries will become involved in the process before long.<sup>20</sup>

14. On the other hand, the United States Senate has taken the position that the US should not ratify the Protocol unless developing countries are also involved in the process.<sup>21</sup> The Minister for the Environment considered that the key to ensuring the Protocol comes into force is ratification by the US. He did not believe that the US would walk away from the commitment which it had made at Kyoto.<sup>22</sup> But he considered the reality of the situation was of a "push-me-pull-you" process. The UK Government is playing its part in supporting the US Government and is doing what it can to find a basis for getting the developing countries involved, for example via the Commonwealth, and talking to China.<sup>23</sup>

15. The debate about countries' involvement is sometimes couched in terms of "contraction" and "convergence". These terms reflect a proposition that there needs to be contraction in emission levels and equity between countries (and hence that emissions should converge on an appropriate share in global emissions determined on the basis of countries' population); and that this could be achieved through allocating emission rights to all countries and allowing trading of these allocations.

16. Mr Meacher told the Committee that the Government believes in the equity principle in that all countries should be involved and that it should be one of the principles underlying the allocation of future emission reduction targets. However, he considered that developing countries will not get involved in the process if they see it as a constraint on growth. The Government believes that developing countries have to be able to grow and that developed countries can assist them in doing so in ways that are less damaging to the environment.<sup>24</sup> Mr Meacher saw the Protocol as the beginnings of contraction and convergence because as a result the developed countries "are moving, albeit pretty marginally, in the direction of the same level as developing countries per capita".<sup>25</sup> He expects the world to move gradually in the direction of convergence.<sup>26</sup>

17. The Kyoto Protocol requires the emission limits to be reviewed at least by 2005 and that the Protocol should be reviewed as a whole at the second meeting of the Parties to the Protocol.<sup>27</sup> The EU position is that there should be a review of the limits for Annex I countries in 2002 or 2003 and also a general review of obligations of all parties. Mr Meacher considered one of the items on the agenda at that stage could be contraction and convergence but he drew attention to the fact that developing countries are still against the idea of a review of their obligations.<sup>28</sup>

**18. The Committee accepts the reality of the situation on international negotiations and supports the UK and the EU in exercising leadership. In particular we endorse the**

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<sup>18</sup>Ev p19, paragraph 9

<sup>19</sup>Q5

<sup>20</sup>Q11

<sup>21</sup>Q18

<sup>22</sup>Q74

<sup>23</sup>Q18

<sup>24</sup>Q18

<sup>25</sup>Q6

<sup>26</sup>Q65

<sup>27</sup>Articles 3 (paragraph 9) and 9 of the Kyoto Protocol

<sup>28</sup>QQ 8, 68 & 69



Government's view that the allocation of emission rights should have regard to the principle of equity. We urge the Government, and the EU, to use all available means to encourage the US to ratify. We consider it is crucial that the targets should be reviewed at an early date and that the Government should contribute to efforts to encourage developing countries also to sign up to emission reduction targets.

19. Under the clean development mechanism the Protocol allows developed countries to meet their emission reduction limits by funding certified emission reductions from project activities in developing countries. The Protocol also provides for emission limits to be traded and in subsequent commitment periods this may occur between developing and developed countries.<sup>29</sup> There are currently no agreed mechanisms for either procedure. The details of both these procedures, termed "flexible mechanisms", are to be approved at the first meeting of the Parties to the Protocol after the Protocol comes into force. Preliminary discussions will take place at the Buenos Aires meeting.

20. Mr Meacher told us that the EU considered that flexible mechanisms should be supplemental to domestic action; should be interpreted as less than or subordinate to action which is taken domestically; and should be subject to a relatively tight cap. The EU considered the primary action should be domestic, whereas the United States interpreted "supplemental" differently, meaning just "additional to" domestic actions.<sup>30</sup> As regards emissions trading, there is the possibility that it may result in increased emissions, contrary to the spirit of the Kyoto agreement, because countries would be able to sell emissions they would not in any case be producing, for example because of reduced economic activity. This is sometimes known as the trading of 'hot air'. Mr Meacher recognised this concern.<sup>31</sup>

21. We agree with the Government's emphasis on the primacy of action to reduce actual domestic emissions of greenhouse gases. The clean development mechanism has the potential to be a worthwhile investment for the global environment whilst also meeting international development policy objectives. We urge the Government to press in the Buenos Aires discussions for rules for emissions trading which prevent the trading of 'hot air'. We also agree with the Government's line that there should be a tight cap on these flexible mechanisms.

#### *Carbon sinks*

22. Forests soak up CO<sub>2</sub> (hence the term 'carbon sinks'). Forest fires both add directly to greenhouse gas emissions and reduce carbon sinks. If the forest area is allowed to regenerate, the release of CO<sub>2</sub> from the forest fire will be offset, although it will take decades to fully restore the carbon sink.<sup>32</sup> The Government estimates that the forest fire in Indonesia and South East Asia, which is still not wholly under control, has produced more CO<sub>2</sub> than Europe produces in a year.<sup>33</sup> This is staggering. In no way does this imply that there is no point in taking action to reduce "ordinary" emissions but it reinforces the point, made by Mr Meacher to us, that there is an urgent need for work to prevent the economic situation which leads to these fires and to establish an emergency network service for dealing with such environmental disasters.<sup>34</sup>

23. We urge the Government to press for international action to agree appropriate mechanisms for dealing with environmental emergencies.

24. The commitments made by Annex I countries are to net changes in greenhouse gases taking account of emissions and changes to removals by carbon sinks arising from land use change and forestry activity. This means that a country can increase its emission allowance as a result of afforestation but conversely, as Mr Meacher explained, emissions would have to be

<sup>29</sup> Articles 6 and 12 of the Kyoto Protocol

<sup>30</sup> QQ 61 & 62

<sup>31</sup> Q71

<sup>32</sup> IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual 1996. Full mitigation will only be achieved if the forest is replaced by vegetation with equivalent carbon content.

<sup>33</sup> Q43

<sup>34</sup> QQ 43 & 58



lower if carbon sinks were lost because of large fires started deliberately.<sup>35</sup> The Government considers allowing countries to count afforestation towards their emission limits should be permitted under tight and clear rules as part of meeting countries' targets but that there should be no question that this would be sufficient by itself.<sup>36</sup>

**25. We support the Government in seeking to negotiate tight rules for the counting of changes to carbon sinks towards emission limits.**

#### *Adaptation*

26. Given the time lag between emissions, changes in the concentration of greenhouse gases in the atmosphere and their consequences for the climate, historically high emission levels can be expected to result in further climate change.

**27. We consider the Government should press the international community to give priority to identifying solutions for adapting to the unavoidable impacts of climate change and consider mechanisms to assist those developing countries which are predicted to be badly affected.**

#### **The national target and programme**

28. In its manifesto the Government committed itself to a target of cutting CO<sub>2</sub> emissions by 20 per cent by the year 2010. In evidence published with the Committee's Second Report Mr David Davies of the Advisory Committee on Business and Environment said that as far as he was concerned this target did not emerge out of a long-term framework discussion.<sup>37</sup> The Institute of Directors stated that the strategy should have come before targets.<sup>38</sup> We asked Mr Meacher where the 20 per cent target had come from and what process led to its adoption as a target. Mr Meacher told us the commitment emerged within the Labour Party in opposition and was arrived at on the basis of consultation. He said that the Government is still committed to it, and believes that although it is testing and challenging it is reachable and would be beneficial to business as well as the country if it were achieved.<sup>39</sup>

29. We were disappointed that the Government did not detail to us substantive work to support its adoption of the 20 per cent target. In its memorandum to this Committee the Department of the Environment, Transport and the Regions described it only as a "firm political objective" and said that the first priority for the forthcoming programme will be to deliver against the legally-binding Kyoto target but the Government will also be launching a debate on "how to move beyond that towards achieving the 20 per cent reduction in CO<sub>2</sub>".<sup>40</sup> This language is repeated in other Government publications.<sup>41</sup>

**30. We commend the Government's identification of a more challenging target for reducing CO<sub>2</sub> emissions, as being appropriate given the scale of the problem. It is also valuable in showing leadership both within Europe, along with Germany, Austria and Denmark which have also agreed unilateral targets, and in the global arena. We urge the Government to set out for consultation a programme to meet the full 20 per cent CO<sub>2</sub> target by 2010.**

31. The Kyoto Protocol makes provision for individual countries which beat their targets to

<sup>35</sup>Q59

<sup>36</sup>QQ 59 & 60

<sup>37</sup>The Greening Government Initiative, p211, Q526

<sup>38</sup>The Greening Government Initiative, p232, paragraph 4

<sup>39</sup>QQ 20 & 22

<sup>40</sup>Ev p1, paragraph 1

<sup>41</sup>See, for example, Sustainable Business, consultation paper, 1998; Review of Energy Sources for Power Generation, Consultation Document, 1998



add this to their allowance in subsequent periods.<sup>42</sup> Mr Meacher confirmed that this arrangement would also apply within the EU so that if the UK exceeded its legal commitment to 12½ per cent it would be permitted to bank it and other Member States would still be expected to achieve their targets.<sup>43</sup> With regard to the provisions of the Protocol relating to joint implementation, we do not see any basis for this assertion. The Department of the Environment, Transport and the Regions confirmed to us that surplus emission reductions could not be both traded and used to offset a shortfall by others. But they noted that further consideration is likely to be needed within the EU, and under the Convention, on the banking of surplus emissions by countries which are operating within a joint agreement. This question is of particular concern in view of the Department's evidence that the EU Member States' shares give a total reduction for the EC of some 8.008 per cent and accordingly there is no spare margin. It is expected that individual countries will build a contingency into their own programmes.<sup>44</sup>

**32. We consider the Government should press for clarification, within the EU, on what arrangements will apply if Member States exceed or fall short of their share of the EC commitment. We note that, if the UK programme is geared towards meeting the 20 per cent target and surplus reductions are tradeable, the UK may be able to earn itself a valuable asset.**

#### *EU negotiations*

33. We note that the changes in the targets for EU Member States, which were agreed following bilateral negotiations, show no common pattern. The Department of the Environment, Transport and the Regions told us the targets reflect Member States' differing economic circumstances. We have set out the targets and the changes to the targets since those previously agreed in March 1997 in Figure 1 opposite. Most of the Member States which in 1997 agreed to reductions in emissions of the basket of three greenhouse gases, negotiated slightly less demanding limits for the six gas basket, with the exception of Austria which negotiated a significantly less demanding reduction and the UK which agreed to a more demanding target. Most of those countries which in 1997 were allowed to increase emissions, agreed in 1998 to less high increases, except for Greece whose emission limit has been increased by five percentage points.

34. We also reviewed emission limits compared to emissions per capita. Unfortunately figures for greenhouse gas emissions per capita for all countries were not available. However using the latest available figures for CO<sub>2</sub> emissions per capita we found no evidence, contrary to what Mr Meacher said to the Committee<sup>45</sup>, of a move towards convergence in Europe. For example Belgium, the Netherlands and Finland all had higher CO<sub>2</sub> emissions per capita in 1994 than Germany, Austria and the UK but have agreed lower emission reduction targets.

35. Mr Meacher declined to give us any further detail on how the shares within the EU target had been agreed, although he commented that he too was disappointed in the result. He told us that the UK had been pressed extremely hard in the negotiations, which they resisted, and the 12½ per cent target was the result.<sup>46</sup> The Environment Ministers' communication of the outcome of their proceedings also gave no information on the total of the emission reductions agreed between Member States.

**36. We welcome the speedy agreement of targets within the EU. However, we are concerned that, just as individual countries have set unilateral targets, so it could have been desirable for the EU to show leadership by going beyond the legal requirement.**

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<sup>42</sup> Article 3 (paragraph 13) of the Kyoto Protocol

<sup>43</sup> Q34

<sup>44</sup> Ev p18, paragraph 2

<sup>45</sup> QQ 6 & 65

<sup>46</sup> Q36



37. We consider the opaqueness of the negotiations process is unhelpful. For example, without providing supplementary information on expected emissions on the business as usual scenario, it is not clear whether the significant increases in emission levels for Greece and Portugal represent challenging or easy targets for them. These high emission allowances may therefore send the wrong message to developing countries.

38. In our view transparency in EU negotiations would help in showing the public the scale of the problem to be addressed at EU level, the need for EU wide measures and the role for national programmes and action. In particular we consider that information on greenhouse gas emissions per capita should be published for each country for the base year and for 2010 to show the extent to which there is convergence within the EU.

**Figure 1: European Community joint commitment on climate change under the Kyoto Protocol**

Member State	Share-out of EU 8 per cent target for 6 greenhouse gases – June 1998 <sup>1</sup>	Indicative share-out of 3 greenhouse gases – March 1997 <sup>2</sup>	Change in share-out between March 1997 and June 1998	CO <sub>2</sub> emissions in kilo tonnes per capita (1994)
Luxembourg	-28	-30	down 2	29.85
Denmark	-21	-25	down 4	12.06
Germany	-21	-25	down 4	11.04
Austria	-13	-25	down 12	7.45
UK	-12.5	-10	up 2½	9.53
Belgium	-7.5	-10	down 2½	11.96
Italy	-6.5	-7	down ½	7.21
Netherlands	-6	-10	down 4	11.44
Finland	0	0	same	11.61
France	0	0	same	6.47
Sweden	+4	+5	up 1	7.31
Ireland	+13	+15	up 2	9.39
Spain	+15	+17	up 2	5.85
Greece	+25	+20	down 5	8.48
Portugal	+27	+40	up 13	4.77

Sources: Department of the Environment, Transport and the Regions and the European Environment Agency

- Notes:
1. A "minus" target means a target for reducing emissions compared to the 1990 baseline.
  2. In March 1997 the EU negotiating position for the Convention was for a reduction of 15 per cent but its indicative share-out was for a total reduction of 9 per cent. The three gases covered by this agreement were CO<sub>2</sub>, methane and nitrous oxide.

39. The EU Environment Ministers have set out a long list of pan-European and common measures which could help Member States achieve their emission targets.<sup>47</sup> They are a mix of old and new with some requiring EU action and others requiring domestic action. We welcome this renewed pressure on the European Commission. In particular it should complete consideration of the tax exemption on aviation fuel, which is already 7 months overdue, and the

<sup>47</sup>Outcome of Proceedings, Environment Council, June 1998, 9702/98



differentiation in tax levels for energy saving products, a measure this Committee has already called on the Government to negotiate within the EU.<sup>48</sup> We note that Mr Meacher expects the Commission to provide a timetable for these measures to be considered at the October or December meeting of the Council, and that the forthcoming UK Climate Change Programme will cover measures and options where there is a prospect of European-level action.

**40. We consider it important that the forthcoming UK Programme should set out clearly respective UK and EU responsibilities for delivery.**

#### *The UK programme*

41. Significant new policies are required to meet both the legally binding target and the "political aim" of achieving a higher reduction of 20 per cent in CO<sub>2</sub> emissions. As Mr Meacher put it "new and tighter policies are needed".<sup>49</sup> He commented that there would be three main pillars for action under the forthcoming programme: power generation, transport and energy efficiency. Since Mr Meacher gave evidence to the Committee the Government has completed its review of energy sources for power generation and produced its White Paper on the future of Transport. The former stated that its proposals were consistent with the Government's environmental objectives and existing projections of emissions. The latter claimed that there is the potential to reduce road traffic CO<sub>2</sub> emissions by 22–27 per cent, on forecasts for 2010, as a result of the key measures in the paper.<sup>50</sup>

**42. We consider that in addition to setting out programmes for action to reduce emissions, particularly in these key areas, a fully rounded strategy should address all Government activity in connection with implementing the Protocol and pushing forward the negotiations. In particular it should include UK policies for helping developing countries to develop in a way that takes due account of climate change concerns. It should also address foreign policy objectives in relation to the Kyoto process. And it should set out policies and plans for adapting to the effects of climate change.**

43. Major policy changes in these areas will impact on all key sectors and all citizens. To achieve such changes now and in future commitment periods the public will need to be persuaded. Mr Meacher assured the Committee that the forthcoming programme will set out government departments' responsibilities and that local authorities, business, non-governmental organisations and local community groups will also be involved. The programme is also expected to encourage individuals to play their part and to include a check list of the actions the Government wants them to take.<sup>51</sup> Mr Meacher considered the programme must also "be accompanied by a major road show and a tremendous government, business, local authority, non-governmental organisation impetus ....making the points extremely strongly".<sup>52</sup>

**44. We applaud the vision of an inclusive approach to tackling climate change and commend the prospect of a major information and consultation process to accompany the Programme. Having regard to the further substantial reductions of emissions that will be needed in the longer term we consider that the strategy should also set out a long-term plan for promoting public and private sector research and development in the new technologies that will be needed, particularly in the energy and transport sectors, to adapt to a world of much lower emissions.**

45. As discussed in the Committee's First Report, we regard taxation as a valuable tool for pursuing environmental sustainability.<sup>53</sup> Taxation can contribute to many aspects of policies to address greenhouse gas emissions. The Government believes it has started on this, but the Committee has noted the large amount of outstanding work required on relevant fiscal

<sup>48</sup>First Report, Environmental Audit Committee, The Pre-Budget Report, HC547, Session 1997-98

<sup>49</sup>Q50

<sup>50</sup>A new deal for transport: better for everyone, Cm 3950

<sup>51</sup>QQ 15-17, 28 & 44

<sup>52</sup>Q42

<sup>53</sup>First Report, Environmental Audit Committee, The Pre-Budget Report, HC547, Session 1997-98



instruments referred to in Budget announcements.<sup>54</sup> Mr Meacher stressed to us that measures adopted should not undercut competitiveness and that the Government is offering full opportunities to debate particular mechanisms. The Task Force on the Industrial Use of Energy, chaired by Lord Marshall, is a case in point.<sup>55</sup> We are encouraged by this approach, and indeed by Mr Meacher's acceptance in one case discussed, vehicle excise duty for less polluting heavy goods vehicles, that the £500 reduction .... is not sufficient and there is a need to look at this further.<sup>56</sup>

**46. We urge the Government to set out clearly in the forthcoming Climate Change Programme the potential for use of further fiscal measures. Actual measures and their projected impact should be clearly set out in Budget documents.**

47. In our Second Report, on the Greening Government Initiative, we considered whether the Government could make greater use of voluntary agreements with business and industry on a range of issues.<sup>57</sup> The Government's consultation paper on "Sustainable Business" describes such agreements in relation to tackling carbon saving in business sectors as a "valuable option" and laid out some clear requirements to achieve effective voluntary agreements.<sup>58</sup> We look forward to these requirements also being applied to existing voluntary agreements, for instance on energy efficiency in the chemicals industry. We note that the last Government's second report on climate change reported voluntary agreements with five sectors of industry to minimise emissions of hydrofluorocarbons. Although mentioned in the "Sustainable Business" document, there appears to have been no reporting on progress with those agreements despite Mr Meacher's emphasis upon addressing hydrofluorocarbon use in advance of its expected growth (as a substitute for ozone-depleting hydrochlorofluorocarbons).

**48. If voluntary agreements are to form a part of the forthcoming Climate Change Programme, the arrangements for setting targets, monitoring, verifying and reporting performance should be clearly set out and followed.**

### **Audit and enforcement arrangements**

49. In the Committee's view it is the adequacy of the audit and enforcement arrangements which will make or break the Kyoto Protocol and the drive to reduce greenhouse gas emissions world wide. It is the expectation that the commitments will become legally binding and will also be applied to other Parties that will ensure that Annex I countries exert themselves to deliver programmes to meet their commitment. For developing countries it appears to be the developed countries' willingness to make and deliver against this first step which is needed before they will consider participating and signing up to voluntary or mandatory emission limits.

50. The Protocol continues the calculation and reporting requirements of the Framework Convention on Climate Change. The key elements are an annual national inventory of emissions by sources (produced in accordance with methodologies which have been accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties to the Convention) and a periodic "national communication" detailing information on policies and measures and projections (produced in accordance with guidelines determined by the Conference of the Parties).<sup>59</sup> There is scope within the Protocol for the Conference of the Parties to adopt further guidelines for the preparation of national communications and the calculations of emissions levels.<sup>60</sup>

<sup>54</sup> Third Report from the Environmental Audit Committee, The Pre-Budget Report: Government Response and Follow-up, HC985, Session 1997-98

<sup>55</sup> Q21

<sup>56</sup> QQ 40 & 41

<sup>57</sup> *Op. Cit.*, paragraph 73

<sup>58</sup> *Op. Cit.*, The Government suggested voluntary agreements should add value; reflect a shared understanding; be clear, have milestones and targets; be subject to annual review and independent verification; and set out clearly the responsibility for measuring progress.

<sup>59</sup> Articles 5 and 7 of the Kyoto Protocol

<sup>60</sup> Article 7 of the Kyoto Protocol



51. The inventory of emissions is a quantified list of emissions of the specified greenhouse gases by source. The individual figures are based on complex calculations. They use statistical data (for example energy use data, animal censuses, horticultural statistics and transport statistics), modelling of the emissions processes (for example fuel use and hence CO<sub>2</sub> emissions in the six main sectors of the economy, methane emission rates from different types of oil and gas installations and chemical processes involved in the manufacture of hydrofluorocarbons) and extrapolation.<sup>61</sup> It is vital that countries apply their methodologies for calculating emissions consistently, and consistently over time, so that the baseline figures and performance achieved can be compared on a like for like basis. Over the years the UK inventory has referred to a number of changes to the methodologies applied and has reported that these have also been applied to the baseline.

52. The accepted methodologies for the inventories and projections of emissions allow a degree of flexibility in their application. This is necessary due to differences between countries in their existing methods for collecting prime data, reflecting geographical and other historical differences in approach. This means that not only will the degree of accuracy achieved by these inventory calculations vary between the various gases in the UK's inventory, because of differences in the methodologies, but they will also vary between the UK and other countries' inventories for the same gas and the same emission source.

53. The Department of the Environment, Transport and the Regions provided us with data on the estimated uncertainties associated with their estimates and projections of greenhouse gases. We were surprised to discover that these ranged from  $\pm 5$  per cent for CO<sub>2</sub> emissions to  $\pm 200$  per cent for nitrous oxide in a particular year.<sup>62</sup> The Department explained that, as part of this uncertainty affects all years similarly, it will not affect the differences in emissions between 1990 and 2010. However, the Department estimated that taking this into account the emission data between 1990 and 2010 could vary by as much as  $\pm 5$  per cent as a result of selecting different approved methodologies for inventory calculations.<sup>63</sup>

**54. We consider it is important that the Conference works towards reducing the flexibility allowed in the methodologies approved for calculating emission inventories.**

55. Countries are required to report the level of uncertainty in their emission estimates. The Department of the Environment, Transport and the Regions told us that it considers the UK inventory estimates and projections are at least as accurate as those of other developed countries. However, it estimates uncertainty of some  $\pm 5$  per cent in projections of future greenhouse gas emissions.<sup>64</sup> This will be due to uncertainties associated with underlying assumptions about growth rates in the economy, transport etc.

**56. The high level of uncertainty in projected emission figures further adds to the case for the forthcoming programme to set out actions to exceed comfortably the legal limit of a 12½ per cent reduction in emissions. We would also look to the Government to seek to ensure through the EU that other Member States are building a sufficient margin into their Climate Change Programmes.**

57. The Kyoto Protocol makes provision for review of countries' inventories and national communications by expert review teams.<sup>65</sup> Each national communication is subject to an in-depth review. Mr Meacher explained that the Secretariat of the Climate Change Convention provides these teams. They will meet Government officials, technical experts, business, non-government organisations and other groups.<sup>66</sup> In their memorandum to the Committee the Department of the Environment, Transport and the Regions added the view that the reviews are thorough and comprehensive technical assessments, carried out by independent experts, and said

<sup>61</sup> Ev p2, paragraph 7 and Annex

<sup>62</sup> Ev p2, paragraph 7

<sup>63</sup> Ev p20, paragraph 10

<sup>64</sup> Ev pp19 and 20, paragraphs 5 and 10

<sup>65</sup> Article 8 of the Kyoto Protocol

<sup>66</sup> Q45



that they result in published reports.<sup>67</sup>

**58. We consider that the work of the expert review teams needs to be fully independent and the results widely disseminated in order to give the public confidence in countries' compliance with the approved methodologies and the resulting emissions performance data.**

59. The Government has used the periodic national communications to the Convention as its main reports to Parliament on the UK performance in reducing greenhouse gases. The annual sustainable development reports, the This Common Inheritance series, have included one-line assurance that the UK has been on course to meet its performance, but other than that have reported on actions and commitments to action rather than performance. The two national communications so far produced were presented to Parliament in 1994 and 1997.<sup>68</sup> Mr Meacher told us the national communications were produced every three years.<sup>69</sup> The annual inventories of emissions are reported to the Secretariat of the Convention and have been published.

**60. We consider the Government should report fully to Parliament on performance on the key policy of meeting emission targets in the annual report on the Government's Sustainable Development Strategy which this Committee recommended in its Second Report.**

61. The Department of the Environment, Transport and the Regions told us that the second national communication was the first received by the Secretariat and was considered by the Secretariat to be the best of the national communications received by July 1997.<sup>70</sup> We found the last Government's two reports to be clear and detailed. However, for our Committee and those who wish to review progress on the programme and compare emissions achieved against the targets, the key figures could be better presented and explained. For example, in the Second Report, CO<sub>2</sub> emissions are shown to have been less than projected for the latest year, 1995, and there are charts showing actual emissions against projected emissions for most, but not all, of the sources of emissions. Equivalent data are not provided for the other greenhouse gases. Explanations for variances between actual emissions and projected emissions are not always provided and it was not possible to reconcile the estimated and actual impacts of particular initiatives to the emissions data and projections.

**62. We recommend that the Programme and subsequent reports set out emissions data in tabular form so that variances are more clearly displayed and are explained by data at a lower level. These tables should highlight where key figures have been revised and explain any revisions and note the degree of uncertainty in the quoted figures. Tables showing the estimated and actual impacts of policy initiatives should be reconcilable to emissions data.**

**63. In addition to reporting to Parliament on national performance against the Protocol, we consider the Government should report on international performance and developments within the Protocol procedures. This would provide Parliament with better information on progress overall, the UK Government's contribution to developments and the need for further change, and allow more informed debates on priorities for future negotiations.**

64. The Kyoto Protocol will come into force when 55 Parties to the Convention, including Parties accounting for more than 55 per cent of emissions of Annex I countries, have ratified it.<sup>71</sup> Thereafter the emission limits on Annex I countries will be binding. However, the Protocol does not specify powers of enforcement. It merely provides for the approval of appropriate and effective procedures and mechanisms to determine and address cases of non-compliance by the

<sup>67</sup> Ev p19, paragraph 5

<sup>68</sup> Climate Change: the UK Programme Cm 2427, January 1994 and Climate Change: the UK programme, Second Report Cm 3558, February 1997

<sup>69</sup> Q45

<sup>70</sup> Ev p1, paragraph 2

<sup>71</sup> Article 25 of the Kyoto Protocol



first session of the Parties to the Protocol.<sup>72</sup> The Parliamentary Under-Secretary of State of the Department of the Environment, Transport and the Regions said in debate on the floor of the House that procedures could either promote compliance or penalise non-compliance and that she foresaw some hard negotiating to come on that matter.<sup>73</sup>

**65. We consider it of the utmost importance that a clear enforcement regime is agreed at the earliest possible date. We consider the Government should be pressing the EU to agree such a mechanism within the EU to demonstrate its practicality and reinforce the understanding that overachievement of targets by some countries within the EU does not give others licence not to meet their own targets.**

<sup>72</sup>Q47  
<sup>73</sup>HC Deb, 15 July, col 367



## APPENDIX

**KYOTO PROTOCOL TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE****The Parties to this Protocol,**

Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as "the Convention",

In pursuit of the ultimate objective of the Convention as stated in its Article 2,

Recalling the provisions of the Convention,

Being guided by Article 3 of the Convention,

Pursuant to the Berlin Mandate adopted by decision 1/CP.1 of the Conference of the Parties to the Convention at its first session,

**Have agreed as follows:**

## ARTICLE 1

For the purposes of this Protocol, the definitions contained in Article 1 of the Convention shall apply. In addition:

1. "Conference of the Parties" means the Conference of the Parties to the Convention.
2. "Convention" means the United Nations Framework Convention on Climate Change, adopted in New York on 9 May 1992.
3. "Intergovernmental Panel on Climate Change" means the Intergovernmental Panel on Climate Change established in 1988 jointly by the World Meteorological Organisation and the United Nations Environment Programme.
4. "Montreal Protocol" means the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted in Montreal on 16 September 1987 and as subsequently adjusted and amended.
5. "Parties present and voting" means Parties present and casting an affirmative or negative vote.
6. "Party" means, unless the context otherwise indicates, a Party to this Protocol.
7. "Party included in Annex I" means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2(g), of the Convention.

## ARTICLE 2

1. Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:

- (a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:
  - (i) Enhancement of energy efficiency in relevant sectors of the national economy;
  - (ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;
  - (iii) Promotion of sustainable forms of agriculture in light of climate change considerations;
  - (iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative



- environmentally sound technologies;
- (v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;
  - (vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;
  - (vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;
  - (viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy;
- (b) Co-operate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article, pursuant to Article 4, paragraph 2(e)(i), of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on such policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such co-operation taking into account all relevant information.

2. The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organisation and the International Maritime Organisation, respectively.

3. The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol, if it decides that it would be beneficial to co-ordinate any of the policies and measures in paragraph 1(a) above, taking into account different national circumstances and potential effects, shall consider ways and means to elaborate the co-ordination of such policies and measures.

### ARTICLE 3

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

2. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.

3. The net changes in greenhouse gases emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments under this Article of each Party included in Annex I. The greenhouse gas emissions by sources and removals by sinks associated with those activities shall be reported in a transparent and verifiable manner and reviewed in accordance with Articles 7 and 8.

4. Prior to the first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol, each Party included in Annex I shall provide, for consideration by the Subsidiary Body for Scientific and Technological Advice, data to establish its level of carbon stocks in 1990 and to



enable an estimate to be made of its changes in carbon stocks in subsequent years. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, decide upon modalities, rules and guidelines as to how, and which, additional human-induced activities related to changes in greenhouse gas emissions by sources and removals by sinks in the agricultural soils and the land-use change and forestry categories shall be added to, or subtracted from, the assigned amounts for Parties included in Annex I, taking into account uncertainties, transparency in reporting, verifiability, the methodological work of the Intergovernmental Panel on Climate Change, the advice provided by the Subsidiary Body for Scientific and Technological Advice in accordance with Article 5 and the decisions of the Conference of the Parties. Such a decision shall apply in the second and subsequent commitment periods. A Party may choose to apply such a decision on these additional human-induced activities for its first commitment period, provided that these activities have taken place since 1990.

5. The Parties included in Annex I undergoing the process of transition to a market economy whose base year or period was established pursuant to decision 9/CP.2 of the Conference of the Parties at its second session shall use that base year or period for the implementation of their commitments under this Article. Any other Party included in Annex I undergoing the process of transition to a market economy which has not yet submitted its first national communication under Article 12 of the Convention may also notify the Conference of the Parties serving as the meeting of the Parties to this Protocol that it intends to use an historical base year or period other than 1990 for the implementation of its commitments under this Article. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall decide on the acceptance of such notification.

6. Taking into account Article 4, paragraph 6, of the Convention, in the implementation of their commitments under this Protocol other than those under this Article, a certain degree of flexibility shall be allowed by the Conference of the Parties serving as the meeting of the Parties to this Protocol to the Parties included in Annex I undergoing the process of transition to a market economy.

7. In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the assigned amount for each Party included in Annex I shall be equal to the percentage inscribed for it in Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraph 5 above, multiplied by five. Those Parties included in Annex I for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change of the purposes of calculating their assigned amount.

8. Any Party included in Annex I may use 1995 as its base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, for the purposes of the calculation referred to in paragraph 7 above.

9. Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.

10. Any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.

11. Any emission reduction units, or any part of an assigned amount, which a Party transfers to another Party in accordance with the provisions of Article 6 or of Article 17 shall be subtracted from the assigned amount for the transferring Party.

12. Any certified emission reductions which a Party acquires from another Party in accordance with the provisions of Article 12 shall be added to the assigned amount for the acquiring Party.

13. If the emissions of a Party included in Annex I in a commitment period are less than its assigned amount under this Article, this difference shall, on request of that Party, be added to the assigned amount for that Party for subsequent commitment periods.

14. Each party included in Annex I shall strive to implement the commitments mentioned in paragraph 1 above in such a way as to minimize adverse social, environmental and economic impacts



on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention. In line with relevant decisions of the Conference of the Parties on the implementation of those paragraphs, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, consider what actions are necessary to minimize the adverse effects of climate change and/or the impacts of response measures on Parties referred to in those paragraphs. Among the issues to be considered shall be the establishment of funding, insurance and transfer of technology.

#### ARTICLE 4

1. Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

2. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance or approval of this Protocol, or accession thereto. The secretariat shall in turn inform the Parties and signatories to the Convention of the terms of the agreement.

3. Any such agreement shall remain in operation for the duration of the commitment period specified in Article 3, paragraph 7.

4. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization, any alteration in the composition of the organization after adoption of this Protocol shall not affect existing commitments under this Protocol. Any alteration in the composition of the organization shall only apply for the purposes of those commitments under Article 3 that are adopted subsequent to that alteration.

5. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.

6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

#### ARTICLE 5

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.

2. Methodologies for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Where such methodologies are not used, appropriate adjustments shall be applied according to methodologies agreed upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise such methodologies and adjustments, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to methodologies or adjustments shall be used only for the purposes of ascertaining compliance with commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.



3. The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases listed in Annex A shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Based on the work of, *inter alia*, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review, and, as appropriate, revise the global warming potential of each such greenhouse gas, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to a global warming potential shall apply only to commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

#### ARTICLE 6

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

- (a) Any such project has the approval of the Parties involved;
- (b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;
- (c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and
- (d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

2. The Conference of the Parties serving as the meeting of the Parties to this Protocol may, at its first session or as soon as practicable thereafter, further elaborate guidelines for the implementation of this Article, including for verification and reporting.

3. A Party included in Annex I may authorize legal entities to participate, under its responsibility, in actions leading to the generation, transfer or acquisition under this Article of emission reduction units.

4. If a question of implementation by a Party included in Annex I of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8, transfers and acquisitions of emission reduction units may continue to be made after the question has been identified, provided that any such units may not be used by a Party to meet its commitments under Article 3 until any issue of compliance is resolved.

#### ARTICLE 7

1. Each Party included in Annex I shall incorporate in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, submitted in accordance with the relevant decisions of the Conference of the Parties, the necessary supplementary information for the purposes of ensuring compliance with Article 3, to be determined in accordance with paragraph 4 below.

2. Each Party included in Annex I shall incorporate in its national communication, submitted under Article 12 of the Convention, the supplementary information necessary to demonstrate compliance with its commitments under this Protocol, to be determined in accordance with paragraph 4 below.

3. Each Party included in Annex I shall submit the information required under paragraph 1 above annually, beginning with the first inventory due under the Convention for the first year of the commitment period after this Protocol has entered into force for that Party. Each such Party shall submit the information required under paragraph 2 above as part of the first national communication due under the Convention after this Protocol has entered into force for it and after the adoption of guidelines as provided for in paragraph 4 below. The frequency of subsequent submission of information required under this Article shall be determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol, taking into account any timetable for the submission of national communications decided upon by the Conference of the Parties.



4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the preparation of the information required under this Article, taking into account guidelines for the preparation of national communications by Parties included in Annex I adopted by the Conference of the Parties. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall also, prior to the first commitment period decide upon modalities for the accounting of assigned amounts.

#### ARTICLE 8

1. The information submitted under Article 7 by each Party included in Annex I shall be reviewed by expert review teams pursuant to the relevant decisions of the Conference of the Parties and in accordance with guidelines adopted for this purpose by the Conference of the Parties serving as the meeting of the Parties to this Protocol under paragraph 4 below. The information submitted under Article 7, paragraph 1, by each Party included in Annex I shall be reviewed as part of the annual compilation and accounting of emissions inventories and assigned amounts. Additionally, the information submitted under Article 7, paragraph 2, by each Party included in Annex I shall be reviewed as part of the review of communications.

2. Expert review teams shall be coordinated by the secretariat and shall be composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations, in accordance with guidance provided for this purpose by the Conference of the Parties.

3. The review process shall provide a thorough and comprehensive technical assessment of all aspects of the implementation by a Party of this Protocol. The expert review teams shall prepare a report to the Conference of the Parties serving as the meeting of the Parties to this Protocol, assessing the implementation of the commitment of the Party and identifying any potential problems in, and factors influencing the fulfilment of commitments. Such reports shall be circulated by the secretariat to all Parties to the Convention. The secretariat shall list those questions of implementation indicated in such reports for further consideration by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the review of implementation of this Protocol by expert review teams taking into account the relevant decisions of the Conference of the Parties.

5. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, with the assistance of the Subsidiary Body for Implementation and, as appropriate, the Subsidiary Body for Scientific and Technological Advice, consider:

- (a) The information submitted by Parties under Article 7 and the reports of the expert reviews thereon conducted under this Article; and
- (b) Those questions of implementation listed by the secretariat under paragraph 3 above, as well as any questions raised by Parties.

6. Pursuant to its consideration of the information referred to in paragraph 5 above, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take decisions on any matter required for the implementation of this Protocol.

#### ARTICLE 9

1. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Article 4, paragraph 2(d), and Article 7, paragraph 2(a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.

2. The first review shall take place at the second session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. Further reviews shall take place at regular intervals and in a timely manner.



## ARTICLE 10

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments under Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, shall:

- (a) Formulate, where relevant and to the extent possible, cost-effective national and, where appropriate, regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties, and consistent with the guidelines for the preparation of national communications adopted by the Conference of the Parties;
- (b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change:
  - Such programmes would, *inter alia*, concern the energy transport and industry sectors as well as agriculture, forestry and waste management. Furthermore, adaptation technologies and methods for improving spatial planning would improve adaptation to climate change; and
  - Parties included in Annex I shall submit information on action under this Protocol, including national programmes, in accordance with Article 7, and other Parties shall seek to include in their national communications, as appropriate, information on programmes which contain measures that the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increases in greenhouse gas emissions, and enhancement of and removals by sinks, capacity building and adaptation measures;
- (c) Cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain and the creation of an enabling environment for the private sector, to promote and enhance the transfer of, and access to, environmentally sound technologies;
- (d) Cooperate in scientific and technical research and promote the maintenance and the development of systematic observation systems and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts, programmes and networks on research and systematic observation, taking into account Article 5 of the Convention;
- (e) Cooperate in and promote at the international level, and, where appropriate, using existing bodies, the development and implementation of education and training programmes, including the strengthening of national capacity building, in particular human and institutional capacities and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, and facilitate at the national level public awareness of, and public access to information on climate change. Suitable modalities should be developed to implement these activities through the relevant bodies of the Convention, taking into account Article 6 of the Convention;
- (f) Include in their national communications information on programmes and activities undertaken pursuant to this Article in accordance with relevant decisions of the Conference of the Parties; and



- (g) Give full consideration, in implementing the commitments under this Article, to Article 4, paragraph 8, of the Convention.

#### ARTICLE 11

1. In the implementation of Article 10, Parties shall take into account the provisions of Article 4, paragraphs 4,5,7,8 and 9, of the Convention.

2. In the context of the implementation of Article 4, paragraph 1, of the Convention, in accordance with the provisions of Article 4, paragraph 3, and Article 11 of the Convention, and through the entity or entities entrusted with the operation of the financial mechanism of the Convention, the developed country Parties and other developed Parties included in Annex II to the Convention shall:

- (a) Provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in advancing the implementation of existing commitments under Article 4, paragraph 1(a), of the Convention that are covered in Article 10, subparagraph (a); and
- (b) Also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of advancing the implementation of existing commitments under Article 4, paragraph 1, of the Convention that are covered by Article 10 and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 of the Convention, in accordance with that Article.

The implementation of these existing commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among developed country Parties. The guidance to the entity or entities entrusted with the operation of the financial mechanism of the Convention in relevant decisions of the Conference of the Parties, including those agreed before the adoption of this Protocol, shall apply *mutatis mutandis* to the provisions to this paragraph.

3. The developed country Parties and other developed Parties in Annex II to the Convention may also provide, and developing country Parties avail themselves of, financial resources for the implementation of Article 10, through bilateral, regional and other multilateral channels.

#### ARTICLE 12

1. A clean development mechanism is hereby defined.

2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism:

- (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and
- (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.

5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:

- (a) Voluntary participation approved by each Party involved;



- (b) Real, measurable, and long-term benefits related to the mitigation of climate change; and
- (c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.

7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.

8. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.

9. Participation under the clean development mechanism, including in activities mentioned in paragraph 3(a) above and in the acquisition of certified emission reductions, may involve private and/or public entities, and is to be subject to whatever guidance may be provided by the executive board of the clean development mechanism.

10. Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period.

#### ARTICLE 13

1. The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to this Protocol.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, any member of the Bureau of the Conference of the Parties representing a Party to the Convention but, at that time, not a Party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall keep under regular review the implementation of this Protocol and shall make, within its mandate, the decisions necessary to promote its effective implementation. It shall perform the functions assigned to it by this Protocol and shall:

- (a) Assess, on the basis of all information made available to it in accordance with the provisions of this Protocol, the implementation of this Protocol by the Parties, the overall effects of the measures taken pursuant to this Protocol, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;
- (b) Periodically examine the obligations of the Parties under this Protocol, giving due consideration to any reviews required by Article 4, paragraph 2(d) and Article 7, paragraph 2, of the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge, and in this respect consider and adopt regular reports on the implementation of this Protocol;
- (c) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;



- (d) Facilitate, at the request of two or more Parties, the co-ordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;
- (e) Promote and guide, in accordance with the objective of the Convention and the provisions of this Protocol, and taking fully into account the relevant decisions by the Conference of the Parties, the development and periodic refinement of comparable methodologies for the effective implementation of this Protocol, to be agreed on by the Conference of the Parties serving as the meeting of the Parties to this Protocol;
- (f) Make recommendations on any matters necessary for the implementation of this Protocol;
- (g) Seek to mobilize additional financial resources in accordance with Article 11, paragraph 2;
- (h) Establish such subsidiary bodies as are deemed necessary for the implementation of this Protocol;
- (i) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organisations and intergovernmental and non-governmental bodies; and
- (j) Exercise such other functions as may be required for the implementation of this Protocol, and consider any assignment resulting from a decision by the Conference of the Parties.

5. The rules of procedure of the Conference of the Parties and financial procedures applied under the Convention shall be applied *mutatis mutandis* under this Protocol, except as may be otherwise decided by consensus by the conference of the Parties serving as the meeting of the Parties to this Protocol.

6. The first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be convened by the secretariat in conjunction with the first session of the Conference of the Parties that is scheduled after the date of the entry into force of this Protocol. Subsequent ordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held every year and in conjunction with ordinary sessions of the Conference of the Parties, unless otherwise decided by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

7. Extraordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held at such other times as may be deemed necessary by the Conference of the Parties serving as the meeting of the Parties to this Protocol, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

8. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not party to the Convention, may be represented at sessions of the conference of the Parties serving as the meeting of the Parties to this Protocol as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties serving at the meeting of the Parties to this Protocol as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure, as referred to in paragraph 5 above.

#### ARTICLE 14

1. The secretariat established by Article 8 of the Convention shall serve as the secretariat of this Protocol.

2. Article 8, paragraph 2, of the Convention on the functions of the secretariat, and Article 8, paragraph 3, of the Convention on arrangements made for the functioning of the secretariat, shall apply *mutatis mutandis* to this Protocol. The secretariat shall, in addition, exercise the functions assigned to it under this Protocol.



## ARTICLE 15

1. The Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation established by Articles 9 and 10 of the Convention shall serve as, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol. The provisions relating to the functioning of these two bodies under the Convention shall apply *mutatis mutandis* to this Protocol. Sessions of the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol shall be held in conjunction with the meetings of, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the subsidiary bodies. When the subsidiary bodies serve as the subsidiary bodies of this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the subsidiary bodies established by Article 9 and 10 of the Convention exercise their functions with regard to matters concerning this Protocol, any members of the Bureaux of those subsidiary bodies representing a Party to the Convention but, at that time, not a party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

## ARTICLE 16

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, as soon as practicable, consider the application to this Protocol of, and modify as appropriate, the multilateral consultative process referred to in Article 13 of the Convention, in the light of any relevant decisions that may be taken by the Conference of the Parties. Any multilateral consultative process that may be applied to this Protocol shall operate without prejudice to the procedures and mechanisms established in accordance with Article 18.

## ARTICLE 17

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emissions limitation and reduction commitments under that Article.

## ARTICLE 18

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance. Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.

## ARTICLE 19

The provisions of Article 14 of the Convention on settlement of disputes shall apply *mutatis mutandis* to this Protocol.

## ARTICLE 20

1. Any Party may propose amendments to this Protocol.

2. Amendments to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed amendment to this Protocol shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed amendments to the Parties and signatories to the Convention and, for information, to the Depositary.



3. The Parties shall make every effort to reach agreement on any proposed amendment to this Protocol by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to this Protocol.

5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

#### ARTICLE 21

1. Annexes to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any annexes thereto. Any annexes adopted after the entry into force of this Protocol shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Any Party may make proposals for an annex to this Protocol and may propose amendments to annexes to this Protocol.

3. Annexes to this Protocol and amendments to annexes to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed annex or amendment to an annex to the Parties and signatories to the Convention and, for information, to the Depositary.

4. The Parties shall make every effort to reach agreement on any proposed annex or amendment to an annex by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the annex or amendment to an annex shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted annex or amendment to an annex shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

5. An annex, or amendment to an annex other than Annex A or B, that has been adopted in accordance with paragraphs 3 and 4 above shall enter into force for all Parties to this Protocol six months after the date of the communication by the Depositary to such Parties of the adoption of the annex or adoption of the amendment to the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex or amendment to the annex. The annex or amendment to an annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

6. If the adoption of an annex or an amendment to an annex involves an amendment to this Protocol, that annex or amendment to an annex shall not enter into force until such time as the amendment to this Protocol enters into force.

7. Amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure set out in Article 20, provided that any amendment to Annex B shall be adopted only with the written consent of the Party concerned.

#### ARTICLE 22

1. Each Party shall have one vote, except as provided for in paragraph 2 below.

2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to this Protocol. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.



## ARTICLE 23

1. The Secretary-General of the United Nations shall be the Depositary of this Protocol.

## ARTICLE 24

1. This Protocol shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations which are Parties to the Convention. It shall be open for signature at United Nations Headquarters in New York from 16 March 1998 to 15 March 1999. This Protocol shall be open for accession from the day after the date on which it is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to this Protocol without any of its member States being a Party shall be bound by all the obligations under this Protocol. In the case of such organizations, one or more of whose member States is a Party to this Protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Protocol. In such cases, the organization and the member States shall not be entitled to exercise rights under this Protocol concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by this Protocol. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

## ARTICLE 25

1. This Protocol shall enter into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession.

2. For the purpose of this Article, "the total carbon dioxide emissions for 1990 of the Parties included in Annex I" means the amount communicated on or before the date of adoption of this Protocol by the Parties included in Annex I in their first national communications submitted in accordance with Article 12 of the Convention.

3. For each State or regional economic integration organization that ratifies, accepts or approves this Protocol or accedes thereto after the conditions set out in paragraph 1 above for entry into force have been fulfilled, this Protocol shall enter into force on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

4. For the purposes of this Article, any instrument deposited by a regional economic integration organisation shall not be counted as additional to those deposited by States members of the organisation.

## ARTICLE 26

No reservations may be made to this Protocol.

## ARTICLE 27

1. At any time after three years from the date on which this Protocol has entered into force for a Party, that Party may withdraw from this Protocol by giving written notification to the Depositary.

2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from this Protocol.

## ARTICLE 28

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nation.



**DONE** at Kyoto this eleventh day of December one thousand nine hundred and ninety-seven.

**IN WITNESS WHEREOF** the undersigned, being duly authorized to that effect, have affixed their signatures to this Protocol on the dates indicated.

ARTICLE 1  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

ARTICLE 2  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

ARTICLE 3  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

ARTICLE 4  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

ARTICLE 5  
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ARTICLE 6  
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ARTICLE 9  
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ARTICLE 10  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

ARTICLE 11  
The Parties shall be open for accession from the date of entry into force of this Protocol. The instruments of accession shall be deposited with the Secretary-General of the United Nations.



## ANNEX A

**Greenhouse gases**Carbon dioxide (CO<sub>2</sub>)Methane (CH<sub>4</sub>)Nitrous oxide (N<sub>2</sub>O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF<sub>6</sub>)**Sector/source categories****Energy**

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

**Industrial processes**

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

**Solvent and other product use****Agriculture**

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

Other

**Waste**

Solid waste disposal on land

Wastewater handling

Waste incineration

Other



## ANNEX B

Party	Quantified emission limitation or reduction commitment (percentage of base year or period)
Australia	108
Austria	92
Belgium	92
Bulgaria*	92
Canada	94
Croatia*	95
Czech Republic	92
Denmark	92
Estonia*	92
European Community	92
Finland	92
France	92
Germany	92
Greece	92
Hungary*	94
Iceland	110
Ireland	92
Italy	92
Japan	94
Latvia*	92
Liechtenstein	92
Lithuania*	92
Luxembourg	92
Monaco	92
Netherlands	92
New Zealand	100
Norway	101
Poland*	94
Portugal	92
Romania*	92
Russian Federation*	100
Slovakia*	92
Slovenia*	92
Spain	92
Sweden	92
Switzerland	92
Ukraine*	100
United Kingdom of Great Britain and Northern Ireland	92
United States of America	93

\* Countries that are undergoing the process of transition to a market economy.



## MINUTES OF PROCEEDINGS RELATING TO THE REPORT

TUESDAY 28 JULY 1998

Members present:

Mr John Horam, in the Chair

Mr Bob Blizzard  
Mr Cynog Dafis  
Mr Dominic Grieve  
Dr Brian Iddon  
Mr Tim Loughton

Mr Laurence Robertson  
Mr Malcolm Savidge  
Mr Jonathan R Shaw  
Mr Gareth R Thomas  
Mr Paul Truswell

The Committee deliberated

Draft Report (Climate Change: UK Emission Reduction Targets and Audit Arrangements), proposed by the Chairman, brought up and read.

Paragraphs Nos. 1 to 65 read and agreed to.

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

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

*Ordered*, That a paper [The Kyoto Protocol] be appended to the Report. — (*The Chairman.*)

[Adjourned till 20 October at 10.30am]



WITNESS

Page

*Tuesday 30 June*

DEPARTMENT OF THE ENVIRONMENT, TRANSPORT AND THE REGIONS

Rt Hon Michael Meacher MP .....	5
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LIST OF MEMORANDA INCLUDED IN THE MINUTES  
OF EVIDENCE

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**Memorandum or supplementary memorandum submitted by:**

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2. Supplementary memorandum .....	18



# MINUTES OF EVIDENCE

TAKEN BEFORE THE ENVIRONMENTAL AUDIT COMMITTEE

TUESDAY 30 JUNE 1998

Members present:

Mr John Horam, in the Chair

Mr Norman Baker	Mr Laurence Robertson
Mrs Helen Brinton	Mr Malcolm Savidge
Mr Cynog Dafis	Mr Jonathan R Shaw
Mr Dominic Grieve	Mr Gareth R Thomas
Dr Brian Iddon	Mr Paul Truswell
Mr Tim Loughton	Joan Walley

## Memorandum submitted by the Department of the Environment, Transport and the Regions

CLIMATE CHANGE AND THE EU ENVIRONMENT COUNCIL, LUXEMBOURG 16-17 JUNE

### UNILATERAL COMMITMENTS

1. *Is the Government still committed to the reduction of UK emissions of CO<sub>2</sub> by 20 per cent on 1990 levels by 2010?*

- *What is the rationale for this target?*
- *What unilateral commitments to reducing emissions of CO<sub>2</sub> and/or the other Kyoto Protocol gases, have been made by other states?*
- *When will the Government publish its strategy for achieving its CO<sub>2</sub> target?*

The Government stated in its Manifesto that it would reduce emissions of carbon dioxide by 20 per cent on 1990 levels by 2010. This remains our firm political objective. The UK is not the only country to have indicated its intention to reduce greenhouse gas emissions beyond the legally-binding targets. Germany, Austria and Denmark also have national targets to reduce CO<sub>2</sub> by between 20 and 25 per cent below 1990 levels by 2005.

The Government intends to publish a consultation paper on the policy options for meeting the UK's climate change targets this Summer. Our first priority will be to make sure that we can deliver the legally-binding Kyoto target but we also want to launch a national debate on how to move beyond that towards achieving the 20 per cent reduction in CO<sub>2</sub>. We are looking to achieve a balanced programme with all sectors playing their part. The programme is expected to include savings from areas such as the integrated transport policy, increased power generation from renewables and combined heat and power, together with greater energy efficiency in business, the public sector, and households.

### INTERNATIONAL COMMITMENTS

2. *Does the Government intend to continue the series published by the last administration (Cm 2427, January 1994 and Cm 2558, February 1997) in relation to Article 12 of the UN Framework Convention on Climate Change? When will the third report be published?*

- *Were the two published reports referred to above the same as the submissions made to the UN under the Convention?*
- *Does the Kyoto Protocol contain any further reporting requirements?*

Article 12 of the UN Framework Convention on Climate Change requires Annex I countries to submit periodic reports. Previous reports (which were also presented to Parliament as Cm papers) were submitted in January 1994 and February 1997. The UK was commended by the Climate Change Convention Secretariat for being the first country to submit its second report as required by the Convention. The Secretariat also considered it to be the best that had been received by July 1997. No date has yet been set for the next report to be submitted but it will, like the previous two reports, be presented to Parliament at the same time.

The Kyoto Protocol does not contain any further reporting requirements, although it does provide for any supplementary information required under the Protocol to be incorporated into the annual greenhouse gas inventories of Annex I Parties and the National Reports of all Parties which are submitted to the Convention Secretariat.



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## THE EUROPEAN UNION

3. What is the current timetable for negotiations between Member States to apportion shares in the European Union's overall commitment (the European bubble) under the Kyoto Protocol?

- Does the Kyoto Protocol include a requirement to conclude this agreement within a certain period? If not, what considerations govern the timetable of negotiations over the European bubble?

One of the priorities of the United Kingdom's Presidency of the EU has been to get agreement to the share out among Member States of the EU's legally-binding eight per cent reduction target under the Kyoto Protocol. The Protocol does not contain any deadline for agreeing this share-out, but the terms of any agreement have to be notified by Parties to the agreement at the time of ratification of the Protocol. By reaching agreement early the Member States of the EU have sent a strong message to other Parties about our determination to bring the Protocol into force. Negotiations have, therefore, been going on since the start of our Presidency, and final agreement was reached by the Member States at the Environmental Council which met in Luxembourg on 16–17 June. The UK target is –12.5 per cent. Targets for the other Member States are: Austria –13 per cent; Belgium –7.5 per cent; Denmark –21 per cent; Finland 0 per cent; France 0 per cent; Germany –21 per cent; Greece +25 per cent; Ireland +13 per cent; Italy –6.5 per cent; Luxembourg –28 per cent; Netherlands –6 per cent; Portugal +27 per cent; Spain +15 per cent; Sweden +4 per cent.

4. On what basis are the negotiations within the EU on sharing emissions reductions taking place? Have criteria been developed for the share-out (if so, can these be made available to the Committee) or is there a bidding system?

- in the Government's approach to the EU negotiations on apportioning reductions within the bubble, what account has been taken of its unilateral commitment on CO<sub>2</sub>?

A provisional agreement on individual targets for Member States, totalling an overall 9 per cent reduction for the EU for the three gas basket of CO<sub>2</sub>, methane and nitrous oxide, was reached under the Netherlands Presidency at the March 1997 Environment Council to underpin the EU's pre-Kyoto negotiating position of a reduction target of 15 per cent. But the formal adoption of the Kyoto Protocol (with the legally-binding target reduction for the EU of 8 per cent) meant that this provisional agreement had to be renegotiated, with the three additional greenhouse gases (hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride) included for the first time.

The targets, as finally agreed in Luxembourg, reflect the differing individual economic circumstances between Member States, and represent considerable improvements compared with their "business as usual" scenarios for the period up to 2008–2012.

5. Will EU Member States' compliance with any agreed share-out within the European bubble be made legally binding under EU legislation or will it be governed by the Kyoto Protocol?

Once the agreed targets under the EU bubble are notified to the Convention Secretariat at the time of ratification, compliance provisions under the Protocol will apply to those targets. But the extent, if any, to which compliance by Member States will be subject to EU legislation is a matter for future consideration.

6. When will the Government publish its strategy for meeting its obligations under the Kyoto Protocol?

As mentioned in the response to question 1, the Government intends to publish its consultation paper on the possible options for meeting the UK's climate change targets this summer.

## UK TRENDS IN EMISSIONS

7. The Committee would be grateful if information on current and projected emissions of the Kyoto gases and related targets could be given in terms of carbon dioxide equivalents in the form of a table as laid out below. In addition for each gas please provide the methodology used to generate the projected figure, including the principal assumptions made, and estimated margins of accuracy. Please identify where current projections are significantly different to those given in the UK's second report under the Climate Change Convention, Cm 3558, and explain the difference.

Emissions: Mt of CO <sub>2</sub> equivalents <sup>1</sup>	Baseline (1990)	Most recent data (1996)	Projection for 2010 on current trends	Framework target (by 2000)	Kyoto target (by 2010)	Unilateral target
Carbon dioxide	615	593	622	2	3	493
Methane	93	78	59	2	3	—
Nitrous oxide	67	59	44	2	3	—
Hydrofluorocarbons	15	16	6	2	3	—



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Emissions: Mt of CO <sub>2</sub> equivalents <sup>1</sup>	Baseline (1990)	Most recent data (1996)	Projection for 2010 on current trends	Framework target (by 2000)	Kyoto target (by 2010)	Unilateral target
Perfluorocarbons	0.6	0.5	0.8	<sup>2</sup> —	<sup>3</sup> —	—
Sulphur hexafluoride	0.7	0.8	1.1	<sup>2</sup> —	<sup>3</sup> —	—
Total	791	747	733	791	692	—

<sup>1</sup> Emissions given in Mt CO<sub>2</sub> equivalent. To convert to Mt Carbon equivalents multiply by 12/44.

<sup>2</sup> To aim to reduce emissions of all greenhouse gases to 1990 levels by 2000.

<sup>3</sup> To reduce aggregate anthropogenic carbon dioxide equivalent emissions of the six greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>) by 12.5 per cent from 1990 levels by the target period of 2008–2012.

<sup>4</sup> The UK government has adopted the domestic aim of reducing carbon dioxide emissions by 20 per cent.

<sup>5</sup> Base year used for HFCs, PFCs, and SF<sub>6</sub> in this table is 1995. The Protocol allows Parties to use either 1990 or 1995 as base year for the fluorinated gases. Emissions in 1990 were 13 Mt CO<sub>2</sub> equivalent HFCs, 2 Mt CO<sub>2</sub> equivalent PFCs and 0.6 Mt CO<sub>2</sub> equivalent SF<sub>6</sub>.

The methodologies used to generate emission estimates and projections by gas and by sector remain the same as in the UK Second National Communication under the Framework convention on Climate Change (see attached information and tables).

Estimated uncertainties are: carbon dioxide  $\pm 5$  per cent; methane  $\pm 20$  per cent; nitrous oxide  $\pm 200$  per cent; hydrofluorocarbons  $\pm 25$  per cent; perfluorocarbons  $\pm 20$  per cent; sulphur hexafluoride  $\pm 15$  per cent.

Projections are updated routinely as new information becomes available. The major difference between the current projections and those published in the UK's Second National Communication is for nitrous oxide emissions from agriculture, which accounts for around 50 per cent of the N<sub>2</sub>O total. A revision to the internationally-recommended methodology for estimating nitrous oxide emissions from agriculture has resulted in both emissions and projections being approximately a factor of 10 higher than previously estimated for this sector. This results in a change in the reduction in total CO<sub>2</sub>-equivalent emissions between 1990 and 2010 from 6.3 per cent as given in the Second National Communication to 6.5 per cent.

#### EU ENVIRONMENT COUNCIL

##### 8. *Aside from obligations under the Kyoto Protocol, what other matters are on the agenda for the June Environment Council?*

In addition to agreeing the share out of the EU target, the Council reached agreement on priorities for policies and measures to be developed at a European level. These conclusions covered a range of issues including: CO<sub>2</sub> emissions from cars; taxation of aviation fuel; fossil fuel subsidies; energy efficiency; and waste management.

On issues other than climate change, the Council agreed common positions on four proposals: a directive setting legally binding limits for airborne levels of four major air pollutants; a directive which will significantly reduce the sulphur content of heavy fuel and gas oil; a directive establishing a system for licensing and inspection of zoos; and a revised European Environment Agency regulation. The Council also reached a very considerable degree of common understanding on the proposal for a Water Framework Directive which should allow a common position to be reached once the European Parliament's opinion is available.

Conclusions were agreed preparing the EU's position for the Fourth Pan-European Conference of Environment Ministers in Denmark later this month, on the Community's Biodiversity Strategy and on the follow-up to the Bergen North Sea Intermediate Ministerial Meeting on the Integration of Fisheries and Environmental Issues. The Council agreed Conclusions welcoming the European car industry's improved offer to reduce CO<sub>2</sub> from passenger cars, but agreed that more work was needed before agreement could be reached. The Commission presented its Communication on Environment and Enlargement which will be discussed further by the Council during the Austrian Presidency. The Deputy Prime Minister reported on the Conclusions on the environment agreed by Heads of Government at the European Council in Cardiff on 16 June.

Ministerial discussions were held on proposals to reduce emissions from Heavy Goods Vehicles (part of the Commission's Auto-Oil Programme), the revision of a directive on the deliberate release of genetically modified organisms, and eco-labelling. The Council also briefly discussed the Commission's proposal to end the Austria and Luxembourg bans on genetically modified maize, although no decision will be taken on this issue until after the European Parliament has delivered its opinion on 14 July.



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## ANNEX

*Carbon Dioxide inventory and projections*

Emissions of carbon dioxide were calculated using an econometric model linked to a model of the electricity supply industry. The equations were fitted to historical data on fuel demand, fuel price and economic activity for activities in six main sectors of the economy. The model was then used to project fuel demand, and hence carbon dioxide emissions, using assumptions about future fuel price and economic output agreed interdepartmentally. The model projections are described in Energy paper 65.

*Methane inventory and projection assumptions*

Source category	Inventory methodology	Basis for projections
Fuel combustion	Emission factors based on carbon content of fuels, national energy statistics	Projected national energy use
Oil and gas production	Emission factors by installation type, reporting of gas flared, census of installations, national oil and gas production data	Changing number of installations, projected energy use
Coal mining	Emission factors from measurements at UK mines, annual coal production data	Projected national energy statistics
Natural gas distribution	Comprehensive leakage measurements on national distribution network	Changing network characteristics and leakage abatement
Agriculture: livestock	Emission factors for representative animal types; annual animal census	Estimated animal populations, likely changes in emission factors
Agriculture: livestock wastes	Emission factors and waste arisings by animal type; national animal census	Estimated animal populations
Landfills	First order decay model calibrated to UK measured data, national data on waste characteristics and energy recovery from landfill	UK waste strategy targets, population, trends in landfill site design and energy recovery schemes
Sewage treatment and disposal	Emission factors for specific treatment and disposal routes, national data on sludge production	Population, estimated likely changes in disposal routes

*Nitrous oxide inventory and projection assumptions*

Source category	Inventory methodology	Basis for projections
Industry	Emission factor calculated from an assessment of chemistry involved, annual production statistics	Estimated production data, EPA/IPC regulations
Agriculture: fertiliser use	Emission factors for representative UK fertiliser types, Survey of Fertiliser Practice	Estimated national fertiliser use
Agriculture: livestock wastes	Emission factors and waste arisings by animal type; national animal census	Estimated animal populations
Agriculture: biological nitrogen fixation	Basic Horticultural Statistics, emission factors for representative UK crops	Estimated crop areas
Transport	Emission factors for general types of vehicles, national transport statistics	Estimated vehicle fleet composition, projected national energy statistics
Energy and Transformation Industries	National energy statistics	Projected energy use statistics



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*HFC, PFC and SF<sub>6</sub> inventory and projection assumptions*

Source category	Inventory methodology	Basis for projections
PFCs: Aluminium industry	Emission factors relevant to UK industry, number and duration of "anode effects"	Projected number and duration of "anode effects"
PFCs: other uses	Consumption statistics by sector, time resolved emission model	Use predictions by sector, likely future emission rates
HFCs: manufacture of HCFC-22	Emission factor calculated from an assessment of chemistry involved, annual production statistics	Estimated production data, EPA/IPC regulations
HFCs: other uses	Consumption statistics by sector, time resolved emission model	Use predictions by sector, likely future emission rates
SF <sub>6</sub> : magnesium foundries	Emission factor based on technology used, production data	Estimated production levels

**Examination of witness**

RT HON MICHAEL MEACHER, a Member of the House, (Minister of State, Minister for the Environment), Department of the Environment, Transport and the Regions, was examined.

**Chairman**

1. Good morning, welcome to the Committee in your capacity as a Minister rather than as a member of this Committee. Before we actually begin to ask you questions about what was agreed at the European Council and so forth and how you see things panning out in that regard, is there anything you want to say by way of a brief introduction?

(Mr Meacher) No; I am very content just to go into questioning. I would say that I have with me Peter Unwin, who is divisional manager of the Global Atmosphere Division in my Department and who was at Kyoto and started at Kyoto.

2. You all started at Kyoto; it is a question of following it up.

(Mr Meacher) The UK team has Ministers who are visible but there is an enormous amount else which is done very ably and confidently by officials and Peter heads that division.

**Chairman:** We shall be concentrating on global warming and targets, the European targets and the UK targets.

**Mr Dafis**

3. The place to begin is with the Government's view of what reductions in targets are needed in order to meet ecological needs. Does the Government have a view on the level of cuts which are necessary in order to prevent ecological damage?

(Mr Meacher) Yes, we do. Our view is based on the view of the Intergovernmental Panel on Climate Change who are the worldwide body of experts on this. Their view, which we accept, is that the aim of this whole exercise must be to achieve a level of CO<sub>2</sub> or greenhouse gas concentration in the atmosphere which

is no greater than will cause dangerous interference in the climate. The EU judgement is that this is at something like double pre-industrial concentration rates. It was 280 parts per million at the end of the eighteenth century. If we are talking about 550 parts per million, which the EU generally regards as the level which should not be exceeded without significant risks and interference with the climate, that would then require a reduction of 60 to 70 per cent in CO<sub>2</sub> levels which compares with what was agreed by Annex 1 countries at Kyoto which was 5.2 per cent.

4. Sixty to seventy per cent. globally of course.

(Mr Meacher) Globally.

5. That would imply cuts of even greater levels in the Annex 1 countries.

(Mr Meacher) It would require enormously greater cuts by the Annex 1 countries, but it also of course means that there have to be cuts, on projected levels and by developing countries. There is no doubt that economic growth in the developing countries will lead to an expansion, a very rapid expansion in global emission levels from developing countries. Indeed one of the most striking facts is that China's emissions will exceed the United States of America by about 2015 and within 30-40 years developing country emissions will exceed developed country emissions. There is no way that we are going to prevent them or would wish to prevent them developing but we have to find ways of enabling that development to be as environmentally clean as possible and in time they do have to be part of a global solution to reduce the overall level of CO<sub>2</sub>. Otherwise we cannot get anywhere near the figures required.

6. The Government is quite clearly signed up to the view then that there has to be contraction to an



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[Continued

**[Mr Dafis Cont]**

ecologically sustainable level, no doubt about that at all.

*(Mr Meacher)* That is true. There is the popular phrase convergence and contraction, which has been promoted by some people at the present time. You can see Kyoto as a very early start in that process. There is contraction if we achieve the five per cent reduction. Let me make absolutely clear: a five per cent reduction is not on a zero baseline. It is against a projected increase which would otherwise occur if Kyoto had not happened. For Annex 1 countries that is expected to be something like 10 to 20 per cent above 1990 levels. We are actually talking at Kyoto about a contraction below what would otherwise have been the case by anything from 15 to 25 per cent. It is the beginnings of contraction and it is the beginning of convergence because we are moving, albeit pretty marginally, in the direction of the same level as developing countries per capita.

7. Does the Government have a view on the date by which we should be seeking contraction to ecologically sustainable levels?

*(Mr Meacher)* We do not. That is, I would anticipate a major issue to be discussed at further conference of the parties, beginning at Buenos Aires in November.

8. It is on the agenda there is it?

*(Mr Meacher)* I am sure the matter will be raised and there should certainly be a review of targets, probably early in the next decade, perhaps around 2002 or 2003 when there will be a discussion—discussion is a polite word—there will be a very serious negotiation about the involvement of developing countries and the level to which we should be looking at the next stage.

9. May I take you briefly on to the question of convergence? Does the Government have a view on the relationship between the target setting process and the basis on which cuts should be made in various countries? Does the Government accept the idea, for example, that there ought to be an allocation of emissions on a per capita basis?

*(Mr Meacher)* We do believe that the equity principle is one of the considerations by which all countries should be involved in this. We need also to take account of the opportunities for growth of developing countries and the third principle is what is called common but differentiated responsibilities according to the levels of economic development. It is certainly one of the characteristics or one of the principles which should underlie the allocation of future targets.

10. On what other basis could an allocation be made in your view?

*(Mr Meacher)* It would have to be agreed at further conferences of the parties. I do not believe that Buenos Aires is going to achieve it but either at the next or the next but one conference of the parties this will become the leading issue.

11. Would you agree that to allocate emissions on the basis of historical emissions would really be profoundly unjust, the kind of thing the developing countries simply would not wear?

*(Mr Meacher)* That is certainly the case. The underlying principle reached at Berlin in 1995 was that those who were the main cause of the problems, namely the Annex 1, the industrialised countries, must play their part by taking action first. That is exactly the significance of Kyoto. We have done that, or we are certainly committed to doing that, to legally binding targets. It is only against that background that the developing countries would even contemplate being involved in this process. If we do carry this process through, we do have a right to expect developing countries to become involved before long. Developing country emissions are going to exceed those of the developed country within 30-40 years..

**Dr Iddon**

12. I have a simple but awkward question. Has the worst case scenario been modelled in a credible way? We hear about the sea rising, land masses disappearing, but how carefully have scientists modelled the worst case scenario?

*(Mr Meacher)* That is not a question for Government so much as for scientists. How far IPCC have modelled what you call a worst case scenario I do not know. I am sure they have looked at significant points ahead and looked at the range within which emission increases can be expected and they have tried to determine the likely effects. The problem is that the science, although it is pretty complete, is not yet comprehensive. What is being done at Bracknell by the Meteorological Office is to use existing theory to plot back over the last 100 years to see how far that theoretical formulation matches what we know actually happened in the last 100 years. Taking account, particularly most recently, of the addition of sulphur aerosols in the equations, it is pretty close, but it is not yet identical. To that extent, we cannot expect the science to be absolutely precise and the further you look ahead the greater the uncertainties. It is clear enough for the world's government and the world's politicians unquestionably to take action. Virtually everyone, with the exception of the Global Climate Coalition in the United States, now agrees with that.

**Chairman**

13. That is the fundamental point, is it not? You stress that this is a very ambitious target, which the Government is setting itself, indeed the world governments are setting themselves. It is going to mean big changes in people's lifestyles, increases in certain costs which people will have to face. How are you going to have to persuade people that this is really necessary when the scientific basis for what may happen is not wholly clear?

*(Mr Meacher)* I was trying to be entirely fair and objective in saying that the science is not yet complete; I do not think the scientists would claim it was. But there comes a point of precision where the policy makers have to take account. I do not like to put figures on it and therefore I think I should not. The degree of certainty is now sufficiently great that any objective and reasonable person must accept that we are heading for an immense risk if we ignore what the



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[Continued

**[Chairman Cont]**

science is saying and carry on with current projections. I really do not believe that anyone can actually justify that course of action.

14. This may be an unfair question at short notice. How would you put that across to an ordinary person, an ordinary man or woman in the street? What are they really facing if they do not do what you want them to do?

(*Mr Meacher*) That is a very good question. When we come to publish our post-Kyoto climate change consultation paper, which I am sure we will be doing this summer, that will indeed be a very important point.

15. You cannot answer today.

(*Mr Meacher*) I cannot off the top of my head. It does need careful formulation so that the scientific precision, the political imperative are there, but it is in a resonant—I will not say tabloid—manner which immediately makes sense to ordinary people. Unless everyone changes, governments, local authorities, business and ordinary individuals, unless we all change, we cannot meet these targets.

16. We have to be convinced first.

(*Mr Meacher*) Absolutely.

17. This will be in your consultation document, will it?

(*Mr Meacher*) It is a consultation document. We are consulting people, we are setting up what the Government is committed to and we are seeking their support to changes in our economy, in our society, in our lifestyles which will deliver. We will listen to people if they have better suggestions as to how we can do it.

**Mr Robertson**

18. You mentioned the developing countries and the problems they pose; quite rightly. Two things particularly bother me about that. Firstly, for example when I was in the United States recently, many people there were saying, that if the developing countries are not signing up to this why should America risk exporting its jobs because of signing up to it? The first question I would ask is: is there any danger of the developed countries not fulfilling their promises, their pledges, because of the developing countries not having signed up? Secondly, how do we get over the fact that the developing countries could say "It's okay for America, Britain, you've all developed, you've all reached a level of prosperity and caused considerable environmental damage in doing so, yet you are denying us the right to do that". How do we address that? How will the Government address that?

(*Mr Meacher*) Taking your first point, it is true that the American position, particularly as set out in a Senate resolution, the Bird Resolution, which was passed 95:0 in the Senate, is not mandatory but it is certainly an indication of Senate opinion of a pretty potent kind. It does, to be fair, show the difficulties that the American Government has in winning public opinion in the United States. The position they were taking is that America will not ratify unless developing countries are also involved in the process. One

understands that there is a logic behind that position, but it is perfectly clear that the developing countries are not going to ratify unless there is a clear indication that the main causes of the problem, that is the industrialised countries, take action first. That is what has happened. We have to do all we can to support the United States Government in being determined to achieve ratification as quickly as it can on the basis that all of us are doing whatever we can and we have links via the old Commonwealth and in other ways. The Secretary of State for my Department is at this moment in China and will certainly be talking to the Chinese, amongst other things, about the future of their involvement in this process. I do think that the British Government is playing its part in trying to find the basis of getting the developing countries involved. It is a difficult push-me-pull-you process and we somehow have to balance the American requirement for significant or realistic involvement by the developing countries with the recognition that at the same time, some developing countries are not going to be prepared to make that move without ratification having actually occurred. Your second point I partly tried to answer already. The developing countries are not going to be involved if we said to them that this is a constraint on growth, and there can be no question that it must not be. We do believe that they have to grow. We want them to grow. What we do say is that the means of growth can be environmentally cleaner than they were when we went through the process. Indeed it is to the advantage of all countries, including our own in the industrialised world to assist them in that process. That is what the clean development mechanism is all about. It provides market opportunities for the developed countries and it enables the developing countries to grow in a manner which is environmentally cleaner.

**Joan Walley**

19. I want to pursue this issue about the United States of America and the real difficulties we have in getting that country on board and the fact that if they do not really join us then we just cannot achieve these targets we have set. I wondered what more you felt could be done to make sure that President Clinton is brought on board with all of this?

(*Mr Meacher*) I have not met President Clinton but my own personal belief is that he is committed to this process. I believe that the American Government is committed to the process. There are what I would regard as reactionary and regressive elements within the United States who are still opposing it but I was encouraged shortly after Kyoto that this unholy alliance between the oil, the coal and the motor car industry did begin to break quite quickly, with the motor car industry putting out a major display advertisement saying "Now we have Kyoto", which they were absolutely opposed to and said it would be the end of civilisation, or words to that effect, a week later saying "we're the ones who can produce the green cars of the future". Business, as always in the end, will bend to public opinion and the dictates of the market. If we can ensure that market is working in our



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[Continued

**[Joan Walley Cont]**

direction and that is one of the long-term significances of Kyoto, then we can win this.

**Mr Shaw**

20. In evidence to the Committee, both oral and written, we heard from the business community, ACBE, and the Institute of Directors, and they were concerned about our unilateral position on the 20 per cent reduction. What they said was that they felt it did not emerge out of anything, there was no consultation process as to how we arrived at this figure. The IoD were quite scathing in their written evidence. They said it was the wrong way round, that basically the target had been set and then there was the consultation. They said it should be the consultation then see what targets we can set. How do you respond to that criticism? Where did the 20 per cent reduction come from and what process led us to adopt that position?

(*Mr Meacher*) It emerged within the Labour Party in Opposition. It certainly was on the basis of consultation. It certainly was not plucked from the air. I would say to those people who criticised, that we are not the only ones who are proposing a 20 per cent cut or more: so are Germany, Denmark and Austria. We did believe and we still do believe as Government now, that although it is testing and challenging it is reachable. I would point out that by the year 2000, we expect to be some five percentage points below the 1990 level once again. It is not the case that we are starting at zero. It was within the Labour Party's manifesto, it has since been confirmed by the Prime Minister in the House and we are firmly committed to it. The other thing I would say is that so far from this being a great burden on business, it does genuinely open very real business opportunities. The fact is the main pillars of delivering these targets are three: one is on transport. These are the fastest rising emissions and we intend to deal with that through the Integrated Transport White Paper. Second is the switch from fossil fuels to renewables and again there are business opportunities there. The third and the greatest one is unquestionably energy efficiency. There is enormous waste of energy in this country as in virtually all the developed countries and the market opportunities in investment and in changes in working practice not only will cut fuel bills for business but give them, through the environmental technology industry, substantial market opportunities to expand both in this country and abroad. We should not see these targets as a great ball and chain on business. They should actually be seen as more gain than pain in my view.

21. On the point of energy saving products, this Committee has recommended a reduction of the VAT levy levelled on energy saving products. Is that something that you are going to take to Europe to discuss with our partners to see whether we can have a reduction on those types of products? I realise the Chancellor will have a view as well but if we are moving from bads to goods in terms of positive tax action, is this something you will be discussing?

(*Mr Meacher*) I hope I have the same view as the Chancellor: I think I do. What is already done in the budget, as you know, is to reduce VAT on energy

saving materials used in developments funded by Government grant schemes from 17.5 per cent to five per cent. Five per cent is as low as is permitted under the EC VAT rules. However, we are now and the Treasury is now negotiating with Brussels and with partners in Europe to extend this to other energy saving materials. That is what we should like to do and it is a question of whether we can get agreement within Europe to do that. I ought to make very clear to you, and this is perhaps my other point to business with their concerns about the 20 per cent target, that we have made it absolutely clear and we will in this consultation paper that we are not going to impose any measures which undercut competitiveness. This is a consultation paper and business will have a full opportunity to debate the particular mechanisms and deliveries that we are proposing.

**Mr Baker**

22. There is the eight per cent target which is a legally binding target. There is also the 20 per cent target which is a manifesto commitment, which you had. You said on the eight per cent target that it is a first priority and the consultation process, as I understand it, is to see how to move towards this 20 per cent. What I am not clear about is whether the consultation process is designed to establish how we reach the 20 per cent or whether in fact we need to reach the 20 per cent or whether in fact there are reasons, perhaps business reasons or other reasons, why we might underscore the 20 per cent. Are you firmly committed to reaching 20 per cent?

(*Mr Meacher*) We are firmly committed to the 20 per cent target. It is a domestic goal which we have set. It is a unilateral domestic goal. We believe it is achievable, we believe it will be beneficial to business as well as to the country for us to achieve it. We are not unique in Europe in going for that target. May I just make one point? You mentioned the eight per cent legally binding target. Of course for the UK, as a result of what we agreed on 17 June at the last Environment Council, the UK target within the collective EU target of an eight per cent cut, is a cut of 12.5 per cent. We are talking about a difference between 12.5 per cent cut legally binding and a domestic unilateral cut of 20 per cent. It is another 7.5 per cent.

23. As far as you are concerned, that is a legal matter, a technical matter almost. The Government's clear target is 20 per cent and the consultation process is simply about how to get to the 20 per cent.

(*Mr Meacher*) Yes. It is about more than that but it is certainly about how we achieve the 20 per cent target, yes.

24. May I ask briefly about the energy review? I know it is not directly your Department but clearly you said yourself a moment ago that two of the main areas to achieve the 20 per cent target would be in transport and energy. We have the Transport White Paper coming up shortly which has been substantially trailed in many of the nationals, accurately or otherwise. The coverage recently suggests in fact a backtracking which I hope is not true in terms of action to curb car use. Perhaps you would like to knock that on the head.



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[Continued

**[Mr Baker Cont]**

In terms of the energy review of course I should like to ask whether you are aware, because obviously it is DTI rather than DETR, what consideration was given to the Kyoto targets as part of the energy review? It seems to me that what we have is low politics designed to save the coal industry rather than high politics designed to save the environment.

(*Mr Meacher*) On your first point, as Ministers always say, I do not respond to newspaper speculation. I do assure you that the transport objectives, both in terms of congestion and pollution but particularly in terms of the Kyoto requirements, are as tough and determined as we intended them to be. On the question of the energy review, the key point to make here is that the energy review in no way compromises our intention that there should be a continued reduction in carbon emissions within the power industry. That has always been our proposal and that is consistent with the energy review. There are many ways to skin a cat; there are many ways to achieve the Kyoto target. Our view is that there should be diversity and security of supply, that we should not have an over-dependence on one particular fuel and of course the coal industry has already taken a very hard hit from policies over the last 10 to 15 years. We do believe that there should be fairness and reasonableness in the distribution of that burden.

25. The Kyoto target and the Government's policy on cutting emissions of greenhouse gases were built into the energy review, were they?

(*Mr Meacher*) Absolutely; absolutely. There is no question, I can give you an absolute assurance, that all major considerations by all Departments now take into account the Kyoto targets and the contribution which they have to make to deliver that.

**Chairman**

26. Why therefore was there only one sentence on energy conservation in the coal review?

(*Mr Meacher*) The fact that there was one sentence, if that is correct—

27. It is correct.

(*Mr Meacher*) I am sure that is a well prepared statement on your part but it does not demur from the point I have made. After all, this was about the energy review. It is not about conservation and Kyoto but it is consistent with the Kyoto requirement.

**Mr Truswell**

28. As you know, the Committee has been conducting a review of the Government's greening government process. Our reservations on that score are going to be published in a few days' time. In respect of the Kyoto target, however, could you perhaps explain to us how the Government intends to drive forward the quest to achieve that target in a dynamic coordinated and one would hope structured way? In other words, who is going to determine precisely what needs to be done in practice, who should do it and whether they are making sufficient progress?

(*Mr Meacher*) That is a huge question and that is the heart of the post-Kyoto agenda consultation paper

which will set out a very full and detailed answer to that question. It is certainly the case that all departments in government will be expected to achieve their contribution as set out in the paper, that it will be coordinated, that it will be monitored on a regular annual basis and that this will also be done at the European level. There are already currently annual reports on our emissions which go to the Commission, and there are annual reports on emissions going to the climate change convention. This is going to be monitored extremely carefully. What is of great significance is that even at the European level when we come to common and coordinated policies and measures, as they are called, which we agreed in Council's conclusions ten days ago at the last Environment Council and the Commission is now going to bring forward a paper both to the Council and the European Parliament on exactly how it is going to deliver these common and coordinated policies and measures, they have major implications for other councils, particularly energy, finance, agriculture and transport. So there is no question that all of these other major departments, the same in Europe and it will be the same in the UK, will be contributing to this. They will be involved in the consultation very closely, they will agree the targets and we will monitor extremely carefully that they are delivered.

29. To go back to the question, in terms of the UK, who is going to be driving the process? Will it be through the Cabinet Committee, ENV, disseminated down through the Green Ministers or what?

(*Mr Meacher*) Yes; yes. It is coordinated ultimately through ENV as a Cabinet sub-committee. Green Ministers will be the work horses within Whitehall to deliver it within their own departments, to make sure that all the policies in their departments are consistent with what their department has agreed to deliver to those targets.

**Mr Thomas**

30. May I take you back to your point about the policies and measures which are going to be worked up as a result of the decision by the Environment Council? Do you have a timescale on those measures? For example, how do you see those policies and measures linking in to the consultation document you are going to be publishing in the summer?

(*Mr Meacher*) I would expect the Commission to bring forward a detailed timetable, probably for the October Council. There are two Councils in the year, October and December; it will certainly be for the second if not the first. That will be on the basis of consultation with the Member States. We will be very much participating in that process at the same time as we are preparing for our own consultation paper. The two processes are really part of the same process.

31. Will you be pressing for clear targets and clear periods for those targets to be achieved in?

(*Mr Meacher*) Which targets are we now talking about?

32. In terms of those cross-European policies.

(*Mr Meacher*) The common and coordinated policies and measures are what it says: common



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**[Mr Thomas Cont]**

measures which it is believed will help countries to reach their targets, particularly some of the smaller or middle sized Member States. I am not sure whether they would say this publicly but it is helpful to them to have a European target to which they are contributing. It helps in their negotiations domestically and in achieving those targets. We would nevertheless of course expect national measures to be the main means of achieving Kyoto targets.

33. Do you see negotiations taking place for within Europe specific targets, for example for aviation fuel, reductions of emissions from cars? Do you see the need for specific targets to be agreed by each of the countries at a future Environment Council?

(*Mr Meacher*) Very much so. You mention two there which are very important, which are very much on the agenda. First of all aviation fuel. We should like to see the removal of the tax exemption for civil aviation fuel. That is being discussed in the International Civil Aviation Organisation. I have to say there is resistance from some other major countries such as the United States. In the light of that the Council asked the European Commission to undertake a study of the environmental and economic impact in Europe of removing that tax exemption. That process has gone rather slowly, I have to say, and we recently made clear to the Commission that we look forward to an early reply. On the other matter which is CO<sub>2</sub> from cars, it is a very important matter indeed with enormous implication for all our targets. We have been engaged in a negotiation with ACEA, which is the European car manufacturers, in order to achieve a reduction in CO<sub>2</sub> from cars from where it now is, above 185gms/km to 120gms/km, which is the Council target. After extensive and detailed and difficult negotiations, ACEA have now offered 140gms/km, together with certain assumptions which we are still pursuing. I hope that at the October Council we will reach a final agreement with them, bearing in mind that the package with the industry is only part of a total package and it does also include fiscal measures and eco-labelling of vehicles to reach the 120gms/km.

**Mr Baker**

34. May I put to you the happy scenario, which I am sure may come to fruition given your promises on the Transport White Paper and other such measures, that Britain overshoots its target, its legally binding targets I am talking about, within the European Union, will that count towards a total European Union whole which will allow other countries to undershoot or will the other countries still have their targets in place and we will just do more than bargained for?

(*Mr Meacher*) If we were the country in this happy position you referred to we would be permitted to bank that against future targets, though I might say, for the reasons Mr Dafis referred to in the first question, we expect those further targets to be tighter and more stringent as we go along. We would be entitled to bank it against those and our clear view would be that other countries are still expected to achieve their targets.

35. You are going to overshoot by quite a degree if you reach your 20 per cent.

(*Mr Meacher*) That is perfectly true: seven and a half points. That would be banked against our future target and is indeed another reason—thank you for reminding me—for regarding a 20 per cent target, far from a unilateral eccentricity, as merely a banked credit for the next round.

**Mrs Brinton**

36. May I carry on this point about targets and European targets in particular? People have to understand the rationale behind it to understand why a target for a particular country has been reached. I was rather surprised and concerned that Austria's target had been reduced to 13 per cent and wondered whether you could tell me why. Also, suddenly Portugal's burden was rather drastically increased. If we are going to get understanding and acceptance, people have to know why these decisions are taken.

(*Mr Meacher*) That is a very well pointed question. I was surprised by what happened on 16 June. I spent the entire day engaged in bilaterals with my ministerial colleagues and it is true that two states in particular made a substantially less good offer than I was prepared to accept. There was a great deal of discussion about those. One of them was indeed Austria. It is a matter of internal Austrian politics as to why the reduction was as great as it was. As you say, it came down from 25 per cent and it finally ended at 13 per cent which is scarcely more than half. That is unquestionably disappointing. All that I would say is that we were looking to reduce the range. We have done that. The increase which was permitted to Portugal of 40 per cent has now been reduced to 27 per cent and Greece has gone down from 30 per cent to 25 per cent. At the other end Luxembourg is still minus 28 per cent but in the case of Germany and Denmark it is minus 21 per cent. Austria was in that category but is now in the middle. It is a disappointing result and it is for my colleague Martin Bartenstein rather than me to explain, if you wish to pursue the matter further. The basis on which we agreed to increase is that we did make an offer last year when provisional targets were achieved on 3 March last year by my predecessor. Our view is that was a modest target and that a small increase was justified. I have to say that even if we did not take that view, we were pressed extremely hard, which we resisted, and the 12.5 per cent is in effect the combined effect of those two pressures.

**Mr Grieve**

37. May I widen this and go back a little? Without wishing to sound too depressing, because I am in no way trying to put a damper on what is an initiative which I see as essential, but is not one of the problems in selling this to the wider public, going to be persuading them that there is a long-term strategy which is in fact workable? When one looks at the figures and particularly those for Europe, there are some countries which are going to have substantial increases over the period in question, others which will have some decreases. All this is tinkering around unless, when we get beyond that, there are real



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**[Mr Grieve Cont]**

prospects of being able to maintain reductions globally of emissions. Is not the problem that emissions by their very nature are the result of human activity? Unless we succeed, which seems somewhat far fetched, in harnessing renewable resources to supply our energy needs globally, the scale of it appears daunting at the moment. Then there is a fear, certainly I would have thought looking at the figures, that we may succeed over a 20-year period in doing some pegging but unless the whole course of human development is going to be arrested, it is simply going to take off under its own momentum and is irresistible? What degree of persuasion do you think you, through your advisers, can put over that in fact that is not the case, in order to justify making the sacrifices which are going to be required of people?

*(Mr Meacher)* That is a very fair issue you raise. It is quite right to see it against a perspective which is quite daunting. I would not wish to conceal that this is one of the most profound changes in our world economic system and in our society that we have ever attempted. It is true that if we continue to see a rate of increase in population, bearing in mind your point that emissions are very closely related to the level of human activities, we should not in any way seek to underplay just how enormous is the magnitude of what we are seeking to do. On the other hand, we have no choice but to go forward and to try to achieve it. If we do significantly interfere with the climate, then the kind of changes which we have already begun to see, which most scientists believe are connected with global warming, increased desertification in some parts of the world, combined with increased flooding, more extreme weather, including typhoons and hurricanes, the dislocation of human beings in a large area and habitats, the threat to global food security and water resources, the rising sea levels taking significant parts of the world under water, not just small islands but going into continents, these are consequences which we cannot ignore. Whilst I accept the significance of what you are saying, I rather welcome it because it is saying to public opinion across the world that we do have to back what governments are trying to do. This is not government imposing a burden on us, this is the only way in which the human race can protect itself and enhance its survival over the next one or two centuries let alone beyond that. It does have to be put in very stark terms. There are possibilities of improved technology: another option is carbon sequestration. We will be discussing at Buenos Aires the take-up of carbon by forests which have been planted since 1990, but it is much more than technology. We have to change our style of life. We do have to make a massive change out of fossil fuels towards renewables. The potential to do that is actually quite good. I personally believe that after the centuries of coal and then oil, the next century will be dominated by solar power, which has almost infinite potential and is environmentally clean. The British Government has doubled, although it is low, its R&D expenditure on photovoltaic technology over the last few years precisely for that purpose. We need to go a great deal further. There is the potential and all of it has to be exploited. There can be no question of turning back or baulking.

**Mr Loughton**

38. A point on Portugal and Austria and Europe generally. Perhaps a cynic might say that the reason Portugal's allowance has gone up so much is to fill up all the empty roads which have been built courtesy of the European Union Regional Development Fund in northern Portugal. What I wanted to ask you about specifically was whether you envisage a harmonisation on environmental taxes throughout Europe and particularly on the point of road fuel gases where we have on LPG and CMG for example the rates of duty in this country which are by far the highest in the EU, almost double the next nearest. In some countries, Benelux countries in particular, there is zero duty on environmentally friendly fuels. If we are to achieve these levels of reductions, is it in your thinking that we are going to have to have some common level of favourable treatment of taxation towards the more friendly road fuel gases or whatever may take over from them? Is that actively being encouraged or discussed at the moment?

*(Mr Meacher)* The Energy Products Directive is on the agenda and the Commission's view is that this is not so much or not at all an environmental tax as filling in a supposed deficit in the single market. We are not convinced by that argument. We do believe that energy measures, fiscal measures in regard to energy, are a very important part of the overall package. The British Government has always taken the view that we do not accept that fiscal measures should be imposed on us through European mechanisms based on qualified majority voting. That does not mean that we do not accept that energy measures are very important. Indeed there is the fuel duty escalator which we increased from the previous Government's five per cent. to the year 2000 to six per cent per year, which should produce additional carbon savings of something like 2.7 million tonnes, by that measure alone in the year 2010, together with, most important of all, the Marshall review, under Sir Colin Marshall, to look at energy taxation, whether a carbon tax or some other form of energy taxation. The only other point I would make is that we do have a very strong social presumption against increasing the cost of domestic energy as opposed to industrial energy.

39. The fuel escalator aside, why was there nothing in this budget to bring down the cost of duty on road fuel gases from such a high level compared to our EU partners, particularly as we know we have the problem in this country. There are 18 filling stations for CMG or something tiny, yet in Italy there are over one million vehicles which run on road fuel gases. It really does need a severe kick start along the lines of the last Government on promoting unleaded petrol, which really got that going. Why did you not do something in this budget really to get that off?

*(Mr Meacher)* I suppose one answer to the question is that one can always ask why a budget did not do even more than it did. I would insist that the budget did a good deal on the transport side. There was a series of measures. I will not bore you by repeating them because you know them. I accept the basic point you are making that if we are going to get a big increase in LPG and CMG then we do have to



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**[Mr Loughton Cont]**

have a market for the introduction of these fuels on a significant scale. Fiscal measures are certainly part of that. All I can say is that I accept the point you are making. The Chancellor has already made a major start in terms of taxation policy, significant increases in the scale charges for free fuel for company car drivers, the VED to be reduced to £100 for the least polluting cars and other measures. You are referring to a further and additional measure and I accept that there is a need to move further in that direction.

40. Back on the hydrocarbons and on diesel, effectively all the Chancellor has done is a bit of tinkering about company taxation for environmentally friendly engine conversions, and I have to say we had to press for better amendments in the Finance Committee to get an improvement on that. Effectively one of the major results of all this is the UK freight trade is at a severe disadvantage to all our EU partners. It is much more favourable for continental freight to come onto our roads than it is for our own freight to operate on all our own roads which has put us at a great disadvantage. Hence my original point about focusing some attention on the levels of duty on the continent. It is fine pushing them up here for an environmental purpose, but if they are not being pushed up similarly on the continent, as they blatantly are not, certainly in terms of freight costs, then you are just doing our companies out of jobs and not actually achieving what we are trying to achieve.

(*Mr Meacher*) First of all, I do not accept that a reduction of £500 in VED for heavy goods vehicles was mere tinkering. If I recall, it was a continuation of the same level as the measure which was studied by the previous Chancellor.

41. It costs five times that to do the conversion and it is just not commercially sound.

(*Mr Meacher*) I accept that as an incremental change similar to that practised by the last Government, it is not sufficient. I accept that and I do take your point that we do need a level playing field and this is a measure which does need to be looked at further.

**Mr Savidge**

42. May I go back to Mr Grieve's question which gets to the absolute fundamentals of things? You portray the possibility of a worldwide catastrophe. Is not one of our great problems for politicians across the world that it is very difficult to get the public concerned about long-term global things which seem intangible to them when it is awfully easy for populist politicians or for popular media to raise concerns about the things which are local, which are short term and are extremely tangible to people. The very problems which have arisen in the United States or in Austria, just to take two examples which have been mentioned, are really showing that if this is as grave a problem as you suggested it might be, and if possible the scales on which we mean to make reductions may be much more painful in due course, we are facing a very, very deep problem. One of the great weaknesses is also going to be that the weakest link in the chain, the country which is least prepared to make reductions, is

the one which popular politicians from other countries can turn round and point to. How big a scale of problem do we face?

(*Mr Meacher*) That is a fair comment. It is very difficult to shift public opinion on the scale that is required. I like to see this as rather like turning the Queen Mary round, making the few changes in the angle initially are quite difficult. As it gathers pace, then there is very substantial potential built up. I do think we have to see it in that way. With regard to particular countries which you have mentioned, where populist politicians may be able to exploit it, I would point out that all Annex 1 countries are now subject to a legally binding target. Compliance mechanisms will be put in place and there is regular annual monitoring. Other countries are not going to find it easy to get out of this. It is certainly, I am sure, the intention of all the rest to ensure they do not. Therefore these changes have to occur in all countries. Picking up the earlier question, I agree that getting public opinion on side is hugely important and the consultation paper has to be accompanied by a major road show and a tremendous government, business, local authority, NGO impetus; all of these bodies, I hope, singing from the hymn sheet and making the points extremely strongly. I believe that since we have extremely good cooperation from ACBE, as well as from the other partners, this is possible.

**Dr Iddon**

43. To follow that line about the sceptic amongst the general public, I shall just play the role for a moment. I might not have heard of most of the greenhouse gases but I would not be too concerned about those in any case; we can measure the hydrofluorocarbons, HFCs, we produce them. We concentrate on carbon dioxide which is the major problem. As a sceptic I would want to ask how we measure these huge volumes of carbon dioxide so accurately. Do we bag it and put it on scales? The ordinary member of the public is mesmerised by this. We are talking about very small changes relatively speaking in world production of CO<sub>2</sub> and yet everybody is having bonfires in the back garden and there is no way of taking that into account. Even worse, when some fool in Indonesia or another region of the world, Canada or Australia, sets a forest on fire, how do we take that into account? These are the kind of issues the general public are going to be asking us as politicians to explain. How do we measure these huge volumes? Surely if a forest fire on the other side of the world rips off, as it has done recently, it is going to destroy all our best endeavours in the west here.

(*Mr Meacher*) Again a fair point. Let me make clear that we estimate that the fire in Indonesia and South East Asia, which is still not wholly under control because of peat burning underground, has done absolutely devastating damage. It is estimated it has produced more CO<sub>2</sub> than Europe produces in the whole of a year. Control of these environmental catastrophes is absolutely essential. What I would insist is that we cannot say that if Indonesia lights a fire and it goes on burning for the next three months, we cannot be bothered, we are not going to do anything. The world



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**[Dr Iddon Cont]**

cannot accept that logic. We have to find ways of either preventing those fires being started in the first place and I think they were started by an unholy alliance between some of the logging companies, some of the ranches and—I need to be careful ministerially not to involve other governments—there were allegations as to the causes of this and we need to tackle those causes much more vigorously. Indeed what the Secretary of State was recently proposing when he visited Donan—a was that we need an emergency network service for dealing with environmental disasters like Donan—a in Spain; of course equally even more in Brazil and Indonesia. Coming to your point about measurement, it is a very important one. We had to measure the inventories as they were in the 1990s. Our estimate is that the uncertainties were something of the order of plus or minus five per cent. If you look forward at projections up to 2010 then we estimate again that something like a further five per cent uncertainty either way exists in those calculations. It is not a precise science, that is perfectly true. I accept that when you involve developing countries one of the issues we do have to discuss is whether they are involved, whether there are deadlines, whether there are targets or whether the clean development mechanism operates in the absence of targets because then the potential for loopholes is very great. We are at the early stages of trying to pin this down. All that I would say again is that the climate change convention and the EU are putting an enormous amount of technical expert work into trying to establish these figures as carefully and as closely as we can. It is not perfect and there will undoubtedly be disputes and we need to have a mechanism to try to resolve those disputes.

**Mrs Brinton**

44. May I take the issue back to gaining public understanding and acceptance? It is important that national governments set the targets but the closest contact that most ordinary people have with “government” is local government. I did not agree with the Deputy Prime Minister recently when he said that he thought it was really good that 50 per cent of local government have accepted Agenda 21. I am thinking: what about the 50 per cent who have not? If we are not going to coerce, how are we going to get them on board?

(*Mr Meacher*) The figure now of local authorities taking up Agenda 21 is 70 per cent. What the Prime Minister was saying recently is that he wanted that figure to rise to 100 per cent and we are now trying to achieve 100 per cent target. Local authorities are going to have to be part of this and they will be willy-nilly. Our transport strategy is clearly going to involve local authorities. It is not going to be directed centrally by local government, it is giving powers to local authorities, to take the necessary measures in order to reduce transport, congestion, pollution and to achieve the targets, both the air quality targets—we have a national air quality strategy, there is an Air Quality Directive which has just gone through Europe—and to reach their contribution to the Kyoto target. Local authorities are going to be heavily involved in this, so

is business, so are the NGOs, so are local community groups and so are families because families have to change their behaviour about the use of cars, about sustainable waste, as well as a in a whole variety of different ways, changing the use of their fuels, looking increasingly for energy efficient appliances, using the eco-labelling when you buy a consumer durable. All of these are ways which impact on individuals. We will be check listing what we want socially conscious individuals to do to contribute to these targets.

**Mr Baker**

45. May I come back to the point about measurements? Is each country responsible for declaring what its emissions are or is there some independent assessment process which verifies that?

(*Mr Meacher*) No, it is verified. The information comes initially from each country, there is already currently annual reporting on emission inventories, on projections by each country, both within the EU to the Commission but also the Climate Change Convention. There are national communications every three or four years which are more weighty tomes, which are very carefully prepared. We published our second one last year. This is verified externally and there are review teams visiting each country who will meet government officials, they will meet technical experts, they will meet business and NGOs and other groups.

46. This is verified not simply in the European Union but globally?

(*Mr Meacher*) Yes, this applies within Annex 1 countries, outside the EU as well.

47. What happens if a country undershoots its target? Are there any sanctions? What do we do about that?

(*Mr Meacher*) There are as such no compliance mechanisms under the Convention but Article 18 of the Protocol requires the Conference of the Parties serving as the first meeting of the Parties to the Protocol once it comes into force in around 2002-2003, to approve procedures, to address cases of non-compliance, in other words to decide what we are going to do in simple English about countries which fail their targets.<sup>1</sup> The mechanism will have to be agreed as an amendment to the Kyoto Protocol in so far as it entails binding consequences.

**Chairman**

48. You mentioned review teams which come in. Who provides these? Is it United Nations or some other body?

(*Mr Meacher*) The Secretariat of the Climate Change Convention leads them.

49. The Climate Change Convention is the reservoir of expertise in terms of checking on the country.

(*Mr Meacher*) Yes.<sup>2</sup>

<sup>1</sup> *Note by witness:* It will be a priority at Buenos Aires to launch preparatory work for this.

<sup>2</sup> *Note by witness:* The Secretariat of the Climate Change Convention coordinates the visits, drawing on national experts and experts from international organisations.



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**Joan Walley**

50. May I come back to what we can actually do in this country to make sure we can keep to the targets we have set ourselves? While you are going out to try to get the whole world to agree and enforce and implement this, we now have the situation in the UK where we have signed up through Europe but even so it is the case that the factors suggest that there will be new policies which will mean a further 5.5 per cent reduction in CO<sub>2</sub> equivalents to meet the Kyoto target and not 20 but 21 per cent reductions in CO<sub>2</sub> itself. In other words, we really have to have new policies to make sure. I would really like you to elaborate a little more. You were out in Denmark last week looking at the renewable sources of energy. How are you going to be able to bring in greater reliance on renewables? How can you do that? How, when the Government has used hydrofluorocarbons in the Millennium Dome itself can we plan now to phase out HFCs, rather than just try to stop them leaking into the atmosphere? What I am really saying is that what we have to say as we negotiate worldwide is that locally in the UK we are going to do as we say and say as we do. What confidence do you have that we really can introduce new policies which will bring forward local support at business level at community level for the new policies we now need to introduce?

(*Mr Meacher*) Another good question. I believe we can do this. I agree with what you have said that there need to be new and tighter policies than we have so far achieved. At the time of the election when we came into office, something like two per cent of Britain's electricity needs were met by renewables. We are committed to achieving ten per cent by the year 2010 or the budget period 2008 to 2012. That does require a major increase in all forms of renewables, wind power, biomass, landfill gas, and I should like to say solar but I fear that commercial solar is a decade or two down the track. I doubt that it will contribute anything significant in the UK by 2010. I hope it will contribute a great deal as we look to the decades thereafter. In addition to that, there is combined heat and power. We are looking to achieve a major expansion of that, partly in terms of the new policy on gas consents, partly in terms of the electricity licensing regime, partly in terms of the capital receipts initiative and the way that money has been used to improve energy efficiency and partly a number of public/private partnerships. We believe that the economic potential for CHP is between 10,000 and 17,000 megawatts. If you combine that with the rest of the renewables package, that is a substantial part, up to one quarter of total electricity generation in this country.

51. What about the HFCs and phasing them out? Will that be possible?

(*Mr Meacher*) You did mention HFCs. I was hoping you were not going to return to that but since you have mentioned hydrofluorocarbons, it is true, as I have already made clear in another committee, that I regret the decision to use HFCs which was made by the New Millennium Experience company. That decision was made, the matter was further discussed, but in view of the pressure of the timetable it was

regretfully decided that we had to stick with that choice. It is true that HFCs are a very small part of total greenhouse gas emissions. The three industrial gases—hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride—only account for two per cent of the total<sup>1</sup>. I very much agree that we need to tackle HFCs because there is a forecast sharp growth in HFC uses because they are seen as a replacement for hydrochlorofluorocarbons, HCFCs, which are an ozone depleting substance. We have to find a way of avoiding and reversing that forecast sharp growth.

52. Will that be part of the consultation process?

(*Mr Meacher*) Yes.

**Mr Robertson**

53. You mentioned solar power and the potential for it in the future. Converting houses or factories to solar power is very expensive. It is far cheaper if that can be done when they are being built. Has the Government got any plans to encourage house builders and factory builders to prepare that facility when they are actually doing the building?

(*Mr Meacher*) My understanding is that solar photovoltaic technology is still sufficiently far from the commercial market, and much more expensive to supply power from solar sources than conventional electricity driven sources, so we are still a substantial way away from being able to involve solar technologies even in new construction. It is something we are keeping a very close eye on. It is of course DTI who are in the lead on this and I am sure they are very much aware of the point you have made.

**Chairman**

54. Our own unilateral target is quite specific: 20 per cent reduction by the year 2010. Equally the European Union one is quite specific and has a specific year, though the international one, the one agreed at Kyoto, does not, it has 2008 to 2012 four year period, which is rather odd. How do you envisage that working?

(*Mr Meacher*) The introduction of the "commitment period", as it is called, between 2008 and 2012 was introduced at a later stage at the prompting of the United States.

55. To give them more time.

(*Mr Meacher*) Not necessarily, because the whole process kicks in at 2008. It is true that there is a five-year period but I do not think there is much difference in the impact effect within the EU between having 2010 and the wider commitment period. There is the advantage that we are on red alert at 2008 but we actually have five years over which to average our emissions.

56. How do you see the role of Europe within this international directive? Europe itself is quite a big

<sup>1</sup> *Note by witness:* These industrial gases account for less than 0.01 per cent of total UK greenhouse gas emissions. But because they have high global warming potentials relative to other greenhouse gases, HFCs, PFCs and SF<sub>6</sub> contribute about two per cent to the global warming from the UK, and emissions are rising rapidly.



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[Continued

**[Chairman Cont]**

factor quantitatively as a major group of developed countries with quite a lot of emissions but on the other hand it is also quite advanced and we can expect, as you said in your remarks, that China and other countries will overtake us in terms of emission and so forth. Do you see us therefore simply providing a kind of moral lead in this or are we very important quantitatively as well?

*(Mr Meacher)* I should like to think both. Claiming moral leadership is always rather invidious. If others address us in that manner, we can respond, but I would not myself quite choose that language. We have shown leadership. We did provide a provisional targeting for each of our member countries in March 1997 prior to Kyoto. We undoubtedly played a major part in the Kyoto result. I do not think many people, dare I say it including ourselves, expected that the United States was going to end up, six weeks after President Clinton had said zero stabilisation was the American target, at a seven per cent cut, nor that Japan would accept a six per cent cut. Europe played a major part in that. We are now the first group of countries out of the blocks in this race who have now agreed a definitive legally binding target. We had considerable difficulties agreeing how to share out this 8 per cent target between ourselves. It was a long negotiation but we did so. We continued to take a lead at the official meetings which we just had in Bonn in preparation of the draft agenda for Buenos Aires and I am sure that we shall play a leading part in Buenos Aires. I would also add that when you talk about Europe it is of course the EU, but Annex 1 countries do include central and eastern European countries. It is important to remember that the collective EU target is a cut of eight per cent and that is also true of 11 other countries as well.

57. Do you mean outside the EU?

*(Mr Meacher)* Outside EU who are following our lead. We do have a very powerful voice, maybe it is moral but it is certainly economic and political.

58. Is there not a danger that we shall be overwhelmed by other forces, for example like the fires in Indonesia, which are simply not in any way controlled and therefore whatever Europe does will be outweighed by all these factors?

*(Mr Meacher)* That is one way of putting it. The other way is that if we do not do it, the world will be twice as near to catastrophe if Indonesia occurs and the rest of the world for that reason is not prepared to make any effort. The proper response is that we are taking the only responsible attitude to this which reasonable and objective governments could take but we do have to block every deviation from that single minded target which we have to achieve. With regard to these fires, we need to give a lot more care and attention to how we prevent the economic situation which leads to these fires or if they occur to much more rapid dousing of the fires. We need to have an emergency network to deal with this and to offer it and to take action very quickly and not just leave it to these countries and we all stand by.

**Mr Dafis**

59. Certainly we need that kind of mechanism for emergency action. Does what can happen to forests not raise doubts about building into agreements the whole issue of carbon sinks and allowing countries to count reforestation against the methods which exist for reducing carbon emissions? Is that going to be on the agenda at Buenos Aires? What position is the Government going to be taking on carbon sinks?

*(Mr Meacher)* The situation of deforestation as a result of fires is taken into account. A country is able to increase its emission allowance by the amount to which afforestation since 1990 increases carbon sequestration during the commitment period. Conversely, it reduces its emission allowance by the amount by which deforestation since 1990 has reduced sequestration. If Indonesia or Brazil did have targets—they are of course in the G77 and do not have targets at the moment but if they did—then large fires started deliberately would dramatically tighten their carbon reduction standards in other respects. With regard to carbon sequestration by sinks, particularly forests, these are difficult issues. There are many technical questions about how this is estimated and fixing deadlines and having inventories based on those deadlines which are now already eight years past is difficult. However, we do believe that they are a significant form of absorption of carbon and they cannot be ignored. If we can get reasonable and tight rules, we would accept the principle of carbon sequestration in the targets.

60. You would not allow it to be used as a soft option to enable countries not to reduce emissions in circumstances where they should be expected to do that as well?

*(Mr Meacher)* There is no question that carbon sequestration via forests would be sufficient to meet targets. We think it should be allowed under tight and clear and agreed rules as part of meeting those targets but it certainly requires considerable effort in other respects for every country.

61. Can you tell us something else about what is going to be on the agenda in Buenos Aires because there is a great deal of uncertainty about that? The whole issue of contraction and convergence, the whole question of allocating the right to emit to countries, are these matters going to be on the agenda in Buenos Aires in a serious way?

*(Mr Meacher)* The central issues are the flexible mechanisms, the rules for emissions trading, and arrangements for joint implementation and the clean development mechanism. We are still only in the initial stages of having agreement about rules and indeed there are significant differences between the European Union and the United States, particularly on the interpretation of the word "supplemental". Flexible mechanisms should be supplemental to domestic action and that, in our view, should be interpreted as less than or subordinate to action which is taken domestically.

62. Are you going to be pushing for a cap on flexible mechanisms?

*(Mr Meacher)* We believe that there should be a relatively tight cap on emission reductions under the



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[Continued

**[Mr Dafis Cont]**

clean development mechanism and we would look to have a broader ceiling on the use of all three mechanisms. That position is not the same as the Americans who tend to regard "supplemental" merely as "additional to". I should like to take this opportunity, if the Americans perhaps read the proceedings of this Committee, to say that I think the Americans are acting against their own best interest. They need the support of the developing countries in order to achieve a global solution, we all do. The Americans have made that very clear. Unless the Americans are seen to be taking action in their own back yard primarily, I do not believe that the developing countries are going to be very convinced. Let us not forget—and I do not say this pejoratively, it is just a fact—that America with four per cent of the world's population has 25 per cent of the world's CO<sub>2</sub> emissions. There is no question and this is very much a European view, that the primary emphasis of US action must be on domestic reductions in carbon. We believe that emissions trading makes a lot of sense, it is economically efficient, we support joint implementation, but the primary action should be domestically. That is the only way of reversing this colossal excess of emissions by one country and above all getting the rest of the developing world on side.

**Chairman**

63. Do you have the European figure to hand? You said America has four per cent of the world's population and 25 per cent world's emissions. Is there a similar figure for European Union countries?

(Mr Meacher) I do not have the exact figure.

64. Presumably we also have greater emissions than GDP.

(Mr Meacher) Certainly, but by very much less. The difference in emissions per head is six-fold for the US and I suspect in the case of Europe it is about two-fold.

**Mr Dafis**

65. Allocating the right to emit really has to be at the heart of the whole thing, has it not? It would be bizarre if Namibia had to purchase the right to emit from the United States. It would not be unreasonable for the United States to purchase the right to emit from Namibia, in fact that would provide a very useful mechanism for the transfer of resources to developing countries which is the kind of thing we need. So we come back again to the contraction and convergence principle. You did say in a speech in the Grand Committee Room that you believed that ought to be an option in considering what the basis for emissions trading ought to be. Where are things at currently in that debate of what the basis for emissions trading ought to be?

(Mr Meacher) At a very early stage I did say that the three principles are the principle of equity and how exactly you interpret that. Whether it is convergence and contraction towards similar or identical per capita emissions is frankly at the moment just politically unrealistic. The world will gradually move in that direction. How far and how fast has yet to be decided.

66. What do you think is politically realistic then? If that is politically unrealistic, what is politically realistic? What is going to bring the developing world on board and at the same time persuade the Americans that they have to do something serious?

(Mr Meacher) If I knew the answer to that question I would be over at the White House straightaway.

67. I keep on hearing that things like contractions and convergence are idealistic or politically unrealistic. Nobody has yet told me what is being regarded currently as politically realistic.

(Mr Meacher) What is politically realistic changes over time. What was seen as politically realistic five years ago was much less accepting of the kind of ideology which exists today than it is now. In five or ten years' time countries and individual citizens within them will have a very different attitude. As this whole process gathers momentum, people's perspective, people's vision of where they are going and how far and how fast we can go alters in the kind of direction you want.

68. Contraction and convergence is not seen as something which should be implemented immediately. Nobody is advocating that there should be convergence in 1999 or 2000 but that there should be a process of moving towards convergence over a period of time. Is that politically realistic? What are the politically realistic stages or actions which put us on the journey towards that destination over time? What is politically realistic in Buenos Aires at the end of this year? What is politically realistic in determining the basis for emissions trading? There is no doubt that emissions trading is going to be part of the formula is it not?

(Mr Meacher) One of the policies we have in Europe, and the UK very strongly supports this, is that there should be a review of commitments by 2002, 2003. In our view—this is not agreed but in Europe's view—it would be very helpful if there was also a general review of obligations of all parties. One of the items on the agenda could at that stage be contraction and convergence. I have to make clear to you, first of all it is not agreed by all the Annex 1 countries and secondly, the group of 77, who are the key to this, are at this moment still continuing to refuse the idea of a review of all obligations in the first place.

69. We are going to have to wait then, are we, until November before we have any idea at all about what the basis of the allocation of emission rights might be or the basis of emission trading might be? There is presumably a process, is there not, leading up to November in which all of this is being considered and elaborated and horse trading is going on. Do you have any confidence that there will be some kind of agreement on the basis of it by November?

(Mr Meacher) My own view is that Buenos Aires is very important but it is only going to discuss some of the outstanding issues. That is primarily a work programme to determine the details for emissions trading and joint implementation and the clean development mechanism, so-called flexible mechanism. The issue you are referring to is more



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**[Mr Dafis Cont]**

likely to be discussed in detail, as opposed to *en passant* in the margins of the agenda, as a main item when we come to a review in whatever form. My belief is that there has to be a review post Kyoto and in the course of that review it will be looking at progress in achieving the targets we have agreed but then also looking at what the next round of targets are going to be and how we involve developing countries. Hopefully developing countries will be part of that review.

70. Hot air trading. This fell off the agenda in the G8, did it not? Everybody was expecting that it might be discussed and agreed at that time. What is the position in relation to that at the moment, that is that the Americans, for example, might be buying the right to emit from those countries whose emissions have gone down because of industrial collapse, the former Soviet Union countries?

(Mr Meacher) The rules do have still to be established. The principle of emissions trading is that if I can reduce my emissions more efficiently than you and I have a surplus, then I can sell to you if you are less efficient. I gain the advantage of making a profit out of it. You, by being less efficient, have to pay a price. That gives a strong incentive to improved efficiency and better achievement of targets. That is a very sensible process, linked in with the whole concept of permit trading. The exact rules by which that operates are yet to be decided. We have to reach agreement about the whole question of hot air, which you are referring to, and Russia is part of that agreement.

71. The awkward thing about that of course is that we could end up with increased emissions because countries would be able to sell those emissions which they are not currently making because they have been reduced since 1990. Do you accept that really that would be certainly contrary to the spirit of the Kyoto agreement, although it might be compatible with the technicalities of it?

(Mr Meacher) I agree with that entirely.

**Joan Walley**

72. As this huge task is now something in which we are taking a leading role and as the world shrinks in our attempts to bring everybody on board for this issue, I wonder, given that there is going to be Buenos Aires and then there is going to be the conference which is going to have the review at a later stage, what role you see for parliamentarians and committees such as our own, not just here in the UK but worldwide and actually forcing governments everywhere to look at how we can get the agendas we want at Buenos Aires and at the follow-on conferences from that. Do you have any view on what role we could play with other parliamentarians elsewhere?

(Mr Meacher) Perhaps the best way I can answer that is to refer, as you did a few moments ago, to the fact that you and a number of other parliamentarians were at Århus last week for a meeting of Parliamentarians for the Globe. Mr Baker was there as was—

73. The Committee was represented.

(Mr Meacher) I thought that was a very useful meeting, although I must say the questions were somewhat biased away from the main subject of the discussion, but that is another story. I do think Globe does have a very real role to play here. It is an increasingly effective organisation. It has membership which is extremely wise and I think its muscle is growing. If parliamentarians worldwide, who have a special platform and a privileged position in respect of their own governments, can coordinate action amongst themselves at international meetings, they can be a potent force.

**Mr Savidge**

74. How confident are you that all parties to the Kyoto Protocol will in fact ratify it? What do you think the implications will be if one of the key players did not?

(Mr Meacher) There is no question the key to this is the United States. There is a double trigger for ratification. There have to be 55 states ratifying and there have to be developed countries with at least 55 per cent of total Annex 1 emissions. The United States has 35 per cent and is far and away the most important. We cannot succeed without the United States. It is too early to say with absolute certainty that the United States is going to ratify. What I do believe is that the American Government, and I suspect the majority of American business, firmly accepts that this needs to be done and I do not believe that a country of the political and economic weight of America and the world leadership role it has will walk away from a legally binding target which it has made at Kyoto. My belief is that countries will ratify. We have already had a signing at New York. All the EU countries have signed up. My belief is that they all will.

**Mr Shaw**

75. We will have the presidential elections coming up and the campaign for that. One of my colleagues referred earlier to populist measures. What can we do to lance the lobby which will obviously be taking advantage of that and actually could jeopardise the Kyoto agreement and future world summits?

(Mr Meacher) Democratic politics is always inconvenient. Having to have elections, as we all know round this room, is a mighty inconvenience.

76. But the elections can be influenced.

(Mr Meacher) I am sorry, I am being a little flippant. After all one of the main contestants, as I understand it, for the next presidency of the United States is Al Gore and he is always regarded as one of the key players in terms of environmental politics. He has written a book or books about it. My own belief is that by the time of that election there is a gathering momentum about this and it is not reversible because there is such a consensus about this. The science is so compelling and increasingly television in the programmes and the newspapers and the media and the way that this is put across continually means that



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[Mr Shaw Cont]

those people who decry it are an increasingly tiny group. I believe that it will be very difficult for populism to derail this process.

**Chairman:** Thank you very much indeed. I hope you are right about America; we shall see. In the

meantime thank you for answering our questions. We look forward with interest to your consultation document setting out how the UK Government intends to contribute to this process. Thank you very much indeed.

### Supplementary Memorandum submitted by the Department of the Environment, Transport and the Regions

#### CLIMATE CHANGE

1. *Mr Meacher told the Committee that the judgment by the Government is that globally we should be looking for maximum concentrations of 550 parts per million and that this would require a reduction of 60–70 per cent (Q.3). Is this percentage figure in terms of a reduction against global emissions in 1990?*

The percentage figure refers to the reduction required in global anthropogenic emissions of carbon dioxide relative to 1990 levels.

2. *What do the EU countries' shares amount to in total? Is this total greater than the 8 per cent required? Is there a contingency margin?*

On the basis of data available to the Presidency at the time of the June 1998 Environment Council agreement, the EU total amounts to 8.008 per cent. There is no contingency margin as such but, given the legally-binding nature of the targets under the Protocol, Member States (and other developed country Parties) can be expected to build such a margin into their programme to ensure compliance. Four Member States (Austria, Denmark, Germany and the UK) have national targets significantly above their legally binding targets and, if these are met, then Europe should do better than its 8 per cent.

3. *In response to questions on European measures Mr Meacher told the Committee that "we would nevertheless expect national measures to be the main means of achieving Kyoto targets" (Q.32). Will the forthcoming programme set estimates of the contribution that will be made by the implementation of these European measures?*

The forthcoming consultation paper will discuss the range of policy options that could be used to deliver the UK's climate change targets. It will cover national measures as well as options where there is a prospect of European-level action. It will look at the scope for savings from individual measures, rather than giving a cumulative estimate of reductions which might be delivered through European measures.

4. *Mr Meacher told the Committee that if the country overshoots its legally binding target it would be permitted to bank that against future targets (Q.34). Are we correct in understanding that the EU would report actual emissions to the Convention including actual emissions in the UK? Although, as Mr Meacher says, we could still expect other countries to achieve their targets is it not correct that they would not be legally required to do so because the legal requirement is for joint implementation? Is the "banking" arrangement formally agreed within the EU? With the Convention? Could the UK or indeed the EU trade on the basis of surplus emissions reductions.*

The UK reports its annual emissions to both the European Commission and the Climate Change Convention (secretariat) on a regular basis. The Commission is similarly required to report regularly to the Convention on emissions from within the Community, including the UK.

In the event that the UK or any other Member State "overshoots" its legally-binding target, and one or more undershoot theirs, Article 4 of the Protocol provides that all parties to the joint attainment agreement will be deemed to have met their commitment if their total emissions are not greater than their combined assigned amount. This provision could affect the ability of Member States to "bank" fully any overshoot in accordance with Article 3.13 of the Protocol. Further consideration is likely to need to be given within the EU, and under the Convention, to this question.

Article 17 of the Protocol allows any Party included in Annex B to participate in emissions trading: but "surplus emission reductions" could not be both traded and used to offset a shortfall by others.

5. *Mr Meacher told the Committee that the three yearly reports on Climate Change are verified externally and that there are review teams visiting each country who meet Government officials, technical experts, business, non-governmental organisations and other groups (Q.45). Is the verification by these review teams? How frequent are the review visits? What is the output from the review team's work? In particular:*



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[Continued

- has each and every basis for calculating emissions and projections been reviewed and approved under the reporting conventions?
- do the reporting conventions require a minimum level of certainty over estimates and projected figures?
- are the accuracy figures within the tolerance allowed under the Convention?
- how does the accuracy of the UK figures compare to those of other countries?

Each National Communication submitted by a developed country Party under the Convention is subject to an in-depth review by a team of independent experts under the authority of the subsidiary bodies to the Convention. For the UK, the review of the first National Communication was carried out in 1995, and the review of the second National Communication is scheduled for later this year.

The reviews provide a thorough and comprehensive technical assessment of the implementation of the Convention commitments by individual Parties, and result in published review reports.

It is not feasible to verify every emission and projection calculation, but the review teams do undertake verification and cross-checking of emission inventory estimates and projection calculations, for example using international data sets, looking for self-consistency and consistency with the inventory guidelines developed by the Intergovernmental Panel on Climate Change (IPCC).

The reporting requirements for National Communications do not require a minimum level of certainty for emission estimates, but do require that Parties use methodologies consistent with the IPCC guidelines. Parties are required to report the level of uncertainty in their emission estimates and are encouraged to show how projections would be affected by changes in key assumptions.

UK inventory estimates and projections are thought to be at least as accurate as those of other developed countries.

6. *Mr Meacher told the Committee that he did not think there is much difference in the impact effect within the EU between having 2010 and the wider budget period . . . [and that there are] four years finally to deliver (Q.55). What does the Convention require—delivery of emissions limits on a date, either the beginning or end of the budget period or to achieve emissions limits as an average across the budget period or some other formulation? Where is this set down?*

Article 3.7 of the Kyoto Protocol sets out how the assigned amount for each Annex 1 Party under the first quantified emission limitation and reduction period from 2008 to 2012 is determined. In effect, this is the Party's target percentage of its 1990 level of emissions of the "basket" of gases listed in Annex A to the Protocol, multiplied by five. For the UK, this means that total emissions in the commitment period must not exceed 1990 emissions x 87.5 per cent x 5.

7. *What does Mr Meacher mean when he says that "flexible mechanisms should be supplemental to domestic actions and that should be interpreted as less than or subordinate to action which is taken domestically" (Q.61)? Does this mean that domestic actions should be sufficient to meet the legal requirements? And, if so what will be the incentive to take part in flexible mechanisms?*

This means that domestic action should be the main means of achieving emission reductions to meet a target. There is still an incentive to take part in flexible mechanisms but the contribution which "credits" can make towards achieving the target would be subject to a ceiling.

8. *The UK is on course to meet the Climate Change Convention aim of returning greenhouse gas emissions to 1990 levels by the year 2000. What other countries will also meet this aim?*

Within the European Union only the United Kingdom, Germany and Luxembourg are certain to achieve the Convention aim. Outside the EU, Switzerland, Russia, the Ukraine and the eastern European countries with economies in transition are expected to do so.

9. *Can you provide a table showing those countries with the highest carbon dioxide emissions?*

*Countries with the highest emissions of carbon dioxide from industrial sources, 1992<sup>1</sup>*

Rank	country	CO <sub>2</sub> emissions/ million tonnes	Contribution to total global emissions Per cent
1.	United States	4,881	24.1
2.	China	2,667	13.2
3.	Russian Federation	2,103	10.4
4.	Japan	1,093	5.4



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Rank	country	CO <sub>2</sub> emissions/ million tonnes	Contribution to total global emissions Per cent
5.	Germany	878	4.3
6.	India	769	3.8
7.	Ukraine	611	3.0
8.	United Kingdom	566	2.8
9.	Canada	409	2.0
10.	Italy	407	2.0
11.	France	362	1.8
12.	Poland	341	1.7
13.	Mexico	332	1.6
14.	Kazakhstan	297	1.5
15.	South Africa	290	1.4
16.	Republic of Korea	289	1.4
17.	Australia	267	1.3
18.	Dem Rep Korea	253	1.3
19.	Iran	235	1.2
20.	Spain	223	1.1 <sup>2</sup>
Global total		20,223	

<sup>1</sup> Latest year for which full data is available.

<sup>2</sup> Countries with per cent lower than 1 not shown.

Source: World Resources Institute, 1997.

10. *In the first Memorandum submitted to the Committee, you referred to the uncertainties in estimating and projecting actual and future greenhouse gas emissions. Can you clarify this?*

Uncertainty affects both the calculation of emissions and the projected levels of activity in the factors which will lead to emissions in future.

The estimated percentage uncertainties in paragraph 7 of the first Memorandum refer to emissions of the different gases in a particular year. Often these uncertainties affect both historical and future years similarly, so that the uncertainties are correlated over time. This correlation tends to reduce the uncertainty on the percentage difference in emissions between two years. Taking this into account the Department estimates that the uncertainty on total UK GWP weighted emissions between 1990 and 2010 arising from inventory calculations is about 5 per cent.

Judgments made now about emissions in future are also affected by uncertainties about the future levels of different activities which lead to emissions. The Department estimates that a further uncertainty of 5 per cent in total UK GWP weighted emissions between 1990 and 2010 arises from this source.

Attached is a table showing the relative Annex 1 emissions of carbon dioxide in 1990 prepared by the FCCC secretariat for the purposes of Article 25 of the Protocol. These emissions represented around 60 per cent of global carbon dioxide emissions in that year, but the contribution of Annex 1 emissions will fall to below 50 per cent between 2030 and 2040.

#### REPORT OF THE CONFERENCE OF THE PARTIES ON ITS THIRD SESSION

TABLE

*Total carbon dioxide emissions of Annex 1 Parties in 1990, for the purposes of Article 25 of the Kyoto Protocol<sup>1</sup>*

Party	Emissions (Gg)	Percentage
Austria	59,200	0.4
Belgium	113,405	0.8
Bulgaria	82,990	0.6
Canada	457,441	3.3
Czech Republic	169,514	1.2
Denmark	52,100	0.4
Australia	288,965	2.1
Estonia	37,797	0.3
Finland	53,900	0.4
France	366,536	2.7
Germany	1,012,443	7.4



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[Continued

Party	Emissions (Gg)	Percentage
Greece	82,100	0.6
Hungary	71,673	0.5
Iceland	2,172	0.0
Ireland	30,719	0.2
Italy	428,941	3.1
Japan	1,173,360	8.5
Latvia	22,976	0.2
Liechtenstein	208	0.0
Luxembourg	11,343	0.1
Monaco	71	0.0
Netherlands	167,600	1.2
New Zealand	25,530	0.2
Norway	35,533	0.3
Poland	414,930	3.0
Portugal	42,148	0.3
Romania	171,103	1.2
Russian Federation	2,388,720	17.4
Slovakia	58,278	0.4
Spain	260,654	1.9
Sweden	61,256	0.4
Switzerland	43,600	0.3
United Kingdom of Great Britain and Northern Ireland	584,078	4.3
United States of America	4,957,022	36.1
Total	13,728,306	100.0

<sup>1</sup> Data based on the information from the 34 Annex 1 Parties that submitted their first national communications on or before 11 December 1997, as compiled by the secretariat in several documents (A/AC.237/81; FCCC/CP/1996/12/Add.2 and FCCC/SB/1997/6). Some of the communications included data on CO<sub>2</sub> emissions by sources and removals by sinks from land-use change and forestry, but since different ways of reporting were used these data are not included.











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ISBN 0 10 554687 9