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Energy and Climate Change
Committee

**The road to UNFCCC
COP 18 and beyond**

Second Report of Session 2012–13

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written evidence*

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The Energy and Climate Change Committee

The Energy and Climate Change Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department of Energy and Climate Change and associated public bodies.

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The Report of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume. Additional written evidence may be published on the internet only.

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1 Introduction

1. In 1992 154 countries joined a treaty to “cooperatively consider what they could do to limit average global temperature increases and the resulting climate change, and to cope with whatever impacts were, by then, inevitable.”¹ This was called the United Nations Framework Convention on Climate Change (UNFCCC).

2. In 2011 the 17th Conference of the Parties (COP17) of the UNFCCC in Durban, South Africa, agreed the “Durban Platform for Enhanced Action”.² This launched a new process within the UNFCCC: “to develop a protocol, another legal instrument or an agreed outcome with legal force [...] applicable to all Parties”.³ WWF-UK described this as a “major breakthrough” as “for the first time, all countries have agreed to be brought under one legally binding framework to address climate change.”⁴ It is expected that this new agreement will be adopted at COP21 in 2015, and will be implemented from 1 January 2020. A new Ad Hoc Working Group is currently preparing the framework for negotiations.

3. The UK’s ambition to reduce its emissions by 80% by 2050, legislated for in the Climate Change Act 2008, shows climate leadership—rather than trying to do the minimum the UK and the EU are sending out the right signal that this should be a race for increased ambition.⁵

4. The Committee heard from Professor Sir David King, former chief scientific adviser to the Government, that one of the key assets the UK has is the consensus among all three major political parties on the need to manage climate change. As pointed out by Sir David, “One of the saddest things about the development of the political situation around climate change in the United States is that it has been politicised, and one of the great advantages of the British system is that we have all three major parties fully in agreement on managing the issue of climate change.”⁶

5. The EU needs as many allies in its negotiating position as possible. Australia is a valuable new ally, as it will bring a group of other nations with it. However it is critically important to foster alliances with Brazil, China, India and South Africa. The key issue for these economies and other developing nations is finding an equitable solution to climate change.⁷

6. The UK Government has not engaged sufficiently with the public on the details of how the UK’s emission reduction targets could be achieved. For example, more could be done

1 UNFCCC, Background on UNFCCC: The international response to climate change, http://unfccc.int/essential_background/items/6031.php

2 UNFCCC, Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf

3 UNFCCC, Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, Article 2

4 Ev 74

5 Q 85 [Sir David King]

6 Q 101 [Sir David King]

7 Q95 [Sir David King]

to convince the public that decarbonising electricity generation and electrifying transport will, in the long term, be financially beneficial. Sir David commented that “We need a clear statement from the Cabinet that this is the right way forward.”.⁸ This is partly because the UK’s North Sea oil resources are depleting and the country will have to turn increasingly to potentially costly imports. This message needs to come from Government.⁹ In addition, as well as benefiting the UK economy, this would give “muscle” to the UK’s negotiating position.¹⁰

8 Q 92 [Sir David King]

9 Q 92

10 Q 93

2 Priorities

7. Building upon the international agreement secured last year in Durban, Doha needs to deliver agreement on a strategy for emissions reduction in the short term. There is limited time in which to make progress on this reduction.¹¹ This is because at the meeting in Durban, the Parties decided to adopt a universal legal agreement on climate change “as soon as possible, and no later than 2015”.¹²

8. Commentators have noted that Doha may seem to be a less important COP, but at a technical level it still matters. The Kyoto Protocol and Long Term Co-operative tracks (the two old negotiation tracks) need to be finished and final decisions made, and the Durban Platform (the new negotiation track) needs to be built upon. The new negotiation track breaks the mould of the old processes, in that it is based on symmetry of commitment between developed and developing countries—this transition needs to be managed and encouraged at Doha.¹³

9. The COP in 2015 needs to be the year in which an agreement is reached. In 2015, China will be thinking about its next five-year-plan, and the US could be in a position to introduce measures in Congress. Picking that year as an important one will apply pressure on domestic policy as an international COP approaches, as Prof. Michael Jacobs said “making 2015 into a date that matters is more likely to get countries to commit.”¹⁴

10. The progress required this year in Doha is relatively modest, so it is important that expectations are not too high to avoid it being labelled “another failure”.¹⁵ Doha is an important opportunity for all nations to agree on what they mean by equity and what is going to be fair for all—once these principles of equity are agreed upon, the detailed content can then be worked out.¹⁶

11 Q 2 [WWF-UK]

12 “Durban Climate Change Conference – November/December 2011”, *UNFCCC online*, June 2012, www.unfccc.int

13 Q 123

14 Q 149 [Prof. Michael Jacobs]

15 Q 102 [Sir David King]

16 Q 102

Measurement, Reporting and Verification (MRV)

11. It is essential that specific commitments on emissions reduction are made by 2015, even if they are voluntary; however, there needs to be transparency in the MRV process so that emissions pledges can be compared and actions verified. Doha needs to make progress on establishing the rules that allow comparability of different pledges—ideally, a single accounting system.¹⁷

12. In the long run, it is more likely that countries will attempt to bring pressure to bear on others which do not enforce their emissions reduction pledges by naming and shaming them, rather than trying to enforce those pledges through international legal action. Dr. Robert Falkner of the London School of Economics and Political Science commented that “as Canada demonstrated, you can commit to a legally binding agreement and then just walk away from it.”¹⁸

13. DECC said that to strengthen the MRV process the challenge is to turn the text agreed at Durban into actual reporting tables, containing information on current mitigation as well as policies for future mitigation for both developed and developing countries. They added that elements of the accounting regime need to be improved and finance needs to be included in the MRV process for full transparency.¹⁹ Without transparency in MRV, this encouragement of compliance by naming and shaming would not be possible.

14. The measurement, reporting and verification process is vital for progress to be made on emissions reduction. Lack of transparency will delay progress, or stop it altogether. There is widespread agreement about the need for a single accounting regime for both developed and developing countries. We recommend that DECC push for this single accounting regime at an EU level and an international level.

Efficiency

15. As pointed out by Dr. Watts of WWF-UK, the UK needs to be “focusing very strongly on energy efficiency, which is win-win across the board.”²⁰ Given the current economic situation in Europe, there is a strong argument for increased efficiency and indigenous energy production so as to decrease costly imports of oil and gas.²¹

16. The EU Energy Efficiency Directive needs to legislate to set aside some EU Emissions Trading System (EU-ETS) credits to increase pressure on emitters in the EU to improve efficiency. In addition, the use of EU cohesion funds (aimed at Member States whose Gross

17 Q 124

18 Q 124

19 Q 168 [Mr. David Capper]

20 Q 4

21 Q 7

National Income per inhabitant is less than 90% of the Community average²²) for energy efficiency should be supported by the UK.²³

17. For example, Poland is reluctant to move to a low carbon economy, mainly because its electricity is 90% coal powered. Dr. Watts explained that it is not a question of buying-off Poland, but rather an opportunity “to look at how we can facilitate that transition”. These opportunities could include using “the EU budget to get some extra wins that we need on energy efficiency and the Energy Efficiency Directive, being able to actually achieve those on the ground, getting a set-aside of some of the ETS credits that are being discussed in the Energy Efficiency Directive at the moment but would need to be legislated through the ETS Directive in future.”²⁴

18. At a time when resources are limited money must be spent wisely and efficiently. We recommend that the Government prioritise energy efficiency as a mitigation strategy. EU cohesion funds or EU-ETS credits should be used to facilitate the implementation of energy efficiency policies throughout Europe.

22 European Commission Regional Policy, http://ec.europa.eu/regional_policy/thefunds/cohesion/index_en.cfm, July 2012

23 Q 16

24 Q 16

3 Forums

19. If the success of the UNFCCC is measured simply in terms of reducing greenhouse gas emissions, it has been a failure. The Committee heard from Sir David King that the UNFCCC process has become a “culture within a culture” and the officials involved seem to have lost sight of the overall objective.²⁵

20. The importance of other processes such as the GLOBE World Summit of Legislators, working at a national level to translate international commitments into national legislation, should be recognised. The convention track needs to have a complementary process of engagement by national legislators to frame national law and scrutinise governments' delivery at the national level.

21. However, the UNFCCC continues to be an essential instrument for bringing all the concerned parties together. DECC said that Durban showed the UNFCCC process “can work and deliver results” and the Government remains committed to it as the “primary vehicle for delivering a legally binding international treaty”.²⁶ They added that the UNFCCC process is the “least worst” option.²⁷

22. UNICEF also said that the UNFCCC remained the “best forum” in which to negotiate a global legally binding emissions treaty.²⁸ WWF-UK asserted that only the UNFCCC has the “universality, legitimacy, and evolving procedures” to achieve a fair global agreement on climate change.²⁹ Christian Aid stated that the UNFCCC remains “a central decision making forum where a global solution for the global common problem can be found [and there is] presently no alternative venue where all countries can negotiate for a global comprehensive agreement”.³⁰

23. Reaching a single agreement among almost two-hundred nations will be extremely difficult, but the UK should still concentrate on doing this. Voluntary commitments like those achieved in Copenhagen are a valuable first step to achieving a single agreement with all Parties.³¹

Near negotiations

24. Near negotiations are informal negotiating forums—outside the UNFCCC—that can be used to unblock areas of disagreement, and bring developing and developed countries closer together. Forums such as these where heads of state meet—such as the BASIC group, G8, G8+4, G20, G77— help to overcome the process culture within the UNFCCC and are sometimes able to achieve more. The Association of Small Island States is having an impact

25 Q 85

26 Ev 62

27 Q 170

28 Ev 69

29 Ev 77

30 Ev 82

31 Q 85

far beyond the population size they represent simply by combining forces on the single issue of rising sea levels. The European Union also creates a common policy around climate change issues that brings together all 27 nations.³²

25. DECC supports using other forums outside the UNFCCC to “deliver vital practical action in specific sectors”, such as the Montreal Protocol (on Substances that Deplete the Ozone Layer), the International Maritime Organisation (IMO), and the International Civil Aviation Organisation (ICAO).³³ WWF-UK suggested moving hydrofluorocarbons (HFCs) into the Montreal Protocol.³⁴ HFCs are CFC substitutes—therefore they do not deplete the ozone layer—that are also powerful greenhouse gases.³⁵ Several witnesses suggested that aviation and shipping emissions should be dealt with in alternative forums such as the IMO, ICAO or the World Trade Organisation. Dr. Falkner stated that taking aviation and shipping emissions out of a global agreement “will make it easier to negotiate an agreement”.³⁶

26. But these other forums are not a substitute for the UNFCCC itself, which provides a space for vulnerable countries to have their say.³⁷ WWF-UK noted that some non-UNFCCC forums tended to involve only “wealthy, powerful countries”, which made their processes “lopsided” and they called into question their global “legitimacy”.³⁸

27. Dr Falkner noted that “none of these forums have provided a platform for actual negotiations of mitigation commitments” and that they were “unlikely to offer a realistic and practical alternative to [the UNFCCC]”.³⁹ He added that “we need to conceive of international climate policy as an ongoing process of political engagement rather than a one-off treaty negotiation.”⁴⁰

28. The other forums such as the G8, G20 and the Major Economies Forum have no institutional framework underpinning them, so even though they are useful in enabling agreement to be reached eventually, the only means of implementing an agreement now, and in time, is the UNFCCC. Dr. Falkner called attention to the fact that “while we have alternatives for political debate, we have no institutional framework to deliver. If the UNFCCC is criticised for not delivering fast enough, no alternative is in place or could be built in the timeframe that is required to replace it.”⁴¹

32 Q 86

33 Ev 62

34 Q 9

35 Q 132 [Prof. Michael Jacobs]

36 Q 144

37 Q 51

38 Ev 62

39 Ev 90

40 Ev 89

41 Q 126

29. We agree with DECC that “there is no other forum [than the UNFCCC] that offers a better opportunity to secure agreement.”⁴² We recommend that the UK and the EU continue to use this process to promote further global action to combat climate change.

30. We recommend that the Department should advocate moving HFCs into the Montreal Protocol.

Global Cap-and-trade

31. In July 2011 Sir David King was the lead author of a report which proposed a global cap and trade system based on a per capita emissions target:

[The] principle describes a trajectory whereby the overall emission level is reduced over time whilst the per capita emissions rates of different countries converge on a low value aimed at meeting the 2°C objective.

This allows developing countries to maintain some emissions growth in the intermediate phase, which is made up for by a decrease in developed country emissions. The overall amount emitted should not be more than will cumulatively push temperature increases over 2 °C. In the global cap and trade system we propose here, emissions are traded based on a per capita allocation of CO₂ trading permits at some future date (2050 is favoured by many).

The per capita system functions by setting a forward trajectory for CO₂ emissions per head per nation, this amount being the same for all countries by the target date.⁴³

32. Taking into account projected population growth, the emissions that will allow temperature increase to be 2 degrees or less are calculated to be 2 tonnes per capita by 2050. The scheme would issue CO₂ trading permits at 2 tonnes per person, and excess permits could be sold off.⁴⁴

33. The EU-ETS has shown that carbon dioxide can be made into a tradable commodity. China is also piloting cap-and-trade systems. Different carbon markets with different mechanisms around the world will lead to different carbon prices, which is not optimal for a single, tradable commodity. As Sir David pointed out, “There is the natural pressure behind a global cap-and-trade, evolving from regional cap-and-trade into a much more natural process towards global trading.”⁴⁵ In theory at least all the regional schemes could evolve and eventually join up to become one global scheme.

34. If China develops a full scale domestic cap-and-trade system, there could be scope for eventually linking it to the EU-ETS. This would create two very large blocs with potentially unstoppable momentum. As we pointed out in our report *EU Emissions Trading System*,

42 Q 169

43 Smith School for Enterprise and the Environment, *Climate change negotiations: key lessons & next steps*, July 2011, p 31

44 Smith School for Enterprise and the Environment, *Climate change negotiations: key lessons & next steps*, July 2011, p 32

45 Q 87

the EU and China could together reach a critical mass of key emitters involved in emissions trading.⁴⁶

35. However, we also heard from witnesses who were sceptical about the feasibility of this approach. Other countries such as Korea and Australia have announced their intention to introduce their own cap-and-trade schemes, and China is about to pilot one, even against the backdrop of the over-allocated EU-ETS. Oversupply of EU-ETS credits, combined with recession, has caused the price to fall to about €8 in July 2012 which is far too low to drive long-term low carbon investment decisions.⁴⁷ Linking schemes between countries will be extremely difficult.⁴⁸ Dr. Falkner said it would require “a massive effort to build up institutions, because what you are doing is effectively creating global property.”⁴⁹

36. The solution proposed by Sir David would be an equitable one, as all nations would have to reach the same emissions per capita by 2050. This is the basis on which the UK’s 80% reduction by 2050 was calculated, but we note that is unlikely to achieve the equitable goal of approximately 2 tonnes per capita. As developing countries’ economies grow those whose per capita emissions are currently very low could increase emissions in the short term and then return to the agreed objective by mid-Century.⁵⁰ A dynamic cap would need to be established for each country, enabling a developing country with a cap in excess of its normal emissions to trade in the surplus for cash on the market. Establishing this dynamic cap would involve complex discussions around the principles underlying equity. As each nation joined this cap-and-trade mechanism, governance and compliance measures would also have to be negotiated.⁵¹

37. **The Minister noted that “a global cap-and-trade system is what we all aim for”.⁵² We see considerable merit in the system that Sir David advocates, but there are also enormous challenges that may make it impracticable.**

Sectoral trading

38. The Committee heard from industry of their concerns about the effect of emissions reduction targets on industrial sectors in developed countries. In some developing countries some of these sectors are already developed (for example steel) and compete with the same sectors from developed countries,. In terms of emissions trading, if the developing country was treated as a homogeneous unit and provided with emissions credits, its developed industrial sectors might not have an incentive to reduce their emissions and increase efficiency, so they would have an advantage over the same sector in a developed country. One solution may be to set up sectoral global trading schemes, which

46 Energy and Climate Change Select Committee, *EU Emissions Trading System*, January 2012, HC 1476, p 23

47 Energy and Climate Change Select Committee, Tenth Report of Session 2010-12, *EU Emissions Trading System*, January 2012, HC 1476, para 20-21

48 Q 130

49 Q 150

50 Q 95

51 Q 87

52 Q 174

would drive emissions down in a particular industry while ensuring there was a level playing field.⁵³

39. We recommend that DECC cooperates with industrial sectors and other interested stakeholders to identify the obstacles to and benefits of a sectoral trading scheme with a view to including it in an international agreement.

4 Kyoto Protocol

Usefulness of the architecture

40. The first commitment period of the Kyoto Protocol was a success in its own terms—many of the countries involved look as if they will be in compliance with their first commitment targets. The Kyoto Protocol also created an invaluable architecture for future agreements, including common emissions reporting, accounting standards and a compliance system. Whatever the UNFCCC wants to deliver, it is important that this architecture is kept alive. Dr. Watts said that “one of the key things that were won at Durban was that political commitment, through a number of parties, to that architecture and keeping that on the table as part of the negotiations looking forward to the future.”⁵⁴

41. Between 2013 and 2015 there will be a review on whether the target to limit the global average temperature increase to 2 °C should be reduced to 1.5 °C. In the same period the Fifth Assessment Report of the Intergovernmental Panel on Climate Change will be published. The second commitment period of the Kyoto Protocol needs to have a review clause so that it can act on these findings. WWF-UK pointed out that a second commitment period of eight years to 2020 has “a certain logic to it”, as the Durban Platform is due to be implemented from 1 January 2020.⁵⁵

42. We recommend that the second commitment period of the Kyoto Protocol lasts for eight years until 2020. In addition it must have a review clause in case the IPCC report recommends that the target for the global average temperature increase be cut from 2 °C to 1.5 °C.

Kyoto Protocol versus Durban Platform

43. There are parallel tracks under the UNFCCC: the old negotiation track in the form of the continuation of the Kyoto process and the Long Term Co-operative Action track, and the new one in the form of the emergence of the Durban Platform which has resulted from the Copenhagen voluntary commitments and the Cancun Agreements.⁵⁶

44. Prof. Jacobs said that it is “nearly time” to abandon the Kyoto process and move efforts on to the Durban Platform. The second Kyoto commitment period is likely to be the last one, but it is desirable in order that the architecture be preserved. Rules have been established, for example with regard to counting emissions tonnes, trading arrangements and the Clean Development Mechanism and it is important that these are carried over.⁵⁷

45. The strength of the Durban Platform—unlike the Kyoto Protocol—is that it is based on voluntary commitments. Sir David King pointed out that the Kyoto Protocol “was always going to be blocked by the United States [and] the follow-through from the United States not signing up is that China was never going to sign up and then those two nations

54 Q 10

55 Q 14

56 Q 94, Q 123 [Prof. Michael Jacobs]

57 Q 138

take another set of nations with them.” Moving towards a voluntary agreement allows the process to continue without being blocked. This dynamic of international pressure has achieved a measure of commitment from the United States and China, as well as other major emitters, which Kyoto did not manage to achieve.⁵⁸

46. The current state of the Kyoto Protocol is that Canada has formally withdrawn and Japan and Russia have stated that they will not sign up for quantifiable targets under the Kyoto Protocol. Dr. Falkner asserted that we could put pressure on Japan and Russia but “that would add very little to the environmental effectiveness of that agreement.”⁵⁹

47. It is highly improbable that countries such as Canada, Russia and Japan will sign up to the second Kyoto period. Many of them have publically stated they will not. Instead diplomatic efforts should now be focused on the more promising Durban Platform.

Hot air emissions

48. Hot air emissions, also called assigned amount units (AAUs) are a Kyoto Protocol unit equal to 1 metric tonne of CO₂ equivalent. AAUs may be exchanged through emissions trading.⁶⁰ DECC stated that the “strict rules” around surplus AAUs needed to be adopted.⁶¹ Sir David King stated in additional written evidence: “The biggest holders of surplus AAUs are from Central and Eastern Europe. If these countries are allowed to carry over their surplus allowances to the second commitment period, it will obviously not incentivise countries to commit to ambitious targets.”⁶²

49. Conversely it should be noted that such countries will see this as developed countries changing the goalposts to suit themselves. Their economies went through the painful economic transition that followed the 1990s and the emission reductions from these countries are equally real and have been paid for with a heavy social price. Russia’s ‘hot air’ has effectively been removed as it will not sign up to the second commitment period. It cannot carry over its surplus AAUs if it is not in the agreement.⁶³

50. We urge caution against the Government’s commitment to adopt strict rules around surplus assigned amount units (AAUs) of CO₂ and recommend that it the government does not confuse its two aims of agreeing a second commitment period under the Kyoto Protocol and its desire to ensure the maximum net reduction of emissions from the current scenario. To do so will only raise serious questions of equity that may prejudice negotiations.

58 Q 94

59 Q 140

60 Glossary, UNFCCC, July 2012, http://unfccc.int/essential_background/glossary/items/3666.php

61 Ev 59

62 Footnote to Q 96

63 Q 16

5 2°C Target and Current Ambition

51. The voluntary commitments from many nations under the Copenhagen and Cancun processes still leave a trajectory that would probably result in a 3–4 °C rise in the global average temperature by 2100⁶⁴, so these commitments are clearly insufficient to meet the objective of a maximum 2 °C rise. Nevertheless, they should be welcomed as a significant step forward and they represent voluntary agreements from different nations, who might not have otherwise participated as strongly.⁶⁵

52. The EU's 20% reduction target (based on 1990 levels) by 2020 is no longer either ambitious or challenging: the effects of the recession mean that a reduction of emissions of only six percentage points⁶⁶ between 2010 and 2020 on top of what has been achieved to date will be sufficient to meet this target.⁶⁷ WWF-UK explained how an informal “coalition for high ambition” had emerged at COP 17 in Durban, consisting of over 120 nations from the least developed countries, small island states, and the EU.⁶⁸ It claimed that the main threat to this “new and fragile” coalition was the “lack of credibility in the level of climate action in the UK and EU.”⁶⁹

53. Prof. Jouni Paavola of the University of Leeds told us that increasing the EU's ambition level to 30% made good economic sense in the current world of high energy prices.⁷⁰ Sir David King added that the context of individual EU member states reliance on imported oil and gas was a major factor in both emissions performance and their current financial difficulties, but that this point did not seem to be appreciated by policy makers:

“the Italian economy is in deficit by €38 billion per annum at the moment, roughly. Of that, since they were not in deficit, since they were in balance in the year 2000, the increased cost of imported oil to Italy is €34 billion. Most of the current deficit in Italy is due to the cost of imported oil at US\$100+ [per barrel].”⁷¹

54. Europe's influence over, and potential leadership of, future international negotiations would be greatly increased if its own economy was decarbonised more rapidly. It should therefore set a target of a 30% reduction on 1990 levels by 2020. This would be a win in the long term economic and environmental interests of the UK and the EU. We recommend that the Government argues strongly for this at the European level.

55. The IPCC is to assess whether the scientific evidence points to a 1.5 °C rather than 2 °C rise in global average temperatures. The 2 °C target is ultimately a political agreement, and

64 Sir David King, *International climate change negotiations: key lessons and next steps*, Chapter 3, p 14

65 Q 89

66 European Commission, *Analysis of options beyond 20% GHG emission reductions: Member state results*, February 2012, p 5

67 Q 6

68 Ev 74

69 Ev 75

70 Q 132

71 Q 92

even this will be difficult enough to implement though important in setting a framework and providing something to aim for, and to set emissions reductions pledges against. A 1.5 °C target, which some observers already consider to be unachievable, is unlikely to provide any more leverage at negotiations. However, it needs to be acknowledged that for some countries, such as low lying states, 2 °C may well be “the end of the world” and as such it is politically impossible for them to subscribe to a 2 °C target.⁷² It is important to note that the 2 °C target itself represents a judgement about the balance of threat and probability. It does not, according to scientific evidence, guarantee that dangerous and irreversible climate change will be avoided. At the same time exceeding the 2 °C level will not inevitably cause dangerous and irreversible climate change.⁷³

56. WWF-UK argued that global emissions must have an early peak (by 2015) and decline steeply thereafter to keep the temperature rises to the agreed level and avoid the need for “extremely steep emission reduction rates and aggressive mitigation measures afterwards”.⁷⁴ DECC believes that “it is not possible to make definitive statements on compatibility of emission reduction commitments and eventual global warming”.⁷⁵ They agreed, however, that the current pledges were “not consistent” with an emissions trajectory that will keep warming below 2°C.⁷⁶

57. In fact, there is no precisely defined time by which global emissions have to have peaked in order to keep temperatures to the agreed level, they just have to peak as early as possible. Prof. Jacobs summarised it as: “Earlier is better, but later is better than much later”.⁷⁷ The longer it is until emissions peak, however, the faster they will have to reduce after that peak, and the more difficult and costly it will be to make that reduction.⁷⁸

72 Q 142

73 Q 132 [Dr. Robert Falkner]

74 Ev 77

75 Ev 60

76 Ev 61

77 Q 137

78 Q 135

6 A Legally Binding Agreement?

58. Sir David King noted that the alternative to a legally binding agreement is already in place. He said a legally binding agreement is not an absolute necessity—the alternative is voluntary commitments, nation by nation, that will eventually evolve into a single agreement.⁷⁹ A treaty based agreement similar to the Kyoto Protocol “is unlikely to be replicated.”⁸⁰

59. The UNFCCC COP 17 delivered “a breakthrough on the international community’s response to climate change. The outcomes included a decision by Parties to adopt a universal legal agreement on climate change as soon as possible, and no later than 2015”.⁸¹ This 2015 target for an agreement to be reached means that the legal drafting of the document needs to be in place at least six months before the 2015 COP. Therefore the terms of any agreement need to be well developed by COP 20 at the end of 2014.⁸²

Fairness and equity

60. The Kyoto Protocol defined Annex I countries as developed nations and nations with economies in transition but not including countries such as China, India or Mexico that can be considered “developing”. Annex I countries “committed themselves specifically to the aim of returning individually or jointly to their 1990 levels of greenhouse gas emissions by the year 2000.”⁸³ By default, all other countries are referred to as Non-Annex I countries. The Annex I/non-Annex I terminology is now out of date. Instead there needs to a process that takes account the rate at which many of these economies are developing.⁸⁴

61. The Annex I/non-Annex I distinction (which is fundamental to the Kyoto Protocol) will not be maintained in any new agreement.⁸⁵ Prof. Michael Jacobs stated that “no developed country would sign an agreement now in which China did not take on very significant commitments of comparable legal standing.”⁸⁶

62. Climate equity needs to be understood from the perspective of both developing and developed countries, and it needs to be acknowledged that countries will always act in what they perceive to be their best interests.⁸⁷ DECC recognised this and said “it is not just about what you want, it is what is important to your counterpart.”⁸⁸

79 Q 99

80 Q 143

81 UNFCCC, “Durban Climate Change Conference – November/December 2011”, *UNFCCC online*, June 2012, www.unfccc.int

82 Q 102

83 Glossary, IPCC, June 2012, <http://www.ipcc.ch/pdf/glossary/ar4-wg3.pdf>

84 Q 113

85 Q 138

86 Q 146

87 Q 30-33

88 Q 188

63. Sir David identified to us the potential benefits of using The Human Development Index (HDI) in negotiations. It could be used to determine which countries are treated as “developed nations” and required to decrease their emissions immediately and which countries are given excess carbon permits per capita until their average earnings come in line with other developed countries. It is an “objective number that can be used in negotiations so that the negotiations aren’t just subjective and based on who is the strongest negotiator”. In order to discourage countries from exploiting their growing population in order to take advantage of this system the agreement could contain various population maximums per country.⁸⁹

64. DECC said that the HDI is a good proxy measure of how developed a country is, but that other issues needed to be taken into consideration, such as “a country’s national circumstances, its energy mix and also the marginal cost of reducing emissions.”⁹⁰

65. We recommend that DECC support the use of the Human Development Index or a similar “objective number” to determine equitably which countries are treated as developed nations.

89 Q 107

90 Q 218

7 Finance

Green Climate Fund

66. Established through the Cancun Agreements, the Green Climate Fund (GCF) aims to deliver large scale financial resources to developing countries for climate change adaptation and mitigation. A key outcome of COP 17 in Durban was the decision to adopt the governing instrument for the GCF.⁹¹ Developed countries “committed to provide funds rising to US\$100 billion per year by 2020”.⁹²

67. Given the severe fiscal constraints in most developed countries, it is politically and economically unlikely that budgetary contributions amounting to US\$100 billion per annum by 2020 will be reached unless an innovative mechanism is developed to deliver them. The UN Secretary General’s commission into finding a solution to this problem suggested that for every dollar from international development banks, three to four dollars could be raised from the private sector—in this way the target could be reached.⁹³

Private investment

68. It is important to encourage private funds to assist with climate finance. Prof. Jouni Paavola said that “private funding alone will not cater for all needs, and excessive reliance on public, politically pledged funding has its own problems.”⁹⁴ Sir David King stated that instead of public funds the EU should “push for reliable and innovative sources of long-term climate finance to be established.”⁹⁵ He suggested these innovative sources could include “a price on the emissions of aviation and/or maritime bunker fuels, a financial transaction tax, and auctions of emission allowances in regional trading schemes such as the EU-ETS.”⁹⁶

69. Prof. Jacobs has emphasised the role of public finance in leveraging private investment.⁹⁷ He elaborated in oral evidence, remarking that, for example, the multilateral development banks could give a capital multiple, allowing more to be borrowed and then lent. Financial instruments could be designed to take some of the risk away from private investor, using public finance to partially cover the risk. These investment “risk-mitigation” measures could also include guarantees and co-investments that could be used for both mitigation and adaptation.⁹⁸

91 UNFCCC, “Green Climate Fund—Report of the Transitional Committee to COP 17”, 18 November 2011

92 “The Cancun Agreements: Financial, technology and capacity building support”, UNFCCC, April 2012

93 Q 103

94 Ev 91

95 Ev 84

96 Ev 86

97 “Leveraging private investment: the role of public sector climate finance”, Overseas Development Institute, April 2011

98 Q 153

70. DECC noted that they plan to use public funding to “add value, test out and demonstrate approaches that can be scaled up and replicated by others, to enable longer term shifts in low carbon investment to happen.” In addition they reported that:

Where technologies are further along the innovation chain, e.g. solar PV, or abatement costs are cheaper, e.g. energy efficiency, we are supporting interventions that unlock private capital and create market pull, by addressing non price barriers, testing innovative business models and partnerships with the private sector.⁹⁹

71. We recommend that the United Kingdom exploit its expertise in financial services to develop innovative mechanisms for leveraging in more private investment to help achieve the US\$100 billion target to make up for the almost inevitable shortfall in public funds.

Balance with mitigation

72. In terms of risk management, the more mitigation of emissions occurs now, the less adaptation will be required later. Spending 50% of funds on mitigation and 50% on adaptation has been working well up to this point, but we were warned that if global mitigation efforts are insufficient, adaptation will be very costly and this 50/50 split will have to be revisited.¹⁰⁰

73. However, we also heard from academics that there is currently a shortfall in adaptation funding internationally. Adaptation has only recently risen up the international agenda as a deserving recipient of funding, so is not yet receiving enough money.¹⁰¹ However, in this country, DECC stated that “the UK is committed already to spending up to 50% of its climate fund on adaptation measures”.¹⁰²

74. We applaud DECC for pledging up to 50% of its climate fund on adaptation and recommend this is maintained.

EU-ETS

75. WWF-UK recommended that the UK and other EU member states should “follow Germany’s lead and allocate a minimum of 50% of aviation ETS revenues for international climate finance.”¹⁰³ Sir David King added that it would create good-will with other nations if the some of the funds generated from the auctioning within the EU-ETS formed part of the Green Climate Fund.¹⁰⁴

76. When the Minister of State, Gregory Barker MP was asked what DECC’s view was on using EU ETS revenues for climate finance, he responded “I think it is more the Treasury

99 Ev 63

100 Q 49

101 Q 155 [Prof. Paavola, Dr. Falkner]

102 Q 211

103 Ev 77

104 Q 104

have a view on that.”¹⁰⁵ He then added that “when we came into power as a Coalition the forecast revenues for the ETS were already spent.”¹⁰⁶

77. We note that witnesses have argued that the revenues from EU ETS should be allocated for climate finance and we recommend that the Government consider matching these revenues by an increase in the budget for the UK’s International Climate Fund.

Overview

78. A multiple instrument bureaucracy with legally binding agreements and various funds for adaptation and mitigation is clumsy. A single cap-and-trade instrument could create the cash flows—from the developed to the developing world—that are needed through the tradable commodity of carbon dioxide permits. However the introduction of such an instrument is likely to be a very long way into the future and Sir David King, a leading proponent of this idea, also said that there is a need for other funds “in the shorter term”.¹⁰⁷

79. We heard from other witnesses that especially for small communities (when an economic case can be difficult to make for adaptation), it is important that in the intervening period until the adaptation funds (Green Climate Fund, Fast Start Finance) are developed and put in place, some public money is still available as it can be used to leverage additional funds from the private sector.¹⁰⁸

80. Governments themselves are not going to adapt even though they need to implement policies for adaptation. It is businesses, communities, local authorities and households who will be doing the adapting. They need access to money. An overarching approach to climate finance (as suggested by Sir David) may be attractive, but its bureaucracy may not guarantee that those in most need are able to access the fund. Hence, having a set of different sources and types of funding is important.¹⁰⁹

81. In his evidence the Minister said that DECC are not in favour of “a complicated institutional architecture”. He added that “there is scope within the UNFCCC framework to have a more streamlined approach.”¹¹⁰ We recommend that DECC clarify how the international finance architecture could be streamlined.

105 Q 203

106 Q 206

107 Q 103

108 Q 38

109 Q 150 [Prof. Jouni Paavola]

110 Q 198

8 REDD+

82. REDD+ is a UN programme focussed on Reducing Emissions from Deforestation and forest Degradation in developing countries (REDD+). Emissions from the forest sector and changes in forests count for over 17 % of global greenhouse gas emissions.¹¹¹ REDD+ includes the UN-REDD programme, which creates a financial value for the carbon stored in forests and offers incentives for developing countries to reduce emissions from forestry. REDD+ goes beyond just avoided deforestation to include “conservation, sustainable management of forests and enhancement of forest carbon stocks.”¹¹²

83. According to the Center for International Forestry Research the three main issues regarding REDD+ which needed to be resolved at the Durban conference were:

- Funding for REDD+;
- Reference levels from which countries could start their Monitoring, Reporting and Verification (MRV); and
- Guidance on how to implement reporting of ‘social, governance and environmental’ safeguards.”¹¹³

We address each of these in turn below.

Funding

84. It is expected that at COP 18 countries will hold a REDD+ finance workshop and produce a technical paper on the sources of financing for REDD+.¹¹⁴ Reuters reported that at Durban “most of the difficult decisions [about finance] were put off until next year’s climate summit and few observers expect to see a REDD market emerge this side of 2020.”¹¹⁵ Prof. Jouni Paavola said that private finance had a crucial role to play in delivering funds for REDD+.¹¹⁶

85. DECC acknowledged that the rate of progress of REDD+ funding “has been very disappointing” and said that there were difficulties in disbursing both private and public funds to “REDD projects with real integrity”. We note that this difficulty is in large part the result of disparate and often inconsistent legislation regarding forest governance and property ownership in forested nations. The money was there, but was not being spent.

111 IPCC Fourth Assessment Report, *Mitigation of Climate Change: Introduction*, 2007, p 105

112 UN-REDD Programme, *About UN-REDD+*, www.un-redd.org

113 “3 sticking points to tackle on REDD+ in Durban, says facilitator”, *Center for International Forestry Research*, 15 November 2011, blog.cifor.org

114 “REDD+ finance, indigenous rights protections move forward in 2012 with boost from Durban Negotiations”, *Environmental Defense Fund News and Blogs*, 7 February 2012, blogs.edf.org

115 “Private sector finance eyed for U.N. forest projects”, Reuters, 11 December 2011, www.reuters.com

116 Q 161

DECC added that while private funding will “absolutely” play a crucial role in the long term, it was even more challenging to unlock private sector funding than public.¹¹⁷

86. We recommend that DECC investigate why the disbursement of funds into REDD+ projects has been so disappointing. We recommend that the Government support work to resolve such legislative anomalies that hamper the deployment of finance at scale to tackle deforestation. The Department should clarify what steps are being taken to prepare for the REDD+ finance workshop at COP 18.

Reference Levels

87. Reference levels are intended to be used by countries as the common baseline against which to compare, for example, how much they can avoid emissions by undertaking a specific set of management activities.¹¹⁸ These reference levels are used in the MRV system. Parties in Durban agreed to a set of technical guidelines for ensuring that reference levels had environmental integrity.¹¹⁹ Decisions to be made at Doha will include how to measure and monitor emissions due to forestry within these technical guidelines. In their evidence DECC asserted that they will push for biennial reporting to start in 2014.¹²⁰ The Committee supports this aim and recommends the Government negotiate strongly to this end.

Safeguards

88. At Durban “a framework for systems of reporting on the implementation of REDD+ safeguards” was developed, but the content of those systems was not decided on. This work will be continued at COP 18.¹²¹ Several non-governmental organisations criticised the wording of the safeguards, calling them “weak” and “bad news for millions of indigenous people”.¹²² DECC stated that the guidance should be built upon safeguards and reporting requirements that are “already covered by international conventions.”¹²³ They added that progress needed to be made in Doha with regard to “how forest nations would report against those safeguards.”¹²⁴

89. There are a number of countries critical to the climate change challenge in relation to forestry that do not have the governance procedures in place to participate in a global carbon trading process. Sir David King reported that “a Government that benefited its own members and their bank accounts somewhere simply by the tradable commodity would not be brought into the fold.”¹²⁵ In addition, the forest areas in some developing countries

117 Q 219

118 Q 157 [Prof. Jouni Paavola]

119 UNFCCC, *Ad Hoc Working Group on Long-term Cooperative Action*, Fourteenth Session part four, 9 December 2011

120 Q 221

121 “REDD+ finance, indigenous rights protections move forward in 2012 with boost from Durban Negotiations”, *Environmental Defense Fund News and Blogs*, 7 February 2012, blogs.edf.org

122 “Private sector finance eyed for U.N. forest projects”, Reuters, 11 December 2011, www.reuters.com

123 Ev 62

124 Q 221

125 Q 109

are not under the control of the central government, which is a powerful argument for the continuation of REDD+.¹²⁶

90. We recognise the importance of REDD+ in tackling emissions from forestry, particularly with regard to developing countries where the forest areas are not under the control of the central government. We recommend that the UK and the EU press for stronger and more detailed social, governance and environmental safeguards for REDD+ projects.

9 Carbon taxes and embedded carbon

91. In our inquiry into *Consumption Based Emissions Reporting*, we concluded “There is a clear divergence between the UK’s territorial emissions and its consumption-based emissions”.¹²⁷ DECC’s official greenhouse gases figures (which count territorial emissions from power stations and transport etc, within UK borders) showed an almost 20% reduction between 1990 and 2009.¹²⁸ But research commissioned by DEFRA revealed that greenhouse gas emissions were 20% higher in 2009 if emissions embedded in imports were included.¹²⁹

92. These embedded emissions were left out of the Kyoto process—despite the successes of many EU countries in cutting territorial emissions, global emissions have not fallen because many of the territorial gains have been offset by importing goods manufactured elsewhere.¹³⁰

93. There is a need to address these consumption based emissions but current policy instruments do not allow us to do so. Prof. Paavola said “In 20 or 30 years’ time the majority of emissions are from consumption, not production, and the current policy instruments don’t really give any leverage over that.”¹³¹ The pricing of embedded carbon could be achieved through a tax or through a cap-and trade system for carbon embedded in goods, so that the cost of carbon is also embedded as it crosses borders.¹³²

94. We explored a border tax adjustment mechanism during the *Consumption Based Emissions Reporting* inquiry, specifically through border tax adjustments (BTAs) in which a tariff would be placed on the carbon embedded in a country’s imports, bringing the price of the embedded carbon in line with that imposed on domestically produced carbon emissions.¹³³ Border tax adjustments can incentivise countries to introduce their own schemes to generate a carbon-pricing process so that they benefit from the tax too.¹³⁴ When this was put to DECC, they said “We are less than keen on starting an international trade war at a time of global recession.”¹³⁵

95. We welcome the Department’s acknowledgement of our concerns as outlined in our Consumption Based Emissions Reporting inquiry and their plan to increase the prominence of consumption-based emissions alongside territorial emissions in their literature. However, this does not address the emissions due to embedded carbon, or go

127 Energy and Climate Change Select Committee, Twelfth Report of Session 2010-12, *Consumption Based Emissions Reporting*, March 2012, HC 1646, para 15

128 DECC Statistical Release, 31 March 2011, www.decc.gov.uk/assets/decc/statistics/climate_change/1515-statrelease-ghg-emissions-31032011.pdf

129 Defra Statistical Release, 8 March 2012, www.defra.gov.uk/statistics/files/Release_carbon_footprint_08Mar12.pdf

130 Q 117

131 Q 127 [Prof. Jouni Paavola]

132 Q 112

133 Energy and Climate Change Select Committee, Twelfth Report of Session 2010-12, *Consumption Based Emissions Reporting*, March 2012, HC 1646, p 34

134 Q 118

135 Q 224

far enough towards tackling global emissions. As our report highlighted, we recognise the enormous difficulty of achieving a legally binding agreement on emissions reductions based on consumption rather than territorial emissions, not least because all international negotiations hitherto have been based on the latter. We are therefore not proposing that consumption based emissions should immediately be introduced into the international process. However we urge the Government to show leadership and acknowledge that consumption in the UK and some other developed countries is driving up territorial emissions elsewhere . This acknowledgement would encourage a more equitable approach to reducing emissions globally.

10 Fossil Fuel subsidies

96. Sir David King stated in his written evidence that the removal of fossil fuel subsidies was a “clear opportunity” for incentivising countries to move to a “low-carbon pathway”. Quoting International Energy Agency (IEA) statistics, Sir David explained that “fossil-fuel consumption subsidies amounted to US\$409 billion worldwide in 2010 [...] global renewable energy subsidies were US\$66 billion”. He added that the removal of fossil fuel subsidies could “decrease primary energy demand by around 5%” and CO₂ emissions by 5.8%” by 2035.¹³⁶

97. The IEA defines an energy subsidy as “any government action directed primarily at the energy sector that lowers the cost of energy production, raises the price received by energy producers or lowers the price paid by energy consumers”.¹³⁷ Consumption subsidies benefit consumers by lowering the prices they pay for energy, and are more prevalent in non-OECD countries such as Iran, Russia, Saudi Arabia, India and China.¹³⁸

98. While some fossil fuel subsidies are in place globally as a package of policies intended to relieve fuel poverty, many are in place for everyone in the general population to benefit from and have become embedded.¹³⁹ DECC made the point that removal of these subsidies will have a different effect in some economies compared to others. In a country such as India the subsidies are often about supporting the poorest to access energy. However, there are “there are obviously economies where there is not such a big impact as there would be”.¹⁴⁰

99. We accept that in some countries fossil fuel subsidies help to alleviate fuel poverty. However these subsidies are not confined to countries where that is the case so we recommend that the Government strongly support pro-poor interventions that would raise the standard of living for the poorest whilst enabling fossil fuel subsidies to be eliminated, particularly in developed countries.

136 Ev 82

137 IEA, *World Energy Outlook 2011*, 9 November 2011, p 509

138 IEA, *World Energy Outlook 2011*, 9 November 2011, p 509

139 Q 120

140 Q 230

11 Conclusions

100. In this inquiry we have considered the approach which the UK should take before and during COP 18 in Doha. We conclude that the priorities should be the following:

- Improving the monitoring, reporting and verification systems;
- Increasing UK and EU influence through the introduction of more ambitious decarbonisation policies, including in particular raising the EU 20% emissions reduction target (on 1990 levels) by 2020 to 30%;
- Continuing to support the UNFCCC process as the principal means of delivering an international agreement, but using forums (such as the GLOBE World Summit of Legislators, IMO, ICAO, WTO and Montreal Protocol) where these will be helpful, for example to deal with issues such as HFCs;
- A reasonable and proportionate approach to surplus AAU elimination;
- Investigating how to disburse public and private funding in an efficient, effective manner;
- Resolving legislative anomalies that hamper the deployment of finance at scale to tackle deforestation;
- Concentrating negotiation and diplomatic efforts on the Durban Platform; and
- Finding a fair and equitable global agreement, legally binding or otherwise.

12 Recommendations

Priorities

1. The measurement, reporting and verification process is vital for progress to be made on emissions reduction. Lack of transparency will delay progress, or stop it altogether. There is widespread agreement about the need for a single accounting regime for both developed and developing countries. We recommend that DECC push for this single accounting regime at an EU level and an international level. (Paragraph 14)
2. At a time when resources are limited money must be spent wisely and efficiently. We recommend that the Government prioritise energy efficiency as a mitigation strategy. EU cohesion funds or EU-ETS credits should be used to facilitate the implementation of energy efficiency policies throughout Europe. (Paragraph 18)

Forums

3. We agree with DECC that “there is no other forum [than the UNFCCC] that offers a better opportunity to secure agreement.” We recommend that the UK and the EU continue to use this process to promote further global action to combat climate change. (Paragraph 29)
4. We recommend that the Department should advocate moving HFCs into the Montreal Protocol. (Paragraph 30)
5. The Minister noted that “a global cap-and-trade system is what we all aim for”. We see considerable merit in the system that Sir David advocates, but there are also enormous challenges that may make it impracticable. (Paragraph 37)
6. We recommend that DECC cooperates with industrial sectors and other interested stakeholders to identify the obstacles to and benefits of a sectoral trading scheme with a view to including it in an international agreement. (Paragraph 39)

Kyoto Protocol

7. We recommend that the second commitment period of the Kyoto Protocol lasts for eight years until 2020. In addition it must have a review clause in case the IPCC report recommends that the target for the global average temperature increase be cut from 2 °C to 1.5 °C. (Paragraph 42)
8. It is highly improbable that countries such as Canada, Russia and Japan will sign up to the second Kyoto period. Many of them have publically stated they will not. Instead diplomatic efforts should now be focused on the more promising Durban Platform. (Paragraph 47)
9. We urge caution against the Government’s commitment to adopt strict rules around surplus assigned amount units (AAUs) of CO₂ and recommend that it the

government does not confuse its two aims of agreeing a second commitment period under the Kyoto Protocol and its desire to ensure the maximum net reduction of emissions from the current scenario. To do so will only raise serious questions of equity that may prejudice negotiations. (Paragraph 50)

2 °C Target and Current Ambition

10. Europe's influence over, and potential leadership of, future international negotiations would be greatly increased if its own economy was decarbonised more rapidly. It should therefore set a target of a 30% reduction on 1990 levels by 2020. This would be a win in the long term economic and environmental interests of the UK and the EU. We recommend that the Government argues strongly for this at the European level. (Paragraph 54)
11. We recommend that DECC support the use of the Human Development Index or a similar "objective number" to determine equitably which countries are treated as developed nations. (Paragraph 65)

Finance

12. We recommend that the United Kingdom exploit its expertise in financial services to develop innovative mechanisms for leveraging in more private investment to help achieve the US\$100 billion target to make up for the almost inevitable shortfall in public funds. (Paragraph 71)
13. We applaud DECC for pledging up to 50% of its climate fund on adaptation and recommend this is maintained. (Paragraph 74)
14. We note that witnesses have argued that the revenues from EU ETS should be allocated for climate finance and we recommend that the Government consider matching these revenues by an increase in the budget for the UK's International Climate Fund. (Paragraph 77)
15. In his evidence the Minister said that DECC are not in favour of "a complicated institutional architecture". He added that "there is scope within the UNFCCC framework to have a more streamlined approach." We recommend that DECC clarify how the international finance architecture could be streamlined. (Paragraph 81)

REDD+

16. We recommend that DECC investigate why the disbursement of funds into REDD+ projects has been so disappointing. We recommend that the Government support work to resolve such legislative anomalies that hamper the deployment of finance at scale to tackle deforestation. The Department should clarify what steps are being taken to prepare for the REDD+ finance workshop at COP 18. (Paragraph 86)
17. Reference levels are intended to be used by countries as the common baseline against which to compare, for example, how much they can avoid emissions by undertaking a specific set of management activities. These reference levels are used in the MRV

system. Parties in Durban agreed to a set of technical guidelines for ensuring that reference levels had environmental integrity. Decisions to be made at Doha will include how to measure and monitor emissions due to forestry within these technical guidelines. In their evidence DECC asserted that they will push for biennial reporting to start in 2014. The Committee supports this aim and recommends the Government negotiate strongly to this end. (Paragraph 87)

18. We recognise the importance of REDD+ in tackling emissions from forestry, particularly with regard to developing countries where the forest areas are not under the control of the central government. We recommend that the UK and the EU press for stronger and more detailed social, governance and environmental safeguards for REDD+ projects. (Paragraph 90)

Carbon taxes and embedded carbon

19. We welcome the Department's acknowledgement of our concerns as outlined in our Consumption Based Emissions Reporting inquiry and their plan to increase the prominence of consumption-based emissions alongside territorial emissions in their literature. However, this does not address the emissions due to embedded carbon, or go far enough towards tackling global emissions. As our report highlighted, we recognise the enormous difficulty of achieving a legally binding agreement on emissions reductions based on consumption rather than territorial emissions, not least because all international negotiations hitherto have been based on the latter. We are therefore not proposing that consumption based emissions should immediately be introduced into the international process. However we urge the Government to show leadership and acknowledge that consumption in the UK and some other developed countries is driving up territorial emissions elsewhere. This acknowledgement would encourage a more equitable approach to reducing emissions globally. (Paragraph 95)

Fossil Fuel Subsidies

20. We accept that in some countries fossil fuel subsidies help to alleviate fuel poverty. However these subsidies are not confined to countries where that is the case so we recommend that the Government strongly support pro-poor interventions that would raise the standard of living for the poorest whilst enabling fossil fuel subsidies to be eliminated, particularly in developed countries. (Paragraph 99)

Formal Minutes

Tuesday 17 July 2012

Members present:

Mr Tim Yeo, in the Chair

Dan Byles
Barry Gardiner
Ian Lavery
Dr Phillip Lee
Albert Owen

Christopher Pincher
John Robertson
Laura Sandys
Sir Robert Smith
Dr Alan Whitehead

Sir Robert Smith declared the following interests:

Shareholding in Rio Tinto (mineral extraction) and Shell Transport and Trading (oil-integrated).

Mr Tim Yeo declared the following interests:

Director of ITI Energy Limited (suppliers of gasification equipment); Director AFC Energy (company developing alkaline fuel cell technology); Director Eco City Vehicles plc; and Chairman of TMO Renewables Limited. Shareholdings in AFC Energy (share option) and Eco City Vehicles plc.

Mr Tim Yeo also declared a non-pecuniary interest as the President of the Renewable Energy Association.

Draft Report (*The road to UNFCCC COP 18 and beyond*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 100 read and agreed to.

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

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report (in addition to that ordered to be reported for publishing on 24 April 2012, in the previous session of Parliament, and 10 and 15 May, and 12 June 2012).

[Adjourned till Tuesday 4 September at 10.00am]

Witnesses

Thursday 10 May 2012

Page

Dr Katherine Watts, International Climate Change Policy Adviser, WWF-UK, **Jazmin Burgess**, International Policy and Research Officer, UNICEF UK, and **Mohamed Adow**, Senior Committee Adviser, Global Advocacy and Alliances, Christian Aid

Ev 1

Dr Tim Fox, Head of Energy and Environment, Institution of Mechanical Engineers, (IMechE) and **Gareth Stace** Head of Climate Change and Environment Policy, EEF, The Manufacturers' Organisation

Ev 13

Thursday 17 May 2012

Professor Sir David King, Director, Smith School of Enterprise and the Environment

Ev 21

Tuesday 22 May 2012

Professor Michael Jacobs, Grantham Research Institute on Climate Change and the Environment, LSE, **Dr Robert Falkner**, Senior Lecturer in International Relations, Grantham Research Institute on Climate Change and the Environment, LSE, and **Professor Jouni Paavola**, Deputy Director, Centre for Climate Change Economics and Policy, Co-Director, Sustainability Research Institute, School of Earth and Environment, University of Leeds

Ev 30

Tuesday 3 July 2012

Gregory Barker, MP, Minister of State, **Pete Betts**, Director, International Climate Change, and **David Capper**, Head, International Climate Policy & Finance Team, Department of Energy and Climate Change

Ev 45

List of printed written evidence

| | | |
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| 1 | Department of Energy and Climate Change (DECC) | Ev 59; Ev 62 |
| 2 | Institution of Mechanical Engineers | Ev 65 |
| 3 | UNICEF UK | Ev 67 |
| 4 | EEF, The Manufacturers' Organisation | Ev 69 |
| 5 | World Wildlife Fund- UK | Ev 74 |
| 6 | Christian Aid | Ev 79 |
| 7 | Professor Sir David King, Smith School of Enterprise and the Environment | Ev 82 |
| 8 | Dr Robert Falkner, Grantham Research Institute on Climate Change and the Environment | Ev 87 |
| 9 | Prof Jouni Paavola and Dr Stavros Afionis | Ev 90 |
| 10 | Oxfam GB | Ev 97 |
| 11 | Shell International Ltd | Ev 98 |

List of reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2010–12

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| First report | Emissions Performance Standards | HC 523 (807) |
| Second report | UK Deepwater Drilling—Implications of the Gulf of Mexico Oil Spill | HC 450 (882) |
| Third report | The revised draft National Policy Statements on energy | HC 648 |
| Fourth report | Electricity Market Reform | HC 742 (1448) |
| Fifth report | Shale Gas | HC 795 (1449) |
| Sixth report | Ofgem's Retail Market Review | HC 1046 (1544) |
| Seventh report | A European Supergrid | HC 1040 (1684) |
| Eighth report | The UK's Energy Supply: Security or Independence? | HC 1065 (1813) |
| Ninth report | Solar Power Feed-In Tariffs | HC 1605 (1815) |
| Tenth report | The EU Emissions Trading System | HC 1476 |
| Eleventh report | The Future of Marine Renewables in the UK | HC 1624 |
| Twelfth Report | Consumption-Based Emissions Reporting | HC 1646 |
| First Special Report | Low carbon technologies in a green economy: Government Response to the Committee's Fourth Report of Session 2009-10 | HC 455 |
| Second Special Report | Fuel Poverty: Government Response to the Committee's Fifth Report of Session 2009-10 | HC 541 |
| Third Special Report | The future of Britain's electricity networks: Government Response to the Committee's Second Report of Session 2009–10 | HC 629 |

Session 2012-13

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| First Report | Draft Energy Bill: Pre-legislative Scrutiny | HC 275 |
| First Special Report | The Future of Marine Renewables in the UK: Government Response to the Committee's Eleventh Report of Session 2010-13 | HC 93 |

Oral evidence

Taken before the Energy and Climate Change Committee

on Thursday 10 May 2012

Members present:

Sir Robert Smith (Chair)

Dan Byles
Barry Gardiner

Christopher Pincher
Dr Alan Whitehead

Examination of Witnesses

Witnesses: **Dr Katherine Watts**, International Climate Change Policy Adviser, WWF-UK, **Jazmin Burgess**, International Policy and Research Officer, UNICEF UK, and **Mohamed Adow**, Senior Committee Adviser, Global Advocacy and Alliances, Christian Aid, gave evidence.

Q1 Chair: Welcome to our first evidence session on the road to UNFCCC COP 18 and beyond. For the record, if you could introduce your names and organisation briefly.

Mohamed Adow: Mohamed Adow, with Christian Aid.

Jazmin Burgess: Jazmin Burgess, UNICEF UK.

Dr Watts: Kat Watts, WWF-UK.

Q2 Chair: Thank you very much for agreeing to give evidence and help us with our inquiry. First of all, if we could look at the priorities for Doha, what do you think the main priorities for the UK should be at COP 18?

Dr Watts: Just to pull back slightly from Doha. I think we are in a situation where we have a very limited amount of time left for action, and action is needed at the international level to work to build on that international agreement that we secured in Durban, which we said we would aim to achieve by 2015. It is also clear that we need to reduce emissions in the shorter term, and one of the things that Doha will need to help deliver are some ideas on how we can reduce those emissions in the shorter term.

In terms of what the UK specifically needs to offer, there is a real case for a strong outreach using the UK's strong diplomatic corps and abilities, working with partners, such as the Durban alliance partners, the Alliance of Small Island States, and the least developed countries, and with other EU countries. I think there is a very strong role for the UK within the EU to help increase EU ambition.

Mohamed Adow: On the Kyoto Protocol side, we have an agreement coming out of Durban that parties will be able to agree and adopt at a viable second commitment period. What we would expect, at least from the UK and the EU, is help to ensure that we have the broadest participation by the Kyoto parties in the second commitment period, and that the second commitment period has a high ambition, one that matches what science says is required—in line with what Kat is saying—to close the gap. The pledges that are currently on the table are nowhere near where climate scientists advise we should be, so getting that done is going to be a key priority.

Just building on that part of the outreach, we need to get to those countries and put pressure on the Kyoto

parties who have indicated that they may not join the second commitment period, particularly Japan, a country that still continues to sit on the fence and says that it will not be joining the second commitment period. Russia is the second country: we are not sure yet whether they will join the second commitment period. Australia and New Zealand have indicated that they will be there but there is no certainty yet. We must reach out to those countries, with the UK in the driver's seat, exerting as much pressure as possible, so that we have the widest participation in the second commitment period and we use that to build trust and build momentum for the future.

Jazmin Burgess: Can I just chip in on top of what Kat and Mohamed have said? From a UNICEF UK perspective, one thing that we are really aware of is the need for high ambition, in order to make sure that we have Doha as an opportunity to push for the most ambitious deal possible so that we can safeguard a future for children, particularly in developing countries. The agreement at UNFCCC is about making sure that we have a legacy for future generations for children now so that they grow up in a climate-safe world. In addition to what they have outlined, the other thing that is really important, in the run-up to Doha, is the issue of financing and the need to secure new additional funds for climate adaptation and mitigation. One of the things that we were particularly happy with in the outcome from Durban was the ratification of the Green Climate Fund. What we would like to see this year is full operationalisation of the fund, ahead of Doha, and the UK to play a full leadership role, as it has done in the transitional committee over the past year but also in making sure that the Green Climate Fund is up and ready to go by 2013.

Q3 Chair: What do you think the main threats are to achieving any of those ambitions you have outlined?

Mohamed Adow: I think there are certain political challenges. On ambition, there is that aspect of countries not having a common understanding of how they are going to share the effort, particularly in terms of ambition. So, what is a fair share and will every country do its fair share? There doesn't seem to be a common understanding among countries on how to share the effort. The second thing, of course, is if there

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is no understanding of what a fair share is then whatever you do others will free-ride on your efforts. There isn't much confidence that all countries will contribute to the global effort adequately to be able to resolve climate change.

In terms of finance, I think there was a pledge in Copenhagen for first-start finance and then there was a pledge for the \$100 billion by 2020. But we haven't seen the commitment at least that will help deliver that necessary finance to support adaptation, to support mitigation, particularly in vulnerable countries. It is a case of ensuring that we have a climate diplomacy that can help achieve that, and to bring parties to the realisation that it is in our common interest to work together collectively towards this goal.

Dr Watts: There are two points I would like to raise: one is, building on what Mohamed says, there is a need to build trust between countries because what we have seen in the negotiations is a lot of finger pointing. Also, what we are asking for in decarbonisation of economies—if you look at the global budget that we have to 2050—is going to require quite substantial changes in the way we run our economies and how we use resources. Whenever there is any question of change, there are always the entrenched interests that do not want to make that change. So one of the questions that we have to be able to address is: how do you facilitate that? How do you make a fair transition from the high-carbon world that we are in, moving towards a low-carbon world, and how do you address the concerns of those who will be affected by the change?

Jazmin Burgess: On the finance question, just to elaborate on one of Mohamed's points, we are all very aware we are living in an economic crisis. One of the things that UNICEF UK congratulates the Government on is the fact that it has stuck to its 0.7% commitment to ODA. On top of that, we need more money for climate change and this is the very difficult political context in the UK and in other developed countries. Trying to find progress through that framing is something that is definitely a challenge, both in the run-up to Doha and at the conference itself, particularly as finance is such a key issue for developing countries in terms of building the trust that both Kat and Mohamed have outlined.

Q4 Chair: I should also remind the Committee and the witnesses of my entries in the Register of Members' Interests related to the oil and gas industry. In particular, a shareholding in Shell, who have actually given us evidence where they are more talking on the technical side of things, about the need for CCS. Do you see any technologies that should be prioritised in trying to achieve the objectives, or do you think the technologies flow from the commitments?

Dr Watts: I think there is a case for a strong top-down as well as bottom-up approach. The top-down is where we have the space to talk about the science and the needed levels of action overall, and also the space to talk about who does what and how much. But obviously, as you say, there is a need to deploy technology across the board and I would say it

wouldn't tend to be a question of choosing particular technologies as being most important. It is pretty clear that with the levels of emissions that we have at the moment, and where we need to be, we need to deploy rapidly across the board, particularly on things like energy efficiency and renewables.

It does seem pretty clear too that, particularly for some of the industrial sectors, CCS may be needed to be an important part of the mix going forward, but there doesn't seem to have been the investment or the pace in improvements on CCS and really getting it to a full-scale deployment, so that you can actually prove that this technology is part of the mix and can actually be brought forward. At the moment, it is still quite nascent and I think putting all our eggs in the CCS basket is very dangerous. What we need to be doing—at least in the short term—is focusing very strongly on energy efficiency, which is win-win across the board. Also, looking at the renewables deployment, I was reading the IEA statement recently that found that in some countries the costs, for instance, of solar PV have come down by as much as 75% in as little as three years because of the rapid deployment. Bringing down these technology cost curves does facilitate more rapid deployment in many other countries.

Q5 Chair: Do you have any views on that?

Mohamed Adow: Not on CCS, but on the other side of the spectrum, particularly those without energy access. The 1.4 billion people without energy access are going to be extremely costly and, given the considerable potential for renewable energy, helping them with the technology that can help them leapfrog that energy so that they can get us on the path to decarbonisation, to be able to give the two degrees achievable, is something that, as a development agency, we are extremely interested in.

Q6 Dan Byles: WWF have described the UK and EU emission reduction targets as “embarrassingly weak”. Would you like to elaborate a little bit on that? Does the rest of the panel agree with that assessment?

Dr Watts: I believe the EU is currently on about minus 17.4% for the period 1990–2009—roughly of that order of magnitude—as of around 2011–2012. It has a target for minus 20% by 2020, so it does feel, given those three or so extra percentage points of emissions reductions over an eight-year time span, that it rather lacks leadership and ambition. We feel that there is a lot of scope for much more rapid decarbonisation in the European economy, and we are calling for a 30% reduction in European domestic emissions as part of an overall 40% emissions reduction to be in line with the 25% to 40%.

Mohamed Adow: What is on the table is not going to get the job done. If the UK and the EU are going to step forward and provide leadership, it is particularly at the domestic level with ambition but also at the European level. Looking at IEA and the latest analysis that they produced, that indicates that we are on course to a six-degree warming, which is going to have catastrophic impacts. In the parts of the world that Christian Aid works in, we are seeing the consequences of climate change. It is a reality and people are grappling with that on a daily basis. Given

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that we have had 20 years of negotiations and not much in terms of ambition—and all the indications show, that with the current pledges we risk altering the maintenance and balance of life on this planet—we should be talking about how to increase ambition. Increasing ambition will require stepping forward and providing that high ambition, but also providing the leadership so that you can work towards a collective outcome.

Jazmin Burgess: Just to add to what Mohamed said, from a UNICEF UK perspective one of the things that we are very aware of is the lack of ambition in emissions reduction targets, which means that we are moving towards higher global temperature rises, which in turn will have knock-on effects for developing countries, and particularly vulnerable communities. In the past we have congratulated the UK Government on the work it has done to push the EU towards a 30% emissions reduction target, but while this progress is slow there is also a need to continue the focus on the adaptation side of things and not just the emissions reductions because they go together.

Q7 Dan Byles: What do you think are the main obstacles affecting the emissions targets? Because if it is that obvious, it should be obvious to the planners and policy makers as well.

Dr Watts: One of the problems that we have is the amount of political oxygen the current economic situation, particularly in Europe, is taking up. While we would see opportunities in the current situation—and I understand that Greece sees renewables as part of its readjustment of its economy in trying to grow its way out of its current situation—there is also a lot of room for improving energy efficiency standards, because of the billions that are flowing out of Europe to pay for oil and gas and other fossil fuels and there is a very good argument for much more indigenous energy. I don't think that linkage is being made, because of the panic around the future of the euro and the whole political fallout from the current situation.

Q8 Dan Byles: The emissions debate is being squeezed out basically at the moment, is it?

Dr Watts: It is not getting the political oxygen it deserves.

Q9 Dan Byles: You have all alluded to this already, but the report for the United Nations Environment Programme has itself said there is a gap between the emission reductions committed to by the parties and the emissions reductions required to limit temperature rise to two degrees. Do you think anything can realistically be done to close that gap?

Mohamed Adow: Yes. I don't think we have an option not to close the gap. If we are going to make this planet habitable, and be able to maintain the standards of living we have had, and be able to afford the poor, who have those rights and haven't attained them, we have to find all ways to be able to do that. Some of the ways we could do that is getting the developed country parties and the developing country parties that have put ranges in terms of their emissions reductions targets to move at least to the higher target by Doha,

so that the second commitment period can have the highest legally enforceable targets for those parties. Also, we should get those parties that haven't actually put forward any targets to come forward with their emissions reductions target.

There are other innovative ways. In Christian Aid, one of the things we are looking at is how we can help a continent like Africa, where you have in excess of 600 million people without basic energy access, to be able to meet that need, but meet it from the huge renewable energy potential that exists within the continent. I have a copy of that report, which is about helping Africa to leapfrog that energy to be low-carbon leaders. We looked at the potential of Africa and then looked at its need. If you square that, you could easily facilitate these countries that currently don't have any targets, that have low emissions, and this is building such a country where you don't have a lock-in of dirty technology or fossil fuels.

Those opportunities exist, so we must bring these things together, and address them in the context of the post-MDGs world that is going to happen, but also within the UNFCCC negotiations, particularly for the 2015 deadline, so that these things can be tackled together. There is an energy poverty problem, true, and these countries have a right to energy, but they can meet that without actually joining the league of big polluters. This is the opportunity we see, and helping to incentivise that transition is something we would like to get support for.

Dr Watts: I would like to add that the UNEP report from last year, *Bridging the Emissions Gap*, found that moving to the high end of the conditional pledges could give you two to three gigatonnes of CO₂ equivalent. Addressing the AAU carry-over, the Assigned Amount Units, the credits that carry over between commitment periods and the land use change emissions could also give two to three gigatonnes of CO₂ equivalent and avoid double counting by creating the right structures within the accountancy methods. Again, this is probably worth around two gigatonnes of CO₂.

There are also pieces that we would see as being important within the UN context, but I think there are a lot of opportunities outside the UN context moving forward on energy efficiency renewables. We would be quite interested in exploring moving the HFC gases, the fluorinated gases, into the Montreal Protocol, because that has been a very effective piece of international legislation, and addressing sectors like aviation and shipping, which are responsible for about 5.5% of global emissions currently and rising rapidly. There are many other ways, and WWF has a submission, which we did for the UNFCCC, on ideas for closing the gap that I would be more than happy to share with you if that would be of interest.

Q10 Christopher Pincher: It was interesting listening to the tone of your thoughts on the priorities for Doha. Mr Adow, you said that there are political challenges ahead. There is currently no common understanding of the effort to deliver on a fair share of reducing emissions between countries. Dr Watts, you said that we need to build trust and stop the finger pointing. I just wonder, as we now come to the end of

the first commitment period under Kyoto, whether you think that period has been a success or if there are serious and significant omissions about dealing with emissions?

Dr Watts: I would say the first commitment to the Kyoto Protocol has been a success, largely in its own terms. To understand, the Kyoto Protocol was set up with binding commitments for a number of countries, the OECD countries I believe in 1992, so the range of developed countries. Also, there were obligations under the Convention that developing countries would work towards clean, sustainable development but without particular binding targets. Many of the countries look like they will be in compliance with their first commitment targets, including the EU. We won't know that until about 2015 through the truing-up period where you have the emissions inventories, you buy any CDM credits that you would need to buy to be in compliance or not.

One of the important things to recall about the Kyoto Protocol is the architecture that it has built. What I see in the negotiations is a real ideological divide between countries—and this is a little bit of a caricature but I think there is more than a kernel of truth to it—countries that want this top-down science-based approach are generally the most vulnerable countries, definitely the EU, and countries that want very much more of a pledging review, so it is a question of not what must we do but what do we want to do. The architecture that Kyoto has built is one that is very much based on looking at the top-down target. There is a particular article in there that creates space for that discussion, and I believe we wouldn't have had the discussions on the 25% to 40% range from the IPCC unless that particular provision was in the protocol. We have common accounting standards. We have common reporting. We have a compliance system. We have a fairly transparent system that is renewable, revisable. There are triggers within the protocol that allow it to be revised, and that is something that we are looking towards in the second commitment period. The EU has put forward a package of amendments that it does want to see brought forward into the second commitment period. In terms of that ideological divide, keeping that architecture alive has been an incredibly important part of the process moving forward. One of the key things that were won at Durban was that political commitment, through a number of parties, to that architecture and keeping that on the table as part of the negotiations looking forward to the future.

Mohamed Adow: The hard nut to crack in this process is equity. So long as parties have the confidence that there is a fair and equitable approach to sharing the mitigation and adaptation costs, then it is likely that countries will be able to step up and increase their ambition. That is the thing that if there is going to be a dialogue that works towards creating a common understanding, so that they can then arrive at some metrics that helps to share it, then we will be able to arrive at a better outcome. This is particularly so because of the disproportionate impact of climate change on poor people, and ensuring that these countries can contribute but contribute to the extent

possible and every country doing their bit so that they can work towards that common goal.

Q11 Christopher Pincher: Do you think that there is a realistic opportunity of agreeing that common goal through process? What I mean by that is you have a group of countries like Japan and China that would like to see, it would appear, a new agreement because they are not keen on making cuts under Kyoto in the second commitment period. You have another group of countries, which includes China, a major emitter, which would like to see progress within the current Kyoto arrangements, and another group of countries that would like to see both things happen, probably at the same time. Do you think that we are going to get wrapped up in process but not really go anywhere?

Dr Watts: There are a number of questions within that. One of the key things in the state of negotiations at the moment is to recognise—as Mohamed has emphasised—the equity issue. You talk about China and Japan—

Chair: I will be coming to equity a bit later.

Dr Watts: Okay. But you mention China and Japan in the same breath, and if you look at the status of economic development of those two countries they are in very, very different places. Going forward, the challenge will be to find a framework that is broad enough to cover all countries but also to have enough space for different countries' specific stages of capability and responsibility to be taken into account.

Q12 Christopher Pincher: Do you think that—we mentioned China—we need some of those major emitters to agree to the process, and to binding cuts, for the second commitment period to really bite and work?

Mohamed Adow: Coming out of Durban some of that has been achieved with the Durban Platform for Enhanced Action, which is going to negotiate the new agreement that has to be finalised by 2015. One of the things that is a small achievement of Durban is the workshop on equitable access to sustainable development that is going to happen in Bonn in a week's time.

These are important opportunities for parties to come out and exchange their views and their differences, to try and understand what fears exist and how they can work around those issues. Of course, it is going to take a while but there is a commitment to agree to an outcome that is going to be applicable to all countries. So the question is: how do we avoid a low ambition outcome and ensure that we have a high ambition outcome? This is now the question that they have to address to ensure that that outcome is going to be a high ambition outcome. The process in Bonn, but also going into Qatar, is going to lay the foundation. I don't expect all this to be concluded in Doha, but you will have a transitional period where parties will be talking and trying to understand. The confidence and trust has to be built with what is achieved in Doha, particularly on what was said at the beginning on Kyoto but also on finance, so that you can create momentum.

One of the things we are looking to do is to encourage the UK to play the leading role it has played in the past. This is quite important, particularly the

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diplomatic FCO work in terms of reaching out to other countries. In Durban, one of the reasons we actually had the outcome we had is because of the alliance between the EU, the least developed countries and the small island states. That has translated into achievements. We need to start thinking of how we can strengthen and expand that alliance to include the medium and marginal economies, so that the middle income countries coming on board will bring the issue of equity into the discussion. So that you can now have LDCs bringing in urgency and saying, “We need it now” and then this one is bringing in the issue of equity so that you have an attitude that helps you move forward.

Dr Watts: If I may just add, I think what is on the table at the moment is two phases. There is this transition period, which Mohamed was talking about, where we will have domestic action being undertaken by developing countries. Frankly, the levels of emissions reductions being undertaken by China, and the other developing countries, far outstrip that being achieved by the developed world in this transition phase while they don’t have international binding commitments. What was agreed in Durban was looking forward to a much broader framework, and we are just at the beginning stages—starting in Bonn next week—of what that framework could look like. So there are two separate things on the table; there is the transition period and looking forward to the new agreement.

Q13 Christopher Pincher: As part of the framework you need a timeline.

Dr Watts: Yes.

Q14 Christopher Pincher: The second commitment period, as proposed by the EU and the UK, you have asked the UK to take a leading role in this, I think, for eight years. Do you think that is the right amount of time?

Dr Watts: I think the key question for us is urgency. The EU has suggestions for provisions for increasing ambition, having a review clause in the Kyoto Protocol. As part of the 2013 to 2015 review on whether the temperature goal should be two degrees or 1.5 degrees, coinciding with the publication of the *Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, we will have this nexus around 2013 to 2015 of discussion on ambition. If we do get that review clause within the Kyoto Protocol track, that timeline kind of fits together where we do have a real discussion. Personally, I am terrified by the idea of not having that urgency, but in terms of the political timelines the eight-year one does have a certain logic to it.

Q15 Christopher Pincher: Do you get a sense that there is a sense of urgency?

Dr Watts: Not enough. We talked about barriers to achieving what we need to achieve and I think one of the key things is lack of political will.

Mohamed Adow: The UNFCCC has negotiated an outcome that is only going to come into force in 2020. If you look at what scientists advise us, it is for emissions to peak by 2015. Is that going to happen?

It doesn’t look likely, of course, but you have an opportunity with the Durban Platform to negotiate an ambitious outcome. That is going to mean that mitigation in the post-2020 period is going to be more costly than it is now, because the more you delay mitigation the more adaptation is going to be extremely costly. By choosing to delay that important outcome, in effect, you are accepting that you will pay more for what you would have been able to do for less in the pre-2020 period.

There is another important hook in the decisions at Durban, which is to increase ambitions between 2015 and 2020. Even though they don’t have a target for the second commitment period—and it is likely to be for an eight-year period—if we can have that provisional measure for parties to be able to revisit their targets and increase it, based on that review and also on the *Fifth Assessment of the IPCC*, we have a chance. So, we should not lock in the low ambition but allow parties, given the realities that they are working with, to be able to prescribe their current target but also revisit it, based on the latest science, so that they are able to increase it.

Jazmin Burgess: As Mohamed and Kat have outlined, there is this issue of urgency in terms of emission reductions and working towards a binding deal. While that urgency is not as forthcoming as perhaps some of us would like to see, at the same time there isn’t a parallel urgency in finance and movement towards adaptation. We are not seeing sufficient funds come forward, in terms of ensuring that developing countries and those that are the most vulnerable are prepared for the impacts of climate change they are facing. It is a kind of two-tier thing. There is urgency in terms of delivering an agreement, delivering emissions reductions, but in terms of making sure there are enough resources available, whether financial or for technology transfer, for countries to prepare for the impacts of climate change, the timelines are eight years long.

Q16 Christopher Pincher: Just one last question. Mr Adow, you have said that as part of the binding global framework there must be strong restrictions against the carryover of emissions rights. There are some countries in Central and Eastern Europe that have surpluses in their AAUs, and that is on the first commitment period. What do you think that we can do to ensure that they are not carried over into the second commitment period?

Mohamed Adow: One of the things that is currently happening is you have developed country parties who have made pledges, but these have been compromised by a series of accounting loopholes and the AAUs are one of them. These things taken together mean that any pledges on targets will be negated by those AAUs. To safeguard the environmental integrity of the outcome, AAUs—those assigned amount units from the first commitment period—have either to be eliminated or reduced so that the integrity of the outcome is safeguarded.

The way it looks now—and going back to what Kat said at the beginning—you have developed countries and you have developing countries. We have to abate emissions by up to 12 gigatonne CO₂ equivalent. You

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have pledges of up to 3.8 gigatonne by developing countries and you have about 3.9 by developed countries. A huge part of the developed country pledges are going to be negated by these loopholes. One of the proposals on the table comes from the Africa group, I think, supported by the LDCs, and it is to reduce that so that parties don't carry that over into the second commitment period. What we expect is support from the UK and the EU, to be able to say, quite strongly, that if we are going to agree to a second commitment period then it has to have the emissions reductions levels that are going to make the two degrees possible. The probability we are now looking at is indicating, quite clearly, that if that isn't addressed we will have a second commitment period but not the emissions reductions it has to include. Ambition is important in terms of increasing the target, but it is also important to deal with this quite difficult issue.

Dr Watts: It is also useful to look at how it works on two levels. You have the international level, and one of the big countries is Russia, which has said it won't sign up to the second commitment period; therefore, that effectively removes its hot air, however hard it will huff and puff to try and keep it. You have countries like New Zealand that have concerns about the trajectory of their emissions, bearing in mind that their forest estate is due to be harvested in the 2020s, so they want to build some flexibility for themselves into the future to be able to do that. My sense is that they see AAU banking as one opportunity to smooth the perception of their emissions.

Within Europe, we have an interesting nexus of legislation and things interacting. We have the Energy Efficiency Directive, a number of provisions in there, but that links to the EU emissions trading system. It also links to the overall level of ambition in Europe and the real emissions reductions. One of the opportunities that we have in negotiating greater ambition is looking more closely at the EU Commission's proposal of greening the cohesion funds. I believe there is a proposal for 20% greening of cohesion funds from the Commission on the table. If there was support from the UK and other member states for that kind of measure, that would be quite an interesting way to be able to support energy efficiency in the countries that are quite concerned about not being able to evolve away from their coal economies. Poland, for instance, with over 90% electricity based on coal, has quite strong concerns about that transition away from that particular source of energy and what that looks like.

There are opportunities to look at how we can facilitate that transition in those countries. I don't think it is a question of buying Poland; I think it is a question of how do you facilitate that transition? Where are the opportunities? How do you create the incentive structures? There are opportunities in using, as I said, the EU budget to get some extra wins that we need on energy efficiency and the Energy Efficiency Directive, being able to actually achieve those on the ground, getting a set-aside of some of the ETS credits that are being discussed in the Energy Efficiency Directive at the moment but would need to be legislated through the ETS Directive in future.

Chair: We might come on to some more of that.

Q17 Barry Gardiner: Dr Watts, why should we heed your advice when you guys got it so spectacularly wrong about the negotiating stance going into Durban?

Dr Watts: Would you be able to give a little bit more detail on the—

Barry Gardiner: Before Durban, you were saying that the UK and the EU had to sign up and absolutely say that we were going to go into the second commitment period without any preconditions attached. It was only because we maintained the EU negotiating position that we eventually got the other countries signed up to agree to commit by 2015 and 2020. Do you recognise that you got the call wrong there or do you not accept that?

Dr Watts: I would say that there is a very particular role for NGOs and our particular role is to drive ambition.

Barry Gardiner: Absolutely. No, that is fine, that is a good answer.

Dr Watts: In terms of pre-Durban, certainly the EU and the UK took a lot of persuading from the NGOs, among others, to see the importance of the second commitment period. But I think the strongest thing that was important—as Mohamed has alluded to—is the Durban Alliance, about building the alliance, not—

Q18 Barry Gardiner: Absolutely. You hit the nail on the head. The NGOs' role is to drive ambition, but that means that sometimes on the detail of the politics and of the negotiations you may not be right. I think a very good example of that was given by Mr Adow when he said earlier about the two degree target, "We have to. There is no alternative". I doubt that any of you three actually believe that. I doubt any of you believe that we will meet the two degree target. I don't know many people who do much research into this area who think that that is achievable. If you look at the International Energy Agency report, and see the way in which they say that the existing infrastructure already closes that gap by 2015, the idea that we could peak in 2015 or peak by 2020 is really politically a nonsense. It may be right that people keep on saying, "There is no alternative" but we do have to have a level of realism about what is going on in the world, don't we?

Mohamed Adow: How I would like to look at this is—

Barry Gardiner: Do you really think there is no alternative?

Mohamed Adow: How I would like to look at this is—

Q19 Barry Gardiner: No. That is not what I asked you. I didn't ask you how you liked to look at it. I asked you: what is a realistic way of looking at it?

Mohamed Adow: This is what I am giving you. People have a right to life, and have a right to very safe and secure habitation and have a right to a safe and secure future. Climate change is a man-induced phenomenon and man has to take responsibility and help create a safe and sustainable future. Even two

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degrees for parts of Africa is unsafe, because that part of the world, from the IPCC report, will actually be warming 1.5 times the global average. We are seeing some of the impacts. We are seeing this with extreme weather events. We are seeing this with water stress. We are seeing this with productivity.

Barry Gardiner: Mr Adow, let me get to the point.

Mohamed Adow: We need to create a shared vision that the world has to face together and tackle this challenge. What we are seeing with the pledges made since Copenhagen is that those pledges don't add up to get the job done. Parties have to acknowledge that fact and then bridge that gap. In terms of bridging the gap—and I repeat what I said at the beginning—for us to be able to bridge this ambition gap we have to bridge the equity gap. There is a fear that people will be asked to do more than their fair share, and they hide behind that fact. Others will fear to be free-riding on others' efforts.

Q20 Barry Gardiner: Okay. Mr Adow, stop a second. You haven't answered the question. You have gone off on a tangent, which is a very good tangent and I want to come on to that. I want to talk about equity. I want to talk about the structure of the agreement, of the global agreement, and as to whether that can deliver equity, and we will move on to that in a second. Look, I love the enthusiasm. I love the vision and the idealism. But you work for Christian Aid, don't you?

Mohamed Adow: Yes.

Q21 Barry Gardiner: You know how many people are dying in Africa every day, don't you? What you are saying is, "There is no alternative but for us to meet the two degree target because the alternative is unthinkable to me". But you see the unthinkable happening every day in Africa, so don't come and tell us that there is no alternative. The alternative may be wrong, the alternative may be unjust, but there is an alternative and it is called failure. We have to be realistic about what is going on, because if we simply keep on in a world that says, "Oh there is no alternative" then we are not actually playing in the real world. That is the problem with organisations like yourselves coming here and saying things like that.

Jazmin Burgess: You make a very fair point. I think there is an issue in terms of balancing what we want to see. That is, a two degree world that will ensure a safe future for all and making sure that we reiterate this because, hopefully, that encourages more movement by other Governments. But we must also be aware that there is a possibility that we won't meet this two degree world, that there is a need to invest in adaptation and there is a need to be aware of the fact that this is the ideal world we want, but we also have to be aware that there are, as you mentioned, communities in Africa already suffering the impacts of climate change. UNICEF know that there are children suffering in small island states from the impacts of climate change. While the process of the negotiations may be slow, there is a need to recognise that we have to prepare for what might be more than a two degree world. For us, that is investing in adaptation. It is pushing Governments to do more in

terms of mobilising climate finance to make sure those resources are available.

Q22 Barry Gardiner: Let's come on to the practicalities of the architecture, the structure of the global agreement, and let's specifically get your views on how the architecture of that global agreement relates to the issue of equity. Does it at the moment? Is it satisfactory or do you think it needs change?

Dr Watts: Of course the architecture needs to be expanded. That just goes without question.

Q23 Barry Gardiner: Dr Watts, please elaborate in what ways.

Dr Watts: This is still very early stages in the discussions, so there is a lot of thinking to be done, but I think it is obvious that there are capacity issues in a number of countries coming forward with economy-wide targets. There are practical levels of creating the inventories to be able to do that level of monitoring. Frankly, for some of the poorer countries, which have levels of emissions that are so low, because they are not industrialised they are not emitting at that level, that is work that can be developed over a longer timescale. There are groups of countries in the middle where we need to be building that capacity much more urgently, to be able to do the monitoring and evaluation and to put in place the structures, and I think there is space for that. However, from the experience of the developed world, it is clear that it does take time to really bed down and have the information available to be able to do that. Having said that, for economy-wide targets there is a lot of scope to look at particular sectors, at different ways of approaching it. It is really interesting watching the evolution of a number of emissions trading systems around the world. South Korea has just made an announcement; I believe China is in the process of building its own systems in different parts of the country. What they are finding, as the EU found in building its emissions trading system, is the importance of information. The reason the EU first period collapsed was—

Q24 Barry Gardiner: With respect, I wasn't really talking about the information necessary to get the architecture to work, to get the legally binding agreement. What I was really talking about was whether the architecture of the Kyoto Protocol was an appropriate architecture to get that legally binding agreement.

Dr Watts: One of the things that I really like about the Kyoto Protocol is the review provisions and the potential for adding new provisions to it. What we would support is a protocol coming out of the process. If you take that as your presumption, there are three basic options on the table. You come up with a new protocol; you come up with two protocols, the Kyoto Protocol and the new protocol; or you crack open the Kyoto Protocol, add any kind of new annexes, any kinds of new articles that you want to, to express the political agreement on what different countries will be contributing.

Q25 Barry Gardiner: Can I give you a suggestion and see how you respond to it? The way in which we are moving towards a legally binding agreement at the moment is to identify what dangerous climate change looks like and then to try and divvy up the burden of getting there. Very crudely, would you accept that as a characterisation of what we are doing?

Dr Watts: In a thumbnail.

Q26 Barry Gardiner: If we looked at it in a different way, if you looked at it from the perspective of the equity issues, which all three of you have focused on, and started to talk about to avoid dangerous climate change by 2050 we need to be emitting on an annual basis no more than 20 gigatonne per year, reducing thereafter, but in 2050, 20 gigatonne a year, and you have a global population of—let's call it—10 billion, 9.5 billion, what it means is that each person gets two tonnes per year by 2050?

Dr Watts: That is roughly the calculations I have seen, yes.

Q27 Barry Gardiner: That is a different way of tackling this problem. Why should we favour an architecture that is looking at it as an objective with a burden to be shared out rather than as an equitable apportioning per capita, which has to be ratified and verified and adhered to?

Dr Watts: I would say that there are other elements and other factors. While the per capita is obviously an incredibly important part of any—

Q28 Barry Gardiner: None of them work in the developed world's favour, though, do they?

Dr Watts: Of course not, no. We have eaten more than our fair share of the pie.

Q29 Barry Gardiner: One of the great virtues of Kyoto is common but differentiated. That would imply that, in order to reach that, we have to take an even greater share of the historical burden of which we in the developed world have accumulated the benefits. I am trying to minimise the pain here. I am just suggesting that it is an alternative way of constructing the architecture. It is an alternative way of constructing the approach.

Dr Watts: The equity debate is one that is just opening up this year. There will be a workshop in Bonn next week or the week after at the UN negotiations, and the position that you are talking about is one that India has put some of its energy behind and it will be one of the things on the table being discussed.

Q30 Barry Gardiner: Indeed, yes. Let's look at the equity business from entirely the other end, from an end that you and I would both not like to go down but let's try and put ourselves in the shoes of somebody in Russia. In 1990 they were set targets, as everybody else was under the Kyoto Protocol, and we all know what happened. Just after 1990, or just around then, the whole of the Soviet Union economy collapsed and it became a lot easier for them not only to meet but way exceed those targets. Why should they be penalised for that? Have they not paid for that? Did their economy not go into free fall? Did they not have

all the cataclysm of the transition from the Soviet Union to the Russian Federation and live with the pain of that? Why are you now wanting to penalise them twice over by saying that their hot air should not be credited to them? That was the deal. Some people did a little bit better by the deal; some people did a little bit worse by the deal. But they would say, "We have paid for that. It was very difficult for our economy to go through that transition. All the jobs that we lost, all the standard of living that went" so why are you now trying to penalise them twice over? What is the equity in that?

Dr Watts: Maybe you heard the phrase I used earlier. The phrase was "just transition", and I am certainly no Russia expert but my perception is that it wasn't so much a transition as a collapse of the economy.

Barry Gardiner: Absolutely. It was a collapse.

Dr Watts: While there is a lot of work being done, I am not sure that they have necessarily restructured—

Q31 Barry Gardiner: You mean because they did not mean to do it they should not get the credit for it, even though it cost them quite dearly? That is not fair. It is not equitable. Equity, it seems to me, is running in one direction here. If we cannot put ourselves in the other person's shoes in an international negotiation, we are never going to get that binding agreement because we don't understand the perspective that the other person is coming from.

Mohamed Adow: I will agree, and that is why national circumstances will have a part to play. But what is lacking—to use your language earlier—and perhaps is the failure of the process, is the fact that we don't have a principled best-effort sharing framework that will adequately consider responsibility, capacity and the national circumstances. How we like to approach this is, if we really mean business, and understand the fact that we have to have an emergency stabilisation goal and take the science behind climate change seriously, we have to adequately consider those elements within an approach. How those elements will play out will have to be negotiated. There are countries that will say, "Because of the path of industrialisation the world has taken, let's look at it from 1850". Others will say, "From the time we have acknowledged that there was a problem called climate change, let's look at it from 1990". If you were just to look at historical responsibility and look at the problem as a global commons problem, you have a pie where about 20% of the global population have emitted three quarters of the emissions. That is just looking at historical responsibility.

There is a fair argument that when we emitted we didn't know there was a problem. That is why if you bring in capacity and say, "We will also have to consider the financial and technology wherewithal to deal with it", then that index shifts. But then you have this side of the argument that there are other national circumstances. There is an opportunity with the workshop, of course, but we need to have a political strategy to deal with that issue so that you can work out how the effort will be shared.

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Q32 Barry Gardiner: I am with you a lot of the way, but now let me ask you this. You say it is a global problem of the commons. I am the President of Russia and I look at what is going to happen, given all the prognostications, all the scientific evidence, and I go into the negotiations in the UN and I say, “I am here to represent the people of the Russian Federation and their best interests”, and that is what we are all there for. Is it in the people of the Russian Federation’s best interests to see this as a common problem, which I as a moral contributor am going to play my part in resolving for the global benefit, or actually am I going to say, “Well, actually climate change could be extremely good for us because it would open up the reserves in the Arctic. It is going to create much more fertile land in Siberia”. Why should the President of the Russian Federation, or their representative, come into the United Nations negotiating arena and do anything that is going to be against the best interests of the people in Russia?

Dr Watts: That was an argument that was very much in Russia’s mind until a few years ago, when I think the fires that occurred suddenly opened up Russia’s mind somewhat to its own vulnerabilities to the impacts of climate change and climate-impacted results. There were quite a few deaths in Russia. The smog over Moscow was quite a potent reminder to Russia of its own vulnerability.

Q33 Barry Gardiner: What you mean is actually it is in its own best interest? Dr Watts, you are conceding the principle, which is that each of those countries should be acting in their own best interest. What you have said is, “Well, actually, there were some things that made them change their mind about what was in their best interest” and we may disagree about whether actually that is going to be preponderant enough to swing them one way or another. Canada would be another example of somebody who was once seemingly with us and now seems to be against us? Why? They have tar sands and they have seen the economic opportunities of that. Their best interest now seems to be swinging in the other direction. You seem to be conceding the principle that the countries in the UN negotiating framework should act in what is in their best interests.

Dr Watts: No. The point I am conceding is that they do act in their best interests, not that they should act in their best interests.

Q34 Barry Gardiner: Let me ask you a very specific question, then, really about going forward to COP 18. If COP 18 is going to make a difference in getting the countries that have committed to committing by 2015, how is it going to do that, or is it just going to be another one of those COPs where there is a sort of standstill and then we wait, until 2014 or 2015, and we suddenly get a jerky movement forward?

Dr Watts: There are some opportunities. I don’t think we are going to see the big bang that we would ideally like to see with the urgency that we have been talking about, but I think there are real opportunities that countries may come forward with new pledges. The discussion around the hot air, the AAU surpluses, is very much on the table for the Kyoto Protocol track

of negotiations. There may be some opportunities for countries to increase their ranges to the top end of the ranges. That is still work that we need to do and work in progress, and we will have a much better sense of the political temperature going into and working through Bonn. I think there are opportunities on some of these loophole issues. I don’t see a massive upswelling, but I see things like the Mexican climate change law really concretising its own pledge into a framework that is going to help it implement it on the ground. I do see more countries coming forward more and more with things.

There are some quite large countries that haven’t put forward any mitigation actions into the international process, and I think there is some opportunity for that. We can get some greater clarity on what the pledges actually mean, in terms of some of the accounting and technical assumptions behind the headline figures.

Q35 Barry Gardiner: One of the things that we have been focusing on, to the exclusion of all else, is mitigation, but what about adaptation? Christian Aid has talked about putting that back at the centre of the agenda. What progress on adaptation is going to be made at Doha, if any?

Jazmin Burgess: From UNICEF’s perspective, we were very heartened by some of the progress that we saw on adaptation at Durban. It was one of the few areas that we thought that this is actually an—

Q36 Barry Gardiner: If it wasn’t going to be made in Africa, where was it going to be made?

Jazmin Burgess: Yes exactly, and also on the issue of loss and damage as well, which is very much linked to this concept of adaptation. What we would hope is more progress is made on—

Q37 Barry Gardiner: Be specific, though. Let’s try and nail this down. What progress on adaptation would count as progress?

Jazmin Burgess: I can speak from a UNICEF perspective: we would like to see further reference in the text to issues around specific vulnerabilities of children, specific vulnerabilities of women, and instigating work that can support that because that starts the starting block to then build further. But what I was going to say is—and I sound a bit like a broken record—it is great having the text, and it is great being able to have this as a starting point, but unless there is money and political momentum behind this it is just text. We need to be able to see resources being mobilised. We need to see political will from developed countries to be able to say, “This is actually where we need to put our money where our mouths are”.

Q38 Barry Gardiner: So we need money. Now let’s get into the specifics. How much? From whom? Through what mechanism?

Jazmin Burgess: Can I kick off? One of the things that we have been very heartened by is the fact that the UK Government continues to reiterate the \$100 billion pledge made at Copenhagen, \$100 billion of new and additional funds by 2020 for adaptation and mitigation in developing countries. Continuing to

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work towards this target, that is what we would want to see.

In terms of specifically how much, in 2013 the fast-start finance commitment period ends and we would like to see a move towards a trajectory of moving to this \$100 billion. There have been figures released by the UN, in terms of developed countries' GDP, that it could be something like 0.5% of GDP. That isn't necessarily something that is set in stone but that is the kind of amounts that we are looking at. In terms of where from, the best option is innovative finance mechanisms. It isn't about taking money from existing areas. It isn't about refocusing the whole ODA budget towards climate change. It is about finding new sources that won't divert money from other places.

Dr Watts: I would also say that there are some timeline issues here. We have the fast-start finance period. Any new mechanisms that we need to come up with, to find innovative sources, will take a number of years to develop and to actually put in place. So in this intervening period, there will still be a strong need for Government money, public money, for its own right. It is very important, particularly for adaptation in small communities, where there isn't an economic or a business case that can be made for adaptation, to have that kind of source, but it is also using Government money to help leverage in the private sector, particularly where there are opportunities for the private sector.

Then it is about building, looking towards the slightly longer term, and finding mechanisms for new and innovative sources. We would certainly see trying to get an agreement around international aviation and shipping as extremely important, not just because it is an important mitigation sector in its own right and rapidly increasing but because some of the calculations we have done with Oxfam suggest we could get up to \$25 billion per year from that sector. This is one of the ways, too, that you can address some of the equity issues within a globally traded system, like shipping in particular, by having the global mitigation but having a mechanism to use some of the finance generated towards climate finance. We do see that as one of the great opportunities and there is some work going forward in the IMO on this.

Q39 Barry Gardiner: Finally, at Doha do we need to have a transition mechanism to bring countries into Annex I status? How would you envisage that transition mechanism being established?

Mohamed Adow: We are looking at these bigger than Annex I. We are looking at these as a common responsibility that has to be shared. Annex I, for the purposes of Kyoto, bringing together OECD countries at that time was useful and has brought us this far, but the scale of the problem we are dealing with requires countries to contribute to that effort. That is why post—

Q40 Barry Gardiner: But they always did through NAMAs.

Mohamed Adow: Yes. They have done. That is why developing countries, who are not Annex I countries, in mitigation terms have contributed more emissions reductions than those Annex I countries in the Kyoto

Protocol. The way to look at this is to assess again what ought to be done. That is where we are falling short. That is why rather than looking into the short term and looking at annexes—

Q41 Barry Gardiner: But you are giving me a sermon rather than a process.

Mohamed Adow: The process is the equity process. You will have Kyoto Protocol with Annex I targets, so those parties that inscribe go into the Kyoto Protocol. Out of Doha, you will have developing countries parties who have targets inscribed in the long-term co-operative action, which is LCA. That is the pre-2020 period, but that is still not adequate. That is why annexes will be a thing of the past and countries have to be at least where they share responsibilities among themselves.

Q42 Barry Gardiner: I understand what you are saying. As far as you are concerned, actually transitioning countries to Annex I status really doesn't matter?

Mohamed Adow: What matters is that all countries contribute their fair share, and not transitioning from an Annex that is not going to be able to get the work done.

Q43 Barry Gardiner: Is there any leverage that a country being part of Annex I gives the international community on that country that you think is worth having?

Mohamed Adow: We have had opportunities that we have missed.

Barry Gardiner: That is not what I asked.

Mohamed Adow: We have had opportunities. The only leverage has been the flexible mechanisms, and those are currently covered under the Convention.

Q44 Barry Gardiner: As far as you and Christian Aid are concerned, you don't think that Annex I status, and countries taking on the responsibilities of Annex I, is actually worth anything?

Mohamed Adow: Yes.

Dr Watts: I would pull away a little bit from that and put this in its historical context. Annex I was a creation under the Convention negotiated in 1992. Then in 1997 we got the Kyoto Protocol. What I am seeing very much out of the Durban Platform is an opportunity to open that debate again. There was an evolution from 1992 to 1997. I think we are in a stage of new negotiation. You obviously have a very clear interest in Russia because I am sure you are aware the Russians have put forward a proposal.

Barry Gardiner: I think we all do.

Dr Watts: Exactly. I personally don't necessarily see a great value in opening up the Convention for renegotiation. I see real political risks in doing so, because if you open that you potentially open up a lot of other issues and create a very large can of worms. Where I do see the political opportunity is in the negotiations going forward, the discussions that are just beginning to happen around equity and how that will fit into the new framework which—I am not an international lawyer—will become the new framework that will be most closely looked at. There

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are obligations for Annex I countries under the Convention but they are not legally binding, they are not particularly target driven. When we get the new framework it will have its own logic, its own body, and I think that is the space where it would make a lot more sense to discuss those issues.

Q45 Dan Byles: I am conscious we are short of time, but if I can briefly come back to the Green Climate Fund that you welcomed; the pledge for \$100 billion. Do we have the slightest chance of hitting \$100 billion a year by 2020? How are we doing?

Dr Watts: As far as I am aware, the structures of the Green Climate Fund were agreed in Durban, but there are still some technical things around the bodies, who is going to be represented, and so on, so it is still in a formation stage.

Q46 Dan Byles: They are certainly committing money to it?

Dr Watts: In terms of committing money my—

Dan Byles: It seems that there has been a lot of talk but no one is really opening their wallet, are they?

Dr Watts: The rhetoric that we get from the UK is that they will quite happily open their wallet once they know what the whole thing looks like. I think there will be countries that will come forward. I recall there were some pledges put forward to facilitate the fund getting up and running. It is a question, too, of how you set up these new and innovative sources, so that if you do get an agreement on international maritime that creates money it goes directly into the fund and so forth. It is new. It is a new structure that is still in play but—

Q47 Dan Byles: So you are waiting and seeing?

Dr Watts: We shall wait and see.

Jazmin Burgess: I would say there are two issues. We were heartened by the progress in terms of establishing the Green Climate Fund, particularly the leadership role that the UK and DFID have played in shaping the fund and we hope that they will continue to do so over the coming year, and that is the architecture and the governance of the fund.

In terms of mobilising the money, from a UNICEF perspective there has been insufficient progress since the release of the UN high-level report on innovative finance at the end of 2010. There has been a lot of rhetoric and there have been a lot of statements around it, but there are no processes in operation to move towards this mobilisation of innovative sources. There is more that needs to be done. We saw last year that the G20 Finance Ministers commissioned a report by the World Bank to look into how to mobilise this money. That had some very positive statements in it, in terms of what could actually be done in the short to medium term, but nothing has been moved on. There are a lot of good documents out there and there are a lot of statements, but there is not enough that is being done. One thing that UNICEF UK is urging is for the UK to take a leadership role in encouraging other countries to come forward to move this process along, both at a UNFCCC level but also at a G20 level.

Q48 Dan Byles: Do you think the UK Government should commit more money or is it more about the leadership role it plays?

Jazmin Burgess: I think the UK Government should be applauded for how they have committed money so far. They are showing a leadership role, and we are very supportive of the way they have allocated 50% for adaptation and 50% for mitigation and beyond the fast-start period, so they should capitalise on that and use it to encourage other donors to do the same thing and to play that leadership role that we have had in the past. As for the longer-term trajectory towards 2020, that debate is still open, in terms of what the UK could do, and that could be the one that could start to have momentum this year.

Mohamed Adow: The UK has played an important leadership role. The fact that it is money up to 2015 is something we should applaud and celebrate, but we should use that to get other donors to come on board. Just the same way we have talked about equity and mitigation, there is also going to be the question of who is going to contribute and who is going to receive. Who is going to contribute will fall within that matrix that I discussed earlier about mitigation ambition, but who is going to receive has to be based on vulnerability, and that understanding has to be built so that those countries that require most are actually supported to be able to adapt to the inevitable impacts. The question you have raised links up with this in some way. We are at a point where, with the level of warming that has been locked in, we need to support some of the poorest countries to transform their livelihoods and to make them better suited to the changing conditions, to have forward-looking plans that help them understand what is going to come. We must prepare communities so that the wrong response to an emergency, or to an extreme event, is avoided, so that you are able to build resilience and even deliver development, making sure that that it is climate resilient and able to withstand the changes that are predicted. This is the direction we are moving in. I think the UK, with its diplomacy, particularly given that it is out there and in the driving seat, particularly up to 2015, must be—

Q49 Dan Byles: Do you think it has the balance right between mitigation and adaptation? Given the pessimism about the fact that we have locked in such a large increase in temperatures, do you think they should perhaps be moving more towards adaptation rather than—

Mohamed Adow: The more you avoid mitigation the more costly adaptation will be. So, in terms of risk management, if you are able to mitigate more now, in the end you will need to adapt less. It is a difficult thing. The 50/50 works well at this stage, but if we fail to mitigate and transition to a low-carbon pathway or decarbonise our economies at the scale that is required, adaptation is going to be extremely costly. We will then have to revisit, but revisiting will put us in a difficult place because the choices will be between people either incinerated or people inundated because of the sea level rise. That will mean there will be a lot of territorial security issues that you have to deal with.

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Q50 Dan Byles: Very briefly before we move on, you mentioned maritime and some of the innovative approaches. WWF has specifically said that the Treasury is blocking market-based mechanisms that could raise revenue from shipping and aviation. Would you like to expand on that a little bit because it seems at odds with the UK's leadership role?

Dr Watts: The key concern that I understand the Treasury has around this is the issue of hypothecation. I think research is being done. This is not my specialist area, and so if you would like more detail I can refer you to a colleague. My understanding is that there are ways of setting up a mechanism such that it doesn't have to be hypothecated. I understand the Treasury was actually quite comfortable with the Norwegian proposal on finance that was set up in such a way, but I think that is a question that needs to be addressed specifically. Again, it is the devil in the detail and we need to find ways through that. Hopefully, if the right mechanism is found, the Treasury would be able to see that as part of its contribution and not impacting on other parts of the equation.

Chair: Alan, briefly.

Q51 Dr Whitehead: Yes. Extremely briefly, even briefer than the last extremely brief one, could you just share some thoughts on the "near negotiations"? Particularly, Dr Watts, you mentioned in the written evidence to us that "near negotiations" such as the UN General Assembly, G8, G20, Major Economies Forum, Cartagena, have advanced part of the process but they concentrate on a small number of wealthy, powerful countries and lack legitimacy. However, one could say that the UNFCCC process has actually been going since 1992, emissions have gone up. Maybe concentrating on those smaller negotiations, and specific negotiations, might be more productive than continuing to try and get all 195 signatories on board all the time. Is that a view you share?

Dr Watts: No. I believe there is a good role for using some of the parallel processes to develop thinking and to talk and to build trust. Certainly, my understanding from comments from people who have participated in the Cartagena group, or the Cartagena process, has been that that is really a good space where they have been able to put down national flags, brainstorm in a safe space, see if they have ideas in common, see where there are opportunities for political movement sharing. That is something that we have seen in the UNFCCC; new alliances, new strengths of countries. Two points: one, you have commented that emissions have gone up in the UNFCCC. It is important to recall that the Kyoto Protocol, which was the key instrument for implementing the convention, only had specific targets for a small number of countries. I don't think at the time anyone foresaw quite how rapidly economies of countries like China, Brazil and India would increase. That was one area and one explanation for why the emissions increases have happened.

Within the UN process there is some opportunity for streamlining. There is a proposal from Mexico and Papua New Guinea to make it less of a consensus process and potentially more of a majority process, or

to have greater opportunities for majority voting. I think there are ways in which we could look at the process within the UNFCCC and see whether there are ways to avoid having a one-country block.

On the other hand, I think a real great advantage of the UNFCCC, compared to "near negotiations", is the fact that it does give the space for the vulnerable countries to really have a say and to be visible. While the voting idea is an interesting one, I do think it is important to recall that in Copenhagen, for instance, it was Tuvalu—potentially one of the most vulnerable countries, if not the most vulnerable country in the world—that was one of the ones standing up at the end saying, "This is unacceptable. This will kill us. Our territory is going to suffer greatly from this level of ambition".

To have those voices out there is absolutely crucial, so where they have the space to have their voices legitimately heard is crucial. After all, we wouldn't have the Kyoto Protocol if it had not been for the small island states putting forward a protocol proposal. They are the ones that have really been driving ambition through the process. If you leave it to the Major Economies Forum it has been a talking shop. I think there is some technology programme going forward, but that isn't where the action seems to be. As for the G20 and the G8, there was some movement on the global ambition under the G8 some years ago. The G20 is talking about climate finance. Again, I think there are opportunities for advancing that in that discussion but bringing it back to the UNFCCC.

Mohamed Adow: What is actually happening in the UNFCCC is that the countries that are most vulnerable, and that are least responsible, are the ones that are driving high ambition. They seem to have a voice there, a voice that is able to push for greater ambition. There is no denying that the UNFCCC isn't moving quickly enough to the goal. But if you think about the other processes—and moving away perhaps from UNFCCC, and whether that will take us closer to the goal—look, for example, at the Major Economies Forum and G20, that is where you have the biggest polluters and they haven't been able to resolve their differences.

Those are very important processes and I look at them as tributaries that will actually bring momentum to the UNFCCC process. Every time you have had outside meetings, particularly including some of the most vulnerable countries, that has actually been reflected at the UNFCCC. That is what happened in Durban. You have EU going into alliance with two vulnerable groups, LDCs and small island states, and that actually drove the outcome we had in Durban. Those outside processes are very important, so long as those processes are geared towards helping to build trust, to create it, and bring momentum so that you have a bigger push within the UNFCCC negotiations.

Jazmin Burgess: I want to jump in quickly, just to echo what both Kat and Mohamed have said. Sometimes these other processes get the right people in the room. For example, on the issue of finance, you need the involvement of the finance ministries. It is not necessarily the case in the UNFCCC process, but the G20, for example, can provide the forum for that

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discussion to happen. It is about how we can get others to feed momentum into the UNFCCC process.

Mohamed Adow: This process is actually mitigation rather than adaptation, so it is not at the heart of the bargain when you have a G20 Major Economies Forum meeting. Given the importance of adaptation, particularly in terms of minimising the vast effects of climate change, this is the space where the most

vulnerable are able to articulate their issues and be able to get support for that.

Chair: Thank you very much for that extensive evidence to get our inquiry off to a good start. If there is anything you think you should have said, which you haven't said, you can always get in touch with us in writing after the meeting. Thank you again for your evidence.

Examination of Witnesses

Witnesses: **Dr Tim Fox**, Head of Energy and Environment, Institution of Mechanical Engineers, IMechE, and **Gareth Stace**, Head of Climate Change and Environment Policy, EEF, The Manufacturers' Organisation, gave evidence.

Q52 Chair: Thank you very much for agreeing to come today to take part in our inquiry and give us evidence. You sat through the first session and have an idea of where the Committee is going. For the record, will you introduce yourselves and your organisations?

Dr Fox: Yes, my name is Dr Tim Fox. I am Head of Energy and Environment at the Institution of Mechanical Engineers.

Gareth Stace: I am Gareth Stace. I am Head of Climate and Environment Policy at EEF, The Manufacturers' Organisation, and I am also representing UK Steel, the trade association for the steel sector.

Q53 Chair: Thank you very much. If we could start again on what you both think are the main priorities the UK should adopt for COP 18.

Dr Fox: From the institution's point of view, the main priority at Doha should be to take the unique opportunity that presents itself to start thinking about a completely different way to drive emissions reduction globally. We see a unique opportunity through the establishment in Durban of the Durban Platform for Enhanced Action, which expressed a grave concern in the recognition of the emissions gap between the pledges that are on the table with regard to emissions, from both industrial and developing nations, relative to the emissions that are required to make the two degree target. Analysis of the gap shows that emissions pledges on the table are something like 60% of the pledges that are really needed to close the gap. The Durban Platform recognises that there needs to be a strengthening of the rules-based regime, and that there needs to be an outcome that is some form of agreement or other legally binding outcome. We very much see this as an opportunity to instigate a paradigm shift in thinking, in terms of how we go about encouraging reduced emissions globally.

Gareth Stace: I would say the main priority for Doha is to ensure that we capture what happened in Durban, in terms of finally agreeing an international agreement and to ensure that we are on that path towards 2015 and COP 21, where we need to agree the international agreement and what the targets are, to take effect in 2020. That is the main priority. From our point of view, the specific priority would be that we need progress on discussions and agreement on sectoral agreements for certain global sectors.

Q54 Chair: We will be coming to the sectoral issue. What do you think are the main threats to achieving these priorities out of Doha?

Dr Fox: From the institution's point of view, we really see the main threat as a lack of knowledge, essentially, of what the alternatives could possibly be, and an entrenched and incumbent thinking that is completely focused on negotiating a legally binding global agreement that is based on—as we heard earlier today—divvying up the potential emissions reduction requirements and trying to find a way forward with that. From our point of view, the issue, the barrier, is really about an openness to think about things in a different way and to look and gather knowledge on alternative approaches.

Gareth Stace: In terms of the barriers, we heard a lot about the failings of the UNFCCC process today. There are issues there, but I think the UNFCCC process is the process to take the international agreement forward. The barriers are bringing all 190-odd countries together to agree something. But it is a global problem; it suits a global solution. In terms of the barriers for sector agreements, that would be just bringing the significant players to the table and they are not there at the moment.

Q55 Barry Gardiner: Dr Fox, your institute has said that trying to mitigate climate change through a global agreement is an approach that was at worst failing. Do you just want to jettison it? I go with a lot of what you are saying about the fact that there is an opportunity to source funds in a different way, but surely we have to work within the overall architecture of the UNFCCC because it is all we have, isn't it?

Dr Fox: Yes. We have a number of alternatives, which I will come on to in just a moment, but focusing on the UNFCCC. Our institution believes that the UNFCCC has been a very useful architecture within the time and space in which it was created and has existed. Essentially, it has raised the issue of climate change, both mitigation and adaptation, very high up on international and Government agendas. This meeting is just a small piece of evidence to that effect. Through its links and relationship with the IPCC, it has shown what we need to do to move forward.

Essentially, in its existing philosophical dimension of focusing on a mechanism that really has—as the evidence shows—passed its point in history, we have an opportunity to move away from that and the

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UNFCCC is very useful as a mechanism to enable us to do that. We are not saying that it has completely reached the end of its life. It has reached a point where it can facilitate and broker a move in a different direction. We also see that it would have some continuing role to play, in terms of the work that it has begun on adaptation, on the work that it encourages in terms of development funds, and in terms of providing a measurement verification and monitoring activity to support some other activity. With regard to other organisations that would be well placed to take the issue on board—and I am probably going to discuss this in more detail as the questioning moves forward—we very much see the G20 as an appropriate vehicle for moving forward with reducing emissions. The reason we see that is that, effectively, the G20 accounts for 80% of global emissions and it ties up the significant players.

Q56 Barry Gardiner: I understand what you are saying. But aren't you confusing the vehicle with the mechanisms used? In a sense, the UNFCCC is the vehicle that the international community has. It is the way to get agreement about what is done. You have a specific proposal about changing the "what is done" element here, which I want to explore with you, but it seems to me to talk in terms of the last days of the UNFCCC is to confuse these two. It may be that there are new things that need to be done—I am sure there are new things that need to be done—but nonetheless you still need that buy-in by the global, international community in the only, desperately poor, inadequate, incompetent framework that it has, which happens to be this.

Tim Fox: My starting point for answering that question is to pose to you the thesis that the problem is an economics problem, it is a finance problem. The reason we are not making any progress is essentially economics, and the UNFCCC isn't essentially an economics and finance forum. For example, the representation on the G20 is finance ministers and governors of national banks and is an appropriate forum to discuss an economics problem.

Q57 Barry Gardiner: The nub of our disagreement is that you regard this as simply an economic problem that can be resolved by market mechanisms, which you have proposed very elegantly and which on the whole I would agree are a useful tool. However, you are ignoring what some of our earlier witnesses were talking about, which is the problem of equity, and you are ignoring the fact that it has become and is a political problem. The reason we are where we are is that there has been a market failure—in fact, climate change, some would say, is the biggest market failure the world has ever seen—and to simply think that you can only address it by another market mechanism, or by a tweaking of that market, is false.

I do want to explore the mechanism that you are putting forward. You said that you want the framework to ensure the emission of greenhouse gases incurred an appropriate cost or penalty that was of a sufficient magnitude to discourage further emissions and that, of course, the Government could choose to ban emissions, which would simply be a regulatory

mechanism, or to use economic instruments that apply a financial penalty, and you think that that is the only viable political and economically acceptable way forward. Is that right?

Tim Fox: Yes. There are two dimensions to the problem, as we see it. The first dimension is that you are trying to get agreement between 195 nations who have very different agendas. We have already heard a lot about that this morning so I won't rehearse those topics. The second issue is that there isn't a globally justifiable and transparent price that has logic and credibility for the cost of emitting CO₂ into the atmosphere. I am focusing on CO₂ now. There is clearly a wider greenhouse gas emissions issue, but let's focus on CO₂ for the moment. There isn't a justifiable and politically tenable price for that pollution being put into the atmosphere, and there is technology available today that would enable us to set that price. Our thesis is that by setting that price, using the technology, you have an unequivocal and unarguable price for CO₂ pollution.

Q58 Barry Gardiner: Let me give you a political counter or a political feed-in to that, because I don't disagree with you that having a global price would be an extremely helpful way to go here. Of course, the problem is that rich countries can afford the technology to emit more cheaply, or to reduce their emissions accordingly, but on the whole poor countries can't. That goes right to the heart of what the gentleman from Christian Aid—although I berated him generously—was saying about equity. It is inequitable within the global community, and therefore politically unacceptable within the global community, just to say, "Well, fine, let the rich get the benefit of this new market mechanism because they can afford the technological solutions that will enable them to produce more cleanly" without having a transfer mechanism for the wealth that is created to enable in many cases what we would like to see, which is poor and developing countries leapfrog our dirty technologies into cleaner technologies themselves, so I am absolutely with you on a global price for carbon. My political overlay on that is how do you then get justice into that system and how do you recycle to ensure that others can get the benefit of that clean technology as well?

Tim Fox: I am going to be very brief. There are three points that you raise there that I see. The first is that the G20 contains the nations that emit 80% of the global emissions of greenhouse gases and—as you quite rightly point out—they can fundamentally afford to put this technology in place. One of the key points of our submission is that, by putting this technology in place and harnessing market forces in a competitive environment, not only will the price of CO₂ emissions come down, as fleet operators of these machines or these technologies compete with each other for market share, but they will also drive down the cost of all other abatement technologies because, without question, this type of technology will be the most expensive form of cleaning up CO₂ emissions. It will drive the cost of everything else downwards. As we heard this morning, ultimately that has a benefit for newly emerging countries. The institution fully agrees

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with you, we have laboured this point many times, that we need to find a way of enabling newly developing and newly emerging countries to leapfrog over the dirty, industrialised, unsustainable phase that we went through. We are very clear on that in a number of our reports.

The mechanism for that is the market-driven force of driving down the cost of green technologies, as we have seen with solar in Africa. We know that solar is below the cost of grid electricity in Kenyan villages, for example. We heard about that this morning. It is one small example. We could discuss why that is for a long time, but it is basically being driven by the cost being driven out by innovation in China. We see this technology as driving all the costs down.

I come back to your earlier point to wrap up that final third point, and that is that moving forward, very clearly, we still see a role for the UNFCCC in enabling the requirements and the interests of these newly emerging nations to be taken care of. There are a number of ways that that can be done. One is through the Adaptation Fund, through the Green Development Fund, through Least Developed Country Funds, and there are mechanisms in place that should be built on to enable that to happen. We see that as a very appropriate role for the UNFCCC. As for how you make that happen, I think there is a role for the G20 to take leadership on cleaning up the emissions using this kind of technology. There is a role for the UNFCCC in ensuring that the equity issues associated with poorer nations are taken care of, and also undertaking the monitoring, measurement and verification of the work of the G20.

Q59 Dan Byles: I would like to come back to the sectoral approach that you have mentioned. In the EEF's submission, you said that that should be a UK priority at COP 18. Would you like to outline very briefly why you think that is a better mechanism than the geographical approach?

Gareth Stace: I think it is a better mechanism for certain sectors. We talked just now about developed and developing countries and the different approaches that you might have between both of them. The problem that we have is that sometimes you find developed sectors in developing economies. That is why we would wish to see a global sectoral approach for certain carbon intensive, internationally tradable sectors such as steel in the short and medium term. That would be the best approach and the approach that we will get to the quickest, in terms of waiting for a truly global, international agreement that puts us all on a level playing field. A sectoral agreement will put us on that level playing field.

Q60 Dan Byles: There is steel and one or two other documented examples. How wide would you see this? How many different types of sectors? Would you see this being quite widespread or limited to a fairly narrow field of high energy-intensive sectors?

Gareth Stace: In the first instance it is fairly limited. We talk about industrial sectors, steel, cement, aluminium and perhaps certain chemicals. Then we also look at aviation and shipping, and there may be some agricultural potential as well, but it is really

those ones that I was talking about. That is where it is most suited and we shouldn't think that it goes much wider than that. The other process within the truly international agreement, it caters for those other sectors that are not exposed to international competition and perhaps are not as carbon intensive.

Q61 Dan Byles: This isn't new. It has been on the agenda since the *Bali Action Plan* of 2007. But how firmly would you say it is on the table? Is it a realistic priority for the UK?

Gareth Stace: Yes, and I think that is where our problem lies. At Government level, I don't think it is on the table nearly enough in the UK. I don't think it is, but I don't think the UK is unique. Industries are working together to achieve this, to make progress on collecting data, benchmarking sectors before setting targets, but industries cannot and, in terms of the WTO, wouldn't be allowed to perform that agreement on their own. They need to work with Governments. There are two stages. We would like to see it firmly on the UK Government's agenda, that, "Yes, we are going to make significant progress". When I say "significant progress", we are talking about sectors that have particular technologies that the carbon price won't enable to move forward and reduce those significant carbon emissions at all. It takes something very different to make that step change. We need the UK Government on board, but then, in terms of diplomacy, it is much more about encouraging other nations, particularly those that have really significant players in the steel industry in those countries that are not working with this process at all that the industry is working with under the World Steel Association framework.

Tim Fox: Could I offer a comment about the sectoral approach? One option that we are proposing is to use technologies such as air capture technology to fix a carbon price. One of the other key advantages of that technology is that it can deal with difficult-to-get-at and difficult-to-tackle emissions. There are a number of sectors where the emissions from that industry are very difficult to tackle using either conventional abatement technologies or something like CCS, for example, so you can think about large, complex operations where CO₂ is emitted at several different points in the process. You can think about aviation, shipping and other forms of transportation that isn't amenable to electrification, for example, such as heavy freight.

The use of air capture machines to take the CO₂ out of the atmosphere, and then to make it available for sequestration and storage, means that you can tackle those emissions and also, geographically, it doesn't matter where your fleet of air capture machines are located. For example, you could imagine a fleet of machines located in the Australian desert or other desert areas with ideal geology for sequestration accounting for emissions from aviation and shipping, or a chemical process or other process that emits at several points, that doesn't have access to a CCS-type infrastructure or any other way of tackling the process.

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Q62 Dan Byles: So you don't stop the emissions? You still make them; potentially, you just clean them up somewhere else?

Tim Fox: Yes. Essentially, it is a logical extension of carbon capture and storage, in that with carbon capture and storage you are taking the CO₂ out of the flue gas at its point of emission. In this case you are allowing the CO₂ to transition through the atmosphere and be picked up elsewhere. As long as each tonne of CO₂ you emit at one location is collected at another location the atmosphere doesn't know any different and the climate won't know any different. You don't have to take out those exact CO₂ molecules. As long as your net balance is zero then you have accounted for those emissions somewhere else.

Gareth Stace: Can I say that in terms of creating a global sectoral agreement, say for the steel sector, we would like to reduce our emissions significantly. The reason why we are calling for a sector agreement isn't just to get together and agree a target. It is because it would be the only way that we could significantly reduce those emissions. For example, in the steel sector, 90% of our emissions are unavoidable process emissions—using current technology, we have reached the end of that technology and we cannot reduce those emissions any further, so we don't have a lot to play with in terms of reducing emissions from that sector.

The only way we can do that, to make that significant change is to make steel in a very different way from how we have made it historically, and that is going to take an awful lot of money. That is why I said that the price signal alone won't do that at all. The UK on its own could not fund that. It is tens of billions. The EU could not fund that on its own. We need to bring all of the research programmes together, operating in the US, Korea, Japan and the EU, and pool those resources, technology and understanding in order to make steel in a very different way and emit significantly much less than we emit at the moment.

Q63 Chair: With the technology of emitting in one place and capturing somewhere else, is there any loss of effectiveness in the sense of the level that the CO₂ rises to in the atmosphere or does it make a difference where, if you are allowing the emission to go up there?

Tim Fox: No. Please take into account I am not a climate scientist or a climate modeller—I am an engineer—but essentially the atmosphere is a well mixed fluid, and CO₂ will mix very quickly in the atmosphere and move through global circulation patterns to move around the globe very quickly. In overall terms, as long as you are balancing the CO₂ that is emitted at one point by taking CO₂ out at another point the effect is more or less the same as taking it out at the point. There are some interesting thoughts that you might pursue in this respect, which would need the deeper engagement of the climate modelling community in exploring these opportunities. There are points on the planet where my understanding is that CO₂ does have a higher level of concentration than other points, and you might like to think about how you would use these machines to explore that, but I think that is a completely different

option. It is starting to move the technology away from the proposal that we are making, which is that it is really to be used as a carbon price setter, a driver of innovation, harnessing market forces to solve the problem, and as a way of providing a route to tackling difficult-to-get-at emission sources.

Q64 Chair: Given the progress or lack of progress being made on carbon capture and storage, where on the timeline would you see this process? Presumably gathering the CO₂ is a slightly tougher process when it is just being pulled out of the atmosphere rather than a concentrated source?

Tim Fox: I can offer quite a detailed comment on that, and I will keep it brief. There are several entrepreneurial organisations across the world that are very busy at the moment developing this technology, with investment from sources that include venture capitalists and funds that look to support innovative technologies. The key driver for them is to take CO₂ out of the atmosphere and provide it to industries that use CO₂ as a source of chemicals for whatever process it is undertaking. At the moment that is driving the development of these machines forward quite rapidly. There is one in Canada; there are two in the US; there is one here in the UK up on Teesside; there is one in Switzerland and one in Holland at the moment. They are the key players. They are doing a lot of work associated with overcoming the increased difficulty of removing CO₂ out of the atmosphere relative to taking it out of a flue gas. It isn't an intangible problem but you do pay a little bit more of an energy penalty. Capturing CO₂ from flue gases isn't a new departure. We have been doing it for decades on chemical plants and other industrial plants globally, and using it for enhanced oil recovery, for example, in the US. We know how to do it and the technologies are there. There are some issues, because of the reduced concentration in the atmosphere, but they are not insurmountable. Then it is a question of developing a storage capability, which we are busy doing with CCS at the moment anyway.

Q65 Barry Gardiner: These machines to take CO₂ out of the atmosphere, the ones that I like have been around for a millennium; they are called trees. Your submission said nothing about REDD+. Isn't the most obvious way of doing this to actually fund REDD+ so that you get the trees doing that? You don't just get the carbon sequestration as a benefit. You get all the other ecosystem services such as climate regulation, water regulation, provisioning services alongside. It seems to me that you have a rather driven fixation to have a technological solution when a green solution would be a lot better.

Tim Fox: The short answer to that is, no, we are not fixated on a technical solution. On numerous occasions we have put forward our thinking on having a mix of approaches, including afforestation and land management. There is a whole range of ways of dealing with the provision of carbon sinks. One of the key points, though, is that these types of machines can take CO₂ out of the atmosphere thousands of times more quickly and effectively than natural trees, and of course they can plug into or they can be provisioned

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with an infrastructure that enables you to store that carbon away and lock it away for centuries in saline aquifers or depleted oil and gas reserves. The difficulty with surface biomass is that essentially as it rots it returns the CO₂ to the atmosphere. In terms of the scale of the challenge that we have heard about this morning, the deployment of technology is part of a mix of approaches, but the deployment of technology to accelerate the removal of CO₂ and sequestration of CO₂ seems perfectly logical to us.

Gareth Stace: Can I add something very briefly on technology being the solution to climate change? I think at the moment, particularly in the EU and the UK, we have a fixation on targets. We set a target and we think it is a done deal, and, okay, a target is good where you set the target and you are not being proscriptive about how you get there, you just want to see the outcome. However, what I think the UK Government is failing to do—and this applies globally as well—is that governments don't believe that technology is the solution, so the Government isn't backing the development of technology going forward.

A good example of this occurred at our recent conference. We had invited Siemens and somebody asked them, "Why do you invest more in manufacturing in Germany than you would in the UK?" and they said, "Because in the last 15 years, the German Government has invested heavily in our supply chains. The UK Government has not done that". I think if the UK Government was really looking to make big strides, and be a leader in this—the UK keeps talking about leadership—it should actually be a leader and show the rest of the world that we can have green and growth at the same time, and we can be a leader in developing low-carbon technologies in the UK at least cost.

Q66 Chair: Rather than using market mechanisms to send a signal to the market for them to come up with an optimal solution, the Government should actually target technologies?

Gareth Stace: I am not saying that we should get rid of our targets. I have said before that market mechanisms don't solve all the problems. There are technologies and sectors, the market mechanism and the pricing alone won't change that. I am saying more that we need a greater focus on how we are going to meet those targets within the Climate Change Act here in the UK, and I think we don't have that at the moment. We don't have that vision in terms of the industrial strategy, or the industrial policy of how we are going to make our supply chains really robust to be able to deliver the low-carbon solutions that manufacturers will provide to meet the challenge that we face in terms of mitigation.

Tim Fox: It is interesting that we are sitting in the Thatcher Room. From our perspective, it is really about harnessing market forces to do what markets do best. They will drive forward innovation, and they will innovate costs out once you get them to work properly. They are an ideal tool for doing that, particularly in technology. The best innovation in technology comes from market forces and market-driven innovation, but there is also a role for

Government beyond creating a framework that enables the market to work as freely and as optimally as possible. There is a role for Government in providing catalytic activity in areas where it believes strategically there needs to be a start-up of a new activity.

I don't want to appear to be fixated on these machines but we are going down that track and it is a good example of a different way of thinking, which is our key tenet. We are not saying that this is the only solution; we are saying this is a different way of thinking, which comes back to the UNFCCC. In terms of those machines, for example, there is a very real need for an open, public domain—a publicly accessible version of these machines that you can walk up to and kick the tyres on, essentially. At the moment, all these machines are being developed in entrepreneurial companies to solve a feedstock to chemical customers' issues. We would call on the Government to invest a small amount of our research budget in demonstrating these machines at small scale, in a similar way to the way in which it is funding, through £1 billion, the demonstration of CCS. They are very allied technologies, in that you need to bridge the gap between the university laboratory and the public laboratory, across that chasm into the commercial world, and there is a role for Government in doing that.

Q67 Barry Gardiner: But you do accept that there is an ironic asymmetry to what you are saying? You start off by saying, "Look, when it comes to the global issue, politicians need to get out of the way and we need a market-based solution, and we need a price for carbon that is going to drive that market-based solution", despite the fact that politicians in Mexico or China or somewhere might say, "We would rather have our cheap, low, dirty technology that is producing the goods at the moment, and you are wanting us to disadvantage our industry by coming into that global agreement about a market price". So you ignore the political in that sphere, yet when it comes to what you call "investment", but which others might call "subsidy", into particular technological development, you want the politicians to come in the back door and make sure that our industry in this country is being advantaged over others. Come on, guys. You can play on this playing field or you can play on that playing field, but you want to switch the playing field, depending on whether you are talking about technology or whether you are talking about market forces. Is that not a fair criticism?

Tim Fox: No, not all.

Q68 Barry Gardiner: I didn't think you would agree with me, but it seems pretty fair to me.

Tim Fox: No. In a nutshell, what we are saying is that we need recognition that there is an economic problem and an economic driver that needs to be put in place, and that is to solve the CO₂ price issue. We have agreed that earlier in the conversation. We understand that that is a major issue.

Q69 Barry Gardiner: We have agreed it, but where you and I differ is on the fact that I recognise that

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there is a politician somewhere else in the world who says, "Yes, but if I sign up to that it is going to disadvantage my industry, and I am going to get my institute of mechanical engineers and my manufacturers federation on to me telling me that this is a bloody stupid thing to do and I'm going to be out of office". That is the political dimension that in this sphere, when you say, "Let's get a market price for carbon", you are just ignoring.

Tim Fox: No. What I am saying is that by using this approach to drive the carbon price, create competition for that carbon price and driving that carbon price down, you will also drive down globally the cost of all abatement technologies.

Q70 Barry Gardiner: Eventually you will. What are you going to say to the Chinese or the Mexican or the Indian politician in the meantime, who are sitting on large stocks of coal that they can then use to produce your steel, or whatever else they are going to produce in a dirty fashion, that is at the moment much cheaper to supply to the world market than if they go into the fancy, clean technology that you want us all to adopt because you have put in the market mechanism? They are not going to accept it. You are just ignoring the politics here. You are speaking as an economist not as a politician, or you are not taking on board the politics of the situation.

Tim Fox: Yes, I am. Fundamentally, I am taking on board the politics of the situation in that I am recognising that politically where we are with the UNFCCC process, trying to get an agreement between 195 nations with very different political objectives, isn't working. What I am coming to the table to propose here is that we need to look at alternatives, and this is one possible alternative that is worth exploring.

Q71 Barry Gardiner: But you are saying that politicians need to get out of the way but we want a group of politicians—namely, the G20 leaders—to sign up to this market proposal. In and of itself, from an economist's point of view, I am totally with you. All I am saying is I don't think that certain guys who are around the G20 table are politically going to be able to sign up to it, because of the short and medium-term problems it is going to create for their equivalent of you two sitting in their Committee in their Parliament.

Gareth Stace: Then we are absolutely going to achieve nothing. China makes 49% of the world's steel. If we cannot get China on board then we are not achieving anything. There is going to be an 80% increase in demand for steel by 2030. That is going to happen and the Chinese will meet that demand, and if they are not tackling the emissions from that sector then anything we do here—they make 600 million tonnes, we make 11 million tonnes of steel—means nothing.

Q72 Barry Gardiner: Of course, I absolutely understand that and agree with you. All I am trying to say is that, in the same way as I think our first witnesses presented us with a visionary, rosy and idealistic picture, I think you are presenting us with

an economist's rosy, idealistic picture. It doesn't wash, because you have to accept that those political barriers, the two of you sitting in Beijing are going to be saying, against what you are saying to their Select Committee and their Ministers, "This would be crazy. You would disadvantage our industry at a stroke. China has to grow at its own level. We can't have this restriction". You could make the arguments for them; you know what they would be saying.

Tim Fox: But we have seen already significant shifts in thinking and in investment in China and other countries. They lead the world in the production of wind turbines. If there is an industrial strategy to be had then there is an interest.

Q73 Barry Gardiner: What they are not doing is disadvantaging their own industry in getting those advances. You have to accept that, because that is the fact. They have made huge strides. They are doing much more than America and everybody else would like to credit them with. That is absolutely for damn sure. The point is they are doing it according to their own lights, in a way that is establishing their own growth trajectory, and you are going to interfere with that.

Gareth Stace: They are doing more in absolute terms, but if you look at per unit of GDP they are not. We are probably doing better and Germany certainly is doing much better in terms of investing in low-carbon technologies. I am not coming to this Committee with rose-tinted glasses about a sectoral agreement for the steel sector. If I was I would just be sitting here saying, "It's going to happen and it's going to happen by then". At the moment, I don't think it is going to happen because we have 70% of the world's steel companies on board in what the World Steel Association are doing but only 30% of production, so we just cannot proceed until we get buy-in.

Tim Fox: We have essentially come to the table to offer alternative ways of thinking, and we call for the politicians here to solve the political problems and find a way forward. That is a leadership role for the UK. In the last decade, the UK has been incredibly innovative in finding frameworks and diplomatic ways forward. The Climate Change Act 2008 is a major example, a piece of evidence of what the UK political community can do if it puts its mind to it. I am coming here as an engineer and I am asking you as a politician to find a way forward.

Chair: On finding ways forward, a bit on markets, Alan.

Q74 Dr Whitehead: I have always thought that the idea of capturing carbon in order to inject it into oil seams to get more intensive carbon out is a rather intuitively counterproductive process, but in terms of—as you have said previously—machines to take carbon out of the air and inject it, as one does with CCS, that is a different process. However it is one that requires, presumably, a substantial price floor in order to proceed and invest in. The market mechanisms to produce that are already in place but they don't work very well, do they?

Tim Fox: That is coming at the problem from back to front, if you will excuse my way of putting that. First,

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what we are proposing is the use of these machines to lock up the carbon in disused—

Dr Whitehead: Yes, I understand that.

Tim Fox: So that is clear. Secondly, we are calling on the use of these machines to set the price for carbon, not to be driven by the price for carbon. Current estimates for these machines, based on the work of these entrepreneurial companies—this isn't yet through vigorous, mature, commercially pressurised development of second or third generation technology—is putting the carbon price that these machines will produce in a range that at the moment seems quite expensive, but these machines are currently being developed to very immature levels. What we are saying is that, by bringing those machines forward and creating a competitive environment, the carbon price set by that machine will reduce over time through innovating the costs down.

Q75 Dr Whitehead: The point I was making is that presumably someone has to finance putting these machines up and making them run and putting the stuff in the ground. Presumably that is driven to some considerable extent by the fact that there would be a pre-existing carbon price floor of some description in order to make that finance possible.

Tim Fox: Right, yes, I understand your question.

Dr Whitehead: The credits presumably coming from the sequestration of that carbon would then effectively fund those machines and their maintenance and their operation.

Tim Fox: There are two points there. First, like any emerging technology, there is going to be a need to fund the initial development and get them moving. At the moment that is being done by the attraction to those entrepreneurs of potential markets for their CO₂, which isn't dealing with the global warming issue. It is a commercial relationship that is driving it forward at the moment.

Q76 Dr Whitehead: Yes, but presumably the machines eventually, in order to have any effect on carbon levels in the atmosphere, would need simply to sequester it. That wouldn't be in itself a commercial operation and would presumably come into being and would continue to operate as a result of credits arising from the fact that you put X tonnes of CO₂ into the ground and had got credits from other polluters. Is that how you see it?

Tim Fox: We would see them operating commercially in that companies would take an opportunity to buy a fleet of these machines and—

Q77 Dr Whitehead: Commercial operation is carbon circular, inasmuch as the reason for doing it from a commercial point of view is to undertake other processes that use that carbon and put it back into the air or extract oil and burn that.

Tim Fox: Let me answer that question very clearly. We would see these machines operating in a purely commercial environment when they take the CO₂ out of the atmosphere and sequester it. You can imagine companies setting themselves up as operators of fleets of these machines. They are taking the CO₂ out of the

atmosphere and they are charging to do that and they are making a profit out of that.

Q78 Dr Whitehead: Who are they charging? Presumably they are charging people.

Tim Fox: Yes. They would be charging organisations that have no other way of abating their CO₂ emissions. Let's say I am an industrialist and I operate an industrial plant and I have renewable energy. I have all my processes as tight as possible but there is a point at which I inevitably have to emit some CO₂ because I have no other way of abating it at that point. Then I have to pay you as an operator of a fleet of these machines to take that CO₂ and sequester it on my behalf, and I pay you to do that.

Q79 Dr Whitehead: In order to have an abatement mechanism, presumably if we are still going on market mechanisms, we need some sort of carbon price floor in order to make the abatement necessary?

Tim Fox: Or you would need to have an international agreement at some level—and it could be at the sector level, it could be at the global level, it depends at what level you want to solve this problem—that says if you have no other way of abating emissions from that plant you have to pay a CO₂ sequester to take that CO₂ away.

Q80 Dr Whitehead: Yes, but doesn't that sound rather similar to EU-ETS, that is you have allocations, national allocations and sub-national allocations, and you buy permits? Other people, who are doing the business, then get the money from the fact that permits have been created and there is a trading process and the market mechanism in theory creates those circumstances under which those obligations can be discharged.

Tim Fox: There would be some type of mechanism that looked something like that, yes. There would have to be.

Q81 Dr Whitehead: But EU-ETS doesn't work very well, does it?

Tim Fox: It has enabled us to learn a lot about how carbon markets work and where the failings are in the mechanisms of carbon trading markets and it has not accounted for—

Q82 Dr Whitehead: Where do you think the failings are?

Tim Fox: As we see it, the failing with EU-ETS is around the over-allocation of credits and the fact that there has been quite a lot of apparent leakage within the system. We see room for tightening that system and we are proposing that if you take a look at setting the initial carbon price, using this technology, you could create a mechanism that would enable you to trade in some sort of permits. This might look quite different from EU-ETS, but there would need to be some sort of tradeable credit-type mechanism and we believe that you could learn from the existing systems to create this new mechanism.

Of course, you could stand back and take a complete paradigm shift in thinking and say, "Well, what we are going to do at the global level across all sectors and

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across all industries and across all jurisdictions is we are going to say, 'We now have a technology that can remove CO₂ from the atmosphere. That is your last resort. If you have no other way of abating your technologies, that is what you must use and you must pay a fleet operator to remove those emissions and sequester them'" and there would be some sort of trading mechanism in place. That is in the limit of what you could do to drive CO₂ emissions down, but undoubtedly there are a number of sectoral or trading scheme approaches that would enable you to do different things, once you recognised the value of that technology, to set that price for CO₂.

Q83 Dr Whitehead: Do you think a Government-introduced carbon floor price militates against those processes working, assists it, or undermines it?

Tim Fox: I think it would initially help, because if it was set on a target price that was of the order of magnitude of the price that you could remove the CO₂ emissions from the atmosphere it would begin to get the market moving. Over time, it would act as a brake and a barrier to further progress, because what one would want to do is harness the market forces to drive that price down so the floor price would have to be removed and enable market forces to drive that price down.

Gareth Stace: Could I come in terms of whether EU-ETS is working or not and whether the carbon floor price is helping it or not? The purpose or aim of EU-ETS is to deliver a predetermined cap at least cost, and I think it is doing that very well. If we do have failings in it, the failings are—and there are many—that one size fits all, very different sectors in the same scheme, and the same rules for energy generators and industrial sectors and others, exposed to carbon leakage, not exposed to carbon leakage. It doesn't work for all. It works for generators perhaps, but I think certain sectors should come out of EU-ETS because EU-ETS does nothing to reduce global emissions from, say, the steel sector at all. If we accept that, we are doing something wrong with the EU-ETS.

Another failing of EU-ETS is that we seem to want to keep tinkering with it rather than let it run its course, and there is one fundamental flaw in it. It is the biggest thing in EU climate change policy and it didn't have a mechanism for dealing with a recession. That is where it went wrong. We told the Commission and the UK Government, "Ex-ante allocation is the wrong way. You need ex-post allocation" and that would have dealt with the problem that we have at the moment. Is the carbon floor price going to fix that? Absolutely not. It is a unilateral measure. It is the UK Government implementing domestic policy to tackle

global problems. It is going to increase our costs unilaterally against our European competitors and actually sets the price years ahead of when it is needed. It is there to give confidence to new nuclear investors. New nuclear investors won't come on stream until 2020 but the cost is there from 2013, so we are paying for something that we don't need to pay for until at least 2020. We don't need the carbon price floor at all and it should be scrapped at the next Comprehensive Spending Review.

Q84 Barry Gardiner: Did you—"you" generically—not have something to do with the failure of the first period, in that you argued with Government to make sure that the cap was set so loose that it wasn't effective? I grant you, the recession came in in the second period, but the idea that you are going to be happy with Government saying, after the event, "Now we are going to charge you so much on your emissions" rather than giving you a clear warning upfront what you can emit and what you are likely to pay for them; surely you are going to turn round and say at that stage, "Well, this isn't giving us the certainty that we need to plan our business properly"? It seems to me that you ignored the first argument and Government can't win either way with you on the second.

Gareth Stace: I think the first phase, learning by doing. We can almost park the first phase. The allocation was supposed to be business as usual. It was supposed to do what it did. The second phase, nobody could predict the recession; we were giving our predictions of where our production was going to be. Even in the July, from the September when the recession hit we had no idea.

Barry Gardiner: I accept that.

Gareth Stace: But I think it depends on the question of certainty. What certainty do we want? If we had the certainty of the cap, then great and we have to live with the fluctuating price. But if we want more certainty of a price, then EU-ETS isn't going to deliver that unless we cannibalise it so much that it almost doesn't do both of those issues. Either we have a carbon tax or we have EU-ETS. To try to have both clearly isn't going to work.

Chair: Thank you very much for the interesting evidence session. If you have any more written evidence to expand on these points it would be most welcome, especially maybe more details of the machine and when it is going to be implemented or in terms of the technical side of things. That would be helpful. Any more thoughts on your submissions, anything in writing would be gratefully received. Thank you again for your evidence.

Thursday 17 May 2012

Members present:

Mr Tim Yeo (Chair)

Dan Byles
Barry Gardiner
Ian Lavery
Dr Phillip Lee
Albert Owen

Christopher Pincher
John Robertson
Laura Sandys
Sir Robert Smith
Dr Alan Whitehead

Examination of Witness

Witness: **Professor Sir David King**, Director, Smith School of Enterprise and the Environment, gave evidence.

Q85 Chair: Good morning and a warm welcome. I think it is the first time in this Parliament that you have come to this Committee, so very pleased to see you, but obviously old friends of other Committees that many of us have been on. We are expecting one or two more members to arrive shortly. Could I just start with a general question about the UNFCCC? I don't think I am anticipating. You slightly damned it with faint praise as a process and made the, I think, entirely valid point that it has not had any impact on changing trends in greenhouse gas emissions. From that point of view, you would have to say it has been a failure, hasn't it, after 15 years?

Sir David King: Good morning, Chairman. Yes, I think that is right and, therefore, I would have to say that if we measure the process in terms of reaching the objective, which was to reduce greenhouse gas emissions, it has been a failure. We are following a business-as-usual trajectory, and the latest scientific analysis would indicate that this means a 5C to 6C temperature rise by the end of this century. So I think in that sense it is a failure. In a different sense I think that it has been and continues to be an essential instrument for bringing all the concerned parties together to have discussions.

There is a problem with the process. It becomes a culture within a culture, and by this I mean that the officials from all the countries who meet each other at least twice a year at different venues around the world become very caught up with process and, it seems to me, lose sight of the overall objective, as strange as that may seem. If we look at moving to where we are now, I was very keen on Copenhagen achieving what it did achieve, which is to go for voluntary commitments from different nations, which is a realistic way forward, rather than adhering to the notion that we could leap straight into a single agreement with 193 nations all signing up: problem solved.

I think that was the problem. We were following the Montreal Protocol, which was a much easier issue, to use the same kind of instrument to achieve a much, much more challenging objective. When I look at the Copenhagen process and its outcomes, and countries like Indonesia committing themselves to a 26% reduction in emissions by 2020, Brazil committing itself to avoiding all deforestation by 2025, you have real progress finally emerging. I see the UNFCCC process as a valid process for bringing the parties together, if nothing else, to put pressure on each other.

My favourite phrase around this, Chairman, is "muscular bilateralism". When the British Government declared that it would reduce its emissions by 60% by 2050, we suddenly, unilaterally, broke the normal negotiating process. I was able to go into President Lula's office and argue, "This is what we are doing. We are not trying for the minimum impact on Britain, but we are now challenging other countries to produce equivalent plans," and that is now beginning to happen.

If I look at the Durban process, for me the most interesting was Connie Hedegaard representing the European Union very well, in a wonderful, challenging speech, saying, "This is what the European Union is doing and we are doing far more than any other part of the world." The Chinese delegate stood up and was shaking with anger, saying, "China has done far more," and he then listed everything China was doing. That, to me, is the right way forward. Rather than each party going into the negotiations aiming for the least impact on their own country and, therefore, achieving the lowest common denominator, we were suddenly seeing a kind of macho challenge to each to do better than the other.

Q86 Chair: That is pointing to some successes from the process anyway, and I take your point about the danger of the regular delegations getting caught up in process and losing sight of the overall aim. Do you think there is, however, more that might be achieved through some of the other forums, with smaller numbers of very large emitters meeting because, in a sense, since they are a big part of the problem, at least for the time being, and if they can agree on certain measures then everybody benefits from that?

Sir David King: Absolutely. The G8+5 was invented in my time as adviser to the Prime Minister, and it brought together, for the first time, the heads of states of the G8 grouping plus Brazil, China, India, South Africa, Mexico, to discuss the issue of climate change. Heads of states essentially break the problem I have just referred to as the social culture around the negotiating process. They are able to achieve more. I think that that was important, and now we have the basic group, Brazil, South Africa, India, China, and the G77 group. As a result of the formation of the G8+5 developing into the G20, we see these other groupings formed. The small island states are having an impact far beyond their numbers simply by combining forces on a single issue, which is, "What

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are rising sea levels doing to our countries?” So I think that you are absolutely right. The groupings of countries are critically important moving forward—not least, of course, the European Union. The European Union brings together 27 very important nations and, by creating a common policy around cap-and-trade and the follow-through from cap-and-trade, we have brought all 27 nations together in that process.

Q87 Chair: Yes. We are very interested in your proposal for a global cap-and-trade scheme based on a per capita emissions figure, which conceptually looks very interesting. How do you think the practical implications of trying to establish such a scheme are best addressed?

Sir David King: The first thing to say is that the scheme is based on discussions with the WTO that I have had. In other words, we are looking at a tradable commodity, carbon dioxide. We are showing within Europe that we can make it work through the European cap-and-trade, where the caps are not deep enough but, nevertheless, there is a process in place. Any tradable commodity will develop different prices around the world with different mechanisms emerging.

China is now going to introduce a cap-and-trade process. I am proud of the fact that I have advised the Chinese Government on that. We are going to see cap-and-trade emerging from a group of states in the United States. There are going to be, emerging from these different processes, different prices on carbon dioxide, which Pascal Lamy doesn't like at all. To have a number of different prices on a single commodity is against the global trading scheme. There is the natural pressure behind a global cap-and-trade, evolving from regional cap-and-trade into a much more natural process towards global trading.

What needs to be established then is what is the principle for the dynamic cap for each country, by which I mean the cap as a function of time moving forward? This is going to be where the discussion brings in issues of equity, where we are going to have to decide what are the principles underlying equity when it comes to a global cap-and-trade mechanism. I also think that, with a global system, we are going to have to introduce compliance measures. If you wish to join the scheme, let's say you are a developing country, you are going to be given tradable units and your tradable units will exceed your normal emission. So you can trade them for cash on the market, but to join you would have to meet compliance procedures. This would mean a governance process. It would mean the business of managing mitigation of emissions and managing adaptation. All of these compliance measures would need to be built in as each nation or group of nations joins in the global cap-and-trade. But, as I say, this isn't novel. This is simply picking up on WTO procedures.

Q88 Chair: We have been looking particularly at what is happening in China and, if China goes for a full-scale cap-and-trade domestically, the eventual scope for that to be linked with the EU's. You would then have two very, very large blocs, and it seems to

us that that probably creates unstoppable momentum anyway. Other parts of the world would want to join in, particularly North America. I am very glad that the WTO is engaged in the debate about this, but how likely do you think it is that this proposal could be implemented?

Sir David King: The difficulty with a new proposal of this kind is that the UNFCCC culture has a tendency to reject anything that hasn't already been discussed. My reason for putting this down is, first of all, procedures of equity and, secondly, putting the objective to reduce greenhouse gas emissions in as the overriding demand. In other words, the global cap on emissions and its trajectory forward is the first thing to be determined, and then each national contribution to that. So it makes sure that we achieve a reduction in greenhouse gas emissions, and we measure success by that.

Q89 Sir Robert Smith: Pursuing the whole problem of getting the right cap, UNEP has said that the current agreements on limits are not going to be enough and we are not going to meet our targets—the trajectory is all wrong. Presumably you agree with that?

Sir David King: Yes, that is correct. There have been a number of analyses made of, if I could just clarify, not agreements but the voluntary commitments from nations under the Copenhagen process and the Cancun process. If you put all of those commitments together we would still be on a 3 to 4C trajectory going forward. So these commitments are insufficient. However, I would argue that these are the voluntary emissions from differing nations and, therefore, rather better than one might have expected. As we move forward and evolve into a globally agreed system—the intention now is, in 2015, to have in place a globally agreed system that will be enacted by 2020—we have a chance to evolve, for example, European Union plus China, then adding other countries to the grouping, to a system that meets the overall objective, but we are certainly not there yet.

Q90 Sir Robert Smith: In trying to close the gap, what do you think the UK's emission target for 2020 should be?

Sir David King: I think the UK is currently on the right track. In other words, I believe that the Climate Change Committee has set the right targets through the carbon reduction process out to 2025. Whatever target we have has to be deliverable. That is absolutely critical because, otherwise, we are going to be seen to be boasting rather than delivering. I think the Climate Change Committee is getting it roughly right at the moment.

Q91 Sir Robert Smith: You think it is deliverable?

Sir David King: I believe it is deliverable and, as a matter of fact, I produced a paper saying how it could be deliverable.

Q92 Sir Robert Smith: Have we engaged enough with the public on the consequences of making it deliverable?

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Sir David King: Not at all, no. Perhaps if I may just say something about delivery. Oil price is the current elephant in the room, in my view. For example, the Italian economy is in deficit by €38 billion per annum at the moment, roughly. Of that, since they were not in deficit, since they were in balance in the year 2000, the increased cost of imported oil to Italy is €34 billion. Most of the current deficit in Italy is due to the cost of imported oil at US\$100+. The UK is shielded from this because of our discovery of North Sea oil, but that has already passed its peak. North Sea oil peaked in 1999 at 3.1 million barrels a day. We are down to 1.4 million a day now and we are net importers because we need about 1.6 or 1.7 million barrels a day to meet demand locally.

If we look at 2020, in our model we can achieve a graduated independence from oil imports by transferring the transport sector on to the electricity grid. The saving to the British economy is potentially in the range £30 billion to £50 billion per year. The point I am making, and it is a point that has not been made at all in the political domain, is that de-fossilising our ground transport sector is essential for the British economy as we move away from this bonanza of North Sea oil. We cannot afford, as Italy cannot, to import the oil that we would otherwise need to keep our economy going.

As we move forward I would say there is little choice before us but to remove our dependence on oil and to push the agenda of the Department of Energy and Climate Change to de-fossilise the electricity grid and to move the ground transport system on to that grid. De-fossilising the electricity grid, in my view, will only be achieved if we do more than just give a green light to nuclear new build. We need a clear statement from the Cabinet that this is the right way forward. To be honest, I think that is seen to be absent at the moment and the reason why we have several utilities stepping away from nuclear is because they are not getting those clear signals.

Q93 Sir Robert Smith: Does that target make sense if the rest of the world isn't joining in on the same agenda? Do we gain by being leaders or do we take a risk in being an outlier?

Sir David King: As I hope I have just indicated, we benefit because our economy will come back into balance. So there is a purely selfish motive for going down this route. If we can generate all the energy we need within our country—and I believe we can as we have enough uranium and plutonium stockpiled up in Cumbria to deliver the electricity we need for a very long time into the future—if we deliver all of that within country, we are replacing the North Sea oil bonanza as we begin to lose it.

The second reason why this is essential is that it gives muscle to our negotiating position. If I take negotiating fishing rights in the oceans around the European Union, what happens in those negotiations is clear scientific advice on setting up fishing protection areas and reducing fishing and, in the negotiations, every country goes in to keep their fishermen fishing. Now, if we follow that policy we are not going to solve this problem. Going into the negotiations saying, "This is what we're doing; what

are you going to do?" completely changes the negotiations.

Q94 Ian Lavery: Looking at the Kyoto Protocol, the first commitment period under the protocol ends in 2012, and there has been a lot of criticism with regard to a number of things. Do you think the second period of the Kyoto Protocol will be effective without some of the major players being part of the protocol?

Sir David King: There are two parallel streams of activity happening through the United Nations Framework Convention on Climate Change at the moment, the first is the continuation of the Kyoto process and the second is emergence of the Durban platform resulting from the Copenhagen voluntary agreements and the Cancun agreement where all 196 nations signed up to it—an amazing achievement by the Mexican chair—followed by the creation of the Durban platform.

So we have these two parallel processes occurring. My own belief is that it is the second of these two that is going to deliver results because it is based on voluntary commitments. The first of these two was always going to be blocked by the United States. Their Senate and Congress have not voted to sign up to Kyoto ever. The follow-through from the United States not signing up is that China was never going to sign up and then those two nations take another set of nations with them. The procedure is capable of being blocked unless we break it by going into this voluntary arrangement and then we even had all of those nations signing up to the voluntary agreements. That is a rather long way of meeting your question. The Kyoto process will go through. The European Union's cap-and-trade is part of the Kyoto process, but the European Union has already decided to continue their part of the process without the full Kyoto mechanism.

Q95 Ian Lavery: What further should the UK diplomacy be on the road to COP, to try and prioritise getting the likes of Australia and New Zealand to sign up to the protocol?

Sir David King: Mr Lavery, that is a very good question, because I think the changed position of the Australian Government is quite critical. The European Union needs as many allies in their negotiating position as possible, and quite clearly for the European Union there is now an important new ally in Australia, important because Australia also takes a group of other nations with it. So I think that as we approach Doha, COP 18, those negotiations are critically important to see that we create alliances but, at the same time as creating alliances with those nations, it is critically important to get alliances going with the basic group of nations, Brazil, China, India and South Africa.

That group of nations is obviously growing into the important powerhouse, and those nations are looking for equity. The basic story from those nations and the developing nations generally is, "You guys emitted all this carbon dioxide through your industrial revolution and your enrichment and you need to deal with the problem. So go away and deal with it and come back when you've done that." Now, the answer to that is,

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“No, we’re all in this together. Even if we stopped emitting in the developed world, the problem would not be solved.” So we need to go to them and seek an equitable solution.

I am suggesting in this paper that I have submitted that an equitable solution would be an objective to reach the same emissions per capita by mid-century. The British position, 80% reduction in emissions by mid-century, was computed from exactly that. I was involved in that computation. If you take 80% reduction in emission, you get down to a 2.1 to 2.6 tonnes per person target by mid-century and that is where Britain would be with an 80% reduction.

We would go into negotiations saying to India, which is at 1.5 tonnes per person, “You would be allowed to go up to 2.1 to 2.6 tonnes per person,” but I am also suggesting that in the interim, as their economy grows, India would have a trajectory that allowed them to increase up to 4 or 5 tonnes per person in the shorter term and then to come back down to the agreed objective by mid-century. The reason I am saying all of this is simply the issue of equity. We need to understand, what will bring the other partner to the negotiating table has to be behind all of our thinking.

Q96 Ian Lavery: I’m not sure about, “We’re all in this together.” I am a bit sick of hearing that statement, but that is a different issue. There are a number of countries, particularly eastern European countries and some central European countries, who still hold surplus a certain amount of units. Do you think that the UK should be able to prevent these units from being carried forward? Do you think it is in their best interests and, if so, how can we prevent these countries from transferring over to the next protocol?

Sir David King: That is a very good question. If I could give a written answer to it I would prefer to. That is a tough one.¹

Q97 Dr Lee: If we can just backtrack. Your argument vis-à-vis oil and Italy and us going nuclear and electrification is all very persuasive. I am certainly persuaded, but in order to do all of those things we need to borrow money as a country. If *The Guardian* is to be believed, the front page today, there is not going to be a lot of money knocking around. Our ability to borrow money is probably going to diminish, certainly at competitive rates. So in order to put in the infrastructure that you think we should put in, in order to become less dependent upon fossil fuels and hit our targets, it is going to be a pretty difficult sell to a country that is struggling economically. I wonder, however strong your argument is, whether in the reality, certainly in the political reality, of the next decade, certainly on this continent, that we are not going to be able to do it because the numbers just will not add up for us.

¹ **Note by Witness:** The biggest holders of surplus AAUs are from Central and Eastern Europe. If these countries are allowed to carry over their surplus allowances to the second commitment period, it will obviously not incentivise countries to commit to ambitious targets. However in order to continue with a plan which promotes equitable practices, these allowances could be traded in the global trading scheme I have proposed.

The second additional question is, to date, certainly up until the last couple of years, we have somewhat led, in Europe, the negotiations on all of this. Certainly Europe has taken a lead. You talk about equity, and I wonder whether the equity aspect is going to diminish in the next 10 years as Europe’s position, relative to the rest of the world, becomes more equal—I know there is some way to go but certainly it is going in that direction—and whether, instead of pushing cap-and-trade on them, we are going to be going cap-in-hand to them. I wonder what your opinion is about that.

Sir David King: What we are discussing today, Dr Lee, as I’m sure you are aware, is central to the future of our economy. I don’t see this as a peripheral issue at all, and so I am going to answer in the big terms in which you are asking the question. How do we regrow our economy in the face of the current crisis? In my view we ought to be investing in creating jobs, and by “we” I mean the public sector. I am taking the same route that we came out of the 1920–30s crisis with. It requires public spending to put people to work on projects that are going to transform our economy in the right direction. So every large-scale infrastructure project that is leading towards a de-fossilising of our economy needs to be right at the top of the agenda.

As we move forward—and I will come to the point of “Where is the money coming from?”—in my view, we need to be investing in projects. Let me take one that is a favourite of mine but doesn’t yet have a lot of currency in the media, and this would be the Severn barrage. The Severn barrage will provide 3 GW of energy—two nuclear power stations’ worth of energy—for that area of England, not for the next 40 years, for the next 200+ years. Once this barrage is in place you will have a very cheap source of electricity long-term that has no fossil fuel implications, no alternative fuel implications at all, and very low maintenance cost per kilojoule of energy produced. That would cost, however, over a five to six-year building period, £22 billion. So there is an upfront capital cost. It will put a lot of British people to work. It creates jobs. It boosts the economy.

I can give you many examples. High Speed Rail 2 is another one; building new nuclear power stations yet another. Each of these large-scale infrastructure projects leads us into a future that is good for our economy and perfectly sustainable. Where does all this money come from? “Quantitative easing” is the phrase that is often used at the moment, meaning printing money. Of course, this is happening but, in my view, the result is a public potential for re-growing the economy, which is then simply given to the Bank of England and it just follows some other process. The Government does not control the outcome. Whereas, if the quantitative easing was directed into these projects, which I know is a very different sort of process, what we would do is generate jobs. We would have Government directing the process, in the short-term, and I believe this would be a process for pulling us into economic growth, but it pulls us in the direction that we want to go in.

Chair: It is tempting to pursue that line of discussion, but for another inquiry, I think. But you have certainly

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said some very interesting things indeed. Perhaps we might just return to the—

Sir David King: I did say this was not a peripheral issue.

Q98 John Robertson: Moving on from that, is the Kyoto Protocol architecture a good base for a global legally binding agreement?

Sir David King: I believe, if I can reinterpret your question, the Durban platform is an excellent basis for a global agreement. In other words, it is a process that allows the evolution I have been referring to—different trading process, different procedures—to evolve into a single global process.

Q99 John Robertson: A previous Secretary of State described a global legally binding deal as an absolute necessity. Is there an alternative?

Sir David King: Yes, the alternative is in place at the moment. The alternative is voluntary commitment nation by nation, region by region, and I believe that procedure is proving far more effective than the previous Kyoto process. However, as we move forward in time, I do think that we will need to move towards an agreement.

Q100 John Robertson: You did say that Copenhagen had been good and that was the way forward at the moment. Would it be fair to say then that we do need, at some stage, a legally binding agreement that pulls all the voluntary stuff together?

Sir David King: Mr Robertson, I can tell you that I was in Durban and I was extremely surprised at the outcome there for the simple reason that I was convinced the American President could not ask his representative to sign up to a globally binding agreement without Senate and Congress taking it through. So I was rather surprised about that. What has happened is at 4 o'clock in the morning on an extra day in Durban everyone signed up and went home. Now, that is actually how it worked and exhaustion eventually leads to agreement. My point here is that there is a problem with that Durban platform, which is will the United States, by 2015, come to the table and say, "Yes, this is an agreement we can bind ourselves to." At the moment it would be very, very difficult to put all of your eggs in that basket.

Q101 John Robertson: In 2015 there are lots of presidential elections happening. Is it likely that the US could go down that road at that point in time? Any candidate who is putting his name forward, because we know there will be a new president, will be sucked into trying to make an agreement, or an agreement that has been done.

Sir David King: One of the saddest things about the development of the political situation around climate change in the United States is that it has been politicised, and one of the great advantages of the British system is that we have all three major parties fully in agreement on managing the issue of climate change. In the United States this does depend on which party elects a president and whether or not—and this is important—that party has a sufficient

majority in both Houses. You are asking for quite a lot.

Q102 John Robertson: This is obviously a \$64,000 question. Will there be enough progress made at Doha for an agreement to happen?

Sir David King: I am working with the Qatari Government on this. The progress that is required by Doha is relatively modest, and I would not want expectations to be too high because then the media jumps in and says, "Another failure," but I think the requirements are to understand that the principles around equity need to be fully aired. We are not going to make any progress until we are all agreed, the developing nations and the developed nations, on what we mean by equity, and what is going to be fair to all. Once we have decided we agree on the principles, then we can get down to content. I think Doha is an opportunity to do that. The 2015 target is a good time period, but we just need to remember that the legal writing of the documents will itself take at least six months—so it is not to the 2015 COP meeting; it all has to be done well in advance of that. So you are really talking about an agreement that is virtually in place at the COP in 2014. It is going to keep some of us very busy.

Q103 Ian Lavery: Looking at the funding for finance and adaptation, is there sufficient funding for the green climate fund?

Sir David King: This is a fund that is intended to grow from US\$12 billion per annum to US\$100 billion per annum by 2020. The short answer to your question is that, with the severe fiscal constraints and trade deficits faced by most developed countries that Dr Lee referred to, budgetary contributions from those developed countries amounting to US\$100 billion a year are, in my view, politically and economically probably not viable unless we can find a clever mechanism to deliver this.

Now, you will know that Secretary General Ban Ki-moon set up a very high-level commission to deliver a mechanism for creating the US\$100 billion a year fund and when I say "very high-level", it was a very good group of people who were asked to do this. The names include prime ministers, Christine Lagarde and Trevor Manuel, Africa's most renowned economist; so I think a very good group of people. What they suggested was that for every dollar from the international development banks we could anticipate raising three to four dollars from the private sector and with a mechanism operating like that, if you can count—and this is a matter for discussion—all of the private sector plus the public funds in that way, then it is quite possible to reach the target figure. But I say this is a matter for discussion because it is complicated. If you created a US\$100 billion fund of public money you could expect to attract another US\$400 billion, let us say, of private money to go with that. It is all a question of what the global sum is that is required. I am hesitating a little bit to say the next line, which is I think this multiple-instrument process is bureaucratically clumsy, and that is why I am trying to argue for a single cap-and-trade instrument. If you have a single cap-and-trade

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instrument you can create the cashflows you need from the developed world to the developing world through the tradable commodity, that is carbon dioxide permits. Through a single instrument you can cut out a vast bureaucracy set up in the World Bank simply to deliver on this new fund that is being set up. I see the need for the fund in the shorter term, but I would like to see it evolve into a single instrument and that instrument is the cap-and-trade.

Just to explain, I have a paper with some figures in it and, if I could refer to figure 2, what I have indicated there is trajectories for one developed nation and one developing nation. The trajectory for the developed nation, in solid red in my coloured version, is a downward trajectory all the way through to 2050, corresponding to 2.5 tonnes per person. But for a country like India the trajectory goes up and meets the trajectory of the developed country and then comes down to that figure. So while their economy is developing they get a very large cap. This enables them to trade the excess units that they have been given under the cap with those countries that are trying to diminish their emissions. This creates, through a single instrument, the necessary flow of money from the developed to the developing world, and you create it through a tradable commodity, and the point I am making is that we know how trade works globally.

Q104 Ian Lavery: Do you think there is going to be more use of the EU emission trading system revenues?

Sir David King: We should never give permits without an auction process. It makes an awful lot of sense if the auctioning of permits yields finances that are put back into the finance funds that we are now talking about. In the shorter term it would create good will with the nations we are trying to bring into the fold if the funds generated from the auctioning within the European Union formed part of the fund that we have just been discussing. In essence I'm agreeing with your statement.

Q105 Ian Lavery: What do you think the barriers are to introducing more mechanisms that could possibly raise revenue from shipping and aviation?

Sir David King: As you probably know, the proposed rules on aviation in the European Union are causing quite a few difficulties with our colleagues in the rest of the world. Shipping and aviation has to be introduced, in my view, into the carbon pricing process and, if that is done on a global basis, that is operable. The problem is when it is only done within a smaller part of the world. So we are now talking about shipping that doesn't stay within the European Union and air flights that don't stay within the European Union. It is as soon as we have a process that impinges on our neighbouring countries outside the EU that we're creating difficulties, but the revenues from that process, again, could be used as you have indicated. By the way, setting up border carbon prices is the other way of dealing with what I consider to be the big problem that hasn't been handled, which is embedded carbon being traded.

Q106 Chair: We will come back to that in a moment, because it is a very interesting subject. Just on your figure 2, even for the developing nations the cap reaches a level point, from what I can judge, at 2016 roughly. So they have a bit of headroom for the next three or four years, but after that the continuous blue line looks as though it is level and then starts dropping in about 2030.

Sir David King: Chairman, I realise this is a little complicated. The dotted blue line for country 1 is the business as usual. So the cap is much higher—very generous, this cap.

Chair: I see what you mean, yes.

Sir David King: In fact it is only after 2038 that they go below their business as usual.

Q107 Barry Gardiner: Fairness and equity: can you explain to us how the HDI should be used to determine the specific part that each country's trajectory should take?

Sir David King: The reason I mentioned the Human Development Index is simply that what would be needed is an objective number that can be used in negotiations so that the negotiations aren't just subjective and based on who is the strongest negotiator. Using the Human Development Index means that essentially countries with an average earning above US\$15,000 a year are all treated the same and so they would come in the group of developed nations. They would, therefore, be on a similar trajectory going forward. Then the Human Development Index becomes the margin that your country is allowed above the business as usual for that country.

If you were at the zero point on the Human Development Index your trajectory forward would be business as usual initially, and then back down to the globally agreed figure by 2050. If we simply feed into the curves that we have produced here for two nominal countries one index, the HDI index, we can then create figures for every country. That is not suggesting that would not be subject to disagreement and negotiation. But, of course, the other factor that makes it complicated is that the HDI will be time-dependant. These countries are developing their economies and so we have to introduce a time-dependant HDI and, for me, that is the biggest challenge. The advantage of an HDI over a GDP figure is that it approaches an asymptote at which every country has then joined the same HDI; that is the 15,000 figure in terms of GDP. I think HDI has very real advantages over something like GDP, which will continue to change well into the future.

Q108 Barry Gardiner: If I were a gaming strategist how would I get round this? Is it not a perverse incentive to expand my country's population but maintain income differentials within that country, which meant that a large element of the population were kept very poor? I mean, is it not a perverse incentive for injustice in-country?

Sir David King: Yes, I am aware of this, and in one of our papers we have said that it is quite feasible, therefore, to introduce within the agreement various population-level maximums per country. In other

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words, if your population rises above X then you no longer benefit from the per capita arrangement. It simply stops at X. Now, that is something that I think is quite feasible to include in the more complicated negotiating process. What I am keen to deliver first of all is discussions about principles, and then get down to the detail—and of course I know the devil is in the detail, but we can give quite a few different models with different assumptions fed into them. I certainly am aware of potential perverse incentives. I think that it would be a very cynical Government that pursued that particular perverse incentive, though. You are saying there are some?

Q109 Barry Gardiner: There are a few around.

Sir David King: I think if I could then take that point on. Governance procedures would have to be at a certain level before a country could join the trading process. There are countries at the moment that we could all think of that would not qualify for a global trading process of this kind simply because the governance procedures are not in place. So a Government that benefited its own members and their bank accounts somewhere simply by the tradable commodity would not be brought into the fold.

Q110 Barry Gardiner: Sorry, you are leading me off in directions that are taking us away from the questions I originally wanted to ask. I am sure you and I could think of a number of countries that are critical to the climate change challenge, particularly in relation to forestry, where, under what you have just said, they would not be admitted into the scheme. I will take an example, a place like DRC, with the enormous capacity there for deforestation and contribution to the problem. If the scheme can't cope with a country like that is that not a serious downside?

Sir David King: Yes. Of course, DRC has to be in everybody's minds. I think the Government in Kinshasa might even agree that it controls the area around Kinshasa but the vast central part of the country is not under its control and so the deforestation can continue. Particularly, the deforestation around mining that does continue is completely ungovernable and, worse than that, we know that the revenues from that process go into the pockets of rebel armies. So there are major difficulties there whether we are talking about this issue or not. If we are looking at forested areas, this is an argument for continuing the REDD-Plus instrument as we go forward. I am uncomfortable with all of these instruments, but I do think that we are going to continue with REDD-Plus. We'll continue with the World Bank Fund until we have evolved into a single instrument.

Q111 Barry Gardiner: Just to say I have been attacking your reputation but only really to test it. In fact three years ago I wrote something saying that we should be moving to a per capita basis and very much along the Indian lines in thinking on this that have been developed. Sorry, again going off on a slight tangent. In terms of global cap-and-trade, you mentioned the Australians earlier and, of course, they have gone for a different system. They have gone for

a tax system. How are we going to get those countries who have thought that a tax is a better way forward here brought into this cap-and-trade structure? They clearly thought very long and hard about it. There were huge political battles in Australia and, of course, there are advantages and disadvantages with both. You either have price certainty or you have emission certainty, but then you have uncertainty in relation to the other. How do we persuade countries who have taken that route to then switch horses?

Sir David King: I think that the carbon tax and the cap-and-trade go hand-in-hand very comfortably. The British Government, for example, putting a floor on the carbon price is a way of combining the two.

Barry Gardiner: I think that has been a disaster.

Q112 Chair: I am not sure it is.

Sir David King: Let me rephrase it in this way then. We are coming to the problem of embedded carbon, but as we negotiate with countries that are exporting from their country to us and with high carbon content goods one negotiation is to say, "If you have a carbon tax then we don't charge a border tax for those goods on the carbon content." That is simply another way of saying I think the two are interchangeable. In other words, the pricing of carbon can be achieved through a tax or it can be achieved through a cap-and-trade, and they are interchangeable at borders. We can have another argument about the floor.

Q113 Barry Gardiner: Just briefly on Annex 1 countries, in which China, India and Mexico are not currently included. Going forward, how do we deal with that? Do we need to bring those countries into Annex 1? Under the new structure will there be an Annex 1? How would you see that developing?

Sir David King: I believe the Annex 1/non-Annex 1 terminology is now completely out of date. We have the rapidly emerging powers that are now the basic group of countries plus a number of others. There has to be a time-dependent process. In other words, with all of these economies rapidly developing and joining the sort of level of economy that we have—and I say "joining" because ours are not growing at the moment—there has to be a redefinition. Now, I think that the redefinition can be done using the HDI, for example. I think the Annex 1/non-Annex 1 should be consigned to history.

Q114 Sir Robert Smith: The Institute of Mechanical Engineers last week were very keen on the idea of cap-and-trade and setting a price for carbon and they saw that incentivising machines being developed that would sequester carbon from the atmosphere—not CCS, but just from the atmosphere—as part of the trading process and sequester and store. They saw that as a technical balancing act to all those industries that don't lend themselves to direct capture. Do you see that as a technical evolution that is likely to develop?

Sir David King: The technology will not develop. If I may put it this way, if we cannot financially find a way of making carbon capture and storage off the top end of a coal-fired power station work, how on earth are we going to make it work with the much more dilute carbon dioxide in the general atmosphere? A

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power station at least has electricity to sell to pay for the process. There is nothing to pay for the process in the normal conceived process.

Q115 Sir Robert Smith: Apart from the fact that obviously they would then be able to sell the negative emissions.

Sir David King: Yes. The only finance that they can achieve is through the carbon dioxide commodity pricing. What I am saying is, if we are able to develop the technology around carbon capture and storage from a high concentration of carbon dioxide in the output of a coal-fired power station, that would be a major step forward. Let's focus on that. At 500 parts per million in the atmosphere, I don't see this as a feasible technology. By the way, trees do it rather better than—

Q116 Sir Robert Smith: They did argue trees don't store because they then die, fall down and rot.

Sir David King: Yes, we have to be very careful with trees. Managed forests are very good and we need to pursue managed forests in Africa. Where people are burning wood we need to see that there is regrowth rather than denuding of the land. So managed forests is close to a zero carbon. At the same time there is no question the forests of the Amazon and of the Congo are big carbon sinks, continuous big carbon sinks.

Q117 Chair: Just going back to the cap-and-trade, this Committee has done some work on consumption-based emissions reporting and, of course, that shows a rather alarmingly different picture as far as the UK is concerned from the figures on which DECC base most of their policies. One of our more hilarious sessions was with a DECC and DEFRA Minister sitting side by side because DEFRA use different figures from DECC. But it is a complication and you placed, I think very rightly, a lot of emphasis on equity and that is to get everyone to do something that has to be seen to be fair. Is this going to be an additional complication in trying to work out the basis for the global cap-and-trade that you have outlined?

Sir David King: I think the consumption-based approach is an alternative way of dealing with embedded carbon. In other words, if we deal with it at the point of consumption then we don't have a problem with embedded carbon. Embedded carbon, Chairman, has been left out of all of the Kyoto discussion to date and yet the reason why emissions have not dropped below business as usual, despite the successes of the European Union, is because we simply made up for it by importing goods largely from China.

Q118 Chair: Yes. In the period before a global cap-and-trade system could be established could we achieve significant progress simply through border tax adjustments?

Sir David King: Yes. I do think there are a number of advantages in border tax adjustments on embedded carbon. It becomes a negotiating tool. We can incentivise countries to introduce their own schemes. If we charge the border tax we benefit from that tax. It stays in Britain. The Chinese Government would

not like that and would rather impose a similar tax within China so that the tax is kept in China. So it incentivises countries to join in the carbon pricing process. I think that it is a practical instrument, but it is also a very good instrument to incentivise other countries to come on board.

Q119 Chair: I can see that argument absolutely, but earlier on you made reference, in relation to aviation, to the reaction of other countries outside the EU. I very strongly admire the European Union's determination to stick with this and I hope that they don't weaken in the face of continued opposition. I know that the aviation industry is a famously successful lobbying group anyway. The hostile reaction does not necessarily bode all that well to the reaction if we say, "Okay, we're going to have a border tax adjustment." You say, of course, that is an incentive, which is it, to other countries to deal with it more domestically, but there might be at least as great, or possibly even greater, hostile reaction in the early stages of trying to achieve this.

Sir David King: President Barroso has raised this with the Chinese Government, and it was seen to be a hostile act by the European Union simply to raise it in discussion. However, we do know that the Politburo has looked at this and its response is to move faster into its cap-and-trade carbon pricing process. I think we do see that the outcome is beneficial.

Q120 Dr Whitehead: Just briefly, you mentioned in your written evidence, "One clear opportunity is to remove subsidies on fossil fuels." That is a bit of a Jonathan Swift modest proposal, is it not?

Sir David King: Sorry?

Dr Whitehead: A Jonathan Swift modest proposal. As you said, there are \$409 billion of subsidies worldwide, largely in various countries relating, so it is claimed, to keep people out of fuel poverty or provide fuel at a reasonable cost. How would that work in terms of making a distinction between the carbon cost and avoiding civil unrest and keeping the population of those countries in reasonable fuel-cost comfort? Do you consider it doable, feasible, or would there be problems of civil unrest such as we have seen with the removal of food subsidies across the world?

Sir David King: The first point is to emphasise \$409 billion a year is the current level of carbon subsidies around the world, largely for coal. \$66 billion is the current estimate of global energy renewable subsidies. I am just putting in context the perverse subsidies, perverse in terms of dealing with climate change. Those subsidies are in place partly to meet fuel poverty but I would suggest that there is another reason, which is that they are simply there for historical reasons and they have become embedded in the process and then it is very difficult to lift. We have had a very brave and knowledgeable Minister in Nigeria trying to lift these subsidies in Nigeria and finding it very difficult to do so.

By the way, I said "subsidies largely for coal" but there are enormous indirect subsidies for oil. The countries in the Middle East subsidise oil in their own consumption, national consumption, very heavily. In other words, where the oil price is now \$112 per

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barrel, in those countries they are charging perhaps \$5 a barrel if you consume in-country. Now, given the cost of selling it abroad or selling it in-country, that is a very big subsidy and it is a perverse subsidy because it creates all sorts of dependencies in-country and there is no sense of changing behaviour. So while I think I do understand the fuel poverty issue, I always think fuel poverty has to be dealt with by different instruments than the blunt instrument of carbon subsidies.

Q121 Dr Whitehead: You mentioned Nigeria, and the big subsidisers are Iran, Russia, as you mentioned, Saudi Arabia, China. Could you envisage any sort of protocols where the fossil fuel subsidy is replaced by a renewables subsidy, for example, so the one scales up against the other by some kind of protocol means? I am finding this difficult to gasp in terms of what sort of instruments might be possible either on an international basis or a wider-than-national basis to enable this to happen in the context of how national Governments are dealing with, as you say, the embedded nature of those subsidies.

Sir David King: I think in a way this comes back to Dr Lee's question. How do we nationally incentivise our economies down this low-carbon route? We suffer terribly from inertia and the inertia comes not only in terms of human behaviour, that we don't want to change what we are so comfortable with. It also comes in infrastructure terms. We build a coal-fired power station. We expect to get a return on our capital for the next 40 years. So we have a major inertia problem. How do we break that trend? Governments can introduce subsidies.

So I think there is the justification for subsidies on all low-carbon energy sources, to just pump-prime the change required and incentivise the companies to finance that process. But we also have to be aware of these perverse subsidies arising when subsidies are introduced "never to be removed". The private sector wants to see long-term guarantees. They want to see that the subsidy remains in place forever and Governments need to just be aware of the fact that it is meant to be a pump-priming process. The economy of the countries you have just listed is improving all the time and to leave a subsidy in place forever is, therefore, unnecessary.

I know you are raising a very, very difficult question. It is a national question but the G20 countries have

now taken on board the whole issue of subsidies within their own countries. So the discussion among Heads of States about the importance of removing subsidies is itself an important way of going forward, but these are all national rather than international issues. It is national implementation of energy policy that we are talking about.

Q122 Sir Robert Smith: Yesterday we met with some financial institutions who were looking at Phillip Lee's point in a way and taking the example of France where they made the decision that they would try and decarbonise by going down the nuclear route with subsidies to avoid being exposed to the global oil market. The consequence was that when oil was cheap they were missing out and when oil was expensive it was the same. Because the rest of the world hadn't taken the same path, their export markets were all depressed. So they had gone down a different route but hadn't managed to decouple themselves from that.

Sir David King: We are now going back a long time. The French Government took a decision on nuclear new build. I don't think it is a coincidence that de Gaulle reached that decision at the time that Algeria was reaching independence. The question, therefore, of maintaining energy security for the country was very much at the top of the mind of the President, I think. 80% of their electricity is quite extreme coming from nuclear. I would not argue for that, but going down this massive programme of nuclear energy generation, I think, was very much in the mind of the President to create energy security rather than financial security, but it also delivers financial security in the sense of balance of payments. It is very, very important to understand that generating energy through internal processes doesn't impinge severely on balance of payments. In Britain we wouldn't have to import any uranium because we have stockpiled enough. We simply have to build the power stations.

Sir Robert Smith: Simply.

Sir David King: Yes.

Chair: Thank you very much for coming in; a very interesting session that has provoked some other possible lines of inquiry. We might want to talk to you again later in the year, but we are very grateful to you, as ever.

Tuesday 22 May 2012

Members present:

Mr Tim Yeo (Chair)

Dan Byles
Barry Gardiner
Ian Lavery
Dr Phillip Lee
Albert Owen

Christopher Pincher
John Robertson
Laura Sandys
Sir Robert Smith
Dr Alan Whitehead

Examination of Witnesses

Witnesses: **Professor Michael Jacobs**, Grantham Research Institute on Climate Change and the Environment, LSE, **Dr Robert Falkner**, Senior Lecturer in International Relations, Grantham Research Institute on Climate Change and the Environment, LSE, and **Professor Jouni Paavola**, Deputy Director, Centre for Climate Change Economics and Policy, Co-Director, Sustainability Research Institute, School of Earth and Environment, University of Leeds, gave evidence.

Q123 Chair: Good morning, and welcome to the Committee. As you know, we have already had a couple of sessions on this subject in public. Unless you want to, we don't need a formal introduction. We know who you are and why you are here.

Could I start with a fairly general question about what you think the main objective of the Doha negotiations should be? In any order.

Professor Jacobs: Shall I start?

Chair: Why not.

Professor Jacobs: You do know who I am, but I have an "s" on the end of my name, just for the record.

Chair: It is on my brief. You do have an "s" here. It is only the paper.

Professor Jacobs: The piece of paper wasn't long enough, clearly. Let me start. Chairman, thank you all very much for having us. Doha looks like it is not a significant COP. It follows a very significant one and these things come in cycles, but in fact at a technical level it is rather important. What was agreed at Durban was a new round of talks but not the completion of the old round of talks, and it is the completion of the old round of talks that is the most important outcome of Doha.

Since Bali we have had two tracks to the negotiations, the Kyoto Protocol track and the Long Term Co-operative Action track, and those two need to be terminated, in the rather brutal language of Durban, with the final decisions that will wrap up their work. In particular Kyoto needs to agree its second commitment period length, it needs to deal with the overhanging AAUs, the assigned amount units, which risk undermining the integrity of the scheme by including hot air, and it needs to finish the work on the accounting rules, particularly land use change and forestry.

So the Kyoto Protocol needs to be completed—that track, the track and negotiations—and similarly with the LCA track. But this is not a foregone conclusion by any means, and people following the negotiations currently going on in Bonn will see that there are a lot of games being played around completing these processes. That is the first big set of decisions that need to be made, which is that the two old tracks need to be wound up—and the creation then of the Durban platform and enhanced action.

The second principal set of decisions or second category of decisions that need to be made in Doha are to ensure that the institutions established at Cancun, and then developed a little bit further at Durban, are actually created and up and running. So, the Global Climate Fund needs to be properly instituted and capitalised, most importantly. The Standing Committee on Finance, the Adaptation Committee, the Technology Centre and Mechanism all need to be fully established and up and running. It will be two years after they were established. It will be quite a failure if those things are not up and running. The capitalisation of the GCF—the Green Climate Fund—is very important. Alongside capitalisation there needs to be some commitment from developed countries to bridging the finance gap between fast start finance, which is meant to end in 2012, and the long-term goal of the \$100 billion by 2020. At the moment there are no commitments, except from the British Government, beyond 2012, and that will be very important.

So, although this is all very technical and will be very difficult for the media to report, actually this is a COP with some quite significant decisions to make.

Professor Paavola: Michael has covered a lot of ground that I would have brought up as well, but maybe I would highlight that the new negotiations track will also be an important part of the negotiations. So the mandate that will be managing the negotiations and the timetable for progress in those negotiations will be an important aspect of Doha as well, in developing a stance towards the nature of the next agreement, whether it is a protocol or other vehicle for agreement.

Dr Falkner: I agree with what has been said. All I would like to add is perhaps the background to this, which is that this forthcoming COP is going to open up a new kind of approach to international climate negotiations. We have been in a transition phase, at least since Copenhagen. So, one can talk about this in terms of specific outcomes that will happen in Doha. One can also look at this as an example of this new approach that is based on a symmetry of commitment by developed and developing countries, by the established Kyoto Protocol parties and those that have stayed outside the Kyoto Protocol frame. In essence,

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what was achieved last year is to break through the old style model and to try something new, and in a sense the success of the forthcoming COP needs to be judged in terms of how it manages that transition and how it keeps us moving forward to a different kind of agreement. That agreement will be based on mitigation commitments, in whatever form, by all major emitters, and that key achievement of the last round—that all parties are now committed to negotiating an outcome, of whatever legal form, that includes commitments by all major emitters—is the key achievement that we have so far. We need to now work on this and develop this further. It is part of that transitional process and we need to, therefore, get some quite specific outcomes out of the next COP to make that work.

Q124 Chair: Do you want to say a word about the importance of strengthening MRV?

Dr Falkner: Sure. We have an agreement at Cancun to put in place certain rules on MRV. Monitoring, reporting and verification are important because they create transparency in the process. I would argue that we are unlikely to get firm and specific commitments to reduce emissions that are legally enforceable out of this process—and I have done this in the written evidence—but I don't think that in itself is a problem as long as we get specific commitments, even if they are not legally binding, even if they are voluntary. However, we do need transparency in the process so that we can then compare the various pledges that are made, so that we can then identify those countries that either live up to their pledges or not, so that we can then put pressure in the negotiations, but also outside political pressure, on those countries that are not living up to these pledges.

I think the MRV regime is a critical one because we will end up in the long run much more in a kind of naming and shaming game, politically speaking, than in a kind of a legal environment where countries make commitments that are then legally enforced. The very notion of enforcement is quite problematic in climate negotiations because, as Canada has demonstrated, you can commit to a legally binding agreement and then just walk away from it. So we are in a more political environment of inducing compliance or encouraging compliance. For that reason the MRV regime is, in my sense, the critical linchpin of that new political environment. We need clear rules. We need rules that allow comparability between the different pledges that are made. Ideally, that should be one accounting system, which it is not at the moment. On that front I think the next COP should make progress establishing those criteria, those systems for accounting, allowing a comparison of the different pledges.

Q125 Chair: Do you want to give us a bit of guidance on the differences between a protocol, a legal instrument, and an agreed outcome with legal force? For lay people like us, it is a bit—

Professor Jacobs: Yes. It is not actually that difficult, except the third one. The first two the lawyers more or less agree on—a new instrument would be an amendment to the convention, and an amendment to

the convention does not require unanimity. There are provisions in the convention for a three-quarters majority. They would prefer consensus. It is meant to be by consensus, but there is a way of doing this. An amendment to the convention is, therefore, probably the simplest legal form. A new protocol would be a new instrument, and to establish it would require unanimity, consensus, and it would have its own entry into force requirements and so on, which amendments would not. An agreement with legal force is the one that people are not clear about, and that was clearly the compromise wording that enabled the final conclusion of the Durban conference. It is assumed by most of the lawyers that I have talked to to mean something more than simply a set of COP decisions, which are regarded as too soft in international law, and therefore would be a set of binding decisions of some kind. So the third one is where there will be lots of creative legal work done as to the exact status, but the first two I think are fairly clear.

What is interesting about the current state of debate is that almost everybody has agreed that this is not the most important thing to do next, and that the exact form of any legal agreement to be concluded by 2015 is not the priority. The priority is closing the emissions gap, sorting the rules out—including MRV—and so on, and the exact legal form in a sense will fall out of the degree of ambition and commitment that countries find themselves in by the time they get to 2015. So, although this is a natural question to ask immediately after Durban, it is not the principal question that will form the concerns of negotiators. Almost everybody agrees on that. In a sense they have parked the language that we have and they will say, "Let's return to that when we're a bit clearer about whether we want to do anything at all".

Professor Paavola: To continue on that by taking what Michael said slightly differently, it is important to keep the protocol amendment in the bag of possibilities because, as Michael said, at the end of the day, closer to the crucial negotiations, we will see what is possible. If you now lower the ambitions you are unlikely to hike them up again. So all of the alternatives should be kept in mind, aiming high, while waiting to see what is possible.

Dr Falkner: Of course it comes down to a political deal in the end, which is if you have a high level of ambition with quite specific targets written into the agreement, that will lower the chances of having this agreed as a protocol that needs domestic ratification. If you end up with a weak agreement with unspecific commitments or low-level ambition, then that is more likely to be acceptable to the reluctant players in the game as legally binding. It will be part of the final trade-off, where countries will trade ambition with legality or legal strength of the agreement. For that reason it is imperative for the EU and the UK to demand, of course, a legally enforceable agreement until the last moment so as to be able to make that trade off.

Q126 Dan Byles: Is UNFCCC still the best mechanism for doing all this? Could one not argue that the fact that emissions have risen substantially

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since 1992, since this process began, is a sign of failure?

Dr Falkner: I think a Churchillian dictum comes to mind. It is pretty awful as a set of institutions and processes. We wouldn't probably create it from scratch the way it is today, but it has grown over 20 years. A lot of energy and time has been invested in it, and we simply don't have any alternative framework. Walking away from the UNFCCC would mean building up another process. We have alternatives, like the G8, G20, and the Major Economies Forum, which have no institutional underbelly. They have no means of implementing any agreement. So, while we have alternatives for political debate, we have no institutional framework to deliver. If the UNFCCC is criticised for not delivering fast enough, no alternative is in place or could be built in the timeframe that is required to replace it. In a sense, we are left with the worst of all outcomes but it is the only alternative on the table.

Q127 Dan Byles: Ultimately, isn't delivery down to domestic governments? Ultimately, delivery will not be provided by an international or intra-national structure.

Dr Falkner: Sure, I agree. But it is a constant up and down. You agree a target; you provide the financial means to implement it, particularly in developing countries. You then have to have the monitoring and reporting scheme to make sure the commitments are implemented, and so you constantly go back to the institutional framework that the UNFCCC provides in order to make sure that the domestic actions fit together and live up to the promises made. So I think that framework is important. It also generates political responses in the countries that are more reluctant. The constant need to report, and the constant need to account for, your action or lack of action is very important in that sense.

Professor Paavola: Continuing with part of your question, if you consider unilateral action by individual nations as an alternative to UNFCCC, the problem there would be that you would effectively jeopardise your competitiveness by pricing carbon in the domestic market, and you need assurances that others are going to reciprocate. The UNFCCC is, at the moment, the only mechanism that can ensure that some of that burden is shared, that others are facing the same sort of cost pressures to deal with greenhouse gas mitigation. That doesn't mean that we should only act under the UNFCCC. There are other fora, like G20, WTO, trade negotiation and so on, where you may perhaps remove barriers to making progress under the UNFCCC. One important issue, for example, is consumption-related greenhouse emissions. In the UK the Climate Change Act is going to be essential for delivering mitigation. In 20 or 30 years' time the majority of emissions are from consumption, not production, and the current policy instruments don't really give any leverage over that. So there is a need for looking at ways to expand the realm of activities that we collectively, internationally, are covering. That may mean that you need to act on a number of fronts in order to make progress on the UNFCCC.

Q128 Dan Byles: Is there an argument that trying to get 195 signatories to go along with everything is actually a dampening effect, and that agreement with a small number of the major emitters would have a much larger effect in a much shorter period of time?

Professor Jacobs: Perhaps I can answer this, because I think this goes to the nub of some of the issues that you are dealing with. There is a model, which is the Kyoto model, which remains in some people's heads about how climate policy is done, in which there is an international agreement whereby the global effort is carved out between countries. Then countries go away from the international negotiation and say, "Well, we now have to do this and then implement it", and that is not a bad description of how Kyoto worked. That is, very little had been done at national policy level before Kyoto was signed. Most national policy followed Kyoto and in a sense was then governed by the agreement that had been reached. That is no longer the case. Countries are now doing climate policy in a variety of different ways and at different levels of stringency. Those are national processes because they are highly economic, highly politically mediated, and so the effort to reduce emissions is national. It is not driven by the international negotiation.

You are absolutely right, if the tenor of your question is, "Isn't that where the effort should really be going?" That is where the effort actually is happening. The interesting question is what, then, is the relationship with the international level? There are two, I think. One is that there are rules that are created, for example about how you count a tonne of carbon, which are absolutely critical. If you can force countries, in a sense, to adopt a stringent and common set of international rules, that is a very good way of anchoring political decisions at domestic level in a real process.

The second one is there are huge pressures that could be brought to bear on national processes at the international level. There are some countries where those processes don't work very well, and the US is the outstanding case of a country that responds almost negatively to international pressures. But most countries in the world—and this certainly applies, for example, to China—do respond to international pressure. Therefore, although ultimately, the international agreement will be the sum total of domestic commitments, you can influence domestic commitments by what happens at the international level. Copenhagen is the classic example of this. We are all now familiar with the narrative about Copenhagen, which is that it was a terrible failure. Well, actually it wasn't a terrible failure because although the negotiations themselves were pretty disastrous, in the six months leading up to Copenhagen, knowing that there was going to be a big meeting and in the end a summit, all the major economies of the world set domestic climate policy commitments, and that is what they are enacting now. Insofar as China now has quite an active programme on this—Brazil, Indonesia, Mexico, Korea, they were all announced in that period because there was a big international conference. The process of mediation between the international level and the domestic national policy is very important. That is why the

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UNFCCC process, even if the negotiations are not really where the commitments are made, affects the commitments that countries make.

Then I suppose I would just add, everybody has been trying to find some other process because UNFCCC is so messy—195 countries. It is the only one with international legitimacy, and what we saw in Durban was the advantage of 195 countries, which is that it's the only forum that makes decisions of this kind. In all the other areas where it really matters, the numbers matter. The numbers, of course, are dominated by small, vulnerable countries who are the victims of climate change, and at Durban you saw the pressure that they could apply—almost a kind of moral pressure—on the big emitters, including India, China and the US, who in the end gave in to a group of countries led by Gambia, population 1.8 million, and Grenada, population 200,000, who were able to influence that. So, although it is messy and difficult—and in a way, wouldn't it be nice to carve it out as a club of the emitters?—I don't think you should underestimate the extent to which that process creates pressures on the big countries.

Q129 Dan Byles: Do you share Christian Aid's view that negotiating forums outside of the UNFCCC can leave out the core interests of the poor and vulnerable countries, as they put it?

Professor Jacobs: Yes, absolutely. I think that moral pressure does not have much impact, if we are honest, but it has some. I suppose the only other thing I would want to add is you need to be careful between negotiations and other things. UNFCCC is the only place you do negotiation, but you can do a hell of a lot with other forms of co-operation. Most of the effort now over the next three years will not be in negotiation, which is about the structures, the rules and so on, but in co-operation. Then you can absolutely get co-operative forums outside the UNFCCC. I think trade-based forums, development assistance-based forums, which don't need to be formal, which can be plurilateral rather than multilateral, are likely to generate considerable progress in getting emissions reductions in countries, but that is not where you negotiate.

Dr Falkner: Just one last addendum. I think it is fair to say that there are two levels at which we negotiate. One is the core deal on mitigation, which could be struck by a group of five countries if we look at the two-thirds of emissions—the EU, the US, China, India and Russia—or a group of 10 to 15 countries, if you go to 70%-plus of the emissions. That deal, the basic political deal, could be struck anywhere, in the G20, outside a major international conference. But to move from that political deal to something that becomes implementable, that becomes accountable, that becomes linked to, for example, carbon finance, to adaptation efforts and so on—for that you need to move it back to the UNFCCC framework, and there is no other mechanism to use. So I think we should be relaxed about where the core of the political deal is struck. To some extent the major emitters will want to ignore the moral voice of those countries that are neither causing the problem nor are going to play a big role in the mitigation effort. That is a fact of global

power politics, but it is still important to keep the link alive, and I think it would be a fatal flaw in the reform of the process if we allowed the two elements to disintegrate and drift apart.

Professor Paavola: I wanted to add one thing. I agree that it is important for those countries to be in the negotiations who are going to be impacted. It is a bit like having a case in court without having the victim who suffered the injury there. But if you look at the mitigation side only, developing countries at the moment are among the most energy inefficient countries, so per unit of GDP they use the most energy. Once they grow they are going to continue, roughly speaking, doing that. At the moment the least expensive mitigation alternatives are in developing countries, so if we globally want to reduce greenhouse gas emissions at reasonable cost, some of those original reductions are bound to be found from developing countries. It is inconceivable how you could do a deal making that possible if you don't have the potential hosts for those emission reductions involved in the negotiations.

Q130 Dan Byles: When Professor Sir David King was before us he advocated a global cap and trade system based on a per capita emissions target. What would your view be on that? Is that a feasible approach?

Professor Jacobs: I am sceptical about at least its short-term feasibility—and certainly a model that tries to do it from the top down to establish a global cap and trade regime. Cap and trade is actually on the way back slightly. Although the European scheme is struggling because of the oversupply of permits, Korea has just announced in the last month that it will introduce a cap and trade scheme, Australia within the last couple of months—and very interestingly China is piloting or is about to pilot, it is not quite there yet, the potential for emissions trading, and I think you have been there and talked with the pilot provinces. These steps are national, they are tentative, they are quite weak, and they could be linked. But linking between national schemes is quite difficult. You need to make sure that you have a link to comparable effort, otherwise you just transfer effort out of one tight scheme into a lax scheme. But it seems to me that cap and trade will develop in that way by developing out of national schemes that will then link with one another, where there is sufficient comparability of effort, rather than a theoretically very nice but rather impractical scheme in which you divide the global cake up per capita. You give countries emission allocations and then introduce a trading scheme. I don't personally think that is the way it is likely to happen, and I would not, therefore, put a lot of effort into trying to make it happen. But I think it isn't impossible that emissions trading could build from the bottom up as countries discover that to reduce emissions, it is useful to have a carbon price, and trading is one of the ways of doing it.

Professor Paavola: I very much agree with that. Carbon markets of various kinds will be playing an important role in the next 10, 20, 30 years in greenhouse gas mitigation, but they will not be the only solution that is needed. One reason, for example,

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is that if you look at the moment at activities that are incorporated into European emissions trading schemes, they are big sources that are relatively expensive to mitigate. If you look at the inexpensive sources in the UK they are in the residential sector, in land use-related things. These probably account for about half of UK emissions. If you then expand globally, the problem is that the transaction costs are preventing cap and trade on the least expensive emission reduction opportunities, so you do need other measures to deal with that.

But then again, we do have interesting and promising initiatives, like forest carbon markets. Carbon markets not only involve new activities but also allow the involvement of developing countries in mitigation efforts, and there is no great fuss about that. Many of them are quite eager to participate through that mechanism.

Q131 Sir Robert Smith: Presumably, you accept the UN Environment Programme's analysis that, to keep warming below a 2° increase, the current commitments are not enough—that we need stronger commitments.

Professor Paavola: Yes, I agree that definitely they are not sufficient.

Dr Falkner: I think we all agree on that now.

Q132 Sir Robert Smith: Can you see any obvious ways of closing the gap?

Professor Paavola: There are obvious steps that you have to take. Whether they are very easy to agree or implement is another thing. But just starting from the current Kyoto framework, we have important ungoverned sources of greenhouse gases, like aviation and marine bunker fuels and land use change-related emissions, that clearly do need to be covered as a matter of urgency. The other thing is that at the moment the domestic commitments are relatively modest, to put it bluntly. For example, the EU plan of 20%—it has pretty much achieved that already, so promising 20% isn't any kind of a promise really. Ratcheting up the ambition level to 30% might make very good economic sense in the current world of high energy prices. The cost-benefit ratio of mitigation improves all the time the higher the energy costs we are facing.

Dr Falkner: It is evident that the current pledges on the table are not enough. The process that will take us to 2015, by which time we want an agreement that can then be ratified by 2020, will not deliver the results in a timely fashion. So I think we can accept that almost as a given, but it doesn't mean that we have lost the race to save the planet. I think the dramatic language around the gap—"We'll miss the target"—is helpful in illustrating the urgency of the problem, but it is not as if the 2° target is a scientifically set target below which we are safe and above which we are doomed. This is just a rough indicator. We may find that 2° is safe enough or is not safe at all, and so I think what is helpful is to have a temperature target that can then be translated into emissions reduction targets, which can then be measured and compared.

Approaching this issue with that in mind I think is helpful because it shows us how we need to ratchet

up the level of ambition, but it is not a kind of, "Are we there or not? Have we lost the race or have we won it?" situation. It is an ongoing process and I think that is what has happened in the climate negotiations. We are beginning to turn this into a cumulative effort.

Professor Jacobs: There are a number of ways to close the gap. The first is that the gap itself has a gap. The gap is 6 to 11 gigatonnes by 2020, and the difference between 6 and 11 is the upper or lower end of the pledges that countries have given, which Robert has mentioned. So the EU question is whether it goes to 30% or not. As has been said, 20% is barely a pledge now, so we should certainly go to 30% and other countries the same. The accounting rules is the other thing that principally accounts for the gap in the range, and the rules need to be tight, not loose. Those are still under negotiation so that is very important.

Jouni has already mentioned aviation and maritime, which are outside the current framework. So that is absolutely crucial. There are other gases, and we need to do much more about short-lived forcers and HFCs, which are subject to different kinds of legal regimes. The Montreal Protocol, for example, still handles HFCs. But there is an enormous amount that could be done there. Methane is another. Those are shorter-lived, and they have different impacts on climate, but they are crucial and they could play a crucial role in this. This is something I think it would be very helpful for the Committee to focus on—what could be done with other gases, particularly HFCs and short-lived forcers.

The last thing to note, which is particularly interesting in relation to Doha, is that the current pledges—which is what makes up the basis of the calculation—only cover 75% of global emissions. The 25% of global emissions where there are no commitments so far belong largely to the Gulf States, one of which is hosting the COP. Therefore, I would very much like to see the countries that have not made pledges—which have considerable emissions of their own, and many of which are in the Gulf—make pledges of their own. That would seem to be an appropriate thing for Qatar to do for itself, and to gather its neighbours around doing.

Q133 Sir Robert Smith: Is the host more likely to make pledges, or is the host then more likely to try to make sure the pledges don't interfere?

Professor Jacobs: By and large, the way COPs work—and this is another way in which international pressure affects domestic policy—is that having a COP forces you to do more rather than less. We saw that South Africa made a lot of strides in the last six months at domestic policy level in order to have announcements to make to look good and so on. I would have hoped that a little bit of pressure could be applied through global civil society on Qatar to ensure that its reputation is not damaged by hosting a COP without having made the commitment itself.

Q134 Sir Robert Smith: Playing our part, what should our target be by 2020?

Professor Jacobs: The UK's target?

Sir Robert Smith: Yes.

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Professor Jacobs: The UK has a provisional commitment under an EU 30% to go to what would be the expected UK share, which is about a 40%—42% probably—reduction from 1990. I would imagine that if the EU did that we would be happy to follow suit. I do think it should be within the context of the EU. The priority is to make sure that the EU as a whole moves to 30%, and the economic rationale for doing so now is pretty strong. What will get it to 30% is investment. That investment is what the European economy needs now, for economic reasons as well as carbon reasons. The EU ETS desperately needs some allowances removed in order to shore up the price, and that would be a major part of achieving the 30%. So there are many, many arguments for Europe to do this irrespective, frankly, of what other countries are doing in carbon terms.

Q135 Sir Robert Smith: As well as the level, is there any idea of when emissions should peak if we are going to minimise the risk?

Professor Jacobs: The maths is pretty straightforward here. Emissions need to peak as early as possible, because the later they peak the more gases are emitted under the curve and the faster then the pace of reduction needs to be. There are technical and economic limits on the speed you can reduce emissions, even once you are on a downward trajectory, and the longer you leave it the faster that needs to be and it becomes more and more difficult to see how to do that.

Dr Falkner: It is often portrayed as a choice between cutting back now and therefore banking some early successes so that the later mitigation effort is somewhat reduced, or letting the economy and business-as-usual scenarios run their course and then hoping for some technological breakthrough later on that will make it easier. I am not sure whether that choice is all that relevant, because if we let, for example, business-as-usual emissions and investments run their course, we are going to lock in technology investment in infrastructure that will be around for the next 30 to 40 years—if you think of public infrastructure around transport, urban development, if you think about the lifetime of coal and oil and gas-fired power plants. Not trying to reach a peak early means we are going to make it so much more difficult for ourselves in the future to produce that sharp decline in emissions, which is why I think everyone who has looked at the economics, but also the technology side of this, argues we should make an effort now because the later mitigation effort will be reduced. But also there will be technological spin-offs that will make it easier later on.

Q136 Sir Robert Smith: We can achieve a peak before 2020?

Dr Falkner: We are probably not the right experts for that. I suspect, having looked at the literature, it is possible but it requires a massive effort around it, and of course the UK's contribution to the problem is fairly small.

Professor Paavola: The important issue here is that it is not only about technology and political will. The market forces will play a role. If you look at the

current situation we are in, most of you will be reading in the newspaper about new cars coming in offering 60, 80 miles per gallon; three, five years ago that was a third less. At the moment there is a favourable economic situation for greenhouse gas mitigation because energy prices are high. On the one hand the high energy prices do incentivise saving energy now as much as you can by all short-term measures, and it also incentivises investment in the right way. This is why long-term domestic policy and international commitments come into play. If you can fix those expectations, that this is going to prevail further into the future, you are encouraging longer term energy efficient greenhouse gas mitigating investments.

So the do-ability has a lot to do with the economic climate, and I think there are a variety of reasons—for example, stimulating the economy so that it grows—which kind of favour substantial mitigation commitments now as a way of having win/win outcomes.

Professor Jacobs: I don't know whether this point was behind the question or not, but it comes up with 2°, it comes up with peaking years and various other things, which is to take the dates or the thresholds that are now locked into the framing of the issue and then worry about binary achievement or failure, and of course it isn't binary. If we peak in 2021, that is a little bit worse than 2020 but it isn't an absolute disaster. Almost my political reluctance to say, "It looks unlikely now", is that if you then get into, "Oh, we've missed the targets; we've failed" and so on—the same with 2°, as Robert says. In itself, there is a 50% chance of reaching 2° or whatever. Media debate likes success and failure. It likes very stark things, and these are not stark. These are gradients. These are huge improbabilities and uncertainties and so on.

Q137 Sir Robert Smith: You must not give up trying just because you are going to be a day late?

Professor Jacobs: Precisely. The date 2020 is arbitrary, completely arbitrary. It could be 2019, it could be the beginning of 2020, or whatever. So let's not get binary here. Earlier is better, but later is better than much later.

Q138 Albert Owen: I have listened very carefully to your answers, and in particular, Professor Jacobs, when you said about Kyoto just being a framework and that everything now is national and we move forward. Isn't it time, therefore, to abandon the Kyoto principles and move forward to the Durban platform?

Professor Jacobs: Nearly time, yes. That is what the system, the negotiations in Durban, has now agreed. Kyoto was given a continuing life in return for the start of new negotiations, but that life is clearly limited. Although people are now trying to talk about third and fourth commitment periods of Kyoto, nobody seriously thinks there will be a third or fourth. The second is going to be the last one. Why was that important and why was that a deal worth striking? It was because the idea that you could institute a new set of negotiations to look towards a legally binding agreement, while simultaneously getting rid of the one that you already have, looked very strange to all those

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countries that claim to believe in—and many do—legally binding agreements. So I think that was a deal worth doing to say, “Because we believe in a legally binding agreement we will continue with the present one until we can replace it with another one”.

In practice, the second commitment period of Kyoto will not have very many countries in it, and it will have their weakest commitment. So Europe will inscribe its 20% not its 30%. If it goes to the 30% then it might put it into Kyoto, and that is not absolutely clear. The rules in Kyoto are quite important. A lot of time has been spent on establishing the rules on how you count emissions tonnes, on the trading arrangements, the Clean Development Mechanism and so on, and they are worth keeping. Again, having a period in which you didn’t have any of those and then try to recreate them in a subsequent deal would have been a mistake. So we should ensure that those rules stay in place. We should keep those mechanisms, but we should then move on to negotiating an agreement in which all countries are represented.

What is I think very striking about the world post-Durban is nobody thinks the Annex I/non Annex I distinction, which obviously is fundamental to Kyoto, will be maintained in a new agreement. There will not be a new agreement if that is the condition. Developed countries won’t sign it. Most of the developing world no longer believes in that in terms of the nature of commitments. So I think we are transitioning out of Kyoto, but it was important not to kill it before we had something else in place. I think, therefore, the result in Durban was about the right one in negotiating terms. The effort does need to transfer. As Robert said, we are transitioning from one to another and we need to get on to the transitioning process, but we still have to finish off the last regime.

Q139 Albert Owen: Any other comments?

Professor Paavola: Just to reiterate, yes, in a sense we have already decided to walk away from Kyoto but it does not mean that it will vanish now. It needs to be clarified and brought to a level of detail that will allow us to run that until the next agreement is in place, which is probably going to be nearer to 2020 or something like that. It needs to be agreed before, but will come into force later. So yes, we have kind of mentally walked away from it already but it will be the operational framework until the next agreement is in force.

Q140 Albert Owen: How important is that second commitment stage period if major emitters are opting out, and whom should the UK be concentrating on to try to get them on board?

Dr Falkner: I think it is pretty futile to get major emitters to sign on to Kyoto because three of the existing major emitters have already walked away. Canada has formally withdrawn, legally, which was within its rights, and Japan and Russia have already declared that they will not submit quantifiable targets under Kyoto. We could work on Japan and Russia but that would add very little to the environmental effectiveness of that agreement. As Michael said, it is politically important to keep it alive as we transition

to another agreement, and for that reason I think Kyoto has delivered some success. If you remember back in the late 1990s and early 2000s, if you go back to those years when Kyoto was agreed, the United States declared that they would not be bound by it—George Bush actually deliberately withdrew the signature of the United States—and it was unclear whether it would actually enter into force because the required ratification numbers weren’t there. So there was a time when people talked about the end of the UNFCCC and Kyoto process because Kyoto would fall apart, it would never enter into force and the whole process would collapse. The US was deliberately trying to shift the focus away from those negotiations, and China and India were very reluctant to make more commitments.

It could have all gone belly-up then. Instead, Kyoto entered into force in 2005. Emissions trading in the EU, which was largely inspired by the Kyoto protocol, was a resounding success politically speaking, because it is the biggest carbon market in the world. It is now being copied around the world from California to China. We are now in a phase where we are building on Kyoto to broaden out the agreement to include all major emitters. So in that sense I think we moved away from the, “Are you for or against Kyoto?” debate towards one of, “How can we build on it and broaden it out?” I think, just to echo Michael’s words, it is important to keep it alive. It won’t have a significant effect on actual emission reductions, but in that sense it was well worth the effort for that.

Q141 Albert Owen: Four of the G8 countries are now outside it. Isn’t that worrying? You said we could work with them—the UK could work with Russia and Japan, I think you said. In what way, conceivably?

Dr Falkner: The key reason they are outside is that Kyoto doesn’t impose any obligations on the rising emitters, China, India, Brazil, South Africa, Indonesia, so that kind of argument is no longer worth engaging in. I think we need to move beyond that Kyoto-style firewall and revive that effort. There is a good moral case to be made for developed countries to take the first step without developing countries taking on any commitments, but we are beyond that. So I think we can bury that argument and simply accept that the Durban Platform now provides us with a much more promising political framework agreement to negotiate something, whatever the outcome will be.

Q142 Albert Owen: Can I go back to temperature, and what in your opinion would happen if the UNFCCC assessment of the science concluded that we should aim for a 1.5° target and not a 2° target? You said it wasn’t—to use your words I think—the end of the world if we didn’t reach the 2° target, but what about setting it and having a clause in there reviewing it and looking at 1.5°?

Dr Falkner: I think there are scientific and political reasons to consider here. One is the debate about what is a safe warming threshold. I am not an expert on that, and I read that none of these matters are fully understood, or at least scientists continue to disagree over this. I think there is significant scientific opinion

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suggesting that the 2° target, as I think you are implying, is probably not safe enough. There are various feedback mechanisms in the global environment that will either accelerate warming or help us to decelerate it, depending on what happens with temperatures in the oceans with the melting of the icecaps. There are a lot of things that we can't predict carefully enough. For that reason, I think it is better to go to as low a warming target as possible.

So that is the scientific side, and I would not want to comment further on that, but politically we need a target, whatever it is. For that reason I am much more relaxed about 1.5° versus 2°, which allows us then to measure the gap that we were talking about earlier, in terms of emissions. For that reason, we need a target that is universally agreed and the 2° target is now universally agreed. So, yes, we can push for the 1.5° target, but I don't think it is going to give us more leverage in the negotiations. Some people would like to get there for symbolic reasons, but I don't think that is the key battle to be fought. It is good enough to have the 2° target, because it is going to be difficult enough to implement that.

Professor Jacobs: You said it is not the end of the world. Of course it is the end of the world.

Dr Falkner: It is a question of timelines.

Professor Jacobs: For the countries that are very low lying, 2° is the end of the world, and that is why they are in favour of 1.5°. We will not get rid of the number 1.5 for that reason—because for the very lowest lying, poorest countries, they literally go under, under the models at 2°, and they could not possibly subscribe to 2°. It is just politically impossible. So we will have that number around. The question is, is there much chance of that becoming the globally accepted number? I am afraid I think the answer is no, because it looks too difficult. In any case, you would have first to get to 2° and then try to get temperature down. In that sense it becomes a subsequent target to 2°, rather than an alternative to it, because we are now on a trajectory that is very likely to take us to 2° or above already. It will be very difficult to hold us within the 2° limit, because of the uncertainties of the models particularly.

So I don't think it is going away, for those political reasons, but we need to be very careful not to have targets that look as if they are impossible—where the politics and the science appear to be just diverging. Given how difficult 2° will be, I think that would be the risk and it is also the reason why major emitters won't accept it as the global goal. My own view is we should aim to keep temperature as low as possible. Then, if we find that the impacts are—as many scientists suspect—pretty terrible at 2°, we may well then want to try to take even further remedial measures to bring temperature back down again. That will take a long time.

Q143 Dr Whitehead: The position we appear to be in on legally binding agreements is a sort of Bishop Talleyrand outcome of, "Well, we will think about it but we will pursue it with no zeal". Is that an accurate description of where we are with legally binding agreements, or is there more to it? Could you perhaps expand a little on what the alternatives might look like

if legally binding agreements really are parked to the extent that is being suggested?

Professor Jacobs: I don't think the legal form in the end is the most critical issue, genuinely, because it is emissions reductions that are the most critical issue, and that is primarily determined by national policy. The legal form that countries are willing to agree with one another to embody their national commitments is not ultimately the determinant of whether emissions come down. It will strengthen national commitments, it will create confidence, it will create common rules, and it will make it more likely that commitments last from one administration to another. The big thing is, if you take on a legally binding commitment internationally, you can't then just renege on what your previous government did—or at least you can but it is harder, as we have seen with Canada.

There are good reasons to want it but I don't think we should think that is what will get the emission reductions. If a country doesn't want to enter into a legally binding agreement then that doesn't necessarily mean it is not going to reduce emissions. That is the current position, which is that many of the larger developing countries now have quite considerable commitments, but they don't want to enter into them legally. So the reason why I think that it is not unhelpful not to focus on that for the next two or three years is that what we really need to do is to get countries focused on how they reduce their emissions while developing, while taking people out of poverty and while achieving their economic goals. That is a conversation about the kinds of investments and the kinds of policies, the kind of trade arrangements there are between countries, and not about the legal form. It is really only after those discussions have gone on, domestically and internationally, that you will then come to see whether it is possible to bring countries close enough to one another to cement those commitments in a deal that consolidates and strengthens them and removes some of the risk of backsliding and so on, which is what a legal agreement does.

The first thing is it is not the most important thing. It is important and useful, but it is not the most important thing and of itself it doesn't reduce emissions. The second thing is I think there are varieties of legal bindingness. One option, for example, is an agreement that recognises the legal frameworks that countries have put in place domestically. The legal bindingness arises domestically but is then recognised in an international agreement. That is a different form in which countries could make agreements that are legally binding but which have a different kind of form. The treaty form, which is the classic form we have had of Kyoto, is unlikely to be replicated. We need considerable imagination regarding the form of agreement that achieves what a legally binding one is intended to do, which is to underpin the commitments, prevent backsliding and establish common rules, but which doesn't turn countries into conservative commitment makers—the point Robert made. The more there is compliance enforcement, the more punitive it looks, the more countries will have difficulty doing it because of sovereignty issues—which many of the

developing countries feel in particular—but also the more unwilling they will be to put strong commitments into it because of the consequences.

So I think we need to be very fluid and creative about the form that a legally binding agreement takes. That is why the wording in Durban is actually quite helpful, because it gives us time to think and reflect and create different structures.

Q144 Dr Whitehead: That formula probably semi-permanently excludes certain things that need to be done, which cannot be based on looking at national commitments and aggregating them up, such as aviation, such as shipping. Doesn't that put them permanently outside the possibility of any serious agreement?

Professor Jacobs: I think aviation and shipping will be done in the IMO and ICAO, because that is where countries have acknowledged the legal legitimacy lies, and then they will be brought inside the UNFCCC. So I think you will get a central agreement in those institutions, not perfect by any means, but you have to do the work where countries want to do it, and then they will be brought inside the agreement if that can be achieved. I think that is quite likely to happen with cap and trade as well.

One of the interesting things that is going on is seeing the UNFCCC as an umbrella under which other kinds of commitments that countries make together, as well as nationally, become broad—that it is a framework agreement that recognises different things occurring that are negotiated or agreed in different places.

Dr Falkner: I think that is what will make it easier to negotiate an agreement: if you park certain controversial issues like aviation or shipping and have them resolved in other multilateral forums. In some ways that is the way the World Trade Organization works, which is a very strong legally enforceable instrument to regulate trade. But on many issues, from food safety to environmental issues, it delegates authority to other multilateral forums that will set regulatory standards, and it simply says, “You go and sort it out. We'll leave that to you because you are more capable of doing so, and we will accept that authority”.

In a way, the whole climate negotiations need to be re-thought as a process of setting levels of ambitions, putting in place instruments that we use to deal with financing, with adaptation, with accounting, and then building on other elements that are being negotiated in other forums that all add up to, hopefully, one coherent climate regime complex. So it is going to be a bit messy, a bit muddled, but I think that is inevitable in this process. I think it is to be welcomed that we are doing this in a much more deliberate way now.

Q145 Dr Whitehead: How might annex classifications fit into that sort of arrangement, or re-classifications, should we say?

Dr Falkner: I am not sure.

Professor Jacobs: Do you mean Annex I or Annex II?

Dr Falkner: Could you explain what you mean?

Q146 Dr Whitehead: Because you have effectively parked legal agreement, do you also park annex classifications as a result?

Professor Paavola: If you follow Robert's reasoning that you break down the big challenge into smaller chunks to do with sector or other part-agreements, in a sense, when you negotiate under a different set of rules—say, IMO or whatever—you follow a different set of rules, so those classifications lose meaning when you would negotiate on aviation under another structure. I think the important thing about recognising the possibility of looking at building blocks is that you can incrementally make more progress. If certain things are not going forward you can make headway in some other forums. By reducing the magnitude of the challenge, it may become easier to force the commitment and also different countries, different blocs or annex lists have different power and vested interest in different areas, so it is not all happening under the same sort of weighting.

Professor Jacobs: I think the annex distinctions are going and there will not be an agreement if an attempt is made to maintain them. No developed country would sign an agreement now in which China did not take on very significant commitments of comparable legal standing. That is true also of the other major emerging economies, and they want to. We are in a very different world now from Bali, which is where the particular difference was enshrined. We were already in a different world in Copenhagen. The extraordinary thing that happened between Bali and Copenhagen was that in Bali, the developing countries insisted that they would not take on targets, they would not take on—in the jargon, QUELROS—the economy-wide emissions reductions targets that the developed countries had to take on. They would take on nationally appropriate mitigation actions only. We went through all the negotiations up to Copenhagen absolutely clear about that distinction. We were very happy, as developed countries, to run with that distinction. Actually, what did they in fact adopt? They adopted targets of various kinds, and that is because most of them had not worked out what the actions were that they needed to take, and it was easier to adopt a target in the end. So China adopted its emissions intensity target, Brazil adopted an emissions below BAU target, and so on.

We are no longer in a distinction between the kinds of commitments that countries will make. We are simply in a distinction between their strength, and developing countries will want to continue to have rising emissions that are lower than business as usual, and developed countries will have to take absolute cuts. But I think the distinctions are going and I cannot imagine an agreement in which they appear in the same way.

Q147 Dr Whitehead: So, dissolve of their own accord over a period of time?

Professor Jacobs: Yes, because the countries that need to dissolve their status are willing to do so. They want to make commitments because they want to take action on climate change. That is a big shift in the nature of the world. We are no longer in a world

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where they think it is all our responsibility and they don't really have responsibilities.

Q148 Dr Whitehead: Rio+20: any handle on that in terms of common sustainable development goals?

Dr Falkner: Expectations are reasonably low, so we can all go away from Rio with some modest level of success. I think there will be some discussion around setting new targets, sustainable development targets, which will be useful because they will integrate debates around climate and environment with development debates. There will be some talk about finance and institutional reform, but I don't think that for the purpose of this discussion there will be much coming out of Rio+20 that will signal any breakthroughs. If anything, I fear, because of the peculiar setting of the sustainable development debates in the Rio process, there will be a bit of pushback coming from some developing countries who do not want to see those kinds of sharp divisions that we have set up in climate change eroded. So I suspect that the linkage will not be that strong.

The one thing we have to remember is that when the UNFCCC was signed in 1992 the Cold War had come to an end; it seemed as if a new world order, as the American President promised, would be created, and it seemed as if we could be generous with the kind of commitments we all take on. I think most developed countries at that time did not quite foresee that those divisions between who will take action and who will not take action would persist for 20 years and beyond and that the balance of emissions would shift so dramatically, especially since 2000 when China and India's economic growth took off so spectacularly. So I think in a sense what we are doing here is correcting a historically unique position that was agreed in 1992 that would no longer be agreeable in the current climate.

Q149 Dr Whitehead: Although effectively the impetus towards a legally binding agreement has been parked—and we have discussed the reasons why that may be useful and appropriate right now—are we saying that 2015, four COPs to go, is still a reasonable point at which that issue might be revived; or is that really just decided on the basis of what happens as we go along?

Dr Falkner: As I tried to state quite unambiguously in the written evidence, if we mean by legally binding an agreement that has specific targets, that includes all major emitters and that is then legally binding in the sense that it is to be ratified domestically, if all three are to apply then my prediction is that we will not get that outcome for the simple reason that, if we start with the United States alone, domestically it will not be possible to write that into US law. They do not even have a domestic climate law, let alone an internationally imposed law. So, in a sense, the sequence in American politics has to be the other way round; domestic laws first and then agreement on international commitments. So I think that is off the table.

But, as Michael was saying, that is not a binary choice that we have. This would be the ideal, all-conclusive, all-powerful instrument. That is not what we are really

aiming for. We are aiming for a broad political agreement that all major emitters take on commitments. We are then going to try to make these as ambitious as possible and we are then going to try to ratchet up the bindingness of those agreements as far as we can. There may be some variation in terms of how binding they are with regard to developed and developing countries. There may be some clever legal ambiguity around the way in which they have to be or don't have to be ratified. So I think there is a lot of scope for making them yet tougher, but ultimately there will be a political agreement and that will require domestic support. I do not think we can force that domestic support through an internationally binding legal agreement. That is the fundamental crux in climate negotiations. It has to be based on domestic consensus to take those tough decisions. We can help that consensus along through international negotiations but only up to a point.

Professor Jacobs: Can I add something to the 2015 point, Chairman? I am rather glad we have found something we might disagree on, because we at least sounded as if we all agree and that is dull.

I think 2015 does need to be the year in which we nail an agreement, but not because it is necessarily the best year to do it. I am sure that it would be easier to do it a little bit later, although there are good reasons for 2015. China will at that point be thinking about its next five-year plan. We know that that is the basis of domestic policy in China, so for it to be thinking about that in the context of some of the international pressures that will come is useful. If Obama wins again, that is probably the best year he has to try to introduce something, and he has said he wants to. He has said that on the campaign trail, remarkably. The European Union will have a chance of raising its targets and so on, I think, in that period. So it is not a bad year; it could be quite a good year.

The reason why I think it is important is the Copenhagen effect, which is that you need a focus. You need to force countries to get to grips with this issue and you have to pick a year and say that is when we are going to do it. That is what I mean about using international processes to pressure domestic ones. That is what Copenhagen did and to some extent that is what each COP does, and we see this pressure applying as we approach a COP.

So I am in favour of saying let's make 2015 into a big year. It is high-risk because it might not work, and we might get there and find that we can't do it in the way we wanted to. We need to be careful not to set it up to fail, but my view is that countries need to be pressured to do this. Every country can find a reason to do less and not to do this, and I think you need that international pressure. So, personally, even accepting the prediction that Robert would make—I don't think we are only in the business of prediction; we are also trying to change the world, as a philosopher once famously put it—my view is that making 2015 into a date that matters is more likely to get countries to commit.

Professor Paavola: This brings us, I think, back to Doha. I think it is important to agree on the road map of how are we going to aim for 2015, because there is time to make 2015 a big year. If we want to have

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an ambitious agreement in force not that much later, we need to have a goal. We need to aim for that, and it is do-able if we start making incremental progress in the next COP later this year.

Q150 Christopher Pincher: Let's see if we can tease out some disagreement. My apologies for being a little bit late. If is any consolation, I was at a green energy seminar.

Can we talk about climate mitigation and adaptation finance? Professor Paavola, you have said that we need multiple solutions for climate finance rather than an overarching solution. But Sir David King takes the view that multiple instruments will create a bureaucracy and he favours an overarching global cap and trade system. So why is he wrong?

Professor Paavola: It depends what you mean by an overarching approach.

Christopher Pincher: I am simply quoting him.

Professor Paavola: Yes. Let's start from the current system. My interest is primarily on the adaptation side, where most of my research is focused. At the moment the adaptation finance structure is based on countries making voluntary pledges and then thinking whether they want to dispense with the money or not—and then they are not particularly willing to do that. The money is channelled through a few channels controlled by the World Bank and the GEF to the host countries, who are not authorised to undertake their own projects. They need to have agreed-upon implementation solutions in place. All of the money at the moment goes through to capacity building in the public sector and planning for adaptation.

Governments are not the actors that are going to adapt. Businesses, communities, local authorities, and households are going to do the adapting, and these entities that have to do the thing on the ground will have no access to this money. I can't see very easily how these channels, which are bureaucratic in nature because they have to create transparency, accountability and so on, would serve the financing needs of those actors who primarily have to adapt. So my view is that you do need to have a set of sources of funding, some of which can be donors giving funding bilaterally to recipient countries who are then allocating that to different adaptation projects. Some of it can be about carbon markets—say, forest carbon markets which are generating revenue to host communities—those who are managing projects, which can be used both for decarbonising activities, but also increasingly to weatherproof local livelihoods and activities on the ground.

The reason why I am promoting multiple solutions is that if you only opt for market solutions, you are then effectively risking the outcomes by exposing them to the market uncertainties. If you opt for top-down political structures, then they are subject to political uncertainties. In a sense, you have a more robust system if you build a mixture of solutions that source the funding from different origins and dispense that to different recipients on different grounds.

Dr Falkner: Just quickly on Sir David King's idea of a global emissions trading system, a global market, my suspicion is that he is not enough of an economist to understand what he is implying here. He seems to

think that this would be a low-level, not very intrusive way of dealing with the problem, as if a market would be created that would replace the need to regulate with top-heavy, top-down regulation.

What I think he misunderstands is that to create a global market in emission rights would require a massive effort to build up institutions, because what you are doing is effectively creating global property rights which do not exist in any other regulatory context, at least not on that scale. You would need to ensure that whoever buys a right to emit under a global scheme would be able to enforce that contract against countries that operate in a very different jurisdiction, in a different region altogether. So you would need a fully integrated regulatory environment that all major countries are subject to, with penalties if, for example, the contracts are not kept. That would be on a scale that would be unimaginable. No other global governance scheme exists of that size.

So I think Sir David King is perhaps labouring under the illusion that the global carbon market that he wants to create would be instead of the kind of regulatory framework we are talking about. As Michael was saying earlier, these emissions trading schemes are built up in the context of domestic legislation and then they are brought up to a regional level, as we have done in the EU, and then they can be linked up. But to do it the other way round, to impose it on a global level, would require an institutional support that does not exist. So I just think it is a non-starter.

Q151 Christopher Pincher: You are right to say that the EU has done its part and of course has stepped up and spent, in COP 15 for example, the amount of money that it was asked to spend of the \$30 billion of additional funding. Other industrialised countries have not done that. Professor Jacobs, you were saying earlier on that the thing that COPs do is make countries do more. Do you not think what they actually do is make countries commit to do more, and then the getting them to do so is a much more difficult process, as evidenced by COP 15 and COP 17, where I think, Dr Falkner, you said that there are concerns about the \$100 billion of funding coming forward?

Professor Jacobs: I would not disagree with your characterisation that it is easier to make pledges—and there is then a subsequent process of implementing the pledges, and the world of international aid is full of promises being made at international meetings which are then not followed through. So, you are absolutely right. The question I suppose I would say is, are you more likely to get the pledges, if they are not made at an international meeting, at all followed through? I don't think you would get them at all.

This could derail Doha, and indeed the next three years' negotiations, completely. If the developing countries basically look at what is being offered in financial terms from the developed world and say, "You are not making the commitments you promised earlier and that we are owed", the whole negotiating process could easily break down. This is very alarming because obviously we are in a world now where those pledges are very difficult to make at domestic level. The British Government, the coalition,

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I think has done very well to maintain those commitments that have been made by the previous Government, but many countries found the original commitments difficult and do not feel as if they have the political legitimacy at home to do it. But this is a disaster waiting to happen for the negotiating process because it just destroys the trust of the developing countries when the money does not flow. Of course, we are now at the end of the fast start finance period, so commitments need to be made for 2013, 2014 and 2015. Given that there is a target that was committed to, which is much higher by 2020, developing countries are expecting a trajectory. They are expecting to go from \$30 billion to \$100 billion in some kind of process. So this is a disaster waiting to happen now in the negotiations.

Q152 Christopher Pincher: On that trajectory to 2020, where are we in terms of the \$100 billion of spend? Do you have any estimate of how much money has come forward?

Professor Jacobs: I am not on top of the current figures for fast start finance. I think you rightly said that the European Union has maintained its commitment, which is good. Not all other countries have. I think the US probably has. Obama, I think, took it pretty seriously. It was a commitment that he made reluctantly in the run-up to Copenhagen, but did make. But I don't know about other countries.

The \$100 billion is still subject to definitional dispute because the language of \$100 billion in Copenhagen was public and private. There is no question but that the developing countries think it is all public or a little bit of private; and the developed countries, particularly the US, would like to think that much of it, if not most, is private. The private flows are potentially much bigger than that. So \$100 billion bears very little relationship to private flows of climate-relevant money, because once you start investing seriously in mitigation in developing countries you get well beyond those figures in fact. Clearly much mitigation expenditure, and a little bit of adaptation expenditure, is investment that has a lot of private motivation behind it and can certainly have more. So there are a lot of definitional disputes around this.

Unfortunately even if you said, "Let's say half and half", at the moment there is no trajectory from the \$10 billion in 2012 to even the \$50 billion—half and half—in 2020. There is no trajectory at all. This is dangerous for the negotiations, because it breeds terrible mistrust.

Q153 Christopher Pincher: If the funding is half and half, what can governments do using public money to unlock further private investment? Are there any mechanisms that governments can use to massively increase private money?

Professor Jacobs: They certainly can and they are beginning to do so. The British Government, again, is working reasonably hard to try to identify those kinds of methods. For example, using the multilateral development banks gives you a capital multiple so you have the call in capital and then they can borrow and lend more than that. What are also now being

designed are instruments that basically take some of the risk from a private investor and use public finance to cover a partial risk, which then means that you are more likely to attract the private investment. For example, the British Government has been working with the Asian Development Bank to develop the so-called CP3 partnership, which is an attempt to use public money to take some of the risk away from private investment and to attract it.

So those kinds of risk-mitigation measures, which include guarantees, co-investments and so on, look to be a very promising way to unleash the private investment that can go into productive investment in mitigation, and indeed some into adaptation. That is beginning to happen. There is a lot of work to do with the private finance institutions to get them to understand the different risks in different classes of assets in different sectors and different countries. But that work is beginning to be done and the UK Government, through its own International Climate Fund, is showing quite a lot of interest in that, which I think is very good.

Q154 Christopher Pincher: Earlier on in the evidence that you were giving you made the suggestion that the very complex, intricate negotiations and issues around aviation and shipping should be parked. Does that not dry up opportunities for finance from those particular sectors?

Dr Falkner: I don't think we meant 'parked' in the sense of 'stopped'—parked as part of the UNFCCC negotiations, as in removed from their fold and perhaps dealt with in another context, and that is where finance could be generated. I think it would be feasible to say that that should be counted as part of the commitment being made, and that is where I think a lot of creativity is needed to, in a sense, create incentives for the participants in these sectoral or regional schemes to generate extra funding streams.

Nick Stern recently went on record to point out that we should think about not just the north-south flows that will happen but the south-south flows. A lot of the finance to make climate mitigation and adaptation happen will arise in China and India and will be invested in China and India. One of the things we need to do is not get locked into the north-south debate again but think about how to create, for example, investment vehicles and banks in China, perhaps involving sovereign wealth funds too, that are willing to invest. Of course, that would not help us with the \$100 billion target necessarily, but it would have a much bigger impact in terms of size, in terms of where it is being invested.

But I think that is where much more creativity is needed to work out solutions where interested parties are willing to make the investment—for example, if the aviation industry can be offered a deal that includes all the major airlines, and that does not tilt the competitive field in favour of one or other region. That is exactly what is needed, to find the right group of actors that are willing to go for a collective action solution and then press them on that, rather than have the veto players that exist in all these sectors all come in on the big negotiations and gang up against the outcome. I think in finance as much as in negotiations,

it is about carving out those areas where solutions can be found.

Q155 Christopher Pincher: In terms of the balance between adaptation and mitigation, do you think the balance is right? Do you think enough funding goes into, for example, climate change adaptation?

Dr Falkner: I think the general wisdom is no, in the sense that adaptation has only arisen recently on the international agenda as a deserving recipient of funding. But we have now an adaptation fund and I think there is a wider recognition that that needs doing. Interestingly enough, a lot of adaptation efforts that have started up already are not that expensive. So it seems to me that in preparing societies for the onset of massive changes in terms of rising temperatures, rising sea levels, a lot can be done without massive investments initially. This is perhaps on a different scale in some parts of the world to what is needed at the mitigation level.

We have an ability here to link up with other policies that are on the way that are providing solutions. So I think the adaptation challenge is not an isolated one—nothing will happen without the funding flowing. It is something that can be done through other means, and I think that is where the two funding challenges are quite different. I think one can leverage a lot more funding on the adaptation front from other sources. Multilateral development banks are getting into that act very strongly.

Professor Paavola: If I can follow on from that. The adaptation and mitigation efforts are, economically speaking, different. You adapt and basically reap the benefits by yourself. Whether you are a business, a local community or nation state, you would undertake adaptation that is reducing your expected damages compared to “business as usual”. Then the question becomes one of finance. Here in Europe, and in the developed world in general, the financial sector exists and offers you sources of funding and if your business case is tight, you are all right. The problem that developing countries experience is that their financial sectors are not there and only the biggest corporations and actors can operate in those markets. This has to do with the availability of credit and availability of insurance, and in those contexts these kinds of market-driven solutions do not necessarily work as such. You need to think about something else. That is where the shortfall of adaptation funding at the moment is perhaps most acutely felt, and there is not an obvious way to overcome that.

Q156 Christopher Pincher: But what then can be done to encourage greater recognition of an investment in adaptation? Essentially, what you seem to be saying—and forgive me if I am putting words into your mouth—is that mitigation is essentially dead money, whereas adaptation from an investment point of view is live money because it can generate greater wealth.

Professor Paavola: It is not so black and white. My colleagues in Leeds have just looked at the costs and benefits of mitigating in city region scale in the UK, and their results are suggesting that basically you will get your money back at commercial rates in the space

of eight to 12 years from significant mitigation effort. So it is a money saver; it can leave you better off in the reasonably short term as well.

On the adaptation side, yes, there is an important possibility for not only adapting to climate change but improving your economic wellbeing, and this is what we can see in some of the development-related work. For example, when we look at soil degradation, land use-related initiatives that would climate-proof farmers in the developing world, they can at the same time reduce their exposure to risks and increase their incomes. The problem is that the capital to invest is not there, and there is not an obvious market solution for making that funding available. So, on the one hand you do need to have the money raised and channelled from somewhere; and on the other hand have access to that funding to actually do that. But there is a clear possibility for win-win, supporting development and climate proofing activities in the developing world.

Q157 Sir Robert Smith: One of the big sources of greenhouse gas emission is deforestation and forest degradation, estimated at something like 17%. The REDD-plus scheme is designed to try to tackle that. Reuters reported there were difficult decisions about REDD-plus finance being put off until COP 18. What are those difficult decisions?

Professor Paavola: They primarily have to do with measurement and monitoring issues—how you can establish the common baseline against which you are deeming how much carbon would be sequestered, or how much you can avoid emissions by undertaking a specific set of management activities. There are real problems in that area but the importance of REDD-plus should not be underestimated, because it is one of the important policy areas where the co-operation of developing country parties to the convention is going to be acquired, or not. Whether you get to a fully functioning system or whether you can make credible progress towards it is, I think, what the trade-offs really are about. So you should not, in a sense, park the whole thing if you can't come up with a fully functional solution to deal with those issues. Making progress, even it is just incremental and not taking you all the way there, is going to be helpful, if you have to negotiate on wide adoption of emission-reduction commitments and so on.

Q158 Sir Robert Smith: Are the barriers technical in the sense of understanding how you would measure, or are they more political in terms of where people would get the best advantage?

Professor Paavola: They are both. Forest ecosystems are quite varied. How they can store carbon, what kind of management activities will do what, vary from context to context and there is a relatively thin evidence base at the moment from all types of ecosystems. Then you have the accountability, transparency issues—if you have a scheme in place, can you trust that what is on paper is what you get in real life? That is not unique to REDD. If you look at the CDM scheme and how it operates, I don't think that we have a very clear account of how well it is functioning, but there is anecdotal evidence that suggests that there are problems in its functioning as

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well. But is that then to say that the whole scheme is not worth having? We need far more of an evidence base to say whether it is delivering, in the main, reasonable outcomes or not.

Q159 Dr Whitehead: You have cautioned against making the safeguards over-burdensome. What would be the downside? Any burden is obviously, by definition, a bad thing, I suppose.

Professor Paavola: It is one of these things. On paper you can mandate very strict processes, strict protocols, but in reality can you monitor whether those safeguards are implemented? So, on the one hand if you opt for very strict safeguards you are reducing the uptake in the scheme, and on the other hand you can't necessarily guarantee the enforceability, the enforcement and implementation of those safeguards. Finding something that is workable and generates reasonable outcomes is more important than having an optimal scheme that is not really delivering the goods.

Q160 Dr Whitehead: Does the UK have a role in getting this sorted? Is there some action we can take?

Professor Paavola: Yes. I think if you look at the Durban experience, the UK was capable of fostering alliances with BASIC countries and developing countries, and I think it is in a relatively good position at the moment to broker relationships within different groups of people and show goodwill by promoting directly related issues. It does also mean the availability of relatively inexpensive emission mitigation opportunities for British businesses and European businesses if the carbon markets are expanding to forests and so on, and related mitigation.

Q161 Dr Whitehead: Do you see the private funds that have been spoken about as playing a crucial role in delivering this becoming available?

Professor Paavola: Yes. At the moment the forest carbon market operates in the area of the voluntary carbon market, so if you decide to offset your flight, carbon emissions and what have you, some of that offsetting may end up in a forest-related mitigation project somewhere in Costa Rica or sub-Saharan Africa, or what have you. So this is a market that is already functioning. The question is, does it get the recognition and become formalised as part of the international effort to mitigate greenhouse gas emissions? If it does, it will mean increased financial flows and increased delivery of projects on the ground. The evidence today is that it is showing some promise.

Q162 Chair: Do you think the pattern of bringing in the big political hitters at the end of the COP meetings, when the presidents and prime ministers arrive for the last few days, is fit for purpose?

Professor Jacobs: The heads of governments in general have only done it once, which was Copenhagen. One or two heads of government turned up in Durban, but by and large it was the normal roster of environment ministers.

I don't think there is any question but that both the political skills and instincts that the politicians bring to bear, which the professional negotiators do not

have—they have neither the authority nor the motivation—make a huge difference at the end of COPs, and there is enormous progress made once the ministers start arriving. In a sense, the whole thing is set up so that there are various options that they then take charge of. A well managed COP—as Cancun was, and Durban I think one would say was well managed because in the end it was successful; I am trying to be careful—can use those ministerial few days to make the difference between a continuing logjam between the negotiators and some kind of outcome. So, yes, I think that is important.

You may have been shown an article that I wrote in *Nature* earlier this year. I have said that 2015 should not only be the focus year but there should be a summit that year, but I don't think it should be the UNFCCC COP. What a COP agrees, particularly at the end of a process, is a very complex piece of negotiated machinery, and I don't think heads of government are very good at that. It is not what they normally do. The extraordinary scenes in which I participated at Copenhagen in which the leaders negotiated the agreement opposite one another line by line was unprecedented and not to be repeated except in unusual circumstances.

So my view is that leaders ought to be addressing this issue. I don't think the kinds of momentous geopolitical issues that are involved here can be done without leaders, but I would do it in a separate summit in which the broad outlines, the broad levels of commitment of ambition, and the commitment to try to do a deal with one another were agreed at heads of government level at a summit and then the negotiators and the ministers were left to do the deal later. So I would split the two events. But I do think that the historical records show that when really big decisions are needed and when countries need to be pushed towards one another, you get that with the engagement of heads of government, and I think we will need another moment of that kind.

Q163 Chair: Do you think there is any prospect of getting the US ever to ratify an agreement on this?

Professor Jacobs: No. There is very little prospect but that does not mean that you can't have an agreement that it abides by. The interesting thing about international environmental treaties, and indeed in other areas—Robert knows this much better than I do—is that the US will abide by a treaty that it has been unable to ratify. Therefore, US ratification is not the final hurdle that we need to get over and you can have an agreement that the US does not ratify but does abide by.

Dr Falkner: I think it is now a fact that is widely recognised that the United States has not ratified a single environmental treaty of major consequence since the Rio earth summit in 1992. So if the US Senate decided to start ratifying environmental treaties it would probably choose some less demanding and less intrusive ones than the climate treaty that is to be negotiated.

I think it is a peculiar situation in the United States that the political leadership in the White House, the current one definitely but even a Romney-led administration, might be more willing to do a global

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deal but it is the domestic situation that prevents that from happening. On a number of occasions US administrations, together with business leaders, have advocated ratifying international treaties, because not being inside a treaty disadvantages the US in terms of being able to negotiate the further development of a regime or in terms of implementing it in the way they would like to do, and they have never managed to get around the Senate. There are some strong views among key Senators about the need to preserve American sovereignty and not let international treaties intrude on US policymaking, which is a somewhat ironic position for Senators to take, given the leadership the US provided in the post-war era in setting up the multilateral system and making it as strong as it is in a number of areas such as trade.

So, I believe that there is no way around that. However, that should not stop us from doing it. It would be just a fig leaf for inaction on our part if we took that as an excuse for not pushing for an international agreement. There are many ways around that problem.

Q164 Chair: Going back to the global cap and trade, which has come up once or twice—and I can see the difficulties about introducing a global scheme top-down—it is quite possible to envisage the self-interest of different countries gradually moving towards a situation where they want to link with other systems: Korea, Australia, maybe China in due course. The EU is well established; it is not yet cutting emissions, but at least the system operates. So you could see it building over perhaps a 10-year period quite effectively on an international basis. If that were to happen, it would then presumably become very much in the self-interest of the United States to join such an international scheme, if they had some of the biggest trading blocs in the world.

Professor Paavola: There are some reasons to suggest that they would be a major beneficiary from such an agreement because their economy is less carbon

efficient than the European one. If they had a trading system and it combined with the European one, the financial flows would be from Europe to the United States to undertake inexpensive mitigation activities there. So if that unification happened, they would clearly be beneficiaries of it.

Dr Falkner: I think the problem will be that when there are different national and regional trading systems in place, they will each have their own carbon price. They will each have their own rules as to whether there is a price floor or a price ceiling. So there is going to be some unevenness in the global system. The linking is attractive because it might help to even out these differences. It might create a more globally integrated carbon price. I think that is the main attraction. One could otherwise just leave each and every trading system on its own, and there would not be much of a problem with that.

The other problem we should bear in mind is that most emissions trading systems can only cover up to 50% of the emissions that are generated in that jurisdiction, because domestic households are not included, because land use changes are not covered, deforestation is not covered. So it can never be the sole instrument that we rely on in that context. A far preferable system would be carbon taxation on a global scale, but I don't think in the current climate this Committee would want to go down the route of advocating a UN-based global tax on all energy. However, economists tell us, at the LSE and elsewhere, that that would be far preferable because you would capture, apart from land use changes, virtually all forms of emissions in one big swoop.

Q165 Chair: You would still have the problem that you could not predict the elasticity of the response. We would pile the fuel tax on—

Dr Falkner: You would know the price but not the outcome in terms of emission reductions, yes.

Chair: Thank you very much. We have had a long session, but we are very grateful to you all.

Tuesday 3 July 2012

Members present:

Mr Tim Yeo (Chair)

Dan Byles
Barry Gardiner
Ian Lavery

Christopher Pincher
John Robertson
Sir Robert Smith

Examination of Witnesses

Witnesses: **Gregory Barker MP**, Minister of State, **Pete Betts**, Director, International Climate Change, and **David Capper**, Head, International Climate Policy & Finance Team, Department of Energy and Climate Change, gave evidence.

Q166 Chair: Good morning. Welcome. Thank you for coming in for this session. Could I start by asking a general question? What, in your view, is the main objective of the Doha negotiations this year?

Gregory Barker: Good morning, Mr Yeo. Good morning, Committee. If I could just introduce the two officials I have brought with me. I have brought Pete Betts, who is the Director of International Climate Change, and the Deputy Director, David Capper. Clearly we are on the path now to 2015. That is the main objective, which is perhaps a welcome change from the previous staggering from one COP to the next. There is a sense of longer-term perspective now. In terms of what we need to achieve at Doha, there is quite a lot; in particular, we need to fill the mitigation gap. There is still a significant gap between what we need to achieve and what we are able to achieve with the policies on the table.

In terms of the current status of the negotiations, it might be a good idea if Pete gave you an update, because he was at the Bonn intersessional, which Ministers do not attend. So he has his finger on the pulse in terms of the mood of the climate talks now and what we realistically might hope to achieve at Doha.

Pete Betts: As the Minister says, we are on a four-year timescale. The first thing we want to do is get some sense of a work plan in Doha for the next three or four years. Realistically, that is not going to be detailed but we want a sense that we have some sort of phasing for the work with perhaps a sense of when particular inputs might come in from outside, like the IPCC review, and some sense of what the process is and where the work will take place and who will chair it. That is the first thing we would like to do.

We were very pleased at Durban to have got a commitment to look at ambition pre-2020, so secondly we want to try to explore whether there are concrete actions that could be taken that contribute to narrowing that mitigation gap. I am happy to talk about those. We also want to further build on the architecture that we built in Cancun and Durban—the Green Fund, the Adaptation Committee, the Technology Committee and so on—and as part of that package we would carry on with our commitment to deliver a second commitment period of the Kyoto Protocol.

The Minister just referred to the latest official level negotiations in Bonn, which were a little bit disappointing, very slow, rather adversarial and had

some evidence of pushing back on what had been agreed, but probably that is the usual push back you get after a big meeting and is not to be taken too seriously.

Q167 Chair: How would you judge, from a British point of view, what constitutes success?

Gregory Barker: I think the success is 2015, whether or not we get the global agreement, and it is not going to be a straight line trajectory of incremental steps to get there. This year will be more about momentum and making sure that we are on a path and, as Pete said, agree on the work programme that is going to get there. If we don't have an agreed work programme at Doha that is sensible and can realistically get us to the point of an agreement in 2015 that would be a setback.

We also need to adopt a second commitment under the Kyoto Protocol to begin on 1 January 2013. I think that is probably going to be a very tangible outcome from Doha. We will also need to close the Ad Hoc Working Group on Long-term Co-operative Action, which will include agreement on the design of a new market mechanism, clarifying the 2020 pledges of developed and developing countries and finalising plans for review. While the big ask is to develop that work plan and to have a sense of momentum through to 2015, there are some meaningful things that need to be closed off at Doha as well.

Q168 Chair: It has been suggested to us that strengthening the MRV regime is an important element. What are you doing to try to help that?

Gregory Barker: David, do you want to say something about MRV?

David Capper: Yes. I think if you look at the outcome from Durban—the actual text that was agreed—a lot of that covered monitoring, reporting and verification. The big challenge for this year is to turn that into these common reporting tables, which will apply to developed and developing countries, and ensure that those reporting tables contain the information that we need to know how we are doing, are we on track, are countries putting in place policies that will deliver the kind of mitigation that we need, and also cover off other elements of the accounting regime so we understand people's pledges and what those mean in practice and, finally, also cover the finance that countries have committed and pledged so that that is fully transparent.

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Q169 Barry Gardiner: Since 1992 when the whole process on this convention track started, emissions have risen. Some would say that shows the process is a failing process. How do we square that off?

Gregory Barker: I think you have to look at it against what the emissions rises would look like if we didn't have the process, rather than just that there has been a rise in emissions. The UNFCCC is the best process that we have. We have to be very realistic—it has many faults, it has yet to deliver the robust agreement that many of us, certainly in the United Kingdom, would have liked to have seen in place by now, but there is no other forum that offers a better opportunity to secure agreement.

Q170 Barry Gardiner: Some people would suggest that the G8, the G20 and the Major Economies Forum are an appropriate way of trying to advance an agreement as well.

Gregory Barker: Some people do suggest that. That is not our view, and we are quite clear about that, not least because it is also the view of the largest emitters. There is no appetite for having a discussion of these issues, or a meaningful negotiation of these issues, in the G20 or any of these others, on the part of China or India or Brazil. I dare say the Americans, who set up the Major Economies Forum, might have a slightly different view. I don't know. We haven't tested it. But the bottom line is there is only one forum that currently is capable of bringing together all of the key parties who are vital participants in anything close to a global agreement and that is the UNFCCC. So it is certainly the least worst option.

Q171 Barry Gardiner: That brings me to the point. You mentioned the situation with China and them not wishing to negotiate outside of that process. There was real concern after the Bonn intersessional about the way in which the rhetoric coming out of the UK and the EU had impacted upon ongoing relations with China in that respect. While I am acutely aware that there was real frustration coming out of Bonn, it appears that the rhetoric that was used against China is certainly damaging to the ongoing wider relations and, in terms of looking at who else is dragging their feet, one could equally and perhaps with more justice have put that criticism to the US, Canada and Japan. The question is, how are we handling those long-term relations with China which are so crucial to getting a positive result at the end of the Durban platform in 2015 and going forward?

Gregory Barker: Certainly the bilateral engagement with China is absolutely crucial and we take that extremely seriously. You are absolutely right.

Q172 Barry Gardiner: But they are now talking not having those relationships with the UK, aren't they, Minister?

Gregory Barker: They are talking about not having those relationships?

Barry Gardiner: Yes. You know what has been said in conversations backwards and forwards and they were really angry about the way in which the EU and the UK seem to have, in their view, unfairly picked them out after Bonn.

Gregory Barker: Pete, do you want to comment on that?

Pete Betts: Yes. I negotiate for the European Union, so I am often the person speaking to the Chinese. Certainly I didn't say anything on the record about China. I know that the Commissioner did. We never criticise China for its domestic delivery. On the contrary, we always praise it and the Chinese are certainly doing a lot at home. I am very happy to put that on the record again now.

Barry Gardiner: That is helpful, thank you.

Pete Betts: What we did criticise them for in the course of negotiations was the way they used the process in Bonn to prevent progress: making very long interventions, reopening the Durban package, questioning almost every aspect of it at very great length and incurring the frustration not just of the EU but also of many developing countries. I think it is true that these tactics sometimes divert attention from what China is doing at home and it can make it harder for us to build the bridges that we have sought to build with China. The EU did have a full-day bilateral with China in the course of Bonn, which was very amicable and which I attended. It was disappointing that, in the negotiations themselves, they took a very legalistic and procedural approach.

Gregory Barker: We do need to see a greater unity of purpose. As Pete said, some things that China is doing domestically are outstanding and there is a great deal of ambition there, but it makes it all the more puzzling that often that ambition is not reflected in the international negotiations and so we would like to see a greater symmetry between action at home and ambition internationally.

Q173 Barry Gardiner: Minister, I agree with you there and I agree with what Mr Betts has said. I wonder, though, if sometimes we fail to focus equally on the shortcomings of countries like the United States and Canada and Japan in the way that we press home these issues, and that creates the impression, at least, of a disparity of treatment that can be damaging to the long-term strategic relationships that we need to be building. I do understand the individual frustrations of those meetings and when procedure is abused in the way that Mr Betts was talking about.

Gregory Barker: I think there may be something in your point, Mr Gardiner. We certainly are not overly harsh in our criticisms of the United States and others.

Barry Gardiner: Maybe you should be. Maybe we should start being a lot harsher in our criticisms of the United States.

Gregory Barker: That is a more sophisticated relationship than the one we have with China. I understand the point you are making, and these things are not black and white. There are shades of grey, and there are different factors behind them.

Q174 Barry Gardiner: I think the point has been made. Can I just finally ask a question. Professor King, who gave evidence to the Committee, advocated a global cap-and-trade system to reduce emissions. Can you just give us your views on that?

Gregory Barker: It is not exactly a new idea, is it? I did read that. I was rather under the impression that

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that is what we had all been trying to do for the last decade or more. Clearly a global cap-and-trade system is what we all aim for. That is the purpose—certainly so far as we are concerned—or the ultimate end game that we see for these negotiations, or at least one of the most desirable outcomes of the end game of these negotiations. The reality is we are a very long way from that. We are not a long way from it because nobody had thought of it or because it is not desirable, it is because it's bleedin' impossible in the current circumstances.

Barry Gardiner: Thank you very much.

Q175 Dan Byles: I don't think there is any disagreement that we are facing an emissions gap in terms of what we are likely to achieve and what the desired outcome is. You, yourself, Minister, referred to that in your opening statement. Many witnesses to our inquiry have said that, as a result of that, the EU should push ahead and set a target of 30% reduction by 2020. Do you agree with that?

Gregory Barker: Yes, we do, and the UK continues to be probably the most active advocate of a high level of ambition in Europe. My Department recognises that there are significant difficulties with that. We are not pushing at an open door, but nor do we believe that the door is completely bolted to that proposition either. Therefore, while we are not at fever pitch in our lobbying, there is significant discreet lobbying going on, both at official and ministerial level.

I was in Madrid last week to engage with the new Spanish Government there—a centre-right Government wrestling with a huge debt burden; a centre-right Government worried about economic growth; more than a few passing similarities there—and had a very clear message that we did not think that taking action on climate change and having a more ambitious carbon reduction policy was anti-growth. If anything, it would send that signal—given the state of the carbon market and the need to reinforce a long-term and attractive proposition for investment in low-carbon technology, particularly in specifically energy-generating technology—that 30% would be desirable and help bring stability and growth to the EU.

Q176 Dan Byles: Do we have allies across the EU in this goal? Who are our friends in this debate and who are we trying to convince?

Gregory Barker: Certainly the Germans and the Danes. I have a list somewhere.

Pete Betts: Denmark have a cross-government position in support of that, as do Belgium. The German Environment Ministry is certainly a strong supporter, but it is not yet a collective German position; although the German domestic target takes them beyond the German necessary contribution to 20%.

Q177 Dan Byles: So who are the sticking countries?

Gregory Barker: I don't think it is any secret that ultimately there are a number of countries who are concerned, but probably the biggest sticking point is the Poles. The Germans have been undertaking a degree of engagement. At the recent Bilateral

Ministerial at Lancaster House between the UK and Germany—I think that was last week—I had a bilateral meeting with the German Environment Minister and we compared notes on this. I don't think we are close to a breakthrough with the Poles, but this is an ongoing dialogue and we have by no means reached the end game. So we continue to step up our advocacy. The important thing is to consistently make the case that a high level of ambition on carbon emissions is entirely compatible with growth and deficit reduction.

David Capper: I think it is notable, when you are talking about who supports 30% and who is against it, to consider the three Environment Councils over the last year, which considered the low-carbon roadmap. This sets out milestones for 2020, 2030, 2040 and 2050, to the EU's goal for emission reductions by 2050. In those Environment Councils, 26 Member States have been prepared to recognise those milestones and welcome that roadmap from the European Commission, and it is Poland who has been the one who blocked Council conclusions in support of that roadmap. So I think that gives you a good indication.

Dan Byles: So the Minister needs to spend less time in Spain and more time in Poland, perhaps.

Gregory Barker: The Secretary of State has been very active in the EU, both on the telephone and at face-to-face meetings, on the 30% issue and remains very keen to pursue this. The former Secretary of State, Chris Huhne, was certainly very robust in the line that he took with the Poles.

Q178 Dan Byles: On a slightly different note, most of the attention is given to carbon dioxide but, of course, other gases such as methane and HFCs also cause climate change. What action are you doing to reduce emissions of gases other than CO₂?

Gregory Barker: Yes, you are absolutely right. They represent about 1.1% of historical greenhouse gases, but are growing fast and these emissions are expected to increase by 2020 to about 3%. In terms of what we are doing—in Doha we are going to continue to push for a COP decision for the UNFCCC to call for a phase-down of HFCs under the Montreal Protocol, which would help improve the chances of progress in the Montreal negotiations. When prioritising action on non-CO₂ emissions some thought must be given to the atmospheric properties, and hence the importance of action in different time periods, in delivering a 2° trajectory. This is an issue that scientists are currently looking into on the back of recent research on action on short-lived climate pollutants because CO₂ warms the atmosphere for around 100 years, but the different HFCs last 10 to 10,000 years, which is almost outside our comprehension, while methane lasts around 10 years and black carbon about a week. This is something that we are mindful of. It has not been forgotten, even though it is a relatively small part of the overall mix.

Pete Betts: Yes. We are looking at the HFCs, or hydrofluorocarbons, in respect of this gigatonne gap that you referred to earlier. We think that there is a good argument that probably the Montreal Protocol would be better at regulating some of these HFCs than

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the UNFCCC because it is well-adapted to dealing with particular gases where there are industrial solutions. We would be very keen to give the Montreal Protocol responsibility for regulating these gases. That has been resisted for many years by one or two countries, but we are hoping to give it a further push in Doha this year.

Q179 Dan Byles: Have you made any estimate of what sort of percentage reduction we would need or limits in the increase, rather than reduction?

Gregory Barker: The gigatonne gap is at best 6 gigatonnes. It may be bigger but it is at best 6 gigatonnes. We think effective action on HFCs could contribute around about half a gigatonne by 2020. So it is material, but it is not going to close the gap.

Q180 Dan Byles: Just before I hand on to my colleague, international aviation and marine transport emissions do often seem to be two of the elephants in the room. Are you going to recommend that they are brought into a new global agreement?

Gregory Barker: Where are we on the latest on those emissions?

Pete Betts: The EU has long been in favour, as the UK has, of regulating emissions globally from aviation and maritime. We pushed very hard for an agreement respectively in ICAO and the IMO and we will continue to do so. We would be very keen to get a further urging on those bodies to take action in Doha.

Q181 Dan Byles: How much support have you got?

Gregory Barker: I don't think we would say that we are confident. In the meantime, we do think, in the absence of international agreement, that we should support the use of regional-based mechanisms like the EU ETS.

Q182 Ian Lavery: Post-COP 17 in Durban the then Secretary of State for Energy, Chris Huhne, said that a global warming deal for all major economies is an absolute necessity and he went on to say, "No present international problem has been solved without a legally binding agreement. However, a global deal may be out of reach today but it still is our objective". There are a number of agreements that could be reached—a protocol, a legal instrument, an agreement outcome with legal force, and perhaps many others. What form would you like to see a global agreement take?

Pete Betts: We would ideally like a further Protocol under the Convention. We think it needs to be an internationally legally binding instrument. We think that instrument should contain commitments for all but in a way that respects common but differentiated responsibilities and respective capabilities; not in the way it has been interpreted in the past, which is a sort of binary "either you are developed and you have commitments or you are not developed and you don't", but that reflects more of a spectrum of responsibilities and capabilities with different kinds of targets and actions, but all legally binding.

Q183 Ian Lavery: Does it need to be legally binding, in your view, or is it just desirable?

Gregory Barker: We think it needs to be legally binding, and certainly it needs to be legally binding if you are going to have the end game of a global cap-and-trade system. It has to be something that has a basis in law. I would, however, say that if you step outside the UNFCCC process you do see a high level of ambition and interest in these issues. So it is important not to just see the solution exclusively in terms of legal architecture. We hosted the Clean Energy Ministerial in London a couple of months ago and it was very refreshing to see all of the key players in the global economy engaging in discussions about low-carbon technologies; showcasing what they are doing in their own economies, from China to the United States, in terms of investment in renewables, low-carbon infrastructure and sponsoring innovation. I don't want to give the impression that we are fixated on a legal structure for its own sake. There are lots of other avenues to be pursued alongside that, but ultimately, if we are going to have a response at the scale that is appropriate to the scale of the problem, it will require a global legal framework and a global framework that isn't like Kyoto that differentiates between developed and developing countries in a very binary way, but puts us all on the same page, accepting common but differentiated responsibilities.

Q184 Ian Lavery: There have been 17 COPs, 17 held already and there are four left.

Gregory Barker: Is that all?

Ian Lavery: That is all, there are four left. Within the four that are left, there is a need to secure some sort of legally-binding agreement. In your view, what needs to happen at Doha for a deal to be secured by 2015?

Gregory Barker: There are only four left? I didn't know that.

Ian Lavery: That is certainly what I am led to believe.

Gregory Barker: It is time-limited then?

Pete Betts: No, but we have a deadline of COP 21 to resolve it.

Gregory Barker: Right, okay. What do we need to do? As we said in the earlier questions, it is basically to agree the work programme that will allow us to agree to agree by 2015. Pete went into some detail on the practical difficulties that remain to do that, but basically it is having that work programme in place, primarily.

Q185 Ian Lavery: What are the specific milestones, do you think, for reaching a deal before 2015?

Pete Betts: We would envisage points by which we might receive input from organisations like the Intergovernmental Panel on Climate Change. We would envisage dates by which we might move to a negotiating text, for example. I guess the dynamic of the negotiations will tend to mean that the difficult discussions get concentrated into the last six months. What we are trying to do is build a shared understanding of what this agreement would look like, have an honest discussion about how you capture this notion of a spectrum of responsibilities, try to

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understand what countries' concerns are and see if we can see where the landing ground might lie. A lot of it is about a conversation to understand each other at this stage in the four-year cycle.

Q186 John Robertson: Should we abandon the Kyoto Protocol in favour of the Durban platform with its voluntary pledges to reduce emissions?

Gregory Barker: No, we don't think so. We do think that Kyoto 2 should run to 2020. We don't want any tailing off or have to have a short-term Kyoto 3. We do want KP2 to dovetail with the end game, which is a global treaty for all parties by 2020. Pete, do you want to add to that?

Pete Betts: No, I think you have said it. What we secured in Durban was a commitment that we would move towards a comprehensive global legal framework from 2020 and the price of that was that we, in the UK and the EU, would commit to a second commitment period of Kyoto in the years up to that time. I think if we were to back off that commitment to a second period of Kyoto the whole deal would probably unravel.

Q187 John Robertson: If you go for Kyoto 2, how effective will it be without some of the main players being part of it?

Gregory Barker: If we are really honest, it is not likely to be very effective, not least because based on current national positions it would only cover about 12% of the world's emissions. If you look at it, there are very few economies outside the EU that are expected to be impacted by this now. The reason it is important is because there is a huge iconic importance placed upon it by developing countries. In an ideal world, we would have moved straight to a new comprehensive agreement. That would have been our preferred way forward.

Q188 John Robertson: Minister, are the developing countries not happy with it, because they are not really governed by it, are they? I mean, it is basically a waste of time, then.

Gregory Barker: It is not a waste of time if it gets us through to a comprehensive treaty in 2020. The fact of the matter is, in negotiations it is not just about what you want, it is what is important to your counterpart. The fact of the matter is, whatever we may think about the effectiveness of the Kyoto Protocol or the second period of the Kyoto Protocol, as a vehicle for ambitious carbon emission reduction, the reality is, as a political device to show goodwill and show good faith on the part of progressive nations and blocs like the EU, it was absolutely vital. It is a stepping stone to achieving that comprehensive treaty that must do the business in terms of carbon reduction.

Q189 John Robertson: Would that not be a good reason for going down the voluntary road, working on the premise that people are more likely to get involved if it is done voluntarily?

Gregory Barker: They are not mutually exclusive. There is a lot of voluntary action going on—or at least unilateral action—that is not tied to Kyoto Protocol; if you look at some of the things that are happening

in the United States of America, for example. While it is easy to be depressed when you look to the US, there are things that are happening there in terms of carbon mitigation. There are things that are happening in China that are outside the scope of KP2, but are certainly encouraging. I have seen them in India and so on. These things are not mutually exclusive, but I don't think any observer, or certainly any participant, within the UNFCCC would honestly say that doing away with KP2 was a realistic option if one was still hoping to achieve a comprehensive global agreement.

Q190 John Robertson: Would it be fair to say that you would not be in favour of changing the target of 2°C to 1.5°?

Gregory Barker: No, that isn't the current position of HMG. We appreciate that 2° is extremely challenging, but at the moment we think the best of use of our efforts and that which is both politically and economically feasible in the current circumstances is that we should continue to marshal our efforts around 2°.

Q191 John Robertson: Just come back to what we were saying about trying to get other countries involved and other countries are doing it voluntarily. What countries are you trying to put—"pressure" is probably not the right word; shall we say, your diplomatic powers, to try to bring them on board?

Gregory Barker: We are doing more than just using our diplomatic powers. We are using our £2.9 billion International Climate Fund. We are using very significant financial and industrial engagement. Certainly, if you look at our relationship with the major emitters like India, and if you look at the smaller emitters in sub-Saharan Africa or South America, and look at what we are doing with Asian economies, there is not just a diplomatic offensive engagement, we are deploying our International Climate Fund.

We are also encouraging the use of private sector finance and driving, through the Capital Markets Climate Initiative, a much greater degree and a much greater focus of private sector investment in these markets, particularly into climate mitigation projects, primarily renewable energy and energy efficiency, much greater than would be in the "business as usual" case. It is still early days, but I think the UK is emerging as the global champion of viable, scalable, private sector finance models. We think that is probably our most unique contribution to what you would call, Mr Robertson, the voluntary side of things. We certainly see that there is huge potential, because of the strong economic and business case, for scaling up private-sector finance in a way that makes a useful contribution to achieving our wider goals.

Q192 John Robertson: Professor Michael Jacobs suggested that, with the COP happening in Doha, Qatar, it would be appropriate for Qatar and other Gulf States to make pledges. How can the UK encourage this?

Gregory Barker: We are doing that. I, myself, am planning to go to the region ahead of the COP. I am both engaged in a diplomatic—I am trying to think of

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a better word than “offensive”—engagement programme, but also talking to them about the big economic opportunities. These are some of the world’s largest sovereign wealth funds, some of the world’s largest investors. My priority for Doha is to engage with these nations about the economic and financial opportunities there are for them—not just in their own economies—to exercise responsibly their role as global citizens, and also point out the fact that they can make a lot of money in the longer term from investing in low-carbon transition technologies. I expect to lead a UK trade mission, combining both financiers and an industrial supply chain, to the region in the autumn ahead of that to demonstrate what we are doing in the UK by example, but also to help the low-carbon sector here get a piece of this growing global sector.

Q193 John Robertson: That is obviously one to keep an eye on. Several Central and Eastern European countries hold surplus assigned amounts of units, AAUs, of emissions from the first commitment period. What is the UK going to do to prevent these from being carried over?

Gregory Barker: If the entire surplus is banked and used in the second commitment period it would seriously undermine the integrity of the 2020 targets that we agreed in Copenhagen and Cancun. However, under current EU legislation, the EU target will remain untouched even if all AAUs are carried over because the EU climate and energy package doesn’t allow the use of AAUs to meet EU targets. The UK is actively seeking a solution on the carry-over and use of AAUs in the second commitment period that will maintain an ambitious level of environmental integrity, but also preserve incentives for over-achievement. There are several ways that this could be done, a straightforward restriction on banking of AAUs to restrictions on use to meet international commitments, and we are currently working with other countries to explore these options to try to find a workable solution. It is something that we are very live to. I don’t know if Pete or David would like to add to that.

David Capper: There are a number of proposals on the negotiating table, from the Small Island States, from the Africa Group, from Brazil, that are looking at different ways in which you could do this, as the Minister has described. So you can restrict carry-over or you could restrict the use of those AAUs within the period or you could do something with what happens to the AAUs at the end of the period. All these proposals have different variants on those themes.

Q194 John Robertson: You give advice. What one would you do?

David Capper: We negotiate as the EU. One of the issues for the EU is that, of course, some of the countries that do have these large surpluses are within the EU. So the EU has taken an approach so far that is based around observing other people’s proposals and treating them according to certain principles. One of those principles and the one that is most important to us is the one of environmental integrity, but there are other principles as well such as AAUs will be treated

the same way for parties outside the EU as well as within the EU and that will preserve incentives for over-achievement. I think it is clear from what the Minister said that environment integrity is very important to us. So what we want to do is to limit that carry-over, because, clearly, if that carry-over was all used in the second commitment period it would add to this gigatonne gap that we have been talking about. One of our main priorities is to try to close that gigatonne gap.

Q195 Chair: Just going back to the period up to 2020, we certainly had witnesses saying, and I am sure we all agree, that what we do between now and 2020 is quite important in terms of the long-term impact on concentrations and, therefore, temperature. Your own evidence said it was a priority to build “momentum to enhance mitigation and ambition in the immediate future”. Can you tell us exactly what steps you are taking to build mitigation and ambition in the next eight years?

Gregory Barker: Internationally?

Chair: Yes.

Pete Betts: We have said that we think it is unlikely that the big economies are going to change their pledges this year. There is a chance that there may be a political window in 2013 to 2015 with new leadership in some of the big economies and maybe the EU might raise its ambition, but it is not going to happen this year. That is not a view that is popular with our friends in the Small Island States, but we think it is realistic. So we are trying to focus, for this year, on actions that could realistically make a difference. There are countries representing around 20% of global emissions who have not pledged yet. Some of them are middle-sized economies. If they were to pledge then that could make a contribution.

One of the Members just referred to Qatar and it is possible that Qatar might make a pledge. That would not be big in absolute terms, but it would be a big signal and if others followed that would be valuable. We are trying to re-energise the REDD debate. It is quite clear that, although some would say not enough money has been pledged to tackle REDD, a lot of the money that has been pledged has not been spent yet and there are big barriers to spending it. If we could unlock that, that could make a difference.

If we could send HFCs to the Montreal Protocol, I think the Montreal Protocol has proven it is quite effective at regulating those kinds of gases. If we could deliver the public finance effectively that is there, it could deliver more tonnes and we have done some work on the numbers. The Minister has referred to private finance. A lot of the investments we need to make are cost-effective now, but there are barriers that mean that private capital is not flowing. The Minister has done a lot of work on this, if we could find ways of overcoming those barriers. We have done a vast amount of work on trying to identify these options and we had a meeting with some of our EU partners to look at who could try to drive some of these actions over the next months, and I know the Americans are also doing similar kind of thinking in a MEF context.

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Q196 Chair: We all understand the difficulty of making progress quickly. This is a super-tanker that is trying to turn the wheel a bit. Realistically, do you think that—we have new leadership coming in in China and we may or may not have new leadership in the US and, even if we did—that it would take us rapidly in a green direction. There are quite large obstacles to making tangible progress. Is that a fair assessment?

Pete Betts: Yes.

Gregory Barker: Absolutely. If the Committee has some insight that we have missed on that we would be only too pleased to have it, but I have to say that there is no sign of a change in leadership direction in the USA. It remains problematic.

Chair: Barry, did you want to say anything?

Q197 Barry Gardiner: The one country that has not been mentioned, of course, is Russia. Whereas Russia with its stock of hot air was a focus early on for American intransigence, it has fallen out of the consideration in the normal dialogue that we now have around what is possible. Is that because people do not see much as being possible, or are there opportunities that we are just not thinking of with Russia to try to progress?

Gregory Barker: Russia is slightly more interesting. The hands of the President in the USA are tied, in large part, by Congress and, whichever way you roll the dice, it is difficult to anticipate a scenario in which you are going to see a big game-changing event post the general election in America this year. In Russia, I don't think anyone would accuse President Putin of having his hands tied by the Duma. The fact of the matter is the Russians have, on one hand, shown themselves to be quite belligerent at times, but at other times capable of quite breath-taking flexibility. I think it is worth engaging and maybe we should engage more with Russia. They are a very important country, one I know quite well having worked there years ago, and I would not underestimate their own very clear view of these negotiations and their own entrenched interests in the economy and how they perceive those to be impacted by the UNFCCC negotiations. I think more engagement would probably be a good thing.

Pete Betts: If I may add, it is clear that climate change is not politically a high priority for Russia, but, for example, they do have massive fugitive emissions from their gas transmission network, probably greater than total UK emissions. It would be hugely to their benefit to control these emissions. There have been conversations about how best to engage with Russia, and I think it is important to find the right interlocutor to work with the Russians on that.

Chair: Unfortunately, the truth is that, as a country Russia does not suffer from an increase, in fact in some ways it benefits from it.

Q198 Sir Robert Smith: Minister, you have already touched on the financing debate, and a key part of Durban was financing and mitigation and adaptation in developing countries. We have had witnesses talk about the multiple rather than the overarching solution for climate finance as a priority and others saying we need to get rid of the confusion of so many multiple

sources of finance. Do you favour the multiple solutions or do you think this is overly complex and bureaucratic?

Gregory Barker: I am not exactly sure what you mean by "multiple", but I think—

Sir Robert Smith: There is the Green Climate Fund, the Adaptation Fund, and the Special Climate Change Fund.

Gregory Barker: Yes. Basically, I tend to believe that more is more. We don't want a complicated institutional architecture and it may be that there is scope within the UNFCCC framework to have a more streamlined approach. We have been supporting the Green Climate Fund and I think that will offer an opportunity to streamline some of the arrangements under the UNFCCC. Ultimately, we need more participants, but those participants need to come primarily from the private sector or to be mobilised from other nation states—I mean the Gulf we mentioned earlier. If we could encourage the formation of new funds, for example, that might work with or participate in the Green Climate Fund but effectively bring new participants to the party, alongside the International Climate Fund, alongside the likes of KfW, the Norwegians, that would be great. As well, of course, continuing to support the work of the multilateral institutions.

Q199 Sir Robert Smith: We have committed £2.9 billion through three Departments, and I think you are responsible for £1 billion of that. Do you have a strategy for allocating that £1 billion?

Gregory Barker: We do indeed, and we are making good progress on implementing that strategy. David, perhaps you would like to say a bit about that?

David Capper: Yes. First, it is important to say, as you rightly point out, that the money is governed between three Departments and three Secretaries of State, plus the Treasury. For the money that sits on the DECC budget, which we manage collectively with the other Departments, given the focus of our expertise, unsurprisingly, we see big opportunities in energy, as the Minister said, in renewables and also in energy efficiency. I think we have been thinking quite hard about how we develop an investment strategy that makes this money as effective as possible, which gets the best results for developing countries but also for the climate.

Clearly, one of the big barriers is how we get more private money into this space—and the Minister was talking about this earlier—through the Capital Markets Climate Initiative. It seems to us that there are a lot of things that should be happening, that the markets should be doing, but there are, for example, non-price barriers to these. Therefore, there is the question of whether we can use our money in a strategic way that unlocks the private money by helping to overcome these non-price barriers and thereby gets the investment into renewables and into energy efficiency. These are generally interventions that are fairly low down the cost curve.

We also think there is a case for complementing this with investments in some of the technologies that we know from, for example, the IEA that we need for 2°, but we are not on track for global deployment. So

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things like concentrated solar power, CCS, and other ways in which these kinds of technologies, which are higher up the cost curve, are the things that we can do with our climate finance that help bring those closer to market and make a contribution to getting those technologies more on track where we want them to be.

Q200 Sir Robert Smith: Is that something maybe you could expand on in writing, or is it still early days in setting those tasks?

Gregory Barker: We would be very happy to give you a breakdown, perhaps by technology and by each element of our strategy geographically. We will write to the Committee, Mr Smith. One point I would make about unlocking private finance: it is a two-way street; it is not just about mobilising institutions in the City of London or repurposing the banks and the big investors, it is also about making recipient economies aware that they have a responsibility to make their economies more receptive through strong governance, bringing down political barriers or certain things that give rise to commercial uncertainty, and that we are engaged in a process to help them understand the things that they can do to maximise their attractiveness to private sector investment.

Q201 Sir Robert Smith: The unlocking of the private finance is not so much a matched funding or anything like that. It is using the funds to resource the bureaucratic barriers to that private finance?

Gregory Barker: No, there is matched funding in there. We have used the International Climate Fund in certain ways in order to get leverage. Our chosen form of investment is where we can use our ICF and, by deploying it, unlock additional funds from the private sector. That is not always possible. There are projects that will never attract private sector investment, take certain adaptation projects for example, but if you are talking about energy projects invariably there is some way, smartly designed, that you can open the door to private sector investment, which allows your ICF money to go that much further.

Q202 Sir Robert Smith: Also in your memorandum you talked about the UK making additional voluntary contributions. I wondered how you assessed that.

Pete Betts: This was based on—

Sir Robert Smith: UNFCCC.

Pete Betts: The ICF is about spending money in developing countries. The payments to the UNFCCC we typically give to support developing countries to participate in negotiations or to fund specific additional activities that have been committed to by countries at the COP.

Gregory Barker: By and large, I am right in saying that this is a relatively small amount of money.

Sir Robert Smith: But it unlocks, again, their participation.

Gregory Barker: Yes, exactly. In the context of our separate near £3 billion pot, yes, this is a very small amount of enabling fund.

Pete Betts: Which we have sought to reduce in recent years.

Gregory Barker: Yes.

Q203 Sir Robert Smith: On the future funding, you touched on aviation and shipping and there has been quite a lot of lobbying that the EU ETS revenues should be used towards international climate finance. Do DECC have a view on that sort of lobbying?

Gregory Barker: I think it is more the Treasury have a view on that.

Sir Robert Smith: Unfortunately, Treasury no longer wish to talk to this Committee. So they have delegated that power to DECC.

Gregory Barker: I can't think why.

Sir Robert Smith: There is a spectrum of views perhaps.

Gregory Barker: I think that is a very good way of putting it.

Q204 Dan Byles: The Treasury specifically said you would be able to answer any questions we had. They said that in writing. They said that all decisions are joint decisions by Government and that DECC can answer any questions we put to them on these matters.

Gregory Barker: We will have a go.

Chair: They have even refused to answer questions in writing.

Gregory Barker: Did they send it to the right address?

Chair: We had a reply.

Sir Robert Smith: We got the refusal.

Q205 Christopher Pincher: Apparently you have a comprehensive and constructive relationship on energy?

Gregory Barker: We do. That's absolutely right.

Q206 Sir Robert Smith: There are a range of views on the EU ETS. How do you see the potential for a new source of revenue coming from a global levy on aviation and shipping and that being allocated to climate change?

Gregory Barker: To be deadly serious, the fact of the matter is when we came into power as a Coalition the forecast revenues for the ETS were already spent. This was not a decision of this Coalition. They were already in the Red Book and had been spent. Initially, in opposition, there had been ideas developed about how we might usefully potentially deploy. I remember having those discussions with Oliver Letwin in Opposition about how we might do that. The fact of the matter is we got there, they were already spent and, such is the scale of the challenge of deficit reduction, I think it would be almost vaguely ridiculous to anticipate that we could suddenly find ourselves a new source of income that would not, first of all, have to answer the question, "Can it better used in the short term to help reduce the deficit". That would be a very serious discussion with the Treasury. In the longer term, I think you are right. If there are sources of income that can be more fairly assigned to the green economy and allow the wider public and investors to see that there is some sort of symmetry between money raised and money expended on subsidy and economic benefits that accrue from that, that would be desirable. But there is no escaping the number one priority of this Coalition, which is deficit reduction.

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Q207 Sir Robert Smith: Finally, in the negotiations where do the other countries sit in delivering on these pledges, because there is a pledge to achieve an awful lot of funding?

Gregory Barker: It is absolutely true to say that the UK is the best pledger on the UNFCCC circuit. I am not aware—Pete, correct me if I am wrong—of any other country that has guaranteed its finance through to 2014.

Pete Betts: I think Germany now has finance up to 2015, but that is more recently than us. I may be wrong, but on the whole we are certainly a prominent leader in that.

David Capper: If you look at the fast-start pledges—the collective pledge by developed countries to commit approaching \$30 billion over the three years 2010 to 2012—then the public estimates that are out on there pledges amount to about \$27.6 billion, that is within touching distance of approaching \$30 billion. As you know, the UK have committed £1.5 billion over those three years and, as we said in Durban and again in Bonn, we are on track to deliver our pledge. On countries that have pledged beyond 2012, then they have not done it as clearly as we have done in saying we have a £2.9 billion International Climate Fund out to March 2015, but the commitments that, for example, Germany and Norway have made in a way, on forests in particular, signal continuation of finance beyond 2012.

Q208 Barry Gardiner: DECC has outlined its priorities to this Committee as being increased ambition on emissions mitigation in the immediate future; work towards a global agreement in the second commitment period of the Kyoto Protocol and the development of the distinct international architecture building on Kyoto rules. Is that right?

Peter Betts: Yes.

Q209 Barry Gardiner: Why is adaptation not there?

Peter Betts: I would say that adaptation is firmly there as embedded in all of those elements. So the new legal agreement—it is clear commitment from Durban that it will.

Barry Gardiner: Increased ambition on emissions mitigation in the immediate future; that is the number one priority. It does not sound like you are talking about adaptation. Forgive me. “Work towards a global agreement”—well, absolutely, I agree with you, but it is certainly not explicit, is it?

Peter Betts: It is explicit in the decision. I take your point on the first one. It is explicit in the Durban decision that adaptation will be part of that.

Gregory Barker: It is also fair to say that at Durban, the UK announced support for a portfolio of multilateral adaptation of funds, each of which is going to play a unique role in different aspects of adaptation strategy. We announced a commitment of £85 million to the Pilot Programme for Climate Resilience; £10 million to the Adaptation Fund; £30 million to the Least-Developed Countries Fund. This new package provides a range of support particularly to the most vulnerable countries to ensure that adaptation is there. So it would simply not be correct, Mr Gardiner, to say that we are ignoring adaptation or

it does not have priority. Semantically, you are correct in that it is not in our four goals in such an explicit way, maybe it should be in order to better reflect the amount of work that is going on in adaptation, we will take that point on board. I think perhaps that is something that we should revisit. But that said, we are very mindful of the Stern Report where it very clearly spelled out in economic terms that spending on mitigation was much more cost-effective than spending on adaptation. Obviously, I am sure you would retort that we have reached the point of no return, where some spend on adaptation is now required because we are going to suffer the consequences of man-made global warming but I think maybe we should revisit our—

Q210 Barry Gardiner: I think my stance would more be yours earlier, Minister, because I wrote down your words. You said, “In negotiations it is not just about what you want; it is about what is important to your counterpart”. I think that is the point that Mr Betts was making when he talked about work towards a global agreement. My point really is that unless there is that focus on adaptation then we are not taking on board what it is that our counterparties in the negotiations want.

Gregory Barker: That is why there is now this commitment to funds. We should maybe revisit those words, because I don’t think they do justice to the work that we are doing as witnessed by the disbursement of funding.

Q211 Barry Gardiner: The campaigns director at Oxfam is quoted after the Bonn intersessional as saying, “No progress is made to deliver the financial support that the world’s poorest and most vulnerable need to deal with the growing impacts of climate change”. She said that it is now vital that at the next climate summit in Qatar we see rich countries commit to an initial \$10–15 billion to the Green Climate Fund between 2013 and 2015. Do you agree with that?

Gregory Barker: Would you just repeat the question, please?

Barry Gardiner: Yes. She said that no progress was made at Bonn to deliver on the financial support that the world’s poorest and most vulnerable need to deal with the growing impact. So she said that there was no progress at Bonn on adaptation for the poorest countries, and she also said that rich countries need to commit in Qatar to \$10–15 billion to the Green Climate Fund between 2013 and 2015 as part of a broader financial package.

Gregory Barker: The Green Climate Fund firstly is not the only way of disbursing money on adaptation. It is an important but not exclusive way of putting money into adaptation projects and the UK is committed already to spending up to 50% of its climate fund on adaptation measures. But I was not at Bonn. Pete, perhaps you could comment.

Peter Betts: Adaptation is clearly a huge part of any credible strategy on climate change. As the Minister said, we see the Green Fund as a very important bit of the international architecture; potentially a really transformational part of the architecture. Subject to the rules being right, I would expect Ministers to want

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to contribute significantly to the Green Fund. Whether they are in a position to do that in Doha will depend on the state of where we have got to in agreeing the rules for the Green Fund. If we were going to put sums of public money on that kind of scale into a fund then we would want satisfactory fiduciary controls and so on. It is not clear yet whether we will be sufficiently advanced for that to happen.

Q212 Barry Gardiner: But broadly, Mr Betts, would you agree that that sort of scale, a \$10–15 billion fund during that period, 2013–15, is about right?

Gregory Barker: I don't think we've got a view on a specific number yet. It is not an unreasonable assumption but I don't think we would hang our hat on that number at this point in time.

Q213 Barry Gardiner: Perhaps you may care to reflect on what you see as being the appropriate level for that package and then maybe write back to us.

David Capper: If I could just come in here. I just wanted to highlight some of the issues within the Green Climate Fund that need to be resolved. I think it is quite important when considering pledging very serious amounts of money that we make sure we have a fund that is able to take funding at significant scale. It is clear we are investing our time as the UK in being on the board of this fund, contributing to its running costs, for it to be a really significant piece of multilateral financing architecture. As we stand, outstanding issues on the Green Fund are for example which country will host it; who will co-chair it; who will provide the interim secretariat. Those are basic practicalities before you even get into the questions of what will be the results framework; the monitoring and evaluation of the project. We have said we will have a private sector facility. What will that look like? We have concessional finance along the lines of the current Climate Investment Funds but how will that work? There are commitments on direct access to developing countries but how will that work? What will be the allocation framework? Will it be like the Global Environment Facility?

Barry Gardiner: We get that.

David Capper: There are some really important design questions that we are keen to be able to get to. Design work—there will not be a moment where the design is complete. We will be on a trajectory and we need to get to a point where we know enough about these things to be confident that a pledge to the Green Fund from the UK will deliver real results.

Q214 Barry Gardiner: Don't misunderstand me. I am not asking you to commit a pledge now. My question was more should we be looking at a fund of that size over that period given that there are all these things, surely, to be worked out at a logistical, administrative and bureaucratic level?

Gregory Barker: As I said, we would be loath to commit to that range but it is not out of the question that that could be. We have to advance our own thinking as to what would be appropriate but it is not a wild suggestion.

In relation to the many points of detail that Mr Capper was making, I think we have to also recognise that the

UK has a reputation in finance, and the City of London is the global hub for green financial services. We have a wide reputation for expertise in financial services. So it would be expected of us to look at much more of the detail than other countries that have less experience in these things and I think it is beholden on us to be the country that makes sure that this is built to last.

Q215 Barry Gardiner: I absolutely agree with that and I think we would all wish to see the fund located in the UK, in London. But that may also mean that Britain has to be a substantial pledger towards it and supportive of it in that respect.

Gregory Barker: Yes. I am afraid we did not bid for it to be here. There were a number of reasons. I initially shared your enthusiasm to bid for the fund but there were a number of reasons that meant that we were unlikely to succeed.

Q216 Barry Gardiner: How will you ensure that the adaptation funding that you are spending, that you have already committed to, goes to the most appropriate levels because it is about getting this to communities, to local authorities, to businesses, to ensure that that funding gets real traction? How are you doing that?

Gregory Barker: That is something that is primarily the responsibility of DIFD and their in-country programmes that do vary from country to country. I think there is a much greater emphasis now on dealing with partners on the ground rather than just putting money through government programmes. David, if you can add more to that.

David Capper: Yes. DIFD have been working with the Adaptation Fund for some time and gave a lot of consideration before we made a commitment, as the Minister said, in Durban, to provide funding. You are absolutely right that for all of our ICF spend on adaptation one of the things that we do think is very important is that this goes to the poorest and most vulnerable countries and the poorest and most vulnerable people within those countries. Clearly it is important to the Adaptation Fund that that is what that particular fund does.

Q217 Barry Gardiner: I just wanted to touch on this. We saw at Rio that the US and others tried to backtrack on negotiations in terms of common but differentiated responsibilities and to pull back from that. How do you see common but differentiated responsibilities being preserved as the fundamental principle of the UNFCCC?

Gregory Barker: It is something that we take very seriously and I am endeavouring to begin a more open discussion of this important question with the Government of India. On my last visit there I had a discussion on this very topic with the Indian Environment Minister, who has an open invitation to come to the UK for an informal discussion.

I think it is fair to say that there is not a uniform acceptance of what exactly that well-known phrase or term means amongst developing countries. There isn't even a uniformly accepted definition of what that means or should be taken to mean in India. I have

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spoken to several thoughtful members of the Indian Government who have a slightly different interpretation. I think what is important is that the fundamental principle of how you recognise or apply equity principles does remain controversial. I think as a Government, in the past, over a period of time that Britain has been maybe too belligerent in discussing this. I think we should be less afraid of discussing the issues of equity and fairness. We can't be against fairness or against equity, clearly, but obviously we have to recognise that we need to come to a definition that does not stand in the way of, or impose impossible burdens on, future negotiations. I think this is something that is complex. It is not a binary choice. It would be well served by discussions outside the UNFCCC as well as making progress within it.

Q218 Barry Gardiner: Do you see the Human Development Index as being a useful tool that can be deployed in working out those fundamental principles of equity?

Gregory Barker: It is certainly one of the measures. It represents a good proxy measure of how developed a country is. It is certainly one of the indicators that we could draw on. However there are other considerations such as a country's national circumstances, its energy mix and also the marginal cost of reducing emissions. In the end we do not believe we will find an agreement around a single formula. As I said, there are many strands within this. A successful agreement is likely to draw on such indicators but we need to be pragmatic.

Q219 Ian Lavery: We have mentioned the private sector/public sector financing on different projects already this morning. In particular relating to the UN REDD+ programme. There were a number of witnesses to this Committee who would say that private finance will play a crucial role in delivering funds for the REDD+ projects.

Gregory Barker: Absolutely. That has to be the long-term goal, not least because the scale of the forestry issue is so large that I do not think we could fund the whole thing simply with public sector funding alone. The reality, as Mr Capper said earlier, is that we are finding it difficult to disburse our public sector funding into REDD projects with real integrity at the moment. So if we are finding that problem even in public sector funding it is all the more challenging to do so with private sector funding. So while I would agree with the general statement that encouraging responsible private-sector finance primarily driven by a move towards a global carbon market is the way to go, I do not want to mislead the Committee; the rate of progress has been very disappointing despite the importance that the British Government places on forestry and REDD and making progress on REDD+ specifically.

Q220 Ian Lavery: How will the finances from the public sector and the private sector be generated for these projects?

Gregory Barker: In terms of public sector they will come from our defined ICF budgets and we are

endeavouring to disburse. David, do you want say a little more on that?

David Capper: We have contributed to most of the big forest funds that are out there, so the Forest Investment Programme; the FCPF; there is the Congo Basin Forest Fund. We have made contributions to all of these. But as the Minister says, we are concerned by the slow disbursement of that money to reach projects on the ground. As the Prime Minister said earlier this year when he visited Indonesia, we are looking at whether there are other ways in which we can deliver finance to REDD that could deliver results more quickly. This is something that we have been actively pursuing. There was a report done for Government last year by PwC that looked at the options both on how you could work more closely with the private sector to leverage some of their money and maybe impact on some of the drivers of deforestation, but also how you might work bilaterally with some forest nations in order to make progress and start to make a difference to what is a very difficult problem.

Q221 Ian Lavery: We mentioned before the strength of the monitoring reporting and verification regime. If I could just take you back just ever so slightly to that, there appear to be barriers in the way of some form of effective MRV systems. What would you see as the potential barriers to an effective, strong MRV system?

David Capper: Specifically on forests?

Ian Lavery: Yes.

David Capper: One of the live issues with regard to MRV on forests is around the safeguard question whereby in Cancun we agreed seven different types of safeguard and in Durban we agreed on information systems around how forest nations would report against those safeguards. Now exactly what that regime looks like is something that we are hoping to make progress on this year under the REDD mechanism. The UK and the EU have put in submissions to UNFCCC. We have talked about how reporting should start in 2014; it should be incorporated with biennial reports; we would like forest nations to report against each of the safeguards because we think they all are important and they should not be overlooked. This will be one of the challenges for Doha: are we able to reach consensus on what the arrangements look like to make sure that safeguards are being implemented but at the same time they are not being implemented in a way that gets in the way of us solving the big challenge which is doing something to reduce the rates of deforestation globally.

Q222 Ian Lavery: How best do you see that these barriers can be overcome?

David Capper: I think if we can reach an agreement in Doha on that regime then that is how we will overcome barriers on the monitoring and reporting of safeguards within the REDD space. That is how we would hope to overcome those barriers.

Q223 Christopher Pincher: Last March, I think it was, we undertook as a Committee an inquiry into consumption-based emission reporting. You may

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remember that, Minister: you performed a legendary double act with Lord Taylor

Gregory Barker: Great man.

Christopher Pincher: Indeed, and I think it features on YouTube. In that report we said there is a clear divergence between the United Kingdom's territorial emissions and its consumption-based emissions. In fact there is some divergence between DECC figures and DEFRA figures because DEFRA has produced a report that suggests CO₂ emission had gone up by 20% if you include embedded figures. So I just wonder whether there is a case for United Kingdom action to deal with the embedded carbon in our imports.

Gregory Barker: We are certainly committed to trying to achieve a reduction in consumption-based emissions and we are keen to understand, measure and be open about the impact associated with consumption of imported goods and services. There is a range of Government policies that are aiming to address embedded emissions as part of our work to encourage a green economy more widely. We are enabling businesses to target emission hotspots for example through the PAS 2050 tool to assess products' carbon footprints, and also through promoting standards that embody the lifecycle approach such as the CNTC 350, which I am sure you are familiar with—

Christopher Pincher: My bedside reading.

Gregory Barker: It is a standard in construction. And the EU Eco-label. We also encourage companies to measure and report on direct and indirect emissions including those in the supply chain. Since I last came before this Committee we have taken a major step forward with the Deputy Prime Minister's announcement at Rio that we will be requiring greenhouse-gas emissions reporting from our largest companies and that is a very welcome first step towards more comprehensive accounting in due course. That is a world first amongst developing economies, requiring that type of accounting.

It is important, though, that new policies to consider consumption-based emissions, existing appraisal guidance for valuing policy impacts on greenhouse gases, energy, are jointly produced by DECC and the Treasury, which already recommends that consumption-based emissions should be considered although the reality is that defining them can be complicated in practice. To help address this issue and support consistent evaluation we will scope a risk assessment approach for evaluating the potential impacts of policy on consumption-based emissions.

In response to this Committee's recent recommendation that Government departments work together to communicate the full picture of the UK's impact on the global climate, we are going to take steps to increase the prominence of consumption-based emissions alongside territorial emissions on our websites and in statistical releases. We will be as transparent as possible when communicating the basis for statistics.

There are challenges in accurately measuring embedded emissions. This is something that is often hotly debated. The existing national positions and international agreements mean that consumption-based approaches are not currently workable as a basis

for an international agreement to reduce global emissions. Raising issues over national sovereignty could make some countries liable for emissions in other countries. That would inevitably draw them into wanting close oversight and even control over sources of what other countries' emissions are, all of which would be even more controversial and even more difficult to operate than the current UNFCCC framework.

So the current system based on production-based emissions seems to us to be the better basis for a workable effective agreement, but we fully accept that this is not perfect and that we ought to give greater consideration to consumption-based emissions. Full global carbon pricing is where we and Lord King would like to go in the long term, in which case it would not matter on which basis emissions were accounted for.

Q224 Christopher Pincher: Of course David King would like us to go further. He would like the EU, which is a major reporting area, to say that if we cannot get a binding global agreement on emission reductions then we should look to some kind of broader tax adjustment arrangement to bring up the cost of those imports to our own standards in terms of the embedded carbon. Is that something that you would support?

Gregory Barker: We are less than keen on starting an international trade war at a time of global recession. We think that would probably be unhelpful.

Q225 Barry Gardiner: On that point, Minister, you will have seen the outcome document from Rio that in paragraph 58(h), I think, specifically refers to a commitment not to introduce artificial trade barriers in any way in order to impose such restrictions extraterritorially or in other jurisdictions for what has happened in others' jurisdictions. Has your department given any thought to how that commitment, which you signed up to at Rio, impacts on the EU legislation on illegal timber importations, which it seems to me it is directly counter to?

Gregory Barker: I have to say I am not deeply familiar with 58(h).

Barry Gardiner: I am pretty sure it is 58(h). I can check it out for you if you want.

David Capper: I think this is a DEFRA lead.

Barry Gardiner: It is only a DEFRA lead insofar as it is the negotiations on international illegal logging. But I would have thought given that it has clear implications for any action such as Mr Pincher was just talking about it should be of concern to your department as well. Clearly illegal logging and illegal timber and deforestation go straight into the REDD discussion that we have just been having.

Q226 Sir Robert Smith: Does it also impact on the European decision to bring aviation into the ETS for carriers outwith the EU?

David Capper: I am not familiar with the paragraph so we would need to review it but I would not see it that as it has been posited in the Committee hearing today, that paragraph would call into question either of the two pieces of legislation to which you refer.

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Q227 Barry Gardiner: “58(h): not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade; avoiding unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country and ensure that environmental measures addressing trans-boundary or global environmental problems as far as possible are based on international consensus.”

That does seem to me that it does impact.

Peter Betts: That provision is not identical to but is quite similar to existing provisions in for example the UN framework convention on climate change. So I suspect that it does not change very much around either forestry rules or around aviation and ETS, and I would be surprised if we would have agreed to it if it had.

Chair: Perhaps you could have a look at it.

Gregory Barker: I suggest we, Chair, take on board Mr Gardiner’s comments and write to you on this issue.

Chair: Thank you.

Q228 Christopher Pincher: Nobody wants to launch a trade war, certainly not this Committee, but given that there is an inherent unfairness if countries such as the basic countries are able to continue to export embedded carbon while other countries have a legally binding objective of reducing carbon and they sign up not to do so, that does not do the environment any good either. What is the leverage that you envisage can be used to persuade those countries to reduce their carbon emissions in their trading groups, if not via some form of BTA?

Gregory Barker: Ultimately the goal of a global carbon market. That is the most comprehensive policy framework that would address this issue. But I think certainly unilateral action would be very provocative indeed. We have seen even something that we believe to be perfectly reasonable and very measured in relation to aviation in the EU has provoked a very negative response from other countries, ranging from China to the USA to India. We only have so much political capital to use up. We must aim for consensus wherever possible, we have to be very measured in these things. Our being a champion of free and open trade, any measure, however well founded, that sought to raise border tariffs would be looked at with extreme scepticism by Her Majesty’s Government.

Q229 Chair: Finally, Dave King raised with us the impact of fossil fuel subsidies, which you know the IEA have estimated to be \$400 billion in 2010, mostly in non-AAU countries. What can Britain do in terms of the international climate change negotiations to help get commitment to eliminating these subsidies?

Gregory Barker: We certainly fully support the G20 commitment to phasing out fossil fuel subsidies. Doing so has clear environmental and fiscal advantages, and security of supply, but having travelled several times to India since taking on this job, I do not underestimate the practical difficulties of doing that. It is very easy for environmentalists like us to make sweeping statements about this but the reality is that hundreds of millions of the poorest

people in many developing economies are dependent on subsidy from Government to keep down the cost of fuel in order for them to heat and light—not necessarily for heating but certainly lighting and cooking—and transport, which are the very bare building blocks of their life. Were, for example, Governments such as India, which has a huge subsidy for fossil fuels—it is a major part of the Government’s budget—to sweep that subsidy away it would have a massive chilling effect on poverty in that country.

That is not to say that that should not be the ambition and I know that reform in India of fossil fuel subsidy is something that is taken seriously and there are steps being made to move forward. But it is not quite as easy as it sounds. It is not just shovelling money into the pockets of Big Oil. Sometimes it may be that, but in developing countries often it is about supporting the poorest people who have trouble accessing energy. In the longer term we place great importance on making alternative non-fossil fuel based energy sources available to them or non-fossil fuel based energy technologies, for example supporting the Indian solar pathways and in sub-Saharan Africa. We are putting a lot of emphasis on supporting solar lights and new forms of stove cooking that do not require fossil fuels. But these are things that take time and we are pushing them as hard as we can as are other countries but it is a little simplistic to think that we can, however desirable that may be for all sorts of reasons, just knock away the subsidies overnight without its having a massive impact on the poor.

Q230 Chair: Yes. I don’t think anyone would expect them to be knocked away overnight but Dave King’s estimate was that removing these subsidies by itself would cut emissions by almost 6%.

Gregory Barker: I am sure it would, but we cannot just see these things through the prism of emissions. You have to be mindful of the impact it has on the poorest people.

Chair: Saudi Arabia is an even bigger subsidiser.

Gregory Barker: There, I think, is a probably more useful target.

Chair: I was going to say that it is even bigger than India and I do not think the issues that you quite understandably refer about poverty in India, which we fully sympathise with, would not be so applicable in the case of Saudi Arabia.

Gregory Barker: Absolutely. So let me qualify what I said by agreeing with you, Chair, that there are obviously economies where there is not such a big impact as there would be, say, in economies such as India and we need to be more discerning in the way in which we approach those economies. But I would have to say our negotiating leverage with Saudi Arabia perhaps is easy to overstate.

Chair: Maybe when we exploit our Shale gas reserves here—

Peter Betts: Just to add this. We talked earlier about the role of fora complementary to the UNFCCC, and the G20 has adopted aspirations on phasing out fossil fuel subsidies. We are working with the Foreign Office and Treasury in a group called The Friends of Fossil Fuel Subsidy Reform, which includes developing countries like Costa Rica and Ethiopia, to

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support reform because some of these subsidies are targeted on the better off. I know that Saudi Arabia is, allegedly, currently looking at developing around 50GW of solar energy precisely because of the price of oil being so high. They would rather export it than use it domestically.

We have thought about doing something on the UNFCCC on this but sometimes it is better to leave

other fora to continue their work. But we have wondered whether there might be a case for trying to quantify the impact of action on reducing such subsidies and get some kind of reporting into the UNFCCC, and we are exploring that still.

Chair: Thank you. I think that brings us to a conclusion. Thank you very much for your time this morning.

Written evidence

Written evidence submitted by the Department of Energy and Climate Change

The Government's International Climate Change Strategy sets out the UK's contribution to the international goal of limiting the average global surface temperature increase to less than 2°C above pre-industrial levels.¹

Delivery of the strategy is organised around four pillars.

Demonstrating EU and UK leadership—by taking action domestically and within the EU to reduce emissions and transition to a low carbon economy.

Building the political conditions for increased ambition in key countries—by engaging with key countries to show greater ambition in their mitigation action and shift the global dynamic towards a global deal.

Supporting the development of low carbon, climate resilient economies—through the effective deployment of the UK's £2.9 billion International Climate Fund (ICF) which is the joint responsibility of DECC, DFID and Defra.

Ensuring progress in the international negotiations—putting in place the key building blocks of an international rules based system for tackling climate change with the goal of a legally binding global agreement with emission reduction commitments for all but the least developed economies.

The next United Nations climate change conference, COP18, will take place in Doha from 26 November to 7 December this year. The conference offers an opportunity to build on the progress made at both Cancun and in Durban in enhancing further the international regime to tackle climate change and to make progress in negotiating the new legally binding global agreement on climate change which will come into effect from 2020, as agreed by all countries in Durban. We still have much to do, and have put in place a workplan of activity for 2012 that seeks to capitalise on the renewed sense of momentum internationally.

1. What should be the UK and EU priorities for COP18?

We expect the UK and EU priorities for COP18 to be:

- (i) building momentum to enhance mitigation ambition in the immediate future, including agreeing specific actions to raise ambition and to ensure the mitigation ambition work programme continues thereafter; this should include exploration of further new and additional actions for raising ambition.

*At COP18 we should seek agreement to pursue practical actions that can enhance mitigation ambition. For example by reducing emissions from international aviation & shipping, reducing fossil fuel subsidies, and taking greater action on Hydrofluorocarbons (HFCs)*²

- (ii) taking forward the work on the new treaty as agreed in Durban, including the work plan for the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)

A particular priority is to agree a robust and ambitious plan for negotiating the post-2020 legally binding treaty with a clear timetable to 2015, the deadline for completing these negotiations. This will include substantive discussions on key issues such as:

- mitigation commitments for all (except, probably, Least Developed Countries (LDCs);
 - how to preserve the principles of Common But Differentiated Responsibility (CBDR) & Respective Capabilities (RC) while applying it in the new treaty in a dynamic way which reflects the post-2020 political realities, contains a spectrum of commitments, has fairness at its core and ensures development and poverty reduction are not constrained;
 - the Monitoring, Reporting and Verification (MRV) regime and market-based mechanisms—both of which require an agreed accounting framework—which will be necessary to underpin such mitigation commitments; and
 - support for those developing countries that require it, in areas such as adaptation and meaningful mitigation.
- (iii) adopt the amendment to the Kyoto Protocol needed for the second commitment period, which will mean finalising the outstanding issues, including the rule on Assigned Amount Units (AAUs), the length of the second commitment period, which the EU is clear should be 8 years, and agreeing a target the EU will take on.

The EU agreed to enter a second commitment period of the Kyoto Protocol as part of the package of decisions at Durban. Implementing all elements of the package, including agreeing the detail of a second commitment period, will be an integral step at COP18. To ensure the environmental integrity of the second commitment period the UK will pushing for a high ambition EU target of 30% and strict rules around surplus AAUs.

¹ This objective is set out in both the Copenhagen Accord and Cancun Agreements

² Further details can be found in the EU's submission to the UNFCCC on mitigation ambition: http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_eu_01032012.pdf

- (iv) continue to develop the existing international architecture building on the Kyoto rules, particularly around: new market mechanisms; further enhancement to the Monitoring, Reporting and Verification (MRV) regime where possible, and the full operationalisation of the institutions envisaged in Cancun and established in Durban (Green Climate Fund, Technology Mechanism, Adaptation Committee etc).

In order to implement the agreements that have already been made we expect further work by Parties will be required in a number of areas including: enhanced reporting arrangements; definitions of the new market mechanism agreed in Durban which will require agreed common accounting rules under the Convention; the Green Climate Fund; the work programme on long-term sources of climate finance; the Technology Mechanism; and the Adaptation Committee.

2. What are the key milestones that need to be achieved in order to deliver a new legally binding agreement by 2015?

The first milestone will be in May at the first intersessional meeting of Parties to the UNFCCC in Bonn. Here we will need to agree a robust and ambitious plan in order to organise the work of the new negotiating track.

In terms of the substantive negotiations, there are a number of things that will need to happen to allow us to deliver a new legally binding agreement. Parties will need to agree the shape and ambition of mitigation commitments for the post-2020 period. We will need to see progress on the tools to achieve, support and monitor these targets, such as, respectively, a global carbon market and MRV regime, underpinned by an agreed accounting framework, and where support around technology, for adaptation and other investment and finance flows will come from and be harnessed. In the context of this support, we will also need to see mechanisms put in place to ensure the development of climate resilient economies, with a focus on long term transition to low carbon economic growth and development models and policies. We will want COP18 to agree a clear timetable for the negotiations through to 2015.

By 2014, we will have further evidence in support of the level of collective ambition required in the new legally binding agreement. For example from the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report, the work of the 2013–15 Review on the adequacy of the long-term 2°C global goal, together with information from countries via the enhanced reporting regime

3. What a legally binding global framework to reduce emissions should look like?

It is too early to say exactly what the 2020 regime will look like. Whatever its shape, the framework clearly needs to be consistent with what science tells us about the collective level of emissions reductions necessary to achieve the globally agreed objective we are all committed to, ie that the new legally binding agreement needs to put the world onto a cost effective trajectory to temperature increases less than 2°C above pre-industrial levels.

There are aspects of the existing global climate change architecture which would be useful in any future framework. In our view the Kyoto Protocol has many vital elements, most notably mitigation targets and stringent reporting and accounting rules. The new treaty will need to apply the principle of “common but differentiated responsibilities and respective capabilities” in the way set out in 1.(i) above. We would expect to see binding mitigation commitments for all (except, probably, LDCs). The Cancun Agreements and Durban Outcome also offer a basis for what the regime might look like. We will want mitigation commitments to be the core of the regime, with effective market mechanisms and robust MRV as key pillars, both of which will need to be underpinned by a clear and agreed accounting framework, alongside support for those countries that need it in driving climate resilient, low emission development, growth and investment.

4. Are the emissions reduction commitments proposed sufficient to keep warming below 2°C?

The likely change in average global temperature is strongly correlated with the concentration of greenhouse gas emissions in the atmosphere, and hence cumulative greenhouse gas emissions rather than emissions in any single year. This means there are a number of different emissions trajectories and emissions levels in particular years that can be consistent with the 2° goal. Alongside this there are uncertainties in climate models which mean we cannot know exactly what temperature increase will result from changes in greenhouse gas concentrations. Given these uncertainties, it is not possible to make definitive statements on compatibility of emission reduction commitments and eventual global warming.

UNEP, in their “Emission Gap” (2010) and “Bridging the Emission Gap” reports, have done a thorough job in synthesising the evidence on emission trajectories and find that 2020 emission levels of around 44Gt CO₂e (billion tonnes of all greenhouse gases) is consistent with trajectories for a 66% chance of avoiding warming of more than 2°C and around 46Gt is consistent with a 50% chance.

They also explore the emission levels that are expected to be delivered in 2020 as a result of current emission reduction commitments. Again there is a range of estimates as it depends whether you consider countries most ambitious pledge (which often has some conditions attached) or lower ambition pledges. It also depends on the environmental integrity of how the pledges are met as if they are met with surplus emission credits from earlier commitment periods or business as usual forestry credits then emissions in 2020 will be higher. The

2011 report finds that the high ambition pledge cases, if met in an environmentally robust way, will reduce global emissions by 6Gt below the current business as usual path of 56Gt to 50Gt. This is 50% of the way to the 44Gt level they consider consistent with 2°C, leaving an emissions gap of at least 6Gt. Low ambition pledges with weak deliver were estimated to only reduce emissions to 54Gt leaving an emissions gap of 11Gt.

It is clear from this work that the current 2020 commitments are not consistent with the latest evidence on the trajectories we should ideally be on in order to keep warming below 2°C. This means that further reductions are required by 2020 if we are not to rely on faster and more costly reductions to 2°C after 2020 or risk greater levels of warming. This is acknowledged in the Durban Platform text that also initiates a process within the UNFCCC to identify and explore actions to raise ambition by 2020.

It says:

- *Decides* to launch a workplan on enhancing mitigation ambition to identify and to explore options for a range of actions that can close the ambition gap with a view to ensuring the highest possible mitigation efforts by all Parties;
- *Requests* Parties and observer organizations to submit by 28 February 2012 their views on options and ways for further increasing the level of ambition and decides to hold an in-session workshop at the first negotiating session in 2012 to consider options and ways for increasing ambition and possible further actions.

The EU submitted its views on options and a copy is included as an attachment to this written evidence.

5. *Will sufficient finance be forthcoming for the various funds and programmes?*

At COP 17 developed countries confirmed our continued commitment to the overarching goal of mobilising \$100 billion climate finance per year by 2020, and affirmed the importance of continuing to provide support from 2012 when the Fast Start period ends.

We want to ensure that the funds and programmes developed under UNFCCC are appropriately supported. Commitment of funding for specific funds and programmes will depend on them demonstrating efficiency, impact and value for money.

The most important of these funds is likely to be the Green Climate Fund (GCF). We hope that the GCF will operate in a way that will attract significant funding. We are confident that the framework agreed in Durban sets the GCF on the right track to do so, and we will push for the further work necessary to complete an effective GCF design this year. Funding will be required to pay for the GCF interim secretariat, interim trustee, the Board and other GCF start-up costs in 2012. The UK will provide funding from the UK's International Climate Fund for this purpose in 2012, and a number of other countries have also announced support for start-up costs including South Korea, Denmark and Germany.

In addition the UK, through the work of the Capital Markets Climate Initiative, has established a strong public-private partnership to help mobilise and scale up private finance flows for low carbon technologies, solutions and infrastructure in developing economies.

In terms of other specific programmes and committees operationalised at Durban, the UNFCCC 201213 budget includes allocations to support the work of the Standing Committee, Technology Executive Committee, Adaptation Committee, and development of the Registry. COP 17 also agreed operational arrangements for the Climate Technology Centre and Network (CTCN) of the Technology Mechanism. In Durban, parties invited the Global Environment Facility (GEF) to support the operationalization and activities of the CTCN without prejudging the selection of its host. The GEF has funds available that can be used for this purpose under the Poznan Strategic Programme on technology transfer. Parties requested the GEF to provide funding for developing countries' biennial update reports. We consider that the GEF has sufficient resources to support the preparation of the first biennial reports by end of 2014, given the 54% increase in its funding agreed during the fifth replenishment round. We will look afresh at funding the reporting requirements beyond 2014 through the next (GEF6) replenishment, which starts in 2013.

A number of parties, including the UK, also contribute additional funds voluntarily to the UNFCCC to ensure programmes are adequately resourced. Parties consider these on the basis of requests received from the UNFCCC secretariat.

6. *The development of effective REDD+ safeguards?*

The UK is engaged in both UNFCCC and Convention on Biological Diversity (CBD) work on REDD+ multiple benefits and safeguards. Seven environmental and social safeguards were enshrined in the UNFCCC Decision from Cancun and in 2011 we progressed on the work programme, notably with a Decision on guidance for systems to provide information on how safeguards are addressed and respected. This gave a new reporting obligation so that developing countries undertaking REDD+ activities will provide summary of information to the international community at least through their National Communications, we will push for reporting every two years. The UK contributed to the EU submission to the UNFCCC of 5 March 2012 detailing a position that a core set of information requirements, common for all countries, that should be agreed to ensure transparency, consistency, comprehensiveness and effectiveness when informing on safeguards. Most safeguards and

reporting requirements are already covered by international conventions. Further UNFCCC guidance should build upon these requirements and should be updated as appropriate.

7. Any other issues that should be taken into account by the UK and the EU at the COP 18 negotiations?

The UK and EU will continue to demonstrate leadership in the UNFCCC negotiations. The EU will seek to maintain the successful high ambition alliance developed with Small Island States and Least Developed Countries during the Durban COP and would welcome all other countries who share the same levels of ambition and desire for the legally binding treaty to join.

We will continue to be mindful that other countries will have their own priorities and look forward to working with all those in the negotiations to agree an overall package of decisions in Doha, as seen in Cancun and Durban.

There is a risk that some countries may seek to row back from, or undermine the agreement reached in Durban—the UK and EU will engage with a broad spectrum of countries, both developed and developing, to ensure that this does not happen. Any unpicking of elements of the overall package agreed in Durban will likely see all elements unravelling, risking delivery of any of the commitments made in Durban.

8. Whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC

Durban showed that the UNFCCC process can work and can deliver results. We remain committed to the UNFCCC as the primary vehicle for delivering a legally binding international treaty, as it has the coverage and legitimacy necessary to secure global agreement. However we support using other fora outside the UNFCCC to deliver vital practical action in specific sectors and build momentum in support of overall goal of keeping global average temperature rise below 2°C. For example the Montreal Protocol in tackling HFCs, and the International Civil Aviation Organization (ICAO) and International Maritime Organisation (IMO) for aviation and maritime emissions. Likewise, the focus on Green Growth at Rio+20 will help strengthen the case for low-carbon development, though this would not be a suitable forum for negotiating emission reductions.

April 2012

Supplementary written evidence submitted by the Department of Energy and Climate Change

Thank you for the opportunity to appear before the Select Committee to answer questions on “The Road to UNFCCC and Beyond”; to enable the Department of Energy and Climate Change to answer questions and clarify our work in International Climate Change and progress in International Negotiations.

During the session last week, the Committee asked for me to provide additional evidence on a number of issues. I therefore enclose further information on the following:

1. Investment Strategy for DECC’s spend through the UK’s International Climate Fund.
2. Should \$10–15 billion be committed to the Green Climate Fund in 2013–15?
3. Has DECC given any thought to the impact of paragraph 58(h) of the Rio+20 declaration, on the EU legislation on illegal timber importations?

Gregory Barker MP
Minister of State

INVESTMENT STRATEGY FOR DECC’S SPEND THROUGH THE UK’S INTERNATIONAL CLIMATE FUND

The 2010 Spending Review provides DECC, DFID and Defra with an International Climate Fund (ICF) of £2.9 billion to help developing countries move to low carbon, climate resilient pathways, consistent with the transition to a two degree pathway. DECC has been allocated £1 billion. We work closely with DECC, DFID, Defra, HMT and FCO on developing and implementing the strategy for the ICF.

The amount of funding we have is small compared to the scale of the challenge. Therefore we are looking to support *transformational approaches* that deliver value for money results, but at the same time are not just buying down the cheapest emission reductions that could be delivered through the private sector. We want to use public funding where it can best add value test out and demonstrate approaches that can be scaled up and replicated by others, to enable longer term shifts in low carbon investment to happen.

The Types of Activities That We Invest In

We are focussing most of DECC’s mitigation spend on tackling emissions from energy, given where our expertise lies, and that energy is responsible for the majority of emissions. Emissions from energy supply and demand represented almost two thirds of global greenhouse gas emissions in 2009.³ We are looking to support interventions that *decarbonise supply of energy* and to reduce energy demand by *increasing energy efficiency* and avoiding lock in to high carbon infrastructure in buildings and transport.

³ Tim Herzog, WRI 2009, <http://www.wri.org/publication/world-greenhouse-gas-emissions-in-2005>

Within the energy sector, we are looking to support a portfolio of investments, that support the top and bottom ends of the cost curve:

- (a) Where technologies are further along the innovation chain, eg solar PV, or abatement costs are cheaper, eg energy efficiency, we are supporting interventions that *unlock private capital and create market pull, by addressing non price barriers, testing innovative business models and partnerships with the private sector*. We are focussing these interventions in the places where there is higher potential for the technology. For example, we are using the ICF to test out the use of risk guarantee mechanisms to increase private sector investment in solar PV in India. Another example is our support for energy efficiency measures through the Clean Technology Fund (one of the Climate Investment Funds).
- (b) We are using ICF finance to *bring down the learning costs of technologies that are critical to achieving a 2 degree path*, but are not on track for global deployment. These types of intervention are likely to be more costly and potentially higher risk, but also offer high abatement potential in the longer term. Our investment strategy is informed by recent evidence from the International Energy Agency's 2012 Energy Technology Perspectives report which shows that nine out of 10 technologies are not on track for global deployment. (See Annex A for more details). For example, we are using the ICF to support capacity building for *carbon capture and storage* in developing countries. We are already supporting the deployment of *concentrated solar power* in North Africa through the Clean Technology Fund and are mapping out the potential for further support.

We are also using smaller amounts of DECC's international climate finance to help developing countries *build capacity and strengthen institutions* to move to low carbon development paths. For example, we are supporting the World Bank's Partnership for Market Readiness, to help developing countries put in place market mechanisms to reduce target emissions.

At the same time, we are looking to *strengthen the architecture for climate finance* to enable effective delivery of low carbon development at scale. Therefore we are supporting the design of an effective Green Climate Fund.

How We Are Delivering Our Finance

DECC has very limited resources to set up and oversee programmes. Therefore we are focussing on a small number of bigger projects, and placing a strong reliance on delivering through the Multilateral Development Banks (MDBs). All of DECC's ICF spend is capital, which is better suited for delivering through financial institutions.





We are channelling a proportion of DECC's spend through *existing multilateral funds*, for example the Climate Investment Funds. This will allow us to work with other donors to test out a range of different approaches in a variety of different countries. We will continue to work with the MDBs to improve the effectiveness of these funds.

We are also working with the MDBs to set up and design *new approaches*. For example, we have worked with the Asian Development Bank (ADB) and the International Finance Corporation (IFC) to set up the Climate Public Private Partnership (CP3).

More information on the UK's International Climate Fund and specific details on the programmes that DECC is providing support to are set out on our web pages:

<http://www.decc.gov.uk/en/content/cms/tackling/international/icf/icf.aspx>

PROGRESS ON ENERGY TECHNOLOGIES (TRACKING CLEAN ENERGY PROGRESS, IEA, APRIL 2012)

| CO ₂ reduction share by 2020* | On track? | Technology | Status against 2DS objectives | Key policy priorities |
|--|-----------|------------------------|---|---|
|  36% | | HELE coal power | Efficient coal technologies is being deployed, but almost 50% of new plants in 2010 used inefficient technology. | CO ₂ emissions, pollution, and coal efficiency policies required so that all new plants use best technology and coal demand slows. |
| | | Nuclear power | Most countries have not changed their nuclear ambitions. However, 2025 capacity projections 15% below pre-Fukushima expectations. | Transparent safety protocols and plans; address increasing public opposition to nuclear power. |
| | | Renewable power | More mature renewables are nearing competitiveness in a broader set of circumstances, progress in hydropower, onshore wind, bioenergy and solar PV are broadly on track with 2DS objectives | Continued policy support needed to bring down costs to competitive levels and deployment to more countries with high natural resource potential required. |
| | | | Less mature renewables (advanced geothermal, concentrated solar power (CSp), offshore wind) not making necessary progress | large-scale research development and demonstration (RD&D) efforts to advance less mature technologies with high potential. |
| | | CCS in power | No large-scale integrated projects in place against the 38 required by 2020 to achieve the 2DS. | Announced CCS demonstration funds must be allocated. CO ₂ emissions reduction policy, and long-term government frameworks that provide investment certainty will be necessary to promote investment in CCS technology. |
|  23% | | CCS in industry | Four large-scale integrated projects in place, against 82 required by 2020 to achieve the 2DS; 52 of which are needed in the chemicals, cement and iron and steel sectors. | |
| | | Industry | Improvements achieved in industry energy efficiency, but significant potential remains untapped. | New plants must use best available technologies; energy management policies required; switch to lower carbon fuels and materials, driven by incentives linked to CO ₂ emissions reduction policy. |
|  18% | | Buildings | Huge potential remains untapped. Few countries have policies to enhance the energy performance of buildings; some progress in deployment of efficient end-use technologies. | In OECD, retrofit policies to improve efficiency of existing building shell; Globally, comprehensive minimum energy performance codes and standards for new and existing buildings. Deployment of efficient appliance and building technologies required. |
|  22% | | Fuel economy | 1.7% average annual fuel economy improvement in LDV efficiency, against 2.7% required to achieve 2DS objectives. | All countries to implement stringent fuel economy standards, and policies to drive consumers towards more efficient vehicles. |
| | | Electric vehicles | Ambitious combined national targets of 20 Million EVs on the road by 2020, but significant action required to achieve this objective. | RD&D and deployment policies to; reduce battery costs; increase consumer confidence in EVs, incentivise manufacturers to expand production and model choice; develop recharging infrastructure. |
| | | Biofuels for transport | Total biofuel production needs to double, with advanced biofuel production expanding four-fold over currently announced capacity, to achieve 2DS objectives in 2020. | Policies to support development of advanced biofuels industry, address sustainability concerns related to production and use of biofuels. |

Note: * Does not add up to 100% as 'other transformation' represents 1% of CO₂ emission reduction to 2020: White=Not on track; Grey=Improvements but more effort needed; Black=On track but sustained support and deployment required to maintain progress.

Whether \$10–15 billion should be committed to the Green Climate Fund in 2013–15

1. The UK has strongly supported development of the Green Climate Fund. We believe it needs to address challenges in the existing climate architecture, including scale of funding available. We therefore hope that the GCF will operate in a way which will attract significant funding. We are confident that the framework agreed in Durban sets the GCF on the right track to do so. The UK will make a decision on contributing to the GCF once the design is sufficiently developed so that we can be confident it will deliver substantial results and excellent value for money. Given the current delays to the Board starting work it is not possible at this stage

to determine on what scale it might operate initially, and when it will start delivering funding. We want the Board to begin work as soon as possible, and strive for rapid completion of the design.

2. In the meantime the UK will continue to provide scaled-up international climate finance through other bilateral and multilateral channels, through our £2.9 billion International Climate Fund. We are encouraging other developed countries to follow our lead in mobilising climate finance beyond 2012 towards the goal of mobilising \$100 billion per year by 2020.

Whether DECC has given any thought to the impact of paragraph 58(h) of the Rio+20 declaration, on the EU legislation on illegal timber importations

1. Paragraph 58(h) of the outcome document from Rio+20 is broadly a restatement of Principle 12 from the “Rio Declaration on Environment and Development” in 1992, so nothing should be changed by this.

2. The Rio+20 Declaration also called for support to “all efforts that effectively slow halt and reverse deforestation and forest degradation, including, inter alia, promoting trade in legally harvested forest products”. The EU’s policy approach is to support the trade in legally harvested forest products by ensuring the illegally sourced timber has no place on the EU market.

3. The EU Timber Regulation is not designed to set standards or restrictions on trade, but rather to support the timber legality systems, which exist, and are endorsed, within exporting countries. In Defra’s view it does not, therefore, constitute “arbitrary and discriminatory” action.

4. In more detail, the EU’s approach to tackling illegal logging is based on two regulatory instruments, the Forest Law Enforcement, Governance and Trade (FLEGT) Regulation and the EU Timber Regulation. FLEGT is based on Voluntary Partnership Agreements with producer countries under which the EU supports capacity building for legality systems and in turn agrees only to take timber from those countries, which has been legally harvested and come through the relevant national legality assurance system. The EUTR is a wider instrument which places a duty on importers of timber to carry out due diligence to ensure that their timber, or timber product, has come from a legal source. FLEGT licensed timber will automatically prove compliance with the EUTR’s due diligence requirement.

5. Under these Regulations, the EU is supporting the development of systems to support legal harvesting in producer countries. Far from imposing “arbitrary” measures or “restricting” international trade the measures support legal trade in timber and seek to prevent illegally harvested timber—which accounts for significant revenue losses for exporting countries, and lost income to the local communities—form entering the European Market. Similar measures have been introduced in the US and are in development in Australia.

July 2012

Written evidence submitted by the Institution of Mechanical Engineers

What should be the UK and EU priorities for COP 18?

1. The UK’s priority for COP18 should be to show strong leadership and use the opportunity presented by the COP17 commitment¹ made in Durban to call for a paradigm shift in thinking on international policy for emissions reduction. In this regard, the UK should press for an agreement that curtails further unproductive and ineffective investment of effort in the current UNFCCC approach and instead push for an exploration of alternative approaches.

2. Current climate change mitigation policy, both in the UK and internationally, has at its core the notion that a global legally binding greenhouse gas (GHG) emissions reduction agreement can be achieved. It is intended that this should drive worldwide carbon pricing to disincentivise investment in carbon dioxide (CO₂) emitting technologies and behaviours. There is, however, growing recognition that this approach is at worst failing and at best likely to take a considerable length of time to achieve the desired outcome. In the meantime global emissions continue to rise (in the period 1990 to 2009 GHG emissions rose about 40%²), as does the mean concentration of CO₂ in the atmosphere.³ The UK Government has, through the setting of a carbon price floor,⁴ effectively recognized the failure of current global mitigation policy (as delivered through the UNFCCC process and implemented in the European Emissions Trading Scheme, EU ETS) and taken a unilateral decision to replace it with what is essentially a form of carbon tax.⁵

3. The outcomes of the most recent UNFCCC Conferences of the Parties (COP15, COP16 and COP17) have included a recognition that global mean temperature rise should be kept below 2°C relative to the pre-industrial value, as well as a commitment by the Convention parties to work towards an emissions reduction agreement by 2015¹ that would come into force in 2020. The potential pathways to meeting the aspirations and targets necessary of such an agreement would rely on the large-scale deployment of low-carbon technologies across all sectors of the global economy, together with a significant effort in terms of energy conservation, efficiency increases and public behavioural change. In this regard the Institution has previously noted that, given evidence to date it is questionable whether the rate of change needed can be achieved by governments working within the UNFCCC framework.⁶ It is therefore important that policy makers seek alternative ways to accelerate

emissions reduction and the process of transition to a low-emissions economy; such as that based on setting the international carbon price through the use of air capture technology.⁷

What a legally binding global framework to reduce emissions should look like?

4. The principal challenge to policy makers in tackling anthropogenic GHG emissions is that for the majority of sources to-pollute is largely a cost-free and penalty-free activity.⁵ If reducing emissions is a desired outcome, then the logical solution is to create frameworks and mechanisms that ensure the emitting of greenhouse gases incurs an appropriate cost or penalty upon the polluter and that the cost or penalty is of sufficient magnitude to deter them from further polluting. To achieve this end, policy makers have available to them the mechanisms of regulation, such as in the form of the outright ban on CFC and HFC emissions used to tackle the problem of the emerging ozone hole in 1989⁸ (Montreal Protocol), or economic instruments that apply a financial penalty for emissions, as in the case of a direct tax on carbon emissions or a tradable permits approach like the EU ETS. The current approach is based on a consensus amongst policy makers that in the case of CO₂ emissions the latter, an economic instrument, is politically and economically acceptable whereas the former, a ban on emissions, is not.

5. Applying an economic instrument, whether through the application of a government imposed carbon tax on emissions or in the allocation of tradable permits to pollute (as per the EU ETS mechanism), requires governments to decide what constitutes a fair, reasonable and justifiable cost for polluting the atmosphere with CO₂. In the implementation of a tradable permit scheme the price setting is indirect and manifests itself as an outcome of complex and often opaque decisions on quotas of permits to pollute. The price set by the placing upon the polluter of a direct carbon tax is on the other hand straightforward and clear. The global political community's fundamental problem in either case is setting the level of that cost worldwide in a justifiable transparent way and this is one of the principal reasons why meaningful progress has consistently not been made through the current UNFCCC process and EU ETS instrument.

6. An engineering based solution to this problem is however now available to policy makers, through recent technological developments that offer the global political community a route to a breakthrough in policy thinking. In this regard machines that enable the direct capture of CO₂ from the atmosphere, to create what are termed "negative emissions"⁷, are at an advanced stage of engineering design and reaching pilot demonstration potential with a number of entrepreneurs^{9,10,11,12,13}. The most significant benefit of their development and ultimate deployment, in this current context, is that they will establish the rational "ceiling" (or cap) price on CO₂ emissions globally.⁷

7. Technologies that can be used in the abatement of greenhouse gas emissions have been previously arranged on a cost curve by McKinsey¹⁴ based on the anticipated cost outcome when tested, deployed and commercialised. The direct capture of CO₂ from the air, with onward sequestration of the captured CO₂, will represent the ultimate limit point on the McKinsey curve.⁷ Direct capture of CO₂ from the atmosphere combined with sequestration of the captured carbon is therefore the cost of polluting the atmosphere with CO₂, it is the price a polluter would have to pay to clean up their pollution in the absence of another means of emissions abatement. Unarguably it thus represents a justifiable transparent carbon price.

8. Having established a justifiable price for carbon, through the deployment of air capture technology, the question is how would it be applied in practice by policy makers? The answer is simply through a mandatory international global requirement on all emitters of CO₂ to use an appropriate and effective method of abatement or incur the cost of creating the negative emissions necessary to balance their CO₂ emissions account. A key characteristic of air capture machines in this respect is that wherever they are located geographically they can be used to offset emissions arising from sources anywhere else on the planet (because the atmosphere is a well mixed fluid medium). Thus machines located for example in a desert region, taking advantage of suitable sequestration geology and abundant "stranded" solar energy sources, could be used to create negative emissions for offsetting emissions from difficult to tackle sources elsewhere in the world.

9. In addition to providing an alternative route for policy makers to that of expending further unproductive effort on trying to negotiate a legally binding global agreement on the reduction of emissions, this practical engineering solution has the potential benefit of acting as a drive to downward pressure on all CO₂ abatement costs. In this regard, following initial deployment of the air capture technology with CO₂ sequestration, in parallel with a binding abatement agreement, free-market forces would operate to drive the price of air capture technology down as OEM's, machine operators and CO₂ transporters and sequesters compete for business. This in turn would force all available abatement technologies to find cost reductions, because the outcome of failure to compete effectively with air capture would be exclusion from the marketplace as polluters opted to buy negative emissions instead. Government ambitions for achieving large-scale deployment of low-carbon technologies would therefore be achieved through the application of free market forces rather than by them having to resort to (often inefficient) programs based on hypothecating a carbon tax or other tax revenues.

Whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC?

10. Yes, 20 years have passed since the formation of the UNFCCC in 1992 and in that time emissions of GHGs have increased exponentially¹⁵ and reached 30.4Gt per annum from 21 Gt per annum,¹⁶ while the atmospheric concentration of CO₂ is now 392ppm from a starting point of 356ppm.³ The UNFCCC is not

therefore working as measured against its own primary objectives.¹⁷ Part of the reason for this failure lies in the shift of policy thinking that the creation of the UNFCCC invoked across the world; that is away from the previous largely national focus of individual countries on their own energy and industrial strategy, to one where national objectives need to be balanced against perceptions of international obligations to take action on emissions. The degree to which nations commit in the UNFCCC forum to take action on emissions, or indeed ultimately take any form of action, depends on a highly complicated balancing act to satisfy the needs of their national political positioning both internationally and domestically. With 195 signatory nations to the UNFCCC, the complexity of this balancing challenge is magnified 195 times and it is thus highly improbable that the forum will ever achieve its overall aims.

11. The UK government has to-date shown strong international leadership in conceptualising, developing and implementing climate change mitigation policy, enabling frameworks and statutory instruments; witness for example the Climate Change Act 2008, the world's first legislative instrument of its type. The government should continue to show positive leadership in this area and pursue alternative approaches and forums for securing emissions reductions, including communicate the important contribution that air capture technologies can make in setting a global "ceiling" price on CO₂ emissions and driving the adoption of low-carbon technologies and behaviours worldwide.

April 2012

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Written evidence submitted by UNICEF UK

1. INTRODUCTION

1.1 The UK National Committee for UNICEF welcomes the opportunity to submit evidence to the Energy and Climate Change Committee's enquiry on the UK's Preparations for COP 18 under the UNFCCC.

1.2 UNICEF, the United Nations Children's Fund, is mandated by the United Nations General Assembly to advocate for the protection of children's rights, to help meet their basic needs and to expand their opportunities to reach their full potential. UNICEF is guided by the United Nations Convention on the Rights of the Child (CRC) and strives to establish children's rights as enduring ethical principles and international standards of behaviour towards children.

1.3 This submission will focus on the following aspects of the Energy and Climate Change Committee's call for evidence:

- What should be the UK and EU priorities for COP 18.
- Will sufficient finance be forthcoming for the various funds and programmes.
- Any other issues that should be taken into account by the UK and the EU at the COP 18 negotiations.
- Whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC?

2. WHAT SHOULD BE THE UK AND EU PRIORITIES FOR COP 18

2.1 COP 18 in December 2012 will be a vital stepping stone for negotiating a global climate deal necessary to curb global temperature rises, ensure adaptation to climate change and secure a climate safe world for children and future generations. Negotiating a fair, ambitious and legally binding climate change deal is essential to ensure we do not leave the world's children with a legacy of runaway climate change. In other words, progress in the UNFCCC is essential for building a future safe for current and future generations.

2.2 As such the UK and EU priorities for COP 18 must be suitably ambitious. They must ensure that climate action does not burden future generations with dangerous climate change.

Recommendations:

UNICEF UK therefore recommends the following priorities for the UK for COP 18, and encourage them to push the EU to take similar steps in its position

- *Commit to innovative finance mechanisms as a way to mobilise new and additional climate finance for developing countries, as committed at Copenhagen,⁴ to enable adaptation to the impacts of climate change that they are already feeling. The UK should push the EU to agree to specific amounts of long term climate finance to be committed ahead of COP 18 on a long term trajectory to 2020 and specify the innovative mechanisms by which this will be achieved.*
- *Push for capitalisation and full operationalisation of the Green Climate Fund ahead of COP 18.*
- *Work towards a deal within the Long Term Co-operative Action (LCA) negotiations in 2012 and Durban Platform which recognises the specific vulnerabilities of children. This should include advocating for references in the text that highlight children's vulnerability to climate change, as well as pushing for responses that tackle climate change in a way which protects children and future generations.*

3. WILL SUFFICIENT FINANCE BE FORTHCOMING FOR THE VARIOUS FUNDS AND PROGRAMMES

3.1 UNICEF UK congratulates the UK Government on their ongoing commitment to international development spending. Despite budgetary constraints the UK Government has maintained its commitment to spending 0.7% of national income on overseas aid (ODA). Within this, we welcome the UK commitment to spending £2.9 billion on fast start climate finance, providing funds to help communities in developing countries adapt to climate change and pursue low carbon routes to development.

3.2 However, the impacts of climate change require new and additional resources. The scale of the challenge presented by climate change should not be underestimated. The figure of \$100 billion dollars per year by 2020, agreed in the Copenhagen Accords for climate change adaptation and mitigation in developing countries, is based on the projected need from 2020 onwards and must be made up of "new and additional" resources. This sum is roughly equivalent to the total current global flows of ODA. Climate change thus presents a significant additional challenge that requires resources equal to ODA. It is not as simple as just "slotting" climate finance obligations into ODA budgets. There needs to be the guarantee of sufficient existing funds to meet the MDGs as well as new and additional funds for climate mitigation and adaptation in order to respond to climate change.

3.4 Long-term climate finance (additional to ODA) is essential to protect those most vulnerable to climate change such as children.⁵

3.5 The Green Climate Fund and the procedures by which it operates will be critical in the distribution of long term climate finance, and therefore should be designed so they ensure funding for adaptation goes to the most vulnerable groups such as children. UNICEF UK welcomes the strong commitment by the UK Government to support the Green Climate Fund, and the active role they are playing in its development, not least because it demonstrates that long term climate finance is still on its agenda. However, they still need to do more, and their position is still not adequate—2012 is an important year to make progress on this.

Recommendations:

UNICEF UK recommends that urgent action is needed by the UK and the EU to agree to innovative finance sources that raise new and additional climate finance in 2012, to be channelled through the Green Climate Fund.

⁴ See Copenhagen Accords, UNFCCC, 2009

⁵ "The \$100 billion question: how do we secure a climate-resilient future for the world's children?", UNICEF UK, 2011

This financing should not be conditional on negotiations, but instead recognised as a commitment which is the outcome of historical responsibility.

The UK Government should use its role as a key player in The Green Climate Fund's development, to be a leading advocate for children in the design of the Green Fund to ensure that funds are channelled appropriately.

4. ANY OTHER ISSUES THAT SHOULD BE TAKEN INTO ACCOUNT BY THE UK AND THE EU AT THE COP 18 NEGOTIATIONS

4.1 The treaty that will emerge from the UNFCCC process, will determine what kind of climate future is inherited by today's children. In other words, the UNFCCC process is negotiating a treaty for today's children as well as for tomorrow's.

4.2 Article 12 of the UN Convention on the Rights of the Child states that when adults are making decisions that affect children, children have the right to say what they think should happen and have their opinions taken into account.⁶ It is therefore right that children should have fair and meaningful opportunities to contribute to the UNFCCC negotiations, and their country's position within this.

4.3 The UK Government should therefore ensure that it takes into account the views of children and young people in their negotiating position on climate change at UNFCCC level.

Recommendation:

UNICEF UK recommends that the UK Government consults with children and young people, involving them ahead of COP 18 in December 2012 as a core part of their UNFCCC preparations.

5. WHETHER THE UK SHOULD PURSUE AN AGREEMENT TO REDUCE EMISSIONS THROUGH FORUMS OTHER THAN THE UNFCCC

5.1 UNICEF UK strongly believes that the UNFCCC remains the best forum to negotiate global legally binding emissions treaties and associated action to curb and adapt to climate change.

5.2 However, progress on related issues such as climate finance which extend beyond the remit of the UNFCCC could also be pursued effectively in other forums, such as the G8 and G20.

5.3 In 2011, the G20 commissioned a report on mobilising climate finance which was helpful in moving forward the debate forward. The G20 leaders and finance ministers meetings in 2012 have the potential to make further progress on obtaining a global commitment to long term climate finance whilst also removing this issue from the politics of the emissions reductions negotiations taking place within the UNFCCC.

5.4 World leaders and Finance Ministers also have the political mandate needed to make decisions about new taxes and budgetary contributions. The G20 is therefore an ideal forum to obtain the global commitment on climate finance needed to help the most vulnerable adapt to the growing impacts of climate change, and the need for resources for low carbon development.

Recommendation:

UNICEF UK recommends that the UK advocate for agreement at G20 level on plans to implement innovative finance mechanisms (such as bunker and a financial transaction tax) to provide revenue for long term climate finance.

April 2012

Written evidence submitted by the EEF, the Manufacturers' Organisation

ABOUT EEF

EEF, the manufacturers' organisation is the representative voice of UK manufacturing, with offices in London, Brussels, every English region and Wales. We are a not for profit organisation with a growing membership of almost 6,000 companies of all sizes, employing some 900,000 people from every sector of the engineering, manufacturing and technology based industries. UK Steel, a division of EEF, is the trade association for the UK steel industry. It represents all the country's steelmakers and a large number of downstream steel processors.

RESPONSE

- The priority should be to establish an emissions trajectory: an emissions reduction goal for 2050 and the timeframe for global peaking of emissions and their subsequent reduction to meet that goal.

⁶ http://www.unicef.org/crc/files/Rights_overview.pdf

- The final agreement to reduce emissions must contain the following features: Emission reduction pledges from all the major economies and greenhouse gas emitters; A clear, long-term trajectory for greenhouse gas reductions; A 2050 emissions reduction goal; A framework for sector approaches; New market mechanisms; Transparent reporting, monitoring and verification; and, an effective and robust legal framework. These must reflect, that different solutions are often required for different sectors.
- Investment into expensive, break-through technologies is the only way some energy-intensive sectors will decarbonise significantly if demand for those materials and products remains.
- Government and the EU should seek to establish a general framework for sector approaches and design new market mechanism as a priority for the next Conference of the Parties. These should seek to strengthen incentives for innovation.
- We believe that these measures will help to steer a path to a global agreement by 2015 and long-term decarbonisation.
- Despite misgivings over the UNFCCC process, the agreements made in Durban effectively ensures that it must be the key route for securing emission reductions on a global scale. Nevertheless, government should use all opportunities and diplomatic connections to encourage and support participation from non-Annex 1 countries, particularly the emerging economies.

What should be the UK and EU priorities for COP 18?

Establish an Emissions Trajectory

Qatar will not see any progression of discussions around the relative contributions that individual countries should make in reducing their own emissions.

The Durban text calls for “increasing levels of ambition” informed by the latest scientific thinking, a review on progress against the goal of limiting global temperatures to two degrees and the work of the UN climate framework’s technical committees.

Both the review and the next Intergovernmental Panel on Climate Change’s fifth assessment report—which places a greater emphasis on the socio-economic aspects of climate change—will be critical in framing these negotiations.

With the IPCC’s report expected in October 2014 and the review concluding in 2015, COP 21 will be the platform for tense negotiations for legally-binding emission reduction targets for all the major economies.

Therefore we believe that the priority should be to establish an emissions trajectory: an emissions reduction goal for 2050 and the timeframe for global peaking of emissions and their subsequent reduction to meet that goal.

Sector Approaches

Article 74 of the Durban Platform calls for a decision to be adopted in Qatar which sets a general framework for cooperative sectoral approaches and sector-specific actions. We believe sector approaches have the opportunity to offer faster, more effective, large-scale responses to climate change. Therefore, we recommend that this should be another priority action.

While not suitable for all sectors, a sector-based analysis of the problem can offer distinct advantages over traditional geographical organised responses. A sector approach consists of a combination of policies designed around individual sectors unique characteristics, location and technologies to push efficiency and stimulate development and investments in break-through technologies which lead to profound decarbonisation. Harmonisation in measurement, reporting and verification practices provide the potential for financing mechanisms to be linked internationally in future.

Work⁷ by the World Business Council for Sustainable Development’s Cement Sustainability Initiative has demonstrated that a combination of different sector-specific policies and measures in different countries could result in effective and efficient CO₂ emissions reductions.

However, it does require international cooperation within an industry sector. Voluntary industry-led schemes—while being successful in driving the efficiency of participants and harmonising measuring, reporting and verification—have suffered from coverage issues. In particular, Chinese participation has been limited (see Annex I). Goal setting under the schemes have subsequently reflected limited ambition.

This is an understandable consequence of uneven participation. For most energy-intensive installations, massive decarbonisation can only be achieved via incredibly expensive and untried technology. Sector approaches therefore must aim to strengthen incentives for innovation. In a globally competitive market, shouldering these costs alone can price an operator out of the market—as can unilateral policy measures designed to incentivise carbon efficiency by internalising carbon costs. Production subject to these costs would

⁷ CSI, ERM and, 2009, CSI Model Scenarios and Results Overview www.wbcsdcement.org/pdf/CSI%20model%20scenarios%20and%20results%20overview_May09.pdf

struggle to compete, as the ability to pass on these costs is severely limited. Numerous studies have now identified sectors such as steel, cement and aluminium as being at risk from leakage of production (and related emissions) from jurisdictions with carbon constraints to jurisdictions without (appropriate) constraints. Any scheme that is realistically going to achieve substantial emission reductions in global sectors and address barriers to innovation, must seek to establish a cost of carbon that is the same for all the sector's installations across the world.

New Market Mechanisms

The Durban Platform provides for further consideration of new market mechanisms, but what this might look like and how it might operate has yet to be defined. By 5th March, parties and observer organisations were invited to submit their thoughts on the success and failings of existing approaches. A workshop is scheduled at the Bonn talks in May to reflect on the submissions and begin to consider what new market mechanisms could look like.

Agreeing on the design and shape of new market mechanisms at COP 18 is another priority. It should include a linking framework with sector approaches.

Market mechanisms should provide effective and efficient incentives for some industry sectors and the energy sector to improve their CO₂ emissions beyond a business-as-usual pace. They should effectively influence business decisions, leading to investments and operations that are more energy and CO₂-efficient. Emissions reductions should be measurable and verifiable.

A market mechanism should provide rules that favour the most energy and CO₂-efficient products and producers. By doing this, it must be compatible with free trade and fair competition, and it should prevent leakage.

For market mechanisms to be successful they should be tailored to the characteristics of different sectors. Incentives and obligations should be targeting the legal entity that has the power to take decisions on investments and operations. They can be applied on both a national or regional basis.

For a sectoral market mechanism to function, a sectoral database is needed to collect accurate and verified information on CO₂ and energy performance of industrial installations. On this basis, sectoral performance metrics can be developed, expressed as an improvement objective towards a business-as-usual trajectory. The performance metrics should be the same globally. If national or regional standards diverge this would lead to concerns over the environmental quality of credits. Furthermore, while it must have environmental integrity it also needs to be grounded in economic reality.

The UNFCCC's role would be to develop and operate the sectoral database, under the guidance of the Conference of the Parties. The UNFCCC could also help to develop an international system by linking different carbon markets. It should also develop a process which determines which countries and sectors qualify.

The solution being most actively explored in Europe is sector crediting. The Clean Development Mechanism as we know it would still have a role, but only in less developed countries. Sector crediting represents a substantial scaling up of the CDM, however, it will not be suitable for all sectors.

Under this model, developing country governments negotiate with the international community a baseline set beneath predicted business-as-usual emissions for a specific sector. This baseline could theoretically be set in terms of absolute emissions (actual reductions) or as an intensity target (reductions in relation to each unit of production). The government in question would then deploy a whole range of policy instruments to drive sector emissions below the agreed baseline. At the end of a specified period, the government would receive a number of credits equal to the total number of emissions abated below the baseline.

Government would then have it in its gift to sell the credits on the international carbon markets to emitters in developed countries or directly to developed governments. In this sense it would resemble a scaled-up version of the Clean Development Mechanism, in that action taken under the mechanism would displace more expensive abatement activity in developed countries.

The model is also referred to as no-lose sector crediting because no penalties would fall onto participating governments if they failed to meet their target—thereby (in theory) making it more attractive to developing country governments.

As we have said, the model will not be suitable for all sectors. For example, there are concerns that incentives to encourage action could create global competitive distortions, particularly in sectors subject to intense international competition. To address this, we would like to see any international financing mechanism thoroughly vetted by experts in appropriate sectors to ensure their implementation does not alter the playing field. This evaluation has to consider the possibility that some financing mechanisms are not appropriate in sectors producing globally traded goods.

What should a legally binding global framework to reduce emissions look like?

The global framework should, in the very least, contain:

- Emission reduction pledges from all the major economies and greenhouse gas emitters.
- A clear, long-term trajectory for greenhouse gas reductions.
- A 2050 emissions reduction goal.
- A framework for sector approaches.
- A framework that supports international collaboration on the development of future carbon reduction technologies and then supports investment in those technologies when available.
- New market mechanisms.
- Transparent reporting, monitoring and verification.
- An effective and robust legal framework.

Any other issues that should be taken into account by the UK and the EU at the COP 18 negotiations; and whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC?

Despite misgivings over the UNFCCC process, the decision reached in Durban effectively ensures that it must be the key route for securing emission reductions on a global scale.

Nevertheless, government should use all opportunities and diplomatic connections to encourage and support participation from non-Annex 1 countries, particularly the emerging economies.

April 2012

Annex 1

VOLUNTARY INDUSTRY SECTOR APPROACHES

1. WORLD STEEL ASSOCIATION: CLIMATE ACTION RECOGNITION PROGRAMME

The World Steel Association represents approximately 170 steel producers (including 17 of the world's 20 largest steel companies), national and regional steel industry associations and steel research institutions. World Steel members represent around 85% of world steel production.

CO₂ emissions data collection programme

In 2008, the Association launched a "Climate Action recognition programme" which aimed to give recognition to steel producers who participate in its global CO₂ emissions data collection programme.

The reporting framework uses a common agreed methodology and work is underway for this to be recognised as an ISO standard. It uses an intensity-based approach which measures the amount of CO₂ generated for each tonne of steel produced.

All data is held on dedicated servers at a company with ISO 27001 accreditation. Great care has been taken to ensure that data from individual companies' steel plants are known only to the company itself and World Steel staff administering the project. A tool has been developed to ensure that steel plants report on a comparable basis. All data is verified by third party assessment.

The data collection will lead to benchmarking improvements based on actual performance data. This enables individual steel plants to position themselves against both the average and the best performance and to identify scope for improvement.

The approach was never designed to "level the playing field" but as a voluntary energy or CO₂ reducing mechanism.

Steel producers which participate in the scheme are granted use of a logo for two years which has been used to encourage recognition of their efforts. Some procurers, for example, Australia's green building council Green Star rating, require suppliers to participate in the scheme.

The intention was to follow up with reporting and the setting of commitments on a national or regional basis for implementation post 2012. This was intended to form the core of a global steel sectoral approach.

However, while some 200 plants from around the world are submitting data, representing 30% of global production from almost 70% of Worldsteel's members, the vast majority of Chinese steelmakers are not participating in the scheme.

Nevertheless, the Asia Pacific partnership is using the methodology so while the data hasn't been received directly, World Steel can make a very confident estimate of the emissions trajectory.

CO₂ breakthrough programme

Worldsteel provides a forum where various national and regional research and development programmes on identifying breakthrough technologies for steel manufacturing can exchange information on projects.

This includes the ULCOS programme funded by the European Commission and the European steel industry; the COURSE 50 research programme in Japan; the US steel industry and US Department of Energy programmes; the POSCO programme in Korea, and others.

2. WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT: CEMENT SUSTAINABILITY INITIATIVE

The World Business Council for Sustainable Development's Cement Sustainability Initiative commenced in May 2008. It is a voluntary, member-led initiative which currently is comprised of 24 major cement producers with operations in over 100 countries.

Getting the numbers right

While encompassing a range of different environmental issues,⁸ climate protection is a key strand of activity. Harmonised data reporting is a key output. In 2011, the CSI published the third version of its CO₂ accounting and reporting standard for the cement industry. Data is collected to allow for the CO₂ emissions related to production to be explored on both absolute and specific or unit-based terms.

The methodology is used by most international cement firms, the EU Emissions Trading Scheme, the US EPA mandatory reporting of greenhouse gas rule and the Global Superior Energy Partnership (formally the Asia Pacific Partnership). It has three elements: guidance, an excel spreadsheet and a step by step guide to filling it out.

Data is third party assured and 83% has been independently assured at company-level. Confidentiality of the data is crucial. In this case, a third party operator manages the data. It provides a guarantee of non-disclosure of confidential information and compliance with competition law.

Data collection currently covers 26% of global production, covering all geographical regions—but to varying extent. In Europe, coverage is 93% of all producers and is the highest in the world. High representation has also been achieved in the Americas and India. But coverage is lower for the Middle East, Africa and Asia. Just 5 percent of Chinese production is currently covered however new Chinese members have recently joined the Initiative and are expected to report from next year.

In return for submitting data, producers are benchmarked against their peers.

Technology roadmap

In 2009, the International Energy Agency and the WBCSD together developed a cement industry technology roadmap.⁹ It outlines the existing and potential technologies and how they may help the industry support a halving of global CO₂ emissions by 2050.

The roadmap is based on IEA modelling and on 38 technology papers developed for the CSI by the European Cement Research Academy. It was one of the first sector-specific roadmaps to be developed and provides a vision of potential future emissions reductions.

The CSI is currently working to develop an India-specific technology roadmap in a project supported by the International Finance Cooperation. It explores what is available to the cement industry in India. Data collection on industrial energy use and emissions has been carried out, data analysis and modelling is underway to assess emission reduction potentials with these technologies.

The process has been underpinned by wide stakeholder engagement (the latest consultation closed mid-March). The next phase of the project will see CSI member companies overseeing the development of the roadmap at selected plants, identifying where specific investments related to technology can lead to emission reductions. The Indian CSI members in the roadmap project represent 54% of the country's cement production.

3. INTERNATIONAL ALUMINIUM INSTITUTE: ALUMINIUM FOR FUTURE GENERATIONS

The IAI is a global forum of the world's aluminium producers. The Institute has 27 member companies which together represent 80% of world primary aluminium production.

The aim of the IAI's sector approach is to improve efficiency of production, increase light weighting, stimulate more recycling and recovery of aluminium and to improve occupational health.

Climate-related goals included targets to reduce emissions of perfluorocarbons (powerful greenhouse gases which are produced during aluminium) by 50% by 2020 compared to 2006. This is the second such target. It builds on an initial target to reduce emissions by 80% by 2006 compared to 1990, which has already been

⁸ The Cement Sustainability Initiative also looks at fuels and materials, health and safety, local impacts, emission reductions and wider sustainability issues. See www.wbcscement.org

⁹ http://www.wbcscement.org/pdf/technology/WBCSD-IEA_Cement%20Roadmap.pdf

achieved. This has been driven by investment in modern technology and operational improvements. The ultimate goal is a complete elimination of these emissions from production.

The industry has an additional goal to reduce energy use by 10% by 2010 compared to 1990. This was met and new goals for the industry include a commitment to reduce by 5% the global smelting electrical energy intensity by 2020. A further climate-related goal requires member companies to reduce emissions of greenhouse gases per tonne of alumina produced. A summary of performance to date is detailed in Table 1, below. Despite growth in the sector between 1990 and 2008 direct emissions from all processes have remained flat.

The Institute has worked with the World Resource Institute and the World Business Council for Sustainable Development to develop protocols for greenhouse gas reporting in the sector and regularly publishes global statistics, including benchmarking data. Reporting occurs annually. A CEO peer group helps to stimulate further improvements. The IAI also engages with the Asia-Pacific Partnership on Clean Development and Climate to provide benchmark data, emissions measurement expertise and capacity building in data collection and analysis. All data is collected by a “confidential statistical officer” and is quality checked in house.

Reporting currently covers 64% of the industry’s production. IAI is aiming to increase this to 80%. Engagement from China is similar to other voluntary industry led approaches.

Table 1:

AFFG OBJECTIVES & GLOBAL INDUSTRY 2010 PERFORMANCE

| | <i>Coverage</i> | <i>Reduction Target</i> | <i>Baseline Year</i> | <i>Target Year</i> | <i>2010 Performance</i> |
|--|-----------------|-----------------------------|--------------------------|------------------------|-----------------------------|
| Alumina refining energy intensity | Global | 10% | 2006 | 2020 | 9% |
| Smelter electrical (AC) energy intensity | Global | 10% | 1990 | 2010 | 10% |
| Electrolytic process electrical (DC) energy intensity | Global | 5% | 2006 | 2020 | 4% |
| Fluoride emissions intensity | Global | 33% | 1990 | 2010 | 50% |
| | | 35% | 2006 | 2020 | 13% |
| Perfluorocarbon emissions intensity | Global | 80% | 1990 | 2010 | 85% |
| | | 50% | 2006 | 2020 | 26% |
| Alumina refining energy intensity | Global | 10% | 2006 | 2020 | 9% |

Written evidence submitted by WWF-UK

1. INTRODUCTION

1.1 The 17th Conference of the Parties (COP17) of the UN Framework Convention on Climate Change (UNFCCC) in Durban, South Africa, agreed the “Durban Platform for Enhanced Action”. This launched an entirely new process within the UNFCCC “to develop a protocol, another legal instrument or an agreed outcome with legal force... applicable to all Parties”. This is a major breakthrough: for the first time, all countries have agreed to be brought under one legally binding framework to address climate change. It is expected that this new agreement will be adopted at COP21 in 2015, and will be implemented from 1 January 2020. A new Ad Hoc Working Group is currently preparing the framework for negotiations.

1.2 If the ambition and timeframe of the Durban Platform is to be met, negotiations over the next 3 years will have to be intense and build continued trust, vision, cooperation, and be underpinned by meaningful additional action at national and regional levels. It is imperative that the momentum of COP17 continues through 2012 into the 18th Conference of Parties (COP18) which will be held in Doha, Qatar, in November 2012.

2. KEY MILESTONES NEEDED TO DELIVER A NEW LEGALLY BINDING AGREEMENT BY 2015

2.1 COP17 has set major milestones for 2015 and 2020. Reaching these milestones will require international cooperation, financial investment, and political will—not least to ramp up ambition on emissions reductions and climate finance. Achieving a fair, ambitious and binding deal in 2015 will require strenuous diplomatic efforts over the next three years.

2.2 An informal “coalition for high ambition” emerged at COP17, consisting of over 120 nations from the least developed countries, small island states, and the EU. It is very welcome that the EU identified itself with this coalition, particularly as some other parties to the Kyoto Protocol persisted in regressive negotiations and some continue to sit on the fence about renewing their commitment to emissions reduction targets. However, the shifting alliances seen at Durban are new and fragile. The UK and EU must build a strong alliance of progressive countries ready for COP18, working closely with the small island states and least developed countries through cooperation, ideas, technical support and climate-related investment. A strong coalition could create a spiral of aspiration that delivers for the climate and the needs of vulnerable people. This should be a high priority for UK diplomatic efforts over the coming year, particularly within the EU as it develops its negotiating positions for the upcoming negotiations.

2.3 The UK should also reach out diplomatically to other parties to the Kyoto Protocol such as Australia and New Zealand to encourage ambitious emissions reduction targets for the second commitment period under the Protocol which will be submitted at COP18.

2.4 The main issue that could undermine this “coalition for high ambition” is the lack of credibility in the level of climate action in the UK and EU. The UK and EU must continue to show leadership by reducing their own domestic emissions and increasing their own mitigation targets to the level demanded by climate science.

3. A LEGALLY BINDING GLOBAL FRAMEWORK TO REDUCE EMISSIONS

3.1 The Durban Platform envisages “a protocol, another legal instrument or an agreed outcome with legal force... applicable to all Parties.” WWF-UK advocates that the anticipated global agreement in 2015 should be a protocol or similar legal instrument.

3.2 The existing Kyoto Protocol already provides a clear framework for industrialized country action. Any future agreement should maintain the following elements of its architecture:

- (a) *Long-term viability*: the Kyoto Protocol provides a framework that can be updated for each commitment period, while maintaining its essential elements
- (b) *Science-based, top down approach*, setting an overall climate objective, an aggregate goal allowing appropriate consideration of the science, with comparability of effort between countries established through their respective targets
- (c) *Absolute emissions reduction targets* that are legally binding and economy-wide expressed as a percentage below the 1990 base year (Eros)
- (d) *System of 5-year commitment periods*, with comparability of effort measured against a common 1990 base year
- (e) *Common accounting and monitoring, review and verification systems*
- (f) *Compliance mechanism*, composed of two tracks—facilitative and enforcement
- (g) *Mandatory review* of provisions of the Protocol for subsequent commitment periods

3.3 WWF-UK believes any future agreement should maintain these key elements for all developed country Parties going forward. They provide a strong basis for trust and comparability of effort between Parties, and allow for regular testing against the scientific evidence.

3.4 It is clear that the Kyoto Protocol system is not suitable for all Parties’ levels of development. Negotiations should explore new ways of capturing developing countries’ actions within a legally binding framework, in a way that is appropriate for their different capabilities and that is flexible through time. This could include different Annexes to cover actions other than economy-wide targets.

4. ADEQUACY OF THE EMISSIONS REDUCTION COMMITMENTS

4.1 WWF-UK believes it is vital that all agreements within the UNFCCC are based on the most credible scientific evidence on climate change. Economic, political and developmental considerations are important but must be secondary to the overarching imperative of preventing catastrophic climate change.

4.2 On the basis of scientific advice, most Parties to the UNFCCC have accepted that global average temperature increases must be limited to 2°C above preindustrial levels and the stabilization of atmospheric concentrations of greenhouse gases at or below 450ppm CO₂e. More recent scientific research suggests that climate sensitivities may be greater than was previously understood, and in 2010 over 100 highly vulnerable countries called for review of the objective to examine whether a 1.5°C limit is in fact needed to avoid dangerous climate change. Such a review of the 1.5 °C limit is scheduled for 2013–15.

4.3 For both 2°C and 1.5°C goals to be possible with a high degree of probability, the planet’s annual global carbon budget from all sources of greenhouse gases must in 2020 be no higher than 36.1 Gigatonnes (Gt) CO₂e, roughly equal to 1990 levels; and this will need to be rapidly reduced to 7.2Gt CO₂e in 2050.¹⁰ Modelling of reduction pathways to 2050 indicate that global emissions will have to peak well before 2020 and dramatically decline thereafter if we are to have a credible prospect of achieving our stated temperature objectives, without requiring extremely challenging rates of global emission reductions after 2020. The most comprehensive assessment of the evidence from the Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report concludes that global emissions should peak in 2015.

4.4 Despite these credible warnings and the mounting evidence of climate change, it is clear that current emissions reduction pledges are totally inadequate to the science. Overall global emissions continue to rise and the IEA reported that 2010 had the highest energy-related CO₂e emissions in human history, with a record 30.6 Gt CO₂e emitted.¹¹

¹⁰ Members of the NGO community, including colleagues from IndyACT, The David Suzuki Foundation, National Ecological Center of Ukraine, Germanwatch, Greenpeace and WWF-UK. A Copenhagen Climate Treaty (2009).

¹¹ Ibid.

4.5 A recent, highly regarded report from the UN Environment Programme (UNEP) confirms that current mitigation pledges will overshoot the advised 2020 carbon budget by approximately 6–11 Gt CO₂e, opening up a “gigatonne gap” between the current trajectory of increasing global emissions and the pathway the world needs to be on to keep below 2°C.¹² Fortunately, UNEP has demonstrated that the world can still keep below 2°C if it acts now. There is sufficient mitigation potential to close the “gigatonne gap” through energy efficiency, renewable energy, closing existing loopholes, and action to arrest deforestation. A top priority is closing loopholes such as offsets, weak accounting rules for land use and forestry, and surplus “hot air”.

4.6 Most strikingly, developed country targets collectively fall very far short of the 25–40% range recommended by the IPCC. Analysis of country pledges by Climate Action Tracker shows that most developed country pledges—including the EU’s 20% target for 2020—are “inadequate” when set against the 2°C objective.¹³ A recent study by the Stockholm Environment Institute found that the developing countries have pledged to reduce emissions by considerably more than developed economies who hold historical responsibility for the bulk of CO₂e in the atmosphere to date.¹⁴ The inadequacy of developed country pledges is one of the main contributors to the “gigatonne gap” and contributes to the lack of trust in the international negotiations between developed and developing countries. In general, most developing country pledges are seen as more ambitious and in line with the science.

4.7 As well as the weakness of the headline mitigation pledges UNEP identifies a series of major loopholes that further increase the “gigatonne gap”. These include:

- (a) surplus emission allowances which may be carried over from the first Kyoto commitment period;
- (b) weak or perverse accounting rules for emissions from land use, land use change and forestry (LULUCF);
- (c) the potential for double counting of offsets against both developed and developing country pledges; and
- (d) the fact that a large proportion of offsets is not additional, and hence lead to an increase in global emissions.

Closing these loopholes, as well as raising the headline levels of ambition, is an urgent priority for COP18.

4.8 Parties have so far failed to agree a process for dealing with surplus emissions allowances. The huge supply of surplus AAUs—estimated at 7.5–10 Gt CO₂e or more—is largely held by central and eastern European countries, including several EU Member States. Carry-over of this “hot air” would fatally undermine the environmental integrity of emission targets set by the EU and others. WWF-UK believes governments must strictly limit the carryover of “hot air” to less than 1% and expects the UK to adopt a progressive position in these internal EU negotiations.

4.9 Clearly, the levels of ambition that have been pledged to date are grossly inadequate to achieve even the agreed temperature goal of 2°C, and work is needed to urgently address this, both within the UNFCCC, but also nationally and regionally through greater ambition in targets, planning for low carbon development at national level, and addressing issues not included in the UNFCCC negotiations such as phasing out fossil fuel subsidies and addressing short lived climate forcers. All action on these must *be in addition to* adequate reductions in the long-term greenhouse gases.

4.10 WWF-UK is pleased to note that the mandate of the Durban Platform includes a workplan to increase ambition. WWF-UK understand this to mean: increasing ambition through decisions taken in 2012–15; and taking forward the results of the 2013–15 1.5°C science review and the IPCC 5th Assessment Report into new climate QELROs, targets and actions (respectively for developed and developing countries) in the 2015 agreement.

5. ADEQUACY OF THE FINANCE COMMITMENTS AND THEIR DELIVERY

5.1 At COP15 in Copenhagen in 2009, developed countries agreed to provide financial support for adaptation and mitigation in developing countries of \$100 billion per year by 2020. The “fast start finance” period closes at the end of this year, and there is currently no clarity on future levels of funding. WWF-UK applauds those who have pledged money beyond 2012, including the UK’s pledge of £2.9 billion up to 2015. However, the target of \$100 billion/year by 2020 will not be met without further pledges and agreement on new and innovative sources of finance. COP17 successfully commissioned a Board and Secretariat for the Green Climate Fund which is now being set up. However, despite generous offers by Norway and Germany, the Fund will remain empty until more countries come forward with money and agree other sources.

5.2 WWF-UK advocates that the pledges of climate finance should increase linearly through the period from 2013 to 2020. We note that any mechanisms for agreeing new and innovative sources of finance, even with the most expeditious of negotiations at COP18, will require several years to enter into effect. This means that in the 2013–15 period at least, developed countries will have to include budget lines for international climate finance, and also use national or regional mechanisms, such as auctioning revenues from the EU

¹² UNEP. Bridging the Emissions Gap (2011).

¹³ See data on <http://www.climateactiontracker.org/country.php>

¹⁴ Comparison of Annex 1 and non-Annex 1 pledges under the Cancun Agreements, Sivan Kartha and Peter Erickson, Stockholm Environment Institute, Working Paper WP-US-1107, on <http://sei-international.org/mediamanager/documents/Publications/Climate/sei-workingpaperus-1107.pdf>

Emissions Trading Scheme, to help meet their climate finance obligations and to be seen as good faith negotiators.

5.3 Durban failed to exploit the momentum on innovative sources of climate finance that built through 2011 in various fora including the G20. Instead Parties settled on a vague work plan to mobilize funds from both private and public sources, with no specific sources named. COP18 must accelerate progress on this workplan.

5.4 In particular, the promising proposal for a levy on international aviation and shipping made little headway and has been stalling for over a decade. Aviation is now incorporated in the EU Emissions Trading Scheme, but there is a danger European Treasuries will ignore the Directive's recommendation to allocate revenues for domestic and international climate action. The UK and other EU Member States should follow Germany's lead and allocate a minimum of 50% of aviation ETS revenues for international climate finance. This would also help to defuse international opposition to inclusion of aviation in the EU ETS which threatens to further disrupt these negotiations.

5.5 The UK is one of a few countries with climate finance already included in budgets beyond 2012, but questions remain on how the UK plans to scale up this finance towards 2020. It is concerning that the UK (because of Treasury pressure) appears to be actively blocking the international collection of revenue from market based mechanisms for shipping and aviation despite in-principle support for such measures in other departments. It will be important for the UK to ensure financing raised from such measures will be used for international climate finance, and not captured by national treasuries.

5.6 Overall this lack of progress on finance squanders a valuable window of opportunity for cost-effective climate action. In 2011, the International Energy Agency reported that postponing mitigation, investments in clean energy, and international climate finance to allow a post-2020 global peak in emissions would drive up costs fivefold and require extremely steep emission reduction rates and aggressive mitigation measures afterwards.¹⁵ The Agency concluded, in no uncertain terms, that "delaying action is a false economy" of enormous proportions.

6. OTHER ISSUES FOR THE COP 18 NEGOTIATIONS

6.1 Any agreement within the UNFCCC must place fairness and equity at its heart, and discussions should lead to greater shared understanding of these foundational principles of the Convention. This is a particular barrier on key issues such as the global peak date and size of global carbon budget. Parties therefore need to agree a common sense of what is fair to expect of different countries, both in terms of types of action and the extent of those actions. The UK and EU must accept an appropriate measure of responsibility for their past, present and future emissions and their consequences, and engage constructively in the conversation and be open to others' views.

7. ADVANCING CLIMATE AGREEMENT OUTSIDE THE FORUM OF THE UNFCCC

7.1 Climate change is a global problem that needs to be addressed globally in a global platform. At present and for the foreseeable future, the UNFCCC process is the only way to do that. It alone has the universality, legitimacy, and evolving procedures to achieve a fair global agreement on climate change.

7.2 However, the climate problem is so urgent that any and every forum that can be used to make progress on any of the issues that are causing it should be used. The UNFCCC has been supplemented by a number of "near negotiations" processes in other fora, including the UN General Assembly, G8, G20, Major Economies Forum and Cartagena Dialog that have worked (more or less effectively) to advance parts of the overall climate change deal package with smaller groups of countries. In some cases, they have provided useful inputs to the UNFCCC process. The G8, for example, has proven to be useful in agreeing long-term mitigation ambition when in 2009 the G8 members agreed to collectively cut emissions by 80% by 2050. Likewise the Cartagena Dialog appears to have been instrumental in creating clearer understandings and sharing of ideas among countries that are, on the whole, reasonably progressive on climate change. However, some of these fora and "near negotiations" processes tend to involve wealthy, powerful countries and grant other nations only "observer" status, making these processes lopsided and calling into question their legitimacy in making decisions for a global agenda.

7.3 WWF-UK supports further negotiation and action in relevant fora such as the International Maritime Organisation (IMO) and the International Civil Aviation Organisation (ICAO), and urges greater progress in these fora towards global agreements on reducing emissions from the international aviation and shipping sectors.

7.4 There have been proposals for improving the decision-making processes within the UNFCCC, such as that from Mexico and Papua New Guinea to use voting in place of consensus. While there is merit in exploring such options for improving the governance, procedures, and effectiveness of the UNFCCC, any proposals must ensure that the views of the less powerful are not marginalised. The voices of the most vulnerable countries are the conscience of the UNFCCC and they are the ones that drive the process towards an ambitious outcome. Silencing their voices through exclusion in a smaller forum will not lead to a fair, ambitious and binding deal.

7.5 One proposal for consideration is a parallel leaders' track *within* the UNFCCC for decisions on a small number of key, highly political issues. The Copenhagen Summit in 2009 was pulled together in the space of only two months, which was insufficient time to develop a workable process. As a consequence, many issues were put before leaders rather than being taken at the appropriate technical or ministerial levels. An effective leaders' track

¹⁵ International Energy Agency. World Energy Outlook 2011 (November 2011).

would need to establish a process that feeds and responds to the normal rounds of UNFCCC negotiations, provides leaders with a clearly defined set of issues to address (for example, agreement on finance levels and sources, levels of mitigation ambition, and legal form), and leaders to better decisions.

8. SUGGESTED UK AND EU PRIORITIES

8.1 Increasing efforts to reduce emissions are a matter of urgent priority for the next few years, beginning in 2012. Successful negotiations at COP18 must be underpinned by effective domestic action at UK and EU level, and negotiating with a united front at Doha. The credibility of the EU's participation in the "coalition for high ambition" at COP18 and beyond is fully dependent upon action to increase the EU's own mitigation ambition and meeting finance pledges.

8.2 The EU should:

- (a) aim to reduce its domestic emissions by at least 30% below 1990 levels by 2020, as part of a more ambitious overall reduction of at least 40%. The current target of a 20% cut is embarrassingly weak, and is now essentially business as usual. This level of ambition would represent Europe's fair contribution to the range of cuts for developed countries of 25–40% identified by the IPCC. Domestic reductions of 30% are readily achievable merely by implementing the EU's existing targets for renewable energy and energy efficiency.¹⁶ Recent studies also show that moving from 20% to 30% would be beneficial to the European economy as a whole, boosting GDP by up to 0.6% and creating up to 6 million additional jobs.¹⁷
- (b) close loopholes in its emissions reduction targets by pushing for strict accounting for land-use, land use change and forestry so as not to undermine emissions reduction targets;
- (c) close the "hot air" loophole of the Central and Eastern European countries and Russia in the Kyoto Protocol track of negotiations;
- (d) take a strict stance against carryover of surplus emission allowances within the EU which risk weakening EU targets and the overall integrity of the international deal;
- (e) ensure that countries within the EU, such as Poland, do not use this part of the negotiations to weaken the EU's already inadequate ambition;
- (f) stand firm on the inclusion of aviation within the EU Emissions Trading Scheme against international pressure, and continue to push for a global agreement on aviation emissions.

8.3 The UK should:

- (a) increase its target to reduce emissions to at least 42% by 2020, delivering the "intended" budgets under the Climate Change Act through domestic action, as recommended by the Committee on Climate Change and the Environmental Audit Committee;
- (b) work with the European Presidencies and Member States to raise the EU target to 30% by 2020;
- (c) taking a strict position on removing surplus "hot air" both in the EU and internationally;
- (d) push forward negotiations to strengthen the Emissions Trading System through setting aside credits under the Energy Efficiency Directive;
- (e) improve its position on the Energy Efficiency Directive including a legally binding 20% EU energy efficiency target, or effective annual energy savings obligations of 1.5% per year;
- (f) ensure that UK MEPs reflect the government's position on climate change in Europe and vote accordingly, particularly on the EU 30% target;
- (g) ensure strong, positive action is taken to close the "gigatonne gap" in 2012, through the UNFCCC, G20, and other international fora;
- (h) urge other countries pledge financial and technical support for the Green Climate Fund;
- (i) use at least 50% of revenues from the EU Emissions Trading Scheme for international climate finance, as recommended in the original Directive;
- (j) urge Australia, New Zealand and other Parties to adopt and ratify the Kyoto Protocol with ambitious commitments in line with the agreed 2°C temperature goal and their promises to protect small islands states made at the 2011 Commonwealth Heads of Government meeting;
- (k) drive progress on innovative sources of finance, with concrete steps towards raising finance from international shipping a particular priority.

April 2012

¹⁶ Ecofys. "Consistency of policy instruments. How the EU could move to a -30% greenhouse gas reduction target, also analysis by European Commission". (2011). <http://www.climatestrategies.org/research/our-reports/category/57.html>

¹⁷ *A new growth path for Europe*, http://www.european-climate-forum.net/fileadmin/ecf-documents/Press/A_New_Growth_Path_for_Europe_Synthesis_Report.pdf; also see WWF's briefing on the 30% target http://www.WWF-EU.eu/climate/emissions_reduction/?200387/WWFs-Straight-Answers-to-tough-Questions-on-the-EUs-2020-climate-target

Written evidence submitted by Christian Aid

1 INTRODUCTION

1.1 Christian Aid is a Christian organisation that insists the world can and must be swiftly changed to one where everyone can live a full life, free from poverty. We work globally in 45 countries for profound change that eradicates the causes of poverty, striving to achieve equality, dignity and freedom for all, regardless of faith or nationality. We are part of a wider movement for social justice. We provide urgent, practical and effective assistance where need is great, tackling the effects of poverty as well as its root causes.

1.2 *Christian Aid has been campaigning on climate change issues since 2006 and climate change is one of our core organisational priorities.* Christian Aid's starting point on climate change is justice: Poor people are likely to be hardest hit by its impacts and yet have done the least to contribute to the climate problem. In a world mired by the scandal of poverty suffered by billions of people around the globe, the devastating impact of climate change is almost impossible to exaggerate. The brunt of the changes in the Earth's climate system such as an increase in the frequency of droughts, falling crop productivity, water stress and rising sea levels are only predicted to worsen.¹⁸ Because of the disproportionate impact on poor people, action on climate change must be fair and equitable, protecting the right of the poor to sustainable development. Put simply, it must meet an adequate climate stabilisation goal of 2°C while providing a sustainable development path to lift the world's poor people out of poverty without increasing emissions.

2 Question 1: What should be the UK and EU priorities for COP 18?

2.1 The UK and EU priorities for CMP 8/COP 18 must include:

- providing emission reduction commitments that match what the science says is required, particularly for the period up to 2020;
- ensuring support is available to communities most vulnerable to climate impacts; and
- strengthening the international legal framework to address climate change both now and in building a “post 2020” global governance model.

2.2 *Ambitious emission reductions that are science-based:* A pivotal priority of the United Kingdom and the European Union should be to align domestic emission reduction controls with the science and equity requirements and to bring these targets to CMP 8. Deep domestic emissions reductions of at least 30% on 1990 levels by 2017 (or 2020 depending on the length of the Kyoto second commitment period agreed) are necessary to demonstrate that the EU is taking a lead in ensuring global emissions peak within a timeframe that provides a reasonable probability of restraining average warming to below 2°C. In fact by IPCC calculations Annex 1 (developed countries) should take on at least a 40% target for 2020, but the 30% domestic target for the EU would be a step towards this. These emission reduction pledges should be turned into Quantified Emission Limitation And Reduction Objectives (QELROs), or legally enforceable targets under the Kyoto Protocol to be adopted as a part of an amendment to the Protocol at CMP 8. It must be a priority for EU/UK that as many countries as possible reaffirm this commitment, which is in fact a legal requirement under the terms of the Protocol itself,¹⁹ and a reflection of “good faith” given the UK/EU and all parties have been negotiating toward this since 2005.

2.3 *Strengthening the international legal framework.* COP 18 should solidify the rules and institutions created over the last 20 years of negotiations, including the Kyoto Protocol. The priorities in this area must be:

- To put pressure on Canada, Japan and Russia who have indicated their intentions to desert the Kyoto Protocol second commitment period and challenge those who want to weaken the Kyoto mitigation system.
- The Durban Platform must work towards an outcome for deep, legally binding emission reductions based on science. The ADP outcome should also ensure equity, support for adaptation for vulnerable communities and provision of the means of implementation (finance, technology transfer and capacity building) to developing countries, allowing them the right to develop in a clean and sustainable manner.
- *In terms of the pre- 2020 mitigation framework it's important that the examination of “enhancing mitigation ambition” (through the work plan launched by the Durban Platform for Enhanced Action (ADP)) is kept distinct from the negotiations of a legally binding agreement by 2015. It is a priority of the UK/EU to ensure that the work plan, including the Bonn workshop in May, does not focus on post-2020 mitigation but on enhancing mitigation ambition in the pre-2020 period.*

¹⁸ IPCC, 2012: Summary for Policymakers. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 3–21.

¹⁹ United Nations Framework Convention on Climate Change, Kyoto Protocol, Article 3, paragraph 9

2.4 *Putting adaptation back at the center of the agenda:* Faced with the predicted changes to our climate system, the UK/EU position at COP 18 must have just “adaptation” at its centre. Poor and vulnerable communities, that have not caused climate change, are already suffering from climate impacts, and that suffering will only increase. Ensuring that UK/EU commitments to meeting these needs are sufficient to meet the scale of the challenge is a key priority for COP 18.

3.0 Question 2: *What are the key milestones that need to be achieved in order to deliver a new legally binding agreement by 2015?*

The next COP/CMP must achieve the following:

- Consolidate and adopt the Kyoto Protocol second commitment period that shall begin on 1 January 2013 including whether the commitment period should run until 2017 or 2020; which countries will be on board, the level of emissions cuts which Annex 1 developed countries will adopt for this period and what happens to the surplus assigned amount units from the first commitment period.
- The “AWG-LCA”—the negotiating track for all aspects of negotiations outside of the Kyoto protocol, including shared vision, non-KP mitigation, finance, adaptation, technology transfer and forestry—comes to an end in 2012 and so that the formal negotiations from 2012 will take place under the Durban Platform for Enhanced Action (ADP) based on the work plan of ADP (to be agreed in May/June 2012).
- The Durban Platform for Enhanced Action should plan its work in the first half of this year and develop a common understanding of the structure, governance and work plan and key negotiation issues of the ADP and report to COP 18 on progress of its work, and should include: ambition for mitigation before 2020; a comprehensive global legally binding agreement negotiation track for the post-2020 global climate agreement; and finance arrangements from 2013.

4.0 Question 3: *what a legally binding global framework to reduce emissions should look like?*

4.1 The legally binding framework coming out of COP 18 must include:

- the maintenance of the current climate Convention (and its applicable principles);
- the second commitment period of the Kyoto Protocol with stronger and more environmentally effective targets and rules;
- Cancun and subsequent decisions on monitoring, reporting and verification plus compliance and transparency rules; and
- an outcome from the AWG-ADP that provides further clarity as to the form and content of parties’ commitments after 2020.

4.2 Any agreement on reducing emissions in the post 2020 period must be based on proposals on equitable effort sharing covered above in paragraphs 2.14 and 2.15 and be a part of a broader, more holistic agreement on ways to confront the climate crisis.

4.3 Pre-2020 mitigation: The Kyoto Protocol second commitment period must include strong rules, including adopting strong restrictions against the “carry-over” of emission rights or “hot air” from the first commitment period, and the development of LULUCF and forestry rules that meet the test of environmental integrity. Without these institutional improvements the Kyoto Protocol risks becoming an “empty-shell” for emission reductions with nice numbers but too many “loopholes” to be effective.

4.4 The outcome of CMP 8 must set: (a) an aggregate target for Annex B parties (developed country parties who are [part of the KP] to be able to assess this against the emissions cuts called for by science; and (b) with comparability between them make distinctions with respect to what is required of each party, so that each country is doing its fair share.

4.5 The AWG-LCA’s work must provide further decisions at COP 18 that advance the priorities of the UK/EU and provide on-going institutional support to the delivery of those objectives. The “Cancun” institutions, such as the Green Climate Fund, the Adaptation Committee, the work programme on loss and damage, the Technology Mechanism and the Finance Standing Committee, must all be supported to continue their work and the UK/EU should focus on ensuring they are resourced appropriately.

4.6 The ADP provides an opportunity to build a future extension to the climate change regime, but must not be seen as a distraction from current work and institutions. The ADP, in shaping the mandate and agenda for any future (post 2020) agreement must be comprehensive in its approach. All of the unresolved issues covered in the Bali Action Plan (negotiations from 2007 to 2012) should be present in the mandate and agenda of the ADP, otherwise the outcome risks ignoring many of the central elements of the climate change challenge.

4.7 *Effort sharing in the new global agreement for 2020:* Christian Aid believes that in order to stabilise the atmospheric concentration of greenhouse gases and hold global warming to below 2°C the world requires a shared vision of climate equity and a principle-based effort sharing framework that takes into account the responsibilities and capacities of countries to share the required global effort in an equitable way. Given the constrained carbon budget and the magnitude of the effort that is required to limit warming to within safe

levels, the global efforts needs to be shared based on agreed common set of metrics based on science and economic analysis.

4.8 UK/EU needs to agree and promote an equitable effort sharing framework amongst the UNFCCC parties this year in order to arrive at fair mitigation commitments that match what the science requires. *Beginning with the May “equitable access to sustainable development” workshop in the Bonn intercessional, the UK/EU should consider developing an effort sharing framework that operationalises the equity principles, with particular consideration of historical responsibility and equitable access to sustainable development as represented in the Principle of Common but Differentiated Responsibilities*.²⁰ This will provide a strong foundation for the “Durban Platform” and thus for the post-2020 agreement. Linking considerations of ambition and equity will advance the cause for climate change and inspire effective action in line with the latest science.

4.9 UK and EU must continue to provide leadership and maintain the focus on inclusive international process under the UNFCCC. This is a global problem that requires global cooperation.

5.0 Question 4: *Are the emissions reduction commitments proposed sufficient to keep warming below 2° degrees?*

5.1 All the recent scientific reports that examined the mitigation pledges under the Cancun/Durban outcome agreed that these pledges are inadequate placing the world on a pathway for dangerous climate change of up to 2.5°-5.0°.²¹ UNEP affirms that to remain on course to limit warming to below 2°C or 1.5°C the level of emissions in 2020 must be kept below 44Gt of CO₂e. Current business as usual emissions are on track for 56Gt of CO₂e, meaning we must abate emissions globally by at least 12GtCO₂e

5.2 Studies that have compared developed and developing countries contributions have found that developing country pledges amount to more mitigation than developed country pledges. Developed countries have pledged to abate 3–3.7Gt of CO₂e of emissions including 1.1Gt through offsetting in developing countries. They also found out that Annex 1 (developed countries) pledges are further weakened by a series of accounting “loopholes” that undermine their emissions reductions efforts. The loopholes include possible over accounting for emissions reduction from forestry, and the banking and carryover of emissions reductions credits from the Kyoto first commitment period (banking of “hot air”).

5.3 EU must increase their mitigation ambition and move to at least -30% domestic emissions reductions target for 2020. UK/EU must also enhance understanding of the scale of the emissions gap and the need to increase ambition with respect to the global objective.

6. Question 5: *Will sufficient finance be forthcoming for the various funds and programmes?*

6.1 The Durban outcome confirmed the developed countries commitment to mobilise jointly USD 100 billion per year by 2020 to address the needs of the developing countries. The EU/UK must note that this number does not reflect any assessment of the actual or project needs of developing countries and that most studies predict it to be insufficient to meet adaptation needs and fund just-transitions to avoid emissions in the developing countries.²² The Durban outcome also decided a work programme on long-term finance with the aim to contribute to on-going efforts to scale up the mobilisation of climate finance after the end of the fast start period.

6.2 2012 is a crucial year for ambitious decisions and substantial progress to ensure the scaling up of new and additional climate finance over the 2013–2020 period. Capitalisation of the Green Climate Fund will be needed to enable the GCF to establish a secretariat and take up its preparatory work. Substantially larger pledges to the GCF programmatic funding should be made in 2012. A clear signal from the EU to support such an initial capitalisation should also be reflected as early as possible in the conclusions of the EU Finance (ECOFIN in May) and Environment Councils (ENV in June)

7. Question 7: *Any other issues that should be taken into account by the UK and the EU at the COP 18 negotiations*

7.1 The United Nations has designed 2012 as the year of access to sustainable energy for all,²³ which is proposing targets on energy access, energy efficiency and renewable energy. Also the UK is hosting the Clean Energy Ministerial meeting this month in London with ministers from 23 of the world’s biggest economies. Therefore UK/EU has the opportunity in 2012 to push for global decisions to tackle energy poverty with a focus on tapping the huge renewable energy potential to deliver clean modern energy to energy poor people, while transitioning to low-carbon, greener and equitable development.²⁴

²⁰ United Nations Framework Convention on Climate Change, article 3, paragraph 1

²¹ Sivan Kartha, Annex 1 Pledges, Accounting “Loopholes” and implications for the Global 2° C pathway, Stockholm Environment Institute

²² United Nations Sixteenth session of the Conference of the Parties (COP 1) decisions, November 2010

²³ *Sustainable Energy for All: A framework for Action*, the Secretary General’s High-level Group on Sustainable Energy for All, January 2012.

²⁴ Alison Doig, *Sustainable Energy for All*, Time for Climate Justice Briefing, Christian Aid, London

7.2 The United Nations Conference on Sustainable Development taking place in June 2012 could reinvigorate the climate change debate and rebuild a shared vision to tackling poverty and climate change together at once. UK/EU should recommit to the internationally agreed Rio principles and focus on provision of the means of implementation to deliver tangible outcomes. While the UNFCCC will not be negotiated at Rio+20 it is essential that all decisions at Rio+20 recognise the need to move towards a low-carbon economy and, in the face of already committed climate change, to focus on climate resilient development. Therefore all outcomes of Rio+20, including sustainable development goals and any green economy initiatives, should support a move to greater action on climate change in the on-going negotiations.

7.3 International support for the sustainable energy for all goals could be a significant outcome of the Rio+20 Summit. The Rio+20 summit should ensure that the goals are effectively delivered through commitments to finance and investment, technology development and transfer, innovation, and effective monitoring to ensure that energy poverty reduction and low-carbon outcomes are achieved.

8. *Whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC*

8.1 The UK is a key player in the UNFCCC negotiations, pushing for an ambitious comprehensive agreement. The UNFCCC remains a central decision making forum where a global solution for the global commons problem can be found. There is presently no alternative venue where all countries can negotiate for a global comprehensive agreement. Christian Aid is of the view that climate change must be addressed in the multilateral context provided by the UNFCCC. The UNFCCC process is not moving us closer to the goal quickly enough. But a world without the UNFCCC would likely move us away from the goal. And thus far, the G20 and the Major Economies Forum haven't been able to resolve the differences amongst key countries (big polluters).

8.2 Notable in its absence in the alternative fora outside the UNFCCC is adaptation. For the major countries adaptation is not at the heart of the bargain. The core deal for the power politics is seen around mitigation and finance and given geo-political realities the risk of the core interests of the poor and vulnerable countries being ignored or left out of the future climate regime is high and so UK should continue to align itself with the vulnerable groups in the UNFCCC. Also, financing for climate change must be addressed in the multilateral context provided by UNFCCC. The process is frustrating but there have been significant achievements like the Green Climate Fund

April 2012

Written evidence submitted by Professor Sir David King, Director, Smith School of Enterprise and the Environment

It is widely acknowledged that the current mitigation targets submitted to the Cancun Agreements are far from what is required to prevent temperature increases of under 2°C above industrial levels. Current mitigation and energy policies will lead to irreversible and potentially catastrophic climate change (IEA, 2011). A temperature rise of 5°C could be reached with action within the bounds of that currently pledged (Rogelj et al., 2010). Inertia in investment in energy infrastructure is a major hurdle in reaching higher mitigation targets. The long economic timeframe of energy infrastructure means that investments made today will impact on levels of mitigation possible 30 years down the line. According to analysis by the IEA (2011), if we wish to limit atmospheric greenhouse gas levels to 450 ppm CO₂e internationally co-ordinated action must be taken to halt fossil fuel infrastructure investment. If action is not taken by 2017, all permissible emissions within a 450 ppm CO₂e scenario would come from energy infrastructure that has already been built. This means that all new energy infrastructure from 2017 onward would need to be zero-carbon. Alternatively, emitting infrastructure would need to be retired before the end of its economic lifetime, an action that is potentially very costly and politically difficult (IEA, 2011).

Clearly rapid action is required to prevent this scenario unfolding. There are, however, significant opportunities to moving to a low carbon pathway for many countries. At present, if a country is oil importing it is dependent on a costly and volatile commodity. Reducing this dependency would bring both economic and energy security advantages. Most of the major actors in the climate change negotiations are oil-importers. India, for example, was the fifth largest net importer of oil in the world in 2010, importing over 2.2 million bbl/d (~70% of total consumption) at a current annual cost of ~US\$70 billion. One clear opportunity is to remove subsidies on fossil fuels. Fossil-fuel consumption subsidies amounted to US\$409 billion worldwide in 2010. In comparison, global renewable energy subsidies were US\$66 billion in the same year (IEA, 2011). Removing fossil fuel subsidies would decrease primary energy demand by around 5% and CO₂ emissions by 5.8% by 2035 (IEA, 2011).

1.0 *UK and EU Priorities*

Over the last two decades, the UNFCCC process has had virtually no impact on shifting global GHG emissions trends away from business-as-usual. Gains made in the last few years have been due to the downturn in the global economy, and have since evaporated; reduced emission levels in some regions, such as the EU, have been largely offset by emissions embedded in imports. At COP17 in Durban last year, the EU formed an

alliance with a large number of developing countries (including the LDCs, AOSIS and ALBA negotiating groups) which played a key role in delivering the Durban Platform. The focus for this year and for COP18 needs to be on turning the Durban Platform into a process that begins to reduce *global* emissions immediately.

There are four key areas to focus on:

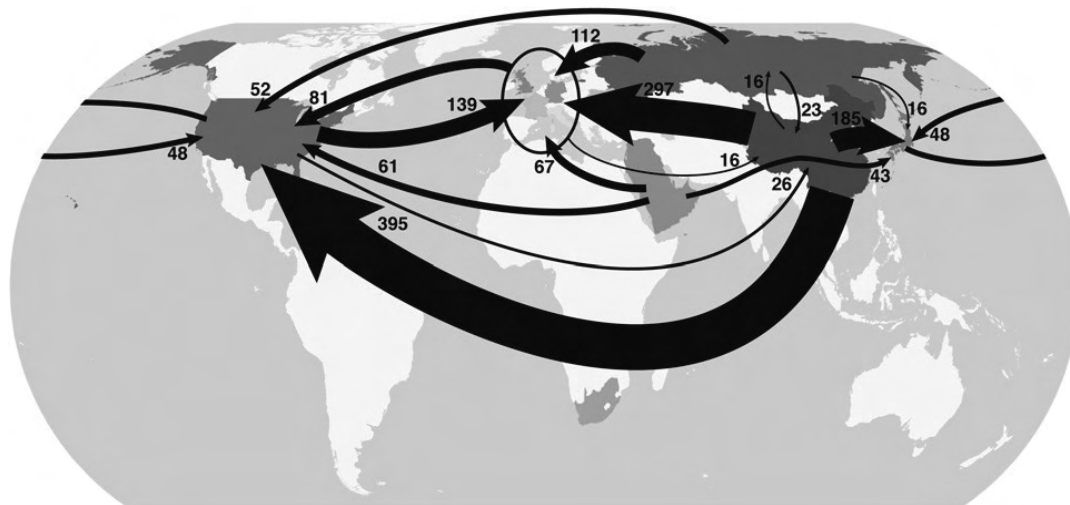
- (a) Raising mitigation ambition and early action.

Mitigation pledges to 2020 by both developed and developing countries fall far short of what is needed to limit global warming to 1.5 or 2°C. Due to the slow turnover of infrastructure, particularly in the energy sector, early investment in low carbon technology is essential to have any chance of achieving the 2°C target. With an election in November, little progress is expected in the US, while Canada, Japan and New Zealand are all moving towards higher emissions growth. The BASIC countries will not raise their ambition without significant steps by developed countries. The UK and EU must take the lead amongst developed countries and raise their mitigation ambition to the high end of their 2020 pledges. This would give muscle to the EU's negotiating position. These targets need to be incorporated into the second commitment period of the Kyoto Protocol which must be finalised at COP18.

- (b) Embedded carbon and a global cap-and-trade system.

The Kyoto process failed to price the so-called "embedded emissions" that are produced during the production of imported goods and services (see Figure 1). In many European countries, such as Sweden, Austria, the UK and France, embedded emissions account for over 30% of consumption-based emissions (Davis and Caldeira 2010). The EU needs to make it clear in the negotiations that the first-best solution for dealing with embedded carbon is for the Durban Platform to result in a global cap-and-trade mechanism with binding, but equitable, emission reduction targets for all large emitters. If such a system does not materialise, then the EU should make it clear that it will be left with no option but to implement carbon border cost levelling (CBCL) mechanisms,²⁵ which would demonstrate to the rest of the world that the EU is intent on meeting its emission reduction targets.

Figure 1: Largest interregional fluxes of emissions embodied in trade (Mt CO₂ y⁻¹) from dominant net exporting countries to the dominant net importing countries²⁶ (Davis and Caldeira, 2009)



- (c) Forging new alliances through a fair allocation of atmospheric space.

To push for a global cap-and-trade system, the EU should forge new alliances with developed nations that are already implementing a carbon price, such as Australia, and with developing countries by pushing for a fair method of allocating atmospheric space. With the national caps based on CBDRRC at the outset, a global cap-and-trade system could be a significant source of finance for developing nations for low carbon growth. LDCs should be allowed a substantial increase in emission levels in the next few decades. Then the targets should converge to 2.1 to 2.6 tCO₂e per capita per annum circa 2050, the level recommended by UK Energy and Climate Change Select Committee to limit global warming to less than 2°C with a population of 9.2 billion.

- (d) Climate finance and technology transfer.

To bring developing countries into the agreement, the EU should offer climate finance and technology transfer as part of a binding emissions reduction deal, and as such, incentivise developing countries to pressure

²⁵ CBCL involves extending carbon-pricing systems to include carbon embodied in products as they enter and/or exit an economy. To meet the need to reduce global emissions, and to ensure domestic products are competitive at home, goods being imported into the country would be charged a tax or required to purchase emission allowances equal to a measure of embodied carbon; and to ensure that domestic products are competitive abroad, exports would be rebated the carbon taxes or emission allowances paid.

²⁶ Fluxes to and from Western Europe are aggregated to include the United Kingdom, France, Germany, Switzerland, Italy, Spain, Luxembourg, The Netherlands, and Sweden.

other developed and BASIC countries to join. It should push for reliable and innovative sources of long-term climate finance to be established to fill the Green Climate Fund (GCF), and it should make clear that because private finance does not naturally flow to industries associated with adaptation (water, agriculture, etc) public climate finance will focus on these areas. On technology transfer, the EU should shift discussions over away from unnecessary arguments over intellectual property rights, and push for an international technology transfer mechanism to be charged with determining best-practice and strategies to disseminate new technologies and knowledge to their most appropriate locations.

2.0 *What are the key milestones that need to be achieved in order to deliver a new legally binding agreement by 2015?*

2.1 To ensure that the Durban Platform results in an outcome that truly delivers on mitigation, and that embedded emissions are taken into account, the negotiations should move forward along a series of phases. Initially, the ways in which the concepts of embedded emissions and equity can be addressed in the final agreement must be discussed. The initial phase will necessarily involve addressing how CBDRRC will be represented in the Durban Platform outcome: both the extent of differentiation and how differentiation will be decided. It is necessary for parties to clarify their individual understanding of the principle and the different forms it can take in the framework. Consultations with outside experts and observers of the UNFCCC should take place identifying ways forward that have CBDRRC as a central tenet. The optimal way in which embedded emissions can be taken into account, retaining the currently used production-based emissions accounting method, is through a global cap and trade system. Options should be discussed for enabling the emergence and development of this trading system from state, national and international schemes.

2.2 The second phase of negotiations should deepen the content of the agreement. In line with the decided interpretation of CBDRRC, post-2020 emission targets must be decided for all parties. The Durban Platform shall also work on adaptation, finance, technology development and transfer, transparency of action, and support and capacity building. Decisions on each of these matters will be needed before 2015, including how to incorporate existing mechanisms into the post-2020 regime.

Once significant progress on content is made, progress on form can occur. The content of the outcome is essential to decide upon as soon as possible; countries are unwilling to decide upon form before substance.

2.3 A clear time plan for delivery of a legally binding agreement with defined objectives and milestones is needed. Legal texts require six-months for circulation prior to adoption; however, it would be preferable to allow a longer period of time to enable domestic stakeholder discussion. Box 1 outlines the key phases of the negotiation process.

Box 1: Action timeline

By COP18

- Annex B countries must clarify QELROS and AAUs under the Kyoto Protocol
- Agree on work plan for the ADP and Chair

2012–2013

- Work on increasing mitigation ambition for the 2012–2020 period
- Work on concepts such as CBDRRC, equity and embedded carbon

2013–2014

- Deepening of content building on work done under the AWG-KP and AWG-LCA. Decisions on universal accounting methods, MRV, compliance, adaptation, technology transfer and finance.
- Decisions on emission reductions post-2020
- Input from the IPCC AR5 Working Groups by COP20
- Drafting of texts
- Second half of 2014 work on legal form

2014–2015:

- Circulation of legal texts

2015: COP 21

- Adoption of agreement

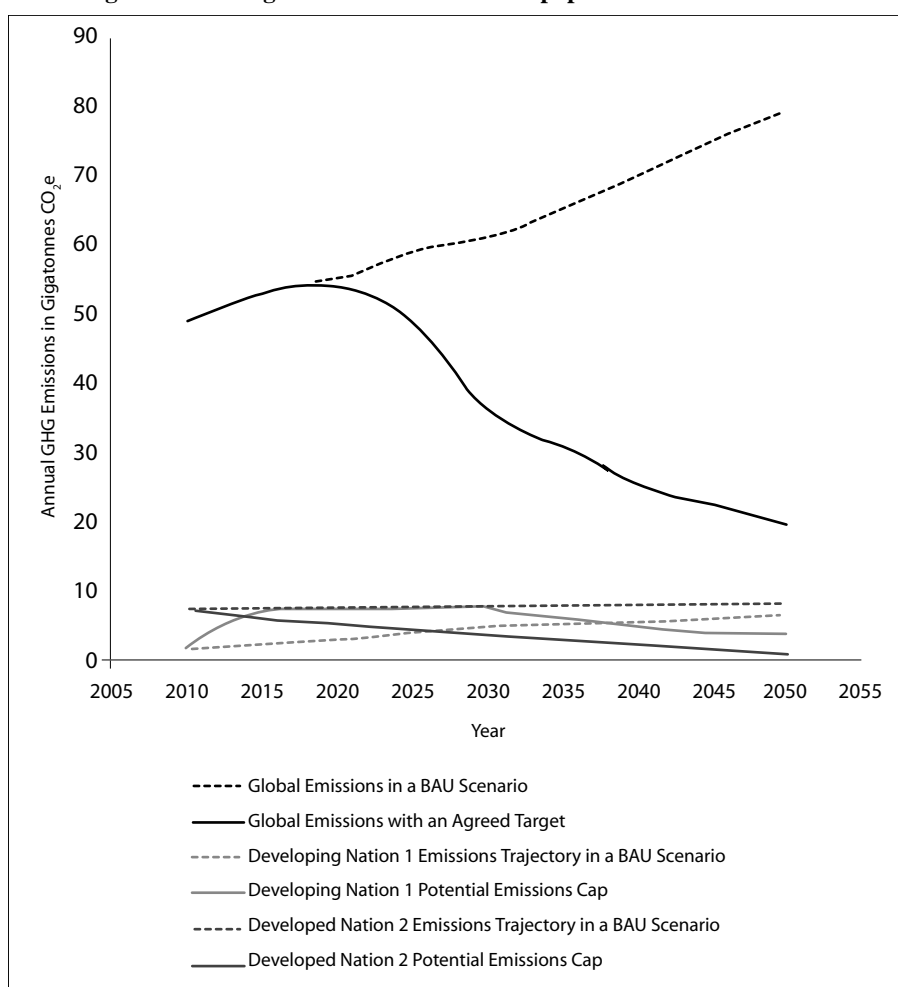
3.0 *What should a legally binding global framework to reduce emissions look like?*

3.1 A legally binding global framework on climate change should take the form of a new protocol under the Convention, ratified by all parties.

3.2 The framework should properly reflect the principle of CBDRRC. Only with equity as a central tenet of the framework will the UNFCCC be able to adequately address the issue of climate change. The framework should be well-rounded and address the issues of adaptation, finance, technology development and transfer, support and capacity building for developing countries equally with mitigation.

3.3 All parties should have legally binding commitments to mitigate their emissions that, cumulatively, enable the stabilisation of emissions in the atmosphere at a level sufficient to prevent a temperature increase over 2°C above industrial levels (or 1.5°C, pending review) with reasonable levels of certainty. All sectors of the economy should be covered by emission reduction targets, including shipping and aviation. The UK Government's target of an 80% reduction in emissions below 1990 levels by 2050 is based upon global convergence to per capita emissions level of between 2.1 to 2.6 tonnes CO₂e. The UK should press for this per capita target for 2050. The trajectory of each country to this 2050 target should be based upon the principle of CDDRRC. This means that many countries will be able to increase their per capita emissions above this level in the short term. There are a number of measures that could be used to determine what path each country's trajectory should take, for example the Human Development Index. A set of measures could be identified that inform objectively each country's emissions trajectory. In order to facilitate the convergence on a 2 tonne CO₂e per capita cap a global cap-and-trade system should be put in place. A schematic is shown in Figure 2.

Figure 2: Emissions trajectories from 2010–2050 under BAU Scenario and a Global Cap-and-Trade System. The dashed lines represent BAU emission trajectories; the solid lines represent potential agreed emissions caps converging at 2.1 to 2.6 tonnes CO₂e per capita, the level recommended to limit global warming to less than 2°C with a population of 9.2 billion.



3.4 The transparency of the agreement is critical for ensuring trust between parties. There should therefore be clearly defined universal accounting rules and stringent measurement, reporting and verification procedures put in place. The framework should include the enabling architecture that was agreed at COP16 and COP17 as well as key elements of the Kyoto Protocol such as the accounting rules and provisions for flexible mechanisms. A key question in regards to legal agreements is whether or not they can be enforced. The Kyoto Protocol has one of the strongest compliance systems in international environmental agreements and should be brought into the Durban Platform outcome.

3.5 An international group, led by Stephen Hockman QC, has been established to press for an International Court for the Environment. This Court would identify legal principles, reasons for compliance, and justification for the behaviour for the principle actors, and would include conciliation and arbitration procedures. The establishment of such a specialist Court needs to be brought into the Durban Platform process at an early stage.

4.0 *Are the emissions reduction commitments proposed sufficient to keep warming below 2 degrees?*

4.1 In theory, global emissions do not need to peak soon as long as emissions decline quickly enough post-peak. However, the later the peak in global emissions is achieved the faster the reduction in emissions needs to be. If the peak in emissions is left too late the decline in emissions that is necessary will be very difficult to achieve economically and, therefore, politically.

4.2 Following the submission of the mitigation targets to the Copenhagen Accord, UNEP (2010) produced a report analysing the range of pathways that would enable temperature increases to remain below 2°C. In the set of scenarios that give a “likely” (greater than 66%) chance of staying below 2°C, emissions peak between 2010 and 2020 and drop to around 44 GtCO₂e by 2020. Total global emissions in 2009 were estimated to be at 49.5 GtCO₂e (estimate not yet available for 2010/11) (Montzka et al., 2011). According to the report by UNEP (2010), if the current pledges are fulfilled, we can expect emissions in 2020 to be in the range of 49–53 GtCO₂e. The exact amount will depend upon whether the least or most ambitious pledges are realised. This equates to a temperature increase in the range of 2.5 to 5°C up to the end of the 21st century (UNEP, 2010). Business-as-usual emissions in 2020 are estimated to be in the range of 54–60 GtCO₂e. Priority should be given to reducing this gap in emission reductions up to 2020.

5.0 *Will sufficient finance be forthcoming for the various funds and programmes?*

5.1 Most of the finance for developing countries’ transition to low-carbon and climate resilient economies will come from capital markets and international development banks. Sufficient finance will only be forthcoming with the implementation of a global cap-and-trade system and predictable policy regimes in developing countries comprising emissions pricing, payments-for-ecosystem services, feed-in tariffs, vehicle efficiency standards, building codes, city planning and zoning, environmental impact assessments, and elimination of fossil fuel subsidies.

5.2 Public resource transfers towards the GCF should be used as a bargaining chip in the UNFCCC negotiations to incentivise and enable implementation of such policy regimes and to draw large developing countries into a binding emissions reduction deal. With the severe fiscal constraints and trade deficits faced by most developed countries, budgetary contributions towards the GCF will not be politically or economically viable in the medium-term. The EU should instead push for the fund to be capitalised through innovative sources of climate finance that fall outside the scope of any specific national jurisdiction. The most likely sources include a price on the emissions of aviation and/or maritime bunker fuels, a financial transaction tax, and auctions of emission allowances in regional trading schemes such as the EU-ETS.

5.3 In the short-term, the EU should also use access to its ETS for the sale of CDM certified emission reductions as a bargaining chip to incentivise large developing countries to sign a binding emission reduction deal. According to its current position, CERs will continue to be traded via the EU-ETS post-2012, but only from projects hosted in LDCs and countries where a bilateral agreement has been reached with this aim (Castro and Michaelowa, 2011).

5.4 In the long-term, the UNFCCC should evolve towards using cap-and-trade as the single financial instrument to mitigate climate change. A global cap-and-trade system would (a) reduce bureaucracy and give nations full responsibility over their emissions, and (b) create financial certainty within carbon markets. By setting developing countries’ national caps above their projected growth in emissions, as demonstrated by the BAU projection and cap for the developing nation in Figure 2, a global cap-and-trade system could account for the principle of CBDRRRC, and the resulting carbon finance could provide a significant source of finance for developing nations for low carbon growth.

6.0 *Any other issues that should be taken into account by the UK and the EU at the COP 18 negotiations*

6.1 BASIC countries are concerned about the EU taking action to price the emissions embedded in products entering its borders through carbon border cost levelling (CBCL) mechanisms. However, without a global agreement in place requiring other large economies to implement carbon-reducing regulations in unison, the EU will be under increasing pressure to protect the competitiveness of domestic industries by implementing CBCL on products as they enter and/or exit an economy.

6.2 Were CBCL implemented in Europe, it will likely be challenged by other countries through the World Trade Organisation Dispute Settlement Mechanism. However, if implemented in a non-discriminatory manner, CBCL will most likely be found in compliance with the General Agreement on Tariffs and Trade (Grubb, 2011, Fischer and Fox, 2009). It may, however, undermine the UNFCCC process and prevent an EU alliance with the BASIC nations. Ominous of such debates is the current row over the EU’s recent mandate to incorporate aviation into the EU-ETS. Developing countries argue that the scheme would entail additional economic burdens for developing countries that are not compliant with the principle of CBDRRRC.

6.3 To temper such debates, and to promote the alliance with BASIC countries, the EU should take three actions. First, it should make clear that if there is a global agreement with sufficient binding emission reduction targets for large emitters post-2020, it will not implement CBCL. Second, if there is no binding emissions reduction agreement, the EU should make clear that exports from countries that take comparable action to cut emissions from their own industries will be exempt from CBCL. This would create a strong incentive for

exporting countries to price the emissions on their own exports in order to capture the revenues (Grubb, 2011). Third, the EU should earmark the revenues from the auction of emission allowances from CBCL mechanisms as climate finance (Grubb, 2011, Müller, 2012).

7.0 Alternative international forums

7.1 The UNFCCC is an incredibly important forum for climate negotiations as it allows all countries to have a (in theory equal) voice in the global issue. Unfortunately, the need for unanimity can often make progress slow. Alternative forums are useful for making progress on issues where subgroups of countries are in agreement. A key example is the G20 heads of state grouping. In 2009, leaders at the G20 agreed to “rationalize and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption”. Some progress on this issue has been made but action should be scaled up significantly.

7.2 Without the business community committing to address climate change, it will be very difficult to meet mitigation and finance targets. Another important forum therefore is the new B20—a business event at the G20 Summit aimed at developing recommendations and issuing relevant commitments from business leaders and organisations to deal with current issues. The B20 is organised around 12 priority topics. Climate change could be discussed under a number of them—particularly Energy, Global Governance and Green Growth.

May 2012

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EXECUTIVE SUMMARY:

- A legally binding climate treaty that is both comprehensive and universal is unlikely to be agreed as part of the negotiations under the auspices of the UNFCCC.
- However, it will remain important to work towards a political framework agreement that includes commitments on climate change mitigation by all major emitters, whether or not these have legal force.
- COP 18 will be important as an interim step on the road towards a framework agreement, which is to be concluded by 2015. It should focus on strengthening the provisions for monitoring, reporting and verification (MRV), confirming the funding contributions for the Green Climate Fund, clarifying the extension of the Kyoto Protocol and further elaborating the funding and administrative arrangements for REDD+.

²⁷ The work of the Grantham Research Institute is integrated with the activities of the Centre for Climate Change Economics and Policy (CCCEP), hosted by LSE and the University of Leeds. CCCEP is funded by the UK Economic & Social Research Council and Munich Re.

- The UK should use other international forums for exploring political solutions and compromises between the leading carbon emitters, but the UNFCCC should remain the predominant global framework for developing international climate action.

INTRODUCTION:

1. The evidence provided below focuses on the committee's questions relating to the international climate negotiation process and the prospects for a comprehensive, legally binding, climate treaty dealing with the mitigation challenge. It is informed by the results of a recent research project carried out under the auspices of the Centre for Climate Change Economics and Policy (CCCEP) at LSE and was funded by a grant from the Economic and Social Research Council (ESRC). Please note that the evidence is given in a personal capacity and does not represent the views of the LSE, CCCEP or ESRC. For a more detailed elaboration of some of the main arguments, please see the following peer-reviewed publication:

Robert Falkner, Hannes Stephan, and John Vogler (2010). "International Climate Policy after Copenhagen: Towards a "Building Blocks" Approach." *Global Policy* 1(3): 252–62.

Question: *What should a legally binding global framework to reduce emissions look like?*

1. A legally binding global climate treaty that is comprehensive and universal is not a realistic outcome of the UNFCCC-based climate negotiation process. Instead, we need to prepare and work for a different kind of international framework for addressing global climate change. Before I outline the reasoning behind this, it is important to clarify some of the terminology in this context.

2. In the context of the intergovernmental negotiations on climate change, "a legally binding international agreement" usually refers to an international treaty that fulfils three conditions. It:

- (a) contains specific mitigation measures, with quantitative targets and timetables for reducing emissions or emissions intensity;
- (b) includes all major emitters of greenhouse gases as signatories; and
- (c) expects signatories to ratify the agreement.

3. If condition (a) does not apply, then we are dealing with a universal treaty like the UN Framework Convention on Climate Change (UNFCCC) of 1992, which was signed and ratified by all major emitters but contains no specific climate mitigation targets or timetables. If (b) does not apply, then we are talking about a non-universal treaty that does not impose emission reduction targets on all major emitters (as was the case with the 1997 Kyoto Protocol, which exempted developing countries from mandatory mitigation measures). If (c) does not apply, we are dealing with a political agreement like the Copenhagen Accord of 2009, which does not require domestic ratification and has no legal force.

4. My argument is that reaching international agreement on such a legally binding climate treaty is not feasible in the current international context—and for the foreseeable future. There are two at least reasons for this: *First*, the EU is currently alone among the five main emitters (China, United States, India, Russia) in advocating a legally binding agreement. All other major emitters lack the necessary domestic support for ambitious mitigation measures and are reluctant to agree to any deal that requires domestic ratification. Some can be described as "sovereignty hawks" that will resist a legally binding treaty at all cost. *Second*, the complexity of the matters under discussion and the uncertainty regarding future benefits and costs of mitigation efforts makes it highly unlikely that a single treaty can be negotiated that is both comprehensive and ambitious in its mitigation measures. Some major emitters are likely to play the long game of diplomacy to drag out the negotiations and will not be willing to agree to more than partial or unambitious deals on certain aspects of the global climate governance system.

5. As regards the first reason, the US position remains a key, though not the only, stumbling block. Ever since the US signed and ratified the UNFCCC, successive US administrations have either rejected additional legally binding climate commitments (eg Bush administration) or have decided not to submit such treaties for domestic ratification (Clinton administration). Although having signalled a return to multilateral climate policy, the Obama administration's stance does not fundamentally differ in this regard. Should Mitt Romney win the forthcoming presidential election, the chances of the US agreeing to any kind of legally binding treaty by 2015 will diminish even further.

6. To understand why the US is unlikely to accede to a legally binding agreement, the domestic context is of critical importance. The US Senate has repeatedly stipulated that developing countries need to be included in a multilateral mitigation effort if it is to ratify any such agreement. On this basis, it could be argued that the Durban Platform agreed at COP-17, which includes a promise by *all* parties to negotiate a comprehensive mitigation agreement, goes some way towards alleviating Senate concerns. Indeed, the inclusive nature of the Platform is one of the key achievements of the Durban conference last year. However, this is unlikely to provide the basis for a successful passage of a future climate treaty through the US Senate's ratification procedure, which requires a two-thirds majority. The earlier bipartisan consensus on international environmental policy, which was evident in US leadership in the creation of the Montreal Protocol on ozone layer depletion in the 1980s, no longer exists, and climate change has become one of the most politically divisive issues on the US environmental agenda. In 2009, Congress was unable to pass a domestic cap-and-trade bill despite a

significant weakening of its ambition, and observers do not expect domestic climate legislation to be introduced again in the near future. Without a domestic climate law in place, any internationally agreed climate treaty would most likely fall at the first hurdle in the Senate ratification process. In fact, Senate resistance to legally binding international environmental commitments extends far beyond climate change. Since the 1992 Rio “Earth Summit”, the US has become a laggard in multilateral environmental policy, refusing to ratify any major international environmental treaties of the last two decades (eg 1989 Basel Convention on Hazardous Waste, 1992 Convention on Biological Diversity and its 2000 Cartagena Protocol on Biosafety, 1997 Kyoto Protocol, 2001 Stockholm Convention on Persistent Organic Pollutants).

7. As regards the second reason, climate negotiations are *burdened by high degrees of complexity and uncertainty*, particularly with regard to future benefits and costs of taking climate action. Leaving aside scientific uncertainties and controversies, it is these economic uncertainties that weigh heavily on negotiators as they seek to determine the right course of action. Solving the climate change problem involves many different and often complex adjustments to energy systems, transport, urban infrastructure, trade, agriculture, etc., which is why it has proved exceedingly difficult to find a single institutional solution in the form of a legally binding treaty. Because of imperfect information about future economic costs and benefits, and persistent lack of trust in other states’ long-term commitments, states are wary of taking on commitments that are precise, demanding, immediate and legally binding. It has so far proved impossible to bring together the many diverse interests of states and to find a treaty solution that would make them converge. Instead, international climate policy has been fragmented, incoherent and operating at different levels of ambition. For reasons to do with the climate change problem structure itself, the international political response to climate change will inevitably be characterised by some degree of fragmentation and decentralisation.

Question: *What should be the UK and EU priorities for COP 18, and beyond?*

8. This does not mean, however, that it would be futile to continue negotiating climate change in the context of the UNFCCC. On the contrary, to make climate policy work in a fragmented and decentralised context, the international community needs to *maintain, and gradually expand, the existing institutional structure* for dealing with climate change. The UK and EU should therefore continue to push for an international agreement at forthcoming COPs. This international push is important for several reasons: to maintain the momentum in the international talks, to keep up the pressure on other major emitters to raise their level of ambition, and to gradually establish and strengthen innovative new instruments that can help control emissions and deal with the adaptation challenge. In other words, we need to conceive of international climate policy as an ongoing process of political engagement rather than a one-off treaty negotiation. What is needed is a *“building blocks” approach*, which accepts the limitations built into the international process but helps put together effective climate governance out of small, cumulative steps and partial agreements.

9. In pursuing this approach, we face a choice between working towards a political framework agreement that is universal but weak, or aiming for an international treaty that is strong but non-universal. Our priority should be to reach an *agreement by 2015 that is near universal and that includes all major emitters*. This will preserve the key achievement made between the Copenhagen and Durban COPs, which saw emerging economies such as China, India and Brazil gradually accept the need for them to take on commitments on reducing emissions or their economy’s emissions intensity. The agreement should include mitigation commitments that are as specific as possible, so that that country performance can be monitored and reviewed. Even if these commitments are not legally enforceable, they are likely to develop moral force and will become an important reference points in domestic and international politics. Giving such commitments legal force is desirable but not essential, a point underlined by Canada’s recent withdrawal from the Kyoto Protocol, which was within its rights as a party to the protocol.

10. As part of this strategy, it will be important to have in place a reliable regime for *monitoring, reporting and verification* (MRV). The UK and EU should push for a strengthening of the system that was agreed in Cancun and further elaborated in Durban. In particular, common and comparable accounting rules need to be developed for all countries, through standardizing existing approaches and providing capacity assistance to developing countries as required. Strengthened MRV rules will be important for the annual review of pledges and country performance, but also for the operation of new market-based mechanisms as agreed in Durban.

11. Other priorities for COP 18 and subsequent meetings include: agreeing firm funding commitments for the Green Climate Fund; clarifying the duration of the extended Kyoto Protocol; and resolving questions of financing and administrative arrangements for the REDD+ mechanism.

Question: *Should the UK pursue an agreement to reduce emissions through forums other than UNFCCC?*

12. The UNFCCC is the only universally accepted agreement for negotiating climate change mitigation and adaptation. Despite its many shortcomings, it continues to enjoy a high degree of legitimacy, particularly in developing countries. Whatever the outcome of future climate negotiations, the UNFCCC will continue to play a vital role in providing an umbrella for the interim steps that countries will agree as part of an unfolding buildings blocks approach. It will therefore be important to preserve the integrity of the UNFCCC as the main international platform for developing international climate policies and to avoid any form of “forum shifting” that undermines the UNFCCC architecture.

13. It is interesting to note in this context that previous attempts at forum shifting have failed. In 2005, the year that the Kyoto Protocol entered into force, the United States launched the Asia-Pacific Partnership on Clean Development and Climate (APP). The APP was set up as a voluntary public-private partnership and included countries that accounted for over half of global greenhouse gas emissions. Although some saw it as an alternative to the Kyoto Protocol, it never developed sufficient momentum to peel away support from the UNFCCC. As of 5 April 2011, the APP has formally concluded its work, and major APP members such as the US and China have, if anything, reaffirmed their willingness to work on a climate agreement within the UNFCCC process.

14. Notwithstanding the central role of the UNFCCC, leading emitters may wish to use other international forums to explore options for reaching agreement on mitigation measures. The main advantage of this would be that international discussions could take place among the small group of key countries that are critical to the success of any international agreement (the world's top 20 emitters account for around 75% of global emissions). In the past, major players have already engaged the G8 and G8+5, the G20 and the Major Economies Forum (MEF) as a vehicle for high-level climate discussions, although none of these forums have provided a platform for actual negotiations of mitigation commitments.

15. Based on past experience, there is little evidence to suggest that any of the existing alternatives could serve the purpose of facilitating the negotiation and implementation of a comprehensive international agreement on climate change. The G8 and G20 groupings provide a useful environment for political dialogue but are notoriously weak when it comes to follow-up. They simply do not have the institutional infrastructure to support the implementation of any international agreements. While they may provide an important political stepping stone on the road towards a comprehensive agreement within the UNFCCC framework, they are unlikely to offer a realistic and practical alternative to it.

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EXECUTIVE SUMMARY

- The UK and EU in Doha should engage the international community in a discussion of actions that could close the “ambition gap” (ie the “gigatonne gap”).²⁸
- A major priority for the UK and the EU in Doha will be to resolve outstanding issues regarding the second commitment period of the Kyoto Protocol, which is to enter into force in January 2013. Such issues include *inter alia*, the number of countries that will participate in the second Kyoto Protocol, as well as the level of the legally binding targets they will adopt.
- The international community needs to set a deadline (eg 2013) with regards to whether it is going to opt for “a protocol, another legal instrument or an agreed outcome”. Doing so will allow the Parties to use the remaining negotiating time on hammering out the post-2020 treaty’s technical modalities.
- Effort should be made to arrive at COP-21 in 2015 with a text on options and outstanding issues that is, as far as possible, un-bracketed. Reaching agreement in advance on sub-areas, such as REDD+ or climate finance, could create a virtuous cycle which could serve to inject momentum in the negotiating process on “larger” issues such as mitigation targets.
- The future legally binding post-2020 agreement should have the following features. First, ambitious emission reduction targets to all major emitters. Second, a portfolio of market-based policy instruments, such as emissions trading, carbon taxes and the CDM, so as to ensure cost-effective emission reduction. Third, binding commitments on climate finance; and fourth, inclusion of sectors which were omitted from the 1997 Kyoto Protocol, such as international aviation and shipping.
- Both the prospective legally binding targets under the second Kyoto Protocol, as well as the voluntary commitments and actions announced by industrialized and developing countries under the Copenhagen Accord for 2012–2020 are clearly inadequate for maintaining global warming below 2 degrees.
- Multiple, rather than one over-arching solution for climate finance is a priority. Private funding alone will not cater for all needs, and excessive reliance on public, politically pledged funding has its own problems.

²⁸ The gap between country targets for emission cuts and those the scientific community says are required to avoid devastating global warming.

- Developing effective REDD+ safeguards are likely to be subject to time-consuming international negotiations, but effort should be made to ensure that these will not be over-burdensome.
- The Doha agenda will focus on organizational and technical issues. While major breakthroughs should not be expected, making progress on the aforementioned issues should still be a priority, as they will pave way for progress in future COPs.
- EU alliances with developing countries in the Durban COP proved instrumental in paving the way for the agreement on the roadmap to a post-2020 climate deal. Building upon existing partnerships and creating new alliances should comprise an essential part of the EU's and UK's diplomatic strategy.
- The EU should consider increasing its GHG emission reduction commitment from 20% to 30% for 2012–2020 in order to enhance a stance its climate leadership and credibility.
- While there is no real alternative to the UNFCCC for negotiating a global climate treaty, addressing climate change concerns through fora such as the G-20 or the WTO could result in barriers to progress under the UNFCCC being lifted and new opportunities for progress created.

Question 1: *What should be the UK and EU priorities for COP 18?*

1. A key task of climate change negotiations in 2012 will be to finalise the mandate and work plan of the newly created “Ad Hoc Working Group on the Durban Platform for Enhanced Action” (AWG-DP). The Doha COP deliberations will also focus on what is the best route to achieve a sufficiently ambitious post-2020 global climate treaty. The EU and its Member States have already made clear their preference for this forthcoming treaty to be enshrined in a UNFCCC Protocol. The COP in Durban decided to launch “a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties” (UNFCCC, 2011). The year 2015 was set as the end date of the negotiation process with the resulting treaty envisaged to enter into force from 2020. The language of the Durban Platform is intentionally vague to leave open all possible future pathways. The post-2020 agreement could either be as strong a treaty as the 1997 Kyoto Protocol or as weak as the 2009 Copenhagen Accord. It is thus imperative for the UK and EU to call upon their allies in the UNFCCC process to deepen their collaboration in support of a Protocol and to do so in a publicly visible manner.

2. A second central objective of the UK and EU in Doha should be to forward the discussion, identification and exploration of options of actions that could close the “ambition gap” (ie the “gigatonne gap”). The EU has already submitted proposals on potential avenues of action to the UNFCCC Secretariat (UNFCCC, 2012a). The UK and EU with their allies should argue in favour of the international community adopting an array of concrete measures aimed at raising ambition before 2015. Examples of EU proposals include *inter alia*:

- (a) Ensure that Parties implement their Copenhagen commitments and actions;
- (b) Urge Parties that have not yet made pledges to do so in the immediate future;
- (c) Address emissions from hydrofluorocarbons (HFCs);
- (d) Address global emissions from international aviation and maritime transport;
- (e) Enhance action on REDD+.

3. A third objective of the UK and EU in Doha should be to address outstanding issues regarding the second commitment period of the Kyoto Protocol, which is to enter into force in January 2013. Maximizing the number of industrialized countries that will sign up to the second Kyoto Protocol should be a strategic priority. Parties intending to commit to a second Kyoto Protocol period were to inform the UN by May 2012 of their new legally binding reduction targets. Australia and New Zealand have already announced that they would decide later in the year whether to join the second commitment period of the Kyoto Protocol (Kruppa, 2012). Another issue regarding the second Kyoto Protocol commitment period has to do with excess permits (“hot air”). Cancelling excess permits after the first commitment period is likely to be resisted by many of the ten Central and Eastern European countries that joined the EU in 2004. Yet carrying them over to the next commitment period would contradict the EU rhetoric on ambition and reduce emissions reductions in the immediate future (Sterk, 2011).

Question 2: *what are the key milestones that need to be achieved in order to deliver a new legally binding agreement by 2015?*

4. For a legally binding agreement to be delivered on time, the work of the AWG-DP should be organized around the following milestones: First, the 2012 COP in Doha should reach a decision on its agenda, work plan and organisational arrangements. Second, UNFCCC Parties will need to set a deadline on determining the exact legal nature of the post-2020 treaty. Whether the international community is going to opt for “a protocol, another legal instrument or an agreed outcome” is an urgent decision that needs to be made early, preferably by 2013, so as to allow the Parties to use the remaining negotiating time on hammering out the treaty's technical modalities. For the UK and EU, a legally binding Protocol would be the most effective course of action. Third, the COP in Doha should start discussion on the post-2020 mitigation measures that address the “ambition gap”—without overlooking the 2012–2020 period during which the Parties that have adopted

voluntary pledges under the Copenhagen Accord should undertake complementary action to reduce greenhouse gas emissions beyond their pledges so as to contribute to closing the ambition gap.

5. Fourth, UNFCCC Parties need to come up with a consolidated text on options and outstanding issues well before COP-21 in 2015. Past experience has shown that forwarding heavily bracketed texts to the COP that has been set as the deadline for reaching final decisions can jeopardise prospects for a successful conclusion of deliberations (Afionis, 2011). The COPs in Hague (2000) and Copenhagen (2009) are examples of the repercussions of negotiators arriving at landmark COPs with text that is riddled with brackets. Fifth, the forthcoming fifth assessment report (AR5) of the Intergovernmental Panel on Climate Change (IPCC)—expected in 2014—will need to be taken into account by the Parties. Updated data on the magnitude of the “gap” will allow the international community to formulate a more informed position about the mitigation measures needed to maintain global warming below 2°C.

Question 3: *what a legally binding global framework to reduce emissions should look like?*

6. The future legally binding agreement is likely to have the following features. First, it is imperative that all major emitters make ambitious contributions to emission reduction so that global warming can be maintained below the 2°C objective. Because developing countries will account for more than half of global emissions by 2020 (Olmstead and Stavins, 2012), climate stabilisation will require contribution from major emerging economies such as China, India, Brazil etc., irrespective of their country classifications. The EU has already called on those countries “with the greatest responsibilities and *capabilities* [...] to make the most ambitious contributions towards the 2°C objective in the form of absolute, economy-wide reduction targets” (UNFCCC, 2012b; emphasis added).

7. Second, market-based policy instruments, such as emissions trading, carbon taxes and the CDM will need to form an important part of the treaty architecture to ensure cost-effective emission reduction (Olmstead and Stavins, 2012). International linking of national and regional ETS could be a promising option to explore given that a number of countries including China, South Korea, Australia and New Zealand are developing emissions trading schemes. Third, binding commitments on climate finance and climate finance architecture more generally should be considered a priority. While the EU is on track to meet its finance pledges for 2010–2012, less than half of the 30 billion that industrialized countries pledged in Copenhagen for the period have materialised to date. Sufficient and credible funding will be a key factor influencing developing country participation in a post-2020 agreement.

8. Fourthly and finally, sectors such as international aviation, which were omitted from the Kyoto Protocol, need to be included to a new agreement. Only the EU has so far taken any action by including domestic flights and extra-EU arrivals and departures into the EU Emissions Trading Scheme (ETS). Air transport is responsible for about 3% of anthropogenic global warming and its GHG emissions are projected to grow 2–4.5% per annum by 2030 (Haites, 2009). Climate relevant emissions of aviation include carbon dioxide (CO₂), water vapour (H₂O), nitrogen oxide (NO_x) and sulphur oxide (SO_x) but its particulate emissions also contribute to the formation of contrails and cirrus clouds and their suspected contribution to global warming (Scheelhaase *et al*, 2010). In this light it is imperative that aviation emissions be reduced as part of the global effort to close the ambition gap.

Question 4: *Are the emissions reduction commitments proposed sufficient to keep warming below 2 degrees?*

9. The emission reduction targets of Parties participating in the second commitment period of the Kyoto Protocol (2013–2020) have yet to be agreed upon. Parties have made emission reduction pledges under the Copenhagen Accord (see den Elzen *et al*, 2012) but it remains unclear whether the pledges will translate to legally binding targets under the new Kyoto Protocol. Also, Russia, Japan and Canada have formally withdrawn from the Kyoto Protocol and Australia and New Zealand have at least delayed committing themselves. To summarise, the reduction commitments for second Kyoto Protocol commitment period will not be sufficient to maintain global warming below 2 degrees, because the participating Parties will only account for a fraction (about 15%) of global emissions, and because the targets of those who do participate are not particularly ambitious (Paavola, 2012).

10. The literature is unanimous in that the voluntary commitments and actions announced by industrialized and developing countries under the Copenhagen Accord for 2012–2020 are clearly inadequate for maintaining global warming below 2 degrees (UNEP, 2011; den Elzen *et al*, 2012; Honhe *et al*, 2011). In particular, they fall clearly short of what the IPCC has deemed as necessary to meet this global warming target (see IPCC, 2007: it has called for reductions of 25–40% by 2020 and 80–95% by 2050 in industrialized countries. In addition, there should be a substantial departure from the business as usual scenario of emissions trajectory in all major developing countries in Asia and Latin America.

11. To conclude, the answer to the question above must be an affirmative negative one. The text of the Durban Platform itself notes “with grave concern the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2°C or 1.5°C above pre-industrial levels” (UNFCCC, 2011).

Question 5: *will sufficient finance be forthcoming for the various funds and programmes?*

12. A number of contentious issues with climate finance remain open in international negotiations. In the EU, the debates focus on the manner in which the block will provide its \$30 billion share of the \$100 billion that industrialized countries pledged to provide annually during 2013–2020, plus on how much of these \$30 billion will come from the private sector (Lewis, 2012). The role of the private sector remains a divisive issue, with a number of developing countries opposed to the very concept of private sector involvement in the global climate change finance architecture. Most private investment in mitigation is likely to take place in high-emitting middle-income countries. The focus will primarily be in large infrastructure sectors such as energy which are more attractive to private investors.

13. It should be a priority to emphasise the need for multiple, rather than one over-arching solution for climate finance. Private funding alone will not cater for all needs, and excessive reliance on public, politically pledged funding has its own problems. The best course of action would be to pursue an explicit mix of private and public finance, coupled with promotion of carbon markets which on one hand should stimulate demand for greenhouse gas emission reductions, increase the price of carbon, and channel funds to cost-effective emission reductions. Pursuing a mix of measures will ensure that some progress is made and that global climate finance architecture is more resilient amidst political and economic turbulences.

14. In the light of the discussion above, it is also important to promote the extension of carbon markets to new areas of mitigation, such as activities related to land use and land use change. New measures such as forest carbon markets under REDD and REDD+, and potentially new market arrangements for soil carbon could channel finance for new cost effective mitigation actions and bring developing countries to contribute to global mitigation efforts.

15. Adaptation finance should be given a higher priority in international negotiations for several reasons and its links to mitigation finance elaborated. A key reason for this is that developing countries are unlikely to agree to participate in mitigation efforts unless adaptation and its finance are given higher priority under the UNFCCC. Pledges for adaptation funding and funding actually made available are grossly insufficient in comparison to estimates of needed adaptation funding. The estimates of current adaptation funding needs in developing countries alone range from at least between \$4–40 billion per annum, rising to \$75–100 billion per annum in the future (Stern, 2007, World Bank, 2010). In comparison, the sum total devoted to overseas development assistance per annum has been ca \$100–120 billion per annum between 2004–2009 (OECD, n.d.).

16. Most adaptation funding has been allocated to public sector organisations for capacity building and adaptation planning, while the vast bulk of adaptation will take place outside the public sector. Currently funding arrangements are unable to channel funds for these purposes and place conditions for funding which make it very difficult for both public sector and private and voluntary sector to obtain and use funding effectively and efficiently. A key priority in discussions on adaptation funding should again be an emphasis on a mix of funding sources and channels to increase the reliability and accessibility of adaptation funding. The potential role of forest and other carbon markets to generate adaptation funding alongside other funding sources and channels should be highlighted.

Question 6: *Development of effective REDD+ safeguards.*

17. Despite the desire of the international community to progress with REDD, there are divergent views on the scope of activities to be included in REDD and on whether efforts to reduce emissions from deforestation should be financed through public funds or tackled using carbon markets.

18. Parties are currently debating whether to only allow for deforestation and forest degradation in the mechanism (REDD), or to expand it to include also conservation, restoration, sustainable management of forests, and enhancement of carbon stocks (REDD+). Brazil is in favour of the more extensive approach that would credit projects involving the replanting of “forests in exhaustion”, ie forests that are unable to regenerate naturally (Okereke and Dooley, 2010; ENDS Europe, 2011). Brazil’s proposal has been dismissed by NGOs as incentivizing the establishment of industrial plantations rather than natural forests. The EU has also rejected the proposal as contradicting the existing definition of reforestation.

19. Parties remain divided on whether the REDD or REDD+ mechanism should be fund-based, market-based or a combination of both. The market-based approach allows developing countries that reduce their emissions from REDD to generate carbon credits which they could then sell in carbon markets. The alternative would be to create a fund that would rely on contributions from developed country governments and other sources. Most developing countries are advocating fast adoption of carbon markets but some, such as Bolivia and Tuvalu, would prefer a fund-based mechanism.

20. Industrialized countries are similarly split, the EU favouring increased private investment but opposing inclusion of forestry in carbon markets, arguing that emissions from such sources cannot be monitored with sufficient accuracy (ENDS Europe, 2010). Prior to the 2011 Durban COP, the EU slightly changed its position on REDD+ (European Commission, 2011). It acknowledged that credits from such projects could be used for compliance with climate mitigation objectives, but only if “subject to strict quantitative limits”. The EU left open the possibility—“in light of experience gained and after thorough review”—for emission reductions resulting from REDD+ activities to be integrated into international carbon markets in the medium to long term.

It noted that the above are subject to the condition that environmental and market sustainability are ensured, as well as that robust measurement, reporting and verification (MRV) requirements are developed.

21. The above discussion indicates that developing effective REDD+ safeguards are likely to be subject to time-consuming international negotiations. In the 2010 COP in Cancun, Parties agreed to develop a safeguard information system (SIS) that would track how REDD+ safeguards are being addressed and respected. According to Daviet *et al* (2012), Parties have already submitted proposals on the nature of the information that should be submitted to the SIS, including *inter alia*:

- (a) Dispute resolution and grievance mechanisms.
- (b) Potential impacts on forests and biodiversity.
- (c) The effectiveness of laws, policies or regulations for implementing safeguards.
- (d) Information on how Parties collect the information and verify its accuracy.

22. The EU has supported the aforementioned option, but has stressed the need for SIS to be “simple and not over-burdensome, and aim for continuous improvement” (Larsen *et al*, 2011). The EU has much to offer in this respect, given its experience with addressing in legislations concerns with regards to biofuels sustainability. The EU’s 2009 Renewable Energy Directive includes an array of sustainability criteria and verification requirements for biofuels. The knowledge gained over the years in devising legislation to deal with the environmental and social implications of biofuels could be of use when developing the REDD+ SIS.

23. Despite the complexities involved in REDD+ safeguards, negotiations on them should be given sufficient priority, as making progress in this area is a key in fostering alliances needed to make progress on other issues such as emission reduction commitments and closing the ambition cap. It also forms one avenue for bringing developing countries to participate in emission reduction and in establishing an additional source of climate finance for both mitigation and adaptation.

Question 7: Any other issues that should be taken into account by the UK and the EU at the COP-18 negotiations?

24. COPs in which major breakthroughs are achieved such as Kyoto, Montreal, Bali and Durban are usually the result of “negotiation by exhaustion” (Afionis, 2011). International talks usually enter a phase of low activity after such meetings, as most countries need time to evaluate what has been agreed. The COP in Doha is unlikely to be a major COP like the one in Durban. The UK and EU should not expect major breakthroughs in Doha, as its agenda will largely contain organizational and technical issues. However, they are still important, as they will pave way for progress in future COPs.

25. The history of climate change negotiations shows that the EU’s over-ambitiousness in the aftermath of landmark COPs has lead to undesired outcomes (see Afionis, 2011). This was the case in Buenos Aires in 1998, in New Delhi in 2002 and in Copenhagen in 2009. It thus important for the UK and EU to maintain the low profile approach that paid off in Durban. Copenhagen revealed that the EU is in reality a medium-sized power in UNFCCC negotiations, compared to the US and China. Durban was an unexpected diplomatic success for the EU, but its ability to determine the outcome or the agenda of negotiations has nevertheless been weakened since Copenhagen. Instead of a leader, the UK and EU should strive to be bridge-builders between the US and the BASIC block, aiming to influence the negotiating process and balance of negotiation blocks to be as close as possible to its objectives (Oberthür, 2011).

26. Second, it is vital for the UK and EU to further foster their links with the Alliance of Small Islands States (AOSIS) and Least Developed Countries (LDCs) that played a lead role in forging agreement in Durban. UK and EU alliances with developing nations have in the past helped to pave the way for major breakthroughs. However, the EU has managed to dissolve its vital alliances with such Parties in the past for insignificant reasons (see Afionis, 2011). In Durban, the EU, the LDCs and the AOSIS countries formed a vocal and effective “coalition of ambition”. Brazil and South Africa were also instrumental in Durban by breaking BASIC ranks and declaring their willingness to sign up to an EU proposal for a roadmap to a post-2020 climate deal. It is vital for the UK and EU to maintain, foster and expand such alliances. For instance, Mexico and Peru have made concrete offers to reduce emissions at home (Den Elzen, 2012). Building bridges with India would also have merit, given the bitter exchanges between the negotiators of the two Parties in the final hours of the Durban conference. Maintenance and strengthening of such alliances does, however, require the EU to accommodate the interests and demands of its potential allies. For developing countries key issues involve for example climate finance, adaptation and REDD as discussed above (Paavola and Adger, 2006).

27. Third, the EU should consider increasing its GHG emission reduction commitment from 20% to 30% for 2012–2020. The EU pledged in 2007 to reduce GHG emissions by 20% by 2020, or by 30% if other major emitting countries committed to do their fair share under a future global climate change agreement. However, in 2009 EU emissions were already 17% below 1990 levels, meaning that little additional action would be needed for the 20% target (Oberthür, 2011). The UK, Germany and France have supported raising EU ambition, whilst Eastern and Southern Member States object to it. However, such a stance undermines EU climate leadership and credibility, given that the EU is rather vocal on the need to close the “ambition gap”. In other words, there is a contradiction between the EU’s 20% target and its call on countries that have “submitted ranges to consider their possibilities for moving to the top of their range” (UNFCCC, 2012a). According to

recent EU Commission study, stepping up the target to 30% target would cost around €33 billion (see European Commission 2012).

28. Fourth, OPEC nations such as Saudi Arabia are often considered to play a negative and obstructionist role in UNFCCC negotiations (see Depledge, 2008). Given the location of the 2012 COP, the EU and its allies should be prepared for a possible intensification of OPEC tactics. Note that Europe has traditionally found it difficult to engage OPEC members on their demands. On the other hand, COP hosts are under pressure to contribute to successfulness of negotiations in their home turf.

29. Fifth, Carbon Capture and Storage (CCS) is an important issue for the UK. The COPs in Cancun and Durban set the stage for the inclusion of CCS as a valid project type within the Clean Development Mechanism (CDM). The UK is a leading force in the CCS Action Group in the Clean Energy Ministerial, which aims *inter alia* to overcome barriers to the deployment of CCS (House of Commons, 2010). Subsequently, the UK has an interest in participating actively in the UNFCCC deliberations that will determine the modalities of including CCS in the CDM.

Question 8: *Should the UK pursue an agreement to reduce emissions through forums other than the UNFCCC?*

30. There is no real alternative to the UNFCCC for negotiating a global climate treaty. However, this does not mean that other forums are unimportant or irrelevant for global greenhouse gas emissions reduction. The EU has called for all potential avenues that could help bridge the “gigatonne gap” to be considered, including domestic and bilateral actions, as well as intensified cooperation in the framework of international bodies (UNFCCC, 2012a). The G-20 is one attractive option, given the successful record of the UK to address climate change concerns through this forum in the past. In particular, back in 2005 international climate change policy benefited substantially from the UK’s highly active Presidency of the G-8, which saw the initiation of the Gleneagles G-8+5 Dialogue (Afionis, 2008). There are also other fora, such as the WTO and trade negotiations in which barriers to progress under the UNFCCC can be discussed and lifted, or new opportunities for progress created. Making use of such other fora would not diminish the importance of the UNFCCC, but rather acknowledge the interdependence of variety of multilateral and bilateral arrangements and the possibility of ensuring progress in the UNFCCC by actions taken on other fora than the UNFCCC itself.

May 2012

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Written evidence submitted by Oxfam

WHAT SHOULD BE THE UK AND EU PRIORITIES FOR COP 18?

Strengthening the “Coalition of Ambition”

1. The European Union (EC + member states), the Alliance of Small Island States (AOSIS) and the Least Developed Countries (LDCs) grouping worked together in Durban to champion an agreement on: the continuation of the Kyoto Protocol in a second commitment period; an increase in global emissions reductions before 2020; and the launch of new negotiations towards a legally binding treaty to apply to all countries by 2015 (to take effect from 2020).

2. The EU considers the coming together of these groups as one of the major achievements in their diplomatic outreach at Durban and hopes that the coalition will continue to play a crucial role in the negotiations under the “Durban Platform on Enhanced Action” until, at least, 2015.

3. To hold the Durban Alliance together, delivery on mitigation ambition and climate finance is vital in 2012. Poor countries have been clear on what Europe should deliver to strengthen the coalition, including:

- Keeping its commitment to a Kyoto Protocol second commitment period;
- Raising its emissions reduction target from 20% to at least 30% below 1990 levels by 2020;
- Ensuring that the Green Climate Fund launched in Durban does not remain an empty shell;
- Outlining a trajectory of scaled-up climate finance to meet the \$100 billion per year commitment by 2020.

4. In order for the political conditions to be laid for a successful legally binding agreement in 2015, it is also imperative that the coalition is used as a bridge towards brokering agreement with other developing countries, in particular the emerging economies (BASICS). Ensuring the issue of equity is tackled head-on from the start of the negotiations for a post 2015 agreement (at COP 18) is vital. No legally binding agreement in 2015 is possible in the absence of a consensus around equity in long-term global mitigation efforts.

5. While the EU looks set to formally adopt a second commitment period of the Kyoto Protocol at COP18 in Doha at the end of this year, the EU has yet to bring anything new to the table in terms of greater mitigation action (a move to 30%) or commitments on climate finance. Failure of the EU to raise its climate game could put the EU diplomatic strategy at risk.

PROGRESS ON CLIMATE FINANCE

6. Since developed countries committed to mobilise \$100 billion in climate finance by 2020 in Copenhagen, very little progress has been made towards realising this objective. After 2012, the last year of Fast Start Finance (\$30 billion over three years committed in Copenhagen), there is no certainty on how much climate finance will be delivered. Some parties in UNFCCC have resisted discussions in this area, and analytical work on how finance can be mobilised has been limited to ad-hoc and one-off initiatives like the UN Advisory Group on Climate Finance, and fora with limited and exclusive memberships such as the G20.

7. At a time when the impacts of climate change are increasing in severity, progress towards meeting the \$100 billion commitment must be more ambitious and cannot be delayed any longer. New sources of finance are needed to meet the financing needs for urgent adaptation and mitigation actions and curb the displacement of Official Development Assistance (ODA) to climate finance, which is depriving poor countries of vital funding for core development needs such as health or education.²⁹ Lack of progress this year will make the goals of reaching \$100 billion by 2020 and staying below 2 degrees centigrade even more difficult to achieve, and will also intensify poverty and deny vital support to those who need financing for urgent adaptation and mitigation actions.

8. An outcome at COP18 that fails to ensure significant contributions to the Green Climate Fund and scaled up financial contributions in 2013, and provide for progress on meeting the \$100 billion commitment will adversely affect the broader negotiations. Continued commitment to climate finance for 2012–15 is vital to building the political conditions for success in the negotiations on a new legally binding agreement in 2015—to show that the EU/developed countries are keeping their Copenhagen promises—and to meeting the urgent adaptation needs of vulnerable communities in developing countries.

9. Progress on climate finance is therefore needed in the following three areas:

(i) Capitalising the Green Climate Fund (GCF)

10. The Cancun Agreements under the UNFCCC included the commitment by developed countries to jointly mobilise \$100 billion per year by 2020 in climate finance to support emissions reductions and adaptation to climate impacts in developing countries, and established the Green Climate Fund to help channel these resources. But while the Green Climate Fund is taking shape following COP17 in Durban, little progress has been made in mobilising the scale of resources needed. No country has yet indicated they will make a pledge

²⁹ In 2010 OECD figures indicate 15% of ODA was climate finance.

to capitalise the Green Climate Fund at COP18. The urgent capitalisation and operationalisation of the Fund is seen as a key test of the will of developing countries to support climate action in poor countries.

11. The UK should seek to make a significant contribution to the GCF by COP 18 in order to help build confidence and positive momentum in the GCF. The UK has stated it is committed to the aspiration of the GCF becoming the central channel in the climate finance regime. Now is the time to invest in that vision.

(ii) Long-term Finance Work Programme

12. This year's Long Term Finance (LTF) Work Programme provides a critical opportunity for focused and constructive engagement under the UNFCCC on mobilising and scaling up climate finance, especially public finance. Mobilising finance for developing country actions, and shifting investments into low carbon and climate resilient development, are integral parts of the global effort to combat climate change, and cannot be separated from the discussion of mitigation ambition. Without a concrete trajectory for scaled-up climate finance, there is little assurance that the \$100 billion by 2020 commitment will actually be met. Developing countries have bitter experience of vague long-term financing promises that are broken.

The Work Programme should contribute to a decision or decisions at COP 18 that:

13. *Identifies and advances promising sources of finance*, especially public sources, and provides guidance to the International Maritime Organisation (IMO) and the International Civil Aviation Authority (ICAO) on generating financing from measures to address emissions from international shipping and aviation;

14. *Provides a roadmap for agreeing and mobilising \$100 billion by 2020*—including sources and maximization of public sources, composition, trajectory, burden sharing and identifying the appropriate bodies that will take this work forward.

15. *Identifies specific commitments to provision of financing from 2013 onwards*, including for capitalisation of the Green Climate Fund.

May 2012

Written evidence submitted by Shell

SUMMARY

I. Shell supports the international effort of establishing a global agreement on climate change. For business to invest in low carbon technologies and support green growth, it needs the certainty that a future agreement on climate change will help to provide. The international community stands at a point of transition between the Kyoto world and a world where a new agreement embraces all nations and seeks to make significant steps forward in terms of reducing emissions. The decision made at COP17 in Durban to create a new global climate deal by 2015 for implementation in 2020 was welcome. The COP18 in Doha is an important step towards building on that progress.

II. In order to ensure a new agreement is in place by 2015 and underway by 2020, COP 18 is *the* conference that could potentially establish the broad intent with a framework agreement within which nations will negotiate and act to reduce emissions.

III. At COP 18 the UK and EU should work to progress a framework agreement by renewing the emphasis on large scale emission mitigation in the developed and rapidly emerging economies; establishing a market driven carbon price and; incorporating within the new agreement, supporting mechanisms, in particular the Green Climate Fund and the Technology Mechanism.

IV. Going forward the focus should be on large scale energy solutions, large scale technologies for CO₂ reduction, such as carbon capture and storage (CCS), and large scale market mechanisms. Technologies that can reduce CO₂ emissions before 2020 should be prioritised, including the use of gas-fired power that can lead to substantial medium term emission reductions and help leverage technologies to deal with the long term problem of cumulative emissions remaining.

V. A clear pathway, which includes the working modalities of key supporting mechanisms such as Nationally Appropriate Mitigation Actions, and supports the development of gas as a low emissions fuel, CCS technologies and energy efficiency measures, should be developed. Such a pathway needs to be supported by a carbon price and a carbon market which can trigger the necessary capital flows to low emitting market opportunities, and set out clear timelines and deadlines for implementation.

VI. The UNFCCC process has allowed for the development of actions, the sharing of ideas and approaches for the future and has been an important test bed for the merits of, for example, carbon markets. The UNFCCC remains the appropriate forum for pursuing an agreement that will incorporate all countries. Progress at ministerial level through the UNFCCC appears to be yielding results, creating other forums may not achieve faster progress.

What should be the UK and EU priorities for COP 18?

1. The key priority for Doha COP18 must be to ensure that a framework for delivering a future binding agreement on climate change mitigation is progressed. To achieve this the UK and the EU should shape the negotiations towards a successful outcome by pursuing the following key objectives:

- (a) renew the emphasis on large scale emission mitigation in the developed and rapidly emerging economies;
- (b) establish a market driven carbon price, building on the call for “New Market Mechanisms”, that should facilitate the development of an eventual global carbon market through linkage of various national, sectoral and project based approaches; and
- (c) Support concrete and sustained action by incorporating within the new agreement, supporting mechanisms, in particular the Green Climate Fund and the Technology Mechanism.

2. Technologies that can help to reduce CO₂ emission before 2020 should be prioritised. Countries need to start planning now on how they can develop low emissions economies and prepare themselves for the greenhouse gas (GHG) emission reductions needed post 2020 when the new agreement established in Durban is due to come into force. The use of gas in power generation is an option available in the near term and should be deployed where possible as soon as possible. CCS will be available in the longer term, and measures should be developed including developing regulatory frameworks.

3. The use of gas in the power sector can yield a 50% reduction in emissions compared to coal. Whilst large growth in coal continues to be seen in major economies such as China and India, a shift towards gas even in small amounts would have significant effects on emission reductions. Gas fired power is efficient, flexible in terms of power supply, and can be built quickly. In addition, a shift to a cleaner power mix by introducing gas, leverages additional energy efficiency and other saving measures. Thus, increased use of gas-fired power can lead to substantial medium term emission reductions and help leverage technologies to deal with the long term problem of cumulative emissions remaining. Despite this the UNFCCC talks little about gas as part of a mitigation strategy.

4. CCS offers real potential to reduce emissions and, according to the IEA, could represent 19% of the total emission reductions required to meet the 2°C target. However, CCS is a technology that is driven by the need to address climate change and therefore the technology will not progress without policy intervention. There needs to be a comprehensive package of financial support for CCS and policies that place a price on CO₂ emissions are central to the business case for CCS, but this is only emerging on a fragmented basis. This combination of policies will progress CCS through the demonstration phase and ensure this large scale mitigation option is a commercial option in future low emissions economies.

5. A clear pathway, which includes the working modalities of the Technology Mechanism, the Green Climate Fund and Nationally Appropriate Mitigation Actions (NAMAs), and supports the development of gas as a low emissions fuel, CCS technologies and energy efficiency measures, should be developed. Such a pathway needs to be supported by a carbon price and a carbon market which can trigger the necessary capital flows to low emitting market opportunities, and set out clear timelines and deadlines for implementation.

What are the key milestones that need to be achieved in order to deliver a new legally binding agreement by 2015?

6. The Durban Platform for Enhanced Action (DPEA) sets out a timetable for a new agreement which must be in place by 2015 and underway by 2020. This means that the parties to the UNFCCC have just four COPs and a number of intercessional meetings available to agree on a new framework for agreement on climate change mitigation. We anticipate that COP 21 in 2015 will focus on agreeing final numbers, dates and commitments, and COP 19 (2013) and 20 (2014) will cover the details of an agreement. This then leaves COP 18 in Doha as *the* conference that could potentially establish the broad intent with a framework agreement within which nations will negotiate and act to reduce emissions.

7. Key milestones for an agreement to be delivered by 2015 need to include a framework that supports “fit for purpose building blocks”. This includes carbon market based instruments and the roll out of a new market mechanism that can deliver cost effective and ambitious climate change mitigation globally. The framework needs to agree on effective structures for the Green Climate Fund and the Technology Mechanism to enable technology transfers and encourage NAMA plans. Instruments to support measurement, reporting and verification (MRVs) are important for market mechanisms to function effectively and for NAMAs and low emissions growth efforts to succeed in reducing CO₂ emissions on a large scale.

What should a legally binding global framework to reduce emissions look like?

8. The final form of an international agreement on climate change is for governments to agree on. However, in order to enable the private sector to be part of low emissions economic development it is important that the mechanisms put in place ensure a level playing field for all sectors of the global economy, ensure fair competition and recognise the benefits of the market place for reducing emissions.

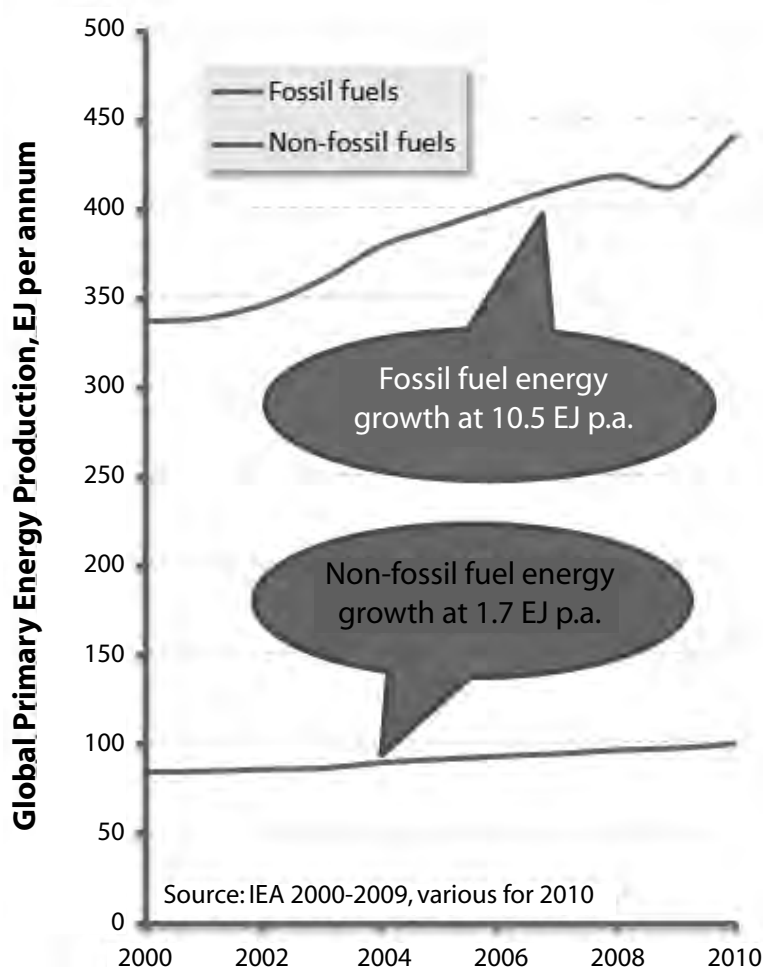
Are the emissions reduction commitments proposed sufficient to keep warming below 2 degrees?

9. Some may argue that action towards tackling global climate change as it stands today has neither the capacity nor focus to drive substantial reductions in emissions, or to curtail the global growth in emissions now underway. The reality of the current global energy system is that it is mainly fossil fuels based and will continue to be so with the exceptional increase in energy demand. As such, tackling global climate change requires dealing with the global energy system.

10. As the economic growth of developing countries accelerates, energy prices have risen despite rapid increases in renewable energy and fossil fuel production. Since 2000 the world has added 0.3 billion tonne of oil equivalents (btoe) per annum of non-fossil fuelled energy but nearly eight times as much fossil fuelled energy. This shows that global energy demand is vast and continues to grow. Indeed, IEA studies show that underlying global energy demand exceeds supply (Figure 1). This situation is likely to persist for a long time given population growth and the rapid expansion of major economies. A direct implication of this is the continuing demand for oil. The current approach, which increasingly focuses on “clean/renewable energy” solutions, will not deliver a global reduction in CO₂ emission. Nationally, there may be significant wins (for example the last 20 years has seen the UK reduce emissions through the rapid uptake of natural gas), but on a global basis, fossil fuels will continue to be in demand and CO₂ emissions will rise.

Figure 1

THE GROWTH IN GLOBAL PRIMARY ENERGY PRODUCTION HAS PRIMARILY CONSISTED IN GROWTH OF FOSSIL FUEL PRODUCTION.



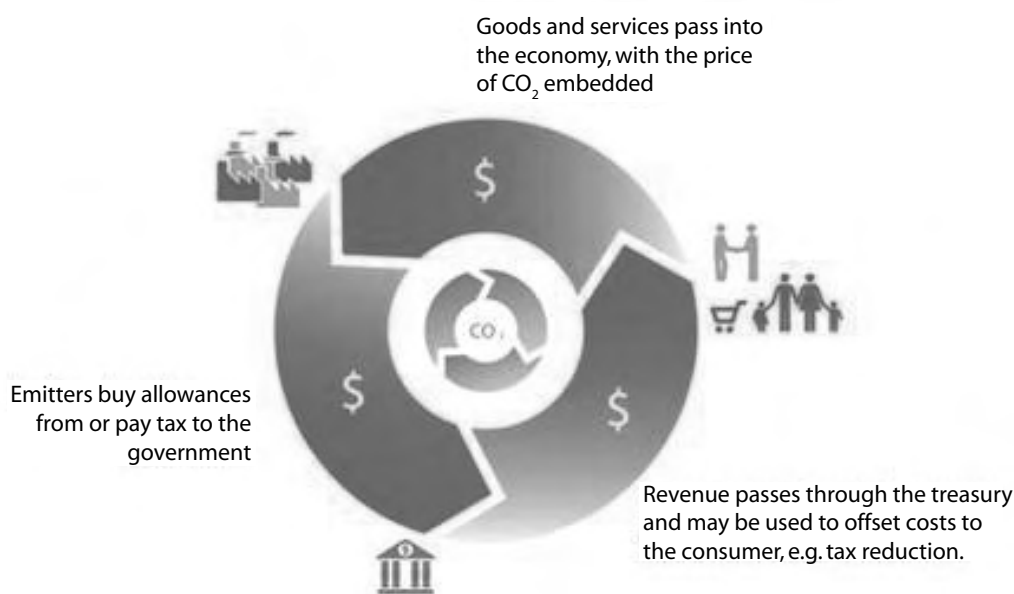
11. Therefore, the process going forward must focus on large scale energy solutions, large scale technologies for CO₂ reduction and large scale market mechanisms. Ways to achieve this are by promoting technologies such as CCS, the role of gas in the medium term as a fossil fuel which can meet energy demand whilst reducing CO₂ emissions especially if retrofitted with CCS, and carbon markets that incentivise players to reduce emissions and trade CO₂.

Will sufficient finance be forthcoming for the various funds and programmes?

12. Under the UNFCCC countries committed to the goal of mobilising climate change finance. However, this will not be delivered without market mechanisms that put a price on carbon, in order to foster private climate investment, including in developing countries, and channel the financial flows needed to make new low emission investments. The use of market mechanisms can increase the cost effectiveness of mitigation and enable ambitious climate change mitigation. At present, there is an opportunity to scale up market mechanisms and financial flows to deliver cost effective and ambitious climate change mitigation. However, carbon pricing is being introduced piecemeal throughout the world, which is resulting in less efficient abatement and unclear price signals. As such, market based mechanisms should facilitate the development of an eventual global carbon market built on multilateral linkage of various national, sectoral and project approaches. (Figure 2).

Figure 2

THE LIFECYCLE OF CARBON PRICING IN THE ECONOMY



13. The new market based mechanism should have the following characteristics:

- (a) be based on the multilateral linkage of various national approaches;
- (b) create a flexible framework that builds on the NAMAs approach;
- (c) enable countries wishing to increase their ambition levels to “opt-in” to utilise an international carbon market; and
- (d) an international carbon market with both a crediting and trading based mechanism to create both supply and demand for credits.

This approach builds on the current bottom-up, pledge and review framework that can include NAMAs, and present both countries and sectors of the economy with the option to link CO₂ emission reduction efforts to a global crediting and trading system. The flexible structure of this approach takes into account the different capacities of countries and sectors. This approach is outlined further in the World Business Council for Sustainable Development’s (WBCSD) paper on *Scaling-up market mechanisms to deliver cost-effective and ambitious climate change mitigation*.³⁰

In line with this approach, global sectors such as international shipping work best within a market mechanism working at a global level. While new market mechanisms are being developed, a carbon market approach using the Carbon Emission Reductions (CERs) Clean Development Mechanism could be used. In the longer term, it is expected that the shipping industry will take on commitments for reducing future greenhouse gas emissions under the auspices of the International Maritime Organization (IMO). The CER approach provides a viable way for the maritime industry to address CO₂ emissions in the interim while a global carbon market approach is developed. More detail on how a global cap-and-trade scheme for shipping can be developed is available from the UK Chamber of Shipping.³¹

³⁰ Available at <http://unfccc.int/resource/docs/2012/smsn/ngo/185.pdf>

³¹ *Shipping carbon emissions* available at http://www.british-shipping.org/uploaded_files/Chamber%20ETS.pdf

Whether the UK should pursue an agreement to reduce emissions through forums other than the UNFCCC?

The UNFCCC remains the appropriate forum for pursuing an agreement that will incorporate all countries. The co-operation of parties from smaller developing countries with Europe to deliver the Durban Platform demonstrated the positive aspect of having all countries involved in the negotiations. Furthermore, progress at ministerial level through the UNFCCC appears to be yielding results—creating other forums may not achieve faster progress. The G20/G8 has considered climate change on their agenda but may be too focused on other issues to give it the attention it deserves. Large emitters do already cooperate through the Clean Energy Ministerial (such as China, Canada, EU, Russia, United Arab Emirates, US and others) and the related Major Economies Forum (Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, South Africa, the United Kingdom, and the United States.) along with other activities. The CEM is meeting in London in April 2012 and will focus on energy efficiency, renewables, and carbon capture, use and storage. This is one of a number of parallel activities that take forward key elements to managing GHG emissions.

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