



House of Commons
Energy and Climate Change
Committee

The EU Emissions Trading System

Tenth Report of Session 2010–12

Volume I

Volume I: Report, together with formal minutes, oral and written evidence

Additional written evidence is contained in Volume II, available on the Committee website at www.parliament.uk/ecc

*Ordered by the House of Commons
to be printed 17 January 2012*

HC 1476

Published on 26 January 2012
by authority of the House of Commons
London: The Stationery Office Limited
£17.50

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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Contents

Report	<i>Page</i>
Summary	3
1 Introduction	5
Background	7
2 Leading by example	10
Investment in decarbonisation	10
Oversupply	11
Increasing the target (reducing the cap)	12
A set aside of EU Allowances	13
Setting long-term targets	15
Carbon price floor	16
Flexibility	17
Influencing design	20
The risks of linking	21
Potential partners	22
3 EU unilateral action	24
Leakage and energy-intensive industries: EU action	24
The threat of leakage	25
Consumption based emissions	26
How serious is the problem?	27
Unilateral actions: the overall cap	30
Border adjustment measures	30
Aviation	32
Sectoral deals	35
Shipping	37
Offset credits	38
4 UK unilateralism	41
The Carbon Price Floor	41
Changing prices	41
The rationale for the Carbon Price Floor	42
Intra-EU leakage	42
Environmental effectiveness	44
Effect on the EU ETS	44
5 Conclusion	47
Investment in decarbonisation	48
Influencing design	49
EU unilateral action	50
Leakage and energy-intensive industries: EU action	50
Unilateral actions: the overcap	50
Border adjustment measures	50

Aviation	50
Sectoral deals	51
Offset credits	51
UK unilateralism	52
The Carbon Price Floor	52
Recommendations	48
Glossary of key terms	54
Formal Minutes	56
Witnesses	57
List of printed written evidence	57
List of additional written evidence	58
List of Reports from the Committee during the current Parliament	59
Annex I: Terms of reference	60
Annex II: Phase III reforms	61

Summary

The inclusion of aviation in the EU Emissions Trading System from 1 January this year is a welcome sign that the EU is willing to flex the muscle of its market power to compel other countries to adopt climate change mitigation measures. Unilateral and courageous action by the EU created a carbon price for over half of the world's aviation emissions for the first time. In this Report, we argue that unilateral action at the EU level can produce real environmental benefits within the EU and encourage other countries to adopt their own emissions reduction measures.

First, we acknowledge that the design of some aspects the EU ETS has not been an economically rational process and that if the EU is going to exercise a leadership role, the scheme needs to be improved in a number of ways. It will be vital for the EU to create a long-term and stable carbon price to facilitate a shift to a low-carbon economy. The system needs to be able to respond to unexpected changes like the recession and to work alongside other emissions reduction policies like the Energy Efficiency Directive. It must also root out the kind of political interference that has led to a glut of emissions allowances in the past.

With the price of carbon a meagre €7, we suggest that the EU ETS needs a short-term fix, combined with long-term flexibility. The next steps for the EU should be to toughen its targets and improve the responsiveness of the system to reduce the kind of price volatility that has been a feature so far. A set aside of allowances and an adjustment of the annual emissions reduction factor should be supported strongly. We propose that a market oversight body could make independent and expert adjustments to ensure that the ETS maintains the intended investment signals. In this way, the EU ETS can continue to be the core of the global carbon market and an engine for international emissions reduction action.

Second, we suggest that if the scheme can be made more robust, the EU's role in climate leadership can be developed in a number of ways. The EU ETS can provide a model for other countries to develop their own policies. We show that the ETS can be extended to cover products and sectors in countries that have not yet adopted binding emissions reduction targets. Those countries that adopt their own policies to reduce emissions could be exempted. This can help to safeguard EU businesses which are threatened by "carbon leakage" and reinvigorate international action on climate change at a time when international negotiations appear to be deadlocked.

We recognise that there is a delicate balance between leading on climate change and going too far. However, we believe that by acting together, EU Member States can achieve significant emissions reductions and encourage other countries to adopt their own emissions reduction measures. By contrast, we show that unilateral action by individual Member States in sectors covered by the EU ETS can be counterproductive.

In our third section, we argue that the UK Carbon Price Floor will not achieve any additional emissions reductions in the EU and is likely to reduce the efficiency of the EU ETS at the expense of UK tax payers. For the first time, it raises the prospect of "intra-EU

leakage”, with our electricity producers and other businesses relocating to other countries as the difference between the EU carbon price and our top up tax grows. We do not believe that the price floor will be an effective way to encourage actions among other Member States to reduce emissions and are not surprised that many in the EU have greeted the policy with bemusement.

1 Introduction

1. The EU Emissions Trading System (EU ETS) is a cap-and-trade mechanism designed to reduce greenhouse gas emissions and to build a low-carbon economy in Europe in an economically and environmentally efficient manner. It opened on 1 January 2005 and is now approaching the end of its second compliance period, “Phase II” (2008–2012). The scheme covers large emitters in the 27 EU Member States, plus Norway, Iceland, and Lichtenstein.

2. By dividing up an overall “cap” on the amount of carbon emissions allowed by large emitters into tradable EU Allowances (EUAs), and requiring emitters to surrender an allowance for every tonne they emit, it has created a value for the right to emit greenhouse gases and encouraged emissions reductions to be made in the most affordable way possible. Those for whom the cost of emissions reductions is least are incentivised to cut their emissions and sell excess EUAs to those for whom it is more expensive. The Linking Directive 2004 also connected the EU ETS with international offset markets under the Kyoto Protocol, allowing emitters to count some low-cost emissions reductions from developing countries against their own targets.

3. The 1997 Kyoto Protocol created a framework for international cap-and-trade, but so far there has been little activity at this level. When the EU ETS was created, there was a widely-held belief that global carbon trading would eventually become a primary tool in global emissions reductions. That expectation now seems to have been at best delayed and possibly even dashed.¹ The UN Framework Convention on Climate Change (UNFCCC) negotiations are mired in deadlock and there are few signs that major emitters like the United States will adopt a national emissions trading system in the near future. Despite some progress at COP-17 in Durban—where a framework deal was reached to agree targets for all major emitters by 2015—emissions reductions on the scale needed to avert irreversible climate change appear to be dangerously delayed. In this context, we believe that the EU should look again at its flagship emissions reduction policy and to investigate how it can be adapted to suit a world without a binding emissions reduction deal.

Box 1: There are two main categories of emissions trading system:

Cap-and-trade: an overall “cap” on emissions is set by government and divided up into tradable units. These units represent an allowance to emit a specified amount of greenhouse gases. Facilities subject to the cap are required to surrender an allowance for every tonne they emit. The number of allowances under the cap can be reduced annually, ratcheting down emissions. These allowances are often given away for free to emitters (“grandfathered”) or sold at auction. Covered emitters trade these allowances, so that the cheapest reductions possible are achieved. Companies that emit more than they have allowances to cover are likely to face a penalty.

Baseline and credit: credits are awarded for reductions achieved by a company against a baseline (such as industry average, or business as usual). This is often associated with “offsetting” where reductions are balanced out against other emissions. The most common offsetting scheme is the Clean Development Mechanisms, which was introduced in the Kyoto Protocol in 1997. The CDM generates offset credits called Certified Emissions Reductions, which can be used in the EU ETS. We look at offsetting in Chapter 2.

4. Our work is also in response to internal changes in the EU ETS as it enters Phase III. The global recession has had a serious effect on prices in the System, the inclusion of the aviation sector is a fraught issue and national policies such as the UK Carbon Price Floor will interact directly with the operation of the ETS.

5. In this Report we explore how the EU can use its market power to influence the development of climate change mitigation policies across the world. To make this strategy effective, we suggest ways in which the EU ETS can be amended to increase its own internal effectiveness. We go on to look at how Member State unilateralism affects the credibility of the EU in its external actions.² We suggest that encouraging international action is vital not only for climate change mitigation, but also to create a level playing field between states, so that mitigation measures within the EU do not leave us at a competitive disadvantage.

6. Our terms of reference for the inquiry are set out in Appendix I. We held three oral evidence sessions, with academics, non-governmental organisations, industry representatives, financial experts and, finally, with the Minister of State. A full list of witnesses can be found in Appendix II. We received 43 written submissions which are published with this Report on the Internet. We continued our investigations on a visit to the EU institutions in Brussels, where we met with a number of very helpful officials from the European Commission and representatives of several interest groups. We are very grateful to everyone who contributed to our inquiry.

Background

7. In this Report, we will not rehearse old arguments about the failings of the EU ETS in its early stages. These issues have been set out comprehensively by the Environmental Audit Committee.³ Instead we will concentrate on how to improve the EU ETS and how it can be used to promote international climate change mitigation. The Emissions Trading System is a highly innovative instrument and some problems were inevitable in the opening stages. Despite major setbacks, such as over-allocation and windfall profits, the EU ETS has cut European emissions, primarily by encouraging fuel switching from coal to gas, and made the cost of carbon a significant bottom-line consideration for businesses.⁴ The European Commissioner for Climate Action has found that average annual emissions per installation in 2010 were 8% lower than when the ETS was launched in 2005. Not all of this can be attributed to reduced demand as a result of the global recession.⁵ DECC estimated that Phase II will deliver EU emission savings of around 580 MtCO₂e relative to 2005 levels and 3,100 MtCO₂e over the period 2013 to 2020.⁶

8. We start from the premise that:

- a) The glacial pace of international negotiations is not a reason for the EU to reduce its climate change ambition. Current global emissions trajectories do not achieve the emissions reductions required to limit global warming to within 2°C by 2050.⁷
- b) Emissions trading has raised awareness of the need to include the cost of carbon in the decision-making process within companies.⁸
- c) The EU ETS provides long-term benefits by moving Europe towards a more energy efficient economy. Low-carbon technologies guard against future carbon liabilities and can bring significant economic opportunities.⁹
- d) The short-term objective of the EU ETS—to reduce greenhouse gas (GHG) emissions to a pre-determined level—will be met.

Box 2: International Emissions Trading

Emissions trading takes place at three levels. International emissions trading between countries takes place under the Kyoto Protocol 1997.

National and regional schemes have been developed to help countries to meet their own targets in a cost effective manner. The EU ETS is the biggest, but New Zealand has a scheme and there are systems under development in several other countries, such as Australia and South Korea.

Sub-national schemes have also begun to appear in countries where there is no national consensus. Many states are cooperating on emissions trading in the United States, for example. There are also state-based trials planned in China.

3 Environmental Audit Committee, *The role of carbon markets in preventing dangerous climate change*, Fourth Report of Session 2009–10, HC 290, 8 February 2010

4 Climate Strategies (2009), *Climate Policy and Industrial Competitiveness: Ten Insights from Europe on the EU Emissions Trading System*

5 Ev w70 [EDF Energy]

“Connie Hedegaard European Commissioner for Climate Action EU ETS: Our central tool to reduce emissions Speech at the launch of Sandbag’s report Buckle Up! 2011 Environmental Outlook for the EU ETS, European Parliament Brussels, 14 July 2011”, Europa Press release, SPEECH/11/527, 14 July 2011

6 Ev 44 [DECC]

7 Ev w33 [National Grid]

8 Ev 89 [Emissions Trading Group]; Ev 52 [Barclay’s Capital]

9 Ev 83 [Carbon Markets and Investors Association]

e) The EU ETS has encouraged companies to identify operational efficiencies and prompted electricity generators to switch from coal to gas when the additional price of carbon made dirtier coal generation less profitable than gas.¹⁰

f) From 2013, there will be several improvements in the scheme: offset credits from most industrial gas offset projects will no longer be eligible, new offsets must come from projects in Least Developed Countries, electricity sector windfalls from passed-through opportunity costs will end thanks to full auctioning, and new security features will reduce the opportunities for fraud.¹¹ The creation of a centralised cap and allocation process should prevent countries from exaggerating their need for allowances (as they could and did under the National Allocation Plan process) and secure the overall environmental results. We set out further details in Annex II.

9. While some organisations are still calling for a tax to replace the EU ETS, we believe that the scheme will continue to be a major strength in the EU's emission reduction efforts and in moving forward global mitigation action. We therefore make a number of recommendations for ensuring that it can be made as effective an instrument as possible.¹²

10. Global legally binding emissions reduction obligations will be crucial in avoiding dangerous climate change, but it is necessary to face the fact that a more fragmented policy landscape lies ahead where progress is often most easily made on the basis of bilateral agreements.¹³ We cannot wait for a global deal before we take action on climate change and too often calls for a global agreement are an excuse not to take immediate steps.¹⁴ The European Union is a leading player in international negotiations on climate change mitigation. Its targets for 2020 are among the most ambitious in the world and the Emissions Trading System is the most advanced carbon pricing system in existence. However, progress in the climate change negotiations remains stubbornly slow and the EU has been described as a leader without followers.¹⁵

11. The EU ETS is a multi-billion euro market. According to the World Bank, the EU ETS drives up to 97% of the global trade in carbon.¹⁶ We investigate how the EU ETS can contribute to the EU's attempts to stimulate international action on climate change and how unilateral action can lead to multilateral results. We identify three kinds of leadership that the EU can exercise:

- a) The EU can lead by example, setting targets and showing that the ETS is an effective way to meet them;
- b) The EU can exercise its market power and take unilateral action that directly influences emissions in other countries; and

10 Ev w59 [Pricewaterhouse Coopers]

11 Ev 77 [Sandbag]

12 Ev w87 [Esso Petroleum Company]

13 Ev w35 [E.ON]; Ev w5 [Vattenfall]

14 Ev 77 [Sandbag]

15 Ev w26 [Dr Carlo Stagnaro]; Ev w80 [EEF]

16 Ev w54 [Friends of the Earth]

c) The EU can influence and guide the design of similar policies across the world.

In exercising this leadership, the EU must strive to make participation in the trading scheme into a desirable option. It must show that an efficient system can deliver real environmental benefits in a way that also provides economic benefits.¹⁷

12. In the first chapter, we explore how the internal functioning of the EU ETS can be improved to deliver better environmental outcomes in a more economically efficient manner. We show how an improved EU ETS can be a model for the development of climate change mitigation policies. A stronger ETS could be used to encourage emissions reductions in other countries in a more direct manner. In Chapter 2, therefore, we explore how unilateral steps can be taken at the EU level to ensure mitigation action abroad. However, while unilateral action at the EU level is a promising strategy, we warn that unilateral action at the Member State level can be counterproductive. In Chapter 3, we show that individual state action in the traded sector, such as the UK Carbon Price Floor, can impose additional costs without achieving any additional environmental benefit. This kind of action can also undermine the unity necessary to make EU-level strategies successful.

17 Ev w35 [E.ON]

2 Leading by example

13. The EU ETS was the first cap-and-trade system in the world and has provided an example for others of how to deliver emissions reductions at least cost.¹⁸ By pursuing meaningful emissions abatement, the EU Member States demonstrate leadership and effort which underpins confidence in the diplomatic effort to reach the next international agreement to curb emissions.¹⁹ However, in order for the EU to be a credible leader in international climate change mitigation and in the development of international emissions trading, it is necessary for the EU Emissions Trading Scheme (EU ETS) to be as robust a system as possible. In this chapter, we propose a number of ways in which the scheme could be improved: with the current carbon price crisis, a short-term fix may be necessary to rebalance supply and demand and mechanisms should be put in place to improve flexibility in the long-term.

Investment in decarbonisation

14. The EU ETS should deliver short-term economic efficiency and create an incentive for long-term investment in low-carbon technologies. Short-term efficiency depends on meeting the cap within a commitment period, but long-term efficiency depends on a stable and significant carbon price, which can give investors the confidence to choose low-carbon options.²⁰

15. In essence, the carbon price is determined by the supply of allowances (the overall cap on emissions) and the demand for allowances (the level of industrial activity). Emissions trading systems are “political” markets in one sense because the balance of supply and demand is defined by the amount of allowances created. The overall number of allowances available gives certainty about the environmental effect of a scheme, while scarcity in the market (the difference between demand for allowances and supply) creates a price. It is this price that can affect investment decisions and promote low-carbon choices, as an extra carbon price can make carbon-heavy schemes less economically viable. Recently, the price of EU Allowances (EUAs) has fallen considerably, as the recession led to a dip in demand.²¹

16. It was clear from our evidence that the ETS was achieving short-term emissions reductions. However it appeared unlikely that current carbon prices would achieve the

Box 3: Emissions Units

Different emissions trading schemes use different units, which usually represent one tonne of carbon dioxide equivalent.

In the EU ETS, the main unit is the EU Allowance (EUA).

The Kyoto Protocol created Assigned Amount Units (AAUs), which are divided up between nation states. It also created two kinds of offsets: Certified Emissions Reductions (CERs) from the Clean Development Mechanism and Emissions Reduction Units (ERUs) from Joint Implementation.

Other emissions units include Verified Emissions Reductions (VERs) from the voluntary market, which are often used as offsets.

Theoretically, these units could become interchangeable: a common currency of carbon.

18 Ev 44 [DECC]; Ev w33 [National Grid]; Ev w61 [Drax Power]

19 Ev w41 [SSE]; Ev w100 [ScottishPower]; Ev w15 [Energy Services and Technology Association]

20 Ev w104 [Emissions Trading Group]

21 Pointcarbon.com

long-term investment needed to stimulate a shift to a low-carbon economy.²² The 2011 International Emissions Trading Association annual survey of carbon markets participants found that the average price expected for a 2020 EUA was approximately €20. This was lower than the 2010 survey and significantly below the carbon price (of approximately €50) that respondents believed was necessary to achieve an emissions reduction of 80% by 2050, the goal adopted by the European Council.²³

17. Some witnesses believed that providing long-term investment signals was not the function of the scheme or argued that controlling fluctuations in price would not be possible, concluding that the main function of the scheme was to keep emissions within the cap.²⁴ However, investment levels in low-carbon technology depend on the carbon price and the long term stability of cap-and-trade regulation. To attract the necessary investment, the ETS needs to maintain the certainty of regulation and the carbon price. Other witnesses suggested that market intervention, long-term targets, or a reserve price could deliver this stability.²⁵

18. At the moment, under the Emissions Trading Directive, the overall EU ETS cap will be reduced by 1.74% each year. This would amount to emissions reductions of 25% by 2023; 30% by 2026; and 37% by 2030. Without sufficient investment this decade, such targets will be extremely costly and may even prove impossible to meet.²⁶

Oversupply

19. In Phases I and II of the EU ETS, the amount of allowances available and access to offsets were determined by each Member State's estimates of its emissions in a National Allocation Plan. The National Allocation Plans were extremely generous, generating more EU Allowances than there were emissions. In Phase I this caused the price of EU Allowances to fall to almost €0. In Phase II, although the EU Commission forced almost all Member States to revise their allocations, a large surplus remained. Some estimates suggest that Phase II could end with an overall surplus of 1.0–1.7 Gt CO₂e.²⁷

20. From Phase III, the overall EU ETS cap is determined centrally, with no role for National Allocation Plans, reducing the risk of oversupply. However, the generous allocations already made do not end with Phase II because surplus allowances can be carried over ("banked") for use from 2013 onwards. This could mean that no domestic emissions reductions are necessary until 2018 as emitters have enough allowances to cover their emissions.²⁸ Oversupply, combined with a fall in industrial output brought about by the recession, has caused the price to fall to about €7 in December 2011, the lowest since

22 Ev w49 [Shell]; Ev w41 [SSE]; Ev 44 [DECC]

23 European Council Conclusions 29/30 October 2009; Ev w59 [Pricewaterhouse Coopers]

24 Ev w63 [Confederation of Paper Industries]

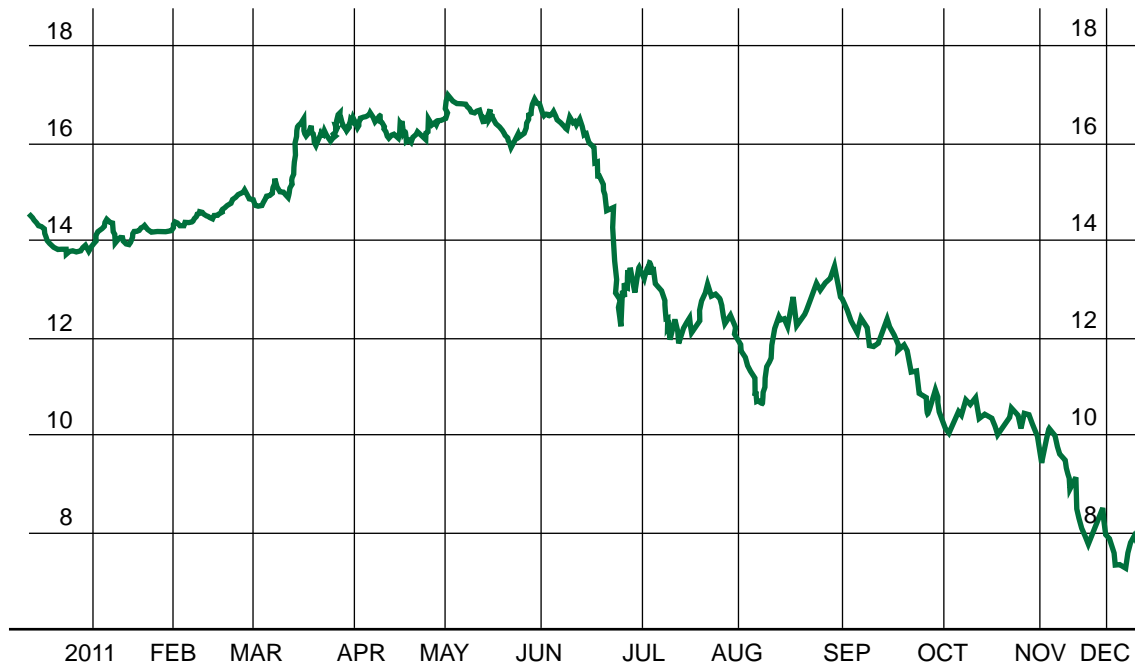
25 Ev w59 [Pricewaterhouse Coopers]; Ev w92 [Carbon Capture and Storage Association]; Ev w92 [Carbon Capture and Storage Association]

26 Ev 52 [Barclay's Capital]

27 Ev w54 [Friends of the Earth]; Ev 77 [Sandbag]; Ev w74 [FERN]; Ev w17 [Civitas]; Ev w49 [Shell]; World Bank, State and Trends of the Carbon Market 2010, May 2010, p. 57

28 Ev w54 [Friends of the Earth]; Ev 77 [Sandbag]; Ev w74 [FERN]; Ev w17 [Civitas]; Ev w49 [Shell]; World Bank, State and Trends of the Carbon Market 2010, May 2010, p. 57

2009.²⁹ Deutsche Bank's price prediction for the first half of 2012 was €5–7/tCO₂. This compared with prices of around €30/t in mid-2008.



EU Allowance Prices in 2011. Source: Bloomberg

21. The emissions trading system will deliver short-term environmental goals, but if it is to drive long-term investment decisions a strong and stable carbon price signal is necessary. This can only be provided by a scarcity of EU Allowances. The EU ETS needs to be strengthened and issues resolved before Phase III starts in 2013.

22. The Committee has heard a number of proposals for maintaining a strong carbon price, including:

- Increasing the emissions reduction target by lowering the overall cap;
- Setting aside surplus allowances;
- Establishing targets further into the future; and
- Setting a reserve price for auctions of EU Allowances.

We will look at each of these in turn.

Increasing the target (reducing the cap)

23. The most effective way to rebalance supply and demand would be to adjust the overall EU ETS cap. This option is complicated by the fact that the cap is set by the EU Emissions Trading Directive and so a revision would require EU-level negotiations to amend the

²⁹ Pointcarbon.com; Ev w24 [Centrica]

Directive. A move to a 30% reduction target is already being pursued by DECC.³⁰ In May, Chris Huhne told the House that:

we are making progress with our aim to achieve a 30% reduction in carbon emissions by 2020. A number of other countries have joined us in the call for that, including, recently, Denmark, Sweden and Spain, and I am confident that we will make further progress among our partners in the months to come.³¹

24. Many witnesses advocated such a shift. For example, six major European utilities recently called for a 25% rather than 20% reduction in GHG emissions by 2020.³² Others, such as National Grid and WWF, have called for a 30% reduction target.³³ Some witnesses suggested more specific adjustments in the cap. Sandbag—a climate change campaigning organisation—calculated that supply in Phase III should be reduced by 1.7Gt to generate real scarcity and suggested that the annual reduction factor of 1.74% should be increased to at least 2.4%, which would lead to a lower cap each year.³⁴

25. In December 2011, the EU Parliament Environment Committee voted to increase the rate at which the cap was tightened from 1.74% to 2.25%, which would eliminate more than 8.5 billion EUAs by 2050.³⁵ This proposal would need to be approved by the European Parliament in plenary session and by the Council of Ministers in order to become law.

26. We welcome the decision of the EU Parliament's Environment, Public Health and Food Safety Committee to support an increase in the annual reduction rate for the EU ETS cap. The linear reduction of 1.74% per year must be adjusted to set out a long-term emissions trajectory that would deliver a 60%–80% reduction in greenhouse gas emissions by 2050. The Government should lobby for this adjustment to be approved in the European Parliament and by the Council of Ministers.

27. The overall EU ETS cap should also be revised to deliver more ambitious emissions reductions. A 30% emissions reduction target for 2020 would be appropriate and we support the Government's efforts to secure agreement for this target.

A set aside of EU Allowances

28. A second option for rebalancing supply and demand would be to “set aside” a share of the allowances planned for auction. This would simply mean removing a number of EUAs from the number that would be auctioned by each Member State in Phase III. A set aside would increase demand for the remaining allowances and raise their price. These allowances could then be held in reserve until a later date, or cancelled altogether.

30 Ev 44 [DECC]

31 HC Deb, 17 May 2011 : Column 186

32 SSE (2011) European Energy Industry CEOs call on EU to adopt a 25% greenhouse gas emissions reduction target by 2020

33 Ev w33 [National Grid]; The Climate Group (2011) EU 30% initiative; “72 leading companies call for increase in EU climate ambition to boost EU economy and jobs”, WWF Global, 15 June 2011

34 Ev 77 [Sandbag]; Ev w74 [FERN]; Ev 77 [Sandbag]; Ev w70 [EDF Energy]; Sandbag, *Buckle Up!*, July 2011, pp 44–45

35 “EU carbon price rockets 30% on set-aside vote”, *Environmental Finance*, 20 December 2011

29. The possibility of a set aside has already been discussed at the EU level.³⁶ Although the European Parliament initially rejected proposals for a set aside, an amendment to the draft Energy Efficiency Directive is currently being considered which would mandate the set aside of 1.4 billion allowances.³⁷ The amendment is intended “to restore the price mechanism to levels envisaged in the impact assessment on which basis [the energy efficiency directive] was agreed”.³⁸ Fifteen companies and lobby groups—including Dong Energy, Alstom, Vestas and Shell—wrote to the president of the EU Commission in support of the amendment.³⁹ EUA prices rose as much as by 32% when the EU Parliament’s Environment Committee voted in favour of an additional amendment to “withhold a significant amount of allowances”.⁴⁰ Like the amendment to the annual adjustment, the amendment would need to be agreed by the Parliament in plenary session, as well as by Member States, in order to become law.

30. The withdrawal of 1.4 billion EUAs would, according to Shell, push up the ETS carbon price to around €23/tCO₂.⁴¹ Since it could also generate extra revenues for governments, which could be invested in low-carbon technology, the extra value created by the increase in price was expected to be more than the value of the allowances that would be set aside.⁴² Shell argued that:

Reducing auctioning rights by some 15% over the whole period 2013–2020, representing some 1.4 billion allowances, could be sufficient. Projections suggest that auctioning revenue might increase by around a third, because carbon prices are expected to increase by more than the reduction of allowances auctioned.⁴³

Shell believed that the most appropriate method to achieve a robust carbon price would be to set aside allowances from Phase III auctions.⁴⁴ This option could also require a revision of the EU ETS Directive. Without a revision of the ETS Directive before 2020, any allowances that had been set aside may have to be put back on the market under Article 10 of the ETS Directive.⁴⁵

31. Some witnesses were concerned that artificial intervention and resulting price inflation would undermine market expectations. Short-term measures that interfered with an already agreed emissions cap could heighten perceptions of political risk, undermine confidence and damage long-term investment.⁴⁶ Others suggested that adjusting the cap to

36 European Commission, (2011). A Roadmap for moving to a competitive low carbon economy in 2050

37 Committee on the Environment, Public Health and Food Safety, On the analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage, (2011/2012(INI)), June 2011, para 19

38 “Post-2012 EU ETS set-aside hangs in the balance”, ICIS Heren, 15 December 2011

39 “Business leaders call on EU to save ETS”, *Commodities Now*, 15 December 2011

40 “EU carbon surges as Parliament backs proposal to withhold permits”, *Bloomberg*, 20 December 2011; a vote in the Environment Committee on an amendment to the Energy Efficiency Directive is expected on 28 February 2012.

41 Ev w52 [Shell]

42 Ev w52 [Shell]

43 COM(2010) 265 FINAL

44 Ev w49 [Shell]

45 According to Article 10 of the Directive, “[f]rom 2013 onwards, Member States shall auction all allowances which are not allocated free of charge [...]”, Ev 70 [IETA]

46 Ev w17 [Civitas]; Ev w35 [E.ON]

match demand during the recession would stifle recovery.⁴⁷ We acknowledge these concerns and agree that in future any market intervention must be made according to clearly defined rules. In this case, however, we believe that circumstances necessitate action.

32. In the early stages of EU ETS, a separate pot of EUAs was maintained as a New Entrants' Reserve (NER), which was intended to provide free allowances to new emitters. As the extent of over-allocation became clear, 300 million allowances from the NER were set aside under Article 10 (a) of the revised ETS Directive and converted into a financing instrument for low-carbon projects, known as the NER300.⁴⁸ These allowances would be sold to support innovative renewable energy technology and carbon capture and storage projects. A similar arrangement may be possible for further allowances set aside by the Commission.

33. The EU Parliament should vote to set aside a significant number of EU Allowances and Member States should support this move as a necessary short-term fix for the EU ETS.

34. In order to avoid creating uncertainty, any set aside of allowances would need to be carried out under transparent rules, based on an objective assessment of over-supply and reduction in demand caused by the recession. A set aside may be an appropriate short-term mechanism for dealing with the surplus of EU Allowances, but there should be a clear mechanism for retiring allowances or returning them to the market at a later date. A set aside could provide a useful pool of allowances to support low-carbon development, following the example of the New Entrants Reserve.

Setting long-term targets

35. A third way to improve prices in the short-term would be to set ambitious long-term emissions reduction targets. Increased certainty about the trajectory of emissions reductions could add value to allowances now, because it would give emitters confidence that allowances will become increasingly scarce and valuable in the future.

36. Investment in low-carbon technology is a long-term commitment. The life-cycle of some industrial or power projects can be up to 60 years.⁴⁹ Therefore developers need to be satisfied that a suitable cost of carbon will be maintained to support the projects. Long-term targets would help to create this certainty. They could also help to support the current market price for EU Allowances by showing that demand would be sustained through the life of an investment. With plans only running until 2020, firms are unable to tell if their investment will pay off.⁵⁰

37. Targets could be set for commitment periods much further ahead, following the example of the UK Climate Change Act 2008, which sets a target for 2050. Witnesses suggested that long-term targets could do more to strengthen the CO₂ price level than

47 Ev w17 [Civitas]

48 www.ner300.com/

49 Ev w92 [Carbon Capture and Storage Association]; Ev w49 [Shell]

50 Ev w17 [Civitas]; Ev w70 [EDF Energy]; Ev w96 [Association of Electricity Producers]

short-term interventions such as auction set-asides.⁵¹ The EU's 2050 Roadmap could give clarity to industry on the post-2020 abatement trajectory in the EU.⁵²

38. Long-term targets would be an effective way to create certainty for investors in low-carbon technology and to give a clear picture of likely demand for EU Allowances over time, which would improve price predictability. Firm emissions reduction targets should be set for 2050, based on the 2050 Roadmap. Indicative targets should also be laid out for the intervening periods, with a mechanism for confirming precise targets in advance of each Phase of the EU ETS.

Carbon price floor

39. The most direct way to maintain a specific range of prices in the EU ETS would be to set a carbon price floor at EU level. In doing so the market basis of the scheme would be weakened and it would take on more “tax-like” features by creating more certainty about price at the expense of some of the efficiency of a trading system. The UK has set a unilateral Carbon Price Floor, which we consider further in Chapter 3. For now, we will focus on EU-level price intervention.

40. A price floor could be achieved in a number of ways. For example, it would be possible for governments to buy back allowances when they fell below a certain price. Several witnesses believed that an auction reserve price would be the best way to give certainty about future carbon price trajectories and reduce volatility.⁵³

41. A floor price would send a clearer, long term signal to investors about the price of carbon and should support more low carbon investment.⁵⁴ It may also limit the overall number of EUAs available, if some were to remain unsold. Shell considered that an auction reserve price should be set for Phase IV of the ETS, with the price set well in advance.⁵⁵ Setting an auction reserve price for Phase IV could also give new value to existing allowances because they could be banked into future phases and benefit from the known auction reserve price.⁵⁶ The price floor could be increased over time to ratchet up the incentives for reducing emissions.

42. However, the Commission believed that agreeing a reserve price would be difficult because of different levels of ambition among Member States. Commissioner Hedegaard told us that some Member States would prefer prices to be capped at the level proposed for a price floor.⁵⁷

43. We agree that a common EU-wide auction reserve price would give long-term confidence to emitters. The auction reserve price should be announced well in advance,

51 Ev w5 [Vattenfall]; Ev w35 [E.ON]

52 Ev 70 [IETA]

53 Ev w17 [Civitas]; Ev w59 [Pricewaterhouse Coopers]

54 Ev w59 [Pricewaterhouse Coopers]

55 Ev w52 [Shell]

56 Ev w49 [Shell]

57 Discussions with Commissioner Hedegaard.

and ideally as soon as possible. Provided that it was set at a sufficient level a floor price would create long-term strength and predictability for the carbon price, giving a better signal for investors.

Flexibility

44. A major cause of the weakness and volatility in the carbon price has been the inability of the EU ETS to respond to changes in demand caused by factors outside the control of the System. The recession has caused a serious dip in demand for EU Allowances. New emissions reduction policies, such as the proposed Energy Efficiency Directive, could also bring about reductions in demand which were not anticipated when the cap was set. In combination with factors inside the system—such as over-allocation—this has led to a serious lack of demand with no mechanism for adjusting supply.⁵⁸

45. Ideally, it would be possible to address each policy objective with a single economic instrument. However, in reality it is often necessary to adopt a number of approaches to a problem, especially one as complex as climate change mitigation. The EU ETS is designed to uncover and exploit low-cost emissions reduction opportunities, but other instruments may be needed to overcome other market failures. For example, the Renewable Energy Strategy Directive could drive innovation and bring new technologies to market, while the Energy Efficiency Directive could unlock cost reductions and energy saving measures that the ETS cannot access.⁵⁹

46. Where new policies influence demand in the ETS, it may be necessary to compensate by adjusting the cap in order to maintain sufficient scarcity to support a credible price of carbon.⁶⁰ In its Roadmap for moving to a competitive low carbon economy in 2050 and the impact assessment in the proposal for a Directive on Energy Efficiency (EED), the European Commission has already recognised that overlapping policies will affect demand in the EU ETS.⁶¹ The EU Commission's impact assessment estimated that the 2020 carbon price would fall to €14 or even €0 (down from forecasts of €25) if no adjustment was made to counteract the drop in demand caused by the implementation of extra energy efficiency measures.⁶² If the carbon price drops while the cap on emissions under the ETS remains unchanged, facilities outside the scope of the EED could increase their emissions, resulting in no net environmental benefit. Shell suggested that there was a good opportunity to use the EED consideration process (which will be completed in 2013) to take steps to boost the carbon price and ensure the success of the ETS.⁶³

47. Sandbag calculated that the full EU climate package would deliver a reduction of 4 Gt of domestic emissions by 2020 plus 1.6 Gt of offsetting, reducing Europe's total emissions by 5.6 Gt. This would be lower than the ETS cap and store up 2.1 Gt of allowances for use

58 Ev w70 [EDF Energy]

59 Ev 77 [Sandbag]

60 Ev 44 [DECC]

61 Ev w49 [Shell]

62 Ev 77 [Sandbag]

63 Ev w52 [Shell]

beyond 2020, equivalent to more than a year's worth of emissions from the traded sector.⁶⁴ Already, more than three-quarters of installations have surplus permits, which means they can delay taking action to reduce their greenhouse gas emissions.⁶⁵

48. We heard that the fear of weakening the carbon price could even undermine other policy objectives, if policymakers feel constrained in their ability to aim for emissions reductions because of the effect it would have on the cost of EUAs. For example, the Integrated Pollution Prevention and Control (IPPC) Directive was modified to exclude CO₂ emission limits for installations which are covered by the EU ETS because of the effect this would have on carbon prices.⁶⁶

49. A mechanism by which the emissions cap can be adjusted in a transparent and timely manner to account for supply-side changes, such as the global recession and new policies, would strengthen confidence in the ETS by setting a minimum level of scarcity.⁶⁷

50. Vattenfall—a major investor in EU energy markets—emphasised that any changes would need to be completely EU-wide and predictable from a regulatory point of view, which may be easier to achieve by setting out rules, rather than negotiating changes.⁶⁸ Several witnesses highlighted the importance of predictability and avoiding ad-hoc policy.⁶⁹ The disruption caused by adjusting the cap would be minimised if the ETS Directive did not need to be renegotiated. The ETS Directive already includes a framework for changes without amending the Directive in some areas. Member States are able to include new gases and industries in the ETS under certain conditions, or to allow the exclusion of some small installations.

51. A central institution, with clear terms of reference and objectives, could manage the supply of allowances within the EU ETS, in a manner that was independent of short term political concerns, while being required to pursue ambitious emissions reduction goals.⁷⁰ This would be similar to the role played by the European Central Bank on Eurobonds, and the Monetary Policy Committee on inflation. In this way, changes could be made in a way that increased confidence in the overall direction of the scheme, rather than reducing it.

52. Such a body could have a mandate to: set aside EUAs; release EUAs from a strategic reserve; cancel EUAs; or purchase EUAs, in order to maintain a predetermined level of stringency. This could guard against future recessions, non-compliance, or other unexpected events, so that the price of EU Allowances reflected actual abatement, rather than other factors. It could also adjust supply to implement new emissions agreements on the basis of international agreements or advancing scientific understanding.

64 Ev 77 [Sandbag]

65 Ev w54 [Friends of the Earth]

66 Gilbertson, T. and Reyes, O. 2009. *Carbon Trading: how it works and why it fails* Uppsala: Dag Hammarskjöld Foundation, p.21

67 Ev w70 [EDF Energy]; Ev 83 [Carbon Markets and Investors Association]; Ev w41 [SSE]; Ev w13 [Royal Institution of Chartered Surveyors]

68 Ev w5 [Vattenfall]

69 Ev 70 [IETA]

70 Ev w59 [Pricewaterhouse Coopers]; Ev 77 [Sandbag]; Ev 83 [Carbon Markets and Investors Association]

53. The need to maintain a stable and effective carbon price should not be a reason for delaying other emissions reduction policies, but additional emissions reduction measures should not undermine the price of carbon. In order to avoid this situation, a flexibility mechanism should be adopted. A lack of flexibility in the EU ETS reduces investors' confidence in the System as a basis for a credible carbon price. The Directive should be amended to allow increased flexibility without the need to renegotiate the whole Directive each time certain modifications in policy are needed. An independent market oversight body is necessary to respond to changes in policy, science and the economic situation without increasing political risk. There are a number of international examples of similar bodies. The Government should work up proposals for a market oversight body to be established at the EU level and put them forward as soon as possible.

54. A supply-side mechanism for adjusting the cap in response to economic shocks or internal policy change is necessary to ensure that the whole EU remains on a reliably robust decarbonisation trajectory.

Influencing design

55. As the design of EU ETS is improved, the EU and its Member States have an opportunity to guide the design of emissions reduction policies in other countries. This will be important both to help ensure that the world develops effective policies for averting dangerous climate change and for encouraging ETS designs that would be compatible with EU ETS. Drawing on the experience of the EU could help others to reduce the time needed for design and implementation phases of new schemes.⁷¹

56. The Government already contributes to the development of international emissions trading in a number of ways:

- a) The UK, along with other EU Member States, has pledged £7million to the *World Bank Partnership for Market Readiness*, which aims to build capacity for market-based instruments including cap-and-trade in developing countries. So far, eight countries are due to receive a preparation grant of \$350,000.⁷²
- b) In collaboration with DFID and FCO, DECC has been helping the Government of India to design and implement a new energy efficiency trading scheme. According to DECC, the scheme is a “step towards the creation of a domestic carbon market”.⁷³
- c) DECC has also been working with the Republic of South Korea to help draft emissions trading legislation, with a scheme due to start in 2015.⁷⁴

More broadly, the EU has set up the International Carbon Action Partnership (ICAP), to promote the efficient use of mandatory cap-and-trade systems. It is intended that ICAP will facilitate linking of trading programmes.⁷⁵

57. The EU and Member States should encourage and provide capacity building to other countries to develop market-based instruments and make available their expertise in technical subjects, such as monitoring, reporting and verification, allocation, benchmarking and trading infrastructure.

58. Because emissions trading systems create a kind of “common currency”, in the form of emissions allowances and offsets which all represent a certain volume of greenhouse gas pollution, it is possible for separate schemes to be “linked”. Linking allows emissions units from one scheme to be used in another. Linking can take place bilaterally (where units can flow both ways), or unilaterally (where one scheme recognizes units from another for compliance, but not vice-versa).

59. Linking schemes would increase liquidity and widen the available pool of low-cost emissions reduction opportunities. This could increase efficiency and price certainty.⁷⁶

71 Ev w13 [Royal Institution of Chartered Surveyors]; Ev w35 [E.ON]

72 China, Indonesia, Thailand, Chile, Mexico, Colombia, Costa Rica, Turkey

73 Ev 44 [DECC]

74 Ev 44 [DECC]; Ev w3 [Eurelectric]

75 Ev 44 [DECC]; Ev 70 [IETA]

76 Linking the EU ETS to other Emissions Trading Systems and incentives for international credits, European Commission, DG Climate Action

DECC cited evidence that global carbon trading, through linking of ETSs and use of international credits, could reduce emission reduction costs by up to 70%. This would allow reduction of global emissions by an extra 40–50% at the same cost.⁷⁷ Linking between one or two schemes could also have efficiency benefits. However, so far, linking has only taken place on a limited basis. The countries of the European Economic Area (EEA) have linked with EU ETS and several schemes have linked unilaterally with the Clean Development Mechanism (CDM), the UN offset scheme.⁷⁸

60. The EU should encourage other countries to develop robust emissions reduction policies by setting out its own criteria for linking with the EU ETS.⁷⁹ If other countries perceive a link with EU ETS as a way of reducing the cost of their own emissions reduction efforts, they may be more inclined to adopt a scheme that would be compatible with EU ETS. Linking could also reduce the impact of carbon leakage as carbon prices could equalise between the linked schemes. Professor Fankhauser suggested that linking emissions trading schemes was the simplest solution to leakage carbon mitigation efforts between countries.⁸⁰

The risks of linking

61. A major challenge to linking systems would be in managing different prices of carbon around the world and different levels of ambition. Harmonisation is likely to be extremely difficult where countries are at different stages of economic development or economies are locked in to high carbon technologies. The design of other schemes would almost certainly have to cater to national priorities and particularities.⁸¹ If these features were not coordinated there could be an unintended flow of allowances between systems, which would entail a transfer of funds from one country or region to another.⁸²

62. The environmental integrity of a scheme could also be compromised if a linked scheme is not designed carefully. At present, the EU ETS excludes certain land-use and hydro-power offsets and will also exclude HFC and N₂O offset credits from April 2013; these offsets have become notorious for the perverse incentive they create to increase production in order to cash in on carbon credits. This kind of quality control would be impossible if the scheme were linked with others that did not share these exemptions.⁸³

63. Linking will require serious attention to design harmonisation and should only involve thoroughly tried and tested schemes, so that any potential problems can be identified before linking is considered.⁸⁴ At least four design features need to be coordinated to link cap-and-trade schemes:

77 Ev 44 [DECC]

78 Ev w35 [E.ON]

79 Ev 70 [IETA]; Ev w5 [Vattenfall]

80 Ev w35 [E.ON]; Ev w49 [Shell]

81 Ev w74 [FERN]

82 Ev w59 [Pricewaterhouse Coopers]; Ev w41 [SSE]

83 Ev w54 [Friends of the Earth]

84 Ev 70 [IETA]; Ev w3 [Eurelectric]

- a) Monitoring, reporting and verification rules as well as compliance and enforcement mechanisms;
- b) Limits on the use of international credits (offsets);
- c) Banking and borrowing rules; and
- d) Price interventions (e.g. price floors and ceilings).⁸⁵

64. While the top down climate negotiation is moving very slowly, a process of linking emissions trading systems could help to ensure concerted international action on climate change.

65. Any schemes being considered for linking with EU ETS would need to demonstrate strong environmental integrity and be sufficiently mature to have a credible track record, so that any initial teething problems could be resolved before linking took place. In order to promote the adoption of compatible policy design, the EU should publish a set of minimum standards for the kinds of emissions trading system it would consider linking with.

Potential partners

66. DECC's intention is that by 2020 it should be possible to start linking with other compatible cap-and-trade schemes and to create a network of linked ETSs.⁸⁶ Although there are few no ETSs currently in a position to consider linking in the short term, schemes are emerging that may become suitable for linking. Damien Morris of Sandbag described 2015 as a "critical year", when several schemes could reach maturity.⁸⁷

Box 4: Emissions trading around the world

A number of emissions trading schemes are already operational or under development outside the EU. This box sets out some of the most important.

In the United States: the Regional Greenhouse Gas Initiative is a cap-and-trade scheme covering Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. These states intend to reduce CO₂ emissions from the power sector 10% by 2018. California has its own cap-and-trade scheme which would reduce emissions to 1990 levels by 2020.

In China: seven cities and provinces will host pilot emissions trading schemes with absolute caps on emissions, which are planned to open in 2013.

In Australia: Regional schemes have been in operation, for example in New South Wales, and a national fixed price scheme will lead to a cap-and-trade scheme in 2015. Discussions are underway to link to an uncapped scheme in **New Zealand**.

The World Bank is also working with countries such as **Chile, Mexico and Turkey** in an attempt to run pilot emissions trading systems by the end of 2012. **South Korea** plans to introduce a trading scheme by 2015.

85 Ev 44 [DECC]; Ev w35 [E.ON]; Ev w49 [Shell]; Ev 70 [IETA]; Ev w68 [RWE UK]; Ev 83 [Carbon Markets and Investors Association]; Ev w96 [Association of Electricity Producers]; Ev w100 [ScottishPower]

86 Ev 44 [DECC]

87 Q 61 [Damien Morris]

67. At the moment, at least twenty nations are considering cap-and-trade, either nationally or at a regional level, including South Korea, Australia, Japan, Taiwan, Brazil, India, United States and China. We heard that the EU was being consulted on all steps of implementation from monitoring, reporting and verification to the trading framework needed to have a liquid but well-regulated market.⁸⁸

68. The influence of the EU ETS in policy-design may be particularly important in relation to China.⁸⁹ Not only is China the most prolific emitter in the world, there is also the likelihood that if China adopts emissions trading this will prompt other major emitters to follow. According to China's latest Five Year Plan, pilot emissions trading schemes will be developed before 2013, based on provincial energy consumption targets. The pilot schemes may be unified and scaled up to a national programme after a two-year test phase. However, no plans on the scope or design of such a scheme have as yet emerged.⁹⁰ These pilots could cover the emissions of many millions of people, so encouraging a robust design could have a significant effect on global emissions.

69. Sharing expertise with countries developing domestic trading schemes, particularly China, should be encouraged in order to ensure that these nations benefit from the experience gained in introducing the EU ETS. Partnership with key emitters such as China could act as a wake-up call to laggard states and improve the chances of an international deal. Together, the EU and China could reach a critical mass of key emitters involved in emissions trading. The EU should cooperate with China in the development of its own climate change mitigation policies and help to shape its nascent emissions trading schemes.

88 Ev 70 [IETA]; Ev 83 [Carbon Markets and Investors Association]

89 Ev w8 [City of London Corporation]

90 Wolfgang Sterk and Florian Mersmann, "Domestic Emission Trading Systems in Developing Countries – State of Play and Future Prospects", JIKO policy paper 2/2011

3 EU unilateral action

70. Greenhouse gas emissions in the EU account for around 15% of global emissions.⁹¹ The EU ETS can be a useful role model for a multi-national carbon market but ultimately global action is necessary to limit global temperature rise to 2°C.⁹² Even if the EU ETS achieves its target of a 21% emissions reduction by 2020, its contribution to the emissions reduction required to halt global temperature rise to 2°C will be less than 5%.⁹³

71. Nevertheless, if the EU ETS can be strengthened in the ways we describe above, we believe that it will be a valuable bargaining tool for the EU to promote international action on climate change. In this chapter, we examine some of the ways the EU ETS could influence other countries not just by sharing expertise, but also by taking unilateral action.

Leakage and energy-intensive industries: EU action

72. Before considering the ways in which the EU can act unilaterally, however, it is necessary to recognise the risks of going it alone and how they can be managed.

73. The difficulty that the EU cannot solve climate change alone because of its relatively modest emissions profile is compounded by the problem of carbon leakage. Leakage describes the situation where emissions from one jurisdiction are displaced to another, thereby moving emissions around rather than reducing them. This can be caused by uneven carbon mitigation policies, such as pricing carbon in one area but not another, which can lead to loss of competitiveness. There is therefore a serious economic side to leakage, as well as environmental implications, if production and jobs move to other countries.⁹⁴

74. So far, the EU's main tool in reducing leakage has been the use of free allocation. Handing out free EU Allowances can compensate industries exposed to international competition. The revised ETS Directive included EU-wide harmonised allocation rules. From 2013, power companies will have to buy all their emissions allowances at an auction. For the industrial sectors under the ETS, the EU agreed that the

Box 4: Three kinds of leakage

1. If a country has a price for carbon but others do not, then businesses may relocate to low-cost countries, especially if they face international competition. This can lead to increases in pollution if industrial practices in the new location are less efficient. Further emissions may result from the need to transport goods.
2. If a carbon price in one country led to a reduction in demand for carbon-intensive goods, then the global price of fossil fuel-intensive products may fall. Lower prices could lead to increased demand elsewhere, cancelling out some of the emissions saved.
3. Leakage can take place if carbon pricing entails a shift in the terms of trade between regions, so that non-capped regions have more income to spend on polluting goods.

91 GHG data from UNFCCC, UN Framework Convention on Climate Change

92 Ev w35 [E.ON]

93 Ev w8 [Mineral Products Association]

94 Ev w66 [British Ceramic Confederation]; Ev w68 [RWE UK]; Ev w87 [Esso Petroleum Company]; Ev w89 [INEOS ChlorVinyl]; Ev w99 [Chemical Industries Association]

auctioning rate will be set at 20% in 2013, increasing to 70% in 2020, with a view to reaching 100% in 2027. The remaining free allowances will be distributed on the basis of EU-wide harmonised benchmarks. Industries exposed to significant non-EU competition and thereby potentially subject to carbon leakage will continue to receive 100% of allowances free of charge up to 2020, based on Community-wide product benchmarks, set on the basis of the average performance of the 10% most GHG-efficient installations.⁹⁵ For example, Tata Steel Ltd will continue to receive 342,800 allowances for free each year for its Shapfell site, Lafarge Cement UK Limited will receive 895,735 allowances for its Hope works, and SABIC UK Petrochemical Ltd will receive 966,752 allowances each year for its Wilton Olefins 6 installation alone under the UK's proposed National Implementation Measures. ESSO Petroleum Company will receive an annual free allocation of 2,263,591 allowances.⁹⁶

The threat of leakage

75. Several witnesses painted a bleak picture of the prospects for UK and EU industry because of the damage the EU ETS inflicts on the competitive position of companies affected by it.⁹⁷ It is argued that the cost of complying with the EU ETS puts European manufacturers at a competitive disadvantage to non-EU manufacturers; this has a secondary effect of discouraging investment in European companies, which could damage the economy and reduce the amount of capital available to fund efficiency improvements.⁹⁸ The problem was amplified by the cumulative cost of mitigation measures.⁹⁹ For example:

- a) **Specialist cement and lime:** at a carbon cost of €24/tCO₂ the whole of the UK's cement clinker production could be vulnerable to off-shoring. At prices of €30/tCO₂ EU lime production costs could increase by more than 50%, making CO₂ the most significant single cost in lime production.¹⁰⁰
- b) **Paper mills:** the full purchase of allowances would cost the 50 or so remaining paper mills in the UK over £100 million each year. We heard that energy costs had already caused closures and that further costs of that order would completely cancel out current profits and increase costs for customers.¹⁰¹
- c) **Steel:** the UK manufactures a range of steel products. However, steel is a globally produced and traded product and the market is highly price sensitive. The principal sources of import competition are Russia, Ukraine, China, Turkey, Republic of Korea, Serbia, Switzerland, India, Brazil and Belarus, none of which have internalised costs of

95 Commission Decision(2010/2/EU). The list of sectors deemed at significant risk of leakage will be reviewed in 2014.

96 These examples were selected from DECC's submission to the European Commission, *The UK's National Implementation Measures for Phase III of the EU Emissions Trading System*, 13 December 2011

97 Ev w21 [Petroleum Industry Association]; Ev w63 [Confederation of Paper Industries]; Ev w66 [British Ceramic Confederation]; Ev w5 [Vattenfall]

98 Ev w66 [British Ceramic Confederation]

99 Ev w63 [Confederation of Paper Industries]; Ev w8 [Mineral Products Association]; Ev w21 [UK Petroleum Industry Association]; Ev w15 [Energy Services and Technology Association]

100 Ev w8 [Mineral Products Association]

101 Ev w30 [The Bryman Partnership]; Ev w63 [Confederation of Paper Industries]

carbon. It could be very difficult to pass on the costs of carbon because of exposure to international competition, as EU customers could simply switch to imported sources.¹⁰²

The best in the world

76. We also heard that leakage did not necessarily result in the like-for-like replacement of emissions. For example, where the same goods could be produced more efficiently within the EU than in other countries, offshoring of production of a product could increase net emissions through less efficient production techniques and increased transport emissions to deliver these good to the EU. Since our production is often at the leading edge of efficiency this has particular significance for leakage from the UK.¹⁰³

77. Some UK industries lead the world in their efficiency and quality. More durable variants of a product with a longer lifespan and lower lifecycle carbon footprint require more energy to produce.¹⁰⁴ For example, INEOS (a Swiss chemicals company) told us that the chemicals industry in the UK was at the forefront of introducing energy efficiency measures and that globally, the greenhouse gas emissions saved by UK products and technologies were twice the level of our own production emissions.¹⁰⁵ It is estimated that on average for every tonne of CO₂ used in the chemicals industry, two were saved downstream through technological improvements.¹⁰⁶ If investment was diverted to other countries, this leakage could lead to delays in achieving progress on other novel technologies such as Carbon Capture and Storage in the UK manufacturing sector.¹⁰⁷

Consumption based emissions

78. The problem of leakage is masked by the way that we record domestic emissions. Apparent reductions in emissions in the EU could be worthless if some businesses are simply relocating to other countries with less stringent carbon reduction policies. We believe that the fall in overall EU direct emissions is more than offset when imported carbon contained in imported goods is taken into account.¹⁰⁸ At present, emissions caused by parties importing goods and services into the EU are largely invisible. Unless we account for embedded carbon in imported products it is difficult to discern the extent of this issue.¹⁰⁹ In the UK's case, although the production of carbon has fallen by 15% between 2005 and 2009, one witness told us that once carbon imports were included, carbon consumption had in fact risen by 19% over the same period.¹¹⁰

79. We are currently conducting a separate inquiry into the possibility of accounting for carbon consumption alongside carbon production, but it is clear that CO₂ emission

102 Ev w80 [EEF]

103 Ev w66 [British Ceramic Confederation]

104 Ev w66 [British Ceramic Confederation]

105 Ev w99 [Chemical Industries Association]

106 Ev w89 [INEOS ChlorVinyls]

107 Ev w8 [Mineral Products Association]

108 Ev w63 [Confederation of Paper Industries]; Ev w92 [Carbon Capture and Storage Association]

109 Ev w33 [National Grid]

110 Ev w17 [Civitas]

reductions cannot be achieved by driving industrial production outside the EU. The risk of “outsourcing” of emissions shows that the EU ETS could only reach its full potential for cutting emissions in the context of legally binding emissions reductions commitments worldwide.¹¹¹ If this is not possible, then the problem could at least be reduced by agreeing cap-and-trade systems between key emitting states or sectors. Europe would face reduced carbon leakage threats if its main competitors in exposed sectors adopted similar cap-and-trade policies. In this regard it is promising that neighbouring countries such as Turkey and Ukraine are considering cap-and-trade schemes. In addition, the Californian and Australian emissions trading schemes cover exposed industries and China is currently considering cap-and-trade schemes for its cement and steel sectors.¹¹²

How serious is the problem?

80. Some witnesses believed that the problem of leakage had been exaggerated, suggesting that subsidies to energy-intensive industry through Phases I and II had amounted to €20 billion.¹¹³ They argued that the benchmarking exercise for Phase III set the bar so low that over three-quarters of manufacturers would receive free allowances, which could result in at least €7 bn in annual windfall profits.¹¹⁴ According to this interpretation, far from punishing these industries, the sale of surplus carbon allowances had been a source of immediate revenue to them, or had at least provided them with a buffer of extra allowances to be used later.¹¹⁵

81. Professor Grubb argued that carbon leakage was only a serious problem for a few sectors. He noted that Carbon Trust research indicated that “carbon leakage was an issue of real concern in around half a dozen carbon intensive primary sectors, which account for a small fraction of GDP” and that sectors such as steel had been enjoying considerable surpluses.¹¹⁶ The Carbon Markets and Investors Associations told us that a small number of companies now held reserves of EUAs that were greater than the combined annual emissions of Austria, Portugal, Denmark and Latvia.¹¹⁷

111 Ev w1 [Prospect]

112 Ev 77 [Sandbag]; “China eyes steel, cement sectors for carbon credit trade-report”, Reuters, 4 August 2011

113 Ev w1 [Carbon Trade Watch, Corporate Europe Observatory and The Corner House]

114 Ev w1 [Carbon Trade Watch, Corporate Europe Observatory and The Corner House]

115 Ev 77 [Sandbag]

116 Q 20

117 Ev 83 [Carbon Markets and Investors Association]

Rank	Company	Current surplus (million EUAs)
1	ArcelorMittal	97.2
2	Lafarge	29.4
3	Tata Steel	23.1
4	ThyssenKrupp	19.9
5	Riva Group	16.6
6	Cemex	12.7
7	Holcim	12.5
8	Heidelberg Cement	12.5
9	Italcementi	8.9
10	Salzgitter	7.5
	TOTAL	240.3

Source: ETS 32 (Carbon Markets and Investors Association)

82. The Government has announced a £250m package of measures for those energy intensive businesses whose international competitiveness may be most affected by its energy and climate change policies.¹¹⁸ The Autumn Statement confirmed a tax relief and compensation package would be used to protect some British businesses from the costs of the EU ETS.¹¹⁹

83. The effects of the EU ETS have always been counterbalanced by special rules for different Member States. For example, the award of free allowances to hard lignite plants in Germany contributed to a “dash for coal” in German power production.¹²⁰ We are extremely concerned that this kind of support package could perpetuate the individualistic Member State behaviour that has so far undermined the effectiveness of the EU ETS.¹²¹

84. Attempts to reduce emissions in the EU must not result in leakage of EU businesses abroad, but nor must the threat of leakage prevent us from taking action on climate change. We believe that the threat of leakage to countries outside the EU has sometimes been exaggerated in lobbying conducted by vested interests. We do not accept that it poses an imminent threat to EU industry, except in a small number of sub-sectors. The problem should be addressed rationally and compensation should not be hijacked by emotive special pleading. The Chancellor has promised a package of support for emissions intensive industries. The EU has already adopted a very generous system for compensating exposed sectors, which has in some cases resulted in an over-allocation of allowances and substantial profits for industry. The UK must not double up these measures. In order to prevent excess compensation, the Government should make any special support conditional on complete disclosure by industry of the benefits of receiving free allowances and should publish the value of its support measures per

118 Ev 44 [DECC]

119 HM Treasury, *Autumn Statement 2011*, CM 8231, November 2011, http://www.hm-treasury.gov.uk/as2011_index.htm

120 Ev w54 [Friends of the Earth]

121 Ev w26 [Dr Carlo Stagnaro]

company, alongside information about the volume of free EU Allowances those companies will receive, so that subsidies for big emitters are transparent and can be weighed against the real risks of leakage.

Unilateral actions: the overall cap

85. The clearest unilateral action that the EU could take to improve its emissions reduction efforts and set an international lead would be to set a more ambitious emissions reduction goal for 2020, as described in the previous chapter.

86. The EU has already tried to use the overall cap as a bargaining tool. The Emissions Trading Directive included a commitment to increase the EU's target to 30% reduction by 2020 if other countries took on similar targets. However, the recession has created a situation where the effort required to reach a 32% reduction is now the same as the effort that was needed to achieve a 21% reduction.¹²² In the previous section we argued that to strengthen the EU ETS, the EU should give an early indication of willingness to reduce the number of allowances in Phase III and reconcile the scheme with energy efficiency policy. These decisions could be used as leverage in return for robust action in other developed and developing nations.¹²³

87. The Government should continue to encourage the rest of the EU to adopt a 30% emissions reduction target for 2020, preferably seizing the opportunity of a potentially sympathetic Danish Presidency, and to make a new conditional offer of an increased target, such as 35%, if a suitable international agreement is concluded.

Border adjustment measures

88. An increased overall target would amplify the problem of leakage. A second unilateral action that we considered was the implementation of Border Adjustment Measures (BAMs), which could help to combat leakage and encourage international action. Importers of products, which if manufactured within the EU would have been subject to EU ETS, could be required to demonstrate that those products had been subject to comparable environmental taxation or be made to pay an appropriate import tariff.¹²⁴

89. It may be possible for the EU to implement a tariff on imports of products that are covered under the EU ETS, in order to impose a carbon price on imports that would be equivalent to the cost of purchasing EU Allowances for EU industries.¹²⁵ For example, imports of steel could be charged a price per tonne when entering the EU, based on the cost of EU Allowances and the average emissions from steel production within the EU. The revised ETS Directive also included a framework for the extension of EU ETS to imported products from energy-intensive industries if carbon leakage is expected (Article 10b(1)(b)). This price could be waived for imports from countries with equivalent carbon reduction policies. This would level the competitive environment for EU industries and create an incentive for the EU's trading partners to implement their own emissions reduction policies.

122 Ev 83 [Carbon Markets and Investors Association]; Ev w92 [Carbon Capture and Storage Association]

123 Ev w41 [SSE]

124 Ev w15 [Energy Services and Technology Association]

125 Ev w70 [EDF Energy]

90. The proposed Californian trading system and several other proposals for emissions trading in the U.S. included a provision for a carbon price to be applied to imports. This sort of border pricing could be particularly important for Eastern Member States who share borders with uncapped countries, because the danger of leakage is increased by proximity to competitors that do not share a carbon price.¹²⁶ Our evidence suggested that border adjustment mechanisms would be most easily applied to products that are easily defined and relatively harmonised in their product quality. For example, the Mineral Products Association told us that border adjustment measures could be applied relatively easily to the cement sector to protect the industry from carbon leakage.¹²⁷ This would allow the EU to maintain its emissions reduction ambitions and create an incentive for others to adopt their own policies, while dealing with the leakage dilemma.

91. The Government should pursue the agreement of Border Adjustment Measures as part of its international negotiation strategy. Border Adjustment Measures would equalise the competitive situation for EU industries and would prompt other countries to take equivalent action.

126 Ev 77 [Sandbag]

127 Ev w8 [Mineral Products Association]; Ev w17 [Civitas]; Ev 83 [Carbon Markets and Investors Association]

Aviation

92. The EU has already taken courageous unilateral action to include the aviation sector within the EU ETS in a way that forces airline operators to pay for international emissions, not just emissions within EU borders. From the start of 2012, emissions from all domestic and international flights that arrive at or depart from an EU airport will be covered by the EU Emissions Trading System. The EU ETS will cover any aircraft operator, whether EU- or foreign-based, operating international flights on routes to, from or between EU airports. Inclusion is expected to deliver approximately 94 MtCO₂e emission savings relative to 2005 levels and 560 MtCO₂e reductions relative to Business as Usual levels by 2020.¹²⁸ The EU ETS could cover around 60% of international aviation emissions.¹²⁹ This unilateral decision to charge for international aviation emissions is facing a number of legal and political challenges.¹³⁰

93. Aviation emissions are unregulated at the international level. EU emissions from international aviation have doubled since 1990 and direct emissions from aviation account for about 3% of the EU's total greenhouse gas emissions. According to the EU Commission, a flight from London to New York and back generates roughly the same level of emissions as the average person in the EU does by heating their home for a year.

94. For developed countries, domestic aviation emissions are counted as part of that country's emissions for the purpose of their international emissions reduction commitments, but international aviation emissions are not. The International Civil Aviation Organisation (ICAO) has agreed an "aspirational goal" of annual fuel efficiency improvements in aviation of 2%, but no binding emissions reduction targets have been agreed.¹³¹ A global approach has received widespread support from the industry through its trade bodies IATA, ACI, ICCAIA and CANSO as well as the industry's international regulator ICAO (the International Civil Aviation Organization).¹³²

128 Ev 44 [DECC]

129 Joanne Scott and Lavanya Rajamani, 'EU climate change unilateralism: international aviation in the European Emissions Trading Scheme', forthcoming. We are grateful to the authors for sharing this work with us.

130 See, for example, 1. Case C-366/10: The Air Transport Association of America, American Airlines, Inc., Continental Airlines, Inc., United Airlines, Inc. v. The Secretary of State for Energy and Climate Change.

On 30 September, 21 countries including the US, Japan, Brazil, Russia, India and China issued a declaration opposing how the EU scheme. They said the scheme was inconsistent with international law and should not apply to flights by non-EU carriers.

131 ICAO Resolution A37/19

132 Ev w98 [Heathrow Airport Ltd]

95. The EU's cap for the aviation sector is based on aviation emissions from 2004–2006. The cap will be 97% of that level in 2012 and 95% in 2013–2020. In practice, aircraft operators are likely to need to buy extra allowances from the rest of the ETS or from the CDM, so 85% free allocation of EU Aviation Allowances will constitute a little less than 85% of flights as the industry grows. In 2012, 85% will be given out for free (“grandfathered”) and 15% auctioned. In 2013–2020, 82% will be grandfathered, 15% will be auctioned and 3% will go to a special reserve for new entrants and fast-growing airlines. In the UK, aircraft operators will receive on average 76% of the allowances they need for free in 2012. Over the period 2013–2020 the free allocation is likely to decrease to approximately 68% of emissions.¹³³

96. The creation of a price for aviation emissions is intended to be an incentive for airlines to improve the efficiency of their fleets. Part of the cost is also likely to be passed on to consumers. Lufthansa was the first large airline to announce it would pass on costs to passengers.¹³⁴ Professor Scott suggested that the additional cost was likely to be between \$11 and \$56 on a long haul flight, based on 100% auctioning in 2020.¹³⁵ Commissioner Hedegaard has argued that the extra cost of complying would be up to \$16.30 for a transatlantic flight, but Chinese airlines estimate the ETS could cost them up to \$2.8bn by 2020 and \$47.50 to a ticket for flights between China and Europe.¹³⁶

97. The inclusion of aviation emissions in the EU ETS can be used to trigger comparable action in other countries. The EU allocates responsibility for aviation emissions to the departure state. An airline operator may be exempted from the requirement to surrender Aviation Allowances for flights landing in the EU if the airline comes from a country which has taken equivalent measures to reduce the climate change impact of flights departing from it.¹³⁷

98. On Friday 30 September, 21 countries including the US, Japan, Brazil, Russia, India and China issued a declaration opposing how the EU scheme will apply to flights that start or end in the EU. They said the scheme was inconsistent with international law and should

Box 5: Air Passenger Duty (APD)

APD is an excise duty which is charged on the carriage, from a UK airport, of chargeable passengers on chargeable aircraft.

There are four destination bands based on geographical distance from London, each having two rates of duty depending upon the class of travel, so there are eight different rates of duty.

APD takes no account of the efficiency of aircraft and its bands are set in 2,000 mile sections, so it is cannot really be considered an environmental tax.

On the other hand, APD is a unique UK tax which can be extremely burdensome on UK airlines and has put a number of regional airports at risk.

The Committee wrote to the Secretary of State to recommend that APD could eventually be replaced by EU ETS, but that in the meantime it could be used to ensure compliance, charging the highest rates to airlines from states that refuse to comply with the ETS.

133 Ev 90 [DECC Supplementary]

134 Sunday Times, ‘Flights tax will wipe the smiles off holiday snaps; the airlines fear public anger at fare rises and retaliation by America and China over carbon levy in Europe’, 8 January 2012

135 Q 73 [Professor Scott]

136 “China warns EU of carbon tax ‘trade war’”, *Financial Times*, 22 December

137 Article 25a Directive 2003/87, as amended; Ev w35 [E.ON]

not apply to flights by non-EU carriers.¹³⁸ The US has since claimed that 43 countries publicly objected to the move.¹³⁹ A case brought by the Air Transport Association of America (ATA) against the EU Emissions Trading System was initially heard on 26 May 2010 at the UK High Court. ATA was opposed by a coalition of UK and US environmental groups. The High Court ruled that it was the wrong venue for a case of such wider importance.¹⁴⁰ On 6 October, EU Advocate General Juliane Kokott gave an initial legal opinion on the case, suggesting that application of EU ETS to international aviation was legal and, on 21 December, the full Court ruled that it “infringes neither the principle of territoriality nor the sovereignty of third states”.¹⁴¹

99. The airlines involved are complying with the Directive’s requirements pending the resolution of this challenge. However, a formal resolution of the ICAO Council supported by 26 countries urged Europe to take a different approach and India is reported to have instructed its airlines not to comply. Similar legislation has been proposed in the US Congress.¹⁴² The reaction against the inclusion of aviation has been particularly strong from China, which is reportedly blocking Hong Kong Airlines from ordering ten A380 superjumbo planes from the European aircraft maker Airbus in retaliation against EU ETS.¹⁴³

100. **The EU should be congratulated for tackling the problem of emissions from aviation, not least because more than thirteen years after aviation was excluded from the Kyoto process very little international effort has been made towards limiting the rapid growth of emissions from this industry. If the EU ETS can be made into an effective instrument for mitigating emissions in the aviation sector, it could eventually take the place of other measures, such as Air Passenger Duty, which have a disproportionate effect on the UK. In the meantime, however, the aviation sector is set to receive a generous proportion of its EU Aviation Allowances for free. If the growing emissions from this sector are to be curbed, the EU should move towards 100% auctioning by 2030 at the latest. We do not believe that leakage is a serious threat in this sector and so a target of just 15% auctioning by 2020 is disappointingly unambitious.**

101. **The UK could play a significant role in pressuring other countries to comply with EU ETS. The UK should make the level of Air Passenger Duty contingent on compliance with the aviation rules under the EU Emissions Trading System. The Government should warn that it will ground flights from any UK-regulated aircraft operators if they refuse to comply with the terms of the EU ETS.**

138 “21 nations sign declaration opposing ETS”, Aviation Week, 3 October 2011

139 “IATA disappointed with EU court decision on ETS”, AvStop.com, 27 December 2011

140 “English High Court permits American ATA legal challenge to EU ETS to proceed”, Airport Watch, 27 May 2010

141 “Airline carbon cap is legal, says EU’s top court lawyer”, Point Carbon, 6 October 2011

Judgment of the Court (Grand Chamber) of 21 December 2011, *Air Transport Association of America and Others v Secretary of State for Energy and Climate Change*, Opinion C-366/10

142 “IATA disappointed with EU court decision on ETS”, AvStop.com, 27 December 2011

143 Sunday Times, ‘Flights tax will wipe the smiles off holiday snaps; the airlines fear public anger at fare rises and retaliation by America and China over carbon levy in Europe’, 8 January 2012

Sectoral deals

102. The inclusion of aviation in the EU ETS provides a model for the way the trading system could be unilaterally extended to cover other emissions in the absence of binding global targets. However, witnesses suggested that rather than further unilateral extensions of the EU ETS it would be preferable to agree deals with other countries to cover emissions in specific sectors.¹⁴⁴

103. Sectoral arrangements could take two forms: firstly, it is possible to design sectoral cap-and-trade system to cover key sectors of the economy, such as steel production; secondly, new offsetting schemes could be designed to accept credits from a scheme that measured reductions in a particular sector against a baseline. The EU ETS coverage could also be expanded to cover more of the non-traded sectors, such as household heating and transportation.¹⁴⁵ The Carbon Markets and Investors Association emphasised that any sectoral scheme should support the EU ETS and not overlap with or undermine its goals.¹⁴⁶

104. We heard that, in advance of a global deal on binding economy-wide commitments, sectoral deals could address at least a part of the emissions from other economies.¹⁴⁷ Sectoral agreements and sectoral crediting mechanisms could widen the scope of the EU ETS (thereby increasing liquidity, creating a more efficient market and a more robust carbon price signal). They could also reduce the impact of international carbon leakage on EU ETS sectors by exposing competitors to the same carbon price.¹⁴⁸ Vattenfall argued that the ambition should be to continuously expand the coverage of EU ETS with regards to both countries and sectors in order to benefit from the potential competitiveness and efficiency gains of a uniform and economy-wide CO₂ price.¹⁴⁹

105. Sector-based initiatives have the potential to facilitate carbon caps and trading schemes in countries where economy-wide systems would not be feasible. Specific emitters—for example in the power, cement or steel sectors—could enter into a binding ETS and link with the EU ETS.¹⁵⁰ The potential for sectoral deals could encourage other Parties to the UN Framework Convention on Climate Change to adopt sectoral emission trading schemes for the most developed sectors of their economies and may also encourage other countries to adopt robust rules that would be compatible with the EU ETS.¹⁵¹

106. Sectoral deals could also provide a new supply of international credits for use in the EU ETS, increasing access for EU-industries to cost-effective emissions abatement opportunities.¹⁵² RWE argued that it would be necessary to develop absolute sectoral caps, rather than intensity-based sectoral agreements. Credits generated from reducing

144 Article 10b(1)(b) of the ETS Directive provided for the “inclusion in the Community scheme of importers of products which are produced by the sectors or subsectors determined in accordance with Article 10a”.

145 Ev 52 [Barclay’s Capital]; Ev w70 [EDF Energy]

146 Ev 83 [Carbon Markets and Investors Association]

147 Ev w5 [Vattenfall]

148 Ev w35 [E.ON]; Ev w66 [British Ceramic Confederation]

149 Ev w5 [Vattenfall]

150 Ev 70 [IETA]

151 Ev w3 [Eurelectric]

152 Ev 44 [DECC]

emissions against an intensity benchmark would dilute the “supply” of credits and delay the achievement of absolute emissions abatement.¹⁵³

107. As Europe explores new sectoral crediting mechanisms to expand or replace its current offsetting provisions, it should avoid providing disincentives to developed or emerging economies to adopt domestic carbon regulations. For example, if competitors believed that they could continue to receive a stream of finance from international offsetting, this could discourage them from adopting their own binding targets. It should also ensure that the offsets purchased do not subsidise Europe’s industrial competitors and exacerbate the risk of European operations shifting abroad. New sectoral agreements could avoid this by requiring credits to be purchased from competitively-insulated sectors such as electricity, land transport and heating and by targeting least developed countries.¹⁵⁴

108. The UK’s position, which is in line with the EU position, is that such sectoral agreements should be developed under an international architecture agreed through UNFCCC negotiations. However, without an international agreement, there is a possibility for the EU to start developing such agreements bilaterally in the future.¹⁵⁵

109. The Carbon Markets and Investors Association warned that the EU’s current sectoral proposal (part of its New Mechanism submission to the UNFCCC) was unlikely to mobilise significant investment. Specifically, sectoral crediting and trading mechanisms needed to be designed in such a way as to provide appropriate incentives to facilitate investment, whilst being realistic and achievable in terms of the GHG emission targets which were being set for a particular sector.¹⁵⁶ The Carbon Markets and Investors Association identified three problems with the EU’s proposal for a new mechanism:

- a) If an entire sector were covered with one benchmark and emission reductions awarded for aggregate reductions across the sector, this would unfairly penalise installations that beat the benchmark when others did not.¹⁵⁷ This would dilute the incentive to make emissions reductions. A preferable arrangement would be to reward specific businesses or projects for their emissions reductions, rather than taking an average across an industry.
- b) While sectoral agreements could be agreed centrally in countries that are highly centralised like China, they could be much harder to implement elsewhere.
- c) If GHG benchmarks were based on the equivalent EU benchmark, this would be prohibitive for developing countries that were utilising much older plant infrastructure. A one-size-fits all benchmark would only bring in the best performing sectors and omit the worst performing sectors, leaving out the very sectors and countries that most need financial support for reducing emissions.¹⁵⁸

153 Ev w68 [RWE UK]

154 Ev 77 [Sandbag]

155 Ev 44 [DECC]; Ev w41 [SSE]

156 Ev 83 [Carbon Markets and Investors Association]

157 Ev w100 [ScottishPower]

158 Ev 83 [Carbon Markets and Investors Association]

110. The EU should pursue sectoral agreements with key emitters like China in order to target emissions reduction efforts in key industries and deal with competitiveness concerns such as carbon leakage. The Commission should seek deals with key emitting countries to include emissions from energy-intensive sectors and consider unilateral action (along the lines of the aviation sector) if deals cannot be reached.

111. The EU should encourage all other Parties to the UNFCCC to adopt sectoral emission trading schemes for the most developed sectors of their economies and offer linking options with the EU ETS in return for non-EU countries adopting values and rules that were compatible with EU ETS.

112. The EU should seek to replace the use of offsets from sectors covered in the EU ETS by sectoral deals. New offsetting schemes should not discourage other countries and sectors from adopting domestic carbon regulations. The EU should also ensure that the offsets purchased do not subsidise Europe's industrial competitors and exacerbate the risk of European operations shifting abroad.

Shipping

113. The example set in the aviation sector presents a useful model for the shipping sector. At the moment, the sector is on course to make negligible emissions reductions. In absolute terms, the International Maritime Organization (IMO) estimated that international shipping is responsible for 2.7% of the world's carbon emissions.¹⁵⁹ The Chamber of Shipping called for a global emissions trading scheme for shipping to help mitigate climate change, arguing that a regional option would be ineffective and harm competitiveness.¹⁶⁰ However, Professor Grubb told the Committee that prospects for a global trading system were "fantasy".¹⁶¹ Waiting for a global scheme would only delay action in the shipping sector and the EU should consider unilaterally including shipping in the EU ETS if the sector cannot improve its record quickly.

114. There has been modest progress in international efforts to mitigate emissions from shipping. After several years of negotiations, in July 2011 the IMO adopted a technical measure applicable to new ships, in the form of the Energy Efficiency Design Index (EEDI). The IMO also adopted operational measures applicable to all ships in the form of Ship Energy Efficiency Management Plan (SEEMP).¹⁶² These technical measures were expected to achieve an emissions reduction of just 1% below BAU by 2020.¹⁶³

115. However, the EU may decide that the measures agreed in the IMO are insufficient and choose instead to impose a regional solution. This is currently under discussion within the EU and the Commission is holding a series of meetings with industry representatives to ascertain what, if any, regional solution should be imposed on shipping. Although there are technical difficulties associated with attributing shipping emissions, inclusion in the EU

159 Ev 90 [UK Chamber of Shipping]

160 Ev 89 [UK Chamber of Shipping]

161 Q 14

162 Ev 89 [UK Chamber of Shipping]; Ev 66 [CAFOD]

163 Ev 66 [CAFOD]

ETS is one option for dealing with these emissions.¹⁶⁴ CAFOD suggested that, if shipping were included in an ETS, revenue generated by developed countries could be used for climate change mitigation and adaptation. Carbon pricing could raise \$10–15 bn per year in climate finance for the new Green Climate Fund (GCF), which was agreed at Cancun in 2010.¹⁶⁵

116. We believe that calls by the industry for an international cap-and-trade scheme for shipping are a delaying tactic. The EU should set out its own indicators for an acceptable international agreement on shipping emissions by 2015. If this is not achieved, it should set out a timetable for the inclusion of shipping emissions in the EU Emissions Trading System in Phase IV, or an equivalent measure.

Offset credits

117. Offsetting allows the EU to reduce the cost of complying with EU ETS by allowing the use of offset credits (which represent emissions reductions in other countries) in place of EU Emissions Allowances. Offset credits (such as Certified Emissions Reductions from the Kyoto Clean Development Mechanism) are often cheaper than EU Allowances, because emissions reductions can be achieved at lower cost in other countries. However, the validity of many offset credits has been challenged; credits have been awarded for projects that did not reduce emissions, or even caused a net increase in pollution.¹⁶⁶ As the biggest player in international carbon markets the EU could play a significant role in improving the quality of offsets.

118. The EU has already shown itself to be an effective international leader in the development of standards for international offsets. The EU accounts for the lion's share of demand in the international offset market and, by deciding not to accept a number of different kinds of credit, has shifted patterns of international supply.

119. Under the Linking Directive, the EU committed itself to continuing to recognise offsets—Certified Emissions Reductions (CERs)—from the Kyoto Clean Development Mechanism (CDM). However, the EU has unilaterally imposed limits on the origin of CERs. It will only accept CERs from Least Developed Countries from 2013, unless a separate deal has been struck with individual developing countries. At present, the EU ETS excludes credits from Land Use, Land Use Change and Forestry (LULUCF) and from hydro-power projects that do not comply with World Commission on Dams guidelines. It will also exclude HFC and N₂O offset credits from April 2013.¹⁶⁷ Sandbag suggested that by reducing the eligibility of offset credits generated in projects from competing industries in emerging economies, which potentially disincentivise domestic target-setting, the EU could further encourage the adoption of credible cap-and-trade schemes.¹⁶⁸

164 Ev 66 [CAFOD]

165 Ev 66 [CAFOD]

166 Ev w1 [CTW-CEO-Cornerhouse]

167 Ev w54 [Friends of the Earth]

168 Ev 77 [Sandbag]

120. Several witnesses expressed grave doubts about the environmental credibility of international offsets. We share their concern that a large volume of credits have not represented real reductions in emissions.¹⁶⁹ Moreover, reliance on offsets could negate the need for domestic reductions and, as the Committee on Climate Change warned, “a policy of relying too much on purchased credits in the initial years could make a stretching 2050 domestic target unachievable and could cost the UK dearly by mid-century given the likely high and rising costs of purchased credits”.¹⁷⁰ However, we believe that these risks could be managed with quantitative limits on imports and that climate finance can genuinely contribute to sustainable development in developing countries.¹⁷¹

121. The EU could also use its market power more positively to bring forward new projects in particular technologies and countries. For example, by limiting access to the CDM to Least Developed Countries, the EU is stimulating more climate finance for those countries. Witnesses recommended that the EU should recognise new categories of offset to stimulate demand in those areas. For example, the International Biochar Initiative proposed that a revised EU Emissions Trading Scheme should recognise “char-CCS” units, which could be generated by projects that try to capture carbon by burning biomass to create charcoal.¹⁷² Others suggested that links to green bonds and credits from forestry projects (REDD) present new opportunities for the ETS.¹⁷³

122. The EU Chamber of Commerce in China has suggested that, under the EU ETS Directive, Member States may be able to engage in bilateral agreements with non-LDC countries such as China to accept offsets from these countries.¹⁷⁴ However, we are aware that if individual Member States were to make agreements of this kind that would allow an access point for these offsets to the whole of the EU ETS (as there is no way of limiting the movement of units once they are within the scheme) and believe that this would weaken the environmental integrity of the System.

123. The EU is right to limit access to the EU ETS for Certified Emissions Reductions to Least Developed Countries and other states that have signed agreements with the EU. This will encourage other countries to adopt high standards in their offsetting and will ensure that carbon finance is directed to countries where it will contribute most to sustainable development. Individual Member States may be able to conclude their own bilateral agreements to recognise offsets from other countries that are not Least Developed Countries. However, this could allow a route into the EU ETS for sub-standard offsets and divert finance away from the countries that need it most. The UK should not accept Certified Emissions Reductions from countries that have not been recognised by the EU and should vigorously discourage other Member States from doing so.

169 Ev w74 [FERN]; Ev w17 [Civitas]; World Bank, *State and trends of the carbon market 2010*, July 2010

170 Committee on Climate Change, *Building a low-carbon economy: the UK's innovation challenge*, July 2010, p160

171 Ev 52 [Barclay's Capital]

172 Ev w39 [The International Biochar Initiative]

173 Ev w100 [ScottishPower]

174 “China could strike CDM deals with individual EU members”, Point Carbon, 5 October 2011

124. The EU's policy of setting standards for international offsets will have an important influence on international markets and the kinds of projects that come forward. The EU should investigate whether certain kinds of offsetting act as a disincentive for other countries to enact their own emissions reduction policies and end the eligibility of those credits for compliance in the EU ETS.

4 UK unilateralism

125. If the policies that we are advocating at the EU level are to be effective, it is important to signal the continued support of, and confidence in, the ETS policy as the main vehicle to reach the EU's international commitments on climate change. This means that individual Member States should not adopt policies that undermine the effectiveness of the EU ETS.¹⁷⁵

126. Whereas EU leadership internationally is necessary to stimulate further action, unilateral action by individual Member States is less likely to be beneficial and risks undermining the EU ETS. If Member States break ranks within the EU, it could unbalance competitive positions within the EU and weaken the EU's negotiating position. The potential for individual Member States to allow access for different kinds of offsets is just one example of a unilateral action that could damage the coherence of the scheme. In this Chapter, we look at the possible effects of the UK's unilateral action to support the carbon price and how it could damage both UK competitiveness and the efficiency of EU ETS.

The Carbon Price Floor

127. On 23 March 2011 the Chancellor announced a Carbon Price Floor of £16 per tonne of carbon dioxide in 2013, rising to £30 by 2020 in 2009 prices. The Carbon Price Floor sets out a minimum price of carbon that would apply only in the UK. It works by charging a "top up" tax on emitters if the price of EU Allowances falls below the pre-determined price floor. The starting price would be equivalent to £19.16 in estimated 2013–14 prices. The aim of the Carbon Price Floor is to provide a stronger, more certain carbon price for investors in the face of the weakness and volatility of prices in the EU ETS.¹⁷⁶

Changing prices

128. HMRC estimates that the levels the Government has set for 2013 would be equivalent to £4.94 per tonne of carbon dioxide "extra" tax, on top of the forecast price of carbon established by the EU Emissions Trading System in 2013–14. Indicative rates for 2014–15 and 2015–16 will be equivalent to £7.28/tCO₂ and £9.86/tCO₂ respectively.¹⁷⁷ However, these estimates were made before the price of EU Allowances fell to just €7. The analyst Point Carbon has revised its estimates of Phase III EU ETS prices to suggest a price of about €8.¹⁷⁸

129. The lower the price of EUAs, the more "top up" tax UK emitters will have to pay in comparison with EU emitters. The price of EU Allowances is the lowest it has been for years. At present prices, we calculate that the power sector and industry in the UK would be subject to an exorbitant top-up tax of around £10 per tonne in 2013. By 2030,

175 Ev w5 [Vattenfall]; Ev w41 [SSE]; Ev w68 [RWE UK]; Ev w70 [EDF Energy]; Ev 70 [IETA]; Ev w35 [E.ON]

176 HM Treasury and HM Revenue & Customs, *Carbon price floor: support and certainty for low-carbon investment*, December 2010

177 HMRC, *Carbon Price Support*, Tax information and impact note, 23 March 2011

178 "Thomson Reuters Point Carbon slashes carbon price prediction for phase 3", Point Carbon, 5 December 2011

emitters could be facing a top-up tax of £25 per tonne. This could have a devastating effect on UK industry. The Government should immediately update and publish its assessment of the range of possible top up rates that will be necessary under the Carbon Price Floor in the light of current carbon prices and forecasts for Phase III.

The rationale for the Carbon Price Floor

130. As we noted in the previous chapter, the EU ETS provides a broad encouragement for emissions reductions, but other policies may be necessary to overcome other market failures. For example taxation, subsidies and regulation may be required to support the research, development and deployment of new technologies or behavioural barriers to energy efficiency. Witnesses argued that individual states should use the policy tools that were most appropriate for their own specific circumstances, as noted in Mark Lazarowicz MP's report into the EU ETS.¹⁷⁹

131. The UK is in a particularly difficult position because of its extremely challenging investment needs and renewable energy targets. Under the EU *Renewable Energy Directive 2009* the UK must generate 15% of energy from renewables by 2020.²⁹ In order to meet this target, approximately 30% of electricity generation would need to come from renewable sources by 2020, up from 6.6% in 2009.³⁰ According to DECC, this target is equivalent to a seven-fold increase in UK renewable energy consumption from 2008 levels: the biggest requirement of any EU Member State and a reflection of the UK's disappointingly slow progress in developing renewable energy sources. In order to create a low-carbon electricity system and to ensure security of supply, the UK is likely to need £200bn of investment in the energy sector by 2020, which is equivalent to half of the capital investment requirements needed in the EU over the period.¹⁸⁰ Faced with the scale of the challenge, the UK must develop additional incentives for investment in the sector over and above the signals provided at the EU level.

132. The Government has engaged in domestic action in the traded sector because it believed that the EU would continue to lower its cap on emissions and that a high carbon economy will become extremely expensive.¹⁸¹ In this context, some witnesses argued that the Government was right to provide further climate change policies, including ones that complement the EU carbon price, to ensure a UK specific investment signal.¹⁸² Furthermore, unilateral action in the UK could spur the Commission to work on tightening the EU ETS to ensure that it generated stronger signals.¹⁸³

Intra-EU leakage

133. We recognise that incentives are needed to increase the amount of renewable generation available in the UK. However, the majority of our witnesses believed that the

179 Ev w41 [SSE]

180 Energy and Climate Change Committee, *Electricity Market Reform*, Fourth Report of session 2010–12, HC 742, 16 May 2011

181 Ev w100 [ScottishPower]

182 Ev w24 [Centrica]

183 Ev w24 [Centrica]

introduction of a unilateral carbon price floor was an extremely risky strategy that will increase the problem of leakage from the UK. By applying a minimum price of carbon in just one country, the UK is exposing UK businesses to higher prices than the rest of the EU.

134. The threat of leakage within the EU is particularly problematic for the electricity sector, which is otherwise unaffected by leakage from outside the EU. As we showed in our Report on *A European Supergrid*, levels of interconnection capacity already amount to 3.5 GW and are expected to reach 16 GW by 2030 and 35 GW 2050.¹⁸⁴ Electricity is readily transportable and can be traded between the UK and mainland Europe on an instantaneous basis based on spot market prices. This makes electricity generation more susceptible to carbon leakage than other sectors, such as goods manufacture, which may be restricted by difficulties associated with relocation of production.¹⁸⁵

135. The Carbon Price Floor will artificially raise the price of electricity in the UK by increasing the price of emissions more than in other countries. Over time, a significant difference between electricity prices in the UK and electricity prices on the continent would create an incentive for increased imports of electricity. The policy therefore risks the economic future of the UK's conventional generation, potentially harming both the UK's economic future and security of supply. It may lead to higher carbon emitting flexible generation plant in the UK closing earlier, whilst similar generation plant in neighbouring Member States enjoys a longer operating life.¹⁸⁶

136. Flexible generation plant (which is almost all fossil-fuelled) will be important for security of supply in the short-term, until lower carbon emitting generation investment replaces it. National Grid argued that whilst it was desirable for investors to have the certainty which the carbon price support mechanism would provide, it should not be set substantially above the EU ETS price level in order to avoid "exporting" carbon emissions.

137. Of equal concern is the potential flight of new industrial capital to other EU countries or to countries outside the EU.¹⁸⁷ We heard that the Carbon Price Floor has the potential to damage the competitiveness of UK industry at a time when energy intensive sectors have an important role to play in promoting economic recovery. As we pointed out in our Report on Electricity Market Reform, the early introduction of a high Carbon Price Floor is likely to have a negligible impact on the deployment of renewables.¹⁸⁸ Given the high level and early date for introduction, this has all the hallmarks of a revenue raising mechanism for Treasury rather than a scheme intended to stimulate low carbon investment in the electricity sector.¹⁸⁹

184 Energy and Climate Change Committee, Seventh Report of Session 2010–12, *A European Supergrid*, HC 1040, published 11 September 2011

185 Ev w33 [National Grid]

186 Ev w33 [National Grid]

187 Ev w104 [Emissions Trading Group]

188 Energy and Climate Change Committee, *Electricity Market Reform*, Fourth Report of session 2010–12, HC 742, 16 May 2011

189 Ev w1 [Prospect], 10

Environmental effectiveness

138. The incentive created by the Carbon Price Floor means that the UK is likely to achieve greater emissions reductions, but those reductions will “leak” to other Member States. In other words, because the amount of emissions allowed in the EU ETS is capped at a *European* level, reducing emissions in any particular Member State will not reduce overall emissions—emitters in other countries would simply have more EU Allowances available and would not need to reduce their own emissions as much.

139. If the variance between the Carbon Price Floor and the ETS price becomes large, the impact will be a redistribution of CO₂ emissions across the EU and an increase in the overall cost of CO₂ abatement. Effectively, the UK would subsidise higher fossil fuel emissions elsewhere in Europe. Interventions targeted at the same emission sources covered by the EU ETS would simply re-distribute carbon emissions, undermining confidence in the market mechanism and increasing the societal costs of emission abatement.¹⁹⁰

Effect on the EU ETS

140. By pursuing increased emissions reductions at the Member State level, there is also a risk that the UK could reduce the overall economic and environmental effectiveness of the EU ETS. Paying extra for emissions reductions in the UK could reduce the overall price of EU Allowances and signal a lack of faith in the importance of EU ETS as the main policy for emissions reduction in the EU.

141. Legally, individual Member States remain free to create the policy frameworks which enable their domestic industries to maximise competitive advantage within the EU ETS.¹⁹¹ However, several witnesses warned that domestic policies should be consistent and compatible with the EU ETS and should aim not to undermine the price signals it gives.¹⁹² Regional acceleration of carbon reductions lowers the overall demand for allowances, thereby reducing the EU-wide carbon price (while increasing local costs) and slowing the pace of abatement elsewhere.¹⁹³ The UK Carbon Floor Price could make the EUA price fall by reducing demand for allowances. In doing so, it could allow higher emissions elsewhere, reduce the price signal for long-term investment and exacerbate the problem of carbon leakage from the UK to the rest of the EU.¹⁹⁴

142. Reports by Credit Suisse and the Institute of Public Policy Research pointed out that the effect of the UK Carbon Floor Price was likely to be a rise in consumer energy prices and an increase in fuel poverty. It would also generate windfall profits for existing energy generators of around £1 billion per year—notably for nuclear power stations which would

190 Ev 70 [IETA]; Ev w59 [Pricewaterhouse Coopers]; Ev w68 [RWE UK]; Ev 83 [Carbon Markets and Investors Association]; Ev w89 [INEOS ClorVinyl]; Ev w92 [Carbon Capture and Storage Association]; Ev w100 [ScottishPower]

191 Ev w11 [City of London Corporation]

192 Ev w70 [EDF Energy]; Ev w35 [E.ON]

193 Ev 70 [IETA]

194 Ev 52 [Barclay's Capital]; Ev 70 [IETA]; Ev w99 [Chemical Industries Association]; Ev 89 [ScottishPower]; Ev w3 [Eurelectric]; Ev w5 [Vattenfall]; Ev w49 [Shell]; Ev w61 [Drax Power]; Ev w41 [SSE]

benefit from increased electricity prices, with no need for EU Allowances—while doing nothing to reduce emissions.¹⁹⁵

143. We can see two potential reasons for introducing a Carbon Price Floor: (1) raising revenue; and (2) helping to achieve a low-carbon generation more quickly in the UK than in the rest of the EU by creating certainty for investors. However, we are concerned that the mechanism would not reduce emissions overall, because reductions made in the UK would be soaked up in the rest of the EU.

144. We believe that the Carbon Floor Price is one example of a policy that puts the robustness of the EU ETS at risk and impacts on UK competitiveness without real environmental benefit. In October, Rt Hon George Osborne MP said that “we are not going to save the planet by putting our country out of business. We’re going to cut out carbon emissions no slower but also no faster than our fellow countries in Europe”. Ironically, though, it is the Chancellor’s Carbon Price Floor policy that is causing the UK to go faster than the rest of Europe in the one area where that will serve no useful purpose. By artificially supplementing the cost of EU Allowances in the UK, no extra emissions reductions will be achieved because the traded sectors are capped at the EU level.

145. In our oral evidence session on DECC’s Departmental Annual Report and Accounts, the Secretary of State attempted to explain the Chancellor’s words by telling us that:

I quite understood in the context of a conference speech the difficulties of pointing out the fact that our tradable sector is meant to move in line with the rest of Europe, and that is actually built into the carbon budgets and is effectively automatic. It is an automatic feature of what we are committed to, that the tradable sector will move [at the same pace as the rest of Europe].¹⁹⁶

If, as the Secretary of State suggested, the Chancellor was arguing that the UK should go no faster than the rest of Europe in the sectors covered by the EU ETS in particular, then we find the policy of the Carbon Floor Price even more perverse: the Carbon Price Floor pushes the UK ahead of the rest of the EU in the one area where increased emissions reductions will have no overall environmental benefit.

146. The Carbon Price Floor is unlikely to convince other Member States to adopt a minimum price of carbon. Unilateral action by Member States in sectors covered by the EU Emissions Trading System will cause intra-EU carbon leakage. It is unlikely to reduce emissions in the EU. However, it will increase relative costs in the UK and reduce the overall efficiency of EU ETS. We agree that the shift to a low-carbon economy is vitally important, but we believe that targeted support for low-carbon technologies through feed-in tariffs would be a more effective way of achieving it.

147. We are concerned that this Treasury policy is indicative of an emerging trend. The Treasury has recently intervened several times in policies to promote low-carbon development, with the result that political risk, investment risk and the cost of capital

195 Ev w54 [Friends of the Earth]; Ev w1 [Prospect]

196 HC 1623-i, Q 2

are increased. These risks are particularly acute in this instance. We do not believe that the levels of the Carbon Price Floor will be sustainable as the difference between the UK tax and the price of EU Allowances widens and this kind of uncertainty can deter large investors.

148. The Treasury's North Sea tax grab in last year's Budget and its intervention on solar Feed-in Tariffs both damaged fragile investor confidence at a time when unprecedented amounts of low-carbon investment are needed. The Carbon Price Floor is in effect a tax on UK business with little environmental justification. We wonder whether it will prove to be a third example of a policy for which DECC is responsible being destabilised by Treasury intervention.

5 Conclusion

149. The EU ETS is going through a period of difficulty as tumbling carbon prices have watered down the incentive for investment in low-carbon options. This comes at a time when environmental considerations are being buffeted by economic concerns in households across the world. Progress in the UNFCCC negotiations is scarcely more encouraging.

150. In this Report, we have made a number of proposals for short-term fixes and long-term flexibility to reinvigorate the trading system and make it a model for the world. The EU should act to increase the price of carbon by setting aside a significant volume of EU Allowances and the annual reduction factor on the ETS cap should be increased. In future, the process of maintaining an agreed level of scarcity should be made transparent and predictable, perhaps by creating an independent and expert market oversight body with powers to adjust supply.

151. If this can be achieved, the EU ETS can continue to be a significant force in promoting international action on climate change. A large number of countries and regions are investigating emissions trading and the EU can continue to be a model for their development. This will have mutual benefits if schemes are designed for compatibility. We believe that China will be a particularly important partner in this development. Furthermore, the EU may be able to take more proactive steps—like the inclusion of some imports in the scheme—to compel other countries to take their own action. The example of aviation is an important precedent and the UK Government and others must stand firm in the application of the Directive to international flights.

152. Finally, we recognise that the EU ETS cannot fulfil all of the environmental objectives of every Member State and that the UK is in a particularly challenging position with the need to replace its energy infrastructure in a low-carbon way. However, we believe that the Carbon Price Support will not be an effective way to mitigate carbon emissions and that it both imposes extra burdens on UK businesses and risks undermining the EU ETS itself.

Recommendations

Leading by example

Investment in decarbonisation

1. The emissions trading system will deliver short-term environmental goals, but if it is to drive long-term investment decisions a strong and stable carbon price signal is necessary. This can only be provided by a scarcity of EU Allowances. The EU ETS needs to be strengthened and issues resolved before Phase III starts in 2013. (Paragraph 21)
2. We welcome the decision of the EU Parliament's Environment, Public Health and Food Safety Committee to support an increase in the annual reduction rate for the EU ETS cap. The linear reduction of 1.74% per year must be adjusted to set out a long-term emissions trajectory that would deliver a 60%–80% reduction in greenhouse gas emissions by 2050. The Government should lobby for this adjustment to be approved in the European Parliament and by the Council of Ministers. (Paragraph 26)
3. The overall EU ETS cap should also be revised to deliver more ambitious emissions reductions. A 30% emissions reduction target for 2020 would be appropriate and we support the Government's efforts to secure agreement for this target. (Paragraph 27)
4. The EU Parliament should vote to set aside a significant number of EU Allowances and Member States should support this move as a necessary short-term fix for the EU ETS. (Paragraph 33)
5. In order to avoid creating uncertainty, any set aside of allowances would need to be carried out under transparent rules, based on an objective assessment of over-supply and reduction in demand caused by the recession. A set aside may be an appropriate short-term mechanism for dealing with the surplus of EU Allowances, but there should be a clear mechanism for retiring allowances or returning them to the market at a later date. A set aside could provide a useful pool of allowances to support low-carbon development, following the example of the New Entrants Reserve. (Paragraph 34)
6. Long-term targets would be an effective way to create certainty for investors in low-carbon technology and to give a clear picture of likely demand for EU Allowances over time, which would improve price predictability. Firm emissions reduction targets should be set for 2050, based on the 2050 Roadmap. Indicative targets should also be laid out for the intervening periods, with a mechanism for confirming precise targets in advance of each Phase of the EU ETS. (Paragraph 38)
7. We agree that a common EU-wide auction reserve price would give long-term confidence to emitters. The auction reserve price should be announced well in advance, and ideally as soon as possible. Provided that it was set at a sufficient level a

floor price would create long-term strength and predictability for the carbon price, giving a better signal for investors. (Paragraph 43)

8. The need to maintain a stable and effective carbon price should not be a reason for delaying other emissions reduction policies, but additional emissions reduction measures should not undermine the price of carbon. In order to avoid this situation, a flexibility mechanism should be adopted. A lack of flexibility in the EU ETS reduces investors' confidence in the System as a basis for a credible carbon price. The Directive should be amended to allow increased flexibility without the need to renegotiate the whole Directive each time certain modifications in policy are needed. An independent market oversight body is necessary to respond to changes in policy, science and the economic situation without increasing political risk. There are a number of international examples of similar bodies. The Government should work up proposals for a market oversight body to be established at the EU level and put them forward as soon as possible. (Paragraph 53)
9. A supply-side mechanism for adjusting the cap in response to economic shocks or internal policy change is necessary to ensure that the whole EU remains on a reliably robust decarbonisation trajectory. (Paragraph 54)

Influencing design

10. The EU and Member States should encourage and provide capacity building to other countries to develop market-based instruments and make available their expertise in technical subjects, such as monitoring, reporting and verification, allocation, benchmarking and trading infrastructure. (Paragraph 57)
11. While the top down climate negotiation is moving very slowly, a process of linking emissions trading systems could help to ensure concerted international action on climate change. (Paragraph 64)
12. Any schemes being considered for linking with EU ETS would need to demonstrate strong environmental integrity and be sufficiently mature to have a credible track record, so that any initial teething problems could be resolved before linking took place. In order to promote the adoption of compatible policy design, the EU should publish a set of minimum standards for the kinds of emissions trading system it would consider linking with. (Paragraph 65)
13. Sharing expertise with countries developing domestic trading schemes, particularly China, should be encouraged in order to ensure that these nations benefit from the experience gained in introducing the EU ETS. Partnership with key emitters such as China could act as a wake-up call to laggard states and improve the chances of an international deal. Together, the EU and China could reach a critical mass of key emitters involved in emissions trading. The EU should cooperate with China in the development of its own climate change mitigation policies and help to shape its nascent emissions trading schemes. (Paragraph 69)

EU unilateral action

Leakage and energy-intensive industries: EU action

14. Attempts to reduce emissions in the EU must not result in leakage of EU businesses abroad, but nor must the threat of leakage prevent us from taking action on climate change. We believe that the threat of leakage to countries outside the EU has sometimes been exaggerated in lobbying conducted by vested interests. We do not accept that it poses an imminent threat to EU industry, except in a small number of sub-sectors. The problem should be addressed rationally and compensation should not be hijacked by emotive special pleading. The Chancellor has promised a package of support for emissions intensive industries. The EU has already adopted a very generous system for compensating exposed sectors, which has in some cases resulted in an over-allocation of allowances and substantial profits for industry. The UK must not double up these measures. In order to prevent excess compensation, the Government should make any special support conditional on complete disclosure by industry of the benefits of receiving free allowances and should publish the value of its support measures per company, alongside information about the volume of free EU Allowances those companies will receive, so that subsidies for big emitters are transparent and can be weighed against the real risks of leakage. (Paragraph 84)

Unilateral actions: the overcap

15. The Government should continue to encourage the rest of the EU to adopt a 30% emissions reduction target for 2020, preferably seizing the opportunity of a potentially sympathetic Danish Presidency, and to make a new conditional offer of an increased target, such as 35%, if a suitable international agreement is concluded. (Paragraph 87)

Border adjustment measures

16. The Government should pursue the agreement of Border Adjustment Measures as part of its international negotiation strategy. Border Adjustment Measures would equalise the competitive situation for EU industries and would prompt other countries to take equivalent action. (Paragraph 91)

Aviation

17. The EU should be congratulated for tackling the problem of emissions from aviation, not least because more than thirteen years after aviation was excluded from the Kyoto process very little international effort has been made towards limiting the rapid growth of emissions from this industry. If the EU ETS can be made into an effective instrument for mitigating emissions in the aviation sector, it could eventually take the place of other measures, such as Air Passenger Duty, which have a disproportionate effect on the UK. In the meantime, however, the aviation sector is set to receive a generous proportion of its EU Aviation Allowances for free. If the growing emissions from this sector are to be curbed, the EU should move towards 100% auctioning by 2030 at the latest. We do not believe that leakage is a serious

threat in this sector and so a target of just 15% auctioning by 2020 is disappointingly unambitious. (Paragraph 100)

18. The UK could play a significant role in pressuring other countries to comply with EU ETS. The UK should make the level of Air Passenger Duty contingent on compliance with the aviation rules under the EU Emissions Trading System. The Government should warn that it will ground flights from any UK-regulated aircraft operators if they refuse to comply with the terms of the EU ETS. (Paragraph 101)

Sectoral deals

19. The EU should pursue sectoral agreements with key emitters like China in order to target emissions reduction efforts in key industries and deal with competitiveness concerns such as carbon leakage. The Commission should seek deals with key emitting countries to include emissions from energy-intensive sectors and consider unilateral action (along the lines of the aviation sector) if deals cannot be reached. (Paragraph 110)
20. The EU should encourage all other Parties to the UNFCCC to adopt sectoral emission trading schemes for the most developed sectors of their economies and offer linking options with the EU ETS in return for non-EU countries adopting values and rules that were compatible with EU ETS. (Paragraph 111)
21. The EU should seek to replace the use of offsets from sectors covered in the EU ETS by sectoral deals. New offsetting schemes should not discourage other countries and sectors from adopting domestic carbon regulations. The EU should also ensure that the offsets purchased do not subsidise Europe's industrial competitors and exacerbate the risk of European operations shifting abroad. (Paragraph 112)
22. We believe that calls by the industry for an international cap-and-trade scheme for shipping are a delaying tactic. The EU should set out its own indicators for an acceptable international agreement on shipping emissions by 2015. If this is not achieved, it should set out a timetable for the inclusion of shipping emissions in the EU Emissions Trading System in Phase IV, or an equivalent measure. (Paragraph 116)

Offset credits

23. The EU is right to limit access to the EU ETS for Certified Emissions Reductions to Least Developed Countries and other states that have signed agreements with the EU. This will encourage other countries to adopt high standards in their offsetting and will ensure that carbon finance is directed to countries where it will contribute most to sustainable development. Individual Member States may be able to conclude their own bilateral agreements to recognise offsets from other countries that are not Least Developed Countries. However, this could allow a route into the EU ETS for sub-standard offsets and divert finance away from the countries that need it most. The UK should not accept Certified Emissions Reductions from countries that have not been recognised by the EU and should vigorously discourage other Member States from doing so. (Paragraph 123)

24. The EU's policy of setting standards for international offsets will have an important influence on international markets and the kinds of projects that come forward. The EU should investigate whether certain kinds of offsetting act as a disincentive for other countries to enact their own emissions reduction policies and end the eligibility of those credits for compliance in the EU ETS. (Paragraph 124)

UK unilateralism

The Carbon Price Floor

25. The lower the price of EUAs, the more "top up" tax UK emitters will have to pay in comparison with EU emitters. The price of EU Allowances is the lowest it has been for years. At present prices, we calculate that the power sector and industry in the UK would be subject to an exorbitant top-up tax of around £10 per tonne in 2013. By 2030, emitters could be facing a top-up tax of £25 per tonne. This could have a devastating effect on UK industry. The Government should immediately update and publish its assessment of the range of possible top up rates that will be necessary under the Carbon Price Floor in the light of current carbon prices and forecasts for Phase III. (Paragraph 129)
26. We can see two potential reasons for introducing a Carbon Price Floor: (1) raising revenue; and (2) helping to achieve a low-carbon generation more quickly in the UK than in the rest of the EU by creating certainty for investors. However, we are concerned that the mechanism would not reduce emissions overall, because reductions made in the UK would be soaked up in the rest of the EU. (Paragraph 143)
27. We believe that the Carbon Floor Price is one example of a policy that puts the robustness of the EU ETS at risk and impacts on UK competitiveness without real environmental benefit. In October, Rt Hon George Osborne MP said that "we are not going to save the planet by putting our country out of business. We're going to cut out carbon emissions no slower but also no faster than our fellow countries in Europe". Ironically, though, it is the Chancellor's Carbon Price Floor policy that is causing the UK to go faster than the rest of Europe in the one area where that will serve no useful purpose. By artificially supplementing the cost of EU Allowances in the UK, no extra emissions reductions will be achieved because the traded sectors are capped at the EU level. (Paragraph 144)
28. If, as the Secretary of State suggested, the Chancellor was arguing that the UK should go no faster than the rest of Europe in the sectors covered by the EU ETS in particular, then we find the policy of the Carbon Floor Price even more perverse: the Carbon Price Floor pushes the UK ahead of the rest of the EU in the one area where increased emissions reductions will have no overall environmental benefit. (Paragraph 145)
29. The Carbon Price Floor is unlikely to convince other Member States to adopt a minimum price of carbon. Unilateral action by Member States in sectors covered by the EU Emissions Trading System will cause intra-EU carbon leakage. It is unlikely to reduce emissions in the EU. However, it will increase relative costs in the UK and

reduce the overall efficiency of EU ETS. We agree that the shift to a low-carbon economy is vitally important, but we believe that targeted support for low-carbon technologies through feed-in tariffs would be a more effective way of achieving it. (Paragraph 146)

30. We are concerned that this Treasury policy is indicative of an emerging trend. The Treasury has recently intervened several times in policies to promote low-carbon development, with the result that political risk, investment risk and the cost of capital are increased. These risks are particularly acute in this instance. We do not believe that the levels of the Carbon Price Floor will be sustainable as the difference between the UK tax and the price of EU Allowances widens and this kind of uncertainty can deter large investors. (Paragraph 147)
31. The Treasury's North Sea tax grab in last year's Budget and its intervention on solar Feed-in Tariffs both damaged fragile investor confidence at a time when unprecedented amounts of low-carbon investment are needed. The Carbon Price Floor is in effect a tax on UK business with little environmental justification. We wonder whether it will prove to be a third example of a policy for which DECC is responsible being destabilised by Treasury intervention. (Paragraph 148)

Glossary of key terms

Assigned Amount Unit: An emissions allowance under the Kyoto Protocol.

Banking: Some emissions trading systems allow participants to “bank” emissions allowances from one compliance period to another. Banking can encourage early mitigation action and reduce price volatility.

Baseline and credit: a carbon market mechanism that issues credits to participants based on how far emissions have been lowered below a pre-determined baseline. Credits can be sold to buyers in cap and trade mechanisms. The Clean Development Mechanism is a baseline-and-credit mechanism

Cap and trade: a carbon market mechanism that sets a cap on the overall emissions of participants for a pre-determined compliance period. The cap is divided up into tradable emissions allowances. Participants must surrender sufficient allowances or credits to cover all of their emissions. Examples of cap and trade systems include international emissions trading (IET) under the Kyoto Protocol and the EU Emissions Trading System.

Certified Emissions Reduction: A credit generated by the Clean Development Mechanism.

Clean Development Mechanism: a baseline-and-credit mechanism set up under the Kyoto Protocol. Certified Emissions Reductions are generated for emissions reductions against a baseline by projects in developing countries.

Emissions Trading System (ETS): a cap and trade mechanism that is applied to emitters (rather than governments). Examples of ETs include the EU ETS and the Regional Greenhouse Gas Initiative (RGGI) in some US states.

Emitter: A private entity (for example a company selling electricity) or public entity (for example a local council managing a landfill) that produces greenhouse gases.

EU Allowance: An emissions unit in the EU Emissions Trading System.

Kyoto Protocol 1997: A Protocol to the UN Framework Convention on Climate Change, which established legally binding obligations for developed countries to reduce their collective emissions of six greenhouse gases by at least 5% of 1990 levels by 2012... The Kyoto Protocol introduced international emissions trading and the Clean Development Mechanism.

Leakage: An increase in emissions in countries or sectors caused by the imposition of climate change regulations in another jurisdiction. For example, a carbon tax in one country can cause businesses to relocate to another country where they would not be subject to a carbon tax.

Linking: Emissions trading systems can be “linked”. This means that allowances or credits from one system are acceptable for compliance in another system. Linking can be one-way or mutual. The Linking Directive linked the EU ETS to the Clean Development Mechanism.

Sectoral emissions trading scheme: Either a cap-and-trade or a baseline-and-credit mechanism that covers a particular industries sector, such as the steel sector.

Sub-national emissions trading scheme: An emissions trading scheme that is established below the level of national government, such as the Regional Greenhouse Gas Initiative (RGGI) which comprises a number of U.S. states.

UN Framework Convention on Climate Change 1990: An international environmental treaty. The Parties to the Convention have met annually since 1995 at the Conference of the Parties (COP).

Formal Minutes

Tuesday 17 January 2012

Members present:

Tim Yeo, in the Chair

Dan Byles
Ian Lavery
Christopher Pincher
John Robertson

Laura Sandys
Sir Robert Smith
Dr Alan Whitehead

The following declarations of interest relating to the inquiry was made:

Tuesday 11 and Tuesday 25 October 2011:

The Chair declared the following interest: Chairman TMO Renewables and Shareholder and a director of Eurotunnel

Sir Robert Smith declared the following interests: Shareholder in Shell Transport and Trading

Draft Report (*The EU Emissions Trading System*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 152 read and agreed to.

Glossary, Annexes and Summary agreed to.

Resolved, That the Report be the Tenth 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 on 7 September, 29 November and 13 December).

[Adjourned till Tuesday 24 January at 10.00 a.m.]

Witnesses

Wednesday 7 September 2011

Page

Professor Michael Grubb, University of Cambridge, and **Professor Samuel Fankhauser**, London School of Economics Ev 1

Baroness Bryony Worthington, Sandbag, **Damien Morris**, Senior Policy Advisor, Sandbag, and **Larry Lohmann**, Corner House Ev 11

Tuesday 11 October 2011

Mark Brownrigg, Director General, UK Chamber of Shipping, **Damian Ryan**, Policy Manager, The Climate Group, **Professor Joanne Scott**, University College London, and **Dr Andre Stochniol**, Expert Consultant for CAFOD Ev 16

Imtiaz Ahmad, International Emissions Trading Association, **Miles Austin**, Director, Carbon Market Investors Association, and **Trevor Sikorski**, Director, Barclays Capital Ev 24

Tuesday 25 October 2011

Gregory Barker MP, Minister of State, Department of Energy and Climate Change, **Eoin Parker**, Head of EU Emissions Trading System Unit, Department of Energy and Climate Change, and **Niall Mackenzie**, Head of National Carbon Markets, Department of Energy and Climate Change Ev 32

List of printed written evidence

1	Department of Energy and Climate Change	Ev 44, 52, 90
2	Barclays Capital	Ev 52
3	Carbon Trade Watch, Corporate Europe Observatory and The Corner House	Ev 62
4	CAFOD	Ev 66
5	International Emissions Trading Association (IETA)	Ev 24
6	Sandbag Climate Campaign	Ev 77
7	Climate Markets & Investment Association	Ev 83
8	The Chamber of Shipping	Ev 89, 90

List of additional written evidence

(published in Volume II on the Committee's website www.parliament.uk/eccpublications)

9	Prospect	Ev w1
10	EUREELECTIC	Ev w3
11	Vattenfall	Ev w5
12	Mineral Products Association	Ev w8
13	Office of the City Remembrancer	Ev w11
14	RICS	Ev w13
15	Energy Services and Technology Association	Ev w15
16	Civitas	Ev w17
17	UK Petroleum Industry Association	Ev w21
18	Centrica	Ev w24
19	Instituto Bruno Leoni	Ev w26
20	The Bryman Partnership Ltd	Ev w30
21	National Grid	Ev w33
22	E.ON UK	Ev w35
23	International Biochar Initiative	Ev w39
24	SSE	Ev w41
25	Lichen Renewal	Ev w44
26	Shell International	Ev w49
27	Shell International supplementary	Ev w52
28	Friends of the Earth (EWNI)	Ev w54
29	Pricewaterhouse Coopers	Ev w59
30	Drax Power	Ev w 61
31	Confederation of Paper Industries	Ev w63
32	British Ceramic Confederation	Ev w66
33	RWE npower	Ev w68
34	EDF Energy	Ev w70
35	FERN	Ev w74
36	EEF, the Manufacturers' Organisation	Ev w80
37	Esso Petroleum Company - ExxonMobil, UK (Leatherhead)	Ev w87
38	INEOS ChlorVinyls	Ev w89
39	The Carbon Capture & Storage Association	Ev w92
40	Association of Electricity Producers	Ev w96
41	Heathrow Airport Limited	Ev w98
42	Chemical Industries Association	Ev w99
43	ScottishPower	Ev w100
44	UK Emissions Trading Group	Ev w104
45	International Emissions Trading Association (IETA)	Ev w105

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

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
Ninth report	Solar Power Feed-In Tariffs	HC 1605
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

Annex I: Terms of reference

- Does the EU ETS remain a viable instrument for climate change mitigation in the EU?
- Can the EU ETS operate effectively in a world without legally-binding emissions reduction commitments and other cap-and-trade schemes?
- What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?
- Could the environmental and economic efficiency of the EU ETS be improved by linking with other emissions trading schemes and how can this be achieved?
- What actions should the UK and the EU be taking to promote the development of compatible ETSs internationally?
- Could sectoral agreements form part of the future of the EU ETS?
- Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?
- Is the EU ETS a constraint on unilateral action to reduce emissions and, on the other hand, how are Member States' own policies affecting the operation of the trading system?
- How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?
- How can the EU ETS be strengthened to operate effectively in a world without legally binding emissions reduction obligations?

Annex II: Phase III reforms

From 2013, the revised EU ETS Directive provides for:

- A centralised EU-wide cap on emissions, which will reduce annually by 1.74% of the average annual level of the Phase II cap. The cap will deliver an overall reduction of 21 percent below 2005 verified emissions by 2020. The provisional cap for 2013 will be 1927Mt, although this will be revised in September 2010 to take account of the increased scope of the EU ETS for Phase III.
- There will be an increase in auctioning levels—at least 50% of allowances will be auctioned from 2013, compared to around 3% in Phase II. This will improve the environmental effectiveness and economic efficiency of the EU ETS.
- In the UK, there will be 100 percent auctioning to the power sector. This will also be the case across most of the EU.
- Access to Kyoto Protocol offsets from outside the EU will be limited to no more than 50% of the reductions required in the EU ETS. This is a reduction from 226% in Phase II, and means many more emissions reductions will happen in the EU.
- 12% of the total allowances auctioned will be re-distributed to Member States with lower GDP in the interests of solidarity. These are mostly the newer eastern Member States.
- There is a non-legally binding commitment from EU member states to spend at least half of the revenues from auctioning to tackle climate change both in the EU and in developing countries.
- Industrial sectors will be allocated allowances for free on the basis of product benchmarks. The benchmarks will be set on the basis of the average of the top 10% most greenhouse gas efficient installations in the EU.
- Sectors deemed at significant risk of relocating production outside of the EU due to the carbon price (i.e. carbon leakage) will receive 100% of the benchmarked allocation for free.
- Sectors not deemed at significant risk of carbon leakage will receive 80% of their benchmarked allocation for free in 2013, declining to 30% in 2020 and 0% in 2027.
- Up to 300 million allowances from the new entrant reserve of the EU ETS will be used to support the demonstration of carbon capture and storage (CCS) and innovative renewable technologies.
- There is the potential for Member States to opt out small emitters and hospitals so as to reduce regulatory burden.¹⁹⁷

197 DECC, EU Emissions Trading System (EU ETS)

Oral evidence

Taken before the Energy and Climate Change Committee on Wednesday 7 September 2011

Members present:

Mr Tim Yeo (Chair)

Dan Byles
Barry Gardiner
Ian Lavery
Dr Phillip Lee

Christopher Pincher
John Robertson
Laura Sandys
Dr Alan Whitehead

Examination of Witnesses

Witnesses: **Professor Michael Grubb**, University of Cambridge, and **Professor Samuel Fankhauser**, London School of Economics, gave evidence.

Q1 Chair: Welcome, and thank you for coming in at the start of our new inquiry on emissions trading. It seems to be a perennial topic and likely to remain one for quite a long time, I suspect. Could I start off with a general question about how you think phases I and II of the EU ETS have performed? Do you think we have seen progress towards the aims that were identified in advance? Do you think those aims have been achieved or not?

Professor Grubb: I think we have seen progress, but not of the scale that was hoped for. There are various estimates of how much emission savings have been achieved under the system. I think perhaps most authoritative are ones that were identified by Denny Ellerman and his team, who published a book on that, and I expect you will have those numbers. Their best estimate would be a couple of hundred million tonnes of carbon dioxide saved in the first phase. I have not seen an update estimate for Phase II. Clearly, the system has had problems with over-allocation. I think those were somewhat predictable problems. In most quantified environmental regulation we have seen it appears that, with hindsight, it turned out to be a lot easier for whatever reasons to achieve caps than, shall we say, was initially negotiated.

I think that has illustrated both strengths and weaknesses of the system. The weakness has been a tendency to over-allocation and a lower price than projected, which I think has seriously undermined the system's incentives for investment, although it has had an impact on operations. The positive side is, despite over-allocation, there is still an incentive for companies to cut emissions. An irony that some perhaps find a little hard to see, is that even companies that know they have a surplus will still do better economically if they undertake some mitigation action to sell those allowances. So, one does preserve an environmental incentive despite the misallocation.

Professor Fankhauser: One or two more points reinforce that. On the good side, the key thing for me is that the EU ETS has changed the behaviour of regulated firms. They completely behave differently. They manage carbon now in the same way as they manage any other costly input, in the same way as they manage fuel or other capital inputs. That sort of

change in behaviour, I think, is probably the key achievement that we have had.

If you are simple about things, we have achieved our environmental outcome in a sense that emissions are exactly where regulators want the emissions to be. We have met our target. You can then argue that maybe the regulator has set the target at the wrong level but the market per se has delivered the target that the regulator wanted to have.

On the negative side, in addition to what Michael has said, I would point out one or two things. On the regulatory side there have been weaknesses. The regulation has not been perfect. We have had instances where the regulator has upset the market by being non-professional, if you will, or not sufficiently in tune with markets. Incidents of fraud have not been weeded out quick enough. The system has created a lot of rent, has created a lot of windfall profits for certain players and it takes a long time to get those out of the system.

Q2 Chair: You have raised quite a few points, which we will come back to, but just on the question of over-allocation, Phase I, which was sort of a stab in the dark, was subject to a lot of lobbying. Phase II may be a bit unlucky because the limits were set before the severity of the recession was known about. Does that raise a case for saying, because these things have to be set in advance, that as long as there was a stated formula in advance for lowering the cap in the event of an unexpectedly sharp decline in EU GDP, Phase II limits could have been reduced because of what we had not been able to foresee in 2007?

Professor Grubb: I think the ETS has faced a problem, which I have witnessed in many policy areas, which is the political system always acknowledges the future is uncertain and then designs instruments as if it was not. I think one has to build in the design from the outset. You have indicated one possible way. That faces a problem that one starts to lose some of the incentives in the system if there are emission reductions that lead to a withdrawal of allowances directly, then there is something a bit funny going on in the incentives, and to try and disentangle what was due to a recession versus what was not is, I think, very difficult.

I have always been of the view that the ETS should have been designed with a price floor from the beginning, precisely because of, as my own research has made me well aware, the old saying that energy forecasting was invented to make economic forecasting look good. We have always been bad about it. Usually the errors have been on the low side compared with projections in nearly every case I have looked at. If one said in advance that there will be auctions and there will be a reserve price on those auctions of, for the sake of argument, €20 a tonne in Phase II, we would not be in the position where we are now. That approach is not 'ex-post' to interference and it is not messing up with the market; a lot of auctions have reserve prices. What it means is that if circumstances conspire to drive the price below that threshold, people are not going to buy allowances from the auctions at that price, and so that sets a de facto price floor by withholding allowances in a way that everybody understands in advance.

Professor Fankhauser: I agree. There is a school of thought that says the EU ETS has been an automatic stabiliser for the economy, sort of a tax cut at the time when a tax cut was needed. I would be more on the side that says that as a regulator you have to be able to respond to new circumstances. You have to be able to learn and the ETS has not learned in Phase I; once we figured out it was over-allocated there was no way to react to it. It was not able to learn in Phase II; once we figured out we were in a recession, there was no way to react to that.

The question is how one does that reacting. Like Michael, I am in favour of an auction reserve price. I think that is an easy simple way that people understand. Other ways of softening the volatility would be to allow more banking into future periods of the EU ETS, and we have seen that at work in Phase II. The only reason why the price has not collapsed in Phase II is that firms are able to bank surplus credit into future trading phases. So that is another way of doing it.

Q3 Chair: The price has not collapsed but it is still well below the level at which you might set a floor price. Do you think the current price is enough to produce any emissions reductions in the immediate future?

Professor Fankhauser: It is okay to reduce emission reductions in a sense that—you can look at it in a positive way. Regulators in their infinite wisdom have set a carbon target and the market is delivering that and they have found a cheap way of doing it. The problem is if you take a long term view, all those emission reductions are achieved through operational changes, switching between coal and gas. They are not being achieved through deep long-term changes in investment patterns, so we need that additional incentive to change investment and that can be a combination of the higher price but it can also include other investment incentives.

Professor Grubb: I think the price has gone too low in the sense of maintaining the incentives for the kind of changes we need. At the margin it will still have some impact, particularly depending upon relative coal gas prices and indeed some of the prices in some

of the other sectors, like inputs to cement. But obviously the lower price, the less impact it has and the weaker the investment incentives.

Q4 Chair: You mentioned the fact that the price might be even lower if it was not for the opportunity of banking allowances for the next phase, but if a lot of that takes place we will still have a situation in Phase III, at least to begin with, where there is insufficient incentive to drive low carbon investment.

Professor Fankhauser: That is a function of what target you set in Phase III. The EU has sort of indicated what the Phase III target would be but there is nothing that prevents people ahead of time from tightening that, if it is necessary.

Professor Grubb: I think you are right. Banking was banned in the first period because they knew that it was a new system with so many uncertainties. They did not want it to pollute in a sense, pardon the phrase, the second period. It was then assumed that we knew what we were doing, but with the recession, it is plain that we did not, and I think the scale of surplus is now at risk of undermining the objectives that were intended in Phase III. I think that leaves us with three options perhaps, one of which is a rather ad hoc process of the bureaucracy withholding allowances, and there has been obviously some discussion of that partly around the energy efficiency directive and its impact on price. I think a second option would still be to negotiate a reserve floor price for Phase III. The third option would be a full political renegotiation of the target on the combined grounds that there was always this slightly ambiguous figure of 20% to 30% and the fact that the recession has now fundamentally changed the economic expectations of Phase III.

Q5 Ian Lavery: It is debateable whether Phase I and Phase II met its objectives and you said that there were massive problems with allocation as well as regulatory problems. The cap is to reduce annually by 1.74% of the Phase II cap. Do you agree that the cap for Phase III needs to be revised down?

Professor Grubb: In my view, yes.

Professor Fankhauser: I agree, yes, it has to become tighter.

Q6 Ian Lavery: It is as simple as that?

Professor Fankhauser: Yes. It is the simplest way. I mean there are other ways of getting us there but that is by far the simplest way of doing it.

Q7 Ian Lavery: When is the cap likely to be lower than the business as usual emissions?

Professor Grubb: It is always hard to disentangle that kind of question because business as usual no longer exists anyway. It has already been affected by having a carbon price, so emissions are somewhat lower than they would have been, and if one took the cap off entirely where would emissions go? It is kind of hard to say. And also, of course, every few months we get revisions about the overall impact of the recession and its longevity.

I think it is clear that the Phase III targets do require real emission reductions. They would almost certainly in themselves still bite. They would still have some

7 September 2011 Professor Michael Grubb and Professor Samuel Fankhauser

impact, which is in part why we have a positive price at the moment, but that is not as strong as it was expected or intended to be and it is further weakened by the carry-over of surplus allowances. If you throw in the surplus allowances and say, "When would the cap bite?" I do not know, but maybe in the middle of the period, but it all depends on how you think the market is going to be banking surplus forward. We do have a relatively weak cap compared with the original intent.

Professor Fankhauser: I would not be too much hung up about business as usual, because there comes a time when you forget what would have happened otherwise. The two anchor points that I can see is, one, does it get us to the carbon targets we have, and we know what those are in the case of the UK, it is 50% by 2027, so given that the ETS relates to half of the economy, does that half of the economy perform consistent with our target? The other anchor point to consider is whether is the carbon price high enough to get us into that investment change that we need.

Q8 Ian Lavery: There is a question mark over the possibility of needing to reopen the Emissions Trading Directive in order to reduce the cap. Is it your view that that would need to be done and if it is, when and how soon could that be done?

Professor Grubb: I am not a legal expert on the processes. My understanding is that at present the approach being adopted is to look at options that do not require reopening the directive, largely through the set-aside proposals. Certainly my understanding is that formally revising the cap on the ETS or Europe-wide—there is 20% to 30% to debate—would require reopening the directive and of course that makes people nervous. I do not know whether setting a price floor would involve renegotiating the directive. It probably would, but I have not checked that.

Regarding timescales, I think this is a process that ideally should be initiated under the Polish presidency for completion under the Danish presidency in the first half of next year, so that one then enters 2013 with the rules clearly defined in a way that gives everyone more confidence in the outcome.

Professor Fankhauser: Yes, whatever the legal situation is, there is an investment perspective and a policy or political perspective and both of them suggest you want to move early. I think playing around with set-asides and stuff like that is fine but it is sort of a sticking plaster. At some point you have to bite the bullet and say, "Do we mean what we said when we set 80% by 2050?" and collectively move from 20% to 30%. You need to do that very early on from the investment perspective because people want to know what the situation is going to be.

Q9 Ian Lavery: You mentioned the over-allocation in Phase I and Phase II, I think this is generally because of industry lobbying; certainly partly because of industry lobbying. What input has the industry had in lobbying for the design of Phase III?

Professor Grubb: It has been a huge lobbying exercise. I think one would expect it. There is a lot of money at stake. So, yes, there was a lot of lobbying input into Phase III, perhaps more at the level of

individual allocation distribution even than the overall cap, although I think Business Europe has made it plain that it is opposed to strengthening the cap.

Professor Fankhauser: I think I would distinguish between helpful lobbying and egoistic lobbying, if you will. The fact that each firm wants to get the biggest possible allocation for themselves is sort of ugly, but natural. We can phase that out by moving to auctioning as quickly as possible. Of course that itself is subject to lobbying because it has a huge revenue implication.

But there are also some more helpful interventions by industry to improve the system, particularly when we have seen that regulation was not always as good as it could have been. It is sort of helpful to get industry feedback, to hear from industry, just how far ahead they need to know things, what they would think about the auction reserve price. The outcry when the spot market closed down after the latest fraud case was, in my view, very helpful because it taught the regulator that we have to be better next time.

Q10 Ian Lavery: How influential have the lobbyists been?

Professor Fankhauser: I do not know. How do you measure that, given that auctioning takes a long time to come in? If we look at that piece of analysis that asks which sectors should continue to obtain free allowances because they are exposed to international competition, you see a lot of industry influence in that.

Q11 Ian Lavery: Finally, what difference would an EU economy wide 30% emissions reductions target make to the ETS?

Professor Fankhauser: I do not know what it would do to the price but it would put us back on track to meet our carbon reduction roadmap. As long as we are on the 20% trajectory, the UK will find it very hard to do its own 50% target by 2027—it will still do it hopefully, but in a more expensive way. Even the EU will probably find it hard to get to its 40% target by 2030.

Professor Grubb: For any system, if you draw a straight line between where we are now and deep reductions by 2050, one thing to remember is that the implied rate at which you are acting percentage wise is accelerating. So if you are looking at a straight line towards an 80% reduction in 2050, you are talking about maybe a 25% reduction in the first decade and a halving in the last decade—just from the maths of a straight line.

The EU 20% target is well short of even a straight line trajectory and in that sense it is a very costly policy because of the amount of trouble it would store up for later and the sheer rate of change that we would be expecting industry and infrastructure to change later.

On the Committee on Climate Change a lot of our thinking was informed by looking at an exponential trajectory, which implies something stronger even than 30% at a European level.

Q12 Christopher Pincher: Just on the subject of auctioning, in Phase III I think that 100% of allowance will be auctioned in the power sector.

Given that in Phases I and II those allowances were essentially grandfathered so those companies got those allowances for free, yet several companies still passed on the cost to consumers into their bills as if they had to pay for them, do you think that there is a risk that 100% allowance auctioning in the power sector in Phase III will result in higher consumer bills?

Professor Grubb: The economic theory would say if they are passing it through with free allowances anyway then auctioning has no impact on electricity prices, it merely secures the revenue for the public rather than for profits. I think the reality, as monitored, has been pretty close to the economic theory on this one. Most of the costs have been passed through, therefore moving to auctioning will not have an impact on power prices.

Professor Fankhauser: Let me add two points to reinforce what Michael said. One is a slight defence on behalf of the power companies. I mean the fact that they pass on the price is not sort of collusion, it is the way the market functions because the price of power is set by the cost of the marginal producer, the last guy who was producing a kilowatt hour. The last guy who was producing a kilowatt hour did have to pay for the permit and so the guy who bought the permit sets the price. The fact that everybody else did not pay for it is just good for them.

The second observation I would make—usually I defend straight economics and Michael finds the subtleties but this is the other way round—is that the one thing that we have learned that might deviate from the straight economics is that the price expectations of traders is different if they get free permits versus if they have to pay for them. It is some sort of psychological flaw in traders, if you will, but they think the future price of permits is lower if they have been given them for free.

Q13 John Robertson: When you look at the international view of the emissions trading, is it necessary for the post-2012 regime to continue the top-down approach to the Kyoto Protocol?

Professor Grubb: If it is necessary then we are in deep trouble because I see very little sign of the international system continuing the Kyoto Protocol, certainly with the kind of participation that was envisaged.

This could take us into a very long conversation about the international system, where it is at and how it relates to ETS. I could summarise my view by saying that in this respect the major problem of ETS has simply been somehow the expectation that it would be part of a global cap-and-trade system within the decade. That is a fantasy, and I think it always was, but now that is clear. The name of the game changes. The policy should always have been about how can one develop systems that impose a carbon price in ways that make sense for collaboration among a coalition of low-carbon economies without putting their economies at the disadvantage vis-à-vis the free riders? That to me is the question and I think there absolutely are ways of doing it. So, no, I do not think we need a global regime to underpin the future of the ETS but I do think we need a change in some of the thinking behind it.

Q14 John Robertson: If it is not going to be top down, then it will be a bottom up?

Professor Grubb: You can have hybrids and in reality there tends to be some interaction.

John Robertson: You start in the middle.

Professor Grubb: I think the biggest, deepest danger arising from the situation international negotiations are in is if we lose a common accounting system and a common framework, which people understand. What is a tonne of carbon emissions? How is it counted? If you are doing any international exchanges, and so on, what is the agreed basis? If everybody invents their own rules as to how to count the stuff then we are in deep trouble.

In that sense I think Kyoto has been extremely helpful and will continue to be extremely helpful because it sets a standard of rules that are acknowledged and understood by the vast majority of the world. If you include the ramifications through the fact that some of the Americas are part of that system and the developing countries through the CDM, there is a default set of rules and that in itself is very helpful. What you then have to work out additionally are the economics of differential degrees of participation.

Q15 John Robertson: Should then the distinction between developed and developing countries, which was set out in the Kyoto Protocol, be looked at and changed?

Professor Fankhauser: In reality that is already changing. I agree with Michael that we are moving away from something that is exclusively top down, which means that you start seeing a lot of the action across the board. It is no longer a division between annex 1 and non- annex 1. You see a lot of things happening in countries such as China, India and Brazil on deforestation, and I think that is important for several reasons. One is that the reality is that half of the emissions going forward will come from those markets. The second is, as Michael said, that whatever the international agreement, it has to be based on legal action or legislation at the national level and action at the national level because that gives the credibility to whatever the international regime is. It gives the credibility that things will happen. It can also drive national action and the confidence that comes with it allows countries to perhaps agree on stricter targets.

Q16 John Robertson: In the future are we at the stage where if we do not get China, India, United States to sign on to some form of new protocol, we are just wasting our time?

Professor Grubb: I do not think that way anymore at all, for a couple of reasons. One is that, exactly as Sam said, we see a very interesting mix of actions emerging, frequently in places we had not fully expected. For example, in its five-year plan adopted earlier this year, China has six pilot emissions trading programmes with the explicit intent to learn from them with a view to whether it may start to develop national emission caps. India has newly legislated a perform, achieve trade system, which caps nine industrial sectors, very much like the EU ETS, but on an intensity basis. It is an energy efficiency based cap.

7 September 2011 Professor Michael Grubb and Professor Samuel Fankhauser

We all know that Korea, and so on, are adopting significant legislation.

Frankly, I have very low hopes of what may happen at federal level in the United States. I think it is a big mistake to hang everything on that. California is moving ahead with its cap-and-trade scheme. We are going to have a very complicated world and, as I said, I no longer quite see it as we need to get everybody on board or it is pointless. I think we need to develop the structures between regions, which are moving ahead, and where progress is not blocked by the kind of extraordinary degree of lobbying that we saw in Washington last year. We work with the regions that are capable of taking action and work out how to make that work, stick and expand, and I think that is eminently possible.

Professor Fankhauser: I am perhaps naïve, but I would see the US or more narrowly the US federal level as a slight outlier at the moment if you sort of compare what everybody else is doing. We did a survey, GLOBE jointly with LSE, of legislation in the 16 major emitters, as it were, and you find climate legislation in all of them, and quite good and quite aggressive legislation.

Q17 John Robertson: In Copenhagen, you made the statement, professor, that if there is not global action then we will have failed to reach a target of limiting climate change to 2 degrees C? Would it be fair to say that you have changed your opinion on that?

Professor Grubb: I would be very surprised if we hit a target of limiting to 2 degrees because I think that what happened at Copenhagen has slowed down progress, it has undermined progress. It has forced us a rethink, which, of course, one can always make the case with hindsight is absolutely necessary. What I am saying is that the failure to get an effective global agreement of the kind that was envisaged in the run up to Copenhagen does not mean that all international discourse is a waste of time and we should all give up. In fact, I think it simply points to the need to rethink how we are going about the process of constructing an international deal. The more I think about it, the more I can see ways forward.

Q18 John Robertson: Basically, the EU has led the way in this so what more can the EU do to promote development of robust compatible schemes?

Professor Grubb: I think there are several strands to the answer. One is to stop obsessing with Washington, because that will lead nowhere. It would be much more productive to engage with major emerging economies, so geopolitically that is how I would reframe things.

Technically, it is important to keep a UN process on the go to maintain, at absolute minimum, a common accounting framework, drawing upon the Kyoto rules. My sense is the major emerging economies would probably need a few more years before they are ready to sign on to a really major binding deal of the kind that the EU is ready for. Internally, it would help enormously if the EU could take the kind of decisions on the EU ETS that we were alluding to earlier to strengthen the target. I think there are one or two structural reforms that would be helpful as well,

including, in my view, some areas of the treatment of energy intensive goods, but that leads us into a more complex terrain.

But I think you are right. After Copenhagen, people had rather given up on the EU as being a force for anything very much in climate because it did not get what it wanted at all at Copenhagen. It had been sidelined, all eyes turned to the US, China, and so on, that was where all the action was. When US legislation failed and after the outcome we saw at Cancun that managed to keep the show on the road, by Bonn people were very much saying to me, "The real irony is now that Europe is once again the centre in the eyes of the developing countries. It is the region that has done something serious and shown it is able to deliver something serious and therefore was worth negotiating with, whereas the US is simply unable to deliver anything." What happened has ended up putting the EU back in a strong position in the international system.

Professor Fankhauser: There are three things the EU can do. First, it can continue to lead by example. So, to be credible internationally you have to do stuff at home. That means 30% rather than 20%. The second thing the EU can do is to team up with other countries that have a similar sort of objective and mindset and, as Michael says, that is probably no longer, or for the time being, the US. It may be somebody like China, it may be—it is probably somebody East rather than West, let us put it that way. Finally, it can emphasise the green growth narrative that comes with some of the things we want to do. The whole Kyoto Protocol is about constraints, targets and penalties if you miss them. It is not a very attractive thing to sign. If you start talking about opportunities and possibilities for growth, innovation, prosperity and productivity, perhaps that makes it a bit more attractive to join up. So maybe that is the sort of language that we have to start talking.

Q19 Chair: Without departing too much from emissions trading, are you saying that as we come towards the next COP, if the EU plus a couple of the BRIC countries could collaborate on an agenda, which might eventually lead to something quite co-operative, that is a more promising line than bashing our heads against the wall in Washington DC?

Professor Grubb: Yes.

Professor Fankhauser: I would agree.

Q20 Barry Gardiner: Absolutely. It is said that offshoring by UK industry leads to leakage. What actual evidence do you have of that and is the UK more susceptible to it than other EU countries that participate in the trading scheme?

Professor Fankhauser: Go ahead, Michael, it is your thing.

Professor Grubb: I think pinning down the evidence as to whether leakage has happened is phenomenally difficult because there is continual structural change—just look at what has happened in the euro exchange rate, and that is probably dominated most of the effects that there would be from carbon. Structural change is huge in the steel sector, for example, which is partly driven by ore and there is lots of other stuff

driven by labour costs. It is incredibly difficult to be clear, particularly on any issues of investment leakage, that is the movement of capital elsewhere. What companies will say is that they are under a process of internal competition for capital within their company, and that the ETS risks making Europe less attractive. To judge from the surpluses we have seen one might think that is not entirely clear, to say the least.

There is some evidence, I would say tentative evidence, of operational leakage in the cement sector. In other words whether or not anyone is building a new plant, they may be running some plants less in Europe and importing because there was a rise in clinker imports, in particular up to 2008, now that has the reversed sharply. Again, it is a very complicated story because cement trade is a lot about inherent imbalances between the construction industry and domestic manufacturing capability at one point in time and surpluses in others.

If one looks at the analytic evidence, as we published in work at the Carbon Trust, there are half a dozen sectors that run primary carbon intensive commodity activities for which carbon costs, in the area of €20 a tonne plus, would be quite a significant cost. In some of those areas there will be impact on operation, and in others impact on investment. I think there is a reasonable case to say, “Yes, there is a good case for concern around those half dozen sectors”. I do not see any real analytic evidence to include the long tail a mapped out in the European Directive of which the vast majority of sectors are to do with trade intensity, nothing to do with carbon intensity. I see no evidence that there is a significant leakage problem in those sectors.

I still very much maintain the view that carbon leakage is an issue of real concern around half a dozen carbon intensive primary sectors, which account for a small fraction of GDP, but that does not mean they are unimportant, and they account for half of the carbon in the manufacturing industry, so with a carbon lens they are really important.

Q21 Barry Gardiner: Do you believe that industry is exaggerating the problem of leakage and that investors are exaggerating the problem of leakage in order to ensure that the caps are not as tight and that they have sufficient allocations to profit from?

Professor Grubb: If I was a UK or European-based operative I would stress the risks of leakage as much as I could because it might get me more free allowances, which increases profitability, and because I do not want my operations to be out bid by some foreign operations even if it is within the same company. Is that exaggeration? Well, it means one is looking at it and lobbying from a certain perspective.

Q22 Laura Sandys: But there is another issue, it is not just leakage out but it is about inward investment and what sort of decision-making process would you look at and how would you assess that? If you are trying to inward invest into the UK to deliver on a lower carbon economy, then fantastic. But I do not know whether anybody has done any research or allowances of what might happen if you are not in that sector and what level of deterrent there would be.

Professor Grubb: As you say, it should help for lower carbon investments; insofar as there may be any deterrent effect, I think it would stem more from the lack of long-term certainty about where ETS going, including the carbon price, the strength of the caps, and its treatment of energy intensive industries. That is set against the value of at least knowing the system you are operating in as opposed to being stuck in a situation, maybe Australia at the moment, where everybody is fighting over whether there will be legislation and what on earth it will look like, and so on. Industries hate being in that position. At least in Europe they know what the rules are, which is quite valuable. They would like a lot more clarity on some dimensions.

I do not see a big problem around inward investment personally but I think we could do a lot better if we could get clearer about the overall vision of the system going forward.

Professor Fankhauser: The only other thing I would add to that is that carbon is only one of many factors that determine where companies invest, probably not the major one in the decisions of the companies we are talking about.

Q23 Barry Gardiner: Given the action by the Government on the support for the carbon price earlier this year, do you think that has any significant effect on leakage either of investment or the sort we are talking about?

Professor Grubb: I think the UK carbon floor price is interesting—brave might even be the word—because it is a doubled-edged sword. It helps to clarify more than other European countries have what the investment context might be for low-carbon investment. For the first time it introduces the possibility of intra European leakage. I still remember five years ago, when I was doing studies with Carbon Trust, we had a round table, and I had done all this analysis about the potential for leakage from Europe to other parts of the world and loads of detailed number crunching. At a review meeting with the refining industry they said, “We are not talking about leakage to the rest of the world. We are worried about what happens in Rotterdam”. That is one of the reasons also why there is such strong lobbying around allocation in the earlier national allocation plans and why we have now done very well to move to a harmonised European allocation process. The UK carbon floor price—

Q24 Barry Gardiner: Puts that out of kilter

Professor Grubb:—puts that out of kilter. It introduces one region within a trading zone that has a different price setting structure that has big risks. On the other hand, as I said, in principle a floor price is an extremely sensible thing to do in designing a trading system, so you might say, “If it is a gamble that then provokes Europe to acknowledge there is a sensible case for a floor price and we can get it at European level, then that is an extraordinarily good pay-off. For as long as that does not happen the UK is in an awkward position and I do not blame industry, electricity intensive industries in particular, for being

7 September 2011 Professor Michael Grubb and Professor Samuel Fankhauser

upset about it, and hence the clauses on possible special treatment.

Q25 Barry Gardiner: You have given a very persuasive and clear answer, but can I pin you on the question of do you think it will have a significant—let me phrase the question in response to the answer you gave. How long would it not have been adopted by the rest of Europe and what sort of timescale would then have an effect on leakage? Obviously if they were to move to that in the next year or so that might be one thing, but if they did not move to it for another five years it might be quite another. Do you have some feel for when leakage might result from that differential and what sort of timescale we might be looking at for you to be able to get any clear evidence of leakage arising?

Professor Fankhauser: Let me try two answers on that and to give Michael time to think. The first one is that the leakage from the UK into the rest of Europe happens instantaneously in the sense that whatever additional emission reductions that UK firms do result in extra permits that they have that they will sell. We have done absolutely nothing to change the cap Europe-wide, so whatever the UK does not do somebody else does. It is 100% leakage if the market is liquid enough to react to that immediately. That leakage is instantaneous and 100%. You do need to have those other reasons why you want to do these things.

What will happen at the Europe level is interesting. There might be less leakage from the EU to the outside world because what the UK unilateral action does reduces the carbon price Europe-wide, because UK firms have less of a demand for permits, so the permit price goes down, which in turn means there is going to be less leakage from the EU to the outside world.

Professor Grubb: In your question I am quite glad you used the word “feel” because I have not done any explicit analysis, so let me make that clear. I would make some observations. One slightly saving grace in this area is that when you look at the structure of carbon on cost exposure, direct carbon emissions tend to be very heavily concentrated in the big sectors that we mapped out. Electricity, which is what we talk about here, tends to be pretty widely spread across a lot more industry and much lower levels, so the relative cost impact tends to be a lot lower. There are some exceptions, aluminium being the most obvious, but where there are those big exceptions they tend to have long-term contracts though I believe these are pretty close to expiry certainly for some of the UK smelters.

That then leads you into how are those sectors treated in respect of their electricity consumption, their contracts, and so on. That gets us into a different ballpark and I think your question is doubly hard even to give a feel for because the Treasury decision on the floor price was accompanied by a statement that those sectors would receive some kind of special or ameliorating treatment. Sorry, I do not know the language. I certainly do not know the content because I think there is a certain amount of consternation at the moment as to exactly what will that look like. I

have views on what that should look like but clearly if that sentence is delivered effectively then that would go a long way towards ameliorating the problem you pose. There are some quite interesting ways to do it.

Q26 Laura Sandys: Just following on from Barry’s questions, one of the things that we have been looking at in other areas is the complexity in the UK of different mechanisms and how that drives different behaviours. The previous Government was very clear that emissions trading was the platform that it wanted to use. Do you feel the current Government has that same level of commitment to emissions trading?

Professor Fankhauser: You would have to ask the Government, I guess. What I would say is that the complexity in the UK does not necessarily come from individual policy instruments. Some are highly complex, like the CRC, but the main complexity comes from the sheer number of policy instruments there are, to the point that analytically we do not always know how they interact and what they do to each other. So for me that is the main complexity rather than something like the EU ETS, which one has to learn how to use but in its own right is quite straightforward for industry.

Professor Grubb: Again, it is not for me to speculate on what the Government thinks about it. I agree with Sam totally that EU ETS is a relatively clear, straightforward clean instrument that goes a long way towards the sort of principles that economists would lay out for some effective incentives with the carbon price. What I think has changed—apart from the recession and the surplus and those issues and the complexities that does introduce—in my view is that five years ago, certainly 10 years ago, probably a substantial majority of economic advisers took the view that if you get the carbon price right you have fixed everything. You get carbon price, carbon cap—sorted. I may be caricaturing, but I think it is very clear that for a problem of this nature and scale in terms of longevity, the scale of assets, the importance of energy efficiency, and so on, you have to have at least three categories of instruments. You need instruments that address the long term investment within which public-led investment will have an important role, and R&D is a key issue there; essentially all the things where private actors are not going to make a return easily, even if there is a carbon price. We need instruments to address those.

You need a carbon price because we believe in market economics, you are never going to solve this problem without putting a price on carbon. And you need a third category of instruments, which address all of the things we have learnt about behavioural anomalies in both individuals, corporate incentives, corporate branding incentive, lots and lots of other stuff, which is at the heart, for example, of the CRC proposals. I think a coherent policy on an issue of this magnitude has to have all of those three components and it has to understand how they interact. Maybe the problem we have is that, rather than design, we got there by just kind of muddling our way and discovering we had not quite fixed that bit, so we added an instrument there.

Q27 Laura Sandys: In our other investigations we have looked at this issue of complexity, layering and behaviour against different policies, but you were saying that there is not total clarity on how the market will respond and that that could throw up some difficulties?

Professor Grubb: I am not sure there is total clarity on how any markets respond and that is both good and bad. It makes it harder to design for but—

Q28 Laura Sandys: But the complexity of the market—

Professor Grubb: For example we have learned a lot about mitigation options in the cement industry that nobody thought about it until there was a carbon price, so that was pretty good uncertainty, in a sense. Particularly in terms of the investment response, we have been reminded that industries do not look ahead, plan and assume on the credibility of Government policy in the future in the way maybe that Governments would like, and therefore one does not get the level of investment response that one might have hoped for.

Q29 Laura Sandys: When you start to compare the UK regime, the proposed regime and the rest of the EU, is there an issue about complexity that makes this market more difficult to either invest in or retain activities in?

Professor Fankhauser: It is a combination of complexity and uncertainty. We talk to renewable energy investors, for example, and something one hears—and they play games by telling you that—is that the combination of uncertainty, how long will we have ROCs, when do we have something else, what will the something else be, plus the complexity is what deters investment. If you stick to a particular regime and keep it, people will learn and will start using it.

Professor Grubb: Yes, I think on your question I draw quite a sharp distinction between renewables and the broader carbon agenda. I think on renewable energy the UK has not done well statistically, that is clear from our investment relative to other countries. I think we have had further uncertainty in the regulatory regime. We have uncertainty magnified by some attempts to suggest the UK should try and abandon its renewables target, which would further amplify uncertainties and the cost of capital and everything else, quite apart from being against European law.

I think the UK has not been in a very happy place for renewables investment per se, and it obviously is trying to fix that.

In terms of broader carbon issues and how, strategically, the bulk of UK industry can manage the climate issue, I think the UK is in a good position because it has always been clear it believed in market instruments and it always was clear there should and would be a carbon price that rises over time. The structure of the Climate Change Act is well designed to give industry an assurance about the continuing evolution of regulation in this area, which is helpful, as I am sure corporate leader groups and others have said, and not many countries can match that in terms of the degree of confidence they are giving to business

about the strategic direction of the UK economy and decarbonising.

Q30 Dr Lee: Good morning, gentlemen. Going back to a global emissions trading scheme perspective, and particularly to China, its CO₂ emissions rose by 10% last year, chances are it is going to continue growing in the present circumstances. How likely do you think it is that China will develop cap-and-trade schemes in the near future and will they be compatible with EU schemes that are in place?

Professor Grubb: I think it is certain China is developing pilot cap-and-trade schemes. They have six moving forward. Four of those are city-based schemes, two are regional schemes. One of them is Guangdong, which is obviously a major industrial area in China. How compatible are they? We need to see what the designs are. My sense is that again Europe was a little naïve in thinking that other trading schemes would look like its own. They will not. The Indian scheme looks nothing like the EU ETS but it is still a trading scheme. Guangdong, I would imagine, would look different again. It does not necessarily preclude linkages.

Q31 Dr Lee: When I am out on the streets of Bracknell and I mention climate change, because I am on this Committee, most of my constituents understand that it is happening to varying degrees but what they are concerned about is the competitiveness of the British economy and ultimately they are more worried about having a job than they are about saving the polar bears, to be blunt. I have quite some difficulty trying to persuade them of the need for us to act. They always come back at me with the same sort refrain, “It’s all very well we could do this but the Chinese are pumping loads of stuff into the air”. Professor Fankhauser, you recently noted on your blog that the FO is doing work with China on climate change policy. Do you have any suggestions what they should be suggesting in terms of promoting emission reductions in China, which also might reduce the impact it might have on UK competitors in the economic term?

Professor Fankhauser: Absolutely. Let me start with an anecdote. When I was doing that FCO trip to China, something that surprised me was that the Chinese were worried about their carbon policy in terms of their competitiveness, so it is something that seems to be everybody’s worry. It is not a unilateral thing.

As for what we can do, leakage goes away and competitiveness issues go away if you team up, if you have a sort of larger pool of countries that think about carbon policies in the same way, exchange ideas, do trading with each other and have similar types of regulation. So the easiest and most obvious way to deal with the competitiveness or leakage issue vis-à-vis China is to work together with China. You could say China and the EU together probably create enough critical mass that other countries might all of a sudden think, “Yes, this is a good thing” and might want to join.

Professor Grubb: Two additions. It is pretty clear that trying to row back on our own policies is not going

7 September 2011 Professor Michael Grubb and Professor Samuel Fankhauser

to help the advancement of the Chinese policies and, in fact, some Chinese experts say that China watches very closely the European 20%, 30% debate, future ETS, and so on, because they want to know that some other region is doing some serious stuff.

The other point, which brings us into different, but related territory, is that China has on many occasions said that it is not fair that they are getting blamed for having emissions that now exceed the US when a quarter of their emissions come from producing goods for export. They believe that the system should somehow address consumption as the problem rather than production and all those other debates in the UK. My answer to that is “absolutely”. Where it can be done, you should have a conversation about that, which leads to the conclusion that for some of the big energy intensive goods you should address them on a consumption basis, so we need to address the European consumption of steel, cement, and so on, and that means one has to put all those emissions under the same regulatory cap, namely include imports in the EU ETS. I think there is a deal that could be done there.

Q32 Dr Lee: You think if it is specifically capped in certain sectors that could be tied in with ETS in the EU?

Professor Grubb: In the cement sector it would be very much like we treat excise duties on petroleum anyway. Nobody suggests we should let petroleum in without subjecting it to excise duties. So particularly for cement, which is the easy case for various reasons, I see no reason why we should not do the same for that.

Q33 Dr Lee: One final question, I note that in a last-ditch effort to meet the energy intensity target the Chinese shut down large swathes of industrial capacity in certain provinces, this is in 2006, 2010. If I made a suggestion to cut down the industrial capacity of Scotland, I think John would be quite upset. To what extent do we rely upon an autocratic Government in China for all of this to work? I say that because you have spoken about the problem with Washington—well, the problem with Washington is it is democratic and that there are large areas in certain key swing states, states to win in presidential elections, that are not at all signed up to the climate change idea. Texas is a classic example of that. To what extent are we relying upon there being an autocratic Government and that all of these targets and figures that we are aiming for are pie in the sky if 1.4 billion people suddenly have a vote.

Professor Fankhauser: I would say that the ethics of China’s policies are above my pay grade, but what I would say as an economist is that we do not have a choice. China is a very big economic power. It is the biggest emitter.

Q34 Dr Lee: Of course we have to work with them, but we could come to all of these agreements but it is predicated upon their being able to shut down the industrial capacity of a province. I am sorry but that would not happen in democratic countries. Is there a

danger that we are going to sign up to things and then the game changes?

Professor Fankhauser: I sort of agree that this is a particularly stupid way of meeting a target. You can look at it the other way. The Chinese were committed to meeting the target. There are other countries out there that sign up to things and then do not meet them. In a sense, the good news I take out of that is that you can probably have a certain amount of trust in Chinese targets, and that they will do everything in their power, including some things that should not be in their power, to meet them.

Professor Grubb: As to your comment about democracy in Washington being a problem, I think the problem in Washington is to do with some very specific things around the structure of Congress and the way that operates combined with the intense and deliberate politicisation of the issue.

I am not sure there is much fruit in getting drawn into a debate of that sort, clearly shutting down plants is a very extreme measure and the analysis I have seen on how we tackle climate change does not imply one needs to resort to those kinds of measures. One needs to get the incentives right and make sure you have clear rules and stick to them.

Q35 Dr Whitehead: The EU is going to introduce aviation into ETS 2012, how do you think that is going to affect the overall ETS Market?

Professor Fankhauser: It is going to do a couple of things. If the cap is set tightly enough, as I currently understand it will be, it will create a net source of demand for permits in a sense that a lot of the aviation companies will find it easier to buy up permits rather than reduce their own emissions beyond a certain efficiency level. That is a good thing because it supports the price.

The other thing that it does is it broadens the pool. It makes the market more liquid. It has more players in it. It also has players in it that perhaps are less correlated in their economic activities than some of the others. It sort of brings into the regulatory regime a source of emissions that has grown much faster than many others.

Q36 Dr Whitehead: You mentioned quite a bit earlier the effect on the behaviour of companies involved in ETS. Does that apply to aviation in the future, airlines, sustainable air travel, innovations in transport modes, engines, and so on. Is there any evidence that the arrival of aviation within ETS is driving any of those sorts of changes?

Professor Fankhauser: I do not know if it is ETS but I suspect the prospect of regulation in the aviation industry is changing the behaviour. It is not an area that I know particularly well, but I suspect that like in other sectors, the main emphasis in the short term is on operational changes rather than on the sort of deep investment changes that we want. On the technology side in the aviation sector, we do not have the wealth of technological possibilities that we have, say, in electric power, so it is much harder to do.

Professor Grubb: One different point about aviation, which is an interesting feature, is that it is charging

7 September 2011 Professor Michael Grubb and Professor Samuel Fankhauser

and requires allowances for both departing and incoming flights, which has obviously raised a lot of controversy. It does show it is a case where the EU has been willing to get tough and the EU has made it plain that flights coming from regions that also charge carbon on those emissions will not be subject to the EU ETS charge, so the country of origin can keep the revenues associated with charging for carbon. I think that is the sensible structure. It gives a clear incentive and my understanding is some of the small island states at least have already said that is what they will do, and they will adopt carbon pricing on aviation for flights to the EU. I think that is interesting because, in part, it is also a precursor of the kind of things that I think we need to do in energy intensive, carbon intensive goods trade.

Q37 Dr Whitehead: I think you anticipated my next question. Bearing in mind what the EU has done, against some pressure, by simply saying flights coming in and out have to purchase a proportion of their carbon emissions, do you think that is a potential trading model for other sectors?

Professor Grubb: With adaptation, yes—if it is adapted to the characteristics of other sectors.

Q38 Dr Whitehead: Bearing in mind what you said, do you see or could you see the aviation model as a potential sectoral driver well outside the EU, and as one of the benefits of ETS in the first place, as we have discussed previously?

Professor Grubb: Yes. To reinforce the underlying point, I do not think we are going to succeed in ambitions on climate policy as long as the only option on the table, for sectors that can make a case of a credible risk that they might move is exemption *de facto* by lots of free allowances forever. That undermines incentives and you cannot solve the problem in that way.

I think one has to find ways of moving those sectors towards more auctioning and that means for those sectors being able to do something to address the competitiveness fallout. I think the model of aviation absolutely does have some carry-overs, although the driver is not the same—competitiveness *per se* in the aviation sector is not driving it.

Ultimately where we want to get to and the incentive structure we want to get to, is rather like international treatment of VAT—if it has been paid at source, you do not pay it when it comes into here and if it has not been paid at source, you pay it when it comes into Europe. That is the logical structure for an international regulatory system that enables a coalition of countries to move forward without the whole of the world on board. That is a long way from here to there. It is complicated. I am not pretending it is not. But that is the actual structure we should be looking towards. I think that is explicable to other countries, including the developing countries. They can see and understand the dilemma.

Q39 Dr Whitehead: One of the witnesses who gave us evidence, Heathrow Airport, indicated that in future

it would be likely that aviation would effectively have to be treated as a country with further negotiations. Is that something that would be likely to happen and would that then perhaps create within ETS, if that applies to other sectors, any issues of overlapping jurisdiction?

Professor Fankhauser: I can sort of see the logic of that in a sense that aviation by design is such an international business. If you started designing an ideal system from scratch you would have a global system that has everybody in it just because the chances of leakage and the like are so high. Whether you want to call that country aviation or just call it the sector agreement is semantics. But treating aviation as comprehensively internationally as you can I think makes a lot of sense.

Q40 Chair: Just one final question. Professor Grubb, when you gave evidence on electricity and market reform, you talked about long-term low-carbon contracts with energy suppliers. How do you see those reconciling with the role the carbon price might play?

Professor Grubb: I think in two quite important ways, one of which I alluded to in that evidence. Amidst all the discussion about long-term contracts not many people seemed to have looked at the fact there may be companies that want to buy long-term contracts for low-carbon electricity for a mix of reasons. One could establish a contractual structure, which would enable such long-term contracts to be traded, and I outlined the potential benefits.

I think one of the benefits of that is it restores a role for the carbon price because one of the risks, as I see it, of having long-term contracts done purely by Government as the central driver is that the government sets the contract price, relegating the role of the market and the carbon price along with that. If there were a private market in long-term contracts, in effect that long-term market would be competing with spot electricity that included a carbon price. The higher the carbon price went, the more attractive those long-term contracts would get. I think that is a very valuable structure to have; it basically drives the system towards the kind of low carbon investments we need without losing a market underpinning it.

The other feature is if we are looking for solutions to electricity intensive industries, one could offer such contracts and top them up with a kind of feed-in tariff structure, so that in effect those electricity intensive industries would be buying low-carbon electricity that took them out of the impact of the carbon pricing—of having to pay the carbon price on electricity whatever they tried to do in terms of electricity sourcing—ie buying zero-carbon power directly should be facilitated and that shouldn't carry a carbon price. I think in the short run that would require a top-up of the FIT type that is being considered anyway. It does integrate with the EU ETS discussions.

Q41 Chair: Thank you very much, we have run over time but we are grateful to you for coming in.

Professor Grubb: Thank you.

Professor Fankhauser: Thank you very much.

Examination of Witnesses

Witnesses: **Baroness Bryony Worthington**, Sandbag, **Damien Morris**, Senior Policy Advisor, Sandbag, and **Larry Lohmann**, Corner House, gave evidence.

Q42 Chair: Hello, thank you for being patient. I hope that we will remain quorate for enough time to get through some more business this morning. Can I start with Sandbag? You suggested in your submission that setting aside the EU allowances and adjusting the cap could help to achieve real emission reductions in Phase III. Do you just want to reiterate why you think that is necessary?

Damien Morris: For a few reasons. Firstly, Phase II of the scheme is going to be over supplied at the net level but we have also seen beneath the immediate oversupply within the scheme there is a large surplus accruing to industry. Between both of these issues this has pushed up the baseline from which the Phase III cap is going to be derived. So we both have an issue of direct oversupply being carried forward into Phase III and we also have this indirect effect of an artificially tied baseline from which this 1.74% trajectory is going to be set in Phase III. Between the two of these effects we see about 1.7 gigatonnes needed to correct for these.

Q43 Chair: How will the offsets gap reduce the environmental effectiveness of Phase III?

Damien Morris: Clarify what you mean by the “offset gap”.

Chair: The extent to which we can buy or the EU countries can buy certified emission reductions from outside the territory.

Damien Morris: It is often neglected in the debates around the scheme that offsets are actual abatement. There are some controversies around particular credits, but we expect the full 1.6 billion approximate offset allowance over Phase II and Phase III to be exhausted but that will largely be abatement. Is it abatement that we would rather see in Europe? Yes. We think at the moment the emphasis on where abatement has taken place has shifted disproportionately to outside of Europe to overseas. This is largely an artefact of the recession. It was originally expected that offsetting would contribute only half of the reductions towards our 2020 targets but with so much of the reductions we have seen over Phase II being contributed by economic contraction this means actual concrete abatement rather than emissions reductions per se is being shifted abroad.

Q44 Chair: Is there not a danger that even though it may be genuine abatement, that would have taken place in those other countries anyway and, therefore, there has been possibly a kind of net loss of what might have been achieved globally?

Damien Morris: As I said before, there have been issues raised around the additionality of offset credits and we have seen the European Commission move to remove the eligibility of the most controversial credits. So, this is one of the proofs that the ETS is being reformed, is a reformable mechanism, when problems emerge in it they can be fixed, though there are long lead-times in that. But with the most controversial, the most problematic credits the HFC and N₂O adipic industrial gas credits, they will no

longer be available within the scheme from April 2013.

Q45 Chair: When do you think the EU ETS will start to achieve emissions reductions beyond those that would have been achieved on business as usual?

Damien Morris: If we are talking absolute reductions, whether they happen domestically or overseas, relatively soon. Not as soon as we would like but around 2014, 2015, there will be some reductions through offsetting taking place. In terms of driving domestic emissions reductions, if we wait for all of the international credits to be exhausted we could be waiting until 2018. That is for the ETS to drive emissions reductions. There is another issue that so-called complementary policies within the 2020 package will drive emissions reductions faster than the ETS will, which will prevent emissions from ever getting near the cap until well after 2020. But the ETS itself will drive emissions reductions well before then.

Baroness Worthington: I would just add to that that because there is a positive price there is already abatement happening at the level of fuel switching so the point at which you would switch from gas to coal is delayed by the fact that there is a carbon price on coal. So, at the very minimum, that is the first set of emissions abatement you would get on the map curve for Europe. In fact before even that you get black coal to brown coal, brown coal to black coal switching. So at that level, that price is helping, but it is far away from stimulating investment in new capacity or proper abatement.

Q46 Chair: Mr Lohmann, if the EU ETS was to be scrapped, are there already existing alternatives to emissions trading that would provide a substitute?

Larry Lohmann: Yes, there always have been, and you can divide that into two parts. But first you have to understand that the central issue with climate change has always been fossil fuels, as we know. As Chris Huhne mentioned earlier this year, it is a matter of national interest for the UK to shift away from fossil fuels and to decarbonise. It is really not a choice that we have to stop taking fossil fuels out of the ground. One way or other most remaining fossil fuels are going to have to be left in the ground. According to the Potsdam Institute studying climate change, 80% of the fossil fuel reserves are going to have to be left in the ground over the next 40 years.

So, if we take that as a premise I think we can divide the existing alternatives and the alternatives that are already in some sense active into two parts: supply and demand. We have to cut off the supply of fossil fuels, the movement of fossil fuels out of the earth and into the atmosphere and the oceans and so forth and also simultaneously we have to address the issue of demand for fossil fuels. You cannot do just one of those, you really have to tackle both of those at the same time.

In terms of supply, I think there are at least five suggestions I would make right away, just to point to measures that can be taken and are already being

7 September 2011 Baroness Bryony Worthington, Damien Morris and Larry Lohmann

taken. First of all, here at home in the UK obviously stop tax breaks for oil and gas exploration in the UK's own reserves, tax breaks that were announced in June. Stop support for the maximum recovery of the North Sea reserves. Support what my Ecuadorian colleagues call "Yasuni-ization", the Ecuadorian proposal for keeping fossil fuels in the ground as a contribution to climate change mitigation. There is active discussion with colleagues in South Africa, Nigeria and other countries about expanding this model to many countries.

The fourth suggestion would be to use the UK Government's influence in international financial institutions to stop their support for continued exploration and exploitation of fossil fuel.

Finally, the UK Government could do much more than it has been doing so far to support local efforts to keep coal in the ground, and local efforts to nourish a renewables industry. The Vestas example certainly comes to mind. On the demand side, the second side, obviously we need to talk about what Michael Grubb mentioned in his testimony just now. There should be a concerted shift in long-term investment, the sort of things that the market cannot provide and, although Michael Grubb skated over this point a little bit, this sort of investment is actually in conflict with the EU ETS.

What has to have pride of place on the demand side is the shifting of investment away from fossil fuels and towards a different kind of investment. That is not only industrial infrastructure, we are talking about transport, we are talking about things like community structure, supermarkets, there is a whole list of things. The second measure on the demand side would be more concerted support for selected price mechanisms such as feed-in tariffs, which, as I think you realise, have been responsible for the great mass of development of wind energy in Europe over the past years. Again, although Michael Grubb did not mention this, this is in conflict with the EU ETS. The EU ETS is actively working against these sorts of measures. Whenever there is legislation to move toward supporting efficiency, supporting investment, the concern is always, "Well, will this drive the carbon price down? Heavens, what will we do if the carbon price goes down?" This is not only a concern within the UK but it is also a concern within the EU and the people who have invested their careers in the EU ETS such as Jos Delbeke, José Barosso and so forth, who are always very concerned when they hear about measures to promote efficiency by Governments, "Oh, this will drive the carbon price down. We have to stick with one mechanism. Heaven forbid we should have a carbon price which is going down". So, there is a problem here. This is certainly one important element on the demand side.

The third element on the demand side is again to work with the international financial institutions to stop support for fossil-fuel consuming infrastructure in the global south. I am thinking particularly of one recent example that is on my mind, which is the World Bank support for Eskom's—this is South Africa—3.5 billion dollar coal-fired power plant which is not doing any good to the citizens of South Africa although it is doing quite a lot of good to the mining

industry in Australia. This kind of project has no place in international financial institutions' programmes and, as the World Bank's own panel pointed out years ago, the World Bank should stop support for this kind of development. It is not doing anyone any good and it is certainly not doing the climate any good.

Finally, on technology standards, efficiency standards, there is a lot more scope for the Government to support setting of efficiency standards and again this is outside the market structure and to a great extent it is in conflict with the market structure, as I mentioned earlier. Whenever you have an initiative to start mandating greater efficiency in the industrial sector, the transport sector and the housing sector suddenly there is this worry, "Oh, but what about the carbon price?" As I think Dieter Helm at Oxford said last year, and he put it very well, "The EU ETS has moved from being a means to a carbon end to being an end in itself". It is too bad that the development of the EU ETS could not have been interrupted, could not have been slowed and phased out years ago. Then we would not have developed these large institutions and the large number of careers that have become associated with them, and it would be much easier to phase it out now. But still, the imperative is to phase it out as quickly as possible.

Chair: I think we are going to need slightly crisper replies if we are going to get through what we want to cover this morning. It requires quite a big leap of faith in my view to think that taking away tax incentives for North Sea oil and gas exploration will produce anything other than an increase in imports of cheap oil from the Middle East, but anyway we will leave that on one side.

Q47 Dan Byles: I just wanted to discuss voluntary emissions trading and whether you think that it is realistic to expect a voluntary emissions scheme to make a significant contribution.

Baroness Worthington: No, they have been helpful in terms of educating people about how you can apply a market to an externality like carbon, but if you want to get large reductions over a certain time period, which is what we need, you need regulatory back-up and I do not think that the voluntary mechanism would really deliver that. So, they can be useful in terms of preparing the ground for a regulated system but on their own I think they are very limited.

Q48 Dan Byles: Do you think that the closure of DECC's quality assurance scheme is likely to make that worse? Is that going to have a significant impact? Was it working? Was it doing anything?

Baroness Worthington: I suspect it will not be noticed. I do not think that market is doing very well in the current recession anyway.

Q49 Dan Byles: You think it is something people do in the good times but not in the bad times.

Baroness Worthington: Yes, absolutely. Something you do for PR, CSR value but if it is not in your driven bottom line, it is the first thing that is jettisoned. So, I do not think that is a big issue.

7 September 2011 Baroness Bryony Worthington, Damien Morris and Larry Lohmann

Q50 Dan Byles: Just briefly on the EU, you have already discussed the fact that the EU are trying to get away with some more controversial types of emission trading. If the EU start to only accept certified emission reductions from least developed countries will there be enough available to meet demand?

Damien Morris: It will create supply. If there is the financial incentive to start generating projects, the projects will come.

Q51 Dan Byles: Is there a danger that if these projects are being designed entirely around this they are not necessarily going to be the sort of sustainable projects that we would have liked to have seen put in place, in other words if it was not being generated as a result of this, but rather being generated from scratch simply as what is right for the country, if that makes sense. I did not ask that very articulately.

Damien Morris: I think the reason it is being pushed out to least developed countries rather than emerging economies is because there is this potential to—if you start incentivising providing Europe with carbon reductions, it can discourage the country to start committing to their own reductions but with least developed countries in most cases they are so far from being at development level to start considering domestic legislation on their carbon reductions that this is generally a positive.

Baroness Worthington: I think the alternative to not having projects in least developing countries is no projects because one of the things about this market is that it does give people confidence to invest in some countries where perhaps they would not be willing to otherwise if they did not have the security of this UN-backed issuance of credits. So, I think the benefits outweigh the disbenefits.

Q52 Dan Byles: So you think that the move to only accepting them from least developed countries is on the whole a good move?

Baroness Worthington: Yes.

Damien Morris: Yes.

Larry Lohmann: If I can just add a little to that. I think the problem you mention is certainly a concern. My colleagues and I believe that all offsets, whether they are from the so-called least developed countries or the other developing countries have essentially the same sets of problems. But what we have seen recently in the push for example to trying to expand, to get more CDM credits coming from Africa, for example, is very instructive and I think it illustrates the concern that you mentioned.

I am thinking particularly of land-based offsets or forest-based offsets; there is a great push for what is called REDD, reducing emissions from deforestation and forest degradation. The justification for this is, “Oh, poor Africa. Africa only has 1% or so of CDM projects. Perhaps these least developed countries should have more CDM projects that would benefit them?” For example, industrial gas projects like you see in Korea or Mexico are simply lacking in Africa and you cannot get these quick, cheap offset returns. You have to look to some other sector. Well, what sector are they looking to for example in Africa? It is the land sector, it is the forest sector. What does that

mean in practice? What that means in practice is essentially a quite frightening land grab in many countries. I think it was only last year that the President of Liberia demanded the extradition of British businessmen who were involved in bribery in an attempt to get control over something like one-fifth of the Liberian land area for use as carbon offsets, which would mostly be sold to Europe.

So, we have to look at the details of the different dynamics of the different countries. All offsets are problematic but in terms of the idea that we can simply shift around the problem and we can produce offsets wherever, we need to look at the specific details of the specific cases and certainly the example of REDD indicates that there is a lot of need for caution in that respect.

Q53 Dr Alan Whitehead: Would not exactly the same thing happen were one to introduce some form of credit for keeping mineral reserves in the ground?

Larry Lohmann: It would, yes.

Q54 Dr Alan Whitehead: I think you just advocated that.

Larry Lohmann: No, I did not advocate that. What I advocated was something quite distinct. Although I can understand the confusion, because I think there is confusion about the proposal currently being put forward by Ecuador as well. I think my colleagues who work in Ecuador and I visualise this Yasuni-ization not as a matter of producing carbon credits, so you sell carbon credits for not producing oil in Ecuador to Europe so that Europe can produce more, or Europe can emit more. Obviously that is counterproductive and probably would lead to an increase in emissions. The proposal is rather distinct. The proposal is explicitly not to put this in the carbon market but to compensate countries for not exploiting their—

Q55 Dr Alan Whitehead: Yes, I accept that point, but the principle is the same I assume in as much as presumably you could have a bonanza in non-production prospecting on the basis of finding out what conceivable reserves there were in order not to take them out of the ground, in order to get some form of compensation for not providing them to anybody.

Larry Lohmann: Well, all to the good. The more that their exploitation can be avoided then that is all to the good.

Q56 Dr Alan Whitehead: So, would you get a glut of non-production credits across the world?

Larry Lohmann: There would not be credits. They would not be bought and sold on the market, so we are not talking about credit payments.

Q57 Dr Alan Whitehead: You are talking about payments of some description. Presumably—

Larry Lohmann: Payments, yes, of course, and I appreciate absolutely there would be a lot of political bargaining and a lot of horse-trading. Saudi Arabia as we know has already mooted this sort of proposal to say, “Okay, you don’t want us to export our oil: then give us some compensation”. But that is something I

7 September 2011 Baroness Bryony Worthington, Damien Morris and Larry Lohmann

think that has to be addressed in open debate and not suppressed. I think it is an important part of political bargaining about what are we going to do in order to keep the fossil fuels in the ground. Of course people are going to demand compensation for that and other people are going to be unwilling to give the compensation for that and that is the political process.

Chair: It makes the reform of the ETS sound like a tea party.

Larry Lohmann: I think it is the same level of political process.

Q58 Dr Alan Whitehead: Bryony, you appeared before the Environment Audit Committee last year and you said at that time that emissions trading needs to be better understood and better appreciated by the public. Do you think we are on track for better appreciation of the public at the moment as we stand before this Committee today?

Baroness Worthington: No, sadly, I still think it is a policy that is little understood and often characterised quite wrongly, and I do not think we do have the public with us on this one. Essentially yes, it is a political decision how to tighten the cap, so the danger is if we do not have an informed populace we will always lose out to the lobbying that takes place from very concentrated vested interests who do know how to work the political system very well and you need a counterbalance of public opinion that will hold Government and hold Parliamentarians to account to do the right the thing and set challenging targets. That imbalance is still there.

The NGOs do what they can with limited resources to address it and by and large the media have played quite a good role in trying to put forward stories about the need for reform of the ETS but it would certainly be a lot easier if we had a more informed public. But I do not see that we have made great strides on that.

Q59 Dr Alan Whitehead: In terms of the question of what might be done to improve the public image of emissions trading, assuming one wished to improve the public image of emissions trading, do you think that on the negative side the salience of fraud, the publicity around fraud in ETS and the over-allocation of windfall profits, or over-allocation of emissions and indeed profits in the first phase, are so far on the negative side that it is extremely difficult to improve any sort of public perception of ETS?

Baroness Worthington: The specific issues you have mentioned around fraud will naturally attract attention and be talked about but they have been by and large fixed and again, as Damien pointed out, one of the things about the ETS is it has proved itself to be reformable. We have been able to improve it over time and the big change between phase II and phase III brought huge improvements as it was centralised into Europe. So, it will always be a headline grabber and that does not help in terms of improving it.

One thing you could do that would help would be to take some of the revenues that will be accruing to Governments from the auctioning of permits and to do something that the public appreciates, either through

handing back tax credits or through improvements to their houses or their communities, renewable initiatives. That essentially we have this large windfall of money arriving into the Treasury, the Treasury have been very tight-lipped about how they are going to spend it—it will probably go into the general fund as most things do—but it would be sensible to earmark at least some of it towards consumer-facing initiatives that will make people realise that they can benefit from a low-carbon future.

Q60 Dr Alan Whitehead: An associated point is, as we discussed earlier, the original purpose that many people envisaged for ETS, namely, that it would run for a relatively short phase prior to trading going global and therefore linkage would be made with other emerging schemes and before very long there would be a global trading scheme. The fact of the matter is that although indeed there are a number of emerging schemes by no means can that be or will that be regarded as global in the foreseeable future, and therefore the ETS, as it were, in terms of its completeness remains fairly isolated in the world. Does that in your view have particular issues, firstly, on the protection of vulnerable industries within Europe, and secondly, on the question of leakage outside Europe to other areas of the world economy, with the consequent perception of a negative effect that that produces?

Baroness Worthington: I am sure Damien can add to this, but essentially as previous people have mentioned, the number of sectors that are exposed to leakage is quite limited. We have always advocated that emissions trading schemes should focus on sectors that are least exposed to competition and by and large that means power, transport fuels, heating fuels, not tradeable commodities that can cross borders easily. But having decided to opt for the sector that we have, we do have to take measures to protect the genuinely vulnerable.

The best way is to seek bilateral agreements with neighbouring countries. If you press the steel industry in Europe hard enough, they will admit that they are not really worried about competition with China, it is more neighbouring countries such as Ukraine, Turkey, Russia. There are moves afoot already to introduce carbon pricing into Turkey and into the Ukraine and Russia is a big player in the carbon market too. So, it is not beyond the realms of reason that you could have bilateral agreements on those sectors and in those countries and I think that is something the EU should look to. They should certainly look eastwards into protecting their eastern borders and I think that is where the real nub of the problem is.

Q61 Dr Alan Whitehead: A border adjustment tax?

Baroness Worthington: That could be one of the discussions, but ideally it would be to extend regulations in those countries to have equivalent measures.

Damien Morris: If I could add to that briefly, I think sometimes the rumours of the death of the expansion of emissions trading have been exaggerated. It is been slower than we expected but there seems to be this kind of critical year of 2015 around which a whole

7 September 2011 Baroness Bryony Worthington, Damien Morris and Larry Lohmann

gamut of emissions trading schemes are going to pop up, I think with the expectation of coinciding and linking shortly thereafter across—the California scheme will have expanded then to a larger scope, we will have Australia’s proper trading scheme coming on board around then and similar moves in South Korea. China is flagged to be beyond pilot stage at that stage as well. So, some momentum is being generated in those key countries.

Q62 Dr Alan Whitehead: So, is it your view that that prospect is slower but still a distinct possibility within the idea of a critical mass emerging that then, as it were, tips the global balance? A different way of doing it but—

Damien Morris: Maybe not a full global carbon price but I think, as Michael was saying in the previous session, key regions will be coming together, especially within Europe and emerging economies, and large regions within the US, which are accounting for a sizeable share of global emissions and a sizeable share of the climate problem.

Baroness Worthington: It is worth reminding ourselves as well that the offset mechanism is global. It does not create a price penalty but it certainly offers the incentive payment to anyone who wishes to participate. So, in that sense you already have a global mechanism, it is up to countries to come forward and participate in it and it creates a positive news story about participating in carbon markets because they are receiving revenues for investing in good projects. So, that element of the architecture will continue and I think it is a good element.

Q63 Chair: The EU has linked up already with Norway and Iceland. Do you see other opportunities for linkages in the near future?

Baroness Worthington: I think it will be difficult. As I say, the offsetting mechanism creates a kind of bridge between them already and I suspect it will be a wait-and-see situation. I know that Europe is very keen to. It might mean that Europe has to change its own scheme in order to be compatible as well as other schemes adapting so it will not happen overnight but there is always potential.

Q64 Chair: Do you think it is a good idea that they should try and achieve this?

Baroness Worthington: Only if there is enough ambition.

Q65 Chair: How about if you had linking on an individual sector which could therefore go to countries which did not have an absolute cap on their total emissions but who had sectoral limits that could extend to new participants, would that work?

Damien Morris: Yes, that would be attractive. Once again, we have emphasised the electricity sector as the first place to do that. But, again, you simultaneously deal with carbon leakage issues if sectors like steel and cement are in the joint scheme across different countries and regions.

Q66 Chair: We are going to lose our quorum in about 30 seconds’ time. Let us finish with one question. Do you think there is any point in Britain having a more ambitious target for climate change for the electricity sector than the rest of Europe?

Baroness Worthington: Yes, I think it is important that the UK continues to show leadership. I think we have to be very careful in how we go about meeting that ambition. I think the idea behind putting in a carbon floor price is sound. However, in reality it is going to be quite an expensive policy that does not necessarily guarantee you that anything gets built and that is my concern. It is a very imprecise policy that applies—you have a very large amount of revenue that gets diverted to particular companies who have no obligation to then deliver on any infrastructure. So, I have a concern that our policy choice needs to be perhaps reviewed but the fact that we are being ambitious and communicating to the world that we remain ambitious is hugely important.

Damien Morris: If I can just add a little bit to that. It is always a bit of a chicken and egg arrangement so the UK’s ambition can potentially leverage ambition within Europe. We have to take a little bit of a risk and put ourselves out there but we are also showing we are putting our money where our mouth is.

Chair: Sure. Well, thank you very much for coming down. I am sorry that the counter-attractions of Prime Minister’s questions are proving overwhelming so we are going to lose our quorum but if we have some other issues we have not managed to cover perhaps we might write to you and deal with it like that. Thank you.

Tuesday 11 October 2011

Members present:

Mr Tim Yeo (Chair)

Dan Byles
Barry Gardiner
Dr Phillip Lee
Albert Owen

Christopher Pincher
John Robertson
Sir Robert Smith
Dr Alan Whitehead

Examination of Witnesses

Witnesses: **Mark Brownrigg**, Director General, UK Chamber of Shipping, **Damian Ryan**, Policy Manager, The Climate Group, **Professor Joanne Scott**, University College London, and **Dr Andre Stochniol**, Expert Consultant for CAFOD, gave evidence.

Q67 Chair: Good morning and welcome to the Committee. I am afraid we are running slightly behind time, so we will skip the formalities of introductions, if you don't mind. We know who you are; you know who we are, I hope. I need to begin, in the spirit of the times, by drawing attention to my entry in the Register of Members' Interests. I have financial interests in the energy field.

Can I start by asking, in the light of what we have learned in Phases I and II of the EU Emissions Trading System, do you share my view that it is very disappointing that we are not going to auction all the aviation allowances from day one?

Damian Ryan: From an environmental perspective, yes, I think that is true. I think it is because if we have all the airlines in, there is no reason not to auction from a strictly economic and a rational point of view, and environmental point of view, but that is the ideal situation. In the real world in which we exist, for political reasons it is necessary to start, I guess, relatively slowly with the auction allocation versus auctioning set-up, so that we basically build that political support from within the industry for wider action. But I think the long-term goal has to be 100% auctioning. That would be my position.

Professor Scott: Could I add something to that? I do not disagree, but I do think then it would be important to take into account the principle of common but differentiated responsibilities and respective capabilities—CBDR—in the sense that if Indian airlines were to have to pay a significant amount of money to the EU, that would seem to be contrary to the idea of “no net incidence”, which is a key idea in international climate change discussions. Therefore, one possibility would be to hypothecate the revenues, so that the revenues that flow from the poor countries to the rich countries find their way back somehow to invest in adaptation and mitigation projects there.

Q68 Chair: Even though the obligation would only arise because Indian airlines were flying to the EU?

Professor Scott: I still think the idea that developed countries take the lead is important, and the prospect of reasonably significant amounts of money flowing from India—which is one controversial example, but also even poorer countries than India—to the EU would not be helpful to the EU in maintaining its international position and prestige in global climate change negotiations.

Damian Ryan: I would agree with that hypothecation point, but I also think it is important to differentiate between the different needs of Governments and states and the need for the airline industry to maintain a level playing field. It is important to ensure you have equal treatment of airlines, recognising that you need to treat countries differently in order to get the political support for the EU to take the action that it wants to.

Q69 Chair: Given that we are not starting with much auctioning, however, is it not the case that the airlines are going to get nice windfalls from this system at the start?

Damian Ryan: I guess that is a risk with the system. We saw it in the earlier phases of the EU ETS. I am not an expert and I haven't looked into this particular issue in any detail myself, but I do know that the airline industry has said that, because of the highly competitive nature of the industry, it will be very hard for them to pass on costs; they will have to absorb them. Perhaps the risk there is lower for the aviation industry, but I couldn't speak with any expertise on that.

Q70 Chair: What proportion of any reduction in emissions that result from this will actually occur within aviation and what proportion will be offset? Any feeling about that?

Damian Ryan: My gut instinct is that most of it will be offset. The absolute emission reductions that can occur right now are fairly limited in terms of technology. We are stuck with the existing fleet that we have, which I think takes 15 to 20 years to turn over. We are seeing the new generation of aircraft coming in now—the 787 Dreamliner, 20% emission reductions—but that is going to take time to filter through into the whole industry, which means that, yes, they will have to buy offsets in terms of dealing with the emissions above their growth rate.

Professor Scott: Could I add a couple of points to that?

Chair: Yes.

Professor Scott: One is my understanding is that the aviation sector cannot sell its surplus emissions to other covered sectors in the ETS. The second is that I think there is general agreement that the aviation sector will actually absorb some of the surplus from the Phase III cap—not enough, but some of it. They will become buyers rather than sellers.

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

The other point is that there are quite strict rules on the availability of CDM—Clean Development Mechanism—offsets in the third phase. I did some reasonably quick back-of-the-envelope calculations that suggest that only a relatively small number of the bought permits—the allowances that the aviation sector will have to buy—will be able to be acquired through offsetting in developing countries.

Q71 Chair: Looking at the effect of all this on aviation, do you think the airlines will try to alter their routes to dodge this?

Damian Ryan: I am sorry, could you just repeat—

Chair: Will the airlines alter their routes in order to try and minimise the impact of this system?

Damian Ryan: I think that is a concern for some of them, which is why they would prefer a global agreement to ensure that there isn't the ability to dodge routes. I can't speak with any authority, but my understanding is that a lot of routes are based on bilateral air service agreements, so it is actually very difficult for some airlines to switch from one route to another. That actually increases the distortion because if you have that set in stone, it means that some airlines will benefit from however their routes are set up and others won't be able to move in and make those changes. That is my understanding.

Dr Stochniol: I don't believe that they will change their routes. It is a red herring. The cost for the airlines will be so small that they can easily pass it on. It is driven by the demand: I do not expect that passengers from London would suddenly be trying to take a plane from Belarus or Moscow—it is impossible. The cost is really minute: even if you put the full price, full auction, at \$25 per tonne, the cost on fuel would be around 6 cent per litre of fuel, so basically very small. Obviously this fuel is not taxed right now, so complaining about the cost is a red herring.

The EU ETS currently is doing two things wrong. The first one is that it does not charge for the environmental damage by the sector, which is under-taxed. The second is that it keeps the revenue and therefore does not address the issues of some of the developing countries that could, indeed, be affected and should be compensated.

Q72 Sir Robert Smith: Just to clarify on this changing of routes, with the growth of the Middle East hubs, for long-haul flights to the Far East presumably someone could reduce their exposure to the emission trading costs by just taking one sector to the Middle East and then another sector onwards, rather than a direct flight from within the EU?

Damian Ryan: Yes, the concern from the airlines that we work with is that if you are flying to Australia, for example, from London you have a number of different routes that you could take. The EU ETS is only covering the first segment of that total route. You can minimise your costs if you fly, for example, through to the Middle Eastern hubs rather than flying that longer distance to Singapore. Those airlines that are able to go through that shorter first route therefore save and so become more competitive on that London to Sydney route. That is why the group that we are working with, the Aviation Global Deal Group, is

arguing for the global deal in order to cover both legs of that route and minimise the distortion.

Q73 Chair: But there have been suggestions that effects on price are not that great anyway.

Damian Ryan: My understanding from the Commission's impact report, which I think is 2003 or around then, was up to about €100 or £100 on a long haul flight, and then short haul flights, and I am sure you will know this better than I do—

Professor Scott: Between \$11 and \$56 on a long haul flight, but that is premised upon 100% auctioning in 2020.

Q74 Sir Robert Smith: If the impact is not that great financially, is the impact that great in terms of emission reductions?

Professor Scott: My calculation, using DECC figures on international aviation emissions, is that the scheme will cover emissions that amount to 60% of all international aviation emissions. The coverage is broad and the cap is high—97% and then 95%. If you put those two things together, the impact is not huge, but the potential, the capacity of the EU to extend its European Emissions Trading Scheme to cover 60% of international aviation emissions is extraordinary—higher than in maritime transport, which would be around a third, and much higher, incidentally, than in relation to energy-intensive products like steel or concrete. Of all the sectors, aviation is the one where the EU can achieve the most.

Sir Robert Smith: As the Chair did, I should remind the Committee and the witnesses of my entry in the Register of Members' Interests related to the oil and gas industry.

Q75 Barry Gardiner: How serious are the legal challenges to the inclusion of aviation into the EU ETS?

Professor Scott: They are serious. There is room for serious discussion and argument about whether the scheme is lawful or not. My own view in the end—with the kind of appropriate lawyerly qualification that you can't ever be sure—is that the aviation extension will resist legal challenge. The Advocate General of the Court of Justice came out with that view last week.

Q76 Barry Gardiner: Although, of course, her view is not binding on the judges.

Professor Scott: It is not binding, no, and there is no guarantee. Also of course what the Court of Justice says may not be the same as what the International Court of Justice says or the WTO Appellate Body says. There are many forums in which challenges can be mounted. My best guess is that the aviation decision would survive in all of those fora, but it is not absolutely inevitable.

Q77 Barry Gardiner: Do you think that the inclusion of aviation could lead to this tit for tat trade conflict that we have begun to see sparked off with China?

Professor Scott: I think the EU has been really taken by surprise by the strength of reaction that the aviation decision has provoked. I think some of the threats are

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

very real: the Chinese threat not to buy Airbus A380 aeroplanes; anecdotally, India is threatening to block certain European contractors from infrastructure projects. I think the EU really has been taken by surprise, but I think the US has been very effective at working the diplomatic channels, working the back rooms and getting a global coalition against the EU. I won't keep going on about it, but it brings me back to the CBDR point. I think the EU made a mistake in not taking this idea seriously, because I think it has allowed for the formation of a global coalition. A number of countries are beginning to make submissions to the FCCC.

Q78 Barry Gardiner: I would like to pursue that, but just before I do can I ask you: you have laid the charge very firmly at the US's door as being the militater behind the scenes; what evidence would you like to put forward to—

Professor Scott: Anecdotal evidence.

Barry Gardiner: Anecdotal evidence, okay. Any juicy anecdotal evidence that we can be entrusted with?

Professor Scott: I am not going to name names, no. In a sense, it doesn't matter. What really matters is that there is a global coalition emerging where you have these strange alliances, with the US and India and China and South Africa all on the same page. I think the EU could have played the thing differently, and then it would have been harder for that to have occurred.

Dr Stochniol: I think what Joanne quoted before, 60% coverage of emissions, gives you a slight answer to what the problem is. If only the departing flight was covered, that would be 30%. This is proportionate to the economic position of the EU across the world based on imports, GDP, et cetera. If we cover both flights, departing and arriving, then we have 60% and that is strange, right? This is what the developing countries and the USA are saying—that the EU overstepped the mark by covering both legs of the travel. The EU did try to use a stick to get the other countries to start similar measures on their side and this stick is somehow backfiring.

The other part is the question of compensation for some developing countries, although the de minimis criterion goes towards addressing some of the countries, especially in Africa. The coalition is quite strong. I talked to a couple of parties in Panama and they referred to the meeting in Delhi that was done at the same time when it was the ICAO Council in Montreal. I think 27 countries participated. There was a declaration and centrally enough the USA was part of that meeting, although I am not sure that they were part of the declaration. The declaration is strongly worded.

Professor Scott: Andre and I don't disagree about this, but I am sure you will already know that, for flights arriving in the EU from abroad, the EU Emissions Trading Scheme will apply only until such time as the country in question itself takes measures to reduce the climate change impact of flights. There is a contingency. What the EU has done is said, "There is no international agreement on how to allocate responsibility for emissions from

international aviation. We are going to take a unilateral decision to say it is departing countries that are responsible and only contingently will we take responsibility for emissions from flights that arrive". As Andre said, that is in an effort to galvanise other countries to take steps themselves.

Q79 Barry Gardiner: Do you believe that that galvanisation is taking place? It seems that what we have had is a broad coalition now to block what the EU is doing instead of a broad coalition to say, "Actually, yes, we really should try and get a global view here". Is there any evidence that there will be a broad coalition to get a global view?

Professor Scott: No. It is not absolutely clear. What I would say is that in the area of EU environmental law, this is not the first time we have been here. The EU is constantly doing things that provoke very strong reactions. When the EU adopted its chemicals regulation the world was going to fall in. It did not happen. It turned out that other countries adopted legislation that looks very much like the EU's regime. At the moment, there is no evidence to suggest that other countries are taking steps, although—and Damian Ryan will know the answer to this; I do not know the answer—perhaps there is some evidence that ICAO is having more serious discussions about the formation of the global market-based mechanism as a result of what the EU is doing.

Damian Ryan: I think the work that we have seen in ICAO over the last, say, five years even, and particularly in the last two or three, has accelerated as a result of the EU coming and being a leader and saying, "Look, we need to see action now." We had an Assembly meeting this time last year, which came out I think with three main points of agreement. Initially, all of this was based on voluntary action and a lot of countries made reservations to these actions, but an agreement to aim for or aspire to 2% efficiency improvements and carbon neutral growth from 2020, I think, and to work towards market-based measures. So I think there is an acceptance within ICAO that the tools that the EU has come up with are the right tools. There is just this continuing political disagreement about when these tools should be implemented and who should be taking the lead.

Q80 Barry Gardiner: Has the Chinese proposal of 22% reduction by 2020 been spurred by the EU proposal in any way, do you think?

Damian Ryan: I would have thought so, yes. I would have thought that would have had an influence on it. Whether that is the main driver I am not sure.

Q81 Chair: Isn't the truth of the matter that if the EU had not taken an initiative in this area, the aviation industry would quite happily have gone along for decades without doing anything about it at all?

Damian Ryan: I think there is a fair amount of truth in that. The thing with aviation you have to remember, though, is that they can put their hand up and say, "We have done a lot already," which is true, because the price of jet fuel has always provided them with an incentive to be as economically efficient as possible. If you look at the technology within aviation, it is

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

cutting edge. They are extremely efficient. The problem is absolute growth in airlines and the fact that it is very difficult to move away from fossil-based fuels for aviation. You can't plug a Boeing 747 into a socket and charge it up on electricity. These are the physical constraints on which aviation has worked. It has done a lot. It is now moving in the right direction, but I definitely think that the policy push from the EU has helped move the aviation industry forward. We have seen that in the new targets that it has come out with in the last couple of years. They still need to move further, but the policy push from the EU has been very important.

Q82 Albert Owen: If I could just move on to shipping, in general, do you think that there is any particular difficulties in including shipping in the ETS?

Mark Brownrigg: Yes, in a word. Shipping is global by nature—you will know that—and it is more multilateral than any other trade that we are looking at, including aviation. In concept, our position is that what is required here is global regulation through the International Maritime Organization. Even the EU accepts that that is the preferred route to take. The starting point in principle is we don't think that shipping should come within the EU ETS, but moving on to practicality, we don't quite see how it can come within the EU ETS, although we do have supporters in our membership for a global trading arrangement. There are just many ways in which that multilateralism makes it very difficult.

Q83 Albert Owen: Could you just expand on that? As an ex-seafarer, I understand about the old tramp shipping where you go from different continents. When you say it is global, is that what you are suggesting—that you have fixed routes for airlines but you could have shipping coming from the Far East that would pack cargo in North Africa and go into Europe, and that kind of thing, and the ETS would not be able to monitor that?

Mark Brownrigg: Absolutely, and there is a wider picture of competition between companies that are involved in part-EU, total international, not in the EU at all but international, or solely within the EU. I think there are complexities there, but the next point really is how you then allocate shipping emissions to either an individual country or an individual region. That gets extremely complex at that stage and—

Q84 Albert Owen: Can I just cut across? You said that your members were split on it and there were some that were in favour of an ETS. Could I ask you whether those members that are within the European Union are more in favour than those that are not?

Mark Brownrigg: No, I do not think—

Albert Owen: I think it is a fair question.

Mark Brownrigg: It is a totally fair question. I don't think there is a split falling in that way. When we began our work on this three years ago, we were very much promoting an emissions trading concept, but a number of very large companies within our membership have, as the debate has continued—at least within industry, because it is not yet pressing

ahead at governmental level—felt more drawn to a different version of market-based measures, which is a form of contribution fund.

What we have done in the last year is produce two practical demonstrations—manuals by another term—which show how each of those two major options for market-based measures could operate, in order to promote understanding. The difficulty is that there is little discussion. There is a certain amount of background discussion, but no central discussion on how to take this forward at the moment as a result of political pressures.

Albert Owen: I see. Anybody else?

Dr Stochniol: Let me clarify the complexity. Basically, the biggest difference is that ships can come and fuel anywhere in the world and it is economic for them to do it wherever it is cheaper. For airlines, you always take the fuel before the flight departs, or nearly always. Therefore the legal responsibility, where you can charge for emissions or for a tax on fuel, is joined to the place where you can enforce the responsibility. If a ship arrives in Rotterdam or in Folkestone, it doesn't have to bunker. Indeed, in the UK there is very little bunker fuel sold. Therefore, it is very complex to put the legal responsibility either on fuel or on emissions because you don't know where the fuel is being bought. If you put the responsibility—as the experience with California tax showed about 15 years ago—you lose the bunker industry. The ships buy the fuel somewhere else. That is one point.

Regarding the ETS and emissions and bunker levy, there is a difference that people very often don't understand. The proposals for the ETS that are in the IMO, by the UK, France, Germany, Norway, none of them allocate emissions to individual installations—ships—because it is so complex. Therefore, this is equivalent to a levy but paid in emissions certificates—paid in a different currency. Currently the shipping industry, as I understand, most of them say, "After looking under the bonnet of these schemes, we prefer a levy because, at the end of the day, we have to pay either in dollars or in emissions certificates that we have to buy in the first place."

Regarding the parties, only the parties in the IMO that proposed ETS are currently supporting these schemes. That means the UK, Norway, France and Germany. There are alternative schemes proposed by Denmark and there are other schemes proposed by observer organisations for a levy, and these levies are supported by countries that have not proposed these schemes. That includes South Korea, Greece, Russia and other countries. They are thinking that a levy would be simpler for practical reasons, and emissions trading schemes for shipping would be equivalent to a levy but may be politically more acceptable in some countries.

Q85 Albert Owen: I appreciate that. Before I move on to the regional versus the global, can I ask you in general again whether you believe that an ETS on shipping would displace the cargo on to other modes of transport that are less carbon and energy efficient—for instance, short sea trade, lorries going across the Continent? Is that what you see if that was imposed?

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

Mark Brownrigg: It is possible, but I think actually the role of sulphur emissions is going to play a greater part than GHGs, basically.

Q86 Albert Owen: Moving straight on, then, to the regional versus the global. Is it a fact that a global agreement isn't coming soon, and this is just kicking things into the long grass and that the IMO as a body is not really grappling with this? How would you respond to that?

Mark Brownrigg: I think that is a fair statement. Progress in IMO has been slow, but you do have to look behind that to see why it has been slow. There you see immediately the political stalemate that exists in the UNFCCC over-spilling into the IMO. The countries that are blocking progress—if that is not too strong a word—or blocking the possibility of deeper debate in some of these areas are those newly emerging economies who wish to reassert the CBDR principle we heard about earlier on, in a forum where the 'no more favourable treatment' principle has always applied. The equal treatment principle is applied within IMO so there is a conflict of principles there. The fact is that you cannot, I suggest, sensibly try to impose safety regulations in a differential way. IMO has applied that same principle to the environmental measures it has taken to date and it is applying that—correctly, in the judgment of the UK and indeed the international industry—in the climate change debate, too.

I think the difficulty is that that even came very close to blocking the good achievement that was made in July this year, when the design index and the operational indices were adopted and put in place, which is the first step of that nature that has been adopted in an international sector. I think that uniqueness has been recognised, certainly in correspondence between the UNFCCC Secretariat and the international shipping industry.

Professor Scott: Just a couple of quick points. I think the analogy between safety regulation and greenhouse gas emissions regulation is problematic here, because the principle of CBDR applies only to the latter and not to the former. Perhaps more importantly, it is often said, and not entirely without foundation, that you have to treat all countries in the same way otherwise you breach the principle of non-discrimination. I think legal reality is a little bit more complicated than that, because the principle of non-discrimination is a very fluid concept. It can mean different things in different settings. It would have to be interpreted in the light of the CBDR principle, the WTO Appellate Body has said you can treat differently situated countries differently without that amounting to discrimination, so it is only discriminatory if the countries are situated in the same way. Developing countries and developed countries are not situated in the same way, so as a lawyer I would find it possible to make a really quite plausible and I think quite strong argument that there is room for differential treatment, based on that principle, in relation to greenhouse gas emissions.

Q87 Albert Owen: Isn't there an added complication of a flag of convenience as well? A nation that has very good safety and things could actually lead to

registering offshore and undermining of particularly safety, but I am looking to broaden it.

Mark Brownrigg: Let me say on the flag of convenience issue, if I may, that it is worth recalling that actually all flags are covered by international regulations, whether you term them 'convenience' or not. This can be a long debate as to who is a so-called 'flag of convenience' and who among the non-flag-of-convenience states might have what you might think flag of convenience states might have in terms of worse conditions, which I don't think applies. I think the IMO establishes—and indeed the ILO established—provisions for seafarers that are applied evenly across the piece to all registers and therefore all shipping.

I think the danger of confusing or entering into the discussion on CBDR from a development angle is that the practical reality out there is that, to the degree that a shipping company is placed at a competitive disadvantage to another or is placed in a position that goes to the way in which standards of ship operation are applied, is quite problematic from our perspective and, indeed, also from the perspective of IMO.

The fact is that the market-based measures that are not yet on the front table within the governmental discussions, but which have been looked at by some Governments and, indeed, looked at by the industry, all have ways of trying to assist and help the CBDR principle through the allocation of funds. I think there is a strong consensus across the industry, and certainly I would say across EU maritime governance, if we come back to that, that this needs to be dealt with on an equal treatment basis.

Q88 Albert Owen: I am conscious, Chair, of the time and I have one more question. What assessment have you made on the price of carbon that would be necessary to achieve the energy efficiency improvements in existing ships or the new technology for new ships?

Mark Brownrigg: Similar to what Damian was saying about aviation, we believe that the price of fuel has created a commercial imperative over time, which has meant that companies have focused on improving their fuel consumption, which is what most people link directly to emissions. We believe that, combined with the use of technology that is available now, really there is not much more that can be achieved. Now that doesn't answer your question in terms of imperative or incentive. I think we need Governments, in whatever form, to determine what target they wish to achieve for shipping. The industry is waiting for that so it can then try to apply itself as to how to meet that. The difficulty with pitching a carbon price here or there is that the carbon price does fluctuate and, unless you have a way of matching that in some way, you don't know how to price your incentive.

Q89 Chair: Mr Brownrigg, you describe the progress by the IMO as slow. Would it not be more accurately characterised as glacial? Isn't it true the IMO is a trade body masquerading as a United Nations organisation, completely captured by producer interest, and that shipping is the most polluting industry in the world?

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

If we leave it to the IMO to make any progress we will be waiting until the 23rd century.

Mark Brownrigg: I think that is a little unfair and I am sure it was intended to be polemical. If I may say so, shipping is not the most polluting industry at all. By comparison with road, air and others it is significantly—I can give you quite extensive or sharp figures on that—by far the least polluting in greenhouse gas terms. I agree that it is slightly different in other areas.

The progress, as I tried to explain a moment ago, is not being halted within IMO, per se, but by the wider political considerations that have also bedevilled the wider discussions in UNFCCC. It is a fact that the newly emerging economies are bringing those political considerations to IMO. The fact that they were overruled in order to achieve the design and operating efficiency measures that were adopted in July by majority, which is very rare within IMO, shows that actually IMO was prepared to push through on this one. As I say, that is the first international sectoral agreement of its nature.

Chair: I think to most outsiders the IMO makes the airlines look like a bunch of tree-hugging zealots.

Q90 Albert Owen: One final comment on efficiency. Isn't it the case that one of the measures used by shipping companies is to slow down to use less fuel, so that goods take longer to get to market and then that is passed on to the consumer so that, by using that efficiency method and not putting new technology in, it is actually a greater cost to the consumer?

Mark Brownrigg: I am not sure it becomes a greater cost, but it certainly is true that slow speeding or slow sailing is a primary way to reduce consumption and thus emissions. In the same way, on the motorways, if you drive at 50 miles an hour instead of 80 then you will emit less, too. I personally don't like to get into the comparison with aviation—

Chair: Not surprising.

Mark Brownrigg: If I may say so again, it is not necessarily a reflection of what is out there. I think that the shipping industry is trying—

Q91 Albert Owen: But you will be able to produce some facts and figures for the Committee of comparisons with other modes of transport?

Mark Brownrigg: In terms of the impact of emissions?

Albert Owen: Yes.

Mark Brownrigg: Yes, and relative to aviation, it is in tens or hundreds.

Q92 Chair: If ship owners had to pay the same fuel tax as most car drivers or lorry drivers do, do you think that might have some effect on what they do?

Mark Brownrigg: I think they are going to be asked to, aren't they, in the context of this in some way, whether it be through a trading regime or through a levy arrangement. But I think with any exporters, you enter into different types of tax—

Chair: We are not talking about that.

Mark Brownrigg: Sorry. I don't think it applies.

Q93 Sir Robert Smith: You mentioned you wanted Governments to set targets for the industry. Isn't the whole point of the emissions trading that the market drives the most efficient routes rather than Governments picking something out of thin air?

Mark Brownrigg: Yes. But do not Government or one of the international organisations set the cap and then you are obliged to relate to that? That is what the international and the UK industry acknowledge could or should happen, so that the international industry can try to respond to what is identified as a global need.

Q94 Sir Robert Smith: On efficiency, if someone is taking goods from Hong Kong to here in a brand new ship or a 20-year-old ship, what is the different ballpark figure for the emissions? What is the efficiency improvement?

Mark Brownrigg: The difference between a new ship and an older ship? I can't give you that off the top of my head. I can try and work that out and send it to you in future if you wish. It will depend very much on the operational aspects as well. What you have to remember, in making your comparisons with other modes, is that there is no other way of this cargo moving throughout the world. Aviation by and large transports people and a certain amount of high-value cargo, and ships carry 80%-plus of the world's trade. This is not a simple or an easy issue, nor is the sector as narrowly constructed as the aviation sector. I think this is a complex sector that needs looking at in a global light.

Professor Scott: Let me say, very briefly, that the recently adopted IMO regulations do only relate to new ships; even then, they don't require any reductions until 2015 at the earliest and there is a possibility for a further four-year delay. I absolutely respect that they are important as a first step as we talked about earlier, but their level of achievement in them is very low.

Dr Stochniol: In fact, our submission quantifying them showed reductions from the energy efficiencies, and it will be around 1% below business as usual in 2020, mostly because the first ships that are going to be more efficient will enter into service around 2017, 2018. So you only have around 2018, 2019. To respond to your questions regarding efficiencies of a new ship, the regulation stipulates that new ships ordered after 2015 would be 10% more efficient than the old ones—than the average. Therefore, it is kind of 10%.

While I am speaking just let me refer to the IMO and why there was that progress on efficiencies. There was also progress on voluntary measures. There was progress because there were ways to address concerns of developing countries—we refer to that in our submissions in point 2.3—therefore NGOs and CAFOD are optimistic regarding global action in IMO provided that concerns of developing countries are addressed, and that relates to financing. The UK has a role to play. Germany and France have already put submissions to IMO on compensating developing countries to create a global scheme. They understand that we can have a global scheme with a global carbon price, with financing generated for action on climate

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

change, but providing that the poorest countries that will be affected most, because they rely more on international trade, can be compensated. These submissions are already in the IMO.

Furthermore, in the Panama negotiations, this idea has been taken on board by a couple of developing countries. The upcoming report by IMF and the World Bank to the G20 Finance Ministers requested by them goes into various details of how to implement that. In section 3 of our submission we describe this approach, which has already been submitted to IMO and which has been picked up by IMF, saying this is the way forward. The same can be applied to aviation, that there is a way to compensate developing countries and you can have a global scheme instead of just local. For maritime, it is extremely difficult to implement the local schemes or regional schemes.

Chair: I should emphasise that my interests include being a shareholder and a director of Eurotunnel, which is a train company in competition with both ships and aeroplanes—just so that everyone is absolutely clear on that.

John, do you have any more you want to cover on this issue?

Q95 John Robertson: I want to really look at the developing countries in general terms. You have answered a number of the questions, perhaps not fully, but if I ask one question, maybe we will develop it. How could shipping emissions be included in the EU ETS without undue harm to developing countries?

Professor Scott: There would be various options, and I am sure Andre will have something to say about this as well. One would be an exemption-based approach where you exempt some journeys: for example, you might exempt journeys from developing countries. In relation to aviation this is actually something people are talking about. Probably a better approach would be a rebate-based approach to ensure that, even though you have equal treatment of ships so you don't have competitive distortions—and we have to decide how to define a developing country journey—the monies that are paid find their way back to the developing country in question, either through a rebate mechanism or through a more dedicated hypothecation mechanism that finances climate change action in the countries concerned. There are different options. There would be decisions to be made about which options are best, but there would be ways of achieving it that I think would still respect the idea that you need to prevent competitive distortions in the industry.

Q96 John Robertson: I could be wrong, but part of the problem, it seems to me, is the classification of what is a developed country or a developing country. How do they do that?

Professor Scott: It is a problem throughout all of the climate change negotiations, and there is no question there are anomalies as things stand. We use the concept of least developed countries, for example, which is a self-selection mechanism. Maybe we should use the World Bank mechanism of low income countries instead. There would be ways of improving it. Also, we hear all the time about, for example,

China and India as these emerging economies. We talk about them in the same breath, and yet when you look at the profiles of those two countries, whether in terms of greenhouse gas emissions or income or status in the human development index, they are vastly different. It is a very serious question and you have to decide and, in order to differentiate lawfully, what you would also have to do is decide what objective criteria you are going to use to differentiate between countries. Emissions profile and GDP are the ones you hear put forward most often.

Q97 John Robertson: Look at a country like Nigeria, which has a great amount of oil and gas and so on and should be rich, but is probably one of the most polluting countries in the world. How would you classify a country like that?

Professor Scott: You would classify it on the basis of the criteria that you choose to apply to all countries, because you need to apply objective criteria consistently and transparently in order to—

Q98 John Robertson: Would it be fair to say we need to throw the book out the window and start afresh and try and really work out exactly who should be getting—if it is a rebate—a rebate, or what the criteria is for that?

Professor Scott: This is controversial because, of course, it makes the EU's measure more kind of deeply unilateral if the EU says, "We are also going to decide how the rebate mechanism operates, what criteria the rebate mechanism is going to operate on the basis of," but my view is that, yes, the EU should be doing that.

Dr Stochniol: Let me clarify. By chance I am the author of the rebate mechanism. Basically it operates on the way to compensate based on share of imports—not exports but imports. The reason for that is that the least developed countries import more than they export, and that is why they are poor. Secondly, it doesn't mean that you compensate China; it doesn't mean that you compensate Saudi Arabia and others. However, to start the negotiations in UNFCCC you have black and white, developed and developing countries, Annex I and non-Annex I. There are two proposals. One is that the richer developing countries would forego their rebate or compensation and that financing would go to south-south collaboration, not to the hundred billions promised by developed countries. The second approach is that you scale down the rebate based on GDP per capita, and this is a very programmatic approach. The richer countries would not get that rebate. The latter approach has not been formally tabled in IMO or UNFCCC, but it is in the upcoming report of the IMF- World Bank. Therefore, it can be investigated.

The reason for compensating some of the developing countries is that they are very reliant on international trade. They may be five, eight times more reliant on international trade than other countries. On average, countries import goods worth 17% of GDP. Countries like Lesotho, Maldives import more than 100% of GDP—six times more than any other country. Whatever we do on international trade, they will be impacted more. Even if the impact is very little,

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

around 0.2% on end user prices, still, because they are poor and they are reliant on international trade, they would be impacted more. That is why the SIDS countries, the small island developing countries, are so insistent that attention is being paid to the impact on them. Now, at least in the discussion in Panama, they say that they see the benefits of a global approach, provided that they are compensated, there is no impact on them, and provided that the financing rates from these emissions, which are outside of national borders, don't go to national treasuries but go to humanity, go to the Green Climate Fund. That is the equitable approach that CAFOD is lobbying for; Oxfam is lobbying for this approach; WWF is lobbying for this approach; and many other NGOs around the world.

Mark Brownrigg: I think you ask a good question. The definition of developing countries for the purposes of the EU ETS is a problem in shipping, specifically. I think you then have to ask: how do you wish the benefit, or whatever benefit should arise from international shipping, to pass to developing countries? Because a whole load of developing countries have no fleets that will be coming into Europe at all to get any of the benefit from a straightforward application in the way that one might imagine would happen. A far better way would be through a market-based measure and both trading and the contribution fund lead to some form of a fund, which can then be distributed in a way that helps developing countries through the standard processes, either the standard processes of the UN mechanisms that are already there or other ways. I would have thought that if you are trying to meet the ultimate purpose of CBDR, or giving assistance in some way to the developing countries, it is better done that way.

Q99 John Robertson: I think this is one of these subjects, Mr Chairman, which could have a meeting on its own, so I will leave it at that. I have lots of other questions, I have to say, that I would like to ask, but the one I have to ask is: we have CBDR versus IMO, and they don't really want to agree with each other. Is that fair?

Professor Scott: In what sense don't they agree?

John Robertson: Incompatible.

Professor Scott: At a political level there is an incompatibility, but I believe there is no inherent incapability between the principle of equal treatment and CBDR.

Q100 Dr Whitehead: One of the issues of the whole question of emissions trading has been its design in the context of the assumption that others would follow. What evidence is there that others are following?

Professor Scott: Everything I would tell you on this I got from your last evidence session, so I will simply agree with what was said then. You got some good examples there of the number of countries that are beginning to institute emissions trading schemes—countries and regions such as California, India and China.

Q101 Dr Whitehead: Following on from that evidence that others are following, and perhaps refining the reasons for that a little, do you think that is happening because of the economic and political clout that the EU has, or that others are doing that unilaterally but just happening to appear to be designing schemes that are compatible with the EU ETS and, therefore, have the appearance of following?

Professor Scott: I don't know the answer to that. What I do think is that organisations like Sandbag, who you heard from, have actually been very effective in appraising the operation of the EU scheme and trying to teach other countries or regions about where the pitfalls lie. I think there has been a good and very commendable process of transnational learning taking place.

Dr Stochniol: I think the lessons learnt by the EU ETS are being applied not necessarily in the same way as in ETS. For example, in Australia we are talking about carbon price. The Bill in the US Senate, Waxman-Markey, was very much on the upstream approach, and for transport fuel it was a levy, more or less, a link to the carbon price. It was actually wider coverage in the proposal than in the EU ETS, with some clever ideas on how to bring extra predictability, because there was also a floor and ceiling on the carbon price. Sure, the EU ETS has lessons. The variability of the carbon price is having an impact and also, in the discussions with the IMO, industry made a simple statement: industry would not respond to the cap, it would respond to price predictability. Having a carbon cap predictability may generate flexibility of price and industry prefers predictability of price because future investments in ships, whose lifetime is 30 years, depends on the price predictability, not the cap. Therefore, there are some lessons going not only to the countries but also to the sectors, like in the IMO, if there is a global approach.

Professor Scott: Can I just add one thing to that? Of course one of the things that is happening now is that the EU has said no new CERs from projects except projects in the least developed countries, unless they come from a country that has signed an agreement with the EU that regulates the level of use. That is code for a sectoral agreement. That is code for the EU will only accept offsets from developing countries other than least developed countries if they have in place a kind of sectoral cap. I think this shift to sectoral agreements is where there is the greatest potential for the EU to actually have an influence—as well as the aviation and shipping, but outside the aviation and shipping—in provoking not exactly an emissions trading scheme in developing countries but something that is on the way to an emissions trading scheme.

Q102 Dr Whitehead: I wonder if you want to say something briefly about, within the EU, the extent to which the new UK carbon price floor or carbon tax—depending how you see it—is likely to move to the EU setting up, for example, auction reserve prices? Or in your view is it regarded as something of a counteraction unilaterally by the UK?

Dr Stochniol: Price predictability is good for investment. As I mentioned, Waxman-Markey had a

11 October 2011 Mark Brownrigg, Damian Ryan, Professor Joanne Scott and Dr Andre Stochniol

long-term wedge that was defined regarding the carbon price. I think the floor was rising 3% annually and the ceiling was rising 5% annually. That gave long-term predictability, and for investment in infrastructure, investment in shipping with these 30-year-old ships, in my view this price predictability did really make a difference on investing in a new ship; the engine might be more expensive but it is more efficient beyond the existing regulation.

In other countries, especially in Africa, where we are talking about developing and moving into low carbon pathways, the kind of incentive that would come from future development would also help to develop low carbon economies and low carbon infrastructures. I personally believe that predictability is a good thing with the carbon floor.

Professor Scott: For me, probably the most fundamental problem with the ETS is the lack of flexibility inherent in it. That operates in two ways. It operates at an EU level. For the EU to do anything to respond to the surplus of permits in the third trading phase, it is going to need to amend the directive probably; really, almost certainly. The EU, in order to

introduce an auction reserve price, would have to get an amendment to the directive. That is a discussion we could have.

The other lack of flexibility problem is in relation to member states. I have always been a believer in the idea of minimum harmonisation—that some member states can go further and some member states can take the lead. The problem with emissions trading is that that stops being viable, because if one member state goes further it simply suppresses demand for permits within that state and they go somewhere else, so the member state does not achieve anything. That is true with the carbon floor price. That is true with performance standards.

The lack of flexibility is at the EU level, but also in the way that it constrains faster action on the part of individual member states. That is something that, if it does not get addressed, if there is not a way of injecting flexibility into the European Emission Trading Scheme, then we are reaching a point where one has to wonder whether, as an instrument, it is actually working.

Q103 Chair: I think we are going to have to call it a day here. We have another panel to question. Thank you all very much indeed for coming in. We have found this a very valuable session.

Examination of Witnesses

Witnesses: **Imtiaz Ahmad**, International Emissions Trading Association, **Miles Austin**, Director, Carbon Market Investors Association, and **Trevor Sikorski**, Director, Barclays Capital, gave evidence.

Q104 Chair: Thank you for coming in. Again, because time is pressing, I will skip any formal introductions. We know who you are. We are grateful to Mr Ahmad for coming in and substituting for another witness.

Could I start by inviting you to speculate a bit on what you think the price of EU allowances will be at the end of Phase II and what your expectations are for the end of Phase III—or 2020, shall we say—after that?

Miles Austin: I would actually like to not speculate on the price. The reason is that a lot of the discussion around the EU ETS has been focused on the price. The environmental benefit of an emissions trading scheme comes from the cap—the emissions cap—not the price it is operating at. The price is simply reflecting the difficulty of achieving that cap.

Q105 Chair: Let me take you through that straightaway. Obviously the cap is part of the benefit. Indeed, that is the reason why some of us think a cap on trade has advantages, which a carbon tax does not have, and it provides a degree of certainty about the cap. Nevertheless, the cap can be achieved in a variety of ways and if the cap is achieved merely by the purchase of offsets, we are not driving investment in low carbon technology, which some of us think is also an important benefit from an emissions trading system, so I think the price is very relevant to decisions made by British investors in the next 10 years.

Trevor Sikorski: As a carbon analyst, whose main job is to kind of gaze into the future on this, I would say before the end of 2012 we are looking at EUA prices probably around current levels, i.e. somewhere around €12 per tonne probably. Going up to 2020, you are probably looking at that going up to maybe as high as €20/€25 per tonne.

To focus in on Miles' point on general investment and the importance of the cap, I completely agree with him. The cap is what we are here for: it is the environmental goal of the scheme. I think it is very difficult to disagree or dislike where certain emission reductions come from. Emission reductions have been made. I think a lot of those have been due to the economic recession and the tough times that we are living through, and I don't know if the scheme does itself any favours by being highly priced in a world where most commodity prices certainly fell in 2008 and 2009 and have been very high during a period of intense, I would say, stress for European industry.

Imtiaz Ahmad: I totally agree with that. From my perspective as a practitioner, someone who has traded and invested, shortage is fundamental; basically a cap works if there is allocated shortage. Certainly that is a challenge for EU ETS. I am here wearing two hats; one on behalf IETA and one in my own personal capacity as a Morgan Stanley practitioner. Certainly, from an IETA perspective, we believe that emission trading is the right vehicle and, I believe that as well as a practitioner, from my own firm perspective. The IETA principles call for shortage and scarcity. For a

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

cap and trade system to work, that is going to have to be there.

Miles Austin: If I can just jump in again. If you look at the position of the EU ETS out to 2020 and the emissions reductions that the cap requires of it, international offsets can cover no more than half of that effort, so the idea that we are flooded with international offsets is erroneous. The other thing is, if the price is at a level that is politically uncomfortable, then it needs to be examined why the price is at that level, which I think is what Imtiaz alluded to. It is partly because of the recession and that emissions have come down due to the recession, which means we are under the cap, which is the point, but given the very different economic circumstances when the 20% cap was set, and the idea that the 30% cap would kick in as and when there is an international agreement, there is a reasonable body of research that suggests that today the costs of instituting the 30% cap would be comparable to the costs of instituting the 20% cap when the original sums were done. Therefore, as an association we would very strongly advocate that we move unilaterally to a 30% emissions reduction pathway.

Q106 Chair: I'm sorry, did you say that Britain should move towards that unilaterally?

Miles Austin: No, the EU should.

Q107 Chair: The EU should. But you must also be aware there is not the remotest chance that you are going to get unanimity amongst 27 countries. That is just in the realms of fantasy, isn't it?

Miles Austin: No. Chris Huhne seems to think it is doable.

Q108 Chair: What, so Poland is going to put up their hand and say, "Let's go for a 30% reduction"?

Miles Austin: It is quite possible. They have had a reasonably significant shift in the composition of their Government recently towards more left/green leaning.

Q109 Dan Byles: It seems quite clear that the first two phases have got the cap wrong, and there is no mechanism at all for the EU to revise the cap in the light of changing events. Do you agree with that?

Trevor Sikorski: I don't know. Would we like a tighter market? Probably, yes—almost certainly—but like I said the cap is a democratically achieved decision and it does represent a very wide democracy covering a number of countries with very different levels of development from the European average. For Phase I, there was just a lack of information and it was very good that that wasn't bankable, but for Phase II the issue has been that we had a 20% goal; we were happy with the 20% goal. I think the fact that prices are low as long as that 20% goal is being met, we should be happy with and should be reasonably relaxed about. The reason for moving to 30% I don't think should be one of cost or anything like that. It should be: is there a scientific prerogative and imperative to move beyond 20% to 30%? If there is, then that is the decision that should be made and then the market can price in that sort of scarcity. At the moment, though, we are living through very difficult economic times;

capital is not unlimited, and I would say the market is helping to foster a reasonably efficient distribution of capital, which is scarce.

At the moment it embodies the democratic desires of the wider European Union, and I think that is a good thing. It would be great if the desire was to put more importance on moving forward but on a scientific basis rather than on a pricing basis.

Miles Austin: To take the two phases separately, the Phase I cap was set at a time when we didn't have independently verified data. It was data that was largely taken from growth projections from industry. Historically, growth projections always tend to be slightly overoptimistic and consequently we had an overoptimistic emissions pathway. The Phase II cap was based on independently verified data at an installation level, so given what the percentage reduction was supposed to be, and given that it was based on good data, the cap is exactly where the political process decided it should be.

Imtiaz Ahmad: The EU ETS is somewhat unique: it exists because of politics and regulation law essentially; in commodity markets there is a natural underlying demand—oil, electricity, and so on. In all markets, when you have a change, you see supply and demand adjust effectively. In the steel sector, for example, you get rationalisation on the supply side as well as the demand side. In the EU ETS, the supply side is fixed essentially across the period, so when demand is altered or fundamentally changed, as has happened, then yes that does lead to a supply overhang, which then leads to a long system. That then means that there is a need to look at the overall target.

My view very simply is to look—as Miles pointed out—at the overall cap demand, which would be the neater solution, but I take the point raised by the Chair that that might prove somewhat politically challenging. Then the EU need to consider what to do with the EU ETS if they want an instrument that works and to be a world leader, or if they want something that is essentially oversupplied and won't deliver, but I do believe it is the right instrument as long as the correct target is there.

Trevor Sikorski: One of the interesting things that we haven't mentioned, but Tim alluded to in his initial question, is the role of offsets. Imtiaz has said the cap is fixed and, therefore, that broadly gives you some certainty on supply, which is something you don't have in a lot of commodity markets, but the supply of offsets hasn't been fixed. The supply of offsets per se should respond to the price signal, and what we have seen this year is more offsets come than we have ever seen before. Already this year, 250 million tonnes of CERs has been issued by the UNFCCC into the market. That is against last year's issuance of 132 million tonnes, so you are on this year to be probably double, but it was more than double what it was last year, so a massive increase in supply. That massive increase in supply of offsets is one of the reasons why prices are as low as they are today. I think prices would be low anyway because a number of other factors around, but they are certainly a number of euros lower because of the supply of CERs into the market. If we didn't have any offsets, if all we were

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

trying to achieve with EU ETS was European abatement, prices would be a lot higher with no offsets having been allowed into the EU ETS to date. The reason they were put in was cost containment and it is providing that cost containment. It is doing what it said it was going to do. So in that sense, the market is doing exactly what it said it was going to do. I think most of the forecasts of offsets say this isn't going to slow down even with CER prices now below €8 a tonne—very low. We still see a lot of issuance coming in.

Q110 Dan Byles: Before I come on to you, Miles, do you think that we are going to see a problem where we are going to be hitting our targets in the short-term but because of the low price and high number of offsets, there just isn't the incentive there to invest in the low emission technologies to ensure that we are going to continue to hit our very challenging targets much further down the line? Are we buying time now and, with that, effectively not doing the hard work now?

Trevor Sikorski: Price signals are kind of saying, "Don't do investment now, do it a bit later." That is basically what it is saying, and people don't invest really on today's prices because you are not going to get first cash flow, regardless of what your investment is, some ways down the line. In our evidence we showed how people have, particularly in the utility space, changed how they have invested Europe-wide in what they are building and certainly a massive shift towards renewables. I think in the first half of the last decade you were looking at, across Europe, maybe 5 gigawatts of renewables coming—it was all small scale stuff, small plants. All of a sudden, the utilities are seeing what looks like big liabilities coming along, and those liabilities are going to get much bigger in 2013. Even if the price remains modest, they are going from having been given about 70% for free to being given nothing for free. So all of a sudden there is a pretty big bill coming along. They have been investing and all of a sudden the renewables are 20 gigawatts a year, and we are forecasting that that is going to happen for the next four or five years. That is kind of doable. You also have complementary policies that help that along, but I think one of the big incentives is those future liabilities and those future liabilities are actually pretty close.

The other thing is, nobody will build a new coal plant now. Some of the new coal plants that are being commissioned at the moment, the financing decisions were being made back in 2003, 2004—it does take a while to build these things—and that was when the German Government were talking about prolonged free allowances for coal plants and this kind of thing. Now, with advanced development, I think, it is 90% gas, and that goes across Western Europe so that is not just the UK. The UK is very keen on building gas and only gas. That is in some of the places that traditionally would build coal, particularly like the German markets. So it has changed.

We are getting the benefits of almost the lower hanging fruit and what the market will do. Again, the reason you are doing ETS rather than tax is that it allows people to take advantage of the lowest cost

abatement. The lowest cost abatement at the moment is you build a gas plant rather than you build a coal plant. Bang, you probably have a 60% emissions reduction. That is going to take us out to 2030 easily, 2040. It meets those goals.

When you look further, yes, we have some pretty challenging targets but those targets are looking increasingly challenging beyond, say, 2025, 2030 and that is when maybe some of the more expensive technologies will come in. You would expect prices in the second half of this decade to start reflecting that future concern much closer to the time when those concerns become real.

Miles Austin: I want to clarify something Trevor said about offsets in case it was misconstrued, and that is that the use of offsets is capped within the EU ETS. No matter how many offsets there are floating around the wider world, their use within the EU ETS has limits and those limits are 50% of the effort that it has to make.

In terms of the EU ETS driving investment, I think Trevor is absolutely correct that the current crisis is not going to make you decide to build a large wind farm, but the fact of the EU ETS' existence, and the fact that it is going out to at least 2020—and more than likely far beyond—will drive those decisions. Even during Phase I, when the price was very low, there was research by Point Carbon that showed that something like 60% of the companies within the EU ETS were basing their decisions around projected carbon prices. To give an idea again, from a little piece of research from Energy Centre, Netherlands, of the kind of signal that the EU ETS does send, even at a price of €1 a tonne, it sends a signal for efficiency switching between different modes of generation. So obviously you don't get a lot of efficiency switching at €1 a tonne, but whatever the price is, it is sending signals out to particular installations that are affected by it.

Q111 Sir Robert Smith: I suppose some investors like uncertainly because they think that it gets them faster than the others, but where possible, if you had a more flexible system for setting the cap, would that send signals that could undermine other agendas, like security of supply and insuring long-term investment decisions?

Trevor Sikorski: That is a very good point. A lot of people do play up the importance of predictability or certainty in pricing. If you look around the world, there is a lot of good evidence that markets do one thing pretty well and that is create capacity, because there is a price signal and people think they can make money out of it, so they go and build things, and those prices are rarely predictable. I was doing price forecasting back in 2000, and our long-term oil price forecast was it was going to be around \$25 a tonne. Oil companies were still going out and spending on oil sands because maybe they knew something different, but the whole industry was forecasting that almost. I remember when prices broke out of that and started going up to \$30, then \$40, then \$50, it was like everything has changed and it was kind of, "What has changed here?" Well, China changed and India changed. Was that predictable? I don't know. The

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

main point is you will get a lot of investment and you get a lot of investment with price uncertainty. That is just the environment in which people operate. To be honest, for the ETS, like Imtiaz said, you can have a pretty good handle on supply; you just have to work on demand to get some feeling of whether the world is going to be scarce of this commodity? Should I be investing to do something about that kind of scarcity? I think it is that promise of long-term scarcity rather than any kind of predictability of price, which price investment.

Imtiaz Ahmad: To merge the questions both by Dan Byles and Sir Robert Smith, I can see the similarity and answer from a practitioner's point of view, infrastructure investment is very important. When you are investing today, you are locking in infrastructure 20, 25 years into the future. That is fundamental in terms of climate change and in terms of clean energy, whether you are going to invest into inefficient energy or clean energy, whether here, in Europe, the UK or elsewhere in the world. So the carbon price today is very important because our clients come to us and they hedge against the forward curve as far as they can go on the visibility, so they are looking forwards. Forecasts are forecasts; I am not going to say who can forecast well or not. I think it is a perfect tool with hindsight but, at the end of the day, there is a practical side, which is investments need to be made against the market today and what it is signalling.

The certainty aspect is very important, because you are talking about large sums of financing that are required. If you look at the IEA, for example, and they forecast—okay, it is a forecast but it is quite a well stated and accepted one—that from the period 2010 to 2050, in order to hit the 50% reduction targets, we are looking at US\$46 trillion of expenditure required in clean energy. Of that, half can be new energy as investment and the other half has to be redirecting away existing planned energy that is planned to go into the dirtier side, into the higher emitting side. So certainly, a carbon price is very fundamental in terms of influencing the long-term signals. Ultimately, it is you, who are the political masters, who set those targets and that framework, but certainly certainty and long-term visibility will be very fundamental if you want to affect the investors' decisions, CFIs and CERs and the big utilities and industrials who are planning these investments.

Miles Austin: Just to jump in again, I think certainty around the cap is the key thing. I think if we know that what our emissions constraint will be as a society 20, 30 years down the road, then that will send the investment signals that are needed. Certainty on the price is probably far less important. Markets are very good at dealing with uncertainty around price.

Q112 Dr Lee: Forgive me if I misinterpreted what you just said, Mr Sikorski, but are you saying that in 2000 it wasn't predictable that China and India would have a greater demand for fossil fuels?

Trevor Sikorski: No. I was saying people were not predicting it.

Q113 Dr Lee: But it seems extraordinary. It is pretty obvious we have an increasing population—we just

hit 7 billion earlier than we were predicting. People are not going to want to walk around on bare feet and ride bikes. They are going to want to drive cars as they progress. China is progressing, India is progressing. Are you honestly saying that so-called informed insight in the City predicted that China and India were not going to increase their demand for fossil fuels? I am absolutely flabbergasted.

Trevor Sikorski: If you look at the last decade, we had a last decade of China growing at 10% per annum. Nobody was forecasting that. Nobody was forecasting that kind of sustained growth from China—no one was.

Q114 Dr Lee: No one forecast a financial crisis in 2008. I am just amazed, absolutely amazed, that no one expected significant demand. Putting figures in is difficult but you are paid far more money than me to make those judgments. I just cannot believe that people did not perceive that there would be significant increase in demand. It just confuses me. It makes me less likely to invest, actually.

Trevor Sikorski: It was kind of illustrating a point that there is a huge amount of uncertainty and you invest under uncertainty; that is what people do.

Q115 Dr Lee: But of course there is uncertainty about how much it is going to increase, in the same way there is uncertainty about how quickly climate change is going to take place, but the trajectory? If you had asked me, sat down in the Dog and Duck in 2000, "Will China and India have a greater demand for fossil fuels in 2010?" I would have said "Yes."

Trevor Sikorski: Undoubtedly people would have, but I think if you had sat down in 2000 and had a conversation on the oil price, would it have focused on Chinese and Indian demand? I don't think it would have. I know it didn't, because I was in those discussions back in 2000. It was all about: where is US demand going? Where is OPEC investment going? Those are still—

Q116 Dr Lee: But it is a resource. I do not understand. We have the population going up and oil going down. We can argue about when peak oil takes place—it may have taken place—but that is a simple equation that points to increased prices, increased demand. If we can get that wrong, I mean, honestly!

Q117 Chair: One of our witnesses, Professor Grant, suggested that you could have an auction reserve price. What do you think of that idea?

Trevor Sikorski: I was probably going to answer in a fairly unsatisfactory way to say that they will put in an auction reserve price. That is both possible and doable, but the auction reserve price that is going to go in, as I understand it, is not really to provide, let's say, price support but to more reflect where prices currently are and to ensure that the auction does not clear up prices significantly different from prevailing market prices, i.e. there isn't something that has just gone wrong in the auction.

I think probably what you have in mind is more like a pre-known auction price, which would provide price support and a price floor in that. That is a doable and

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

something that the market can deal with. If you look at some of the examples, the regional greenhouse gas initiative—possibly not a great example but an oversupplied market with a reserve price—basically prices have just collapsed to that reserve price and haven't moved for about six months. It certainly takes away and interferes with the price discovering mechanism of markets. Like I said, would the market be more or less politically broadly acceptable across the EU if prices are kept kind of artificially high by a reserve price in very tough economic times? We are certainly living through some of those.

Miles Austin: The auction reserve price tends to crop up when there is a discussion on the need for potentially price floors and price ceilings, to both of which we are fundamentally opposed: price floors because if you had had a price floor in Phase I of the EU ETS you would have been giving a financial value to something that had little to no environmental value, because the system was over allocated so you would have been hiding that fact; and price ceilings because if you have a price ceiling basically at some point you have to inject more EUAs into the system if you are going to maintain a price ceiling, and then you start to undermine the environmental goals. An auction reserve price is distinct from those two things and if there is an overwhelming political desire to have some kind of price intervention then, of all the various evils, the auction reserve price is probably the lesser of them. My understanding is the UK has been running an implicit auction reserve price; it hasn't told anyone what it is, but it has had an implicit auction reserve price with the auctions that it is been running during the second phase. So we already have one in place, we just don't quite know what it is, although we can guess what the range is.

Q118 John Robertson: Which emissions trading scheme in developed countries might be suitable for linking with the EU ETS?

Imtiaz Ahmad: There is a lot of work going on. Certainly the original hope from the EU was the US, in particular, and of course there is hope with California going forwards. Nonetheless, in terms of emissions, we know China, India and Brazil have been looking at their domestic situation. Certainly China has been making a lot of noises; Brazil as well in the background. We know that South Korea, who are technically transitioning to be an industrialised country, are looking at EU ETS as well. So there is the ability for the EU to continue its leadership role and look at linkage, but compatibility issues will be key and monitoring and verification reporting will be very fundamental, so that you are comparing apples with apples.

Q119 John Robertson: I noticed Mr Austin and Mr Sikorski smiled when I asked the question. Why?

Miles Austin: The short answer at the moment is probably none of them are quite ready. There is a significant body of work that has been done by the European Commission on the circumstances in which we can link. Most of that was done in the context of linking up to a North American Federal cap and trade system, which still seems to be far away as it ever

was. There is a danger with linking to different schemes and the key one is that if you link to a scheme that is not as environmentally ambitious or has a significantly lower price, then you will lower the price in the EU ETS and raise the price in the other scheme. That raises the question that was the key worry about potentially linking to a North American scheme. In the unofficial discussion in the EU, during Phase III the Commission was hoping to have an operating floor price unofficially of about €30 a tonne, whereas in the US they were getting profoundly nervous about anything that would go over \$20 a tonne. Given that the first thing that would happen when you linked those two schemes is that the EU price would come down and the US price would go up; why would they link?

Trevor Sikorski: Yes. I fundamentally agree with Miles. I think the question is quite important because linking, in terms of the theory, is absolutely desirable. What you want is a global carbon price and everyone more or less responding to the same price of carbon. The devil is always in the detail and that is certainly the case with linking. The great disappointment for those of us who have been in the market for a long time is the failure to get US Federal legislation. We had something out of the House of Representatives. Australia looked very close with their carbon pollution reduction scheme. So we came very close with a number of trading schemes, and those trading schemes will probably need a couple of years of experience before the EU could be in a position to say, "Yes, this is good thing, a good scheme and a compatible scheme to link into." What that means with the very late starts—California not starting until 2013; fingers crossed, if everything goes okay in Australia, you are looking at a similar time period; and the first two years is a tax, so you are really looking at post-2015—linking now seems something that has gone from being something we could hope for in the first half of this decade to something that may be we should consider in the second half of the decade, so it is looking a long way away despite its inherent desirability.

Q120 John Robertson: Is North America still as important as it was?

Trevor Sikorski: North America would be wonderful because, one, it is very developed and two, very high in emissions, both in absolute terms and in per capita terms. It is another developed country, another trading partner. It ticks absolutely all the right boxes in terms of what you want to accomplish through linking—way more so than, let's say, China does, which is at a different level of development and emissions intensity. North America is almost the holy grail of the Emissions Trading Scheme. It would be the big one that would really kick into being a very big global commodity market, which would be watched by everyone. It would be capable of generating massive amounts of investment. It remains the one thing we are hoping for. As Miles said, it is completely off the table now politically. That debate has just gone absolutely the wrong way, so it looks to us that the best we can hope for is California and some Canadian provinces linking together.

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

Q121 John Robertson: So we have our eggs in one basket in California, have we?

Trevor Sikorski: It is the great hope of North American trading.

Q122 John Robertson: What happens if it doesn't work?

Trevor Sikorski: If it doesn't work, then that would poison the debate in the US for a very long time. The debate isn't great in the US at the moment on this, so there is a long way to get it back to even where we were in 2008 when there were not party differences on this. Both Obama and McCain were pro-cap and trade trade. There was cross-party support but we didn't get it, and now you can't find a Republican anywhere who will say cap and trade is a good idea.

Q123 John Robertson: Could limited linking to schemes with lower prices be an effective way to manage prices in the EU ETS?

Trevor Sikorski: It would provide price containment. A lot of debate at the moment, as I mentioned earlier, is people feel we have had too much price containment. To me price containment would be a good thing, but certainly I think when prices start getting very high, that kind of outlook would be very useful and broadly desirable.

Miles Austin: Again, I make the observation that if we were sat in another country, not in Europe, and we were being asked to link to the European cap and trade scheme and the Europeans wanted to link to our cap and trade scheme to contain their prices, which is to say raise the price in our cap and trade scheme, why would we link?

Imtiaz Ahmad: Though there is negative sentiment at the moment in the US which had been the great hope, notwithstanding what might happen going forward, it is important not to ignore the noises that the likes of the Chinese are making about a national cap and trade scheme, the fact that Chile wants to go ahead with cap and trade, Australia, South Korea, et cetera. Of course they may not be as material but China is the fastest growing country for emissions. Yes, I agree with what Trevor Sikorski says—China is in a different stage of its development. Nonetheless, there is a lot of talk of pilot schemes in maybe 2015, so at least that gives a potential hope for the EU to explore discussions there and in terms of a country whose emissions will be very fundamental in terms of dealing with climate change.

Miles Austin: In terms of cost containment, the CDM has been a very good cost containment tool and it has linked Europe to markets in a large number of developing countries.

Trevor Sikorski: It has fostered investment of a large order. A lot of that investment happened because of European demand.

Q124 Dr Whitehead: We have touched on developing countries. Certainly the question of the extent to which those economies are compatible for a new form of link becomes central. What prospects are there, for example, as has sometimes been suggested, that the EU just go through a link with China over the immediate next period?

Trevor Sikorski: It is such early days for any real view on what Chinese emissions trading, if they have emissions trading, will look like. They are talking about a number of pilots starting by 2013 but we have never seen any rules on what this might look like or what sectors might be contained. Every now and then, somebody will drop a hint that it may be an absolute cap rather than an intensity-based cap. Developing countries tend to like intensity-based targets, and an intensity-based target just means you are getting the carbon content of your GDP growth down basically, so it allows them to grow but they are still reducing emissions within that growth. Those intensity-based schemes are very hard for an absolute scheme to link with, so it raises up some compatibility issues and those compatibility issues and the detail is what is going to drive that political decision in Brussels, and I think we are a long way away from having any idea of what the detail may be.

At one point, it kind of looked like Europe was pushing—well Europe is still pushing—for sectoral targets. Certainly a Chinese national cap and trade scheme, which has been talked about for 2015, goes way beyond sectoral targets and it is way more desirable, but if they have been talking about linking with that, then it does throw up the possibility that that would certainly be considered and I would find it impossible that policy makers won't consider it.

Q125 Dr Whitehead: Do you think, though, that the infrastructures and the political will to develop such systems in developing countries might be the first or the earlier priority for EU to assist with, rather than going to schemes as such? Is there not an area of mileage of attempting to align development of systems with what is the direction of the EU, rather than trying to match together what may be only limited compatibility in the early period?

Miles Austin: I know that there has been a conversation going on between the European Commission and the Chinese authorities and also the Department of Energy and Climate Change and the Chinese authorities, but ultimately it is down to China how it chooses to design its cap and trade scheme; it is not down to Brussels.

Trevor Sikorski: It will be emissions trading with Chinese characteristics.

Imtiaz Ahmad: Certainly one can't dictate to China and, indeed, the likes of Brazil and others. Nonetheless, I think there is merit in trying to ensure that apples are apples in verification and reporting systems. A lot of the work has already been done through both CDM and EU ETS, in terms of measuring, auditing and verifying terms of reductions, and so on, and showing that in a transparent manner. So that will be relevant in the system that emerges.

Miles Austin: Imtiaz raises MRV. One of the key questions moving forward within the UNFCCC is what will any future deal, be it in four, five, six or seven years, look like and what will be its key characteristics? One of the things that is clearly on the table is the apples for apples scenario, so that you

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

know when you have a tonne reduced in China you know whether or not it is equivalent to a tonne reduced in the UK, whether or not that is equivalent to a tonne reduced in the US, and the potential for the UNFCCC to act as some kind of hub to undertake that work and to carry out the comparability.

Q126 Sir Robert Smith: Yes. Obviously the EU ETS is the Europe-wide scheme but then we have unilateral actions by the UK. How much concern do you have about leakage; in other words, the other actions by the UK to suppress emissions?

Trevor Sikorski: Both Miles and I would probably say similar things. I think there is an issue when you put any supplementary policy under the cap that then you have issues of what you are effectively doing is reducing demand under that cap and, therefore, allowing emissions to be moved somewhere else. That is just one of the things that will happen because that is the way the system happens. That does not mean the UK cannot do anything, and there are a number of areas that are not covered by the cap. Certainly if you do things in non-traded sectors, those emission reductions are real, they are important. They are not going to be exported per se abroad, because they are not part of that same basic framework of regulation. So, yes, certainly do something on domestic gas supply; we have always said domestic gas supply should be in the EU ETS but it isn't, so doing something there on carbon would be fruitful—and transportation, of course. We have consistently argued that transportation should be in the EU ETS. Transportation isn't, nor is agriculture. A large number of sectors in the UK not governed by the cap, and doing things in there is truly meaningful policy making. If you do something that is underneath the cap, you don't have a real way of controlling it.

Miles Austin: I do agree with most of what Trevor said, as he predicted. The key thing is that when you put parallel instruments into place, be it in the UK or be it Europe-wide, that affect the EU ETS sectors, then you are simply reducing the price of EUAs and putting those into the hands of sectors that aren't affected by the unilateral measures. With the UK, particularly with the carbon price floor that is coming in, a reasonable way of preventing that from exporting cheaper EUAs to mainland Europe would be to make a reasonably informed calculation of what the effect of that would be on the EU ETS and hold back that number of EUAs from the market, and then you won't get leakage abroad.

That brings me round to the discussion that is going on that the set aside with the energy efficiency proposal that was leaked from Brussels a few months ago, during the middle of the summer, which I understand has reared its head again. The set aside, as a compensation for energy efficiency proposals, isn't necessarily a bad thing. It would need to be far more clearly fleshed out than it was in the proposal that came forward, because there are a number of key concerns around that. For instance, if one were to set aside a large volume of EUAs but have the possibility that, at some point, they would come back into the

market during Phase III, that would, unless you had a very clear set of criteria for what would trigger that release, potentially be very damaging to confidence in the market. However, if they were set aside or cancelled in a way that the market had confidence in, it would go some way to compensating for parallel measures.

The other key thing is that the less politicised that process is, the more comfortable it will be for the market as well. For instance, if the set aside was placed in the hands of a political body, be it the member states, DG CLIMA or some other part of the Commission, that would be far less comfortable than if it were set into the hands of some kind of independent body that ran on a clear set of criteria and would react predictably; the market would then know why certain things were happening, as opposed to simply, "There has been a calculation with DG CLIMA, and we now think we are going to hold back this amount of EUAs." It would need to be run independently along very clear lines that get a very good signal.

Q127 Sir Robert Smith: Are there any other member states doing anything similar with the carbon price floor?

Trevor Sikorski: Didn't France do something? But I remember it was outside of the ETS. It was non-ETS.

Sir Robert Smith: Obviously a big difference there.

Trevor Sikorski: Yes, so they had a tax on stuff. Sorry, very imprecise comment.

Q128 Sir Robert Smith: Is there any regulation mechanism that goes tougher within the EU ETS?

Trevor Sikorski: I am not aware of any.

Q129 Sir Robert Smith: Do you think there are any benefits of the UK doing a unilateral, even within the EU ETS, because it might create leadership within that sector of the low carbon industry?

Miles Austin: It makes it tougher for the UK industry. It makes it easier for European industry because you are essentially exporting the EUAs that would have been used by the UK.

Q130 Sir Robert Smith: So in terms of developing the supply side of the low carbon industry?

Trevor Sikorski: It would push up, let's say, electricity prices to higher levels than our comparable European friends'—certainly power prices would be higher. There is no free lunch on these things.

Q131 Sir Robert Smith: So the reality is if you create a European-wide mechanism and you should really try and make that work rather than—

Trevor Sikorski: I think in terms of policy effort, it's best spent there, absolutely.

Miles Austin: Yes. That would be another reason to try to move to 30%.

Imtiaz Ahmad: The best way is to make the system work across the EU rather than one individual member state. It is a pan-European market and unlike

11 October 2011 Imtiaz Ahmad, Miles Austin and Trevor Sikorski

everything else in Europe, in terms of market—the single European market or the euro—it is pan-European across 27 member states. For the action to be effective it really has to work across the entire EU ETS.

Chair: There were a lot of issues we hoped to cover, such as sectoral emissions and fraud, but unfortunately I think we are now out of time. Thank you very much for coming in. We have much appreciated your answers.

Tuesday 25 October 2011

Members present:

Mr Tim Yeo (Chair)

Ian Lavery
Christopher Pincher
Laura Sandys

Sir Robert Smith
Dr Alan Whitehead

Examination of Witnesses

Witnesses: **Gregory Barker MP**, Minister of State, Department of Energy and Climate Change, **Eoin Parker**, Head of EU Emissions Trading System Unit, Department of Energy and Climate Change, and **Niall Mackenzie**, Head of National Carbon Markets, Department of Energy and Climate Change, gave evidence.

Chair: Good morning, and my apologies for the late start. We had the National Development and Reform Commission of China, who were at pains to explain that you had not had time to see them, so we had to give them a little injury time. What happened was that they were in full flow, and without even the benefit of simultaneous translation, the meeting proceeded at a rather glacial pace. Anyway, thank you very much, Minister, for coming in. You will know of our very long-standing interest in the issues we are going to debate and the fact that we are currently working on a report on the EU ETS. I think you have indicated you would like to make an opening statement.

Gregory Barker: First, let me introduce the two officials that I have with me: Niall Mackenzie, who is the Head of National Carbon Markets in DECC, and Eoin Parker, who is Head of the EU ETS division.

Certainly we think your inquiry is very timely, because we are about to see the biggest expansion of the system since its inception with the inclusion of aviation in January 2012, and with the UK Government actively implementing the measures needed to support the third phase of the EU ETS in 2013. Now, the EU ETS will be responsible over the period to 2020 for approximately half of the emissions reductions delivered in the UK, and we certainly believe in the Coalition that phase 3 will put the EU ETS on a stronger path towards emissions reductions, strengthening the system with a centralised and tighter declining cap, harmonised rules for allocating emissions allowances, greater volumes of auctioning and increased levels of registry security. These will support the integrity of the ETS and ensure that it better achieves its environmental impact, at the same time as ensuring it supports the competitiveness of both UK and EU industry.

I will be happy to discuss these changes with you in detail and to underline for you the Coalition support for the ETS as one of the primary means by which we will set the UK and Europe on a path to a low-carbon economy. I think it is important to reiterate at the outset that there are a number of measures, policy instruments/tools that are driving the low-carbon transition, but the EU ETS remains, in terms of the hierarchy, the most important, and I think the numbers speak for themselves in terms of what we are expected to deliver. I would be happy to discuss ways in which we could continue building on what has been achieved in the ETS. Undoubtedly there is scope for improving the efficiency and effectiveness of the ETS as an

instrument, not least by tightening the overall cap, and within this, perhaps we could discuss the way we do all that in a way that enables Government to meet both its environmental agenda and, of course, the agenda for growth.

Q132 Chair: Thank you very much for that. There are a lot of things we would like to pick up on. Can I start by asking, if the EU ETS is still at the top of the hierarchy of policies, whether that perhaps renders some of the other policies redundant? If we have got an EU ETS with a cap—and we will talk about how tight it should be in future—conceptually, if that is the cornerstone, what is the need for some of the other measures that have been taken?

Gregory Barker: Well, I would look at it the other way round. I think that, if you look at the EU ETS hierarchy, that is the single most important instrument, but it is clear that, on its own, it is not delivering sufficient low-carbon transition. We need other incentives, other policies and other regulatory measures to support the EU ETS, certainly at this stage of its development. However, your point, Mr Chairman, about whether there are too many measures or points of intervention in the market is well made, and we are looking actively—I am looking actively—at how we can simplify the overall policy landscape. The landscape that we inherited from the last Government was too crowded and I think we need fewer points of intervention, but where we do intervene, we need to give much stronger, clearer, certain long-term signals to the market. So we certainly see the EU ETS as being the most important, sitting at the top, but there will still be a need for other measures, not least because of the carbon price. The carbon price is not at a level currently—and is unlikely to be at a level in the foreseeable near term—that will drive the very significant level of ambition that we have, both in the UK and the EU, towards a low-carbon economy and at a rate and pace that is commensurate with the science on climate change.

Q133 Chair: Do you think that your reference to “significant ambition” is compatible with what the Chancellor said in the Conservative Party conference about moving at the same speed as other countries?

Gregory Barker: Yes, I do. I think a lot of people have over-analysed what the Chancellor said. I think the most important thing is that you look at the policy that we are delivering and are committed to

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

continuing to deliver, the most important aspect of which in terms of our longer-term aims is the Fourth Carbon Budget, which was adopted in June, and there was no change in policy. What the Chancellor I think was trying to say—very effectively, and talking to a very political audience—was that in Europe we want to be a leader, not a loner. There is no point in the UK having a higher level of ambition if it is not taking the rest of the EU with us, and we need to make sure that we pull the rest of the EU with us, which is why we remain committed to pushing the EU to a 30% emissions reduction target for 2020. But we are not going to do it unilaterally, so I think that was the message that the Chancellor was sending, both to people in the room and more widely in Europe. I think perhaps a slightly lazy assumption has grown up among some of our Continental partners of, “Britain is on this climate change mission and they will do it come what may,” and to a certain extent our views, our arguments and our challenge is being discounted. I think the Chancellor’s message was a wake-up call to the rest of Europe that, yes, we have this level of ambition but it is vital that they come with us, rather than watch us.

Q134 Chair: So in the context of that answer, what is the role of the carbon price floor, a policy which presumably does have the support of the Treasury, since it was announced in the Budget? Is that designed to achieve extra emission reductions across the whole of the EU or simply to increase the share of reductions that are achieved in the UK?

Gregory Barker: Well, the carbon price floor is a UK instrument, and the primary driver behind this is the need for the renewal of the UK energy infrastructure. We anticipate that something close to at least £110 billion of new investment in electricity generation and transmission in the period to 2020. The current carbon price isn’t sufficient to drive low-carbon investment on that scale. It is vital at this point in time, when so much of our generation capacity is coming offline, that we future-proof it and that what is built now doesn’t just reflect the current price of the carbon market in this particular year at this particular point in the economic cycle, but locks in the potential of low-carbon generation for decades to come. It was clear that the EU ETS on its own was not going to deliver that sense of long-term price stability around the cost of carbon. So I think the carbon floor price is really focused on the energy sector, allowing them to plan for very substantial capital investment over the current decade, ensuring the policy signals that low-carbon generation was the priority. But I don’t know if one of my officials would like to comment in more detail on the carbon floor price.

Niall Mackenzie: All I would add is that, obviously, if we can get Europe to move to a 30% reduction target, the carbon price will go up and the Government can take account of that when setting the future carbon price floor.

Q135 Chair: Realistically, in the present economic context, is there a snowball’s chance in hell of getting that agreement for a 30% target?

Gregory Barker: Well, I think it is certainly work in progress. I think we have to accept that, first, the current European argument is not focused on the climate agenda sufficiently and that there are still concerns, particularly in former accession states, about the potential economic impact of a higher carbon price. Now, we believe that many of these concerns are misplaced, and so we have a very active engagement strategy with those EU countries which are more cautious about adopting a stronger price signal on carbon.

Yesterday, I hosted in the City of London a low-carbon finance forum for EU Ministers—I think from Bulgaria, Romania, Latvia, the Czech Republic, Slovenia, with representatives from Poland and Latvia—bringing them together with major financiers from the City to give them a greater sense of confidence that not only is the low-carbon transition possible, but that there is a real investor appetite to invest certainly in efficiency measures, but also renewable energy measures and help them see a clearer practical pathway to funding that transition. I don’t think there is antipathy to the overall goal, but there is a lot of concern among a number of member states about the availability of finance and the ability of industry to make the transition within this timescale without harming growth. We believe—I believe—passionately that that is not only possible, but a huge opportunity. However, too many assumptions are made and we have to demonstrate that the finance is available, the investment is available and that industry is able to make the change in reality, not just in theory.

Q136 Sir Robert Smith: Isn’t the Government’s argument that the EU Emissions Trading Scheme is not working efficiently, and therefore surely what needs to be done is make that work, because it is a market mechanism across the whole of Europe? Has there been an assessment of our taking unilateral action? If we do the carbon price floor support and it drives a lower-carbon economy in the UK, we are going to be buying fewer emission trading certificates, reducing their price and allowing other Europeans to buy them more cheaply, so won’t our efforts help if we take unilateral action, while still keeping the EU ETS?

Gregory Barker: Well, I think there are two points here. One is that the carbon floor price is primarily aimed at the energy sector to drive investment in low-carbon technology and generating capacity. The UK, as I just mentioned, has a particular problem here, because we have this £110 billion that, because of the age of our generating assets, has to take place over the next decade. That is not replicated across Europe. We are a special case. There are other countries that have different energy challenges over the next decade, but I think it is probably most acute in the UK.

The EU ETS now sends a much broader signal to the wider economy, and the fact that the carbon price is lower is a reflection of the fact that it is a market mechanism. It reflects the low level of economic activity, and it is a good thing, to a degree, that the carbon price has been able to react to lower growth or recession in Euroland, so that is the point of its being a market mechanism. But I think we have to reconcile

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

that wider message to the economy, and having an ETS that is sensitive to economic growth and negative growth alongside the need to send a very clear signal to the UK energy sector. But the carbon floor price is no different in impact from other countries and their own market decisions, for example, Germany on nuclear. So in addition to the ETS, there are different national policies in terms of how they are going to incentivise and drive forward investment in—

Q137 Sir Robert Smith: But the reality, because there is a cross-European market mechanism for establishing the emissions, is that any action taken that reduces emissions in one country makes it possible for another country to increase its emissions and still Europe meet its target.

Gregory Barker: This is possible. We do have our own national targets as well. I don't know if you want to say something?

Eoin Parker: Maybe I will say something on that. Yes, you are right in what you are saying, but, firstly, this is a measure aimed only at the electricity sector, so one sector of all the sectors covered by the ETS, and secondly, the UK represents something like 10% of the cap, so this is a measure targeted at a part—only a part—of the cap. So while there is some impact EU-wide, our analysis has suggested that that impact is not significant, and as the Minister said, this is not dissimilar to pursuing a similar policy on, for example, incentivising renewables as other European countries are doing. It is a similar kind of effect.

Q138 Laura Sandys: While the Department and the Government are very pleased to be the forward rider on this in Europe, when it comes to the actual implementation of it, of phase 3, are we not falling behind and was there not a commitment by the Department to submit the implementation measures by September? I think the Committee would quite like to know when you think you will be submitting the final documentation, but then how that will be rolled out across all the different aspects, legislation, devolved Administrations and so on.

Gregory Barker: You are quite right, we are slightly behind. On allocations, we will submit draft allocations to the Commission by the end of the year. Those will be our national implementation measures. This will be later than the 30 September deadline specified in the directive, but this is in no small part due to delays in the Commission itself and member states agreeing and adopting the rules for allocation, which has affected every member state's ability to comply with the deadline. So we are by no means a unique case. As a result, we think while technically the Commission could begin infraction proceedings against the UK for late delivery, we consider the risk of this happening to be very, very low, so long as we submit within a reasonable amount of time after the deadline, and we are working with the Commission. They are fully aware of this so, yes, the deadline has passed, but we don't think that it represents a serious threat.

Q139 Laura Sandys: Maybe it doesn't represent a serious threat in terms of fines, but if DECC is one of

the leaders in Europe on the EU ETS, why are we not in some ways ahead of the agenda and ensuring that we have got our plans in place, because we have a very clear sense of direction about where we are going?

Gregory Barker: Well, we do think that we are ahead of the race. We are by no means lagging behind other member states. We remain one of the key proponents of the EU ETS. These delays are in no small part due to the Commission themselves, so we have had to react to that. But perhaps, Eoin, you would like to say a little more.

Eoin Parker: That is exactly right. What we are saying is that we agreed rules for allocation in December, which were not formally adopted until April this year. The original deadline for the Commission to deliver that had been September 2010, so already that was running some months behind schedule. We have taken forward a plan for developing the allocations that ensures that the operators have enough time to scrutinise the allocations, that what we finally submit to the Commission is correct, and we have put quite a bit of pressure on the timetable, while giving time for the operators to be in the timescale we are at. So far, four member states—mostly small member states—have managed to submit any kind of allocations. We are in the main body of member states that will submit by the end of the year, but there will be some who aren't submitting until next year, and part of our strategy has been to encourage them to move a bit faster, to ensure this happens on time.

Q140 Laura Sandys: So is this going to impact on the overall timescale?

Gregory Barker: So far, only Latvia, Lithuania, Cyprus and Poland have filed. None of the major national economies in Europe has been able to file, and we would certainly see ourselves at the forefront of those major economies that are able to file. As Eoin said, this is primarily driven by a lapse in the EU timetable rather than anything in DECC. But we certainly would not penalise UK business by reducing their ability and time to scrutinise these important plans because of a delay in the EU in bringing forward these proposals. So we think it is right that business should have a proper time to scrutinise and critique these proposals before we go firm on them.

Q141 Dr Whitehead: The transition from phase 2 to phase 3, among other things, is likely to result in substantial carry-over of allocations and there have been repeated calls for some mechanism to be in place to enable the EU to revise the ETS cap. Do you think the Commission is right in doing nothing about this and simply allowing the framework to proceed, or do you think the Commission ought to be taking action on this?

Gregory Barker: Niall, do you want to say something about that?

Niall Mackenzie: There are two things. First, I think the correct approach is the move to 30%, which will lead to a tightening of the cap, and certainly the Commission has speculated—I think is the best way of putting it—about some kind of mechanism other

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

than just changing the directive—a set-aside of EU ETS allowances, and we have encouraged the Commission to come forward with concrete proposals, because there is nothing concrete on the table yet. Amending the cap is by far the best way to achieve the 30% ambition and greater certainty for the market, and the key issue in any proposal that comes from the Commission is that it must be credible and the market has to believe there is certainty, otherwise there won't be any price impact or behavioural impact. So anything short of changing the directive has to carry sufficient certainty, and we will be very interested in whatever the Commission proposes, but the Government is committed to moving to the 30% and that is the best way of tightening the ETS cap.

Q142 Dr Whitehead: But isn't there a distinction between measures to revise the cap according to particular circumstances and the desideratum of moving to 30%, bearing in mind the difficulty that that will represent, and is it perhaps not the best strategy to link those two so closely?

Niall Mackenzie: Obviously some commentators on the market say there is a lot of surplus arising from phase 2 and the impact of the recession, with the overall environmental ambition easier to reach because of economic difficulties in the manufacturing sectors. But I think it would be risky to start saying to individual companies in the ETS, "Right, we are going to take away some of your allowances," or do something, because that destroys faith in a market system, and a market system has to be operated on a market basis. If the state interferes too much, no one knows what to expect of future Government action. This is a slightly different market from oil and gas, which is dependent on taking material out of the ground as well as government regulation across the planet. This is a government-based system, so I think Government has to send clear signals, predictable behaviour, as far as possible, to create the market certainty. You seem to be hinting at some kind of arbitrary intervention to change the rules.

Gregory Barker: I think the only way this would work is if there were a proposal from the Commission, and we are certainly open-minded to the Commission's developing its set-aside approach further, but in particular it would need to explain its legal basis for action and a decision on whether the UK could support such an approach would be taken only when we had seen a detailed proposal from the Commission, bearing in mind Niall's comments about our commitment to certainty in the market. Certainly, we can't do anything that would even appear or presentationally seem that it could be in some way retrospective.

Q143 Dr Whitehead: Certainty in the market is one thing, but certainty that the market will not work because the carry-over is so great that the price will be so low in 3 that it will not work appears to be a cause for concern, does it not? Do you have in mind or would you support some of the suggestions that have been made for, indeed, squaring the circle of certainty in the market, and perhaps the need for change in the caps by some sort of institution

independent of political considerations in the EU that may be able to look at those changes and agree and oversee them, perhaps rather like the Climate Change Committee in the UK?

Gregory Barker: We are certainly not closed to such an idea, but I think it would need to come from the Commission, rather than being a sort of national initiative. I would want to look very closely at the fine print and the detail and talk to industry and market participants before coming up with a clearer view, but we think primarily the way in which to get a higher price on carbon is by bringing down the cap. But we are open-minded on the mechanism, such as the one that you have suggested, Mr Whitehead, provided that it is legal and creates market certainty. But that really is a Commission-wide thing; it is not for a national initiative.

Niall Mackenzie: If I may, I would also contest your view that the price is doomed to drift lower and lower. There is quite a wide range of forward prices in the market. City analysts are predicting that prices will recover. DECC has recently revised its own estimates for Government use for the future carbon price, and for the basis of Government analysis, we are seeing €33—£30 a tonne of CO₂ by 2020. So that does not quite reflect the catastrophic picture that you seem to be painting.

Chair: Except that a lot of the investment decisions are not going to be in 2020, they are going ahead in the next two or three years, as we know.

Gregory Barker: Which is why we have the carbon floor price.

Chair: Indeed, so I can't see quite why we are skating around this. You have said that you want Britain to be a leader on this. Why on earth therefore do we have to wait for the Commission to make a proposal when we all recognise that it is absolutely essential that the cap should be tightened to reflect the quite unforeseeable and unforeseen severity of the recession, which has affected the whole of the EU? It is a perfectly logical thing in those circumstances to look at the cap again. Why can't we lead with a proposal?

Gregory Barker: We are leading the charge more than any other country on reducing the cap, and we see the cap as being the primary measure whereby we will increase the ambition and drive the carbon price. The more technical responses on changing the architecture of the system, and technical responses that have a legal implication and could have an effect on the market need to come from the Commission and are not something that we would certainly either consider imposing arbitrarily or unilaterally from the UK.

Chair: Well, we obviously can't do that. My understanding is to change the cap requires the agreement of all 27 countries.

Gregory Barker: It does.

Chair: So once again, there is not the remotest chance that the Poles will ever agree, is there?

Gregory Barker: But, Mr Yeo, so would changing the mechanism of the ETS, and if it is just changing the cap by another name, it amounts to the same thing. Maybe it would be a slightly more disingenuous way of doing it. I think we want to be clear about what we are trying to achieve, and not try and achieve our

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

objectives by the back door. We are very confident of the arguments that we make about the low-carbon transition, and the cap is the most transparent and accountable way of doing that.

Q144 Chair: Given that the Poles are likely to be implacably opposed to any tightening of the cap, trying to achieve this by the front door is unlikely to succeed.

Gregory Barker: But the front door is the only form of entry that we are considering, I am afraid.

Q145 Sir Robert Smith: I just want to clarify, the object of the cap is to reduce the emissions, and the object of the whole scheme is to use the market to find the best way to do so, so I suppose if you are achieving the targets of the cap with a cheap price of carbon, is that not what the whole system is? The whole system is designed to achieve the goal, which is reducing the emissions, in the most economically efficient way.

Gregory Barker: Sorry, I am not quite sure if that is a question or a statement, but certainly the EU ETS is a means to an end, not an end in itself.

Sir Robert Smith: The question is, if the price of carbon is the means to the end, but the price of carbon is low, is it because we are achieving the target?

Gregory Barker: No, the price of carbon is low because of the state of the economy.

Sir Robert Smith: Yes, which is achieving—

Laura Sandys: Which is not emitting.

Gregory Barker: No, the state of the economy hopefully is not a structural change in the European economy. It reflects the fact that economic activity is suppressed, and I have no doubt that we will very shortly burst forward on a new growth path, certainly in the UK.

But in fact, the carbon price is supposed to send structural messages that will change the nature of the economy, rather than just react to short-term economic events. What is clear is that, for those long-term structural changes, which need to happen at a timescale and a size that is commensurate with the science of climate change in order for us to play our part in keeping below two degrees, you can't simply rely on the market. There are other drivers needed at this stage, and it may be as the carbon price recovers, it will strengthen to such an extent that you would need fewer points of intervention. But at the moment, we are very clear: in order to build a low-carbon energy sector, drive energy efficiency in industry, and get people to make greener choices, other signals and incentives are required. One club golfing and dependence on the EU ETS is the sort of—

Sir Robert Smith: Yes, so the one club doesn't work, but on the price signal, the market long term is not seeing a recovery—

Gregory Barker: No, the market long term is, as my colleague pointed out.

Sir Robert Smith: So investors are not thinking long term?

Gregory Barker: They are not now.

Q146 Dr Whitehead: Is there not a simple relationship between the fact that if the carbon price

is not going up because of demand and because of the relationship of the price to the economic activity, an alternative strategy is to tighten the cap at an earlier stage than it would otherwise happen and set aside elements of that cap which have led to price—

Gregory Barker: We agree. We are arguing for a tighter cap. The UK is the champion.

Dr Whitehead: But by any doors other than the front door?

Gregory Barker: We were certainly open to looking at technical improvements to the scheme, but we think that we should distinguish between political choices and technical improvements and we certainly don't want to spook the market by dressing up political objectives as technical or incremental improvements. I think we need to be clear about that to maintain confidence in the integrity of the system. It is very, very important. So the suggestions you make, Dr Whitehead, are certainly sensible and we would encourage the Commission to look at these, but we don't want to confuse the good operation of the market and its technical efficiency with the political objective—for which we, as politicians, need to be held accountable—of reducing the cap, which has a profound effect on the level of ambition in the EU. We are making that case transparently and clearly through the front door, if I can mix my metaphors.

Q147 Ian Lavery: A second option to maintain a steadier price for carbon would be to introduce an auction reserve price. Looking through our documentation, there are clearly different views on this potential policy. Would this be the best way, in your view, to maintain the price signal for low-carbon investment?

Gregory Barker: This is quite technical, so I am going to ask my colleague, Eoin, to address that.

Eoin Parker: There are two aspects here. One is an auction reserve price—we run auctions at the moment in the UK, and there is a reserve price that ensures that the price we sell the allowances at doesn't end up significantly discounting the market price; that would have a wider impact. However, if I am right, you are asking about an EU-wide auction reserve price that you might know in advance of the auctions. I think we would step back to the previous discussion, where again, if you are trying to give that certainty on the level of price, a better way of moving is to look at tightening the cap so that you are increasing the level of emission reductions, and that would feed through to there being a tighter price. Exactly as the Minister has said, that is not to say we would rule out consideration of the measures, but we think there is a better way of achieving the same outcome.

Gregory Barker: Obviously, our first preference is again for a tighter cap. We fully accept that it is challenging to get that in the shorter term, but when we have previously discussed these sorts of ideas with other member states, they have proposed a price ceiling at almost the same price as the UK's proposed floor, so it is problematic.

Q148 Ian Lavery: What reserve price is currently set for the UK auctions of the EU allowances?

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

Eoin Parker: We don't publish the reserve price, but we set the reserve price in relation to the current prevailing market prices. So, as I said, the ambition or certainly the objective of setting the reserve prices in that instance is to ensure that when we have our auctions, they are not clearing at a price that is significantly lower than the market price, which might have a sort of feedback into the market itself.

Q149 Ian Lavery: So why would they not be published?

Niall Mackenzie: They are a market-sensitive issue, because effectively it is like when you sell anything at an auction personally—you establish a price at which you are willing to sell. The Government sets a price internally at which it is willing to sell, and if the bids came in below that, the auction wouldn't proceed, or the allowances that were under that price wouldn't proceed. So as Eoin says, it is a way of ensuring the Government gets a fair price for its allowances. Other countries, such as Germany, that sell their allowances, do the same. It is standard market behaviour, and the market understands that Government has a right to decide to withdraw from an auction if the bids aren't there. As it happens, every auction we have run has been vastly over-subscribed and we have got good prices for them, in line with or above the secondary market at the time of the auction, so we haven't had to call into effect the reserve price. But as I say, that is more a technical issue in the way we run auctions and it will carry forward into phase 3 when there is an increase in auctioning. It is a way of protecting the income for Governments as much as anything, and making sure there is no extra volatility in the market introduced by the way Governments run their auctions.

But I think you are effectively asking for a carbon price floor across Europe, and as the Minister said, in negotiations in 2008–09 on the directive when this was mooted, other countries were proposing a ceiling at exactly the price we had in mind for the floor. So tightening the cap may be politically easier—and the Minister will also have to judge the politics—than price floors, because that is so directly linked to how each member state has its electricity market and the pricing mechanisms. Different member states regulate their electricity markets in different ways. That all impacts on what people are willing to pay for EUAs.

Gregory Barker: It is a bit more complex than eBay.

Q150 Ian Lavery: Is it possible to link the UK's auction reserve price to the level of the UK carbon price floor?

Eoin Parker: That is back to the question of should we set some kind of carbon floor price, because I think what you are suggesting is that we have something which is public and known in advance that that is how we are setting it. I think the way we are mandated to do it through the EU's auctioning regulations, which set the framework for how we have to auction in phase 3, suggests that it has to be set in relation to the prevailing market price and then any other price, for example, the carbon price floor level. It would put the UK out of step with other member states in the way

we auction allowances if we did something different from that.

Q151 Chair: Just in relation to auctioning, I think I am right that the introduction of aviation is in a sort of separate silo, and a fairly limited amount of aviation allowances is going to be auctioned in the first instance, is that correct?

Gregory Barker: Yes.

Niall Mackenzie: Yes.

Q152 Chair: What do you say about the criticisms from those airlines, for example, in China? We had a lot of contact with China in the last few days.

Gregory Barker: I think most of them in it appeared here.

Chair: The criticisms say that, by limiting the proportion that is auctioned to a fairly low percentage, the system discriminates against airlines which currently do not have a large number of flights in and out of the EU.

Niall Mackenzie: I don't think that is the case. Obviously the level of auctioning that was negotiated by the previous Administration was what Europe collectively agreed, and there were a lot of arguments at the time about the right level of auctioning. But there are two issues here: the price of allowances and how you get them. Most people, 99% of the trading, will pay the same price regardless of where the allowances come from—whether they originated in a free allocation to industry, whether it is aviation or stationary installations or whether they have been bought on the open market or in a Government auction. So the price is set by the market.

Chair: Sorry, I didn't quite follow that. I thought there were some allowances that were being issued free to existing airlines.

Gregory Barker: The aviation sector will receive, on average, around 76% of the allowances they need for 2012 for free. Over 2013–20 the figure falls to 68%.

Q153 Chair: So what you have just said is not true, is it? The airlines that have to buy in because they weren't lucky enough to get an allocation will have to pay more than those who got the allocations free.

Niall Mackenzie: Well, there are two types of allowances. There are the mainstream EU ETS allowances, which aviation can buy if they choose, and then there are separate aviation allowances, which are issued to the airlines. If an airline increases flights and is very successful commercially, obviously it will need to buy allowances to cover that growth, because they are getting quite a substantial free allocation already. They have a choice of buying EU allowances from the main scheme, the CDM credits or aviation allowances from others in the system or through the Government auction. So, there will be three types of allowance: an EUA, an aviation allowance and a CDM credit, which will have separate prices, but everyone should be paying by and large the same price, regardless where they originate.

Chair: But some people have not paid anything at all.

Niall Mackenzie: Correct.

Chair: So they are not paying the same price.

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

Eoin Parker: Every single aviation operator that is covered by the ETS across Europe is eligible for free allocation and those aviation operators have been providing data to the different regulators in the different countries so that they can establish the correct level of allocations, and the UK published ours about two, three weeks ago.

Q154 Chair: So the ones that are the most successful at lobbying through this bureaucratic process will have an enormous financial advantage over those that are not?

Eoin Parker: It is based on your historic level of emissions.

Chair: Exactly. That is exactly my point. So if you look ahead and you think that Britain's—and indeed, the EU's—trading relationships with the East are likely to grow quite quickly in the next 20 years and that those historic ones with the West will become, relatively speaking, less important, the system discriminates against precisely those airlines that we might want to encourage.

Niall Mackenzie: No, it doesn't, because it is exactly the same as when the stationary ETS was first set up. It recognises that this is a new regulatory scheme, that there are some costs, some investment by participants and it needs to be introduced gradually. The Government is clear that high levels of auctioning are the most efficient way of getting allowances on the market. You don't have bureaucrats like myself making judgements about who gets allowances in line with the rules. Those who need it buy it.

But the important point, to deal with your question, is everyone is being treated the same, so whether they are China airlines, American airlines, British Airways, they have got exactly the same rules. Government has made an awful lot of effort to make sure that American airlines and Chinese airlines understand the rules and are applying for the allowances—and, indeed, they have applied for those allowances. So the people who are disadvantaged in the way you portray would be someone who sets up a completely new airline. I accept that would be different, but I am not sure how realistic that is in terms of a major airline, and there are provisions for new entrants into the scheme.

Q155 Chair: But, Mr Mackenzie, we have locked in a system which reflects history, not the future. What would have been the disadvantage in saying, "Every allowance will be auctioned 100% from day one"? How would that have discriminated against anybody?

Niall Mackenzie: That could have been an option, but it wasn't the one that was agreed across Europe at the time.

Chair: Well, you listened to the airline lobby.

Niall Mackenzie: Those involved who take the decisions at the time reached the conclusions they did. I don't know what the justification was.

Q156 Laura Sandys: Just on the same point, as you mentioned, in many ways we are looking at all forms of transport, which will have go through certain sort of revolutions—carbon revolutions and innovation and service revolutions—and that will attract new

entrants, but if they are excluded from the system by structural mechanisms that will need agreement across the whole of the EU to unravel, it strikes me as being quite a bridge.

Gregory Barker: Well, it will only last for each of the carbon budgets. Once an airline is up and running, if it is growing, that growth will then be reflected in the next carbon budget, if allocations are given in that next budget.

Chair: So there is a danger that the backward-looking character of the system will be in perpetuity?

Gregory Barker: No, it is not backward. It is possible that we could go to full auctioning in the next phase, but I think what we are saying is that we are not locking in the whole of the 21st century, we are locking in—is it the next four years?

Niall Mackenzie: Until 2020 potentially, but I think clear lessons have been learned from the stationary ETS: free allocation has been taken out of the power sector because it was realised that they were passing on the costs. There is an issue about the extent to which lessons will be learned as to how much price has passed through by the aviation operators, and that will inform the review of aviation.

Gregory Barker: The points you make are very valid, and they are certainly ones that we will be feeding into the review in 2014. We certainly do not want to see a system that stifles competition or innovation, and your points, Mr Yeo, about the opportunities in new markets are very clear. But the business air travel is only a fraction of course of the predicted growth in air travel. Even taking that into account, it is not the planes full of businessmen that sit with briefcases that are worrying anybody about climate change issues. It is the growth in short-haul leisure travel that accounts for the vast majority of increase in flights.

Q157 Chair: I accept that point, but one thing that concerns those of us who are looking at the future growth of the British economy very greatly indeed is that large numbers of emerging cities in Asia will have flight connections to other countries than the UK. Now, I appreciate that the rest of the EU will be affected by this as well, but it does seem to me regrettable that we appear to be constructing a system which penalises those airlines that are likely to be based in countries showing the fastest growth at a time when restoring growth throughout the EU should be a top priority.

Gregory Barker: Well, we will certainly have the opportunity to review this in 2014, and if there is any evidence that your suspicion turns out to be the case, we hope that that will be reflected in the review.

Q158 Sir Robert Smith: Looking at the use of revenues, what is the Government's expectations for revenues from the EU allowances auctions during phase 3?

Gregory Barker: £2 billion per year from 2013.

Q159 Sir Robert Smith: Is there an expectation of how much is going to be raised from the carbon price floor?

Niall Mackenzie: There will be. I don't think we have those figures. We can give you the numbers.

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

Gregory Barker: It would be consistent with £16 per tonne in 2013 and £30 in 2020, but I don't have the figures on that.

Q160 Sir Robert Smith: So how are those revenues going to be spent?

Gregory Barker: My understanding—I would have to double-check that I am right—is that they have already been spent, or at least when we came into office, the Government had already incorporated them into the Treasury projections. We rather anticipated in Opposition that there was this lovely pool of unspent cash we could spend on preferred green schemes, but in fact it had already been committed to paying down the national debt.

Q161 Laura Sandys: Right the way through to the end of 2015?

Gregory Barker: To the end of the CSR, certainly.

Niall Mackenzie: Yes. The auction revenues and tax revenues from the carbon price floor and elsewhere are obviously all in the *Red Book*, and they are set against Government expenditure, including paying down the debt.

Gregory Barker: Gordon already got there.

Niall Mackenzie: So it is an obvious part of general Government finance.

Q162 Sir Robert Smith: Isn't there provision in the EU ETS directive that at least 50% of the auction revenues should be spent on climate change mitigation and adaptation?

Gregory Barker: Well, as part of the CSR, we committed £2.9 billion to the International Climate Fund for international mitigation and adaptation. Is that you were thinking of?

Sir Robert Smith: Yes. But if you do the arithmetic, that equates to more than the 50%. There isn't a specific, "The revenue came here and went out there."

Eoin Parker: There is no explicit link between the revenue, because as Niall says, it goes—

Gregory Barker: It is not hypothecated, but we did make a clear pledge and we are deploying that funding. I have just come back from the pre-COP in Durban and there was no other country around the table that was able to pledge funding through to 2014. Every other country around the table—or certainly every other developed country—was just going to 2012 in terms of finance pledges. The fact that the Coalition has made this forward-looking commitment and the £2.9 billion is very significant.

Sir Robert Smith: I should remind the Committee and the witnesses relevant to this inquiry of my entry in the Register of Members' Financial Interests to do with oil and gas and a shareholding in Shell.

Gregory Barker: Lucky you.

Q163 Laura Sandys: Just very quickly following up from that, what level of investment are we putting into UK mitigation and adaptation, because it seems to be an area that often gets forgotten, and how that works with Defra and DIFD, because I understand you have got a joint working party?

Gregory Barker: On mitigation, where do we start? The massive expansion of offshore wind and the

renewables sector; our renewable energy proposals—the Green Investment Bank and electricity market reform—all these are primarily climate mitigation projects. In terms of adaptation, I think you are right, that we haven't done enough on that in the past. We need to take greater account of the fact that climate change is unstoppable. It is a question of how far it goes, and I know that the Secretary of State for Defra is taking this very seriously, but I am not sufficiently briefed to give you the details of what Defra is doing, I'm afraid.

Q164 Chair: Following on from Sir Robert, I should also remind the Committee and the witnesses of my financial interest in the energy and transport industries.

We have talked at some length about the difficulties of tightening the cap. If we do not manage to get a tightening, for whatever reason—but I think particularly of the likely resistance of some of the Eastern and Central European members—what implications does that have for achieving the Fourth Carbon Budget? I am inclined to say I personally, and I think most of the Committee, warmly welcome the Government's decision earlier this year to accept the Fourth Carbon Budget, and congratulate DECC on persuading the rest of the Government to agree to that.

Gregory Barker: Well, it is clear that the current level of ambition isn't consistent with meeting that budget, which is why we want Europe to move to 30%, and that is work in progress. It is very difficult for exactly the reasons that you set out earlier. I think there is something to be said for picking our moment to really push. There is no point in trying to use political capital at a point when realistically we are just not going to get the answer we are looking for. So I think there will come a point where we will wish to raise the political temperature on this, but I think with the Eurozone in crisis, it would look mad if we were to make this our number one lead issue. But when the economic dust settles on the Eurozone crisis, and we hope it will, and that the UK and the European economies are back on a growth trajectory, we should ensure that that growth embeds the low-carbon transition rather than works against it, and that will be the time, I think, to really push again. So that is clearly dependent partly on the lead that we get from the EU presidencies. The Danish presidency would be potentially a good time to try and revisit these issues, but whether the European economy will be sufficiently settled in order to make that a sensible time for talking about this, we'll see.

Q165 Chair: The Fourth Carbon Budget is due to be reviewed in 2014. Given the extent of the crisis in the Eurozone and the general state of the economies and the budgets and so on, is there a danger that we may get to 2014 without any revision of the cap, and that that will then jeopardise the prospects for Britain's achieving the Fourth Carbon Budget?

Gregory Barker: You are starting to look into a crystal ball. It depends on what your projection is for the European economy and European growth rates, whether the euro collapses or not, whether there is a knock-on effect from growth or recession in America.

I think what is clear is that we don't know. At this particular point in time, there are various scenarios and I don't think anyone has a very clear picture of what is likely. All we can do is assert our belief that it is in Europe's economic interest to adopt a higher level of ambition, that driving to a low-carbon economy, rather than being a drag anchor on growth, is something that will underpin our long-term economic competitiveness. At the moment, the biggest impact on our economies is the sharp rise in the global gas price, 33% over the last 12 months, and the more we can do to get ourselves off that oil and gas hook, the greater the longer-term economic advantage for the European Union. We will continue to make those arguments, but as the Chancellor said in Manchester, we have to persuade the rest of Europe to come with them, because there is a point at which it becomes untenable for Britain to go so far in the lead that it becomes not a leader but a loner.

Q166 Dr Whitehead: The EU has just finished the benchmarking process for free allocation in phase 3. Do you think they have done enough concerning potential leakage outside the EU with that benchmarking process?

Gregory Barker: Well, we certainly consider that the risk of carbon leakage is limited to a small number of sectors, and our view on the low number of sectors is likely to be significantly supported by a range of research, including Climate Strategies, the Öeko-Institut and the Cambridge Econometrics, but we certainly recognise the contribution that manufacturing makes to UK economic activity and I think there is a new realism in the Government that we have to be much more careful about the impact of our climate policies on advanced manufacturing and energy-intensive industries specifically.

I think we can learn a lot from Germany. I was there in September—I know this Committee engages with Germany a lot—and I found it incredibly useful to go to Germany and understand the way in which they have been able to have a far more successful renewables deployment strategy than us. You know, we are at the bottom of the league table for deployed renewables, they are at the top, yet they have done that by not only maintaining but growing the percentage of their economy that is manufacturing, and they remain a manufacturing powerhouse. They do that by giving very substantial—and in some cases complete—exemptions from renewables tax and other climate levies to their most energy-intensive manufacturing industries. I think there is a much more sophisticated approach to exemptions from these levies and taxes in Germany than the sort of one club golfing that we have had historically here. So I think we need to be more sophisticated and mindful in our approach to carbon leakage.

However, the Germans are also very objective. While there is a much greater political culture of support for manufacturing in Germany, nevertheless the policies are based on very objective analytical datasets and there is a much greater reliance on objective data than I think historically has been the case here, where some wide assumptions are made.

The important thing about free allocations in phase 3 is that it is based on benchmarks, which are based on the average performance of the top 10% most efficient installations in the EU, and we believe that benchmarking rewards early action to abate emissions while maintaining incentives to do more. But certainly we need to do more to distinguish between the most energy-intensive manufacturers and manufacturing and business generally, and that underpins our belief that we need manufacturing in this country as a part of—essential to—the low-carbon transition, because anyone can reduce your carbon emissions just by exporting jobs or sending energy-intensive businesses overseas. That is not difficult. The real challenge is how we keep them here, but in a way that is consistent with a global low-carbon economy.

Q167 Dr Whitehead: So how much have we given away to UK companies in phase 3 altogether?

Eoin Parker: Across the EU, the level is on average 42% free allocation, and I think in the UK that works out at something like on average 40% of the allowances will be given out free across the phase. So for the power sector, it is 100% auctioning; for sectors at risk of carbon leakage, you have an allocation which is 100% of your benchmark, but that doesn't necessarily mean 100% of need, and then if you are a sector not at risk of carbon leakage, you get 80% of your benchmarked allocation to start with, declining over the phase to 30%. So you see, there is a sort of small proportion of free allocation and a rather higher proportion of auctioning.

Gregory Barker: But clearly for the most energy-intensive industries, the ETS is only one of several policies that they are concerned about and we are currently working with DECC and with BIS on a package of measures for the energy-intensive industries that the Chancellor will announce.

Q168 Dr Whitehead: But isn't it true that there is a substantial imbalance in terms of industry, not including energy supply, receiving a lot more allowances than needed in phase 2 and therefore carrying over, and energy supply having effectively a shortfall of allowances, and therefore potentially cross-subsidising other areas of industry at the cost of the consumer as far as energy bills are concerned? So in that context, what sort of sense does it make to continue just with a one club free allocations policy in phase 3?

Gregory Barker: I struggled slightly to follow your question, but I will ask my colleague to try and answer it.

Eoin Parker: I am not sure I would characterise the free allocation policy in phase 3 as one club allocation. As I said before, you have a distinction. There is free allocation to sectors other than the power sector, but even then, the policy looks very closely at the particular characteristics of the sector, and, if there is a sector that is considered to be at a significant risk of carbon leakage—that there was a significant risk that their manufacturing activity or production activity would be moved outside the European Union as a consequence of the scheme, they receive a higher level of free allocation than those that aren't

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

considered to be as much at risk. So in general, there is a move towards auctioning, but it recognises that a sort of full move towards auctioning wouldn't recognise the particular risks of carbon leakage for particular sectors and therefore there is a more nuanced approach. I think phase 2 was more of a one club approach.

Q169 Laura Sandys: When one starts to look at the intra-EU leakage, you have already said that we are getting 40% free allocation, whereas across the whole of Europe it is 40%, so there is already some discrepancy between other EU states and ourselves. HMRC has estimated that it is equivalent to about £4.94 per tonne of carbon dioxide extra tax on top of the price of carbon, established by the EU ETS. The National Grid is concerned that the carbon price support mechanism would create an incentive to import electricity. Do you see that, in many ways, our high ambitions—with which I agree in many ways—are creating a distortion to this market in the EU and, as Robert Smith said, it doesn't necessarily reduce the overall pan-EU emissions?

Gregory Barker: In phase 3, there are no free allocations to the power sector, and that is EU-wide.

Eoin Parker: Yes. In fact, I would say there is no discrepancy within the EU ETS EU-wide, so while I suggested that our share of allocations to installations in the UK was 35% free allocation, that just reflects the balance of our economy between manufacturing industry and the power sector, and therefore the balance in our installations compared with an average of 40% across Europe. It just reflects different industrial bases.

Gregory Barker: The energy intensity of our economy.

Q170 Laura Sandys: Absolutely, but then ultimately doesn't this always come back to one of the arguments that has been put to us in a couple of previous sessions: should we be measuring consumption rather than generation?

Gregory Barker: Well, that is an argument which holds some merit, but it is very difficult to do and in an international context could be very unhelpful in trying to encourage developing economies to take greater responsibility for their emissions, rather than just rely on historic consumption in the developed world, look to the developed economies to do more, and not take account of the reality of the complete change in the global economic balance.

Q171 Laura Sandys: Has the Department done any in-depth assessment about displacement, whether it be outside the EU or in the EU, in relation to all the measures that you are looking at right across the whole energy sector?

Niall Mackenzie: You mean in terms of carbon leakage?

Laura Sandys: Well, in many ways this should be one of the assessments that DECC looks at when assessing its policies and the impact that it has both on the UK and also on the consumer.

Niall Mackenzie: It is one of the issues that, as the Minister said, we are looking at in relation to the

package of measures for energy-intensive industry but we have commissioned quite a lot of research in the past on carbon leakage and we have done a fairly exhaustive trawl of what other research is available and we haven't found any evidence yet anywhere of firms relocating due to climate policies. We get a lot of anecdotes and concerns from individual companies, which we obviously take at face value, the concerns they have about getting investment into the UK and that is why—

Gregory Barker: I think I would say exclusive to climate policies.

Niall Mackenzie: Yes. There are so many factors in most of these issues, and one of the main concerns on which we are working jointly with BIS and the Treasury is about not so much jobs and plant moving elsewhere, but making sure the UK continues to attract investment, which is a much harder message to pin down—creating the right climate for investment—and that is what the package of measures is looking at.

Q172 Ian Lavery: Currently, the big question that people are asking is what happens after the Kyoto Protocol expires. I wonder if it could be explained what effect the failure to agree any success of the Kyoto Protocol would it have on the EU trading scheme, and how would that affect the Government's emissions reduction efforts?

Gregory Barker: Well, we continue to work towards a legally binding global agreement on carbon, and that remains our goal, but that remains a long way off. At Durban, the potential agreement to a second commitment period for the Kyoto Protocol is one of the largest items that we have on the agenda there, but it is by no means a given that we will agree to a second commitment period. You have to remember that the Kyoto Protocol primary signatories, which are the EU and I think Australia and New Zealand basically account for about 15% of the world's emissions; 85% are outside. So it is very important that we have that at the forefront of our mind. We are open to a new Kyoto commitment, but in order to do that we would need to see a commitment from the rest of the world, particularly the major economies, to a process which would deliver a global agreement by 2020 and that we would have completed negotiating that agreement—we would have a track to negotiate that agreement—by 2015. I think maybe the expiration of the Kyoto agreement could be the catalyst that the COP UNFCCC process needs in order to recalibrate around a realistic timeline.

So we certainly think that we need to get away from these artificial annual deadlines when everything is about, "Will this year's COP be a car crash? Is that going to be over? Is the UNFCCC process about to come off the rails?" We need to be realistic, accepting that neither China nor America nor the other basic countries are going to sign up to a global treaty this year or next or even the year after, but it is potentially possible—potentially possible—that we could all converge on one parallel agreement, to 2020. If we are to do that, that is going to require a great deal of work that certainly will not be done at any one COP. However, would failure to agree a comprehensive successor to Kyoto at Durban spell the end of global

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

emissions trading? Well, absolutely not. The EU ETS will run to 2020 and beyond, regardless of the UNFCCC climate change negotiations. Similarly, looking at all the emissions trading systems that are currently operating around the world or being designed around the world—so Australia, California, South Korea, China—I think carbon trading will continue growing, even without the optimum international framework. However, our preference is very clearly to agree an international architecture that would form the backbone of a global emissions trading system, preferably building on the legacy of the Kyoto Protocol, and that such an international framework should aim at promoting environmental integrity and certainly avoid the risk of double-counting, which, if you don't have the over-arching international framework, remains a risk.

On the future of the clean development mechanism, the UK's view is that it could certainly continue. There are no legal barriers for it to continue beyond the expiration of the first Kyoto period. However, the challenge will be to secure political agreement from other countries to that. Finally, the EU ETS directive includes a provision on the use of bilateral sectoral agreements to allow the use of credits from new large-scale sectoral mechanisms such as sectoral crediting. So it is more preferable that there should be international agreement around a second commitment period, but it does not spell the end of carbon trading if one is not successful at Durban.

Q173 Ian Lavery: With regard to assigned amount units, what is the UK's position on banking the assigned amount units from the first Kyoto commitment period?

Eoin Parker: I think traditionally we have been largely opposed to banking it in the sense of not wanting to accept a large transfer of hot air between the two Kyoto commitment periods. I think a small amount of banking is essential because of the linkage between the assigned amount units and EU emission allowances in the EU ETS, but beyond that I think we are quite keen to avoid there being a sort of large-scale transfer of these allowances between the commitment periods.

Q174 Christopher Pincher: We were discussing a few minutes ago the issue of leakage. Now, Professor Frankhauser has said that the simplest solution—he has given evidence to the Committee—to leakage—

Chair: He is LSE.

Christopher Pincher: As an LSE alumnus, I suppose I should know that, but I do know that he gave us some evidence, and he said that the simplest solution to leakage is to link carbon emission strategies between countries. He said, "Leakage goes away and competitive issues go away if you team up, if you have a sort of larger pool of countries engaged in mitigation efforts". Do you agree with that sentiment?

Gregory Barker: Yes. I think that is commonsense. We have that in the EU. Intra-EU carbon leakage effectively isn't possible, as industries moving from one member state to another are still bound by the EU cap. But this does come back to the need for a global deal. Until we have a global framework dealing with

carbon that brings in both developing as well the developed economies, accepting that there are common but differentiated responsibilities, we are not going to get the sort of optimum system that the Professor alludes to. That requires a global deal.

Q175 Christopher Pincher: But accepting it is a good idea, we do not seem to have done a huge amount about it in the EU at the moment, because as I understand it, only Liechtenstein, Norway and Iceland have concluded a linking agreement with us. We are looking at such an agreement with Switzerland. How close are we to concluding an agreement with Switzerland?

Eoin Parker: I think the negotiations are in train. I would say we are at least sort of a year away from agreement with Switzerland, but they are making good progress in those negotiations. There are some difficult issues to address, but—

Gregory Barker: I think it is fair to say the Swiss are the least of our problems. I think China and America are slightly harder nuts to crack.

Q176 Christopher Pincher: All right, let us talk about China and America, and California specifically, being such a large chunk of the US economy. I think they are relatively close to pursuing a linkage agreement. What are we doing with them to link up our emissions strategies with theirs?

Gregory Barker: Well, certainly action in California is extremely welcome. They are the eighth largest economy in the world. The gradual covering of the globe with trading systems is extremely welcome. The reality is in terms of practical linkage between the two, there is not a huge demand for people to trade California allowances in Europe versus trading them in San Francisco or LA, but it is certainly something that helps underpin a price for carbon that allows a more uniform approach to take place, so it is extremely welcome, and we work closely and offer advice. We certainly welcome the fact that the California State Supreme Court voted last week to let the California Air Resources Board go ahead with its regulation to create an ETS. It is similar in design to the EU ETS—similar ambitions, similar coverage—and contemplates linking with the other ETS' like we do. We are in favour of linking it with the EU ETS in the future, but some design elements could stand in the way.

Q177 Christopher Pincher: What do you think they are? Clearly, you said the system is similar to the EU ETS system, but if it is slightly different, you can have price distortions between the two systems, which give an advantage to one group of countries and a disadvantage to the other. What is being done to try and iron out those discrepancies?

Gregory Barker: Well, there are two differences. One, as well as a floor price they have cap on the price, and they also don't allow the use of Kyoto offsets for compliance.

Christopher Pincher: How close are you to dealing with those two differences? They sound like they are fundamental issues.

25 October 2011 Gregory Barker MP, Eoin Parker and Niall Mackenzie

Niall Mackenzie: Well, I don't think they are necessarily fundamental, but we know from our experience in Europe that, when you set up a trading system, the cap is invariably wrong, because you don't know enough about industry and their behaviour and what their opportunity to abate is. So it would be foolish to link with a system until it was up and running and had established a market price. So we can't link with the Californians until there is a market price and there is some transparency about how that price is reached. There is then a negotiation we will have to take between Europe as a whole and California, or Australia or whoever, to see where the spread of effort between the two systems is, and that will be quite a complex process. I think it is all doable, but I don't think at this far distance we could say it will take six months or a year, because we have to see how their system operates and then compare it with ours and see how we manage the transition, because if you wanted actual trading linking the two formally, there would be a lot of issues to cover, and the Chair already referred to the impact of aviation coming into Europe. That will have an effect on the market price. Linking to another system will have a much bigger impact.

Eoin Parker: The Department is quite active in working with those countries that are developing their own systems, whether that is China and India, whether it is in contact with the Australians or the Californians, and it is also through the Commission in their fairly wide outreach activities, in trying to explain to them the structure of our own system, the benefits of the ETS as a system for carbon trading to try and make sure that people, when they are developing their systems, are developing something that is more in line with the ETS, so that when those linking discussions happen in the future you are starting from a more similar basis to have a negotiation about how you do that linkage.

Q178 Christopher Pincher: It just sounds rather aspirational, because although I accept it is complex and it does take time, if you have one system which has a cap and another system which does not have a cap, you have quite a few complexities to work

through to make sure that you have a system that, across the two, does not create distortions in price and wealth.

Niall Mackenzie: I don't think we dispute that it is difficult, but it is doable, and we are doing a lot to help other countries. We seconded an official from our Department to the Commission to lead the Commission's effort for educating the Australians and the Americans on how to set up emissions trading systems.

Gregory Barker: Not all of them.

Niall Mackenzie: Not all of them. We are part of the World Bank Partnership for Market Readiness Programme to try and get people used to setting up different market mechanisms. We spent a lot of time with India setting up their PAT scheme, which is similar to our own climate change agreement scheme. So it is trying to get people to learn from the lessons we have learned, although certainly the experience on the east coast of America is that they have decided to follow the same lessons as we had and make the same mistakes in terms of how they set up auctioning and so on. So I think there is an element of each country having to learn the process.

Gregory Barker: I think it is fair to say one of the things that I see as a Minister travelling abroad is that under the last Government, the UK established a very significant international reputation as being a leader on the climate change agenda and on climate innovation and public policy. There is a very strong reputation that is already there that we intend to not only preserve but build on and I think that hasn't sprung up overnight. That is a result of over a decade of international climate diplomacy and engagement.

Chair: I am conscious that we started a bit late and we have overrun time, but we are very grateful to you and your officials for coming this morning. We have covered some interesting ground. I am sure it is a dialogue that we can continue. It is an evolving situation in quite a number of aspects anyway, so thank you. There may be one or two issues we want to follow up in a letter in due course, but we are most grateful to you.

Gregory Barker: Thank you.

Written evidence

Memorandum submitted by the Department of Energy and Climate Change (DECC) (ETS 01)

1. The Government welcomes the Select Committee's inquiry into the EU Emissions Trading System (EU ETS) which is timely. The Government has recently published to ETS installations for scrutiny the draft National Implementation Measures setting out UK industry allocations of emissions allowances for phase III. The Government has also begun reviewing the UK Greenhouse Gas regulations, which implement the System and the amendments made to these since 2005 to examine the scope for deregulation and simplification in the UK application of the EU ETS rules.

2. The EU ETS is a central component of the UK Government's policy for delivering emissions reductions in line with our EU targets and in line with the UK targets established in the Climate Change Act. The ETS will deliver over 50% of the UK's CO₂ emissions reductions between now and 2020. It is an important part of ensuring the correct incentives are in place for low carbon investment, and for ensuring that emissions are reduced across the EU, not just in the UK.

3. The system has been in place since 2005, and is currently in its second phase which runs between 2008 and 2012. It was the very first system of its kind anywhere in the world and has provided an example for others of how to deliver emissions reductions at least cost. Over phase II we expect the ETS to deliver EU emission savings of around 580 MtCO₂e relative to 2005 levels.

4. Given both the novelty and scope of the ETS, it is not surprising that there has been an element of learning by doing in the development of the system. Over this time, we have learnt a lot about how to optimise such a system to ensure it achieves its environmental impact while maintaining the competitiveness of UK and EU industry. In 2009 the EU amended the ETS Directive to provide new rules for the third phase of the ETS (2013–20). In particular phase III will see a centralised and tighter cap which declines over the phase; much greater volumes of auctioning with free allocation according to harmonised rules to mitigate against carbon leakage; more harmonised monitoring, reporting and verification; and a centralised registry system with greater levels of security to protect against criminal activity.

5. These changes will ensure greater emissions reductions (estimated as 3,100 MtCO₂e (relative to 2005 levels) over the period 2013 to 2020), a more harmonised approach to the implementation and enforcement of the scheme, which will provide a more level playing field for installations across Europe, more efficient allocations which avoid creating windfall profits and sufficient protection for those sectors most vulnerable to carbon leakage. By addressing security in the registries we are helping to safeguard a market in emissions trading worth around £90 billion¹ in 2010, which is predominantly based in the UK.²

6. Phase III will also see the inclusion of additional sectors such as Aluminium and gases such as Nitrous Oxide. From the start of 2012 we will see the biggest expansion of the system since its inception, with the inclusion of the aviation sector. This will ensure that this important and fast growing sector will also have the right incentives to reduce emissions and inclusion is expected to deliver up to 2020 approximately 94 MtCO₂e emission savings relative to 2005 levels and 560 MtCO₂e reductions relative to Business as Usual levels.³

7. Phase III will put the ETS on a stronger path towards emissions reduction, but looking ahead, the key challenge for the system is to make sure that it continues to provide a strong enough incentive for the investment we need to deliver a low carbon economy. The coalition Government is committed to moving to a tighter emissions reduction target at an EU level and to a tighter cap in the EU ETS as part of delivering this.

8. This memorandum will address each questions raised by the Committee in turn.

Q1: *Does the EU ETS remain a viable instrument for climate change mitigation in the EU?*

9. Yes. The Government continues to see the EU ETS as a central component for delivering emissions reductions within the UK and across the European Union. It is a key part of ensuring we comply with the legally binding system of five-year carbon budgets to reduce emissions by at least 35% in 2020 below 1990 levels and by 80% in 2050 as set out in the Climate Change Act. The EU ETS is also central to meeting the 20% EU emissions reduction target by 2020.

10. The EU ETS operates by setting an overall cap on emissions that cannot be exceeded without incurring severe penalties. It allows organisations to reduce emissions where the cost of the reduction is lowest by trading in emissions allowances. Each company has a choice to invest in abatement technology or purchase allowances from those who have made such investments, thus funding the lowest cost abatement in the System.

¹ \$142 billion (£87 billion)—World Bank (2011) State and Trends of the carbon market, available at:

http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_Updated_June_2011.pdf

² (since 2009, the London-based European Climate Exchange has traded over 96% of futures and options EU ETS allowances contracts).

³ Forecast of aviation emissions (without a carbon price) from Bloomberg New Energy Finance, using their Global Energy and Emissions Model. All assumptions are from Bloomberg and may not be consistent with wider assumptions used for analysis across DECC. Note that this figure is an update to the estimated savings published in the Impact Assessment of "Second Stage Transposition of EU Legislation to include Aviation in the European Union Emissions Trading System", which estimated savings relative to BAU levels of 480 MtCO₂e..

11. While there has been room for improvement within the system, evidence suggests that this approach works:

- There has been a high level of compliance by companies within the scheme across Europe.
- The cap for phase II was set at a level which would deliver 6% reductions across the EU on 2005 emissions, equivalent to 580 MtCO₂e.
- The scheme has led to greater investment in abatement technology; 59% of EU ETS installations surveyed by Point Carbon responded that the EU ETS already caused them to reduce emissions. An additional 9% stated the EU ETS has caused reductions to be planned.⁴
- In the same survey, half of respondents agreed with the statement that “the EU ETS is the most cost efficient way to reduce emissions in the EU”.
- The EU ETS has established itself as a credible and liquid emissions trading market worth \$120 billion in EU emissions allowance (EUA) trades in 2010 with a further \$19.8 billion of trading in CDM (mostly for EU ETS compliance).⁵ High levels of trading ensure liquidity in the market and the achievement of the cap at a minimum cost.
- Although the recession has reduced BAU emissions to a level broadly in line with the cap, we are still seeing a significant carbon price as the market can see stringency of the future cap. This carbon price has incentivised abatement—with Bloomberg New Energy Finance estimating c 260 MtCO₂e of abatement from 2008–10 driven by the carbon price.

12. To build on this and to address those areas of the ETS where improvement could be made, we are taking steps to improve further the performance of the System. In March 2007, the EU set an overall target for 2020 of a 20% reduction in emissions on 1990 levels. In 2009, within this context, the EU ETS Directive was significantly revised to make a much greater contribution to tackling climate change.

13. The changes, which will take effect from 2013, include:

- a more ambitious EU-wide cap on emissions, set top down with harmonised rules. From 2013 the cap will reduce by 1.74% per year towards an overall target of 21% reduction in emissions from ETS installations on 2005 levels by 2020. This annual reduction continues beyond 2020;
- auctioning as the preferred means of allocation, with 100% auctioning to the power sector. This will ensure that the cost of carbon is better integrated into business decisions and will reduce windfall profits as a result of pass-through of the carbon price to consumers;
- free allocation of allowances (based on benchmarks) to ensure adequate protection for those sectors at significant risk of carbon leakage while maintaining incentives to reduce emissions;
- additional access to project credits from outside the EU, but in a lower proportion than in phase II to ensure actual behaviour change in the EU while maintaining international linkages;
- an improved single ETS registry with greater security to ensure the ETS is more secure against criminal activity, protecting the integrity of the valuable global market in emissions trading;
- the development of stronger Monitoring, Reporting and Verification (MRV) regulations, applied to the same standard across the EU ETS;

14. And recognising the benefits of cap and trade, from January 2012 the aviation sector will also be included in the EU ETS. Emissions from all flights into and out of EU airports will be capped under the EU ETS. Net CO₂ emissions from aviation in the EU will be under a legally-binding cap of 97% of average 2004–06 levels, with the cap tightening to 95% of average 2004–06 levels from 2013 onwards. Any emissions above these levels will only be possible by purchasing allowances from the market (ie allowances resulting from equal reductions in other sectors in the EU ETS). The result is that any expansion of UK and EU aviation would lead to no net increase in CO₂ emissions.

15. These changes will result in many more emission reductions, more predictable market conditions and improved certainty for industry. Reductions in the cap should lead to EU emissions savings (compared to 2005 emissions) during Phase III of around 3,100 MtCO₂e.

16. Looking ahead, it is clear that the ability of the ETS to continue providing a strong signal for innovation will be related to the stringency of the cap. A tighter cap, in the context of a move in the EU to a 30% emissions reduction target by 2020, would be consistent with the EU’s target of a long term transition to a low-carbon economy (80–95% emissions reductions by 2050) and improve the effectiveness of the EU ETS to drive investment.

Q2: Can the EU ETS operate effectively in a world without legally-binding emissions reduction commitments and other cap-and-trade schemes?

17. Yes. The EU ETS is currently working effectively, delivering emissions reductions and investment in abatement technology in the EU, although as noted above there is potential to improve the system. The ETS

⁴ Point Carbon (2011), Carbon 2011

⁵ World Bank (see previous reference).

also provides a good demonstration of the workings and benefits of a trading system as a model to others in developing their climate change mitigation policies.

18. The EU ETS has a wide scope, covering around half of EU emissions, and covers sectors with substantial and varied emission reduction potential. This has led to the creation of a liquid market balancing demand and supply and leading to effective price discovery. Although linking to other cap-and-trade scheme could increase liquidity and improve cost-effectiveness (see Q4 for more detail), the EU ETS can continue to operate effectively even without the creation of other cap-and-trade schemes and without linking these schemes to the EU ETS. The UK's vision though is that by 2020, we would be able to start linking with other compatible cap-and-trade schemes to create a network of linked ETSs.

19. We believe that the EU ETS provides a model for other countries to implement similar cap-and-trade schemes. Although progress in the creation of new cap-and-trade schemes has been slower than expected, there has still been some positive signs of progress, notably:

- In December 2010, **California** announced the creation of an ETS starting in January 2012. Following a legal challenge, commencement has since been delayed to January 2013 to allow for additional cost-benefit analysis to compare the benefits of cap-and-trade compared to other policy instruments.
- On 10 July 2011, Prime Minister Julia Gillard announced the **Australian** Climate Change Plan. A key feature of the plan is to implement a cap-and-trade scheme. From 1 July 2012, a carbon price of £15 (AU\$23) will be adopted (higher than current EU ETS price ~£11–12), covering 60% of Australia's emissions (electricity generation, stationary energy, some business transport, waste, industrial processes, and fugitive emissions) and rising by 2.5%/yr until 1 July 2015, at which point carbon price will turn into a cap and trade scheme. There is an explicit scope to link with other cap-and-trade schemes.
- In March 2011, the Government of **China** announced its 12th five-year plan, including provisions to pilot cap-and-trade schemes in key provinces.

20. In addition, DECC has been directly involved in the development of cap-and-trade systems—for more detail, see Q5.

21. In the absence of an international deal however, it is important that provision is made for sectors at significant risk of carbon leakage. We need to retain a competitive industrial base as part of ensuring a balanced growth path for the UK. There would be no environmental benefit if industry simply relocates to avoid ambitious climate policies. The EU ETS has addressed this problem through the proportionate free allocation of allowances to sectors at significant risk of carbon leakage. We believe this is the right approach and avoids raising barriers to international trade.

22. We are also conscious that some industries may be particularly affected by the increase in electricity costs stemming from both the EU ETS and wider UK climate change policy measures. So before the end of the year we will be announcing a package of measures for those energy intensive businesses whose international competitiveness may be most affected by our energy and climate change policies.

Q3: What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?

23. We estimate cumulative (global) GHG reductions from the EU ETS over Phase III will be :

- 3,100 MtCO₂e relative to 2005 levels; and
- 3,200 MtCO₂e relative to forecast Business As Usual Emissions.⁶

Further details of these methods of estimation are given in Annex A.

24. Within this, the EU is likely to import around 750 MtCO₂e of international offsets during Phase III of the EU ETS. Once these offsets have been taken into account this will mean that around 2,350–2,450 MtCO₂e⁷ of reductions are likely to be within the EU.

Q4: Could the environmental and economic efficiency of the EU ETS be improved by linking with other emissions trading schemes and how can this be achieved?

25. Yes, linking with other cap and trade increases efficiency gains. The Lazarowicz Report on “Global Carbon Trading: A framework for reducing emissions” (2009) suggests that global carbon trading, through linking of ETSs and use of international credits, could reduce emission reduction costs by up to 70%. This would allow reduction of global emissions by an additional 40–50% at the same costs and provide substantial financial flows to developing countries.

26. By linking different systems, a broader range of emission reduction potential will be covered, which will promote cost effective abatement. A network of linked ETSs would also achieve greater liquidity in the market and help avoid competitive distortions.

⁶ Forecast of emissions (without a carbon price) from Bloomberg New Energy Finance.

⁷ Depending on whether you use a baseline of 2005 emissions or business as usual emissions.

27. However, to avoid diluting the ambition of the EU ETS, we would need to ensure that any system that would link to the EU ETS had a comparable level of ambition and rules. Analysis based on the Lazarowicz Report suggests that four design features need to be coordinated to link cap-and-trade schemes:

- (i) Monitoring, reporting and verification rules as well as compliance and enforcement mechanisms should be robust and trusted by ETS authorities, so that they could confidently link in the future.
- (ii) The rules to use international credits (offsets) should be aligned in order to avoid undermining the cap.
- (iii) Banking and borrowing rules should be aligned.
- (iv) Price interventions (eg price floors and ceilings) can also impact linking.

28. The UK has a vision of a network of linked trading schemes among, first, developed countries and, later, more advanced developing countries. Norway, Iceland and Liechtenstein have already been integrated within the EU ETS, having adopted the ETS Directive. The EU is now in discussions over linking with Switzerland.

29. Currently, the EU ETS is linked to the global carbon market through international credits including the Clean Development Mechanism (CDM), which helps provide valuable financial flows to developing countries (\$26.5 billion of carbon finance since 2005)⁸ while also resulting in emission reductions at lower cost than those within the EU.

30. We are also advocating for the improvement and expansion of global carbon markets through:

- **Reform of the CDM** to promote the widespread use of standardised baselines and improve institutional arrangements (eg rules-based approach in the approval process applied by the CDM Executive Board to decrease administrative burden). DECC is also working closely with DFID to improve access to CDM projects in Least Development Countries (LDC—as defined by the World Bank), as post-2012, only new CDM project credits taking place in LDCs will be allowed for compliance in the EU ETS.
- **Creation of new large scale market mechanisms** internationally (eg sectoral crediting and sectoral trading). These new mechanisms will encourage developing countries to pursue their own emissions reductions, hence contributing to the creation of a level-playing field for sectors exposed to international competition, and will provide a new supply of international credits for use in the EU ETS.

Q5: What actions should the UK and the EU be taking to promote the development of compatible ETSs internationally?

31. The UK will seek an agreement in the UNFCCC negotiations for an overarching framework of rules for future international credits and trading. The UK is actively advocating for the reform of the CDM and the creation of new market mechanisms (as mentioned in Q4).

32. Regarding the implementation of domestic ETSs in other countries, it is worth noting that ETSs are one policy tool among others, and that in some specific national contexts, they might not be a suitable mitigation policy. Although the UK remains committed to market-based instruments globally as a cost-effective tool that can help increase global ambition, market-based instruments are only a mean to an end. ETSs are not a silver bullet; they will have to be implemented in combination with other policy tools (eg policy tools that directly impact behavioural change and promote investments in new low carbon technologies).

33. Currently, the UK is working with other governments to create compatible trading systems that could be linked in the future:

- Last January 2011, Secretary of State Chris Huhne signed a **UK-China low carbon memorandum of understanding** that covers three provinces (Hubei, Guandong, Chongqing) and includes a cap-and-trade component. DECC is currently working closely with the Foreign Office to define and agree detailed areas of collaboration with the Government of China. This will help accelerate the development of cap-and-trade schemes in China.
- The UK, along with other EU Member States, has pledged a £7million (\$11.4 million) contribution to the **World Bank Partnership for Market Readiness** that aims at building capacity for market-based instruments including cap-and-trade in 10–15 middle income developing countries. This will allow the UK to share its experience on the EU ETS and other market-based instruments with other countries and accelerate the expansion of carbon markets and hence mitigation activities globally. To date, eight countries (China, Indonesia, Thailand, Chile, Mexico, Colombia, Costa Rica, Turkey) are planned to receive a preparation grant of \$350,000.
- DECC, in collaboration with DFID and FCO, has been helping the **Government of India** to design and implement their new energy efficiency trading scheme (“PAT” scheme—Perform Achieve and Trade), which covers around 10–15% of Indian emissions. The scheme is very similar to UK Climate Change Agreements and is a positive step towards the creation of a domestic carbon market.

⁸ World Bank (2011) State and Trends of the carbon market.

- DECC has also been working closely with the **Republic of South Korea** to help them draft their ETS Bill, which is now planned to start in 2015.

34. Finally, the EU set up the International Carbon Action Partnership (ICAP), this is made up of a number of countries and regions that have implemented or are actively pursuing implementation of carbon markets through mandatory cap and trade systems. The partnership provides a forum to share experiences and knowledge. Through this knowledge sharing it is intended that ICAP will make possible future linking of trading programmes. The UK is a member along with other Member States and the EC. Other trading programmes that take part include the Western Climate Initiative (WCI) and their members, the Regional Greenhouse Gas Initiative (RGGI), the New Zealand ETS and the Tokyo Metropolitan Government. Japan, South Korea and the Ukraine also have observer status.

Q6: Could sectoral agreements form part of the future of the EU ETS?

35. Yes. The EU ETS Directive includes a provision on the use of bilateral sectoral agreements to allow the use of credits from new large scale “sectoral” mechanisms such as sectoral crediting and sectoral trading. This opens up the possibility of using sectoral agreements to generate credits for compliance in the EU ETS. This would be dependent on those agreements establishing comparable rules and accounting procedures in accord with the EU ETS.

36. In practice, a sectoral crediting mechanism only issues credits for emissions reductions that are beyond a baseline which is set at a level lower than business as usual emissions. This ensures that these countries are making their own contribution to the global emissions reduction effort and over-achievement against their pledges is incentivised by the possibility of earning sectoral credits. Such credits could potentially be used in the EU ETS for compliance. Such sectoral mechanisms could greatly reduce competitive distortions by incentivising an appropriate degree of “own-action” in the host country and contribute to creating a more level-playing field for internationally competitive industries.

37. The UK’s position, which is in line with the EU position, is that such sectoral agreements should be developed under an international architecture agreed through UNFCCC negotiations. However, short of an international agreement, there is a possibility for the EU to start developing such agreements bilaterally in the future.

38. The UK is a strong advocate for the creation of new market mechanisms internationally. To promote progress on the ground and demonstrate feasibility, the UK has pledged a £7 million contribution to the World Bank’s Partnership for Market Readiness to ensure that capacity is built on the ground with a view to a pilot sectoral market mechanism in the future. (see Q5 for more detail on this initiative).

Q7: Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?

39. Although the UK is actively advocating for a successor to the Kyoto Protocol to be agreed internationally, there is indeed a risk that we end up without a successor to Kyoto. In this event, the UK (and EU)’s view is that the CDM could continue—there are no legal barriers for this to happen. However, the challenge will be to secure political agreement from other countries.

40. Up to 2012, an estimated 1,100 MtCO₂e of international credits are likely to be issued,⁹ of which 900 MtCO₂e are estimated to be surrendered into Phase II of the EU ETS. The EU ETS directive allows for around 1,650 MtCO₂e of project credits to be used over Phases II and III combined. Thus after accounting for Phase II use, there be a demand for credits from the EU ETS over Phase III of around 750 MtCO₂e. As a result, if the CDM stops existing post-2012, there is likely to be remaining demand for alternative types of credits post-2012. In the current context, we do not have such alternative sources of international credits, although the UK is strongly advocating for the creation of new sources of supply (see Q7 for UK activities to promote creation of sectoral mechanisms).

Q8: Is the EU ETS a constraint on unilateral action to reduce emissions and, on the other hand, how are Member States’ own policies affecting the operation of the trading system?

41. The ETS is an important part of the Government’s policy framework for tackling climate change, ensuring emissions reductions across a range of industrial sectors and within the power sector, and delivers reductions across the EU. By its design, the ETS delivers these reductions at least cost and therefore where it is most efficient for them to take place. As a market based mechanism the ETS readily accommodates complimentary and additional policies as the market readily prices in any such policies by Member States.

42. While the EU ETS provides a clear carbon price, there are other market failures which justify government intervention to help reduce emissions. The current ETS alone is also insufficient to deliver the scale of emissions reductions needed to ensure the UK is in line with our 2020 and 2050 trajectories. In the UK we see the need for additional policy measures to complement the impacts of the EU ETS and to strengthen the signals within the UK, particularly to investors in low carbon electricity generation. For instance, as part of

⁹ UNEP Risoe CDM/JI Pipeline Analysis and Database, August 1st 2011.

the Electricity Market Reform White Paper, we set out our intentions for a carbon price floor (CPF) to provide a stronger carbon price signal to encourage investment in low-carbon electricity generation in the UK. The CPF will give a clear and credible early signal to investors on the trajectory of carbon prices, avoiding lock in of high-carbon technologies, which could prove expensive as the ETS cap gets tighter. We are also pursuing ambitious policies to drive emissions reductions in the non-traded sector, such as the Green Deal, which will encourage significant energy efficiency savings within the domestic sector.

43. The UK is not alone in pursuing wider decarbonisation policies beyond the EU ETS, with most major EU countries pursuing additional policies targeted beyond the ETS.

44. Given the efficiency of reductions under the EU ETS, we do of course consider the impact of any complementary policies on the incentives created by the ETS, and would not want to pursue a policy which actively undermined the effects of the ETS. Looking ahead we will be carefully considering the impact of the proposed Energy Efficiency Directive on the EU ETS. In many cases this directive has the potential to drive energy efficiency savings outside of the traded sector. Where there is overlap with the EU ETS, we will need to look carefully at the level of the ETS cap to ensure that the incentives of the ETS are preserved. Improved energy efficiency across the economy whether driven by the EU and/or Member State action will make achievement of an EU 30% reduction target easier and less costly. The cheapest energy is that which is not used.

Q9: How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

45. The EU ETS is supported by a system of electronic registries to issue, transfer, hold and cancel EU emissions allowances (EUAs). Currently each MS has a registry; all companies that participate in the ETS and all companies or persons wishing to trade EUAs and Kyoto Units (units assigned under the Kyoto Protocol) within the EU ETS must have an account in a registry which holds those EUAs and Kyoto Units. From 1st January 2012, the member state Registries functioning in relation to EUAs and will be moved to a single Union Registry, hosted by the European Commission, which will hold all EUAs and Kyoto Units.

46. The registry system has been subject to fraud to date. In September 2008 the carbon market fell victim to VAT carousel fraud in a similar way to other markets previously. The UK acted swiftly to address this, first zero rating carbon, before introducing a reverse charge mechanism, which means it is no longer possible to conduct carousel fraud in the UK carbon market. Many other member states have since taken similar steps and the UK has supported the European Commission in pressing those member states still to implement this mechanism to do so.

47. During 2010 and 2011 there were a number of cyber attacks on several Registries in various EU Member States (not including the UK). These attacks resulted in the alleged theft of approximately 4.3 million carbon allowances which were transferred out of operators' accounts into different accounts.

48. Fears about registry security and the subsequent uncertainty around ownership of allegedly stolen allowances had an impact on trading in the carbon market. Most notably, trading in spot allowances (i.e. for immediate delivery), which accounts for around 10% of the market, almost ceased. There was less practical impact on the futures market, the majority of which is based in London. However, market participants were naturally keen to see increased security across the registry system and clarity on transfer of title given the differing legal regimes across the EU.

49. Since the attacks, work has been underway to improve the security of the system, in which the UK has played a leading role. This included proposals to amend the existing Registries Regulations, and introduce yet tougher regulations for phase III of the ETS.

50. The EU's Climate Change Committee voted in June to adopt a regulation to enhance security of the EU ETS registries and therefore to promote confidence within the carbon market. UK lobbying ensured a much improved final regulation, with a better balance between security, certainty for market participants and the efficiency of the market.

51. Provisions in the new regulations, which we believe will strengthen security and confidence in the market include:

- improved clarity on issues of title in the registry system, which should give purchasers of EU emission allowances greater confidence;
- greater powers for registry administrators to freeze accounts or allowances e.g. where they suspect money laundering;
- provisions to impose a 24 hour delay to transactions, with exemptions possible in certain situations, to provide time for fraud to be detected; and
- a range of provisions which will improve security, including "two factor authentication"; double validation of all transactions; and better "know your customer checks".

52. The regulations will come into force in three stages between now and June 2012.

53. Later this year, we are also expecting Commission proposals on regulation and oversight of the carbon market. These will build on the security provisions already established in the registries regulation, as well as

looking more widely at lessons which can be learnt from other markets e.g. to mitigate the risks of market abuse, protect customers and improve transparency. The UK Government supports this further work on the risks facing the market and options for addressing them in a proportionate way, balancing the integrity of the market with openness and efficiency.

Q10: How can the EU ETS be strengthened to operate effectively in a world without legally binding emissions reduction obligations?

54. As discussed in the responses to questions 1 and 2, the EU ETS is already operating well in a world without legally binding emissions reductions. Given the element of learning by doing within the development of the system, there has been room for improvement and measures are being taken as part of the move to Phase III of the ETS to strengthen the ETS further. These revisions include a more ambitious cap, auctioning being used as the preferred means of allocation, free allocation according to benchmarks for sectors at risk of carbon leakage, reduced access to project credits, greater registry security, stronger MRV standards and also from 2012 the inclusion of aviation (as mentioned in response to question 1).

55. These changes will ensure that the EU ETS can deliver a greater level of environmental ambition. However, they also mean that: a) we can ensure a more level playing field for UK installations, by ensuring a more even implementation of the EU ETS across member states; and b) we will maintain the competitiveness of EU industry alongside this increase in environmental ambition, which is critical in the absence of an international agreement.

56. Over the longer term, the Government is committed to pushing for a greater degree of auctioning in the EU with a view to further improving the way in which allowances are allocated.

57. The Government is committed to pushing the EU to move to a 30% emissions reduction target in the EU (in 2020 relative to 1990 emissions), with a commitment to a tightening of the EU ETS cap to deliver this. We believe that this will put the EU and the UK on the right pathway to meet our longer term climate change goals, such as those legislated in the UK's Climate Change Act and the EU's commitment to limit climate change to 2°C and reduce EU emissions by at least 80% by 2050. A tighter EU ETS cap will increase the incentives to invest in low-carbon technologies. Given the provisions that exist within the Directive to manage the risk of carbon leakage, we believe that such a move is in our own economic interest even in the absence of an international agreement.

August 2011

Annex A

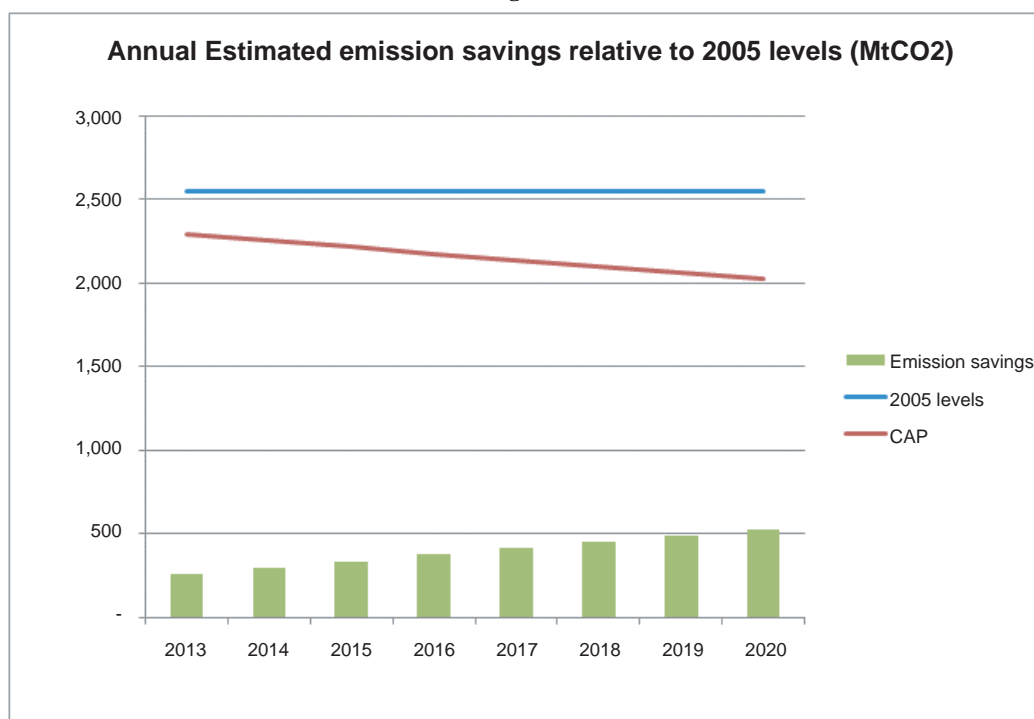
We have estimated the savings associated with the EU ETS in 2 ways

METHOD 1

We have looked at the cap level (and thus net EU emissions) relative to 2005 levels.

This is best shown by diagram 1.

Diagram 1



This approach is relatively easy to estimate. While using 2005 levels may seem a somewhat arbitrary point to estimate emission reductions, such an (historical) point is justifiable in that it is not effected by when the assessment is made (see below issues with method 2) and is in line with much of the legislative structures of the EU ETS, which regularly use 2005 as a baseline.

METHOD 2

Another way of estimating the savings of the EU ETS is to compare the “business as usual” (BAU) emissions with those of the cap.

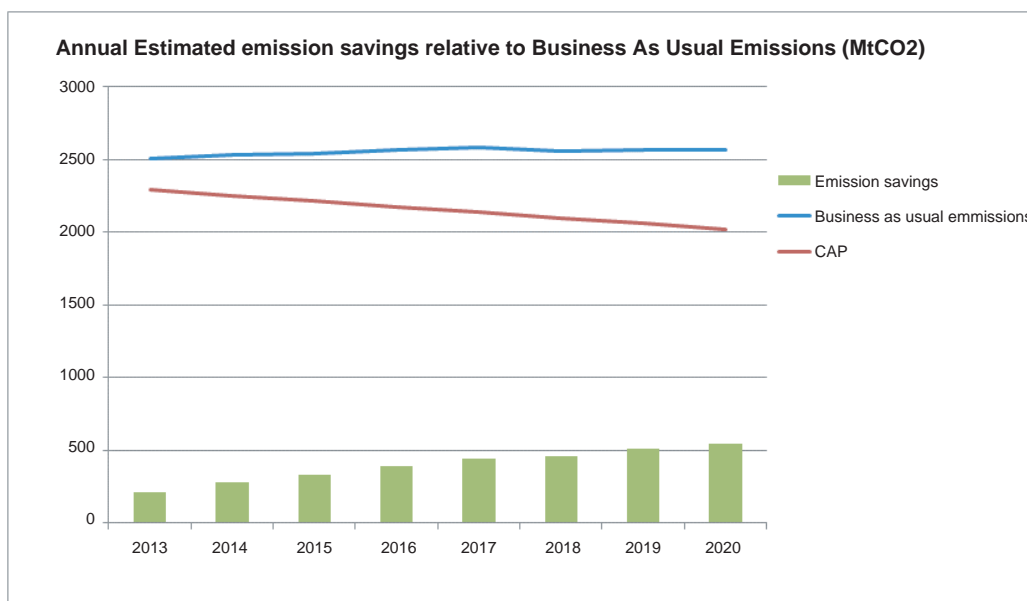
Such a method compares the cap level with the estimated emissions under a zero carbon price. This is illustrated by Diagram 2.¹⁰

There are however issues with this approach to estimation. These include:

- The order in which policies are considered will affect the savings associated with them. For instance, if one considers the renewable energy target before the EU ETS (as has been done for this analysis), then the savings of the EU ETS are substantially less. Alternatively if the EU ETS is considered first, no emission savings would be attributed to the renewable energy target.
- BAU will significantly change over time as fundamental drivers change; so the estimated BAU (and therefore emission savings) are significantly lower today than they were when the EU ETS cap was set, as a result of the recession significantly lowering the estimated level of emissions. Similarly changes in fossil fuel prices will cause BAU emissions to change. This approach to estimation, with emission savings falling and rising in line with changes in external drivers ignores the fact that the main purpose of the EU ETS is to limit emissions to a pre-determined level.

¹⁰ Forecast of emissions (without a carbon price) from Bloomberg New Energy Finance.

Diagram 2



Supplementary memorandum from the Department of Energy and Climate Change (ETS 01A)

Supplementary evidence provided by Gregory Barker MP, Minister of State, Department of Energy and Climate Change after oral evidence session.

During my appearance before your Committee on the EU Emissions Trading System on 25 October, I promised to write to clarify two issues that we touched on: the estimated Carbon Price Floor revenues and the proportion of allowances installations will receive for free in Phase III.

The Carbon Price Floor revenues are shown in the table below:¹¹

Year	2011–12	2012–13	2013–14	2014–15	2015–16
Exchequer Impact (£m)	0	0	740	1,070	1,410

Turning to the point regarding the proportion of allowances that installations will receive for free across Phase III (excluding aviation), our (unpublished) estimates show that across the EU, the level is on average c 42% free allocation. In the UK the level is on average c 40% free allocation. There is still uncertainty over these figures, notably as it is still uncertain what share of the New Entrants Reserve will go to UK installations and the definitive total volume of allowances to be auctioned. One reason that the UK will receive a smaller share than the EU average is because some Member States will be able to take advantage of a derogation under Article 10c of the revised EU ETS Directive whereby they can allocate, on a transitional basis, a proportion of allowances for free to their electricity generators in order to allow for their modernisation.

November 2011

Memorandum submitted by Barclays Capital (ETS 02)

Barclays Capital welcomes the opportunity to respond to the Committee's inquiry. As the investment banking division of Barclays Bank plc, Barclays Capital has been at the forefront of emissions trading since the inception of the European Union Emissions Trade Scheme (EU ETS), and has dedicated emissions trading desks in London and New York.

To date, we have traded over 6 billion tonnes of CO₂ and were the first market participants to both take delivery of physical CO₂ allowances under a spot market trade (2005) and to deliver CERs into an EU registry the day the link between the Community and the International Transaction Logs went live (2009).

In this response we address the main questions outlined in the Committee's call for evidence. Although we have kept our answers succinct we do include further detail in the two attached appendices.

¹¹ Page 29 Carbon Price Floor consultation: Government response:
http://www.hm-treasury.gov.uk/d/carbon_price_floor_consultation_govt_response.pdf

EXECUTIVE SUMMARY

- the EU ETS has taken concern about climate change from the corporate social responsibility area and moved it into the boardroom;
- it has fundamentally altered the behaviour of business across Europe, making climate considerations central to all future investment decisions;
- climate change is a global problem and the more widespread and consistent the pricing of carbon, the more efficiently emissions reduction will be made;
- the UK and EU should push for trading schemes rather than taxes, deep targets, and the absence of price-distorting measures in ETS design;
- as climate change is a global rather than local issue, any unilateral action on emissions is always going to be somewhat frustrated by the behaviour of others; and
- a regulator of the carbon market that is independent of policymaking bodies should be created to address the issue of fraudulent behaviour.

RESPONSES TO COMMITTEE'S SPECIFIC QUESTIONS

Does the EU ETS remain a viable instrument for climate change mitigation in the EU?

Yes. For companies with compliance obligations, the EU ETS has taken concern about climate change from the corporate social responsibility area and moved it into the boardroom. In doing so, it has fundamentally altered the behaviour of business across Europe, making climate considerations central to all future investment decisions. If anything, the EU ETS coverage should be expanded to cover more of the non-traded sectors—particularly household heating and transportation. Please see appendix 1 for the attached extract from our published research on the effectiveness of the EU ETS.

Can the EU ETS operate effectively in a world without legally-binding emissions reduction commitments and other cap-and-trade schemes?

Yes. The operation of the EU ETS is fully independent of the UNFCCC process and policy development in third countries. Even though policy development on climate around the world has been slow, it would be even slower without the example provided by the EU ETS.

What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?

The emissions reductions delivered by the EU ETS are entirely a function of the cap on emissions that is agreed. If it is deemed that the emissions reductions are not as high as some desire, or that supplementary policy will help meet the cap goals, that is a political failure to deepen the cap. It is not a failure of the working of the EU ETS, which has the sole purpose of delivering emissions in line with the cap. Emission reduction funded abroad will total 1.7 Gt from 2008–20, which is the quantitative limit of imports of CERs and ERUs. A deeper cap would have greater import levels and would fund more international emission reductions.

Could the environmental and economic efficiency of the EU ETS be improved by linking with other emissions trading schemes and how can this be achieved?

In theory, yes. Climate change is a global problem and the more widespread and consistent the pricing of carbon, the more efficiently emissions reductions will be made—as the pool of low cost abatement options to be realised widens.

The biggest practical barriers to direct linking are a lack of other emissions trading schemes around the world with which to link, rendering this discussion academic, and the inconsistency in the emission reduction ambitions of various schemes. If two schemes link with very different levels of ambition, the resulting price convergence and flow of allowances from low-priced to higher-priced areas would result in a substantial welfare transfer that is unlikely to be justified by the environmental benefit. If an ETS has effective price control measures, then linking could also lead to missing the environmental goals of the scheme without such price control.

What actions should the UK and EU be taking to promote the development of compatible ETSs internationally?

The UK and EU should push for trading schemes rather than taxes, deep targets, and a lack of price-distorting measures in the ETS design.

Could sectoral agreements form part of the future of the EU ETS?

If this question means “could the EU ETS link with a sectoral ETS in a developing country?”, the answer would be yes, subject to the caveats expressed in the answer to the previous question. If the sectoral target is efficiency-based rather than absolute, then equivalence of the environmental goals is harder to establish and increases the risk of over-allocation in the market. Such risks could be managed with quantitative limits on the

import. A sectoral scheme within the EU should be unthinkable, as any attempts to further regulate carbon emissions in currently non-traded sectors should be done through the expansion of the EU ETS.

Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?

The Kyoto Protocol mechanisms (the CDM and JI) are important as the only internationally-recognised offset standards. This does not mean they will be the only internationally-recognised offset standards in the future but it is clear that it is the standard with the greatest focus on ensuring the additionality of the emissions reductions. If offsets are not additional to what would have happened anyway, then using them under a binding cap only serves to frustrate the environmental integrity of the compliance system. Hence, any new offsets that are made eligible under the EU ETS need to be as stringent on the additionality criteria as that in the CDM.

Is the EU ETS a constraint on unilateral action to reduce emissions and, on the other hand, how are Member States' own policies affecting the operation of the trading system?

The EU ETS sets the EU's goal for emission reductions in the traded sectors. Any over-achievement of emissions reductions in the traded sector of one Member State will be able to be exported to the traded sectors of another Member States (ie. allowing higher emissions in other states).

To the extent isolated policy is driving higher emissions reductions in the traded sectors, then this should lower the carbon price against what it would be otherwise. The UK's own "carbon floor price" tax, to the extent it can encourage greater use of gas-fired generation in the UK, would soften the EUA price. In doing so, it allows higher emissions elsewhere.

As climate change is a global rather than local issue, any unilateral action on emissions is always going to be somewhat frustrated by the behaviour of others. This underlines the importance of the multinational framework on climate change provided by the UNFCCC.

How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

It has been very severe in damaging the EU ETS reputation for integrity, and has paralysed the effective operation of some parts of the market (the spot market). In terms of EUA theft and registry security, we feel this issue has largely been resolved although it is always possible for security breaches to occur even with very tight security protocols.

On a wider basis, we believe that the EU ETS is still open to other types of fraudulent behaviour, including money laundering, and believe that a root cause has been the ability for anyone to open up a registry account and trade EUAs. We have recommended to stakeholders including the EC that limits be imposed on the type of participants that have access to this market. Please see appendix 2 which reproduces a position paper Barclays Capital released following the discovery of the EUA theft incidents.

We also believe that a regulator of the carbon market that is independent of policymaking bodies is desirable. The model here would be the regulator of energy markets and in no instance should such a body be able to interfere in the price mechanism.

How can the EU ETS be strengthened to operate effectively in a world without legally binding emissions reduction obligations?

If we define "strengthen" as increasing the level of emission reductions delivered, then this only requires a deepening of the cap. In conjunction, a broadening of the coverage of the EU ETS, in particular to cover transport and household fuel use, would be desirable as this widens the pool of potential abatement opportunities.

August 2011

APPENDIX 1

THE EFFECTIVENESS OF THE EU ETS

The following is an extract from research published by Barclays Capital commodities research team in *Monthly Carbon Standard*, 1 July 2011.

THE EU ETS: IS IT WORKING?

Has the EU ETS been worth it?

With recent commentary even questioning whether the EU ETS has fostered the development of an effective secondary market in emissions allowances (we believe it has), a perennial question is: has the scheme been effective in actually reducing emissions? Certainly opponents of the ETS from both sides of the political spectrum like to answer no, while the proponents sometimes answer in the affirmative—with both sides often

employing arguments heavy on assertion and light on evidence. While this seems a fairly binomial proposition, the difficulty of actually quantifying the answer does make such answers complicated. The issues have to do with the difficulty of establishing the counter-factual (what would emissions have been without the EU ETS) and the time frame (over what period are we looking).

EXPERIENCE TO DATE

High level evidence is murky

The experience of the EU ETS in phase 2 is difficult to separate from the effect of the financial crisis in 2008 and the subsequent recession and slow recovery. We use 2008 as a base reference because the numbers only have half a year of recession in them and are a consistent reference point given the expansion of the scheme from 2007 to 2008.

The facts of the matter are stark, with the years 2009 and 2010 having:

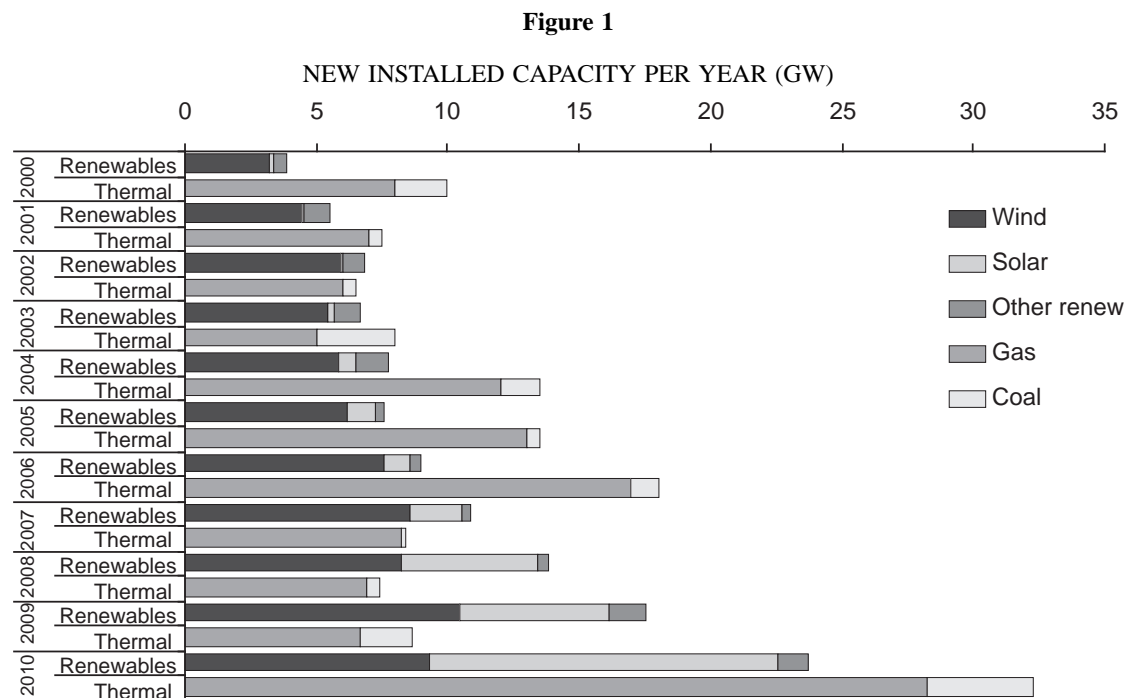
- Industrial emissions that averaged 15% below 2008 levels. This is against the background of industrial output falling an average of 12% in those two years against 2008 levels. Thus, emissions reductions did outpace the fall in industrial output, but this is fairly simple and superficial evidence as to whether current emissions reductions are driven by the economic climate or the EU ETS.
- Power sector emissions are about 8% lower in 2008, while power sector output was down 7% on the 2008 levels. Again, this shows emissions reductions moderately outpacing the reduction in output, which is weak evidence that the EU ETS has encouraged some emission reductions.
- Looking beyond these high-level statistics and focussing most here on the power sector, two key topics must be considered: long-term effects through the investment in low carbon technology and short-term abatement through fuel switching.

LONG-TERM EFFECTS: INVESTMENT PATTERNS

The EU power sector has benefited from considerable investment in lower carbon technology. From 2000 to 2010, the EU saw:

- A net increase in gas-fired power stations of 118 GW, versus a net decrease in coal-fired generation of 9.5 GW. While some new coal plants have been added (about 16 GW), the speed of retirements has exceeded those additions. We note that Germany is seeing a number of new coal plants come on line that will add 11 GW, but, true to trend, we expect some older coal capacity to be lost.
- The EU saw additions of 75 GW of wind, 29 GW of solar (mostly PV) and 8 GW of others (including hydro). The pattern of growth is such that the biggest additions have been in the second half of the decade: 2005–10 saw 73% of those additions come across all the renewable technologies, while 2009 and 2010 alone saw 36% of the additions.

To put these numbers into context, there is about 875 GW of power generation capacity in the EU including the renewable technologies.



Source: EWEA, EPIA, Barclays Capital

CCGT—the choice of a generation

The interest in gas in the last decade was driven by a number of factors, including:

- The capital cost and speed of construction advantages of combined cycle gas turbines (CCGT) compared with coal-fired plants. New entry costs made CCGT the choice of plant in most markets in the past decade and likely to continue into the current decade (see Figure 3 and Figure 4); and
- Expectations of future carbon liabilities. With fuel price relativities often favouring coal, particularly in areas in which gas remained priced to oil such as Germany, the threat of future carbon liabilities (price and volume) is essential in keeping the choice gas.
- What happened to the new coal renaissance?

In 2003, there was serious talk in Europe of a new coal renaissance driven by the effect that increasing oil prices were having on gas prices. In 2003–05, there was a raft of new coal projects, particularly in Germany, that were going to financing and construction. These German plants constitute the 11 GW of coal plant scheduled to commission by 2013. At the time, the German government was promising that new coal plants would continue to receive high levels of free allocation of EUAs out to 2020—a promise that the EC subsequently objected to and took the German government to court on and won, meaning that all German power and heat installations would be subject to 100% auctioning from 2013 onwards. The threat of high carbon liabilities for coal has certainly changed the decision regarding what is built.

Figure 2 shows the current status of the main German coal projects that have been announced but have yet to go to construction.

Figure 2

STATUS OF COAL-PROJECTS NOT YET IN CONSTRUCTION IN GERMANY

Project name	Capacity (MW)	Status
Staudinger	1,100	The most likely to proceed. Eon examining likely legal challenges. Project involves closure of older three units at site would keep capacity largely same but improve efficiency and emissions per unit of output.
Brundsbüttel	1,800	Project beset by withdrawals with Iberdrola, EBM, Romande Energy and Group E all pulling out. Looking for new partners although project originally announced in 2007.
Profen	660	No news since 2008 when project was looking for partners.
Various projects	5,050	Abandoned: Dorpen (900 MW); Griefswald (1600 MW); Stade (800 MW); Hurth (450 MW); Wilhelmshaven (500 MW); Kiel (800 MW)

<i>Project name</i>	<i>Capacity (MW)</i>	<i>Status</i>
Herne 5	750	Indefinitely postponed: Due to 100% auctioning of EUAs and rising equipment costs. Postponement announced in 2008.
Total	8,260	Total of projects either abandoned or likely to be abandoned

Source: Platts, Barclays Capital

Little new coal in Western Europe

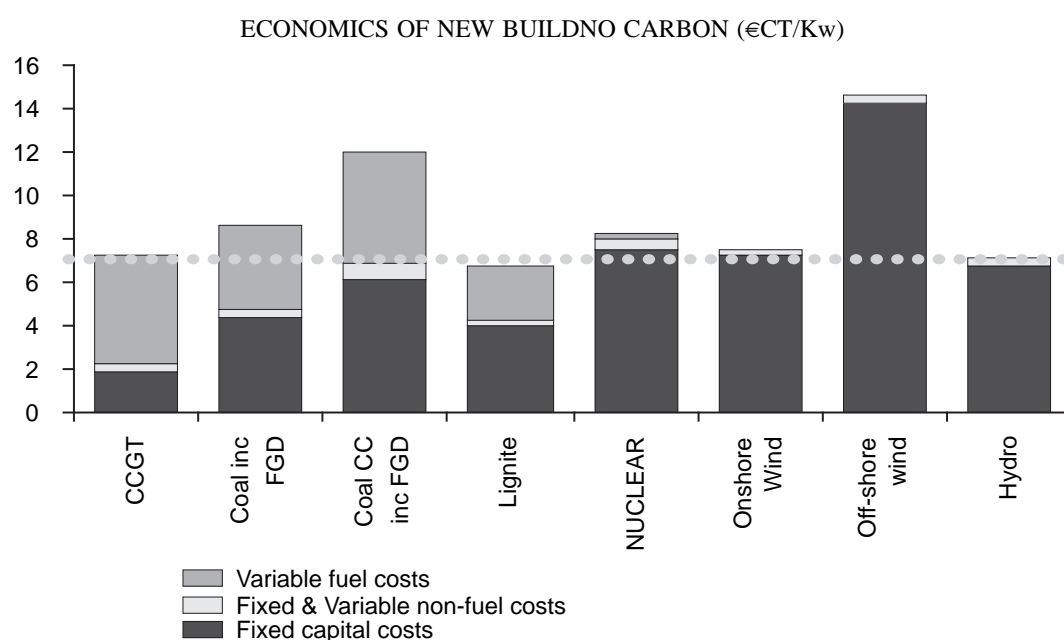
In Figure 2 we see that with the possible exception of Staudinger, there are no new coal projects in advanced development that could proceed to construction. By contrast, more than 8 GW of coal plant projects have been abandoned or appear likely to be abandoned. Widening this to Western Europe, only 3.4 GW of coal plant are in advanced development, and with Italy's Porte Tolle running into further permitting problems in June, even that looks ambitious. Comparing this with gas, there are something like 21 GW of CCGT under construction and some 31.5 GW in advanced development (source: Platts). So while the current new build ratio is about 60% CCGT/40% coal, we expect it to be more like 90%/10% once existing coal projects under construction are completed.

The lessons from the evolution of the preference for new build are that the EU ETS has:

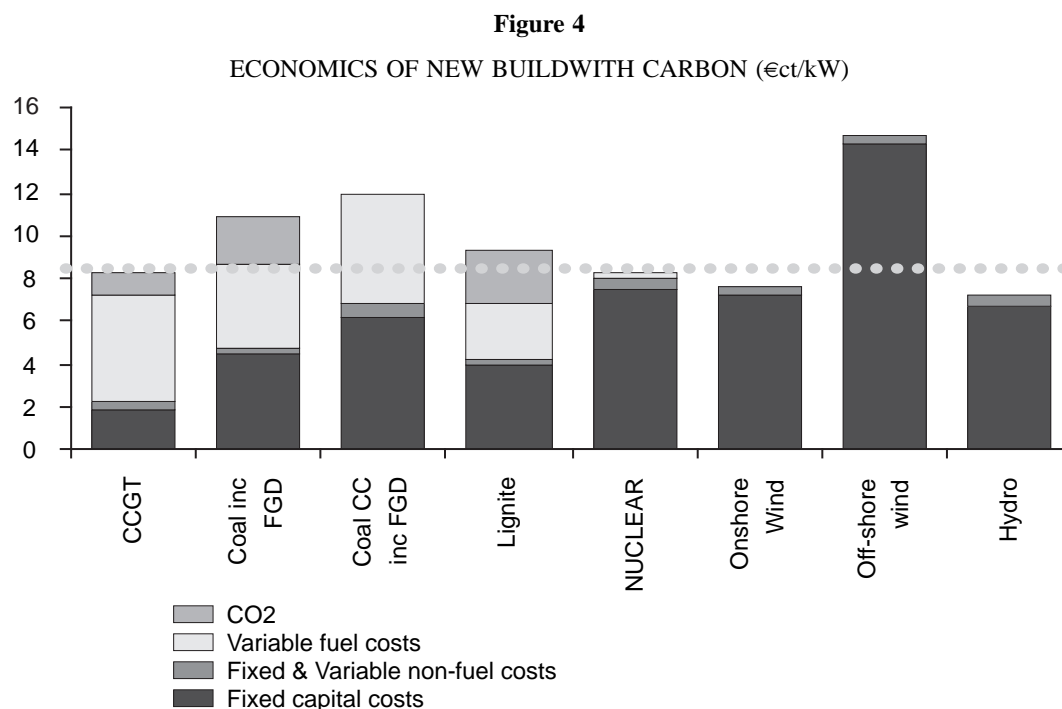
- Fundamentally altered the balance of new build in western Europe and has biased it further towards gas. While it was not the only factor pushing the choice of gas, the pricing of carbon has ended the brief renaissance of coal that seemed to be emerging in the first half of the past decade.
- Done this with current pricing at modest levels. The keys here are the following:
 - Current prices are irrelevant for long-lived investment decisions. What is important is the future promise of scarcity and the expectation that future potential liabilities require action to manage them today.
 - Move away from free allocation to 100% auctioning means that incentives went from being on the margin to being on the entire level of carbon emissions of plant.

These two factors changed the new build economics fundamentally, increased the potential risk of building new thermal plant significantly and are a strong argument in favour of the effectiveness of the emissions market in reducing emissions.

Figure 3



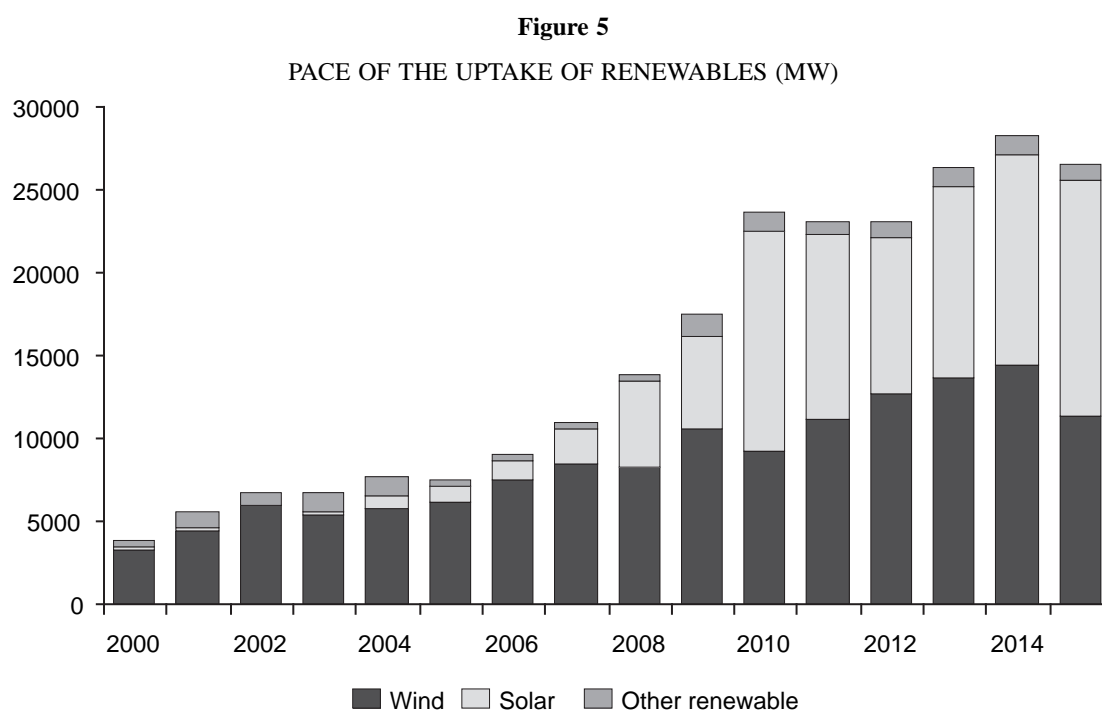
Source: Various industry sources, Barclays Capital



Note: Carbon at 30 €/t CO₂. Source: Various industry sources, Barclays Capital

Renewables—the other choice

The other trend seen has been that the speed of the uptake of renewables has quickened. Figure 5 shows how the uptake of renewables in Europe has accelerated since 2007, which corresponds to the move into the second phase of the EU ETS.



Note: Actuals to 2010. 2011 onwards are forecasts. Source: EWEA, EPIA, Barclays Capital

EU ETS role in the renewable story

The speed of the uptake of renewables is often separated from the effect of the EU ETS as the primary direct subsidisation policy is through feed-in tariffs (FiTs), which means renewable generation does not earn the wholesale power price. With the remuneration of renewables often being isolated from direct effects of the

EU ETS, one argument is that it has not played any role in driving the faster uptake of renewables in the second half of the decade. Instead, the recent increased pace of investment in renewables is explained by the increased commercialisation of the technologies. While there is some truth to these claims, such conclusions do mask the fundamental changes in renewables investment.

In 2000, investing in renewables was still the preserve of smaller companies, largely dominated by boutique wind project developers. Project pipelines are now being dominated by the big utilities with more money to spend. The developments that have driven this are:

- A growing preference for larger projects, particularly with a growing role for off-shore wind, to dominate. The utilities tend to like the bigger capital projects, and off-shore wind makes most sense on a bigger scale. Offshore wind farms are growing in size, with early farms often being less than 100 MW, but most of the project pipeline being 500 MW and above. Part of this scaling up of project size is a tendency for bigger turbines (a technological leap), and the European utilities have been at the forefront of working to surmount some of the technical and logistical difficulties of these larger turbines. For instance, RWE specially commissioned two offshore installation vessels that are to be trialled next month. These vessels will be the first of their type to be able to transport up to four multi-MW offshore wind turbines and erect them in water depths of more than 40 meters. The reported (offshorewind.biz) contract value for each of these platforms is about €100mn. Such financial depth is only likely to be found in the utilities.
- The big utilities now have significant future carbon liabilities, and the importance for these companies in finding ways to manage this risk, by lowering the carbon intensity of their fuel mix, should not be underestimated. A good case study of this is the “Forewind” project that looks to build a 9–13 GW offshore wind farm in the UK (Dogger bank). The Forewind consortium consists of four utilities: RWE, SSE, Statkraft and Statoil. At a conference for investors in which RWE presented the technical and logistical obstacles it was surmounting in developing the project, RWE made clear its motivation for undertaking this project. The message it gave was unequivocal—FiT, while helping with the project economics, was not the reason for doing this investment. The reason for doing this was to reduce the carbon intensity of its generation to manage its future liabilities under the EU ETS. The CO₂ reduced from this wind farm alone would be something like 12 Mt per year.

Scaling up of renewable projects due largely to EU ETS

As such, one of the driving factors in the changing face of renewable project development, and the consequent scaling up of the uptake of renewable generation in Europe, is the EU ETS. Even a cursory look at the investment strategies of European utilities shows the importance these participants place on managing carbon exposures under the EU ETS in their future investment strategies.

FUEL SWITCHING

Has fuel switching happened in phase 2?

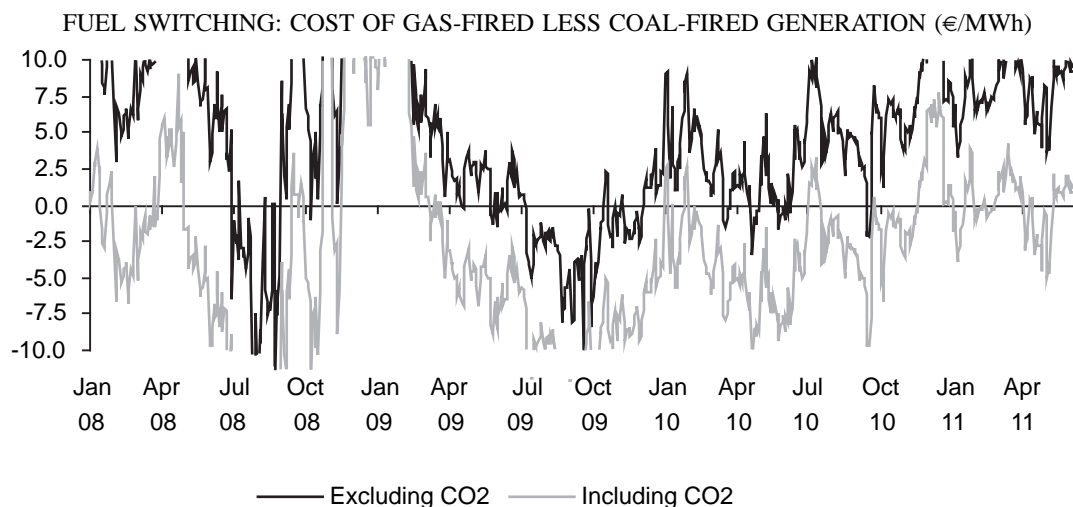
Another area in which the EU ETS was meant to encourage emissions reductions was in promoting short-term abatement in the power sector through incentivising greater use of gas plant at the expense of coal plant (fuel switching). The main issue with looking at its effectiveness in encouraging abatement from fuel switching is that, given the reduction in emissions caused by recent European economic performance, the market does not require short-term abatement to balance. As such, the relative movement of gas and coal prices has been largely irrelevant for carbon pricing over the past couple of years (an average correlation of 39% over phase 2). EUAs are largely pricing as an option on future emissions and will do so until the market gets tighter and needs short-term abatement to balance.

Given this, and before even looking at the data, we expect the EU ETS would, to date, have driven little short-term abatement. Figure 6 shows the cost of generating gas against the cost of generating coal for fuel switching in the middle of the merit order (gas plant at 50% efficiency against coal at 34%). When the line is above the x-axis, it means gas is more expensive to generate with, while negative numbers mean coal is more expensive.

Evidence of short-term abatement

What we found was that from January 2008 to June 2011, the number of days in which the series excluding carbon costs was positive (gas out of merit) and the series including carbon was negative (gas in merit) was 51%. That is, for more than half of phase 2, the CO₂ price would have been sufficient on its own to generate some short-term abatement in the power sector—even in an environment in which the CO₂ price did not have to price itself to generate that abatement.

Figure 6



Note: Uses 50% efficient gas, 34% efficient coal. Source: Ecwin, Barclays Capital

With regards to the absolute level of abatement this has generated, we estimate this to be about 10 Mt of carbon per year. The reason this level of abatement is relatively limited (power and heat emissions across the EU ETS at about 1.37 Gt) is that:

- The analysis uses UK gas prices, and throughout the period in question, UK gas has had a considerable discount to the oil-indexed prices on the continent (45% lower in 2009 and 18% lower in 2010). Using oil-indexed prices over the period would lead to almost no fuel-switching gains, which highlights an important but often lost point: namely, one of the biggest barriers to emissions reductions in European power is not the prevailing carbon price but the lack of gas price liberalisation that keeps prices in that market related to oil. Unfortunately, with LNG markets also pricing largely on oil index, global gas market liberalisation is likely to be necessary to fundamentally break the link between oil and gas prices.
- The fuel-switching is largely on the marginal plant as the most efficient gas plants would still be in the money regardless of the carbon price. The number of days the least efficient plant would be switched on just due to the carbon price is more limited, while issues such as transmission constraints and demand levels means the effect of fuel-switching is always constrained.

SUMMARY

The lessons to draw from this discussion are:

- The EU ETS has ushered in a fundamental change in compliance participants' behaviour. The change in how utilities invest in generation plant has been altered fundamentally and has ushered in a scaling up of investment in renewables that would not have been driven by feed-in-tariffs alone. Because no utilities, particularly in Western Europe, will want to build new coal plant given the potential future liabilities in carbon this allows, the remaining investment options are cleaner gas-fired generation and renewables.
- While actual short-term abatement appears limited, this is due to factors outside of the markets' remit. Namely, European economic performance has been weak, helping reduce emissions well below the cap, and the lack of spot gas markets has meant that fuel switching gains have only happened predominantly in the UK.

So, despite the recent volatility in carbon prices that has led to much wringing of hands in anguish, future scarcity is being driven by the 1.74% reduction factor that implies the following reduction targets on 1990 levels: 25% by 2023; 30% by 2026; and 37% by 2030. Without sufficient investment this decade, such targets will be impossible to meet, and all evidence suggests that the investment decisions of the utilities are being driven by this reality. Given this, the EU ETS has most assuredly been working to drive future emissions levels downwards.

APPENDIX 2

REMOVING CRIMINALITY IN THE EU ETS

The following is a position paper released by Barclays Capital on 2 February 2011.

€5 BILLION AND COUNTING

Removing criminality from the carbon market

- over €5 billion of VAT fraud;¹²
- over €45 million of EUAs stolen from registry accounts;¹³
- suspension of registries and cessation of spot market trading;
- arrests of over 100 people in connection with criminal activity;¹⁴
- door left open to criminal activity including further theft, VAT fraud and money laundering;
- enhanced IT registry security will improve matters but it does not solve most of the problems; and
- the time has come to fix the problem. Access to the market by criminals needs to be stopped.

Confidence in the EU ETS has hit new lows at the beginning of 2011 following the latest fraud to affect the market involving theft of EUAs. The carbon market is now in danger of seeing irreversible damage and a slide into disorder as confidence in the regulatory framework evaporates. The headline problems of the market, while making grim reading, are to do with implementation rather than the basic principles of the market. Indeed, despite the large amount of criminal activity, the environmental integrity of this market remains intact and it is the importance of this market in reducing the emissions of greenhouse gases that makes it worth fixing.

- The heart of all of the problems affecting the carbon market is that criminal elements have access to the market. Anyone wanting to engage in criminal activity can open up an account in a registry, take delivery of EUAs, transfer them on and receive payment. This facilitates VAT fraud, out and out theft, and leaves the door open to problems such as money laundering.
- While better IT registry security will help guard against theft, it likely will not fully stop it, and it is not an answer to the problem of VAT fraud (that had an inconsistent solution of changing VAT rules—to date only selected countries have changed VAT rules) or money laundering. Theft could still occur, either by more sophisticated hacking or through inside knowledge of passwords and security protocols. VAT fraud is still occurring in countries that have not modified VAT rules and money laundering can still occur anywhere.
- The upshot of these problems is that legitimate firms with a genuine intermediation and liquidity provision role to play in the market are now looking at a carbon market so full of potential risk that future participation is a real question. The risks come from unwittingly abetting criminal activity (such as by taking possession of stolen property) and facing both monetary loss and/or legal sanctions.
- The solution to all of these problems is that criminal elements must be denied access to the market and this can be done most practically by **restricting access to the registry accounts to those companies with installations with compliance obligations under the EU ETS, their affiliates, and MIFID regulated firms**. At the start of the EU ETS, access to registry accounts in different Member States was characterised by ease of access. The ease of access was a policy choice that was presumably taken on the basis that wide access to the market would facilitate deeper, more liquid markets that would be more efficient. The issue now is that the criminal activity that this has opened the door to is driving out the legitimate liquidity providers. As such, this unintended impact of the policy has the ability to undermine liquidity provision as bona fide liquidity providers leave, being deterred from participation by the criminal element.
- We acknowledge that restricting access to registries to compliance entities, their affiliates and MIFID regulated firms may mean some bona fide firms will no longer be able to participate in the physical markets. However such participants would still be able to participate in financially settled contracts and would still have access to the physical market through MIFID regulated intermediaries.
- Failure to restrict access will mean that participation in the market will wane and liquidity will reduce at the real expense of the market. With over €5 billion lost already it is clear to us that the economic cost of maintaining unfettered market access far outweighs the economic benefit. Failure to introduce proper controls on carbon market access will lead to bad liquidity pushing out the good.

¹² Source: Interpol. <http://www.europol.europa.eu/index.asp?page=news&news=pr101228.htm>

¹³ Source: Thompson Reuters Point Carbon <http://www.pointcarbon.com/news/1.1501159>

¹⁴ Source: Thompson Reuters Point Carbon <http://www.pointcarbon.com/1.1495037>

- A more over-arching solution is to bring financial regulation to bear on the spot market. Almost all of the criminal activity to date has occurred in the spot market which is attractive to criminals as it is unregulated, involves an immediate transaction (so minimises the chance for detection prior to the transaction being complete) and does not involve requirements for credit and balance sheet disclosure, which most fraudulent traders cannot provide. However bringing to bear full financial regulation on the market is more difficult to implement, will take considerably more time, and possibly has more unintended consequences than the restricted registry access alternative.
- One final issue that will still need to be solved is the handling of stolen EUAs. Whilst physical commodity markets are susceptible to theft (eg theft of oil or gold bullion), EUAs only exist in registries and have unique identifiers in the serial numbers. Given that any stolen EUAs can then be tracked as they move around the registries, this means that stolen EUAs will be identified. The handling of stolen property, and who gets to keep the affected EUAs is legally unclear, creating prohibitive risk to anyone trading physically settled EUAs. An EU wide approach of extending buyer protection laws to transactions in EUAs could help resolve the issue.

We firmly believe that we need to see the EC begin the implementation of restricting access to the carbon market to save its integrity. Failure to do so will continue to leave the door open for criminal behaviour to further damage the reputation and confidence in the market. The existing registry closures present a unique opportunity for the EC to take the problem in hand.

Figure 7

EU ETS EVENTS—EXPLANATION AND SCALE OF THE PROBLEM

<i>Event</i>	<i>Discussion</i>	<i>Scale of problem</i>
VAT (Carousel) Fraud	VAT fraud is the theft of Value Added Tax (VAT) from a government by persons exploiting the way VAT is treated where the movement of goods between jurisdictions is VAT-free. This allows the persons to buy the good tax free—in this case EUAs—charge VAT on the sale of goods, and then instead of paying this over to the government's collection authority, simply abscond, taking the VAT with them. The term “missing trader” refers to the fact that the trader goes missing with the VAT, “carousel” refers to the way that the fraud sees VAT and goods passed around companies and jurisdictions, similar to how a carousel travels round.	Value of the fraud has been put by Interpol at €5 billion in lost tax receipts (implies over 2 billion tons of carbon traded on such fraud) and individuals were arrested in a number of EC countries including Norway, Spain and the UK. Probably on-going as in 2010 VAT fraud in Italy became apparent in large volumes.
EUA Theft	The theft of EUAs in the EU ETS has been done through a combination of hacking and phishing attacks on registries and accounts. Once the criminal has access to an account, it can transfer EUAs from it to an account it has set up. From there, it quickly sells the EUAs into the market and then transfers these stolen EUAs to an unwitting buyer before the theft is realised.	An estimated 250 k (€3 million) EUAs were stolen out of nine accounts (out of 2000 accounts) in Germany through this fraud in early 2010. In early 2011, over 3.6 million EUAs taken from the registries of Austria, the Czech Republic, Greece, and Romania.

Source: Barclays Capital.

Memorandum submitted by Carbon Trade Watch, Corporate Europe Observatory and The Corner House (ETS 13)

1. Carbon Trade Watch, Corporate Europe Observatory and The Corner House welcome the Energy and Climate Change Committee's present enquiry into the EU Emissions Trading System (EU ETS).¹ We are grateful for the opportunity to comment on the following issues in the Committee's remit:

- Does the EU ETS remain a viable instrument for climate change mitigation in the EU?
- What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?
- Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?
- How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

EXECUTIVE SUMMARY

2. The EU ETS is not a viable instrument for climate change mitigation and should be scrapped. In support of this conclusion, this submission argues that:

3. The EU ETS has failed to reduce emissions. Polluters have consistently received generous allocations of permits to pollute, meaning they have no obligation to cut their CO₂ emissions.

4. Carbon offsets increase the “cap” on pollution within the ETS. Their inclusion within the ETS has weakened already weak emissions targets, delaying domestic action in the EU. Carbon offsets—mostly generated through the Clean Development Mechanism—have been generated by a series of socially unjust and environmentally harmful projects in the global South.

5. The ETS is a subsidy scheme for polluters. Power companies gained windfall profits estimated at €19 billion in Phase I, and look set to rake in up to €71 billion in Phase II. Subsidies to energy-intensive industry through the two Phases could amount to a further €20 billion. This has mostly resulted in higher shareholder dividends, with very little of the windfall invested in transformational energy infrastructure.

6. Phase III of the ETS will still see significant subsidies paid to industry, despite the auctioning of permits in the power sector. The benchmarking exercise set the bar so low that over three-quarters of manufacturing receiving free permits, which could result in at least €7 billion in annual windfall profits. An ongoing review of EU “state aid” rules in relation to the ETS could exacerbate this problem. In addition, the use of carbon market auction revenues for Carbon Capture and Storage (CCS) projects further delays the transition away from fossil fuels.

7. New market mechanisms (eg. sectoral or NAMA crediting, or sectoral trading) are not a solution to the problems of international offsets, but risk “scaling up” many of the failings of the Clean Development Mechanism (CDM).

8. The European Commission took a deliberately “laissez-faire” approach to regulating carbon trading at the outset. Recent fraud cases have made this position untenable, but rule changes for registries do not address the fundamental problems of attempting to trade an unstable, invented carbon commodity.

Does the EU ETS remain a viable instrument for climate change mitigation in the EU?

9. The EU Emissions Trading System (ETS) has consistently failed as an instrument of climate change mitigation. The first phase, which ran from 2005 to 2007, saw too many permits handed out—with an overall surplus of 267 MtCO₂e (Megatonnes Carbon Dioxide Equivalent, the internationally recognised measure of greenhouse gas emissions), or about 4% of the total emissions covered by the scheme. In other words, the “cap” did not cap anything and the price collapsed. The European Commission claimed that the second phase, from 2008 to 2012, would usher in genuine reductions, and has stated that a lower level of recorded emissions in ETS sectors in 2008 and 2009 showed the scheme was working.² Emissions from installations covered by the scheme fell by 11.6% in 2009 (a drop of 246 MtCO₂e), having fallen by around 5% in 2008.³ But this needs to be set against falls in production of electricity and industrial goods of 13.85% in 2009 as a result of the recession.⁴ Less production results in fewer emissions—which can hardly be claimed as the results of a successful policy. In fact, the allocation of ETS permits in 2009 was 159.5 MtCO₂e higher than the actual level of emissions, roughly equivalent to the annual emissions of Spain.

10. Figures for 2010 show that emissions rose by over 3.5% in 2010, compared to 2009 levels. The allocation of permits under the scheme was 3.2% (57.4 MtCO₂e) higher than the actual emissions measured from installations covered by it.⁵ In other words, the cap was ineffective yet again. The large surpluses of permits already circulating within the scheme make it possible for such increases to continue without significant costs to the industries covered.

11. The caps were set too generously, principally as a result of corporate lobbying. This is a systemic risk with carbon markets, with political decisions affecting the supply and demand of allowances playing a central role in price-setting.⁶ The problem with emissions trading is not simply one of cap setting, however. The “flexibility” offered by the ETS means that—even if it were to work as planned—the likely effect is that it would encourage quick fixes to patch up outmoded power stations and factories, “locking in” and delaying more fundamental changes.⁷ What is cheap in the short-term does not necessarily translate to an environmentally effective or socially just outcome over the long-term.

12. The failings of the first two phases of the ETS were compounded by an “offsets gap”. The 2004 Linking Directive allows companies covered by the ETS to hand in “offset” credits generated by “emissions-saving projects” implemented mostly in developing countries in the South. They are mainly generated through the CDM, which issues credits called Certified Emissions Reductions (CERs).⁸ In the second Phase of the ETS, the number of offsets allowed is higher than the reductions required.⁹ The precise limit varies between states, with the UK at the lower end of the spectrum (8% of emissions) rising to 21% in Spain and 22% in Germany.¹⁰ EU rules allow any surplus from Phase II to be carried forward to Phase III—in effect, merging the limit on offsets from the two Phases.¹¹ In total, companies will be able to use 1.6 billion in offset credits.¹² A UK Environment Agency projection suggests that on the basis of existing practice over 1.2 billion of these credits could be “banked” for use in Phase III.¹³ This would once more reduce the obligation on companies covered by the scheme to take action to curb their own pollution at source.

13. The negative social and environmental impacts of carbon offsetting have been widely documented.¹⁴ Projects often result in land grabs, local environmental and social conflicts, as well as the repression of local communities and movements. For example, it is notable the CDM approval process for projects allows little space for the voices of Indigenous Peoples and local communities—and no project has ever been rejected on the grounds of rights violations.

What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?

14. The stated aim of Phase III of the ETS is to achieve a 20% reduction in greenhouse gases across the 27-state bloc by 2020 compared to 1990 levels.¹⁵ This goal falls a long way short of what climate science suggests is needed to avoid dangerous climate change. By contrast, the EU's disproportionate historical and current responsibility for contributing to climate change means that it should be taking a lead in reducing emissions domestically.

15. The problem of an unambitious cap is likely to be compounded by a large surplus of “banked” permits from Phase II. The Phase III cap for industrial sectors covered by the ETS has been set at 21% compared to 2005 levels, with decreases calculated at 1.74% a year (around 35 MtCO₂e). However, according to World Bank estimates the second Phase of the scheme could end with an overall surplus of 1,280 MtCO₂e, which could be carried over (“banked”) for use from 2013 onwards.¹⁶ This would account for almost 40% of the “reduction” target that the EU claims will be required of power companies and industries covered by the ETS in Phase III of the scheme. These figures are swelled by the use of offset credits. The Phase II surpluses alone could allow the scheme to continue without any domestic emissions reductions until at least 2017.¹⁷

16. Phase III will also see the continuation of polluter subsidies, despite the increased use of power sector auctioning. Energy companies successfully lobbied for an estimated €4.8 billion in subsidies for Carbon Capture and Storage (CCS), with a smaller amount for “clean” energy that includes agrofuels.¹⁸ The Commission’s review of “state aid” rules could further see the granting of direct financial subsidies to companies claiming that the ETS damages their competitiveness.

17. The allocation of permits according to performance “benchmarks” in Phase III was supposed to encourage a fairer and more efficient division of responsibility for emissions reductions in energy-intensive sectors such as cement, steel, paper and glass. But industry has been allowed to influence the benchmarking. For example, CEMBUREAU (the cement industry lobby) was instrumental in choosing what to measure (“clinker” not cement) and how to measure it. The final agreement saw the adoption of a lax standard that was significantly shaped by Cembureau. This will result in a surplus of pollution permits for the cement sector, allocated in a way that rewards the continued use of dirty and outdated production methods.¹⁹

Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?

18. New sectoral carbon markets are presented as a means to “move beyond” the CDM and “scale up” mitigation actions in the global South. However, increasing the size of carbon markets is not the same as reducing emissions. The evidence of the CDM to date suggests that offsetting increases rather than reduces greenhouse gas emissions. New sectoral mechanisms risk “scaling up” these failings.

19. The introduction of new markets in the context of a declining global trade carbon throws this into sharp focus. If new mechanisms start delivering significant quantities of credits in a market with limited demand for them, the price of carbon would likely collapse. As of August 2011, benchmark CDM prices are close to an all time low of €7/tonne—reflecting a lack of demand.²⁰ Introducing new markets in a context of unambitious climate action by industrialised (Annex I) countries is likely to undermine climate change mitigation efforts, while a reliance on them could weaken flows of climate finance. Instead of seeking alternative sources of credits, international efforts would be better expended seeking alternatives to carbon trading as the centrepiece of climate change mitigation policy.

How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

20. Since the start of the Emissions Trading System (ETS), the EU has taken a lenient approach to regulation, with no specific financial regulations for how carbon was traded.²¹ The rationale behind this light touch was to encourage the growth of the market at all costs. With the ETS failing to achieve emissions reductions, the EU fell back on claims that it had “successfully established the free trading of emission allowances across the EU, set up the necessary infrastructure... developed into the world’s largest single carbon market.”²²

21. The recent fraud cases—from VAT carousel fraud to internet phishing attacks—have made this position increasingly untenable. VAT rule changes and a new regulation on carbon registries were intended to address this. The new rules are ambiguous and inadequate, however, with measures on the non-disclosure of allowances on serial numbers further reducing transparency.

22. Even if regulation were to contain the wilder excesses of the carbon market, they do little to solve the structural problems built faced by the trading system. It will continue to be prone to arbitrary volatility because the underlying asset is fundamentally unstable: there is no clearly identifiable commodity being traded, but merely an assemblage of incommensurable activities re-packaged to form a tradeable commodity.²³ Moreover, the supply of carbon is “uniquely at the mercy of the political pen—where it was conceived”, since the act of allocating permits (or determining quantities available for auctioning) is the result of a political decision, rather than something that is indexed to a real-world product. The combination of this factor with the difficulty of identifying clear price drivers makes for arbitrary volatility.²⁴

23. The political determinants on supply make the carbon market is particularly prone to lobbying and government influence, since lobbying effects not simply the rules governing how the market operates but also the supply of permits and credits. In the case of offsets, governments are both suppliers and users of credits, contributing to significant conflicts of interest.²⁵

24. More generally, carbon markets are particularly prone to fraud and gaming because they create a large trade in intangible and hard-to-measure assets.²⁶ Once created, moreover, these reductions are simply paper permissions slip that can quickly change hands. In this sense, emissions trading “streamlines the fraudster’s profession”—a matted that went unconsidered when the market was set up.²⁷ A greater willingness to regulate away speculative excess (eg. through capital limits and position limits) is badly needed, but this is no substitute for re-considering the EU’s continued support for carbon markets in the first place.

CONCLUSION

25. Some proponents of the ETS suggest that the main flaws are rules that have been designed inadequately or have been badly applied, and could be reformed. We suggest that the failings are of a structural nature. The ETS is a market in a commodity that has been created by legislative fiat. The European Commission is both the supplier and the regulator of carbon as a commodity, a situation which has made the ETS particularly susceptible to rent-seeking behaviour. This should come as no surprise, since the history of emissions trading is littered with evidence that it helps companies and governments to pre-empt and delay making the structural changes necessary to address climate change.²⁸

26. Emissions trading was proposed as a “flexible” system to help power producers and industry make the cheapest emissions reductions first, but short-term cost is not the same as environmental effectiveness. The cheapest allowances tend to look for loopholes, with the complexity of forging a single carbon commodity from several incommensurable process tending to provide numerous such opportunities. If the system worked as “planned” (and it is far from doing so), the price incentives offered by emissions trading would still only shift finance towards the deployment of existing technologies, “locking in” a reliance on fossil fuel based technologies rather than stimulating a transformation towards more sustainable development paths.²⁹ In setting up a system of property rights for continued pollution, the ETS transposes environmental objectives into the kind of cost-benefit trade-offs that led to the problem of climate change in the first place.

August 2011

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Memorandum submitted by CAFOD (ETS 22)

A GLOBAL AND EQUITABLE MECHANISM FOR CARBON PRICING OF INTERNATIONAL MARITIME TRANSPORT IS A KEY BUILDING BLOCK TO AN EFFECTIVE EU CLIMATE POLICY

EXECUTIVE SUMMARY

1. **This submission focuses on international maritime transport and aviation** (sectoral agreements). Unless the rapidly-growing emissions from these global sectors are addressed, the goals and effectiveness of EU climate policy will be seriously undermined.

2. **Global carbon pricing of international shipping emissions is needed to achieve this mitigation objective.** Technical measures recently adopted by the International Maritime Organization (IMO) would achieve an emissions reduction of just 1% below BAU by 2020. Carbon pricing would expand the market-based approach pioneered by the EU ETS. It could also contribute \$10–15 billion per year to finance climate action in developing countries.

3. **Ensuring no net incidence (NNI) or costs on developing countries is crucial to reconcile a global maritime scheme with the UNFCCC principle of “common but differentiated responsibilities and respective capabilities” (CBDRRC).** The UK and the EU should also be supportive of compensating poorer

countries that would be most affected by carbon pricing of shipping emissions. CBDRRRC and any impacts on poor countries could be addressed through a Rebate Mechanism (RM), such as is currently under consideration at the IMO. The RM would ensure NNI on developing countries and would also provide flexibility for wealthier developing countries to forego their rebates voluntarily, in whole or part.

4. Raising long-term climate finance from pricing shipping emissions is fair, affordable and necessary. Fair, as all developed countries would pay, with the EU and UK contributing 28.5% and 4% of the total revenues respectively. Affordable, given the minimal potential increase it would entail on prices of imported goods (under 0.2% on average). Necessary, as mobilizing the predictable, stable, new and additional sources of climate finance required under the Cancun Agreements, with developed countries meeting their goal of providing \$100 billion annually by 2020, requires a range of sources of new financing.

5. Establishing a global maritime carbon price could constitute a helpful precedent for action in the aviation sector. Concerns raised by developing countries about current EU plans to include international aviation in the ETS are that they do not address concerns about CBDRRRC and there is no proposal to channel revenues towards financing action on climate change.

6. Conclusion: A global and equitable mechanism for carbon pricing of international maritime transport is feasible. Agreement on such a mechanism should be pursued actively by the UK and the EU. Such a mechanism would significantly reduce emissions from this sector, while ensuring no net incidence on developing countries. It could also raise substantial finance to help poorer countries adapt to climate change and build low carbon development. As such, it would constitute real progress towards a functioning global climate regime. The UK should champion such an approach through coordinated action with its EU partners and at the G20, with the aim of reaching agreement at the UNFCCC Summit in Durban, in December 2011.

1. INTRODUCTION: FOCUS ON INTERNATIONAL MARITIME TRANSPORT AND AVIATION

1.1 CAFOD welcomes the opportunity to submit the following evidence to the UK House of Commons Energy and Climate Change Committee Inquiry on the EU Emission Trading System.

1.2 CAFOD is the official relief and development agency of the Catholic Church in England and Wales. We work with partners in more than 40 countries across the world supporting poor communities. CAFOD prioritises partnerships with local church organisations but works with people of all faiths or none.

1.3 CAFOD has been campaigning for several years for a fair, ambitious and global deal to cut carbon emissions and for sufficient resources to be mobilized to support countries suffering climate change impacts. Our partners are working with vulnerable communities at the frontline of climate change, for instance in Kenya and Bangladesh.

1.4 From August to December 2011, we are calling for the UK government to commit to providing its fair share of long-term climate finance and, working with its EU partners, to proactively seek agreement on the mobilization of new sources of climate finance and on establishment of the new Green Climate Fund at the next UNFCCC Summit in Durban (see: <http://www.cafod.org.uk/dontdroptheball>).

1.5 We commend the EU's pioneering work in developing the ETS, while acknowledging that its current emissions reduction targets are weak and need strengthening.

1.6 However, it is CAFOD's view that without global coverage of the rapidly growing emissions from international maritime transport and aviation (i.e. coverage extending well beyond the current EU ETS), the goals and effectiveness of EU climate policy will be seriously undermined. The greenhouse gas emissions from these two inherently international sectors are significant and growing and therefore require coordinated global approaches. This has been widely recognized, including by the UK House of Commons Environmental Audit Committee.¹⁵

1.7 Carbon pricing, also referred to as a market-based measure (MBM), would achieve this objective and would complement any technical and operational measures aimed at reducing emissions from these sectors. The latter alone are insufficient to achieve the desired objective. Any MBM should ensure that there is no net incidence (NNI) or costs incurred by developing countries, in line with the UNFCCC principle of "common but differentiated responsibilities and respective capabilities" (CBDRRRC).

1.8 A significant portion of the revenues generated by such an MBM could be used for climate financing, contributing to the promise by developed countries, including the UK, to raise \$100 billion annually to support developing countries by 2020. The proposed approach addresses these two issues at the same time.

¹⁵ In 2009, the Committee, in its report *Reducing CO2 and other emissions from shipping* (fourth report of Session 2008–09), concluded: "The emission of greenhouse gases from shipping is a serious problem for international climate change policy [...] The Kyoto Protocol handed developed economies the responsibility of working to curb emissions from shipping through the International Maritime Organization (IMO). Very little progress has been made [...] The Government's position on the use of emissions trading to tackle GHG emissions from ships lacks coherence. Ministers support the use of revenue from a trading scheme to fund climate change adaptation in developing countries but oppose the hypothecation of revenues for that purpose [...] The Government admits that the current calculation of the UK's share of international shipping emissions is an underestimate [...] Emissions from shipping cannot be allowed to grow uncontrolled. It will take several years before technical changes start to make a significant change." See: <http://www.publications.parliament.uk/pa/cm200809/cmselect/cmenvaud/528/528.pdf>

2. GLOBAL CARBON PRICING ON INTERNATIONAL SHIPPING TO REDUCE EMISSIONS

2.1 Carbon dioxide emissions from international shipping can be reduced through technical measures, operational measures and market-based measures (MBMs).

2.2 After several years of negotiations on measures to address carbon dioxide emissions from international shipping, in July 2011 the International Maritime Organization (IMO) adopted a technical measure applicable to new ships, in the form of the Energy Efficiency Design Index (EEDI). The IMO also adopted operational measures applicable to all ships in the form of Ship Energy Efficiency Management Plan (SEEMP).

2.3 The negotiations leading to the adoption of these regulations demonstrated that it is possible to reach global agreements on reducing emissions from international shipping but only when the special circumstances of developing countries are taken into account (in this case, through promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships and a waiver for a phased implementation)

2.4 The adoption of the EEDI and SEEMP are very welcome but insufficient steps. The EEDI, for instance, will deliver emissions reductions of just 1% below business as usual (BAU) levels by 2020.¹⁶ These technical and operational measures will also not deliver any finance, but will rather require funding

2.5 Thus a revenue-raising MBM is needed, both to deliver real cuts in emissions and to raise finance. Essentially, a MBM would put a price on emissions from international shipping, either through a levy or an ETS. The carbon price would incentivize implementation of cost-efficient, in-sector emissions reductions and could also pay for the most cost efficient out-of sector emissions reductions (i.e. in other sectors, including forestry), adaptation to climate change in developing countries and also be used for technical co-operation and, potentially, R&D for clean shipping.

2.6 Whether the carbon price for shipping would be established through a levy or ETS is a secondary issue. Well-designed proposals for each option are under consideration at the IMO, even if the majority of countries, as well as industry stakeholders, would prefer a levy, mostly for practical reasons.¹⁷

2.7 The key outstanding issue is to how reconcile the principles of the UNFCCC relating to CBDRRC with the requirements of the IMO regime, where measures must be applicable to all ships, irrespective of flag and nationality, in order to deliver a scheme that is both universal *and* equitable. A proposal that could achieve this, a Rebate Mechanism, is also under consideration at the IMO and will be discussed in more detailed in the next section.

2.8 Assuming that revenue generated from shipping activities by developed countries is used for climate change action, carbon pricing could raise circa \$10–15 billion per year in climate finance for the new Green Climate Fund (GCF), which was agreed at Cancun in 2010.¹⁸ Thus a global carbon price on shipping emissions would expand the market-based approach championed by the EU ETS globally to another large sector with emissions comparable to the emissions of Germany. On the other hand, including the EU/regional share of international shipping in the EU ETS would only apply to emissions in the EU sphere.

2.9 In the European Commission's ongoing consultations, a regional approach to MBM for shipping emissions is opposed by nearly all stakeholders, both on grounds of impracticality and low efficiency. Such an approach, assuming that all the practical challenges relating to this inherently global and complex sector could be resolved, would have limited effect since the EU's share of international shipping emissions is estimated at circa 30% (based on the EU share of international seaborne trade).

¹⁶ The 1% emission reduction can be estimated through the following simple calculations. Annual emissions from new ships entering service are 5% (based on an annual scrapping rate of 3% and an annual increase in overall emissions of 2.2%, ie the average emission growth scenario). Thus when the regulation applies to all ships, without any waiver, with EEDI improvements of 10%, the regulation will deliver reductions of 0.5% annually (5% of 10%). To calculate total improvements by 2020, the improvements from the individual periods are added together. New ships subject to the improved EEDI would be entering the service from around mid-2017, for ships not applying for a waiver, and from mid 2019 for ships applying for a waiver. Given that 75% of ships are registered in developing countries that could issue a waiver, and assuming that 2/3 of new ships registered in developing countries would apply for the waiver, the percentage of all new ships with improved EEDI would halve in the period when the waiver applies ($=0.25 + 0.75 \times 1/3$). Thus the estimate of emissions reduced in 2020 is the sum of improvements from new ships delivered from mid-2017 to 2020 and equals 1.25% ($= (0.25 + 0.5 + 0.75 \times 1) \times 0.5\%$). This needs to be somewhat discounted for three reasons: some of the technical improvements or slowing down of new ships would happen with or without the EEDI; the EEDI does not yet apply to all ships; and the EEDI improvement rate is less than 10% for some ships. Thus the improvements from EEDI in 2020 are estimated at circa 1% from BAU level.

¹⁷ See, for instance, the position stated by the International Chamber of Shipping (ICS) in its press release of 6 July 2011: "MBMs are expected to provide a means whereby shipping can make a significant financial contribution to environmental projects in developing countries—satisfying the UNFCCC principle of 'Common But Differentiated Responsibility', something which is important to developing countries. ICS has recently announced that if Market Based Measures to reduce CO2 emissions are developed by governments then *the international industry has a definite preference for a mechanism that is fuel levy/compensation fund-based rather than any emissions trading scheme*" [emphasis added]. See: <http://www.marisec.org/pressreleases.htm>

¹⁸ This figure is calculated on the basis of the 60% of total shipping activities attributable to developed countries, a carbon price of \$25/tCO2 and emissions of 1,000 MtCO2, and assumes that a major share of the revenue raised would be used for climate action in developing countries.

3. ENSURING NO NET INCIDENCE (NNI) OR COSTS ON DEVELOPING COUNTRIES

3.1 The Rebate Mechanism (RM) proposal currently under consideration by the IMO aims to reconcile the principles of the UNFCCC with the application of global carbon pricing for shipping by rebating the cost burden incurred by a developing country. It would thus ensure no net incidence on developing countries from the introduction of a carbon price. We believe that this proposal, along with use of the revenue generated from developed countries for climate action in developing countries (see next section), is the key to breaking the current deadlock in negotiations in the complex area of emission reductions and innovative financing from international transport.

3.2 The RM proposal—and, more generally the concept of NNI or cost burden—has generated considerable interest from a number of developed and developing States and observer organizations at both the IMO and the UNFCCC.¹⁹ These concepts have been endorsed in the 2010 report of the UN High Level Advisory Group on Climate Finance (AGF)²⁰ and are likely to be discussed further in the forthcoming World Bank/IMF report on sources of climate finance requested by the G20 Finance Ministers meeting in October 2011.

3.3 The RM was designed to apply to any revenue-generating market-based mechanism for shipping (maritime MBM)—be it a levy or an ETS. It can also apply to aviation. Through the RM, developing countries could be rebated the potential cost or incidence of any maritime MBM. The RM also provides flexibility for wealthier countries or regions, such as Singapore and Hong Kong, to forego their rebates, in whole or part.²¹

3.4 The mechanism calculates the rebate country-by-country, using global maritime MBM costs and a trade-based key, namely a country's share of seaborne imports.²² Each developing country receives its attributed rebate, unless it chooses to forego it. A developing country that chose to forego its rebate, or part of it, would receive international recognition for its action and the revenues could potentially contribute to South-South cooperation, including climate change action.

3.5 Developed countries would not be entitled to rebates but would be automatically credited for their share of financing raised through the MBM, based on the same attribution key. Consequently, the net revenue raised, after rebates, would come from customers in developed countries only, thereby complying with the principles and provisions of the UNFCCC in relation to CDBRRC, while simultaneously ensuring a universal approach to reducing shipping emissions.

3.6 The rebate key could be adjusted yearly, in line with changes in trade patterns. The optimal rebate keys for 150+ developing countries and attribution keys for developed countries are calculated based on 2007 trade by sea and air.²³ As an example, assuming that the total maritime MBM costs \$10 billion, Ethiopia's annual rebate would be \$6 million (ie 0.06% of \$10 billion).

3.7 Thus to make further progress on the global carbon pricing of shipping emissions, the EU and especially the UK, given that the IMO is headquartered in London, should support compensating poorer countries that would be most affected by such approach, as proposed in a Rebate Mechanism.

4. LONG-TERM CLIMATE FINANCING FROM PRICING SHIPPING EMISSIONS: FAIR, AFFORDABLE AND NECESSARY

4.1 The second condition in order for global pricing of shipping emissions to be consistent with the principles and aims of the UNFCCC is for the net revenue generated, or a significant share of it, to be channelled towards climate financing. This would help to mobilize the \$100bn that developed countries agreed to provide annually by 2020 to support climate action in developing countries (as agreed in Copenhagen Accords in 2009 and confirmed in the Cancun Agreements in 2010).

4.2 Raising climate finance from pricing shipping emissions is fair, affordable and necessary, providing there is no net incidence on developing countries, especially the poorest, as described in the previous section.

4.3 It would be fair because everyone would pay for the shipping emissions globally, but the revenue raised from developed countries would go to finance climate action in developing countries. As an example, assuming the total revenue raised is \$10 billion, the EU would be credited with \$2.85 billion in climate finance, including \$400 million credited to the UK, assuming that all the revenues raised are used for climate finance (reflecting the attribution keys of 28.5% and 4% for the EU and UK respectively).

¹⁹ See for instance, the following submissions to the IMO by the World Wildlife Fund, Germany, and France, respectively: MEPC 62/5/14, MEPC 62/5/15, and MEPC 62/5/34

²⁰ See: http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/AGF%20Report.pdf

²¹ See, for instance, the RM proposal described in MEPC 60/4/15 and MEPC 61/5/33 submitted by the International Union for Conservation of Nature (IUCN), or the report of the IMO's MBM Expert Group contained in document MEPC 61/INF.2.

²² Detailed analysis is available in the study on the Optimal Rebate Key, available at: www.imers.org/docs/rebateKey.pdf

²³ See: http://www.imers.org/docs/RM_outline_and_keys.pdf

4.4 This would also be easily affordable, owing to the high-energy efficiency of seaborne transport. The potential increase in prices of imported goods is low, under 0.2% on average (equivalent to two pence in every 10 pounds).²⁴

4.5 Finally, it is necessary to mobilize predictable, stable, new and additional sources of climate finance, including to meet the goal of providing \$100 billion in climate finance annually from developed countries by 2020, from a mix of different sources. This is highlighted by the UN High Level Advisory Group on Climate Change Financing (AGF). This consideration is particularly pertinent given the significant budgetary challenges currently faced by some developed countries.

5. PROGRESS ON A MARITIME CARBON PRICE COULD BE HELPFUL TO NEGOTIATIONS ON AVIATION

5.1 Concerns about equity issues and the lack of earmarking of revenue for climate finance have also been raised in relation to the proposed inclusion of aviation in the EU ETS. In fact, the EU is facing concerted challenges to its unilateral approach to tackle emissions from aviation—court challenges from US airlines, opposition from the USA and Russia and threats of retaliation or disputes from China and India. Similar tensions can also be expected from the pursuit of a unilateral approach to shipping by the EU.

5.2 Thus the best approach to the inherently global sectors of international transport is a concomitantly global one, with equity concerns addressed through the inclusion of a rebate mechanism and earmarking of revenues for climate finance. We believe that there is currently an opportunity to move forward with such an approach. China, Brazil, India and South Africa have all signalled—in the IMO or on the side-lines of the UNFCCC—a new willingness to consider a global approach to tackling emissions from shipping, provided such a global scheme would entail “no net incidence” on developing countries.

5.3 The EU is unlikely to change their current policy on reducing emissions from aviation until a suitable global approach is agreed, given the difficulties faced in negotiations on agreeing a global solution to date. Nevertheless, both the UK and the EU can and should reiterate their preference for reaching a global agreement on international transport emissions and champion a fair approach to carbon pricing of shipping, with no net incidence on developing countries and with revenues being used for financing climate change action. Such a position in relation to shipping could have the additional advantage of reinvigorating discussions in the International Civil Aviation Organization (ICAO) on pricing of aviation emissions.

6. CONCLUSION

6.1 A global and equitable mechanism for carbon pricing of international maritime transport is feasible and agreement on such a mechanism should be pursued actively by the UK and the EU. It would significantly reduce emissions from this sector,²⁵ and is likely to be acceptable to developing countries if it ensures no net incidence on them. It could raise substantial finance to help poorer countries adapt to climate change and build low carbon development. As such, it would constitute real progress towards a functioning global climate regime. The UK should champion such an approach through coordinated action with its EU partners and at the G20, with the aim of reaching agreement at the UNFCCC Summit in Durban, in December 2011.

August 2011

Memorandum submitted by the International Emissions Trading Association (ETS 24)

Please find below the response by the International Emissions Trading Association to the inquiry by the UK's Energy and Climate Change Committee into the EU's Emissions Trading Scheme.²⁶

1. GENERAL REMARKS

1.1 IETA is the leading voice of the international business community on the subject of emissions trading since 2000. Our 155 member companies include some of the world's largest industrial and financial corporations—including global leaders in oil & gas, electricity, cement, aluminum, chemical, paper, and banking; as well as leading firms in the data verification and certification, brokering and trading, offset project development, legal, and consulting industries. A full list of our members is available on our website at www.ieta.org.

²⁴ The average cost impact is calculated as 0.16% for 2020, by dividing the total cost of \$26.3 billion by estimated seaborne trade of \$16.6 trillion (both figures for 2020). The total cost is calculated by multiplying the forecast emissions of 1,050 MtCO₂ by an assumed carbon price of \$25/tCO₂. In reality, the average cost impact is likely to be even lower: the current calculation ignores fuel savings arising from behavioural change and any efficiency improvements, while the carbon costs are counted at the assumed carbon price applied to all shipping carbon emissions. Similar average results are obtained when using bottom-up incidence calculations for individual countries, although impacts on different product categories vary, with low value-to-weight products impacted most.

²⁵ As confirmed by the comprehensive report of the IMO's MBM Expert Group contained in document MEPC 61/INF.2, available at: <http://www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Documents/INF-2.pdf>.

²⁶ <http://www.parliament.uk/business/committees/committees-a-z/commons-select/energy-and-climate-change-committee/inquiries/eu-emissions-trading-system/>

1.2 An emissions cap and trade scheme (ETS) ensures certainty in reaching an environmental target. It does this by setting an overall emissions cap, allocating that cap amongst the entities and allowing them to trade these allowances amongst themselves. Covered entities have to surrender one allowance for each tonne of carbon emitted. Trading allows the market to discover a price for emission abatement. This price corresponds to the costs if this tonne is abated rather than emitted and provides an incentive to cut emissions. An ETS thus ensures that emission reductions occur at a certain pace and at least costs allowing companies to evolve their own tactics, strategies and investments.

1.3 IETA's members support emissions trading as a cost-efficient and reliable way of achieving emission reductions. The European Union's Emissions Trading Scheme (EU ETS) has succeeded in both, creating an EU-wide price on carbon emissions and ensuring that approximately 45% of the EU's GHG emissions are capped at a level consistent with adopted climate targets. This would not have been possible through other means, such as carbon taxes, which set a price but no emission limit. The EU ETS retains its position as the world's most ambitious and comprehensive international response to addressing climate change.

1.4 Carbon leakage is a concern that looms over the effectiveness of an ETS if other nations do not introduce comparable efforts. The EU ETS already partially addresses this problem by ensuring that sectors exposed to significant risks of carbon leakage and accounting for over 70% of non-power emissions in the ETS continue to receive a large but declining share of free allocation throughout phase 3 of the EU ETS as compensation—though distribution between installations will vary with the application of stringent efficiency benchmarks.

1.5 Additional national policy measures targeting abatement for ETS-covered sectors may lead merely to a re-shifting of emissions between countries; additional EU measures may just shift demand between sectors. Unless the cap is altered, total EU emissions are likely to remain the same. While the ability to use such mechanism is not disputed, the breadth of IETA's membership encompasses a disparity of views on unilateral measures. Many members are concerned about efforts to include additional provisions for emissions abatement in the ETS sectors such as the UK's carbon price floor or the proposed Energy Efficiency Directive; others acknowledge the desire to drive achievement of more demanding national targets.

1.6 While the EU only accounts for about 10% of worldwide emissions and will not, on its own, be in a position to significantly affect climate change, it needs to sustain a clear, irrevocable and ambitious agenda on climate change. It is on this basis that companies are undertaking better management of GHG emissions, investments in energy efficiency, clean technologies and switching from coal use to gas or renewables thereby also enhancing our energy security and removing sources of local pollution.

1.7 The absence of a legally binding international emissions reduction commitment does not have a bearing on the continuation of the EU ETS, but does, in the absence of a comparably effective suite of voluntary national actions, slow down the pace of global climate mitigation. The ETS Directive²⁷ is an EU-internal legislation to fight climate change and provide enhanced energy security with no sunset clause. An internationally binding agreement seems out of reach anytime soon, but what matters now is that Member States reach a political agreement on the EU's 2050 Roadmap to give clarity to industry on the post-2020 abatement trajectory in the EU. This will prevent a lock-in of emissions through today's investments and make the transition to a low-carbon economy least costly.

1.8 The EU's leadership on emissions trading is having effects around the world, even if the deployment and scale of new schemes has not been as ambitious as we had hoped for. Currently at least 20 nations world-wide contemplate the introduction of cap and trade system of some kind, including South Korea, Australia, Japan, Taiwan, Brazil, India, United States and China (the two latter at sub-national level). The EU is being consulted on all steps of implementation from monitoring, reporting and verification to the trading framework needed to have a liquid but well regulated market.

1.9 IETA strongly supports linking of emissions trading schemes as this can enhance cost-effectiveness and, by adding liquidity, also strengthens price discovery—thereby contributing to a more efficient outcome. Linking will require some strong efforts of design harmonization and should only involve thoroughly tried and tested schemes. The accounting framework will be of key importance, ie certainty that a tonne of carbon emitted and abated is the same across different schemes and that the verification process is transparent.

1.10 Regulators should base market supply on transparent, well-understood and predictable processes and criteria. An ETS can only function when scarcity is ensured. While IETA is still developing its position on the idea of setting aside allowances to ensure scarcity following adoption of additional measures including energy efficiency obligations, it is important to note that without a revision of the ETS Directive before 2020, the allowances withdrawn would have to be put back to the market.²⁸

²⁷ 2003/87/EC (consolidated version, following amendment 2008/101/EC).

²⁸ According to article 10 of the EU ETS Directive, "[f]rom 2013 onwards, Member States shall auction all allowances which are not allocated free of charge [...]".

2. SPECIFIC POINTS ON QUESTIONS RAISED

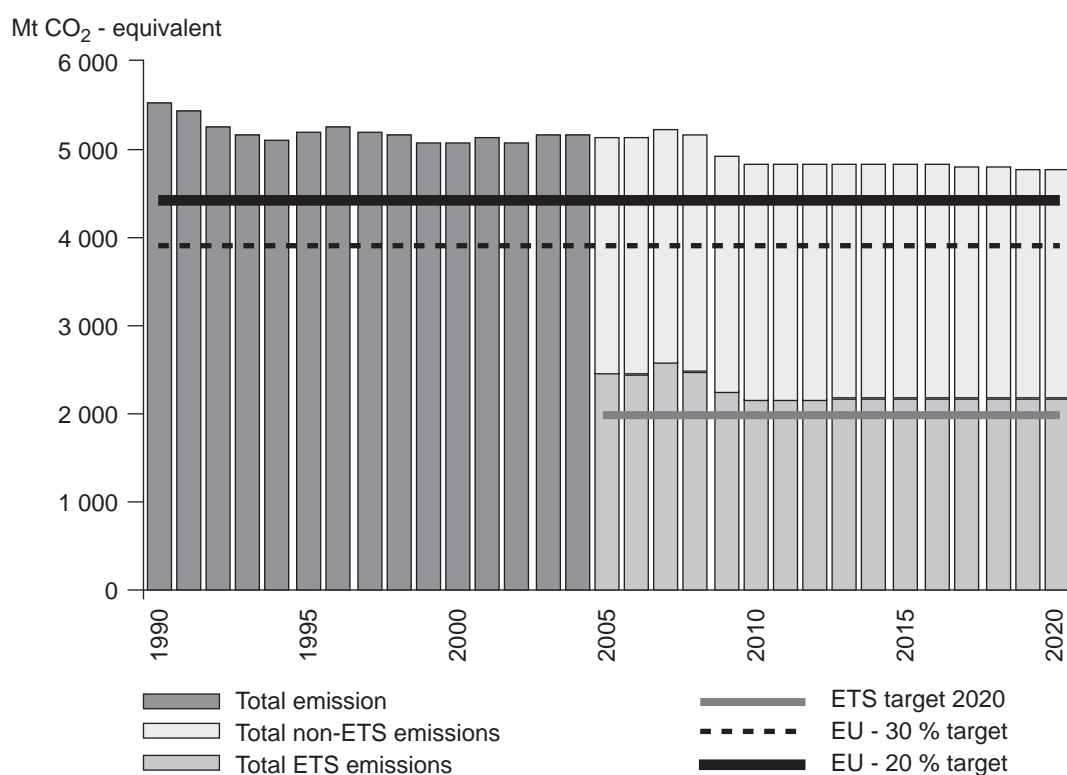
2.1 Does the EU ETS remain a viable instrument for climate change mitigation in the EU?

The EU ETS is the cornerstone of the EU's climate policy and continues to be a viable instrument for climate change mitigation. It is also a learning process, which builds on experience from past trading phases to continuously improve the functioning of the scheme.

Carbon emissions in the EU ETS have fallen by 13.79% between 2007 and 2009. According to data published by the Commission, average annual emissions per installation are now 8.3% below 2005 level.²⁹ According to a 2011 survey by Point Carbon,³⁰ about 70% of respondents answered that they have already or are planning emission reductions in their company as a consequence of the EU ETS. And this share has remained almost stable for the past five years. For the pilot phase, from 2005–07, Ellerman *et al*³¹ have demonstrated that emissions decreased by 2 to 5% per year as a result of the EU ETS.

Figure 1

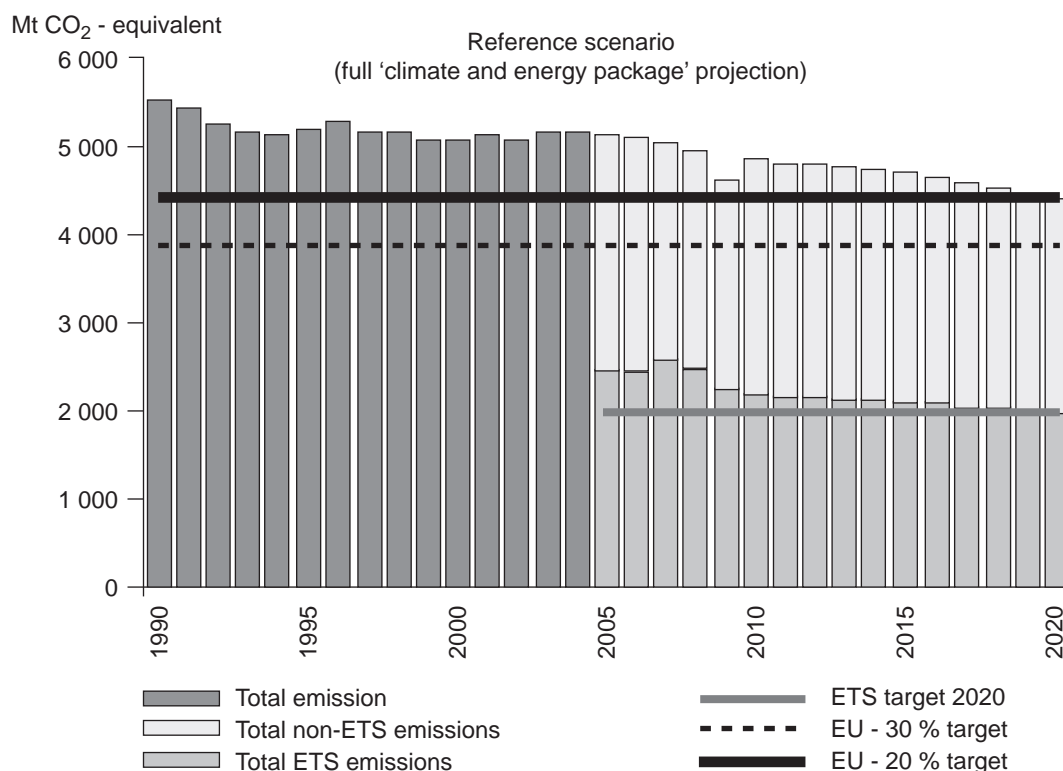
TRACKING PROGRESS TOWARDS KYOTO TARGETS (EEA, 2010)
Baseline 2009 scenario



²⁹ ec.europa.eu/clima/publications/docs/factsheet_ets_emissions_en.pdf

³⁰ Carbon Market Survey 2011, Point Carbon:
<http://www.pointcarbon.com/research/promo/research/1.1509325>

³¹ Ellerman *et al* (2010) *Pricing Carbon: The European Union Emissions' Trading Scheme*, Cambridge University Press.



An ETS gives policy makers full certainty as to reaching the environmental target, as the cap reduction factor sets out the emission reduction path that will in any case be met (see figure 1). The EU ETS is a pan-European policy instrument setting a unique carbon price signal across the EU and beyond, thereby creating the best conditions for a level playing field within the EU—a result unreachable through other means, in particular tax-based ones. But it also provides flexibility through the price mechanism, allowing abatement where it is cheapest and that across all industries covered by the scheme. Its institutions, trading infrastructure and measurement/verification methodologies are robust and at the forefront of what has been done elsewhere. Finally, it is providing a significant source of revenue for greening the economy as, according to the ETS Directive, at least 50% of auction revenue should be recycled for this purpose.

The introduction of the ETS resulted in carbon intensive projects being cancelled across the EU. With an absolute declining cap on carbon emissions, the case for unabated coal-fired power plants has become very difficult. Not all emission abatement opportunities under the EU-ETS coverage have been exhausted yet, and with new sectors and gases included from 2012, additional emission-reduction potential will be made available. Looking forward, the change in design for phase III—with the combination of a longer trading period and full auctions for the power sector—is expected to reintroduce elements of long term marginal costs in the pricing of carbon. This is relevant as payback periods for low-carbon investments can extend over decades.

To the extent that amendments to the EU ETS policy are deemed necessary, they should apply EU-wide and be predictable from a regulatory point of view. To provide robust investment signals, the level of emissions reduction ambition and the carbon price path must be reasonably predictable to give long-term confidence to investors.

In sum, IETA believes that the EU ETS is a viable instrument for emission reductions provided that:

- Policy makers provide a framework for investment decisions that signals long term viability and longevity. Recent signals have raised doubts about the role that policy makers see for the EU ETS and have led to a reduction in market confidence.
- Ad-hoc policy changes are avoided and, where more ambitious emission targets are desired, these should be reflected in the trajectory of the ETS phase cap or based on transparent and predictable policy rules in the existing regulation.
- The ETS price signal is not diluted by other policies and measures. Interventions and other policies targeted at the very same emission sources covered by the EU ETS would be expected to have mainly re-distributed carbon emissions, undermining confidence in the market mechanism, and increasing the societal costs of emission abatement.

2.2 Can the EU ETS operate effectively in a world without legally-binding emissions reduction commitments and other cap-and-trade schemes?

It should be recognized that the EU ETS Directive was introduced during a time when there was expectation of a global climate agreement, including binding commitments for all developed economies. The absence of a post-Kyoto agreement has implications for the pace of moving towards a truly global carbon market. It does not have a bearing on the EU ETS, which is a reflection of the EU's domestic policy ambition on climate and energy and not dependent on the Kyoto Protocol. As a market, the scope, depth and liquidity of the EU ETS are sufficient so it can function as a stand-alone instrument in an efficient manner. So, as long as climate change mitigation remains a priority, the EU ETS may serve as a proven cost efficient tool to reach a politically set reduction target.

The EU ETS will continue to be in operation also after the third trading period (post-2020). The amended ETS directive agreed by the Commission, European Parliament and EU Member States in 2008 has no sunset clause or mechanism. This makes it independent from whether there will be a ratified binding global treaty in which the EU's climate target is inscribed. The same goes for the emission trading schemes, which are currently drafted in California, Australia, South Korea, China and elsewhere. These nascent schemes are unlikely to be directly linked to a binding commitment according to which the parties have agreed to an absolute emissions cap for the entire economy. We have hence moved away from a top down climate negotiation process to a bottom up one where national policies are implemented even in the absence of agreed international climate targets.

Without an international agreement with binding commitments, there is however a risk that the reduction obligations will not be sufficiently comparable in terms of ambition level or the compliance regime. The implications on competitiveness and environmental integrity in such a scenario could reduce the effectiveness of both the EU climate target and the EU ETS unless sufficient measures are developed to cope with such a negative impact. This conclusion is however not unique for the EU ETS, it applies to many climate policies.

So, in short, the ETS can operate effectively without an international climate agreement but it will be most effective if the EU (a) makes a clear political choice of the mid-to long-term target for emissions reductions, without attempting to choose, in the place of the market, the way it is achieved; (b) remembers that no pricing system can operate effectively without adequate scarcity; and (c) continues to support existing (ie CDM) and new offset mechanisms.

2.3 What reduction in emissions will the EU ETS deliver in Phase III, within the EU/abroad?

The cap trajectory is set in advance and reflected in the number of allowances allocated to the installations subject to the EU ETS each year throughout the phase. This will lead to an average emission reduction in the ETS installations of 21% compared to 2005 levels by 2020. International offsets can contribute to this goal up to 50% but it could be less in practice, depending on how much market participants will make use of this cost-efficient option.

It is important to note that additional measures in individual countries will have no effect on the overall outcome of the EU ETS. Regional acceleration of carbon reductions simply lowers the overall demand for allowances, thereby reducing the EU-wide carbon price (while increasing local costs) and slowing the pace of abatement elsewhere.

2.4 Could the environmental and economic efficiency of the EU ETS be improved by linking with other emissions trading schemes and how can this be achieved?

More generally, linking to other schemes would enhance economic efficiency by levelling the playing field, extending options for low cost abatement and scaling up liquidity. But this is not necessarily a one-way equation. Environmental integrity could also suffer if the other scheme does not use the same accounting basis and if double counting occurs. Transparency and solid monitoring, reporting and verification would be a key condition for an environmental and economically efficient linking.

The use of offsets in the major trading schemes around the world represents an indirect form of linking to other trading schemes using the same classes of offset, which has resulted in significant cost savings for companies in the EU ETS. Given that we do not—and will not for some time—have an international climate agreement, linking will take the form of bilateral agreements and can then be gradually expanded towards a more international carbon market.

In sum, linking is challenging but will allow in time progressive delivery of a global solution:

- There are no other large and credible schemes with which to link at present. New Zealand has the only national operational scheme but it is much smaller and includes forestry credits, which the EU ETS does not.
- Linking introduces significant complications in the form of banking and offset eligibility. Any scheme that the EU ETS proposes to link to must share the EU ETS rules on banking and eligibility. Linked schemes must also take particular care concerning potential over-allocation of allowances, which then flood into the EU ETS or vice versa.

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- From a longer-term perspective however, the EU ETS is in a good position to work now with each new scheme that is in operation or developing (eg ETS at State level in New Zealand, Australia, South Korea or at regional level in California or Chinese provinces). The more schemes that link under EU ETS compatible rules, the more standard these rules will become for any new schemes.

2.5 What actions should the UK and the EU be taking to promote the development of compatible ETSs internationally?

On the basis of lessons learned from the EU ETS, policy makers should promote achievements in international fora and with trading partners.

Policy makers also are expected to signal the continued support of—and confidence in—the ETS as the main vehicle to reach emission reductions in the EU. Joint action on this front is required. Too often, we hear doubts about the existence of ETS beyond phase 2. This leads to delays in investment decisions, which can add costs for companies and slow down a transition towards a low carbon economy. The EU and Member States should actively encourage and provide capacity building to other countries to develop market based instruments and make available the expertise in technical domains from monitoring, reporting and verification to allocation through benchmarks or auctions and trading infrastructure. Offering linking could be another form of encouragement for countries to further proceed in their own ambition and to diffuse local resistance.

Here are some of the key messages, IETA has been communicating to an international audience:

- Emissions trading does what it says on the tin.
- Prices reflect the supply-demand equilibrium.
- Set up the parameters right and a substantial market will appear.
- Scarcity is needed—banking helps.
- Strong central allocation control is necessary.
- It is not a substitute for investment targets, should those be thought necessary.
- Competitiveness is a potent political issue even without evidence.
- Coherence with other overlapping policies is not easy to achieve.

2.6 Could sectoral agreements form part of the future of the EU ETS?

Sectoral mechanisms are one of many potential new market mechanisms, discussed under the UNFCCC. However, this is just one option, and one that has not been yet clearly outlined in any proposal, especially as to how the private sector will participate.

If sectoral mechanisms were defined as a binding emission cap applied to a given sector in an economy, then yes, they could form a critical part of a future EU ETS. The EU ETS is itself a multi-sector scheme covering installations, which operate stationary sources and shortly, aviation. Other countries (not just Annex 1 countries) could also implement multi- or single-sector ETS and link with the EU ETS. For example, the power sector or the cement and steel sectors or international aviation sector in a given economy could enter into a binding ETS and link with the EU ETS.

Sectoral mechanisms should enable extension to other sectors of the economy, as in the end the cost-effectiveness of emissions trading resides in exploiting the natural difference in abatement costs within and across different sectors. By the same token, carbon leakage is not a problem in all sectors of the economy. A sector agreement could be seen as a first step towards a broader cap and trade scheme.

During the seven years of existence of the CDM, we have developed valuable insight and experience with regards to establishing a credible and robust international standard for carbon offsets, appropriate governance structure and market oversight. Although there are still improvements to be made to the CDM, replicating this kind of infrastructure is likely to take at least two to three years. Ultimately, environmental integrity could suffer if the sectoral mechanism would not use the same accounting basis and if double counting occurs. Transparency and solid monitoring, reporting and verification would be a key condition.

Sectoral mechanisms have in the past met great skepticism on the side of developing economies, because they tend to operate directly counter to the UN principle of Common but Differentiated Responsibilities, which requires action from developed countries first. The benefits of sectoral mechanisms (and other new market mechanisms) for the host country thus need to be elaborated and communicated much more clearly and vocally. Otherwise they will not take off.

The advantages include:

- Transfer and deployment of state of the art technology.
- Investment from new sources of capital, backed by a newly created carbon currency.
- Savings to the host country economy through lower subsidies on energy use/freed up energy for sale on the international market.

- Enhancing energy security.
- Free access to low carbon markets (if the EU were one day to deploy border adjustments on carbon intensive products).

2.7 Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?

New mechanisms are desirable to expand the carbon price incentives to other parts of the world and to unleash a far greater abatement potential than the project-based approach could possibly achieve.

Developing such mechanisms is a challenge and will require full political support by the UK and other EU governments. But it has the potential to become a viable compliance instrument, like CDM credits.

IETA has been deeply involved in this debate for a number of years and is contributing to concrete proposals for such mechanisms. Yet such mechanisms can only emerge if there is a demand and investors' interest. The EU ETS will be a key demand factor.

Until such new mechanisms are operational, the CDM remains the only workable market-based tool to incentivize low carbon investments in developing countries. As such it constitutes a crucial bridging element. It is hence important to offer clear prospects for CDM credits as compliance units in the EU ETS and to support wholeheartedly the current reforms at UNFCCC level.

The CDM has created a robust standard for carbon offsets which safeguards environmental integrity. To establish an alternative benchmark to this in order to source alternative credits with all the necessary checks and balances will take at least three to five years.

According to the ETS Directive, operators will still be able to surrender CDM credits alongside EU allowances in phase 3, albeit to a limited extent—up to their use limit and not for all types of credits. This applies even in the absence of an international agreement. The EU should demonstrate flexibility in the use of offsets in the future and incentivize the development of new market mechanisms by granting access for solidly verified credits to the EU ETS.

There have been some concerns that failure to agree targets under a second UN Kyoto Commitment Period will lead to the CDM Executive Board (EB) and other CDM machinery coming to a halt. The legal position does not seem to be entirely clear; but the majority view among practitioners and countries is that it is very unlikely the UNFCCC Parties will allow the system to stop.

2.8 Is the EU ETS a constraint on unilateral action to reduce emissions and, on the other hand, how are Member States' own policies affecting the operation of the trading system?

The EU ETS has been legislated for by the EU Member States and the European Parliament, on the basis of a proposal by the EU Commission. The ETS Directive had to be transposed into national legislation, some countries are still in the process of adopting the 2008 amendments. In the 2008 revision, Member States agreed to substantially reinforce central aspects of the scheme. From 2013–20, the EU-wide cap will decrease each year by 1.74%. While other policies might be needed to deal with wider energy policy questions, the ETS should be the main policy instrument to abate emissions from installations under its remit.

While IETA recognizes that some Member State have a more ambitious climate agenda, unilateral efforts by individual Member States to accelerate abatement in industries covered by the ETS,³² lead to a re-shifting of demand from one country (where additional efforts are undertaken) to the other countries, without any additional effect on aggregated emissions in the EU.

2.9 How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

The accumulation of fraudulent events over recent years has not affected confidence in the EU ETS as such but has significantly shaken confidence and trust of operators and other market participants in its administration. Moreover, it also damaged external perceptions of EU policy and emissions trading as a policy tool.

While the fraud cases experienced in the EU ETS (online theft and VAT fraud) are not unique to the carbon market, the perceived lack of action from the side of the regulators has done great damage. Considering the increasingly large sums that are in circulation in a quickly growing market such as the EU ETS, it should have been expected early that it could attract criminal elements. If the regulators had been more prepared, they could have mitigated some of the most negative consequences in terms of eg the reputation of the EU ETS and the spot market's collapse with complete shut-down of registries and frozen transactions.

Member States and the EU Commission need to remain vigilant and pro active in preventing fraud. For now, the registry security has been overhauled and if this will succeed in making the system more robust, we can be content. Further work on market oversight is expected, which should further enhance supervision of the

³² Additional unilateral emission reductions may not be detrimental to the EU-ETS if undertaken outside the scope of the EU-ETS with no indirect impact on emissions within the EU-ETS. Diffuse emissions (agriculture...) could thus be decreased without negative impact on the EU-ETS.

market and prevention of other abuse cases that we have so far not experienced, including insider trading and market manipulation—known from the financial markets.

2.10 How can the EU ETS be strengthened to operate effectively in a world without legally binding emissions reduction obligations?

Member States, including the UK, should focus on supporting the development of the EU ETS as the most efficient way of providing carbon price investment signals. The case must be made that the EU can decarbonise without damaging the industrial basis of its economy. For this, certainty and stability of the scheme is vital.

Global agreement and action should remain a priority, as the EU cannot solve the problem of climate change on its own.

We believe that the following four objectives are central to its long-term development:

- Long-term reduction targets are needed to provide effective carbon price signals for investments, which have long payback periods. While the revised EU ETS Directive reflects this (no sunset clause on the emission reduction trajectory), the extension of the cap and the desired trajectory should be supported by a clear political consensus in which the ETS is accorded a central role. Such a consensus first requires holding a thorough debate—as planned under the EU 2050 low-carbon roadmap—which the EU cannot afford to delay.
- Encourage all other Parties to the UNFCCC to adopt sectoral emission trading schemes for the most developed sectors of their economies and offer linking options with the EU ETS in return for adopting EU ETS values and rules. These can be implemented in conjunction with Copenhagen Pledges or KPII commitments.
- Develop and advertise the broader benefits of emissions trading and reduced energy consumption.
- Continue the internal co-operation between EU and EEA competent authorities, to strive for harmonization of application and internal consistency of implementation—particularly on National Implementation Measures, Accreditation & Verification, Monitoring & Reporting—and to continually improve security measures against fraud.

August 2011

Memorandum submitted by the Sandbag Climate Campaign (ETS 28)

SUMMARY

- In principle the EU ETS is an effective instrument to deliver low-cost abatement and provide maximum flexibility for the sectors it covers, but in practice the ETS carbon budgets have been consistently set too high. Policymakers need to revise the caps downward.
- For the instrument to fulfil its potential and align with Europe's longer term goals, Sandbag recommends that 1.7Gt be set aside from the permits auctioned in the Phase 3 budget and the trajectory be amended to a 2.4% annual decline at the earliest opportunity.³³
- Despite being oversupplied to date the EU ETS price signal is estimated to have driven some 330Mt of CO₂ to date. Phase 3 will ensure 2.7 billion tonnes of CO₂ are saved against current business-as-usual projections for 2013–20.³⁴
- While the future of the Kyoto Protocol is uncertain, domestic and regional cap-and-trade schemes are multiplying, with several comparable schemes in place already (New Zealand, Switzerland, Eastern States of the USA) and still more due to be operational between 2012–16 (California, Australia, South Korea, Ukraine and even China).
- The barriers that inadequate international climate action present to more ambitious European climate policy, or that inadequate European action present to UK climate policy, have been exaggerated by competitively-exposed and energy intensive industries. These industries are offered extensive protections by the Emissions Trading Directive in Phase 3 and are currently profiting from the scheme in Phase 2.

1. Sandbag is a UK-based climate change NGO focussing on environmental reform of the EU ETS. Through producing rigorous but accessible analysis, we aim to make emissions trading more transparent and understandable to a wider audience than those directly involved in the carbon market. Our view is that if emissions trading can be implemented correctly it has the potential to help deliver the deep cuts in carbon emission the world so badly needs to prevent the worst impacts of climate change.

³³ Sandbag, *Buckle Up! The 2011 Environmental Outlook for the EU ETS* (July 2011) http://www.sandbag.org.uk/site_media/pdfs/reports/Sandbag_2011-07_buckleup.pdf

³⁴ P 5 of *Buckle Up!* drawing upon *Pricing Carbon* (Ellerman, 2010) and *Hard to Credit* (Deutsche Bank, 2010).

The politics of the EU ETS

2. The EU ETS was able to attract a broad political base to support its implementation because it combined the flexibility of a liberal market mechanism with the hard political regulation of a cap. Since its adoption, though, public comment on the system has been hijacked by market-sceptics on the left and climate-sceptics on the right, who both aggressively call for the EU ETS to be dismantled.

3. This excessive politicization of the European trading system has become a distorting lens through which its imperfections have been perceived, turning each technical or environmental challenge it faces into a call for its termination. These challenges should instead be perceived as opportunities for constructive engagement and reform with what is, fundamentally, a powerful policy whose major fault is that it currently lacks sufficient ambition.³⁵

4. Those agencies who have taken an engagement approach have had considerable success in repairing the very weaknesses that the scheme's most vociferous critics have used to damn it: from 2013 offset credits from the most controversial industrial gas offset projects will be ineligible, new CDM offsets must come from projects in Least Developed Countries, electricity sector windfalls from passed-through opportunity costs will end, industrial sectors should no longer be able to accrue surplus permits, and new security features will reduce the opportunities for fraud.

5. There are long lead times before these changes can be implemented, but this highlights the need for early and far-sighted intervention from policymakers seeking ETS reform.

The viability of the EU ETS in delivering European abatement

6. The EU ETS remains a viable instrument for limiting EU emissions, with the traded sector expected to deliver roughly 2/3rds of Europe's 2020 emissions reductions under all scenarios currently tabled.

Table 1**2020 GHG REDUCTION SCENARIOS ACCOMPANYING THE MAY 2010 COMMUNIQUÉ**

2020 scenario	Summary	EU %below 1990	EU %below 2005	ETS %below 2005	Non-ETS %below 2005
2009 Baseline	Enacted policies as of Spring 2009	14	7	11	3.5
Reference	Full implementation of 20:20:20 package	20	14	19	9.5
30% Flexible	25% internal, 5% state offsets	25	19	26	13
30% Domestic	30% internal	30	24	34	16

Source: Compiled from different tables in SEC (2010) 650

7. At present, however, the domestic emissions reductions in the EU ETS have predominantly been delivered by the recession, with a disproportionate share of active abatement being outsourced to foreign countries through offset credits. This is money that could be better spent on new energy infrastructure within Europe, protecting the region from volatile fossil prices and demonstrating clean development to emerging economies. As we discuss below, complementary policies in the EU climate package are also likely to eclipse the Phase 3 cap.

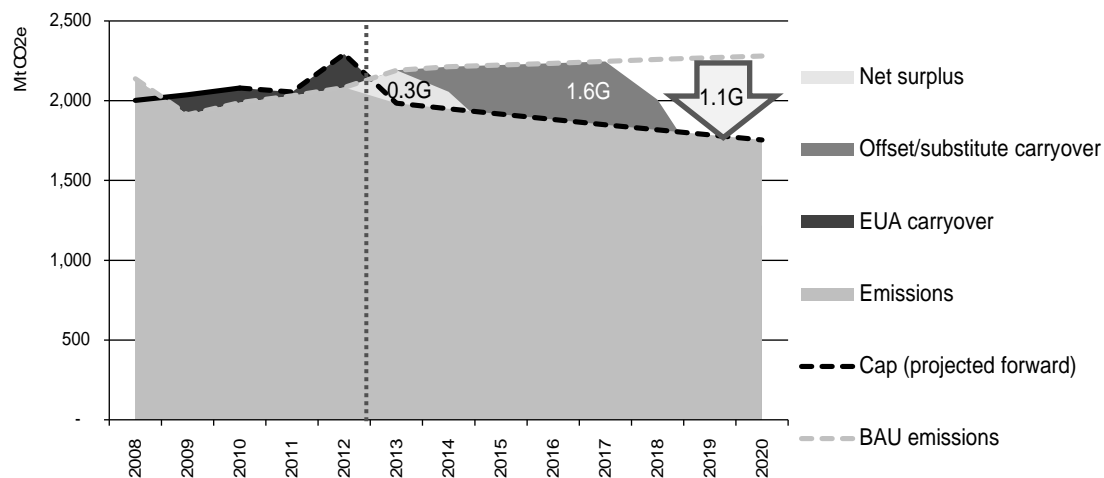
Emissions reductions delivered by the EU ETS at home and abroad

8. Over 2008–20 the EU ETS cap ensures emissions will be reduced by **2.7Gt** against business-as-usual levels on current economic trends. This consists of 1.6Gt of offsets and 1.1Gt of domestic abatement.

³⁵ See p 3–14 of *Buckle Up!* www.sandbag.org.uk/site_media/pdfs/reports/Sandbag_2011-07_buckleup.pdf

Figure 1

WHEN DOES THE ETS CONSTRAIN BAU EMISSIONS? (PHASE 2 SCOPE)



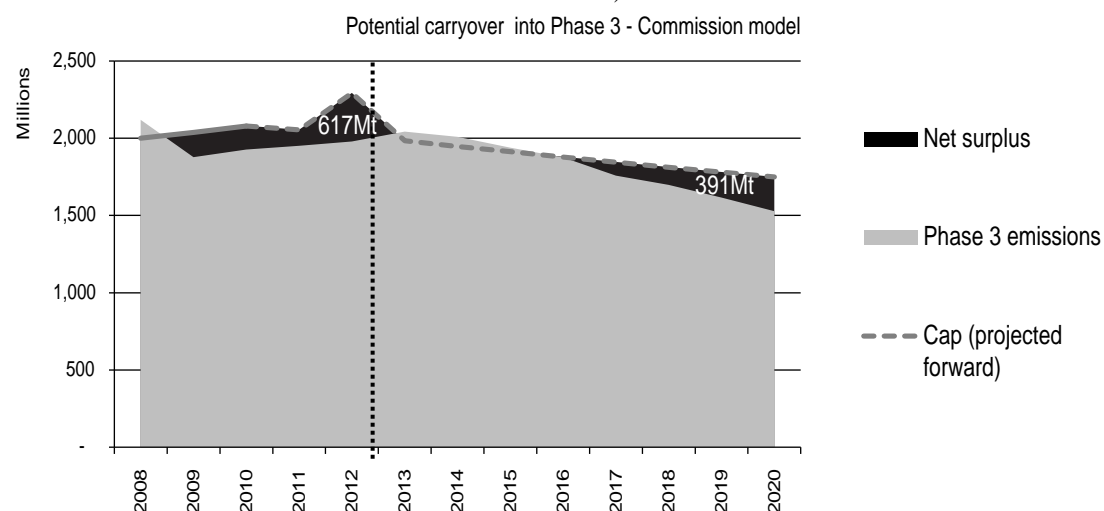
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2008-2020 Total
BAU emissions	2,137	1,913	1,988	2,030	2,083	2,191	2,213	2,224	2,235	2,246	2,258	2,269	2,280	28,067
Max emissions (using offsets)	2,137	1,913	1,988	2,030	2,083	2,191	2,213	2,224	2,235	2,246	2,161	1,765	1,729	26,915
Max emissions (no offsets)	2,137	1,913	1,988	2,030	2,083	2,191	2,054	1,911	1,874	1,838	1,802	1,765	1,729	25,315

• BAU estimates from Deutsche Bank. Phase 2 allocations from CITL and EU website. Scope controlled Phase 3 allocations and carryover from author's calculations.

9. However, over this period the European Commission projects that the complementary policies from the Renewable Energy Supply Directive and the Energy Efficiency Directive will combine with the effects of the recession and the ETS to drive emissions *lower* than the cap by roughly **1Gt** before any recourse to offsetting, as we see in the diagram below.

Figure 2

NET SURPLUSES ACCRUED IN THE COMMISSION'S REFERENCE SCENARIO 2008–2020 (PHASE 2 SCOPE)



Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cap	2,001	2,038	2,080	2,054	2,292	1,984	1,947	1,911	1,874	1,838	1,802	1,765	1,729
Emissions	2,118	1,876	1,926	1,950	1,978	2,042	2,008	1,938	1,875	1,757	1,697	1,615	1,527
Surplus	-117	161	154	104	314	-58	-61	-27	-1	81	105	150	202

10. This means we can expect the full climate package to deliver **4Gt** of *domestic* emissions reductions over 2008–2020 against business-as-usual levels. Despite domestic emissions falling below the cap, we can also expect the **1.6Gt** offsetting allowance available for this period to be fully exhausted, reducing Europe's *total* emissions **5.6Gt** below business-as-usual levels.

11. These reductions fly well ahead of the ETS cap and will effectively store up **2.1Gt** of domestic emissions rights for use beyond 2020 (1Gt of domestic savings plus 1.6Gt in substituted offsets minus 0.5Gt absorbed by aviation). This is equivalent to more than a year's worth of emissions from the traded sector.

12. In short the ETS is not currently complementary with the other policies in the climate package and instead threatens to store up the emissions saved through external circumstances and policies for use beyond 2020. The ETS cap needs to be revised in order to capture these reductions.

The effectiveness of the EU ETS independent of a global regime

13. The EU ETS can function independently of the Kyoto regime or other cap-and-trade systems, but it is currently a remote possibility that it will need to, with similar systems due to be established between 2012 and 2016 in California, Australia, South Korea, Ukraine, and China.

Figure 3

EXISTING, SCHEDULED AND PLANNED CAP-AND-TRADE SCHEMES



14. While the EU ETS can work to uncover lowest cost abatement opportunities within Europe, these opportunities will be more numerous if the scope of the scheme is expanded, either to new sectors of the European economy or to compatible cap-and-trade systems elsewhere in the world.

15. With the EU ETS currently the largest buyer of offsets within Kyoto Flexible Mechanisms (CDM and JI), Europe is well placed to control the terms on which it continues to accept these credits. Europe has already begun to dictate its own quality requirements for CDM entering the EU ETS from 2013, prohibiting the use of HFC-23 or adipic acid N₂O industrial gas credits and refusing credits from all but Least Developed Countries for projects registered after 2012. There remains scope for further quality restrictions to be implemented. Again, because of the concentration of demand for offsets in the EU ETS, Europe is well placed to establish alternative offsetting mechanisms if Kyoto Flexible Mechanisms are discontinued at UN level.

Promoting compatible cap-and-trade schemes and sectoral agreements elsewhere

16. Sandbag has prepared several papers making recommendations for new regions exploring emissions trading based on our experience of the EU ETS.³⁶

17. We generally recommend that new regions considering cap-and-trade exclude competitively-exposed sectors and begin with the electricity sector. Competitively-exposed industries risk weakening the scheme both through demands for generous free allocations and through lobbying for weaker overall caps. While energy intensive industries are still likely to resist or weaken electricity sector caps, we suspect this lobbying will be less intense, and the concessions to these industries will be smaller and simpler than if they are direct participants in the scheme.

18. Europe would face reduced carbon leakage threats if its main competitors in exposed sectors adopted similar cap-and-trade policies. In this regard it is promising that neighbouring countries such as Turkey and

³⁶ See for example

www.sandbag.org.uk/site_media/pdfs/reports/Lessons_from_ETS.pdf We have also made submissions to the Californian government, the Australian government and met with Chinese state officials on this issue.

Ukraine³⁷ are considering cap-and-trade schemes. In addition, the Californian and Australian emissions trading schemes cover exposed industries and China is currently considering cap-and-trade schemes for its cement and steel sectors.³⁸

19. Europe can accelerate the adoption of cap-and-trade systems firstly by exploring the potential to link compatible schemes and secondly by reducing the eligibility of offset credits generated in projects from competing industries in emerging economies, which potentially disincentivize domestic target-setting.

20. If Europe genuinely experiences a net competitive disadvantage in applying a carbon price on its industrial emissions, it could consider amending the scheme so that imports of products from countries are required to pay a carbon price at Europe's borders. The proposed Californian trading system includes a provision for a carbon price to be applied to imports of electricity from neighbouring states; the EU should consider the introduction of similar provisions. This is particularly important for Eastern Member States who share borders with uncapped countries.

21. As Europe explores new sectoral crediting mechanisms to expand or replace its current offsetting provisions, it should avoid providing disincentives to developed or emerging economies to adopt domestic carbon regulations. It should also ensure that the offsets purchased do not subsidize Europe's industrial competitors and exacerbate the risk of European operations shifting abroad. New sectoral agreements could avoid this by purchasing credits from competitively-insulated sectors such as electricity, land transport and heating and by targeting least developed countries.

The relationship between the EU ETS and unilateral action by Europe and its Member States

22. Just as inertia in global climate ambition should not be used as an excuse to hold back ambition in Europe, inertia in European ambition should not be used as an excuse to delay ambition in the UK or other Member States. Climate initiative needs to begin somewhere.

23. The harmonisation of the EU ETS cap does mean, however, that additional action in the traded sector by individual Member States (be it through more stringent domestic carbon budgets, price floors or energy policies) will not affect the total supply of carbon in the cap and will instead weaken the obligation to decarbonise elsewhere in Europe. But rather than being seen as an excuse for inaction, additional ambitions at Member State level should be used to leverage greater ambition at European level, and within the EU ETS in particular.

24. The UK's ambitious 4th carbon budget covering the period 2023–27 includes a review clause in 2014. This is explicitly to take into account the progress, or lack thereof that Europe has made towards tightening caps in the ETS. In effect this creates a deadline for the EU to act—if it fails to, then the ETS will be guilty of holding back British climate ambition rather than stimulating it.

25. The loudest voices opposing unilateral action at both national and European level are competitively-exposed industries and energy intensive industries. It is important to highlight that competitively-exposed industries policed by the EU ETS have enjoyed some of the largest surplus free allocations throughout Phase 2 as a consequence of their intense lobbying of Member States during the setting of the National Allocation Plans followed by the drop in emissions resulting from the recession. Far from punishing these industries, the sale of surplus carbon allowances has been a source of immediate revenue to them, or presents a buffer of extra permits to cushion them against their benchmarked free allocations in Phase 3.³⁹

26. It is also worth noting that the Emissions Trading Directive offers both competitively-exposed industries and energy intensive industries extensive protections in Phase 3. Competitively-exposed industries receive 100% free allocations as benchmarked against the most carbon-efficient installations in their sector and State Aid rules allow Member States to protect compensate energy intensive industries for the effects of the carbon price on their electricity costs.

27. For sectors in both categories it seems to us particularly perverse that the companies who have weakened the ETS caps by resisting responsibilities to abate within it, are now obstructing increased action in the power sector.

28. We must also question the sincerity of some company's appeals for Britain and Europe to wait for multilateral action before embarking on ambitious unilateral policies. Research by CAN-Europe in their report "Think Globally, Sabotage Locally"⁴⁰ has found suggestive evidence that multinational companies that currently advocate Europe wait for more ambitious global commitments are simultaneously bankrolling efforts to scupper climate change measures in the US.

29. Vested interests have used similar arguments to weaken the Energy Efficiency Directive or renege on the Renewable Energy Supply Directive, but again, the ETS should not be used as a barrier to these policies,

³⁷ <http://www.elaw.org/node/3743>

³⁸ <http://af.reuters.com/article/metalsNews/idAFL3E7J407J20110804>

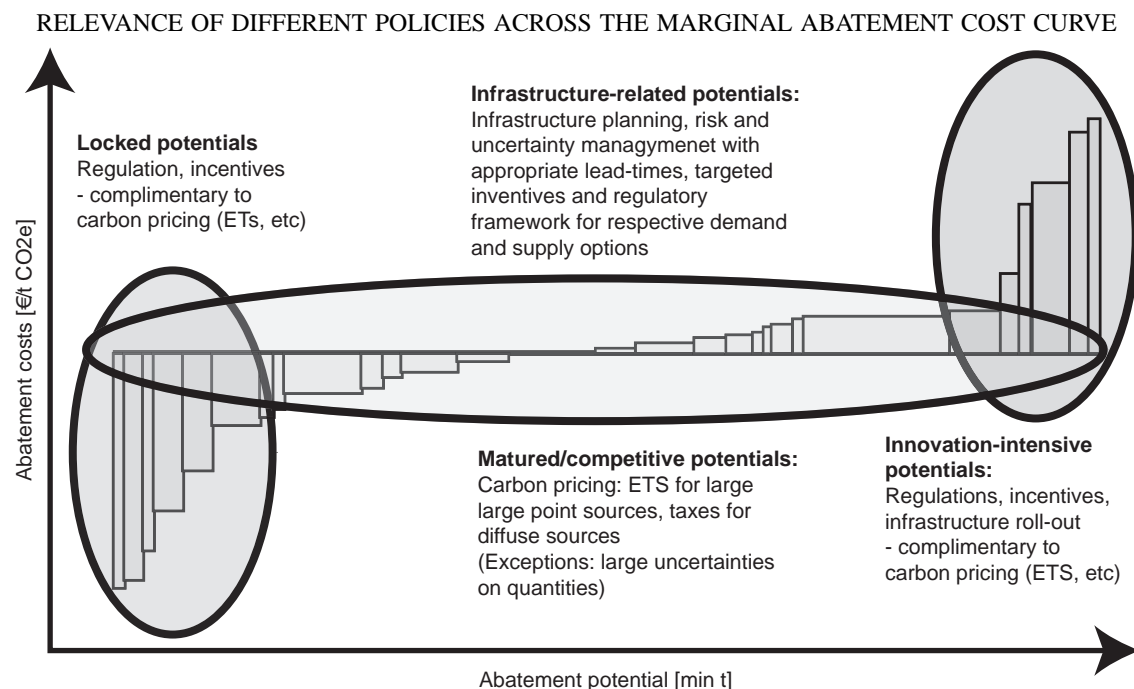
³⁹ See p.20–24 of *Buckle Up!*

www.sandbag.org.uk/site_media/pdfs/reports/Sandbag_2011-07_buckleup.pdf and our latest Carbon Fatcats report at www.carbonfatcats.eu

⁴⁰ http://climnet.org/index.php?option=com_docman&task=doc_download&gid=1788

but should be made complimentary with them by adjusting down the cap to reflect any overlap between the instruments. The EU ETS is designed to uncover and exploit low-hanging fruit, but the RES Directive will drive innovation and bring new technologies to market, while the EE Directive will unlock negative cost abatement that the ETS cannot access.

Figure 4



Source: öko institute

Strengthening the EU ETS to operate effectively

30. As we have seen above, going forward from 2020 the environmental effectiveness of the EU ETS cap can expect to be weakened by some **2.1Gt** of permits carried forward as a result of external policies and recession over 2008–20. It is unacceptable that these two trading periods serve mainly to retard the progress of the scheme going forward.

31. As a minimum, Sandbag recommends that a quantity of permits be set aside from auctions to reflect the impacts of the Energy Efficiency Directive on Phase 3. Estimates within the Commission's own impact assessment find the 2020 carbon price dropping to €14 or even €0 (down from forecasts of €25) if no such adjustment is made.⁴¹

32. Our preferred recommendation would be that the Phase 3 caps are adjusted by 1.7Gt to correct for the direct and indirect effects of oversupplying permits to industrial sectors in Phase 2:

- **Direct effects:** Industrial sectors stand to receive some 855Mt of superfluous permits over Phase 2. While demand from the power sector absorbed some 183Mt of this over 2008 and 2009, the remaining 672Mt can carry forward to weaken Phase 3. We contend that this 672Mt be set aside from the Phase 3.
- **Indirect effects:** As Phase 3 caps are defined in relation to average Phase 2 caps they are inflated by the excess permits that were awarded to the industrial sectors. If we adjust the Phase 3 caps and instead calculate them in reference to industrial emissions since 2005, this removes 1Gt from the Phase 3 cap.

33. A 1.7Gt set-aside to adjust for industrial oversupply, would largely protect the scheme from the overlaps with the Energy Efficiency Directive and Renewable Energy Supply Directive as a co-benefit. We are not proposing that the set-aside should be removed from competitive industry free allocations but rather that the sum should be held back from allowances made available at auction—effectively removing them from the power sector who will continue to be the scheme's biggest buyers.⁴²

34. We recommend that the Emissions Trading Directive be re-opened at the earliest political opportunity, in order to permanently cancel this set-aside and prevent these permits from re-entering the market at a later date. We contend that the Emissions Trading Directive be reopened no later than 2015, immediately following

⁴¹ www.sandbag.org.uk/site_media/uploads/20110505_Impact_Assessment_Energy_Efficiency_Directive.pdf

⁴² See p.39–41 of *Buckle Up!*
www.sandbag.org.uk/site_media/pdfs/reports/Sandbag_2011-07_buckleup.pdf

the publication of the 5th IPCC report, but European policymakers should ideally move to take action prior to 2014 to prevent triggering the aforementioned review of Britain's 4th carbon budget.

35. Upon reopening the Directive, it is also pivotal that the rate of contraction in the cap be accelerated from an annual increment of 1.74% to at least 2.4% in order to align with Europe's 2050 goals for the traded sector. Were this 2.4% increment applied from 2016 some 553Mt of any set-aside would effectively be absorbed by 2020 (a 1.7Gt set aside would be absorbed by 2027). Without intervention, no revision to this 1.74% decline is scheduled to be implemented until 2025.⁴³

36. Finally, as part of a review of the Emissions Trading Directive, we would like to prevent installations with surplus EUAs from surrendering offset credits for compliance. Currently some 57% of the offsets surrendered into the EU ETS have been from installations with free carbon permits to spare. This suggests that offsets are being used as an arbitrage opportunity to profit from the scheme while driving low carbon investment outside of Europe. We would also like to see restrictions placed on any carbon offsets which risk exacerbating leakage of industrial operations outside of Europe.

August 2011

Memorandum submitted by Climate Markets & Investment Association (ETS 32)

ABOUT THE CMIA

The Carbon Markets & Investors Association (CMIA) is an international trade association representing over 50 companies that finance, invest in, and provide enabling support to activities that reduce emissions. CMIA's membership accounts for an estimated 75% of the global carbon market, valued at USD 130 billion in 2009. Solely representing organizations that provide services to and invest in the environmental sector, membership does not include any entities with compliance obligations under cap-and-trade schemes. This results in a unique advocacy platform with emphasis on the environmental integrity of market mechanisms and climate change policies.

In its response the CMIA is focusing on the questions listed in the inquiry, related issues and suggested reforms.

1. *Does the EU ETS remain a viable instrument for climate change mitigation in the EU?*

Yes.

The CMIA firmly believes that EU ETS is and will remain the most cost-effective instrument to achieve Europe's emission reduction goals.

The EU ETS provides long term benefits by moving Europe towards a more energy efficient economy. Renewable technologies and energy efficient technologies provide a competitive edge and very significant economic benefits.

Under the EU ETS we have already established a means of protecting vulnerable industries through free allocation of allowances. In the event of a lack of internally binding cap and trade schemes, the EU may wish to consider border tax adjustments on products with embodied carbon emissions higher than products produced within the EU.

Furthermore, the ETS is an effective way to internalise the external costs of carbon, and it is essential that this continues both within the EU and outside.

The effectiveness of the EU ETS hinges upon the supply of EUAs at a given moment being set at a level that can deliver emission reductions that are in line with the EU ETSs target, this is vital in order to make the market work.

In other commodities markets supply can be and is adjusted in response to unforeseen events. In contrast the EU-ETS is unique amongst commodities markets in that supply is fixed many years in advance. As a consequence of the inflexible EUA supply the EU ETS is unable to adapt to unfolding events.

When non-market events and non-EU ETS Directives have impacts upon the market the supply of EUAs can fall out of line with the stated emissions reduction goals of the EU ETS, undermining its ability to deliver.

For example as a result of the global economic slowdown many EU ETS installations were and in many cases still are, either mothballed or running at greatly reduced production capacity. The supply of free EUAs to these installations however was not mothballed or reduced but continued and still continues at a level designed to supply a plant running at full capacity.

As a direct result the companies shown in the table overleaf, now hold reserves of EUAs that are greater than the combined annual emissions of Austria, Portugal, Denmark and Latvia.⁴⁴ This excess was clearly not the intention of the regulators when allocating free EUAs to prevent carbon leakage.

⁴³ See p.44–45 of *Buckle Up!*

www.sandbag.org.uk/site_media/pdfs/reports/Sandbag_2011-07_buckleup.pdf

⁴⁴ Sandbag Carbon Fat Cats 2011.

The rules of the EU ETS do not allow these EUAs to be clawed back from the installations in question, nor would we advocate doing so, as this would be a clear breach of the rules that govern the EU ETS and not in keeping with the legitimate expectations arising from those rules.

However in the absence of a means to compensate for their presence in the system they are and will continue to, undermine the emissions reduction goals of Phase II and Phase III of the EU ETS.

TOP 10 INDUSTRIAL COMPANIES HOLDING SURPLUS EUAS⁴⁵

<i>Rank</i>	<i>Company</i>	<i>Current Surplus (Million EUAs)</i>
1	ArcelorMittal	97.2
2	Lafarge	29.4
3	Tata Steel	23.1
4	ThyssenKrupp	19.9
5	Riva Group	16.6
6	Cemex	12.7
7	Holcim	12.5
8	Heidelberg Cement	12.5
9	Italcementi	8.9
10	Salzgitter	7.5
	Total	240.3

A further consideration is that the European Commission must continue to give strong signals that the EU ETS will remain as the flagship policy in order to maintain the confidence of companies who are looking to invest in abatement.

This does not always appear to have been at the forefront of their thinking, for example the impact study of DG CLIMAs energy efficiency proposal estimated that it could under certain circumstances reduce the EUA price to near zero.

The introduction of any additional/complimentary measures outside of the EU ETS may act to undermine the EU ETS cap. When this is the case if left unaddressed this will also undermine the investment rationale for companies who either have, or are looking to invest in abatement. This will erode the willingness of companies to make emissions reductions and undermine the rewards for having done so. It is vital that any overlapping or parallel policy measures such as the energy efficiency directive are compensated for by adjusting the EU ETS cap.

The CMIA thus supports the idea of a supply control mechanism, which should act in a predictable and transparent manner to set aside EUAs until Phase IV of the EU ETS. The operation of such a mechanism would be based on the agreed emissions reduction target for a given Phase and regulated in a manner that provides advance notice of any supply intervention in a set of clearly defined and predictable circumstances.

The body governing such a supply control body should be independent of the political process and act in the manner of a central bank.

The key goal of a supply control mechanism should be to maintain the quantity of EUAs available in a given year at the level that the cap is indicating, to ensure that the supply of EUAs implements the ongoing EU ETS emissions reduction pathway, enacting the level of emissions restraint that was originally envisaged by the European Commission during the cap setting process.

As a starting point we would suggest the following features of such a mechanism

- A mandate to as appropriate:
 - Set aside EUAs until Phase IV.
 - Release EUAs from a strategic reserve.
 - Cancel EUAs.
 - Purchase EUAs.
- In order to achieve the following aims:
 - Counterbalance any EUA surplus inherited from previous years or Phases that has arisen from exogenous drivers or the unintended consequences of regulation, rather than abatement activity.
 - Adjust the supply of EUAs in the event that entities under the EU ETS are exempted or granted more (or less) EUAs through legal action or other decisions, so as to keep the level of emissions constraint in line with legitimate expectations of the regulator and regulated.
 - Reduce the supply of EUAs in the event of non-compliance of installations covered by the EU ETS, by an amount equal to their excess emissions.

⁴⁵ Carbon Fat Cats 2011—Sandbag.

-
- Reduce the EUA supply in the event of recycling, fraud or any other means that may cause the number of EUAs in circulation to exceed the amount needed for compliance to the EU ETS.
 - Manage a strategic reserve of EUAs, which are held back or released to stabilize the EUA supply and hence stabilise the level of emissions constraint in much the same manner as a central bank acts to stabilise currency.
 - Stabilise supply in line with legitimate expectations when external political factors directly impact the EUA supply.
 - Protect the overall EU ETS cap by removing EUAs in circumstances where sources of emissions have been removed from the EU ETS but the commensurate volume of EUAs has not been.
 - Adjust the supply of EUAs when exogenous factors are exerting influence upon it.
 - Adjust supply to implement new emissions pathways during the time between their political agreement and regulatory implementation.

Creating a body to implement a supply control mechanism

The call for a supply control mechanism of course raises the question over which body or institution should implement it. Given that most exogenous factors currently exerting influence on the EUA supply are political in nature, it would make clear sense to separate the individuals or body running the supply mechanism from the political process.

As such this would require the creation of a body that is independent from both Member State governments and the European Commission. This body could potentially be nested within an existing institution such as the EIB, or set up as a standalone body.

Setting up an independent European Carbon Body would achieve all of the above aims if implemented correctly.

This is a wholesale structural reform of the way the EU ETS is currently run that will provide long term confidence and stability in the way that it is run and will reduce calls for intermediate measures as it will reduce the need for them.

It is only through this kind of reform, by creating an apolitical body to manage the supply of allowances within the EU ETS, in a manner that is independent of short term political concerns, coupled with the pursuit of ambitious emissions reduction goals that we believe confidence can be fully maintained in the market for now and into the future.

2. Can the EU ETS operate effectively in a world without legally-binding emissions reduction commitments and other cap-and-trade schemes?

Undoubtedly yes in the sense we believe the authors mean, which we interpret as being legally binding emissions reduction targets meaning non EU.

The legally binding emissions reduction targets that drive the EU ETS are those of Europe.

Europe currently has a target that reaches out to 2020 and an emissions reduction goal that reaches out to 2050.

These are (with one exception) independent of the targets that other countries take on and independent of the Kyoto Protocol.

So yes the EU ETS can continue to function in the absence of other regions taking on targets or the continuance of the Kyoto Protocol, as it will be unaffected by the presence or absence of these factors.

The single exception to this, is that the Phase III rules allow for an increase in the EU ETSs emissions reduction target from 21% to 32% in the event of an international treaty.

This legislation was written as an incentive for other parties at a time when it was widely assumed agreement would be reached at the Copenhagen COP and crucially before the current economic downturn.

After Copenhagen it has become increasingly unlikely that a comprehensive legally binding international agreement will be reached in the medium term. In parallel the European Commission estimates that due to the economic downturn the cost of achieving the 32% emissions reduction target is now at the same level of the pre downturn 21% target.

Given the diminished likelihood of achieving a legally binding international agreement before 2013, given that the cost of achieving the 32% target is now at the same level as the pre downturn 21% target and finally given that we are fast approaching the onset of Phase III, the CMIA strongly advocates that Europe unilaterally moves to a 30% reduction in emissions.

3. *What reduction in emissions will the EU ETS deliver in Phase III, within the EU and abroad?*

The EU ETS provides certainty that, on average, overall emission reductions (both within the EU and abroad) will be at least equivalent to the Phase II cap (6% under 2005 level) until 2012 and then a linear trajectory with 1.7% emission reductions per annum until 2020. Reductions can be superior to those imposed by the cap (as happened in Phase I and probably also in Phase II) and even in such case a positive carbon price would keep delivering more reductions.

However, because of banking, if Phase II emissions are below the cap by a certain amount, Phase III emissions can be higher than the cap by the same amount, which may allow emissions to diverge from the cap. As mentioned in section 1, a mechanism should be implemented to keep Phase III supply aligned with the cap.

4. *Could the environmental and economic efficiency of the EU ETS be improved by linking with other emissions trading schemes and how can this be achieved?*

Yes, it is clearly desirable to link with other emissions trading schemes as this can help deliver a global solution. In a world without an overarching climate change agreement, linking the various regional or national schemes will be the central means for globalising efforts.

To date the EU ETS has successfully linked with the CDM, funding additional action against climate change in the developing world. It has also linked with JI providing funding for economies in transition.

In addition the CDM provides a “soft” link between trading systems that mutually accept CERs, but are too different in terms of design or level of ambition to be directly linked.

The current state of play is such that a direct link with a new emissions trading scheme is a distant prospect.

- (a) The CDM (and to a lesser extent JI) provides the opportunities for linking with a UN-regulated, globally accepted, carbon credit. This has proven to work very well, stimulating significant emission reductions in developing countries.
- (b) Given the above the CMIA believes that the link with the CDM should remain, and should be expanded, in order to increase the level of reductions being achieved globally.
- (c) With the exception of New Zealand there are no other trading schemes with which to link at present. Unfortunately with New Zealand it may not be possible to link as its scheme includes land use credits, which the EU ETS bars for political reasons.
- (d) Any moves to link with other systems should be comprehensively assessed, as if mishandled linking can introduce significant complications, for example in the form of banking and offset eligibility. Effectively, any scheme that the EU ETS proposes to link with must be sufficiently similar so as to be able to dock with the EU ETS rules on banking and eligibility. Particular care must also be taken concerning levels of ambition, allocation rules and hence potential over-allocation, to prevent flooding the EU ETS with cheap allowances.
- (e) From a longer term perspective, the EU ETS is in a good position to work with each new scheme that is developing (eg ETS in New Zealand, California, Australia and South Korea), the more schemes that are EU ETS compatible, the less sense it will make for any new schemes to come up with less stringent rules.
- (f) If we take a long term view (i.e. looking to 2050 and 2080) then imperfections over the first phase of a linkage agreement should be seen as temporary issues and not evidence of a wider failure of the ETS in general.

On the basis of these arguments, CMIA concludes that linkage is beneficial and whilst difficult, it should be pursued as soon as it is feasibly possible to do so without undermining the environmental goals of the EU ETS.

5. *What actions should the UK and the EU be taking to promote the development of compatible ETSs internationally?*

The EC is already doing a good job of promoting ETS and their recent work in China is a good example. We must continue to promote the advantages and lessons learnt, including as discussed in section 1 the need for a mechanism to ensure the cap and the allocations are aligned. The EU can also encourage and help the development of the international carbon market by offering specific linkage opportunities to nationally binding schemes.

Further to this the EU and UK have provided significant technical assistance and capacity building for developing countries that are looking to act as CDM host countries. In a similar vein it would help the development of additional cap and trade schemes if similar technical assistance and capacity building expertise were offered to potential hosts.

6. *Could sectoral agreements form part of the future of the EU ETS?*

There are two key interpretations of what sectoral agreements mean, which should be looked at separately from each other when answering this question.

They are:

- (1) **Sectoral schemes within capped environments**, designed as measures to induce further GHG emission cuts within economies that already have targets such as the EU or Japan.

It is of paramount importance to make clear that in the case of EU Member States, a sectoral scheme should be complementary to the EU ETS, ie any sectoral scheme should support the EU ETS and not overlap with or undermine its goals.

Environmental policy relies on investors belief in the regulators commitment to a particular policy if that policy is to generate the required capital flows into emissions abatement. By way of example June's debate surrounding the Energy-Efficiency Directive renewed fears of overlapping targets, policies and measures. Any further policy should complement existing instruments and should not interfere with existing targets.

If European sectors are included in a sectoral scheme any effect this has on the EU ETS cap should be compensated for via the supply control mechanism outlined in section 1.

At present, the EU ETS is a multi-sector ETS covering sectors which operate stationary sources and shortly, aviation. Other countries (not just Annex 1/developed countries) could also implement multi- or single-sector ETS which link with the EU ETS.

For example, the power sector or the cement and steel sectors in a developed or developing economy could enter into a binding ETS and link with the EU ETS, which is the point at which the second interpretation of sectoral becomes relevant.

- (2) **Sectoral agreements which are intended to as a step towards binding economy wide emission targets for developing countries.**

Sectoral crediting and trading agreements as discussed in the context of international climate negotiations are very far from being fully defined.

The current sectoral proposal that the EU has forwarded as part of the UNFCCC New Mechanism submission is unlikely to work in mobilising significant investment, as it does not provide the necessary incentives that the private sector needs to invest.

Specifically sectoral crediting and trading mechanisms need to be designed in such a way as to provide appropriate incentives to facilitate investment, whilst being realistic and achievable in terms of the GHG emission targets which are being set for a particular sector.

As well as supply side considerations which are elaborated below, from a demand side perspective industry would need to be sure that there was sufficient demand within the EU ETS for the resulting credits in order to drive investment.

Industry has several issues with the EU new mechanisms proposal:

- Firstly the EU proposal works on the basis that the entire sector will be covered with one benchmark and it's only if every installation within that sector hits and subsequently beats the benchmark that emission reductions will be awarded. This unfairly penalises installation that beat the benchmark when their competitors don't. The CMIA cannot see how an investment in such an environment could be made, as the risk of non performance by competitors has binary consequences and is entirely outside the control of the investor.
- Secondly the EU approach works on the basis that sectoral agreements will be agreed centrally to cover sectors such as power, cement etc. Whilst this might work for countries that are highly centralised like China it could be much harder to implement elsewhere.⁴⁶
- Thirdly the EU proposal assumes that one GHG benchmark will be developed per sector and ideally this will be derived from the equivalent EU benchmark. Whilst this might at first glance be sensible not all sectors have uniform technologies, plant efficiencies and often developing countries are utilising much older plant infrastructure, or in some cases far more advanced. A one-size-fits all benchmark derived from EU benchmarks in practice is unlikely to work. This will have the effect of only bringing in the best performing sectors and leaving the worst performing sectors out, leaving behind the very sectors that most need capital flows for mitigation.

Industry has garnered more than seven years of valuable insight and experience generated as a result of the CDM with regards to establishing a credible and robust international standard for carbon offsets, appropriate governance, market regulation and oversight, which is still evolving.

Sectoral mechanisms would need to replicate this kind of infrastructure to function effectively, from an optimistic estimate is likely to take a minimum 2—3 years just to develop this infrastructure and significantly longer to collate and assess all the data needed to run a sectoral scheme.

⁴⁶ This points to a central flaw in the post 2012 engagement of the EC with developing world on climate change, namely whilst it is pushing the CDM in least developed countries and its sectoral proposals in advanced developing countries, the developing countries which fall in between these two categories, which is to say the vast majority, are entirely overlooked.

Finally the fungibility of the resulting emission reductions needs to be considered as the EU approach lends itself more to governments being issued with emission reductions for beating GHG benchmarks rather than companies, again this is something which is not necessarily perceived favourably by the private sector and will act to limit investment.

For more detail on how sectoral mechanisms should be designed in order to fit with existing mechanisms, such as the EU ETS, please read CMIA's submission on market-based mechanisms to the UNFCCC in February 2011.⁴⁷

7. Will the EU ETS be able to access viable alternatives to international credits without the Clean Development Mechanism?

No, not in the foreseeable future as no operational alternative exists.

The CDM is a powerful tool channeling investment into developing countries in low-carbon technologies. Carbon credits must be issued via a credible and transparent mechanism which ensures to a high degree of certainty that the credits are real and measurable and are not double counted. The CDM is the only mechanism which can provide these guarantees at present.

Without the continued experience from the CDM (and to a lesser extent JI) none of the 'new' mechanisms talked about, are likely to become operational, and even with a continued CDM, these 'new' mechanisms are not likely to become operational in the near future. There are some possible exceptions, with some developing countries having started discussions about emission trading schemes, but it is currently impossible to say whether reductions achieved in such schemes will be comparable in effort to those achieved in the EU ETS and hence fungible with EUAs or CERs.

However, political constraints on the demand for carbon credits for offsetting, means that the use of carbon credits as offsets alone cannot reduce developing country emissions at sufficient scale to fully address climate change. Complimentary approaches are needed that utilize carbon credits such as CERs in alternative ways.

8. Is the EU ETS a constraint on unilateral action to reduce emissions and, on the other hand, how are Member States' own policies affecting the operation of the trading system?

Assuming that by unilateral action the question is referring to unilateral action by the UK.

The main problem with unilateral action is competition. The EU ETS covers 40% of EU emissions and creates an equal burden on polluters. Adding unilateral UK action on sectors exposed to EU competition directly and indirectly (which is the case of most EU ETS sectors) would likely distort competition between European businesses. However, on sectors not affected by competition (such as housing, transport, retail distribution...), unilateral action is possible.

9. How serious an impact have the recent cases of fraud had on confidence in the EU ETS? Are further improvements in security and auditing required?

Fraud is not restricted to the EU ETS.

Fighting fraud is the on-going responsibility of the relevant authorities. As long as steps are continuously taken to improve security and steps are taken to rectify the damage done by successful fraud events, the EU ETS should not be impacted. Recent events, such as VAT fraud and theft are not unique to the EU ETS. While responses from the regulator came promptly, confidence had suffered primarily from insufficient action from the regulatory side, eg in the case of security breaches within national registries there was a lack of information as regards to the identification of allegedly stolen allowances. However, self-regulation by the market participants had enabled the market to continue functioning (eg through the screening of EUAs traded through exchanges and changes in contracts).

The on-going review of the general functioning of EU ETS undertaken by the EC is taking a very close look at market oversight issues and proposals to address potential deficiencies are being made as we write.

10. How can the EU ETS be strengthened to operate effectively in a world without legally binding emissions reduction obligations?

- Improve the governance of the EU ETS by implementing a supply control mechanism overseen by a non political body.
- Implement a mechanism to keep the allocation aligned with the cap (this would remove the excess EUAs which are currently in circulation and improve confidence in the system) and the cap readjusted in light of complementary/additional regulation.
- Pro actively link with other developing ETS to ensure that EU ETS compatible rules become a globally recognised norm.

⁴⁷ To be downloaded at <http://unfccc.int/resource/docs/2011/smsn/ngo/219.pdf> or <http://www.cmia.net/Portals/0/Repository/newmechs%2020110221.c8ad791c-6f90-4682-a884-e8ec61b3057b.pdf>

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- Impose border tax adjustments on carbon intensive products sourced from countries which do not regulate GHG emissions, or extend the EU ETS to imported goods.
 - Encourage all other Parties to the UNFCCC to adopt sectoral emission trading schemes for the most developed sectors of their economies and offer linking options with the EU ETS in return for adopting EU ETS compatible values and rules. These can be implemented in conjunction with Copenhagen Pledges or KPII commitments.
 - Encourage emission reductions being achieved globally by continued effective linking with the CDM, without (too many) restrictions.
 - Develop and advertise the broader benefits of emissions trading and reduced energy consumption

August 2011

Memorandum submitted by UK Chamber of Shipping (ETS 42)

As the Committee will be aware, shipping was not included in the EU ETS at its inception due to the complexities of incorporating such a truly global industry without causing market distortion and potentially placing European shipping companies at a competitive disadvantage. Whilst shipping still remains outside the EU ETS, the EU Transport White Paper published in 2011 states that:

In maritime, the need for a global level-playing field is equally pronounced. The EU should strive—in cooperation with IMO and other international organisations—for the universal application and enforcement of high standards of safety, security, environmental protection and working conditions, and for eliminating piracy. The environmental record of shipping can and must be improved by both technology and better fuels and operations: overall, the EU CO₂ emissions from maritime transport should be cut by 40% (if feasible 50%) by 2050 compared to 2005 levels.

It is the view of the Chamber of Shipping that a global solution for addressing carbon emissions from shipping is required (ie through the UN's International Maritime Organisation (IMO)) rather than a regional solution. Progress within the IMO, however, has been slow. Developing countries have argued that measures should only be mandated in developed countries and left voluntary in developing countries. Such an approach would, of course, lead to a large market distortion.

However, in July 2011, some progress was achieved. Energy efficiency measures for ships were agreed, making mandatory the Energy Efficiency Design Index (EEDI) for new ships and the Ship Energy Efficiency Management Plan (SEEMP) for all ships. The EEDI is a non-prescriptive, performance based mechanism that leaves the choice of technologies to use in a specific ship to the industry. As long as the required energy efficiency level is achieved, ship designers and builders would be free to use the most cost efficient solutions. The SEEMP establishes a mechanism for operators to improve the energy efficiency of ships.

The Chamber has welcomed the advances made by the International Maritime Organization to promote the reduction of shipping's carbon emissions through technical efficiencies but believes that it will prove necessary for the industry to go further—through the adoption of economic (or “market-based”) measures to meet governments' expectations and targets. Though EEDI and SEEMP may deliver the 40% reduction by 2050 as desired by the EU, that does not take into account the expected growth of the shipping industry over the same period that will, in effect, drive down the overall reduction. There is no certainty therefore that the EU will accept that the measures agreed in the IMO will be sufficient and may therefore choose to impose a regional solution. This is currently under discussion within the EU and the Commission is holding a series of meetings with industry representatives to ascertain what, if any, regional solution should be imposed on shipping. They are also commissioning a study to investigate the merits, impacts and desirability of the various market based approaches. The Chamber has recently published papers on how both an ETS and a Contribution Fund (Levy) might work for shipping and hopes that these will inform this debate.

Any regional scheme begs many questions with respect to its implementation. For example, should allocations per ship be based on distance, or route, or the distance the cargo has travelled? Is the bill of lading reliable? What if a ship has a single or multiple bills of lading between EU and non-EU ports? Should ballast voyages be regulated? Questions also arise such as which ship operators and routes will be affected by the EU ETS? Will it cover all ship-operators, EU or non-EU based? Engaged in domestic and/or intra EU trade? What about addressing emissions from all incoming routes and/or outgoing routes? Will all ship-operators thus be treated equally? What about the geographic scope of the ETS? Apart from the size limit (400GT) should any other particularities be taken into consideration before applying for exemptions? There are also concerns with respect to carbon evasion, leakage and, of course, fraud.

It is the strongly held view of the Chamber that an international solution is required for such a truly international trade and one on which the UK is so dependent. Rather than trying to develop and implement a regional solution the EU should, therefore, exert all its efforts and influence on trying to push for an international solution within the IMO.

August 2011

NOTES

- The Chamber of Shipping is the trade association for the UK shipping industry, working to promote and protect the interests of its members both nationally and internationally. With 137 members and associate members, the Chamber represents over 917 ships of about 27 million gross tonnes and is recognised as the voice of the UK shipping industry.
- UK shipping has a turnover of over £11 billion. With indirect effects, UK shipping's contribution to UK GDP is £13 billion.
- The Chamber is a member of Maritime UK, which brings together the major associations representing the UK's the shipping, ports and maritime business services sectors.
- The Chamber is a lead partner in Sea Vision, the nationwide campaign working to raise awareness of the sea and the maritime sector, particularly amongst young people aged between 13 and 22 years old.

For more information on British Shipping, please go to: <http://www.british-shipping.org>

Supplementary memorandum submitted by UK Chamber of Shipping (ETS 42A)

I am conscious that I was also asked to produce some facts and figures for the Committee on the differences between the different transport modes in terms of carbon emissions. On the basis of the many recent studies and other information reviewed by the Chamber, we believe an accurate analysis to be as follows:

Sea	—	10 to 15 grams/tonne-kilometre
Rail	—	19 to 41
Road	—	51 to 91
Air	—	673 to 867

As you will note, these are relative rather than absolute figures and are—we believe—the only equitable way to make such a comparison. The driver for carbon emissions from ships is the level of world trade at any one time and, as I mentioned in my oral evidence, international shipping carries 80%+ of world trade by volume. That demand is of course not dictated by the shipping industry but by the needs and desires of individual nations and individuals.

In absolute terms, the current percentage of the world's carbon emissions attributable to international shipping has been estimated by IMO experts at 2.7% of emissions. This compares with the percentage attributable to aviation which is generally considered to be around 1.95% (though, here, it should perhaps also be recalled that this is emitted directly into the atmosphere rather than at ground level).

November 2011

Supplementary memorandum from the Department of Energy and Climate Change (ETS 01B)

Thank you for your letter of 1 November 2011 regarding the level of free allocation for aircraft operators that will be regulated by the UK under the EU Emissions Trading System (EU ETS). I am sorry for the delay in replying to your request this was due to assuring we have the necessary legal clearance to release this data.

The spreadsheet annexed to this letter shows the 2010 emissions data and the free allocation for UK regulated aircraft operators. Our estimates show that aircraft operators will receive on average 76% of the allowances they need for free in 2012. Over the period 2013–20 the free allocation is likely to decrease to approximately 68% of emissions.

The data in the spreadsheet relates to those aircraft operators that submitted an emissions report for 2010.

This spreadsheet has been published on DECC's website at:

http://www.decc.gov.uk/en/content/cms/emissions/eu_ets/aviation/aviation.aspx

CRCO	Commission List Name	2012 Allocation of Allowances	Annual Allocation of Allowances 2013–2020	Total Allocation for 2013–2020	Tonnes of CO2 Reported for 2010
1905	3M COMPANY	249	235	1,880	3,885
30021	57 AVIATION SERVICES LLC	11	10	80	319
6803	711 CODY INC	20	19	152	657
27726	994748 ONTARIO INC	n/a	n/a	n/a	873
29496	A J WALTER AVIATION	n/a	n/a	n/a	1,016
8740	ABBOTT LABORATORIES	51	48	384	1,355
29096	ACE-INA FLIGHT OPS	13	12	96	461

<i>CRCO</i>	<i>Commission List Name</i>	<i>2012 Allocation of Allowances</i>	<i>Annual Allocation of Allowances 2013–2020</i>	<i>Total Allocation for 2013–2020</i>	<i>Tonnes of CO2 Reported for 2010</i>
29326	AEROSERVICIOS EJECUTIVOS CORPORATIVOS S.A. DE C.V.	3	3	24	114
31032	AIM AVIATION	12	11	88	390
201	AIR CANADA	1,832,089	1,730,985	13,847,880	2,056,151
237	AIR INDIA	923,601	872,632	6,981,056	1,144,082
26351	Air Kilroe Ltd trading as Eastern Airways	17,006	16,068	128,544	57,658
264	AIR NEW ZEALAND	347,924	328,724	2,629,792	400,406
29716	AIR SOUTH WEST LTD.	8,821	8,335	66,680	21,126
5633	AIR TRANSAT	614,809	580,881	4,647,048	656,345
f10008	AIRBILL INC.	n/a	n/a	n/a	55
35354	AirAsiaX	161,517	152,603	1,220,824	202,033
10639	AIRSTAR CORPORATION	23	22	176	358
31508	AL SALAM 319 LTD.	51	48	384	1,267
2297	ALIA ROYAL JORDANIAN	174,719	165,077	1,320,616	260,972
33141	AIRTIME LLC	n/a	n/a	n/a	580
23373	AL Tameer	n/a	n/a	n/a	1,233
f10023	ALPHA TECHNOLOGIES, INC.	n/a	n/a	n/a	268
33938	AMAC AEROSPACE	74	70	560	2,062
364	AMBRION AVIATION	n/a	n/a	n/a	2,862
369	AMERICAN AIRLINES	2,745,318	2,593,818	20,750,544	3,311,820
372	AMERICAN EXPRESS	81	76	608	2,098
375	AMERICAN INT GROUP	n/a	n/a	n/a	2,344
31782	AMERIPRISE FINANCIAL	19	18	144	396
31943	AMGEN	30	29	232	950
35644	AMY'S KITCHEN INC.	18	17	136	212
f10035	ANADARKO PETROLEUM CORPORATION	59	56	448	1,494
35895	ANDROMEDA LTD	19	18	144	988
25743	ANSCHUTZ	n/a	n/a	n/a	97
32054	ARIK AIR LTD	56,934	53,792	430,336	113,405
33376	ARMAD	24	22	176	871
28558	ASTRAEUS LTD	97,012	91,659	733,272	142,805
35166	AT&T INC	23	22	176	999
31345	ATLANTIC AIRLINES UK	7,173	6,777	54,216	23,387
436	AURIGNY AIR SERVICES LIMITED	8,910	8,418	67,344	14,865
31623	Avalon Capital Group	n/a	n/a	n/a	912
27087	AVIONETA LLC	32	30	240	670
29445	AVN AIR	n/a	n/a	n/a	81
33050	AVTRADE UK	n/a	n/a	n/a	149
18980	AZERBAIJAN HAVA YOLLARI	11,757	11,108	88,864	36,279
12669	BA CITYFLYER LTD	43,191	40,807	326,456	114,400
32705	BAA JET MANAGEMENT	4	4	32	104
481	BAE SYSTEMS (OPERATIONS) LTD	n/a	n/a	n/a	356
31555	BAKEWELL INDUSTRIES	8	8	64	252
6323	BANLINE AVIATION	50	47	376	1,009
36153	BAYHAM LIMITED	98	92	736	N/A
35068	BEACON CAPITAL PARTNERS LLC	14	13	104	547
21482	BECHTEL	36	34	272	828
6890	BECTON DICKINSON	30	28	224	423
9170	BEL AIR LIMITED	40	38	304	1,379
8974	BERWIND CORPORATION	56	53	424	600
32764	BHARAT FORGE	9	9	72	133
3166	BLACK & DECKER	13	12	96	324
f10089	BLOOMBERG SERVICES LLC	52	50	400	1,532
f200002	BMIBaby Limited	166,325	157,146	1,257,168	274,503
12177	BNY Mellon	15	14	112	479
30051	BOETTI AIR	40	38	304	1,981
342	BOMBARDIER INC	n/a	n/a	n/a	3,031
30590	Bond Offshore Helicopters Ltd	2,618	2,473	19,784	22,765
629	Bristow Helicopters Ltd	5,718	5,402	43,216	N/A
31732	BOULTBEE AVIATION 3	n/a	n/a	n/a	261
590	BRITISH AIRWAYS PLC	10,343,937	9,773,107	78,184,856	14,865,507
634	BRITISH MIDLAND AIRWAYS LTD	388,485	367,046	2,936,368	646,869

<i>CRCO</i>	<i>Commission List Name</i>	<i>2012 Allocation of Allowances</i>	<i>Annual Allocation of Allowances 2013–2020</i>	<i>Total Allocation for 2013–2020</i>	<i>Tonnes of CO2 Reported for 2010</i>
29157	BROKERAGE & MANAGMT	28	26	208	644
30369	Caesars Entertainment Operating Company Inc	15	14	112	256
29940	BROOM P AVTN SVCS	n/a	n/a	n/a	1,162
12499	CALSPAN	n/a	n/a	n/a	42
4018	CAMPBELL SALES COMPANY	24	23	184	327
29956	Can Pacific Railway	n/a	n/a	n/a	68
f10103	CANADIAN UTILITIES LIMITED	n/a	n/a	n/a	88
22724	Cardinal Health	2	2	16	115
4029	CARGILL	n/a	n/a	n/a	338
32273	CASBAH	n/a	n/a	n/a	1,148
6625	CATERPILLAR	6	6	48	163
5800	CATHAY PACIFIC	2,377,669	2,246,458	17,971,664	2,936,700
34153	CAYLEY AVIATION LTD	6	5	40	193
31570	CBAIR LLC	32	30	240	732
f10110	CBS MASS MEDIA CORPORATION	n/a	n/a	n/a	275
31445	Celestial Airways	37	35	280	2,843
34118	CELEUS INVESTMENTS LLC	30	28	224	269
f10770	Charles Schwab	11	10	80	N/A
28796	CHARTWELL AVIATION SERVICES LLC	4	4	32	221
1808	CHC Scotia Ltd	4,220	3,987	31,896	N/A
3769	CHEVRONTXACO	n/a	n/a	n/a	2,195
7526	CIGNA	19	18	144	232
27210	CITIGROUP	44	42	336	2,292
32526	CJSC Sky Express""	19,096	18,043	144,344	30,013
22309	CJSC AIRCOMPANY POLET""	75,069	70,926	567,408	118,792
28482	CLEARWATER FINE FOODS	18	17	136	390
f10121	CLEVELAND BROWNS TRANSPORTATION LLC	54	51	408	1,232
31057	CLOUD AIR SERVICES LTD	37	35	280	1,779
f11105	COCA COLA ENTERPRISE	19	18	144	N/A
9049	COLLEEN CORP	80	75	600	3,481
30637	COMPANHIA VALE DO RIO DOCE	13	13	104	699
f10124	CONANICUT AVIATION	n/a	n/a	n/a	158
4742	CONDOR AVIATION	n/a	n/a	n/a	267
32850	Consolidated Press Holdings Limited	14	14	112	587
22862	CONSTELLATION LEASING LLC	15	14	112	199
8187	CONTINENTAL AIRLINES	2,146,690	2,028,225	16,225,800	2,664,440
26988	COSTCO WHOLESALE CORPORATION	5	4	32	160
9248	CRANE COMPANY	n/a	n/a	n/a	318
31211	CSC TRANSPORTATION INC	43	41	328	459
33204	CTC AVIATION JET SERVICES LTD	140	132	1,056	2,443
11175	CZAR AVIATION LTD	4	4	32	467
30278	DARWIN AIRLINE	5,495	5,192	41,536	16,883
27123	DATEL HOLDINGS LTD	1	1	8	54
2808	Dennis Vanguard International (Switchgear) Ltd	68	64	512	2,949
f10140	DEVON REALTY ADVISORS, LLC	n/a	n/a	n/a	73
35715	DHL Air UK	330,237	312,013	2,496,104	199,431
34630	DIRECT AVIATION MNGT	n/a	n/a	n/a	146
31504	DIRECTV GROUP	n/a	n/a	n/a	61
8334	DITCO SA	n/a	n/a	n/a	2,070
f10171	DOMINION RESOURCES SERVICES INC.	n/a	n/a	n/a	108
944	DONINGTON AVIATION	32	30	240	728
31583	DTC LLC	n/a	n/a	n/a	306
6064	DUBAI AIR WING	13,963	13,192	105,536	50,552
11968	DUKE OF WESTMINSTER	27	25	200	1,767
9784	DUNAVANT ENTERPRISES	1	1	8	61
22252	EAGLE AIRCRAFT	n/a	n/a	n/a	3,378
23226	EASYJET AIRLINE	3,697,330	3,493,293	27,946,344	4,438,790
996	EGYPTAIR	375,299	354,588	2,836,704	465,213
29824	EIE EAGLE INC ESTABLISHMENT	30	29	232	1,512
29935	ELMET Aviation	n/a	n/a	n/a	1,013
4025	Embraer	28	26	208	1,074

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9807	EMIRATES	4,327,310	4,088,507	32,708,056	4,130,151
33488	ENBRIDGE	n/a	n/a	n/a	97
f10178	ENTERPRISE RENT-A-CAR, ENTERPRISE HOLDINGS	n/a	n/a	n/a	187
29929	ETIHAD AIRWAYS	1,013,498	957,568	7,660,544	1,158,781
14846	EVA AIR	570,208	538,741	4,309,928	572,320
29654	EWA WEST LLC	9	8	64	350
34017	EXECUTIVE AVTN LTD	n/a	n/a	n/a	436
30494	EXECUTIVE JET GROUP	n/a	n/a	n/a	2,824
23881	EXECUTIVE JET MANAGEMENT	1,003	948	7,584	27,634
1076	Exxon Mobil Corporation	27	26	208	3,408
33646	FAIRMONT AVIATION COMPANY LTD	18	17	136	606
7382	FALCONAIR LTD	27	25	200	1,306
33587	FANAIR AVIATION LTD.	27	25	200	1,038
8430	FAYAIR (JERSEY) Co Limited	51	48	384	1,570
35797	FELHAM ENTERPRISES INC	n/a	n/a	n/a	159
23081	FERTITTA ENTERPRISES	n/a	n/a	n/a	1,344
f10192	FIRST DATA CORPORATION	15	14	112	280
f10193	FIVE STAR AVIATION LLC	6	5	40	87
18781	FJ900 Inc.	27	26	208	854
9695	FJR PRIVATE FLIGHT	32	30	240	396
f10202	FL AVIATION CORPORATION	103	97	776	2,426
5453	FLYBE	274,928	259,756	2,078,048	574,910
10992	FLYING LION Ltd	23	22	176	2,312
10276	FLYNN FINANCIAL	n/a	n/a	n/a	269
f10210	FOREIGN MANUFACTURES FINANCE CORP	18	17	136	563
21529	FOREST AVIATION LTD	n/a	n/a	n/a	343
7521	FORMULA ONE MNGMT	198	187	1,496	1,772
22109	FRANKLIN TEMPLETON TRAVEL INC.	61	58	464	1,158
32164	FUTURA TRAVELS	38	36	288	676
7618	GAMA AVIATION LTD	601	568	4,544	18,178
f10217	GANNETT CO., INC.	n/a	n/a	n/a	54
1278	GE CORPORATE AIR TRP	36	34	272	2,125
f10219	GENERAL AVILEASING, INC.	n/a	n/a	n/a	633
1277	GENERAL DYNAMICS	n/a	n/a	n/a	829
25841	GF AIR	43	40	320	1,645
f10227	GLOBAL PACIFIC AVIATION, INC.	n/a	n/a	n/a	153
32293	GOODRICH CORPORATION	28	27	216	772
28048	Graham Capital Company	n/a	n/a	n/a	75
33773	GRAHAM CAPITAL MGMT	7	6	48	292
31771	Grass Green II LLC	27	25	200	492
23240	GTC Management Services	45	42	336	988
f10234	GUIDARA NORDESTE PARTICIPACOES LTDA	2	2	16	82
1365	GULF AIR	281,123	265,610	2,124,880	358,926
34936	GX AVIATION	21	19	152	1,180
8352	H J HEINZ COMPANY	81	77	616	1,449
32412	Hamilton Aviation Inc	23	22	176	1,220
29388	Hangar 8 Ltd	400	378	3,024	N/A
12127	HAMILTON COMPANIES	n/a	n/a	n/a	105
5601	HAMLIN JET LTD	n/a	n/a	n/a	1,641
29387	HARBERT FUND ADVISORS INC.	6	5	40	218
9954	HARRIS Corporation	14	13	104	338
21857	HARSCO Corporation	24	23	184	625
529	HAWKER BEECHCRAFT CORPORATION	n/a	n/a	n/a	1,830
32824	HBC AVIATION	n/a	n/a	n/a	187
28603	HCC SERVICE COMPANY	n/a	n/a	n/a	408
f10240	HESS CORPORATION	6	6	48	243
f10247	HEWLETT-PACKARD COMPANY	n/a	n/a	n/a	2,420
35165	HICKS HOLDINGS LLC	n/a	n/a	n/a	298
24583	HILL AIR	34	32	256	628
8849	HONEYWELL INTERNATIONAL Inc	152	144	1,152	2,693
17402	IBM CORP	15	14	112	492

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9962	ICELAND FROZEN FOODS	35	33	264	829
f10257	IMS HEALTH	29	28	224	534
15438	INFLITE ENGINEERING	n/a	n/a	n/a	786
31503	INTERNATIONAL JET CLUB	462	437	3,496	12,412
31858	Invemed AVTN SRVCS	n/a	n/a	n/a	253
28061	ISLAND AVIATION, INC	n/a	n/a	n/a	628
23317	ITT Corporation	n/a	n/a	n/a	511
27301	IVANHOE CAPITAL AVIATION	15	14	112	501
493	J C BAMFORD EXCAVATORS LIMITED	147	139	1,112	3,425
27049	J MAX AIR SERVICES	n/a	n/a	n/a	2,186
f10269	J. C. PENNEY CORPORATION INC.	23	22	176	297
f10265	JACKSON NATIONAL LIFE	27	26	208	926
1559	JAPAN AIRLINES INTERNATIONAL Co. Ltd	1,019,308	963,058	7,704,464	1,107,834
27693	JATO AVIATION LTD	n/a	n/a	n/a	341
f10275	JELD-WEN Inc.	3	3	24	57
24997	JET AIRWAYS (INDIA) LTD	1,043,249	985,678	7,885,424	1,109,568
7532	JET2.COM LIMITED	453,353	428,335	3,426,680	572,101
30733	JETSTEFF AVIATION	n/a	n/a	n/a	777
32069	JOHN MASON ACFT SVCS	n/a	n/a	n/a	1,027
7628	JOHNSON FRANKLIN	n/a	n/a	n/a	131
6281	JOHNSON SC AND SON	8	8	64	263
24536	JPMORGAN CHASE BANK National Association	67	63	504	1,883
26537	KANGRA AVIATION (FA)	20	19	152	316
f10286	KANSAS CITY LIFE INSURANCE COMPANY	7	7	56	77
34670	KEEPFLYING LLP	n/a	n/a	n/a	599
3735	KENYA AIRWAYS	322,907	305,087	2,440,696	337,438
24347	KERZNER INTL.	41	39	312	1,515
32845	KILMER MANAGEMENT LIMITED	20	19	152	220
35938	KNIGHTSDENE LIMITED	14	13	104	309
20894	KOHLER CO	63	60	480	1,529
1673	KUWAIT AIRWAYS	168,015	158,743	1,269,944	230,914
f10610	L.A.W. AVIATION LLC	8	8	64	212
34746	LEAR 313 LTD	n/a	n/a	n/a	371
1703	Learjet Inc.	16	15	120	770
f10496	LEUCADIA AVIATION INC.	17	16	128	570
36957	LEVEL 3 COMMS	n/a	n/a	n/a	86
26996	LIBERTY AVTN COMPANY	n/a	n/a	n/a	968
12275	LIBERTY MUTUAL Insurance Company (Co.)	n/a	n/a	n/a	1,760
35327	LIMONIA LTD.	16	15	120	479
1823	LOCKHEED MARTIN CORPORATION	49	46	368	1,043
23603	LONDON EXECUTIVE AVIATION LIMITED	n/a	n/a	n/a	6,679
27766	LOWE'S COMPANIES	6	6	48	212
f10305	M.J. AIR LLC	2	2	16	48
1801	MALAYSIA AIRLINES	1,224,539	1,156,963	9,255,704	1,565,415
3901	MARATHON OIL	29	27	216	816
34154	MARCO POLO AVIATION LTD	34	32	256	1,861
35077	MARKS & SPENCER PLC	n/a	n/a	n/a	342
32516	MAZGROW FINANCE LLC	n/a	n/a	n/a	182
4260	MCCAIN FOODS	4	4	32	138
f10312	MCCORMICK AND COMPANY INC.	7	6	48	162
26848	MCDONALD'S CORP	27	26	208	804
27893	MERCK & CO	72	68	544	1,754
11068	MGM MIRAGE AVIATION	13	13	104	240
26475	MIDAMERICAN ENERGY HOLDINGS COMPANY	n/a	n/a	n/a	268
30837	MIDROC AVIATION	n/a	n/a	n/a	14,501
1922	Monarch Airlines Limited	1,046,529	988,776	7,910,208	1,113,035
3508	Monsanto Company	8	8	64	306
4341	MOTOROLA ILLINOIS	74	70	560	1,897
f10319	MP AIR INC.	11	10	80	404
31832	MR. MARTIN ROWLEY	17	16	128	423
32579	MYSKY LLP	n/a	n/a	n/a	233

<i>CRCO</i>	<i>Commission List Name</i>	<i>2012 Allocation of Allowances</i>	<i>Annual Allocation of Allowances 2013–2020</i>	<i>Total Allocation for 2013–2020</i>	<i>Tonnes of CO2 Reported for 2010</i>
f10327	NATIONAL GYPSUM COMPANY	3	3	24	142
6764	NATIONAL JETS	n/a	n/a	n/a	121
8419	NETJETS INTERNATIONAL	1,428	1,350	10,800	36,443
27890	News America Incorporated	n/a	n/a	n/a	1,166
33712	NOBLE FOODS LTD	n/a	n/a	n/a	457
33203	NOCLAF LIMITED	66	62	496	2,951
f10338	NORDSTROM, INC.	n/a	n/a	n/a	101
31489	NS AVIATION LTD.	38	36	288	732
21845	OAKMONT	n/a	n/a	n/a	287
31793	OCEAN SKY (UK) LTD	n/a	n/a	n/a	1,947
33974	OCEAN SKY AIRCRAFT MANAGEMENT	n/a	n/a	n/a	6,615
22820	Oman Air	179,156	169,269	1,354,152	229,538
22888	On Time Aviation Corp	10	10	80	322
17692	ONUR AIR TASIMACILIK A.S.	220,280	208,124	1,664,992	236,214
32487	P.M. AIR	n/a	n/a	n/a	459
35176	PACIFIC JET AVIATION	15	14	112	292
2088	PAKISTAN INTERNATIONAL AIRLINES CORP.	524,173	495,246	3,961,968	654,577
28158	PALACE INTL	n/a	n/a	n/a	540
30002	PALM TREE AVIATION LTD	3	3	24	331
36085	Park House Aviation Ltd	4	4	32	145
30968	PAN-GULF AVTN	n/a	n/a	n/a	378
f10351	PARAMOUNT PICTURES CORPORATION	n/a	n/a	n/a	1,060
f10356	PEABODY ENERGY	n/a	n/a	n/a	219
f10609	PEGASUS SOUTH, LLC	n/a	n/a	n/a	117
22294	PENSKE JET INC	25	24	192	845
f10595	PFIZER INC.	n/a	n/a	n/a	1,807
22434	PRESIDENTIAL FLIGHT UAE	350	331	2,648	8,959
31920	PRESTBURY TWO LLP	18	17	136	377
29430	PRIME LEGACY MNGMT	n/a	n/a	n/a	177
3751	PROCTER&GAMBLE	76	72	576	1,882
f10369	PROFESSIONAL JET MANAGEMENT INC.	9	9	72	274
33080	PROPINVEST ASSET MGM	n/a	n/a	n/a	446
2196	QANTAS AIRWAYS	1,020,117	963,822	7,710,576	1,479,862
21912	QATAR AIRWAYS	1,541,007	1,455,966	11,647,728	1,608,681
31585	QUALCOMM Incorporated	100	94	752	2,722
30948	QUINN AVIATION LTD	n/a	n/a	n/a	71
29692	RABBIT RUN LLC	35	33	264	1,267
32174	RAVELLO ENTERPRISES	8	7	56	234
26191	RAVENHEAT MANUFACTRG	n/a	n/a	n/a	390
f10376	RAYTHEON COMPANY	3	3	24	64
f10378	RED WHITE & BLUE PICTURES, INC.	n/a	n/a	n/a	165
31859	Relational Investors LLC	n/a	n/a	n/a	53
9674	REMO INVESTMENTS	3	2	16	359
33614	RICHARD HAYWARD	n/a	n/a	n/a	70
2296	ROYAL BRUNEI AIRLINES	83,075	78,490	627,920	95,694
22436	ROYAL FLIGHT OMAN	n/a	n/a	n/a	9,393
2316	SAA	695,324	656,952	5,255,616	890,190
20467	SAMARITAN'S PURSE	6	5	40	173
4999	SAUDI ARABIAN OIL CO./SAUDI ARAMCO	n/a	n/a	n/a	1,747
22305	SEAFLIGHT AVIATION LTD	n/a	n/a	n/a	2,671
22814	SHARJAH RULERS FLT	n/a	n/a	n/a	2,144
33126	SHAW COMMUNICATIONS INC	n/a	n/a	n/a	537
27163	Sheridan Aviation LLC	64	61	488	787
2463	SINGAPORE AIRLINES	2,240,200	2,116,575	16,932,600	2,931,581
3991	SIOUX COMPANY LTD	19	18	144	484
29880	SKY AVIATION	n/a	n/a	n/a	552
30794	SLEEPWELL AVIATION LTD	9	8	64	240
f10405	SNAPPER CONSULTING INC.	26	24	192	365
6404	SONY AVIATION	14	13	104	520
30582	SPACE EXPLORATION	n/a	n/a	n/a	221
32897	SPC AVIATION LTD	n/a	n/a	n/a	980
25246	SPECSAVERS AVTN	187	177	1,416	1,358

<i>CRCO</i>	<i>Commission List Name</i>	<i>2012 Allocation of Allowances</i>	<i>Annual Allocation of Allowances 2013–2020</i>	<i>Total Allocation for 2013–2020</i>	<i>Tonnes of CO2 Reported for 2010</i>
28904	SPX CORPORATION	n/a	n/a	n/a	476
5216	SRILANKAN AIRLINES LIMITED	359,370	339,538	2,716,304	437,490
32554	STA (2006) LLP	n/a	n/a	n/a	159
30500	Standard and Poor's Security Evaluations Inc	15	14	112	435
36081	STARBUCKS CORPORATION	26	25	200	511
32993	STC LTD	24	22	176	614
24529	SUBPRICE LTD	n/a	n/a	n/a	1,078
28720	SUZUKI DEL CARIBE	n/a	n/a	n/a	238
5683	SWAGELOK	31	30	240	490
28494	SWISS	599,094	566,033	4,528,264	1,141,409
31527	SYMPHONY MILLENNIUM LTD.	24	22	176	346
2642	SYRIAN ARAB AIRLINES	43,107	40,728	325,824	78,517
26684	TAG AVIATION UK LTD	1,621	1,532	12,256	40,680
33802	TAIL WIND LTD	11	10	80	306
35547	TAM AVIATION	n/a	n/a	n/a	1,273
27291	TARRANT AIR ADVISORS INC	5	5	40	132
31697	TAS CORP	17	16	128	128
4189	TAUBMAN	n/a	n/a	n/a	357
15677	TEXTRON INC.	13	12	96	375
25363	THE BOEING COMPANY	72	68	544	4,131
26380	THE HERTZ CORPORATION	115	109	872	1,342
24776	The Home Depot USA Inc.	6	6	48	134
33100	THE GHK COMPANY LLC	n/a	n/a	n/a	40
1423	The Hershey Company	n/a	n/a	n/a	221
27034	THOMAS COOK AIRLINES LIMITED	1,961,054	1,852,834	14,822,672	2,015,634
30131	Thomson Airways Limited	2,364,253	2,233,781	17,870,248	2,433,410
27799	TIDEWATER INC	6	6	48	138
4744	TITAN AIRWAYS	16,567	15,653	125,224	53,013
f10446	TOUR AIR, INC.	n/a	n/a	n/a	137
9705	TOWER HOUSE CONSULTANTS LIMITED	n/a	n/a	n/a	932
33891	TOWN & COUNTRY FOOD	n/a	n/a	n/a	183
31673	TRAVELERS INDEMNITY CO.	n/a	n/a	n/a	434
13174	TRUSTAIR LIMITED	19	17	136	419
21887	Tudor Investment Corporation	44	42	336	1,194
7971	TW AIR	12	11	88	285
28983	TWINWOOD TRANSPORTATION (CAYMAN) LTD.	27	25	200	702
2782	UNITED AIRLINES	2,440,010	2,305,358	18,442,864	3,041,660
4090	UNITED COMPANY THE	n/a	n/a	n/a	135
f10462	US BANK NA TRUSTEE	21	20	160	703
18224	UZBEKISTAN AIRWAYS	77,205	72,944	583,552	153,527
8962	VALERO ENERGY	65	62	496	711
7861	Verizon Corporate Services Group Inc.	75	71	568	N/A
34107	VIPER AVIATION LLC	n/a	n/a	n/a	139
8142	VIRGIN ATLANTIC AIRWAYS LTD	3,579,707	3,382,161	27,057,288	4,462,964
31377	WA DEVELOPMENTS INTL LTD	n/a	n/a	n/a	433
25432	Walmart Stores Inc.	50	47	376	1,074
2885	WESTAIR FLYING	n/a	n/a	n/a	506
8721	WESTFIELD AVIATION INC	n/a	n/a	n/a	1,042
25990	WESTSHORE AVTN MGMT	n/a	n/a	n/a	73
28542	WHITE ROSE AVIATION INC	34	32	256	1,146
32120	WILDERNESS POINT ASSOC	20	19	152	544
f10482	WINDSOR MEDIA INC.	n/a	n/a	n/a	248
30474	WORLD IS YOURS	n/a	n/a	n/a	1,186
f10485	XEROX CORPORATION	17	16	128	648
5943	ZENO AIR	5	5	40	196
f11242	Zoe Air	62	59	472	N/A
f10488	ZIFF BROTHERS INVESTMENT, LLC	n/a	n/a	n/a	2,089
f10490	ZIMMER INC.	n/a	n/a	n/a	66
		56,737,146	53,606,106	428,848,848	70,583,547

ISBN 978-0-215-04072-5



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