



Energy and Climate Change Committee

Oral evidence: [Linking emissions trading systems](#), HC 739, Monday 10 November 2014

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Written evidence from witnesses:

- [Professor Robert N. Stavins](#)

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Members present: Mr Tim Yeo (Chair); Ian Lavery; Christopher Pincher; Dr Alan Whitehead

Questions 67-93

Witnesses: **Professor Robert N. Stavins**, Albert Pratt Professor of Business and Government, Harvard Kennedy School, gave evidence

Examination of Witnesses

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Q67 Chair: Good afternoon, or good morning to you. Thank you very much for joining us. I think this may be the first occasion that my Committee has ever taken evidence formally by a transatlantic video link, so congratulations and welcome.

Professor Stavins: Thank you. I am honoured to be the first.

Q68 Chair: We met briefly when I was in New York at your event that you held in September with IETA, in which you highlighted some of your recent work. We are very grateful to you for being available to help us with the inquiry we are engaged in, which is on linking emissions trading systems. My Committee has just come back from a visit to China, where we had the chance of talking to people who are looking after the pilots in Beijing, Wuhan, Guangdong Province and Shenzhen, so we had some fairly recent experience and that covered some very similar ground we covered two and a half years ago when these pilots were very much in the preparatory stage.

I wonder, though, if I could ask you a fairly general question first: why do you think that emissions trading systems are now gaining ground again as the preferred policy instrument in many parts of the world?

Professor Stavins: I think the major reason is because of the fact that they tend to be an approach that is feasible to accomplishing something, as opposed to being of symbolic value only. Given the hundreds of millions of sources of CO₂ emissions, let alone all the greenhouse gas emissions that exist in the economy, it is not just a few industrialised facilities but it is every industry, it is every commercial establishment and every residence, it is every motor vehicle, it is backyard barbecue grills and on and on and on, I think it is increasingly recognised that, in order to address the problem in meaningful ways, a market-based approach—either a carbon tax or a cap and trade mechanism—is probably essential. So that is reason number one.

Reason number two has to do with cost effectiveness. What I have seen is—and I am sure you have seen it even more than I have—in many parts of the world private industry tends to support these approaches if there is going to be a climate policy. That is because they have the promise of doing the job at a lower cost, which is certainly something that the complying entities would prefer.

The third reason also has to do with economics, but it is for the long-term, and that is what is going to be essential to bring down the cost through technology innovation, to bring down the cost of abatement over time. That means giving the right pricing to bring about that innovation and a cap and trade mechanism or, for that matter, a carbon tax can achieve it.

Q69 Chair: Is that the reason why cap and trade emissions trading is now being preferred in some places to the use of carbon taxes?

Professor Stavins: That is an interesting question. Why it is that cap and trade is preferred to carbon taxes is that for many years—referring most specifically to the United States because of course that is the country that I know best—I would have argued, and did argue, that the two instruments are more or less symmetric. We can design a carbon tax to look like any other cap and trade mechanism and we can design a cap and trade mechanism to look like any carbon tax. In fact, that is an exercise that I give to my class at Harvard every year to do just that.

Apart from one or two small technical aspects, the largest difference I always viewed as being political. At least in the US, a cap and trade mechanism had a demonstrated history of political acceptance, going back to the EPA leaded gasoline phase down and then the sulphur dioxide trading system, whereas carbon taxes did not. That clear political preference, at least in this country—in the US—is no longer black and white as it once was. That is because cap and trade was demonised successfully by Conservatives as cap and tax, so they are both on unfavourable ground. As you know, even given that, in California there is a major cap and trade system in place and it is evolving, being linked with Quebec. Now, under the new regulatory proposal out of the White House for the Clean Power Plan affecting all existing coal-fired and natural gas power plants, there is a possibility from the bottom-up of seeing a substantial amount of cap and trade.

So my long answer to a short question is that it is fundamental, I assume for political reasons, that many countries have preferred cap and trade to carbon taxes because either instrument could be designed to be just like the other one.

Q70 Chair: Perhaps because of that in some countries—and certainly we had that impression in China as they roll out a national scheme in the next five-year plan, and indeed to some extent in the UK and parts of the EU—you can approach the problem with a combination of cap and trade and carbon taxes.

Professor Stavins: In fact, what is interesting is that the economic literature, if you were to go to it, technically would say that the optimal instrument under conditions of uncertainty—which of course does exist in the real world; we have a lot of uncertainty regarding the cost of abatement as well as the benefits of abatement—would be a hybrid of the two. A combination of a cap and trade and a carbon tax. That is essentially what the AB32 system is in California because it has a price collar. If the price goes too high, it bumps up against the top of the price that is allowed and essentially becomes a tax. If it goes too low there is a reservation price. So it is true that a combination of the two is optimal. In the European Union, as I understand it, in Brussels there has been a lot of hesitancy to use that kind of a system because it smacks of a tax so I have been told.

Q71 Chair: Here in the UK, the Government department that is responsible for climate policy has suggested that, although there are some identifiable benefits from linking emissions trading systems, in their words “active negotiations to develop links are limited”. Do you agree that there are only limited negotiations to take this forward at the moment between systems? I mean negotiations between existing systems to link them.

Professor Stavins: Going forward, I believe that there will be more and more opportunities to link and that the pressures will be substantial to link, eventually both from Governments and also from private industry, because of the fact that it is in the interest of private industry and it is in the interest of Governments to link their programmes together for the same reason that a cap and trade system is attractive in the first place. If there is a difference in the allowance price in two different jurisdictions, which is also the margin abatement cost, then allowing linkage is allowing voluntary trades. It is not forcing anything on anyone. It is allowing voluntary trades and those firms, for example in the UK, that would want to engage in a trade with some company on the continent or with a company in California, if there were to be such a link, would then be free to do that and if it is voluntary it means that it is lowering costs. That is the motivation for doing it.

I think we are going to see more and more opportunities for linkage going forward. The EU is obviously the most important programme in the world but now we are going to have subnational programmes in the US that, from the bottom up, may become a de facto national programme. So activity in Canada, Korea, as you have observed in China, New Zealand and possibly Japan, so I think the opportunities will increase.

Chair: Professor, I am going to ask one of my colleagues, Ian Lavery, to come in now at this point.

Professor Stavins: Very good.

Q72 Ian Lavery: Good morning. Looking at the challenges associated with the linking, what do you see as the biggest challenges with the linking emissions trading schemes and systems?

Professor Stavins: I think that one of the largest challenges is going to be not so much between linking jurisdictions, such as the UK and the United States, but in linking jurisdictions such as, we will say, the UK and China or linking others. The reason I say that is because the question that will come up is: is a tonne a tonne? Is a tonne fully credible, or does there need to be some kind of an exchange rate coefficient when we are looking at programmes in countries where there may be less certainty regarding the credibility of the emissions reductions? In saying that, I am certainly not intending to criticise China in particular. I use that only as an example since you mentioned that the Committee or some of you had just been there.

It could also refer to specific sectors. For example, if you were talking about linkage between the United States and the United Kingdom, and on one side we were talking about an industrial facility that was reducing its emissions but in the other jurisdiction we were talking about retarded deforestation as a generator of net emissions reductions, there would be a lot more uncertainty, because it is much harder to measure than retarded deforestation and its effect on CO₂ emissions. So that is where the difficulties become greater and that is simply the difficulties of the trading, it is not about the linkage per se. Does that make sense?

Q73 Ian Lavery: It does. You mention these challenges that are associated with the linking. How do you think they would be best overcome?

Professor Stavins: I think the way that they are most likely to be overcome—which is also the best way for them to be overcome—is probably going to be through third party intermediaries in the market, for example, on the credibility of the emissions reductions from different jurisdictions. Those are the sorts of things that brokers could handle in terms of the prices of exchanges. As you know, certainly in London where the centre of the carbon markets have been for so many years, there have already arisen third party qualifiers of offsets, such as for this clean development mechanism. So I would anticipate that the private market could do much the same once there are linkages across jurisdictions.

The one other issue—and we can put it off if you would like to—would be with regards to the 2015 Paris agreement. I will comment on that if you would like me to now, but if you would like to come back to that we can.

Chair: We will come back to that in a moment. Thank you.

Q74 Ian Lavery: The different approaches, the exchange approach that was used by California and Quebec supported by the World Bank, and the other approach to a bilateral or treaty approach to linking, which do you think is more beneficial, which do you think has more merit?

Professor Stavins: The important thing to keep in mind is that all trades—and for that matter virtually all linkages, but certainly all trades—are essentially going to be bilateral arrangements so it will be up to the individual trade. What is key is that this can be done in terms of a transfer coefficient or exchange rates. I think that is something that is best handled between the two jurisdictions. For the purposes of international accounting, under an international agreement it is going to be necessary to have a top-down authority in terms of reporting, monetary verification and tracking the emissions reductions.

Q75 Ian Lavery: Yes. As far as the offset is concerned, do you think there is a rule for offsets, such as the CDM, to help facilitate potential linking?

Professor Stavins: That is an interesting question. I think it is important to move first with direct linkages among cap and trade schemes and, for that matter, direct linkages among heterogeneous policy instruments. It is possible to link a cap and trade with a carbon tax. It is even possible to link either a cap and trade system, or a carbon tax with a system of performance standards, through offsets against performance standards.

Bringing in emission reduction credit systems—like the Clean Development Mechanism—open up an entirely additional set of issues. So my suggestion would be to go with the direct linkages first, see if those are functioning well and then allow offsets. However, individual jurisdictions themselves are allowing offsets, right? The European Union allows offsets from the CDM; less now than they used to but they are still allowing them. California allows offsets. If two systems link together in terms of their cap and trade, well in a sense those offsets become part of the entire linkage whether you like it or not. That is one of the things that has to be negotiated upfront, and one of the issues that has to be addressed in the linkage agreement is the role of offsets.

Q76 Ian Lavery: Finally, I would like to ask: in light of the challenges that you explained, how important is it that systems looking to link try to harmonise their schemes fairly early?

Professor Stavins: Some kinds of harmonisation might be helpful, but I think less harmonisation is necessary than is commonly assumed. I think what is necessary is understanding: what are the implications of the linkage? What is going to happen to the allowance prices in our country as a result of this linkage? But the systems do not have to be harmonised to a very large degree. For example, it is possible to have a linkage between a system that is economy-wide with another system that is purely in the electricity sector. It is possible to have a linkage between two countries, one of which is much more ambitious than the other. I am not saying that there are not implications with that. It is just important to understand what the implications are in advance, keeping in mind that the only trades that will then take place under that linkage are ones that are volunteering. Nothing is being forced. So if there is a trade it is going to be one that is in the interests of the company that is carrying out the trade under the link.

Ian Lavery: Thank you.

Chair: Professor, I am going to bring my colleague, Dr Alan Whitehead, in at this point.

Q77 Dr Whitehead: Thank you. Good morning, Professor.

Professor Stavins: Good morning.

Dr Whitehead: I want to talk now about the Paris 2015 potential accord—you mentioned you would like to return to that. Could you perhaps reflect on the importance that there may be of carbon pricing particularly being part of the 2015 agreement?

Professor Stavins: I believe an extremely important question is: what is the role of linkage in the 2015 agreement? I see linkage as being the mechanism that can render consistent this very important principle for a majority of countries in the world, that is all the non-NX1 countries, which is this principle of common but differentiated responsibilities and respective capabilities, which I will abbreviate as “CBDR”. CBDR is very important to those countries. It is a fundamental principle of the United Nations Framework Convention on Climate Change. The Durban Platform for Enhanced Action under which the 2015 Paris agreement will be executed—if it is—is still itself under the UNFCCC, so that principle does not go away.

The question then becomes: how can we have a 2015 Paris agreement that is both consistent with CBDR and is also somewhat cost effective? Because if it is not cost effective then the countries are going to be offering much less ambition in terms of their nationally determined contributions, as they are now called under the system that seems to be emerging for Paris. I think the key to that potentially is linkage. With a linked system each country under this hybrid policy architecture that is being discussed for Paris, will offer up, through internationally determined contribution, what it considers to be appropriate, what it considers to be fair and what it considers to be domestically achievable. But that is going to mean that inevitably we are going to see that the marginal cost of abatement is going to vary tremendously across countries; tremendously.

Probably one of the highest marginal costs of abatement implicitly is going to be in the EU, given what the proposed EU targets are going forward. In order for us to have cost effectiveness, everyone has to be at the same marginal abatement cost. The way that can be facilitated, in a way that does not violate this bottom-up hybrid architecture of nationally determined contributions, is to allow linkage. Because what the linkage does is that it will lead to the convergence or the near convergence of carbon prices or shadow prices—in other words, marginal abatement costs—across jurisdictions. So I see linkage as potentially playing a very important role under the policy architecture that I understand is evolving for the 2015 Paris agreement.

Q78 Dr Whitehead: I do take your point about how important linkage may be as a move towards making that hybrid architecture begin to work. What sort of measures would be necessary now to get that idea of linkage as a real part of the 2015 agreement? In your view, is that a good idea that is probably not going to fly or something that is likely to be in the agreement and, if so, in what form?

Professor Stavins: There are two possible questions there. One question is: what should you make sure—that is the negotiators and the Government officials—is not in the 2015 agreement that would inhibit linkage? Then the second question would be: what should be in the 2015 Paris agreement to facilitate linkage? Let me start with the first question because I think that is an important one. To whatever degree there are passages or articles in the 2015 agreement of so-called supplementary requirements—as were debated and discussed leading up to the Kyoto Protocol in 1997—is going to be a big problem, and that could completely kill global carbon markets and it could completely kill linkage.

What I am referring to by “supplementary requirements”, in case you do not recall, are statements that individual countries’ own nationally determined contributions in this case must be achieved by actions within their own borders. That eliminates the possibility of one country, either through linkage, through cap and trade, through offsets, through foreign direct investment or any means, facilitating low cost emissions reductions in another country and then getting

credit for it, right? One might think, “Why would that ever get put into the agreement?” Well, the fact is there are countries in the world, there are parties that will be in Lima, Peru in the negotiations who would very much like to see that. This is mainly a set of Latin American countries, largely socialist economies, who protest against the world economic order. Their issues on this are far beyond anything to do with climate change, they just do not like global markets. They are very, very opposed to a role for markets, of even allowing markets in the 2015 agreement. There is no doubt in my mind that they will be introducing tax—they probably already have—that would essentially debilitate any kind of linkage or other kinds of global carbon markets. So the first thing is to make sure that that does not happen.

Then the second question is: what should be in, in a positive sense? What should be in the 2015 agreement? Some colleagues and I have been doing research on this. We presented some preliminary findings at the session where the Chairman and I met in New York and we are going to be presenting our final work in Lima, Peru. I will be happy to send the Committee a copy of the full report that specifies exactly what should be in there. One of my co-authors is not an economist like me. He is an international law scholar, so you can be sure that it will be in a way that is appropriate for the purpose.

In general what we come down to is that, under this hybrid architecture, the role for the top-down part of the architecture involves monitoring, reporting and verification of the trades that take place; in other words, very careful measurement and tracking. One of the challenges is going to be that, under the architecture that seems to be evolving, different countries will make their nationally determined contributions in very different ways. One country might do it by saying, “My emissions reductions will be the following number of tonnes or the following percentage”. Another country might phrase it as a reduction from business as usual in the year 2030. Another country might do it from business as usual in the year 2025. Another country—thinking about how China has in the past—might do it in terms of a change in carbon intensity, CO₂ emissions per unit of economic activity.

Two issues come up. First of all, how do we even compare those and then, secondly, if trading is taking place how do we track those, whether or not countries are complying or avoiding double counting? What that suggests is for both reasons that it is essential to be able to compare these different kinds of pledges. I would direct you to the submission that was made by New Zealand to the UNFCCC—I believe, in August or September of this year—in which they suggested that, in addition to each country specifying their contribution however they choose, that the UNFCCC could play the role of then converting all of these into some common denominator, such as quantity emissions reduced in a particular year, quantity emitted in that year and also the marginal abatement costs. That will enable the UNFCCC to then track the emissions. Much like under the Kyoto Protocol it was the movement of AAUs, the assigned amounts, that were then tracked in the accounts of each country to make sure that there was satisfactory compliance.

Q79 Dr Whitehead: However the issue in terms of linkage and the way you have described it, does turn around the possibility of countries transferring portions of their national determined contributions. To my mind that is a pretty thorny and central issue as far as what might be in the agreement.

Professor Stavins: I wasn’t suggesting that.

Q80 Dr Whitehead: I think you did in a recent report, that it would be valuable to include in the agreement an indicative statement that countries may transfer NDCs.

Professor Stavins: No. What I was suggesting or I intended to in whatever I have written that you saw, is that there should be a statement that countries can achieve their assigned amounts—their internationally determined contributions—by making arrangements, including financing of emissions reduction activities in other countries. Whether in a top-down mechanism the way in which the Paris agreement is written is that for accounting purposes then there is actually a true-up of the total targets. That is something that will be done for accounting purposes. But I am certainly not thinking of anything like Article 17 of the Kyoto Protocol that provides for countries trading on their assigned amounts. I do not mean to suggest that.

Q81 Dr Whitehead: No. So essentially this is more a clearing house operation rather than a transfer operation?

Professor Stavins: That is correct, yes.

Q82 Dr Whitehead: Presumably, that is moving back to the previous discussion where the particular points of interpretation and reckoning up would particularly arise.

Professor Stavins: Yes.

Q83 Dr Whitehead: How likely do you think that that mechanism is going to be reasonably clearly operable after the 2015 agreement, or is it something you think needs to be worked on subsequently?

Professor Stavins: I think it will need to be worked on subsequently. The 2015 agreement itself is probably going to be very brief and should be very brief. I think about the Kyoto Protocol and how brief a document that is. I assume it will be of similar length.

On linkage, I am talking about nothing more than a paragraph that would make it clear that such activities are within the framework. Any further specific language that is required, in terms of the specifics and how the accounting mechanism works, that could be delegated by the delegates in Paris and in the discussions that will take place in Bonn during the year and so on. One does not want to have too much in the agreement itself because the agreement is so difficult to amend. Once it is decided on it is virtually impossible to amend it. We are going to learn a lot as we go, so I think it would be a bad idea to have too many specifics in the agreement itself.

Q84 Dr Whitehead: To some extent, I think there is a question mark issue of where countries come to this, as you say, with very different versions of what their carbon trading looks like, what is included in, what the measurements are and so on. Then that clearing house role becomes absolutely essential in terms of any conceivable linkage.

Professor Stavins: Yes, I agree with you.

Dr Whitehead: The extent to which after an agreement something is reasonably pencilled in so that there is a trajectory afterwards as opposed to, “It’s a good idea, isn’t it? Maybe someone ought to think about this for the future”. That also seems to be quite an important part of the process. So how close to the agreement—admittedly an agreement that is indeed fairly brief and general—would that subsequent trajectory look to be?

Professor Stavins: So what I am suggesting is more than a statement in principle. The agreement would have to specify the basis that there will be a clearing house and delegate who should do that. Whether or not the calculations of comparability and the clearing house are done by the UNFCCC, or it is the International Energy Agency, which certainly has the analytical capability to do it, or whether the UNFCCC wishes to delegate it to the IPCC, the Intergovernmental Panel on Climate Change, that should be specified and indeed probably dates should be specified to get going with that process. So it should follow up quickly in the spring of 2016.

Dr Whitehead: Yes. Thank you.

Q85 Chair: One of the points you make quite powerfully I think, with your fellow authors in the document you published last month, is the risk that a Paris agreement might include some provisions that are obstructive to future linking.

Professor Stavins: Yes.

Chair: One of the concerns I have had—as not a veteran of many COPs but I think I have had a lifetime supply of COP meetings already—is the extent to which they have become a sort of jamboree for the development lobby. Every good cause is out there with a begging bowl and rather interfering with what seems to me to be the primary business of the COP, which is trying to find a solution towards climate change. There are perfectly legitimate reasons why we might want to increase our aid budget for this part of the developing world or that part, but it has got muddled in with all of this. I think one of the points you made is that, if we include a commitment in the Paris agreement to sustainable development, that does not necessarily facilitate linkage.

Professor Stavins: Yes. Look, I agree with you completely and I think that one of the most difficult aspects of this is that if you were to talk with the delegations of a majority of the countries in the world and you said, “Tell me in one sentence what is the purpose of the negotiations in Lima and Paris” the majority of countries would say, “It is to discuss a future framework that will facilitate sustainable development”. Then the second sentence would be about climate change. I experienced that in what is the mirror of this process, which is the IPCC. That was just at the final governmental approval sessions in Copenhagen two weeks ago and I experienced that on a regular basis until 3.00 in the morning. So I think that the great challenge is to make sure the agreement does not become a Christmas tree for everyone’s ornament, and that is an ongoing challenge that is going to have to be addressed.

I think the Kyoto Protocol did an admiral job. I had a lot of problems with the Kyoto Protocol for other reasons, but one of the things it did well is that it stayed simple, direct and it focused for the most part on the task at hand.

Chair: I regret that we have rather urgent business in the House of Commons today, controversial business relating to something called the European Arrest Warrant, of which I am a strong supporter but a number of my party are strongly against, so we are very heavily whipped. If you will be patient with us for a short time, we are going to have to go and cast our votes in the House. We do not require a train in quite the way that they do on the hill to do this. We can get there and back reasonably quickly, but I have to suspend the formal part of the sitting for 10 minutes. My staff will still be here while we are absent and they may be able to continue an informal conversation about these matters—they are very well informed about them—and we will be back in here in 10 minutes time, if you can hang on for a short while. We will conclude no matter what within half an hour.

Professor Stavins: I am relieved to know it is not a fire drill.

Chair: Thank you. We will be back very soon.

Sitting suspended.

On resuming-

Q86 Chair: I am not sure if you can hear me yet.

Professor Stavins: Yes, I can.

Chair: Great. We are now quorate again. We have done our constitutional duty by casting our votes. I think probably in different lobbies in the House just now.

We were talking about the Paris agreement. I suppose one of our concerns is how practical you think it is that we should get something from Paris that actually does facilitate linking rather than obstruct it?

Professor Stavins: I think if there is a 2015 Paris agreement under the Durban Platform, then I think it is very feasible to get some language into the agreement that facilitates linkage and does not obstruct it. The reason I phrased it very carefully that way is that when I said, “if there is a Paris agreement” it is also possible there will not be a Paris agreement. If that is the case, in my opinion it will not be because of problems within the Durban Platform for enhanced action of the proposed Paris agreement. It will be because of the \$100 billion, which is another issue into the fund from industrialised countries for developing countries.

Q87 Dr Whitehead: When we talk about the realities, which countries might you see as being instrumental in pushing this sort of element of the agenda into the agreement? Is there evidence of this actively being considered at the moment by particular countries coming into the meeting, or is it still some way off?

Professor Stavins: Are you referring to which countries would want to put language that would essentially prohibited linkage?

Dr Whitehead: Well, either way. What does it look like now in your view in terms of balance of probability?

Professor Stavins: I see. I think the countries that are most likely to be interested in facilitating linkage are going to be what used to be referred to as the umbrella set of countries under the Kyoto negotiations, so the United States, Japan and New Zealand. I do not know what Australia's position will be given the change of Government, otherwise I would include Australia. That is where the heart of it will be. I would also assume that the EU will be very supportive, given its reliance on the European Union Emissions Trading Scheme.

I would also tend to think that China will be supportive, given that they are talking about moving ahead. Part of their nationally determined contribution may be a nationwide cap and trade scheme. It would certainly be in their interest to establish linkage, to be involved in such things with carbon markets. So I think that is where the support will be coming from. Now the countries that we just mentioned, that is covering a large share of global emissions right there. That is probably about 65% of global emissions. The sources of opposition are largely going to be a set of Latin American countries; most likely, the same set of countries, frankly, who in Copenhagen refused to agree to the Copenhagen accord, which is why they were noted rather than adopted by the conference of the parties in 2009. So that is Bolivia, Venezuela, Cuba, Nicaragua and possibly some others. The objection is not to linkage, per se, it is really objections to the world economic order and the world markets, as I understand it.

Q88 Chair: How optimistic are you that we are going to be able to move forward with effective linking of emissions trading systems?

Professor Stavins: I am fairly optimistic, and the reason I am is that I think the pressures are going to be so great. Once countries commit to a nationally determined contribution, it is in their interest to do it as cheaply as possible. So Governments will want to carry out linkage if it appears to be in their self-interest, which it will be, and God knows businesses will want to. There is going to be enough pressure from businesses to allow linkage because it will lower their cost, particularly multinational corporations who have businesses in various jurisdictions. They have plant and plants. So that is what makes me fairly optimistic that this can happen. The key question is whether it happens in an intelligent way.

Q89 Chair: The kind of difficulties that might arise about how caps are set in different systems and so on, you are optimistic those can be overcome all right?

Professor Stavins: I believe those can be overcome by what will be the top-down element of the Paris agreement. That is going to be the role for the UNFCCC—either itself or delegated to someone else—to come up with proper comparability of targets, and then to develop a mechanism for essentially tracking the movement from one jurisdiction to another of emissions production to avoid double counting.

Q90 Chair: The recent work of the IPCC, to which you have referred, and the publications over the past year, seem to me to have been exceptionally helpful: first, the proposal of a global cap of safe emissions that can be a ceiling; and secondly, I think the recent work on the economic costs, which

are not perhaps as high as some people had feared. That is a sort of update of the work Nick Stern did some years ago. For those of us who are long-standing enthusiasts for emissions trading, I dream of a global cap and trade system—it seems to be an entirely logical consequence of having decided a global safe cap—but is that just a wild dream do you think or could you foresee a day when that might be achieved?

Professor Stavins: I can foresee a day. I am not sure that I foresee myself being alive to see that day, so I am talking about a long time into the future. The challenges of a global cap and trade system, a truly top-down system, you face not only all the challenges of a top-down approach, which is now not favoured in the international negotiations, together with all the other challenges. I think it is good to keep in mind that in any market—let's take the market for shoes—even though you and I look at the global market for shoes now, and it looks like this is a global market where everything is functioning well. They are getting produced in Italy and they are getting produced in the UK and I am buying them in New York or I am buying them in Cambridge. In fact, it is all bilateral contracts. There is no global shoe system, right? It is all in bilateral markets, and very much I think that is the way it is going to be with carbon markets. It is essentially bilateral deals facilitated by linkages and the linkages themselves are going to be bilateral.

What the multilateral needs to do is to not get in the way and then to provide for this new top-down element to make sure it operates, much as Governments make sure that markets function well within their border but the market still takes care of itself to some degree.

Q91 Dr Whitehead: Forgive me, but does that not imply a further possible dimension? That is, that you have to get some kind of agreement on the family resemblances that various bilaterals will have in order to make sense of the system overall. I agree you would not need to have a global standard but presumably you would need to have some agreement that: bilateral A looks a bit like bilateral B, so we can group them together, and bilateral C and D also look the same, so we can group them together, and then we can come to some shaping arrangement overall. Is that not a rather difficult subsequent process to achieve?

Professor Stavins: I think that is important and I think that the best way for that to happen is going to be that, under the discussions that will take place in Bonn, presumably after Paris, and in technical committees they could and should develop a model rule; a model trading agreement. I mean as a model. It is not one that everyone has to use. I will give you an example of this. In the United States we have this Regional Greenhouse Gas Initiative in the northeast and it is just a linkage among cap and trade systems in nine different states. It is really state systems that are linked together. The Regional Greenhouse Gas Initiative, or RGGI, what they did is they produced a model trading rule and then each of the states worked off of that, which made it easy for them to link together. So I figure you will see the same type of thing that could be a model linkage rule, and in the paper we will release in Lima I hope we will talk about some of the elements of what could be in such a model linkage rule. It would not have to be totally top-down I would have thought, all of them being identical.

Again, take the shoe example. You can have two different bilateral contracts that are not exactly the same, but that does not mean that we do not essentially have a movement of shoes, from the leather producer to the manufacturer to the wholesaler to the retailer, even though there are different elements in all of those agreements.

Dr Whitehead: But you have to agree that they are shoes?

Professor Stavins: Yes, that is right. That is why what you just said is very important because that comes down to this issue of comparability. That what you have to have in that 2015 agreement is a top-down mechanism. That someone has to be providing the measurement that puts all of these different national contributions into a common denominator. Everyone should be free to express it however they want because if you do not get that degree of national sovereignty it is going to fall apart. There is not going to be an agreement. But once that is done then someone has to also convert the carbon intensity reduction, the carbon reduction, the percentage reduction, the 2035 reduction, the 1990 baseline that the EU will use, the 2005 baseline that the US will use, to put all of these into a way in which they can be compared. That is important not only for linkage, so that you can track what is going on, it is also important just for the nature of the process itself, because the way in which such a bottom-up process could be effected and increase ambition is essentially naming and shaming. It is by different jurisdictions being able to point to each other and see who is doing what, and if you cannot compare them that is out the window. So I think it is very important to be able to put it into common language.

Again, if you do not mind my mentioning it, New Zealand in their submission in September or August, I thought did a very nice job of expressing what should be in the comparability and how that could be done.

Q92 Chair: There could be a situation in due course where much—possibly most—of the world is covered by emissions trading systems but not by a single system. These are systems that have grown and they will have some compatibility but it will not be a single, unified system?

Professor Stavins: Correct. But they will be merged and linked. Again, if you will forgive the analogy of shoe production, you can look at it in various ways. I can picture building a PowerPoint slide that would look at the national shoe production system. So you will be able to view it that way but it is not really a national system. There used to be national systems, those that are in the Soviet Union in central and flat economies, and it is probably not going to look like that.

Q93 Chair: It would be very interesting for the Committee to have your observations on another related matter. Obviously we have followed the results of the midterm elections in the US with great interest. Do you think that that has changed the picture, in terms of the prospects for Paris next year? Do you think that there is going to be a discernible shift in US climate policy as a result of those elections?

Professor Stavins: I do not think that the impacts between now and 2016—the next presidential election—will be very great for climate policy. There will be effects but they are not going to be very great. The reason I say that is that in the Senate where the change took place in the leadership, the major effect of that is going to be in terms of setting the agenda for debate and discussion, for setting up hearings such as this and calling witnesses. But in terms of actual voting the Republicans, although they will now have a majority, do not have a sufficient number of votes for even a supermajority to cut off unlimited debate at 60 votes. They do not have that. But they might on particular issues. Like, for example, on Keystone XL Pipeline, they could because there

are a number of Democrats who are supportive of that. However, even with the Democrats, they are not going to have 67 votes, which is what is required for a presidential veto. So any kind of act of legislation that would have an effect of changing things presumably the President would veto, and that would be legislation that would, for example, place riders on other legislation to stop the funding of the Environmental Protection Agency doing work on climate change.

There could be a situation in which they would place the rider on something like a budget authorisation Bill to try to force the President to veto that, in which case the President would be the one blamed not the Congress being the one blamed for a budgetary shortfall and all the problems that would bring about. However, taking him at his word, the new majority leader of the Senate, Mitch McConnell, has said that he will not do that. So I do not think there are going to be as large a difference as people might think. At this point it does not affect the new Clean Power Plan proposal from the White House. That is going to be up to litigation. The lawsuits that will be filed were going to be filed anyway. They are still going to everybody filed.

The difference is going to be leading up to the next presidential election, and that is the difficult part of all of this. I know that all of you understand it. When I am talking to people in parts of Asia they are less familiar because they always think of the US as being a parliamentary system and obviously we are not. It is very difficult to see what the result will be. If the Republicans take over the White House as well as both Houses of Congress, then I do not need to tell you that would be a very, very different picture in terms of the international negotiations. But the California system is still going to be in place, regulatory systems that were put in place will still be in place. I think those genes are very difficult to put back in the bottle.

Chair: We will draw some reassurance from that I think.

Professor Stavins: I hope so.

Chair: I think we have covered the essential points that we hoped to. Were there any other things that you particularly wanted to say to us while we have the link up?

Professor Stavins: No, I think that you asked all the right questions and I hope I gave you some helpful answers. We have used up the time. I do not want to keep you any more away from important votes on the floor of the Parliament.

Chair: We are very grateful to you. It has been very valuable for us and we will continue to follow your work very closely. Our report will probably be published sometime in early 2015. We have some more evidence sessions we want to conclude first and we obviously have to publish the report before we get to our UK general election later in the spring, but we much appreciate the help that you have given us.

Professor Stavins: I am very happy to do it and if your staff would like to follow up when they are writing the report, if there are specific technical questions, you need sources or whatever, I am happy to do that. In any event, I would be eager to see the report when it is finalised.

Chair: Thank you very much indeed.

Professor Stavins: If any of you are going to be in Lima, Peru for the negotiations I would be delighted to get together and chat there.

Chair: Thank you very much. I do not think I am able to come this year but I daresay some of my colleagues will.

Professor Stavins: Okay. Very good.

Chair: Thank you.