Financing Clean Energy: A Framework for Public-Private Partnership to address Climate Change

EBRD, London, 13-14 March 2007

Interactive Panel Discussions March 13

Plenary 1: What are the key obstacles and opportunities for scaling up the finance required to lower the carbon intensity of developing and transition countries?

MR WOLF (Moderator): Important people abuse time! We have lost half an hour already, and this session will be 20 minutes is shorter than it was supposed to be and, since we have a number of very distinguished people with lots to say, I think it will be kind to start. I am the moderator and I am here not as a journalist, in case anyone is confused about that.

The sequence: I think everybody has a programme so you know who the speakers are, so, if you do not mine, to save time I will not introduce them. It is easy for you to see who they are from the list. We are going to start with Mr Kuroda, who is the President of the Asian Development Bank, who will set out some thoughts. Then we will have a discussion on the subject, which is "What are the key obstacles and opportunities for scaling up the finance required to lower the carbon intensity of developing and transition countries?" Which is not quite the punchiest question you can imagine but the issue is clear enough.

I would only really make one point in advance, which I hope the panel will address since it is the first of the panels and therefore they can take a fairly broad view. I suppose I tend to have the view that if money can be made, finance will be available. God knows, if you look at the markets at the moment, it seems to be available when, in my view, no money can be made so why should it be unavailable when money can be made? This being so, I think it is appropriate to focus as well on the question that Mr Josefsson raised, which is the global incentive regime and how far things can progress without agreement on a long-term and credible global incentive regime.

So with those introductory remarks I turn to Mr Kuroda to set out how he sees the issue.

MR KURODA: Thank you for your introduction, Martin. I shall be very brief.
I think, from the viewpoint of Asia and the Pacific, this is a very important issue because over the last 30 years, in line with its rapid economic development, Asia's energy consumption has more than tripled and, as a consequence, Asia's greenhouse gas emissions now account for nearly one quarter of the world's total and, according to the International Energy Agency, the region of Asia and the Pacific will need more than $6 trillion from now to 2034 for new energy infrastructure if it is to maintain its current rate of economic growth and development, more than half of this being for electricity. Since about 80 per cent of the region's total electricity supply comes from fossil fuel-based power generation, the investment decisions made today could have a huge impact on climate change in the future, in the next 50 years or so, because any power station would last at least 50 years.

So clearly, the time to act is now, when the investment needs have been identified but not yet met. If the right decisions are made and acted upon quickly, it is possible that developing Asian economies could transition to cleaner, more sustainable energy use within a few decades.

The recognition of the link between energy, greenhouse gas emissions and global warming has converted Asia's rapid growth into a global challenge. Getting the solution right now will require sincere and substantial commitment and action from both developed and developing countries, nor will the solutions be cheap or easy to implement. While technologies that lower carbon may be available, the challenge is in making them available at an affordable cost and achieving economies of scale. For instance, a single power plant using CO2 capture and storage will cost hundreds of millions of dollars. Clearly, at this scale, both domestic and external sources, involving a range of players – public-private, sovereign government, multilateral institutions, the donor community and the capital market – will have to be mobilised.

I believe that global and marketable solutions are required which would include at least four elements. First, greater energy efficiency must be enhanced. Second, adoption of new technologies is absolutely necessary. Thirdly, putting a price on carbon, either through a cap and trade system like the Kyoto Protocol regime or a carbon tax is necessary. Fourthly, adaptation to reduce the vulnerability of developing countries to climate change is necessary. Even if we act now, the course of the CO_2 level and global warming in the next 30 or 40 years will not change much. Mitigation is absolutely crucial but adaptation is necessary in the meantime.

So four elements: greater energy efficiency, adoption of new technology, putting a price on carbon either through a cap and trade system or carbon tax and adaptation reducing vulnerability of developing countries to climate change. I should stop here and listen to others speak on this issue.

MR WOLF: Thank you very much. You promised you would be brief and, extraordinarily, you were. A very rare event in my experience as a moderator. Thank you very much. You have set an example for the others. Because we have limited time, please try and keep down to about four minutes if you possibly can, otherwise we will not have any engagement.

By the way, I hope after the first round and perhaps a bit more discussion to open it to questions from the floor, so you might like to think about that at this stage.

I am going to turn the discussion to Caio Koch-Weser, to comment on the issue we have to address here and also what Mr Kuroda has just said.

MR KOCH-WESER: I think the central answer to the question put to our panel, scaling up finance, is indeed creating a vibrant, deep, global carbon market now. From the perspective of a leading carbon market player, where we work both in origination around the world as well as in secondary emissions trading, we are ready to move. I think the private sector is ready to move, but we need action by governments, in some cases supported by MDBs, in four areas. We need not less but we also do not need more than that from governments, otherwise they get into micro-managing these markets.

Very briefly on these four points, first of all, on the policy framework post Kyoto, clearly, it will be a difficult negotiation but we need as soon as possible the broad outline – not the details but the broad outline – of what the successor regime will be.

Otherwise – and it is already difficult to price the finance for projects beyond 2012 – we hamper long-term finance. I think there should be a middle ground that could be met within that time frame. Also, on the policy framework, let us not undo the learning we all went through with Kyoto. Let us keep the framework that follows as similar as possible but clean up some clear overlaps and inconsistencies. It should be at least eight years – it should be longer ideally. It should, I believe, keep the flexible mechanisms, of course, but very possibly combine the JI and CDM into one framework with shared methodology and avoiding oversight duplication. Clearly, CERs should be bankable between Kyoto and post-Kyoto.

Another point on the policy framework that is the most difficult: for at least the large emerging market economies, I would say the BRIC countries, there has to be a shift from no obligations official finance to obligations, obviously in return for many other things from the US and so on, and trade. So it is obligations and trade.

Second point on the international trading infrastructure and regulation: it is very key that there is greater clarity and certainty on legal, on tax, on accounting standards of carbon. It is imperative that the nuts and bolts, so to speak, come into place where they are still lacking. As far as possible, for example, we should treat carbon certificates universally as securities to fit them into the existing framework of securities law. There is clearly a number of issues on tax treatment. There are information systems, computer systems, that are being developed. The EU, for example, has to provide guidance on the admissibility of Kyoto certificates into the ETS that is consistent, I emphasise, across countries. Otherwise there is confusion between countries, which makes the market much less efficient.

The goal, of course ,in all this has to be to price carbon against cost of abatement and not to play a guessing game about where certificates can be used. Again, with regard to the developing countries or EMEs, I think there is clearly a need now to help them set up oversight frameworks, to educate their industries, to regulate projects undertaken and to create a single interface with potential outside investors, a problem we always face. The model could be China’s NDRC and SAPA regime on that score. Thirdly, briefly, on domestic trading schemes, their compatibility. If other countries now move, following the EU, in setting up domestic trading schemes, let us make sure there is fungibility of certificates globally. For example, if the Canadians set up a scheme, they should allow the entry of Kyoto certificates. We need to create a common currency and a price discovery mechanism between regions. It should be like an LNG market in many countries. Again, if the large emerging market economies or BRICs are capped in the future, a domestic trading scheme would again have to be developed also for them.

Finally, support for developing countries and EMEs, the emerging market economies, in capacity building and here I come to the MDBs. I think the MDBs should particularly focus on innovative pilot schemes and creating that capacity, and they are, I think, generally on the right track or see areas where the private sector could do the job. The policy makers, civil servants, in these countries simply need to know how to import best regulatory practice. If the global carbon market functions properly, the market forces will then spur the influx of capital. Here I see the role of MDBs in policy, in TA and financing in those countries. Of course, if we have a new framework with the EMEs, BRIC countries, having obligations, help them develop their domestic trading schemes.

In conclusion, Mr Chairman, I think the financial markets can create a deep, vibrant market for carbon, scale up the finance, facilitating the right decisions on long-term financing, if governments play their limited role well, creating that level playing field. Thank you.

MR WOLF: Thank you very much. Again, very punchy and very clear. Our third speaker is going to be Michael Jacobs from the British Treasury, who is always also the Gleneagles Dialogue government representative.

MR JACOBS: Thank you very much. I apologise to you that I am not our Minister, who would have liked to have been here. We have a budget to prepare for next week and he unfortunately could not be here.

I agree completely with remarks we have just heard about global carbon markets and I will come to those at the end.

The opportunities here are exactly as Martin said, which is that there is no shortage of finance and also, there is no shortage of reasons why we should see a lower carbon intensity par of energy investment. There are two different kinds of reasons here and I think it is important to distinguish between them because they lead to different kinds of arguments. The first is in energy efficiency, where a huge amount of energy efficiency is commercially profitable and ought to be financeable within normal commercial and risk decision-making processes. It is not always, and there are things that we can do about that. The second is lower carbon sources of energy, where sometimes these are also commercially viable simply on their own but quite often they have extra costs over and above the reference scenario, which would be a typical fossil fuel process. There we have to find special instruments to finance the extra costs which can be justified not just on climate change grounds or long-term global goods grounds but often on air pollution grounds, that these are good things to do for health reasons and environmental reasons, and on diversity of energy supply and energy security grounds. But those are also public good grounds and we need to find the mechanisms to finance those.

Three principal obstacles. The first is domestic policy, if we are honest. You cannot invest into a climate which does not reward the investment, and not all energy policy, government policy, in both rich and poor countries is right for the kinds of investment we want. Getting domestic policy right is very important and the multilateral development banks have useful roles to play there. Secondly, there needs to be the money wanting to flow. Some of this is foreign but quite often it is domestic. There are various emerging economies which have plenty of money of their own and do not need more from outside but it has to be motivated to move into those areas rather than others. There is always an opportunity cost of moving into any particular sector.

Thirdly, where additional finance is needed, this is the specific role that the multilateral development banks, as public banks, can provide, not simply with money but with guarantees, with helping with the risk environment and through carbon finance, and I will come on to this in the second.

So those three obstacles, it seems to me, domestic policy, the availability of private capital, whether foreign or domestic, and the instruments and finance that can be provided to take the public risk are the three we need to be looking at. The multilateral development banks have a crucial role to play actually in all three, although they are principally responsible for the public finance, which takes the extra risk of providing public goods that are unlikely to be simply commercially funded. It also has an important role in blending that with private finance, and that is why we have brought you all here today, and in supporting domestic policy, capacity building and policy development, and the multilateral development banks play an important role in that.

I would like to confirm and to support the remarks on carbon finance. Carbon finance at the moment is quite a small sector of the additional public good finance that is available in this field. It could be much, much larger. The Stern review showed the kinds of scale that we could be looking at, from a €9 billion market at the moment to something that could be closer to $100 billion dollars, of which half possibly could be flows into developing economies. These are very serious kinds of sums of money. The interesting thing about this is that the demand has to be created in the developed economies, and the developed economies have to create the demand for credit in developing economies, and we are now beginning to do that. We are meeting a few days after the first step to creating serious demand. The European Union is now committed to a binding 20 per cent cut on the way, if we can get international agreement, to a 30 per cent cut in emissions by 2020.

Assuming a reasonable proportion of that, a proportionate amount is done through the EU emissions trading scheme and assuming that a proportion of the EU emissions trading scheme is taken up by Clean Development Mechanism or Joint Implementation projects, we have some sense then of the kinds of demands that might be available now for the post-2012 period and the period up to 2012. So we ought to be able to see a firming up of demand for the post-2012 period from now on the back of the EU decisions that were made last week. We are not quite there yet but there is potential to do much more carbon financing, in my view, now, even in advance of the international agreement, because we now have some unilateral, some European demand for this, and I think we need to be exploring this, and I am very pleased to see in the World Bank's plans that actually there are already plans for doing advance carbon commitments of that kind.

The last thing I would like to say, as I think Gordon Brown will say later on, is that the specific things you have just said about improving the emissions trading market, making the infrastructure, the legal arrangements, the tax arrangements clearer, making compatible different kinds of emissions trading schemes that are now being set up around the world – we have the west and east coast of America for example; we have been talking for the to them, as has the European Commission – and building capacity in developing countries, particularly, I would say, in Africa, which has not benefited yet very much from the CDM. We are proposing to organise a conference precisely to bring together now these issues and the key players in this, with the support, I hope, of Germany as President of the G8 this year, the UNFCCC and the European Commission. We believe very strongly that we can now make really quite rapid moves to making a reality of the global carbon market.

MR WOLF: Thank you very much. I now turn to our fourth speaker, Mr Igor Kozhuhovsky, who is the Head of the Economy Department of RAO UESR.

MR KOZHUHOVSKY: RAO is the biggest electricity company in Russia, controlled by government. RAO UESR plays great attention to the issues of climate change, reduction of impact on the climate and the environment, as well as increasing the energy efficiency of the Russian electric power sector. In 2005 our holding company, RAO UES, worked out and adopted an environmental policy statement. The main targets of our environmental policy are reduction of environmental impact of the Russian electric power sector, implementation of a sound environmental management system in our subsidiary companies in accordance with international standards, and limiting greenhouse gas emissions.

The main activities in this sphere include detailed mitigation of greenhouse emissions, from the 360 thermal power stations and the implementation of a GHG information analytic system. This is an important step to prepare measures to gain admittance to the Kyoto Protocol mechanism for RAO UES subsidiary companies. Second, working out corporate standards for implementation of an attractive carbon finance scheme to finance investment projects. Third, screening and selection of investment projects suitable for a carbon finance scheme, and preparation of project implementation in accordance with Kyoto Protocol requirements and the negotiation with potential buyers of emission quotas.

To support these activities a specially created company, an energy carbon fund was created. The main target of the fund is attracting investment into electricity projects based on reduction of greenhouse gas emissions.

RAO UES has worked out a five-year investment programme for the construction of new power stations and the reconstruction of existing ones. This programme is aimed at prevention of capacity deficiency to avoid restrictions on Russian economic growth. Russian GDP growth is expected to be more than 6 per cent annually. We expect significant growth of electricity demand in the forthcoming years. The average growth rate between 2006 and 2010 is expected to be about 5 per cent compared with 2.4 per cent from 2000 to 2005. In accordance with this programme, new power plants are to be built with total capacity of about 40 GW, including 29 GW of thermal power plants. Among them only 9 GW will be coal-fired plants. The bulk of the new generation capacity planned will be based on modern gas flaring technology. Gas demand by the electric power sector is expected to rise from 164 million cubic metres in the year 2006 to 182 in 2010.

The carbon fund has already selected several projects, including into investment programmes, with total emissions reductions of about 50 million tonnes of CO2 equivalent for the period of 2010 to 2012. The estimated sum of carbon finance resources for these projects is about $400 million. For about half of these projects preparation of project documentation is under way. Two pilot contracts for buying carbon units have been concluded between the Danish Environmental Protection Agency and our companies, Khabarovskenergo and Orenburgenergo. To realise these joint implementation projects an appropriate regulation is required. To get it in place in February 2006 the Russian register of carbon units was established following the corresponding Russian Federation Government decree. In March 2006, in compliance with the government decree, the national inventory of GHG emissions was established. All these steps are a necessary condition for admittance to the Kyoto Protocol mechanism for the Russian Federation.

The government resolution determining the registration and fulfilment of Joint Implementation projects has been approved by the relevant federal ministries and is expected to be approved by government by the end of March this year. This resolution provides competitive selection of investment projects as Joint Implementation projects. The Ministry of Economy has worked out a special federal law for regulation of Kyoto Protocol questions.

We forecast that GHG emissions in the Russian electricity power sector will exceed the level of 1990 between 2015 and 2020. At the same time, a further reduction of GHG emissions is expected due to the following measures. First, reduction of specific fuel consumption in the implementation of energy efficiency measures in existing power plants and construction of new energy-efficient power plants. The second, construction of power plants using renewable energy, including hydro power stations. The Ministry of Industrial and Fuel Energy has elaborated a federal law on supporting renewable energy. This federal law determines the detail of state regulations and economic transactions to stimulate the use of renewable sources of energy to the production of electricity and heat energy.

The reform of the Russian electricity sector and its liberalisation permits attractive private investment. We have good cooperation with the European Bank and the World Bank. The European Bank has realised 10 projects in the Russian electricity sector of a total sum of €1 billion. We are sure that after reform the Russian electricity industry will be more economical and ecologically effective. Thank you.

MR WOLF: Thank you very much for that detailed discussion of what is happening in one of the most important countries in the world. Our final speaker is going to be Mr Graeme Sweeney, who works for Shell.

MR SWEENEY: Thank you, Martin. So the oil and gas story, although I am not the oil and gas guy. I look after the renewables businesses and I am single-point accountable for the Group's CO2 footprint.

I would like to start by saying we welcomed with open arms the call to arms of the European Union Council of Ministers last Friday which set an urgent timescale for the collaboration between industry, government, NGOs, the banks, the public and the private sector. We think there are three components to this story. The context is that energy demand will double by 2050, most of that as a result of the need to increase the provision of clean energy in the developing and transition economies. We need at the same time, we have heard, to halve the carbon, so a quarter of the carbon intensity by 2050 as we have today, just for simple ideas.

Three pathways, and we support them all. The first of these is get more efficient, get after it. It is clear that there are lots of economic options already available to people and policy instruments need to help that to be realised. The second – and this is particular area of expertise – is cleaner fossil fuels, and that means carbon capture and storage. We see that as an integral part of this storyline. The third is renewables. I echo the point made earlier by Lars: no silver bullets. We need them all. These are "ands". So efficiency *and* cleaner fossil fuels with carbon capture and storage *and* very substantial growth in renewables so that it is at least a third of the total energy demand by 2050, something of this kind.

Of course, we need a global scheme for a liquid carbon market which makes it clear how you make decisions in all of this space. We look forward to helping to create that forward view, the heir and the successor post 2012 of the ETS, the CDM, the JI, et cetera, and yes, we would like it to be completely liquid, with full interchangeability between all of the instruments. We would also like it to be the case that those certificates you get for building renewable energy are interchangeable with carbon certificates. This is difficult, we understand, but we would like to start that work now so that things like US RECs(?) become part of a carbon traded world in due course.

Then we think it is about leadership and it is about starting now. It is important to have all of these considerations for the transition and the developing economies but we should not exempt the developed economies from the conversation. We should ask for leadership there. We would like to be part of the process of providing that leadership. In that context, the conversation is live now. The build and the rebuild of power plants based on fossil fuels over the next 20 years is going to be very substantial. We have heard the decisions we make will be critically important so we need to move to accelerate the technology that can create the outcome we want, say, that there are zero emissions power plants regularly deployed after 2020. So, paradoxically, we need more limited intervention from government in the short term to create the environment which will enable that technology to be accelerated so that the market can take over after that to deliver it with real projects. This is the idea that we need large-scale demonstrations, both in carbon capture and storage and in renewable energy, and we need them now. That conversation is about to take place and again, we would like to be a key part of that.

The issues about the risks in the piece, so there are commercial risks – you might reasonably expect us to take commercial risk – there are technical risks, and we need to talk about what size of technical risk we are prepared to take, and there are political risks, which in the end only governments can underwrite.

So we need to have that conversation today so that we can deliver the demonstrations that produce the lower cost that is essential for the wide deployment of these low carbon technologies. We need to get after it now, and we need to harmonise the approach as much as we can. This is not specifically a conversation for the MDBs in one place or another, nor for them individually but for them collectively, in a global context which leads to the best harmonised approach we can deliver so that we can transfer solutions from one place to another.

So urgency, conversation is live, and we need to get to the bottom of how we put financing instruments together, particularly for large-scale demonstrations, in the very short term. Thank you.

MR WOLF: Thank you very much. I am actually going to propose, since I think the statements were very clear, that I turn this to the floor and ask you for questions but let me just say what I have taken from this so far.

There seemed to me remarkably little concern with the availability of finance as such, with one exception which I will come to in a minute. There was a great deal of emphasis on urgency. There was a great deal of emphasis in different ways on the need for a clear price setting mechanism which would be durable and long term. I have to say – I have said this before – I hate the cap and trade systems but we seem to be stuck with them. Like most economists, I think taxation would have been a far more sensible way to go. I am still not clear how this is going to work with households, which does seem to me an omitted area of rather massive proportions.

There is a great deal of discussion on the properties of these markets, namely, they should be liquid, integrated and efficient. That seemed to be a very important theme. A number of people converged – in fact, pretty well all of them – on the issue of technology acceleration and dissemination. I think that applies also to Mr Kuroda's comment, which seems to be very important, about adaptation, because that also of course has important technological aspects.

The one point which I did get a specific comment – there may have been others; I may have missed one – on the multilateral development banks was Mr Jacobs, who was referring particularly to their role, and I think that fitted very well with the last comment from Mr Sweeney on public risks. I think there is a broader discussion to be had there, which Mr Sweeney opened up and Mr Jacobs was obviously getting at about the division of risks in all this, with some of the newer technologies between commercial risks and political risks and technological risks.

So I think we have a rich debate which does not really, just as I expected, focus on the financial question but focused, I think quite properly, on the policy framework within which financial decisions will be taken.

Unless one of you has something burning that they want to say at this stage or disagrees passionately with what I have just said, I suggest we go to the audience and you will probably all have opportunities to make concluding remarks. Does anybody have any questions they would like to ask? Would you introduce yourself and say who you wish to address your questions to, if anybody. I will try to take two or three before we go back to the panel.

MR DE BOER: My name is Ivo de Boer. I am Executive Secretary of the Climate Change secretariat of the UN, and I would like to address my question to everyone. I heard Graeme talking about risk but I do not really think the other panellists really answered your question as to why is it not happening. My answer to that question would have been that it is not happening because the return on investment is too small. The market is too small or the risk is too great, which is the point that Graeme was talking about. I would very much like to hear from the panellists if my assessment is correct and, if it is, what multilateral development banks can do to address those barriers to make sure the money does start flowing.

MR WOLF: Just to clarify your question, are you referring quite specifically to investments in carbon capture and storage and renewables or have you a broader question on the nature of the investments you are talking about?

MR DE BOER: I am talking about all the investments we need to get us away from the IEA business-as-usual scenario, past their alternative scenario as well and towards something the IPCC is telling us we need.

MR HOBSON: I am Peter Hobson from the Energy Efficiency and Climate Change team in the EBRD. There has been a lot of discussion today about the traditional energy sectors. I would be interested to know what the panellists view is on how increased finance can be directed towards two big areas that have not been mentioned and that is transport and the built environment.

MR GERHARDT: My name is Wilson Gerhardt, BSF(?). My question relates to the comments of Mr Jacobs. I agree 100 per cent that we need a global pricing system for CO2 reduction but in my opinion, we also need a global demand, not just a regional demand. What you have said is that we can do much more even without an international agreement. I disagree with that because the one who has the demand has to pay for it, and finally, in the end, we get a competitive disadvantage if the demand is shifted to Europe, let me say, and the reward, especially the reduction and technology investments are done in the developing countries. In the end, value even for reductions will remain in the developing countries and it will be paid in addition by the developed countries. How can we manage that competitiveness question in a reasonable way?

MR WOLF: Does anybody want to talk on the first question, which is in essence that returns on investment are too small, as you concede, because it just is not happening. Perhaps Mr Sweeney might like to comment on that one. It seems to be your area.

MR SWEENEY: Of course, that is right, Ivo. As you look at it today, you have a limited framework through to 2012, where there may be revenue around providing solutions, and then beyond that it is hard to see what that looks like but I think there is a more profound piece than this, and I think it is about seeing how you develop the story. There is something about what I call the four Ds. There is a discovery moment that you might be able to do something; there is a piece which is about working in a laboratory to get yourself to pilot scale, which is the develop story, and many of us will undertake all of those activities at our own risk. Then you get to the bit which says that you need to demonstrate this stuff at commercial scale, and the reason for doing that it is because that drives down costs. That is the phase where we are at the moment with a number of the large-scale activities, carbon capture and storage, say, and offshore wind. It is this demonstration phase where we need to make an agreement around a limited set of activity, where the risk is shared differently from the way in which it has been shared to date, in order to drive those to action in the real world, collect the learning, drive the costs down so we get deployable solutions in due course. I think that is the conversation that needs to take place in order to accelerate the activity.

MR WOLF: Mr Kozhuhovsky, would you like to comment at all briefly on the question of the incentives to invest in these carbon reducing projects that you were talking about and the returns on doing so? Do you want to comment on the question of the incentives to introduce investments that would reduce carbon intensity, which is obviously a bit part of the investment programme that you were talking about, and whether these incentives are adequate?

MR KOZHUHOVSKY (Interpretation): As a matter of fact – and I am speaking as a representative of RAO UES here – our company is quite prepared to go into this and provide whatever incentives are needed. What is lacking, however, in our country is the legal and regulatory framework, and this is something, you may have noticed from my report, that at least 50 per cent of my report was precisely with regard to the lack of regulatory regime and the statutory regime for us to be able to move ahead. We are biting at the bit. It is the government and the legislation which is still lagging behind.

MR WOLF: Thank you very much. Mr Kuroda, would you like to comment on transport and the built environment?

MR KURODA: Yes. Currently, globally speaking, transport's share of CO2 emissions is something like 20 per cent but it is estimated that in the next 20 or 30 years transport's share will substantially increase. You can imagine that if you use an automobile to commute your office, it is three times more energy-consuming than using a bus and it is six times more energy-consuming than using an electric train or a subway. Particularly in Asia, there are many, many cities where a mass transit system has not been well established. If you improved mass transit systems in cities in Asia, that would change the scene dramatically, reducing air pollution as well as substantially reducing CO2 emissions.

I must say that, on the supply side, the power stations and so on, these are also very inefficient in Asian developing countries. If you rehabilitate or improve the energy efficiency of those old power stations again, a substantial saving of energy, a substantial reduction of CO2 emissions can be realised. From ADB's point of view, we are planning to provide $3 billion annually for energy-efficient projects and also we are encouraging developing member countries to utilise more the carbon market so as to reduce the cost of energy infrastructure investment. I must say that, certainly, ADB's role in energy saving and energy efficiency improvement will be significant but I would also like to emphasise that the role of the private sector is crucial because even if the World Bank provides $2 billion annually, even if ADB provides $1 billion annually for energy efficiency projects and clean energy development, these amounts are tiny compared with the necessary energy efficiency investment in developing countries as a whole.

MR WOLF: Mr Jacobs, would you like to comment on the global demand question? If you have any burning comments on the built environment, you are certainly welcome to add them.

MR JACOBS: Yes, of course, the demand must be global, and that is why we are working incredibly hard towards trying to find the basis of a post 2012 agreement. In the end, unless all big emitters are part of this process, it cannot succeed. Nevertheless, what Europe has done is to say if we are all waiting for each other, then we are simply going to wait too long and it may never happen, therefore Europe in a sense has done what sometimes is the best thing to do in a negotiation, which is to put your cards on the table before everybody else. One option is just to leave them close to your chest and hope that somebody else blinks. Europe has now said "We believe very strongly that action must be taken, this is what we are prepared to do unilaterally, just Europe." Now, of course, it is not unilateral because it is 27 nations, and that gives us internally within Europe some protection against the competitiveness impact. A lot of European trade is with the rest of Europe, so doing it collectively across the continent of Europe is not a complete protection against global competition but it is some considerable protection within Europe, and it would not have been possible for individual countries like the UK to make unilateral commitments of this kind but Europe has felt able to do so and has said that is actually the down-payment on a commitment that we would make to 30 per cent under the conditions of a global agreement.

So it is a very significant contribution, not just to demand but to the goodwill that is required for an agreement that takes in all the significant developing countries. It does more than that – and this is the point I was trying to make – it begins to enable the flows of investment which make it possible for particular the larger developing countries to see that this is a global agreement they could be part of. What we need to do is to make sure that people can see that there are real opportunities to do this, and creating flows from European demand into developing countries through the multilateral development banks will help to make that happen. What we would hope is that, as India, China, Mexico, South Africa, Brazil, and many other countries start to engage in these renewable energy efficiency projects and so on, they will see that this is a world of an agreement that they could join, so this is not simply about creating the flows; it is also about creating the basis for a new international agreement.

I have to say that the competitiveness impacts are potentially significant and it does not seem to me impossible that we might end up here in a realm of looking at specific sectors and how the competitiveness impacts globally can be managed in specific sectors, where asking for emissions reductions in the United States, for example, would have a competitiveness impact and they would want to see what kinds of arrangements could be made with other countries. I think that is a conceivable avenue that we might need to go down in some sectors.

Can I just say on transport and the built environment, at the moment, the CDM regime has very high transaction costs. Individual projects have to be registered, verified, and the transaction costs of that make this quite a difficult market. One of the options we have to explore, which we are now beginning to do so, and we are taking part with Mexico and some other countries in a workshop this Summer which came out of the Gleneagles process, one of whose items on the agenda will be this: can we make the CDM eligibility for programmes, that is, projects as a whole, and indeed, policies, which will be carbon reducing? So instead of going project by project, we look at programmes or policies as a whole, and urban transport systems and urban built environments are prime candidates for a more programmatic or policy approach. So making the CDM more available to be scaled up in that way seems to me one way of directing finance into those sectors.

MR WOLF: Caio, I am going to give you the last word.

MR KOCH-WESER: In fact, the previous speaker has said most of what I wanted to say. I very much agree with you, particularly also on the transport sector. We have made some calculations on what we all describe and what I call these four points of predictability beyond 2012, greater certainty/clarity on the tax legal accounting frameworks, and the compatibility of domestic trading schemes. If that is in place, and you then assume, secondly, that indeed, the world is moving to including the emerging market economies in the shift of paradigm towards obligations and trade, what this volume could be. So I am not concerned about the global demand dimension here.

Let me also add that from discussions we had with leading corporates – it was very interesting to hear from our Russian colleague – particularly in the BRIC countries now; I have done it myself in Russia, India and Brazil recently – this is being cogitated now and I think we will have a different environment for those negotiations than we had in the past. So I am cautiously optimistic that we are moving in these directions I tried to summarise.

MR WOLF: Unfortunately, I have been told to cut off the discussion now. This is due to the gross irresponsibility of the people at the beginning of this session of the afternoon. That is how it always is. There are always innocent victims. However, if any member of the panel has anything absolutely burning that they want to say at this stage, I am going to indulge, which is the Chairman's prerogative.

MR JACOBS: I am not sure we answered Ivo's question about the role of the multilateral development banks. The return is too low on many of these things at the moment because the risk environment is not quite right for the private sector simply to invest here themselves. The multilateral development banks can fill that gap, and they can fill it not just with the money they have and the guarantees but the work that they can do to identify projects, to help developing countries and indeed transition countries get the policy framework right, and so on, and that sort of convening role, convening and support role of the banks, as well as their financial role I think is absolutely critical and it is bringing it together. It is that role which we are very hopeful that they can do, and is partly why we brought you all here together to discuss it with you.

MR WOLF: Very much. I think, despite its brevity, it has been a rich, complex and subtle debate. I have already summarised it once and I am not going to do so again. Please thank the panellists, who I think have done very well.

(Applause)