The London Accord: Sustainable Finance And Climate Change
Professor Michael Mainelli and Jan-Peter Onstwedder
30 January 2008

Good afternoon, ladies and gentlemen, and welcome to Gresham College. My name is Professor Michael Mainelli, I am the Gresham Professor of Commerce, and I also happen to be an advisor to the London Accord, which is naturally the subject of this afternoon's discussion.

I am really here only to make a few opening remarks, so I would just like to say a few words about the London Accord: The London Accord has been a truly fascinating project. It originated over two years ago, here at Gresham College, with a discussion between myself and Alice Chapple, and we find ourselves, two years later, with a tremendous amount of momentum - 19 organisations having produced, over the course of last year, 24 reports about climate change, and doing so in a cooperative way. The London Accord has a very different take on most of the climate change debate: it was done by, mostly, hard-nosed city individuals saying to themselves, 'Does this thing make sense?' There were a couple of big scenario jumps, which we will come to in a minute. We - and this is a very important thing today - assumed that a carbon price above thirty Euros would be achieved, and a lot of things flowed from that. We assumed that the current zeitgeist of people caring about carbon, would continue. So there are a few assumptions in there that we will get onto, but also, there are a few conclusions. This was not a report done for PR purposes. In fact, if you Google News it, you will not find very much - that does not mean I would not mind any journalist covering it! - but it was actually done for our community, the City of London, and that is really what it was about, and it is been very well received. It also was not a report that was meant to drive a single thesis through to a single conclusion; it was meant to cover a wide variety of areas and assess the current state of investability into climate change. Nevertheless, it did come up with a few key points, which will be covered in a minute.

One thing that I should emphasise here is that this has been a very different process for the City. This is completely unusual - competitive firms that have never cooperated on investment research managed, in short order, to produce a pretty impressive piece of information, and moreover, to share it with the world. These reports are normally seen by, at best, a few hundred people. I was having a discussion at dinner last week with Stéphane Voisin, the Head of Sustainability Research at Crédit Agricole Cheuvreux, and I asked him how many people see these reports? Top which he responded, 'Well, typically we maybe send it out to about 650.'

I do not think people understand that within the actual investment community the depth of analysis and information that goes on, and for some of you, I suspect, actually having a good look at this free CD, you will be quite surprised at the depth that these teams go into in areas like forestry or bio-diesel, etc. What may also surprise some is the very hard-nosed and hard-edged attitudes that these people take to whether it will or will not make sense in terms of making money. Before you say, 'Ah well, I know that, that is exactly what the City is all about, making money!' in fact, the truth is that these are your pensions, and so these people are obliged to make those decisions about your pensions - that is what the law says, that is what they have to do, and this is the analysis that they have applied. So before people bleat that the City does not get climate change, that the City ought to be doing something about it, because you cannot be bothered, the City is doing a lot about it, but the City does need to have a fairly firm price for carbon before you are going to see real action moving in.

But in terms of today, I am really pleased and honoured to have Jan-Peter Onstwedder here today. Jan-Peter has become truly a friend over the last two years. Jan-Peter has been absolutely stalwart. He was the project director from 1st January 2007 until 31st December 2007. Jan-Peter was on secondment from BP and worked the entire year on the London Accord with, if I may be frank, a tremendous amount of assistance from BP and some other staff. I hasten to add that Jan-Peter has left BP, so any remarks he makes today he is very free to make on behalf of the London Accord, and feel free to quiz him about his thoughts on what is going on in the energy and oil markets as much as anything else.

Jan-Peter has kindly offered to talk to us about the London Accord.

Jan-Peter Onstwedder

Thank you Michael.

My name is Jan-Peter Onstwedder and I am going to warm talk about the London Accord - investing in climate change solutions, or 'cash-in, carbon-out'. Most of what I want to talk about will be around the question: what role does the City play in investing money in solutions for climate change?

But as Michael has already alluded to, this has been quite a unique project. The main thing has been the collaboration - 19 firms, 24 reports, 24 papers, 780 pages. I can give you lots of statistics if you are into that kind of thing, but it is only important to just have a sense of 19 people, 19 organisations, coming together to create something that we had not seen before.

So the outline of what I want to talk to you a little bit about is the 'why', 'what' and 'how': why did we do what we did; how did we do it; what did it accomplish; what are some of the results.

What we roughly did was apply financial analysis techniques to the issue of climate change investment. Climate change, broadly speaking, breaks out into adaptation and mitigation: adaptation is living with the amount of climate change that is inevitable or that will happen; mitigation is investing money, finding solutions, changing from a carbon-intensive economy to a low-carbon economy, and that requires quite a bit of investment. As a result, most of the London Accord papers and research is more situated in the sphere of the mitigation rather than the adaptation, but there are one or two papers and there are some interesting things to be said around adaptation per se.

Why financial analysis? Why not looking at the science? Why not looking at the potential for carbon abatement from investing in other things? For two reasons really: one is, that kind of research has been done, and is well covered by some of the very advanced scientific institutions - by government research, by the IPCC work, etc. The research into 'Does forestry work?' the research into 'Does solar work?' 'Does it reduce CO2in the atmosphere if you look at it on a total life cycle?' is tremendously important. It is not the sphere of the financial analyst to look at that. They use that analysis as an input, and you will see that being used as an input in most of the research reports, but it is not the work that a financial analyst does. What the financial analyst does do is take the instructions from his or her clients, which ultimately is all of us - through our investments, our pensions, the companies we work for, the money we save - and translate those instructions and funds into investments. There is a bit there about that fiduciary duty, that fiduciary obligation, that biases the City to doing, as Michael says, hard-nosed financial analysis.

These people need to cooperate if we want to do something more as a world about sustainable finance. What the City does, what the pension funds do, what you and I do with our money that we invest matters. Governments are not going to do it all. They have a role to play. But if 86% of the total investment in energy infrastructure and supply has to come from the private sector, then the private sector needs to understand how to look at those investments. This, if you have a look through the reports on the CD or on the website, is exactly the thing you pick up - how does the City and its financial analysts look at the opportunities to invest our money in solutions for climate change?

I said before there is lots of research on whether these solutions work. Well, what is interesting is that for the last number of years we have had, thanks primarily to the IPCC and the enormous structure of scientists and scientific research that underlies that process, a consensus about what the problem is, and what sort of solutions we need from a technical perspective. In other words, we know how good wind is compared to coal, we know what can be done with geothermal sources of energy, we know what can be

achieved in terms of energy efficiency, and so forth. But there is not anything like that kind of consensus in how to achieve that. David Steven of River Path Associates characterise it as, 'We may have a consensus about the problem; we do not have a consensus about the solution.'

Well, if there is not a consensus yet about the solution, and yet 86% of one of the key resources required to implement solutions has to come from private sector investment, then we need to understand how the private sector thinks about those solutions, or else I cannot see that much progress will be achieved.

Part of what we found in setting up the London Accord is - and hopefully you have got a flavour of that already - it is not just about the technical solutions. It is not just about understanding how attractive it is to invest now in the manufacture of solar panels. There is a lot more to the whole problem space and to the potential solutions than just that. So, we ended up with a scope for London Accord that was wider than basically saying that there are investment opportunities. The core of the London Accord research is into those individual investment opportunities, but they arise in a much broader framework, a framework around sustainability, policy, etc. Therefore we have papers that look at the politics and public opinion, we have papers that look at portfolio construction rather than individual technical or financial solutions, we have papers that look at the commentary from the perspective, for example, to use one that I find personally very interesting, the perspective of the philanthropic investor.

Philanthropic investors have become a force in the world for a lot of different things. They invest many billions of dollars per annum. They are particularly engaged at the moment in things like diseases, poverty, etc. But if you talk to the largest philanthropic foundations in the world, climate change is high on their agenda. We have a very interesting paper within the London Accord project that asks what philanthropic investors could do and what role they could play next to the pure private investment and the traditional public sector.

That is just to give you a sense of the scope of how comprehensive we have been in the London Accord, and I would love to see other people be equally comprehensive. One of the things that has been unique about this project is that we have managed to create such a large scope and found such good cooperation from a variety of different sectors.

We had a kick-off meeting just ten months ago, in March 2007, hosted by Reuters, where everybody pledged to actually cooperate, do what we asked them to do and work to similar scenarios. We did not quite go so far as to put up a big boards and get people to sign that they would actually deliver, but it was nevertheless an important event to really get people to commit to a unique collaborative structure, to work under, admittedly, loose guidance and guidelines that did not come from the individual firms but rather that emerged in that two-day meeting, and that Michael and I acted as custodians of.

We then had a research period and analysis period. In other words, people produced individual research. We were able to distribute that amongst a number of folk, including, for example, Alice Chapple at Forum for the Future, to allow her to comment on and think about the individual pieces of research. When you think about it, that is investment level research which is normally hot property for a few hundred selected individuals, being shared, before publication - and in case there is anybody from the FSA in here, all of that was properly safeguarded and covered by confidentiality agreements, and none of it was company-specific, and no price-specific information was ever shared!

Then the final report was published formally at Mansion House on 19thDecember.

An example of one of the more interesting things that have come out of this was cap and trade schemes. Although there is a good economic debate to be had about their relative efficiency compared to tax-driven schemes - and many commentators are expressing a preference for tax rather than the carbon market as a mechanism to get a price for greenhouse gas emissions, or the allowances for greenhouse gas emissions - cap and trade still has the support of the overwhelming majority of the people who invested 86% of the money we will eventually need to solve climate change as a problem. I think that preference is something we would do well to acknowledge, even if some of the economic commentators seem to think that the theoretical efficiency of a tax regime still makes that preferable. That is only something that controls some 14% of the investment; the other 86% tend to have a fairly clear preference for cap and trade.

When we looked at it though and asked what you would do as an investor, what would you do if you were the Chief Investment Officer for a large pension fund; one of the key questions is forestry. This surprised me. Going into this, a year ago, I did not think that I would walk out of it saying here to you, a year later, that the big unknown in this whole space is actually forestry.

There are two parts of forestry that are big unknowns, and then I will explain to you why it is so important. One is the question 'What is the scientific proof that CO2 abatement from forestry actually occurs and, critically, can be verified and tested?' I understand that the conference in Bali in December actually agreed the way forward about those particular questions and therefore we should now have a roadmap to reduce that uncertainty. But of course, from an investor's perspective, that uncertainty is critical. If I am going to invest millions or more in an asset where I eventually expect to monetise that investment through the value of the CO2 abatement, and there is no proof, no consensus about how that CO2 abatement can be verified, measured, and ultimately monetised, that investment does not look terribly attractive.

The second question on forestry is on what it actually costs to achieve that abatement. If you can take a million tons of CO2 out of the atmosphere through a forest, or forestry management, or reforestation, what does that actually cost? The estimates there have a wider margin of error than cost estimates for any other solution to climate change. It will help to really think about that. People will tell you that solar can be price-competitive at certain energy markets now, or maybe it is still twice as expensive as convention fossil fuel-derived electricity, but the range on forestry is far greater than that. Again, this creates uncertainty that gets in the way of investment, and not just for forestry individually.

I am going to leave that one hanging for a little bit, but I will come back to the forestry question shortly. But first I would like to give you some of the key conclusions we found through our research.

On carbon capture and sequestration, JP Morgan did a fantastic paper, with a conclusion that says: 'Given the obstacles, including some of the technology and the legal framework, carbon capture and storage is unlikely to contribute in a material sense to CO2 stabilisation targets over the next twenty years.' What that means is this could become a big industry, it may very well happen, but the timeframes for it to achieve scale are such that it is not likely to be a major part of the solution within the next twenty years. Although perhaps it will on longer timeframe.

On solar, Bank Sarasin's paper says that the photovoltaic growth rate, at something like 50% over the next few years, is going to come down a little bit, but it is still going to run at well over 20%. That is motivated, if you read that paper, by the realisation that, under the right circumstances, more and more photovoltaic-generated electricity is price-competitive with fossil fuel-derived electricity. Therefore, that will attract investment, therefore that can sustain growth rates at twenty-odd percent for more than a decade, coming off a decade of high growth rates, that for investors are very attractive indeed, more so than people may typically associate with that particular part of the renewables industry.

Biofuels are very much driven by government subsidies and its product that it competes with these are highly correlated. Higher crude oil prices imply higher diesel prices which, at the moment, creates a tremendous amount of upside in the valuation of bio-diesel - bio-diesel feed stock manufacturers, etc. and are very well sought after properties.

Concerning adaptation, in a quote by Barclays and a consulting firm called Acclimatise, it says that: 'These changes may represent material risks or opportunities to businesses.' It is an area that is often overlooked, but climate change adaptation creates industries that are quite interesting to invest in. It does not just create downside risk for firms.

On a different topic, renewable energy has come of age and it is here with us to stay. It offers some very attractive opportunities, in the words of Mark Thompson from Canaccord Adams, particularly in solar, wave power, and thermal.

Energy efficiency is one that we have known about for quite a long time, but which is still very important in scale and attractive. We have got papers by Credit Suisse and Merrill Lynch addressing that particular topic.

The last area is my favourite: forestry. I have more or less told you what it says there already.

When we looked at the conclusions in the different papers, one of the things we saw was that the investment per se will become riskier and more difficult to assess. We were simply going into one of these economic transitions where more things are more uncertain than they have been for a long time. That creates opportunities. It creates opportunities for some very attractive returns.

When we try to model based on information that is generally accepted - i.e. estimate of costs in opportunities by the IPCC - what we see is that there are a lot of portfolios that look quite efficient. There are possible portfolios that have a weighting in things like biofuels, solar, geothermal, energy efficiency etc. So each portfolio might have different composition but the trick is of course to find one that looks optimal in

terms of the risk and the potential reward that it represents.

This is one of the areas where forestry throws a big spanner in the works - or rather, the uncertainty around forestry makes it quite difficult to construct portfolios at the moment. Why is that? Well, if you believe the low end of the cost assumptions about forestry, then any really good portfolio from an investor's perspective includes a huge chunk of forestry - and this might be as much as 20-40% for a portfolio that generates attractive returns. On the other hand, if you believe the high cost estimates for forestry, you do not bother, and other solutions take up much more space. That kind of uncertainty is important. One of the key conclusions therefore on the Accord is that it would be really good if you could alleviate some of that uncertainty around forestry.

We keep talking about climate change, but there is another bit, and it is one of the papers I would really urge you to read in a little bit more depth than you might do with other topics in the London Accord booklet or CD, because the issue of the wider sustainability is no longer something that is just a hand-waving of 'it's all important, it's all terribly difficult'; there are ways to include that. Some of the issues are not as advanced in the way of including the financial analysis as we now see around climate change, but they could follow the same path. If you look at what London Accord has achieved, the application of financial analysis to climate change as a problem, in a more or less consistent framework, in a collaborative effort, with a much greater scope than what has been done before, we could easily extend some of those approaches to other sustainability challenges, not just to the one represented by climate change.

Picking a winning portfolio, as I have alluded to, is actually quite challenging. It does not matter so much for creating a portfolio what mechanism creates a price for CO2 emissions; what is important is that the price is there. But one of the reasons for a preference for cap and trade mechanisms is the inherent flexibility and the fact that it is neutral when it comes to portfolio decisions. In other words, the portfolio decisions are generally just taken by prices; whereas in a tax scheme or other price mechanism for CO2, there tends to be much less flexibility around the allocation of that.

A summary of the portfolio sense could be said to be that you can create something like 15 billion tons of annual CO2 abatement potential with portfolios at a cost of something like $30-60 per ton of CO2. In other words, if you as governments and policymakers and as businesses created a world in which CO2 emissions are priced in the order of $30-60 per ton, you would expect private investment to drive portfolios that will generate a reduction in CO2 emissions of something like 15 billion tons per annum. That is just over half of the current anthropogenic emissions. In other words, that set of solutions, with current assumptions, is feasible.

I have mentioned policies, but the London Accord was not a policy exercise. It was not a policy lobbying exercise but this is a solution sphere and a problem sphere that is heavily dominated by policies, by rules and regulations. This is particularly the case because it hinges on things like subsidies, prices for emissions, etc., that are created only through government intervention policies. What matters a great deal - and this is the key point from the London Accord around policy - is the predictability and the stability of the rules set up by these policies.

It is quite an interesting comparison, if you look at EU 27 and you rank the share of electricity generation from renewable energy, the country with the largest number of energy white papers in the last five years ranks last in the actual share of energy generated from renewable resources. I will leave you to guess what country that might be... so as not to embarrass my hosts around here too much!

There are some policy implications that come out. I said it was not intended to be a lobbying paper, but we inevitably got to things like policy implications - what matters from the perspective of investment analysts.

The carbon market is number one. As some of the research shows, if government wants to do something very useful, it could, and as I understand it will, invest money in the research that will reduce that uncertainty around the potential and the cost of forestry as an investable resource.

The carbon capture and sequestration bit is something that we need to think twice about which way we go as it does not look terribly attractive from a private investor's perspective. If you really think as Governments that you can get that solution off the ground on industrial scale, in a short time frame, funded by the private sector, you might want to think again.

The point about carbon dumping wars is quite an interesting one, but I think that might be more interesting to leave to the question and answer session, where we would be happy to go into a discussion about that.

The standards piece is the last one that I will spend a minute or so talking about, because we actually have two papers on carbon standards in the London Accord boundary. Markets thrive on certainty around the rules in which they operate, and one of the key parts is actually to understand what CO2 emissions do arise from particular industrial processes or indeed in solutions, so that you can predict what, given a price for CO2emissions, the financial flows from an investment will really look like. Part of the issue there is that it is actually quite difficult to understand what part of the emissions of the entire lifecycle of a product should be attributed to what part of the cost structure and what part of the investment. The technical analysis on the lifecycle of emissions is generally available and there has been quite a lot of very good research being done in that area for quite some time. That will continue, but to understand exactly what CO2 abatement I might achieve by investing in a part of an industrial value chain and how that can be monetarised is, as yet, not always clear. Standards around measurement, standards around the reporting, the labelling, etc. would be very welcome, particularly if they are not just aimed at consumer labelling, which important for changing behaviour, but also aimed at the manufacturer and the service provider, who needs to make investments in his or her own manufacturing process to achieve greater efficiency, because consumer labelling itself does not provide an incentive to do that.

And then the abatement opportunities that currently exist already with positive NPV that are not being taken up by all of us do require regulation as an intervention. The light bulb is the classic example of this. It is the case that changing our light bulbs from incandescent to energy-efficient ones has been making financial sense for quite some time, yet very few of us do it. So by now, governments have got the particular point that if, for a number of years, a positive, cost-effective solution is not being taken up by the private sector, it is maybe the right time to actually look at regulation. So, in the case of the incandescent light bulbs, the UK, Australia and, as I understand it, even the United States in a few years' time will simply outlaw them. So there is a place for regulation as well as for economic incentives.

So, to recap: private sector investment is key if we are going to solve the issue of climate change. Private sector investment, in turn, is driven by the goals and constraints of investors, which largely come from the instructions we, as savers and investors, give the people who look after our money. It therefore makes sense to understand those incentives, to understand the way the private sector analyses the investment opportunities, makes its recommendations, and makes its decisions, even though they are made on our behalf. To give you a flavour for how that works, all you need to do is read 780 pages of the research... or the executive summary! The results of that investment and trying to relate it to the portfolio side and trying to think of the wider implications do, I hope, give the readers of the London Accord a good flavour for how that link of climate change objectives to private sector investment can really work.