Speech by Ingrid Holmes

Creating a financial system fit to serve the low carbon economy

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Back in 2008, as the UK Government faced an economic meltdown, E3G was asked to think about how – if the UK was to green a fiscal stimulus – what that would look like. We quickly realised that even if the Government did want to do that (which it turned out it didn't particularly!) there was no mechanism for getting public money out of the door quickly and effectively to back green investments. And so the idea of the Green Investment Bank was born. Five years later – in the middle of an economic crisis – the institution has been created. It has over 50 staff, £3bn under management and has made its first investments in the UK economy, backing wind, waste and energy efficiency investments – including the UK's Green Deal energy efficiency programme.

The very fact there was a need to propose the institution at all immediately tells us the finance system as it stands is not fit to deliver on the challenges of financing the low carbon transformation – or at least that is the case in the UK. But as similar institutions spring up or are proposed elsewhere it would seem there are similar gaps in the institutional capacity needed to address the climate investment challenge other countries too. So what can we learn from this?

For the purposes of today's speech I have been asked to step back a bit from our Green Investment Bank work and talk more broadly about why and how the financial system is failing to meet the needs of society and the real economy and how it needs to change, specifically in the context of the climate challenge. This is obviously a huge topic so I am going to focus on three key areas.

- First – I will set out some of the things I think that have gone wrong in the financial sector. But I also want to talk about what is good and how – in the rush the fix the worst failings – we also risk losing the opportunity to develop a real sense of purpose in mending the system by inadvertently choking off the supply of money to the low carbon sector.
- Second – I will set out the nature of the low carbon financing challenge. I will look at what is different about low carbon compared to high carbon assets, and how investing in such assets presents difficulties for private sector.
- Third – I want to give you some reasons to be cheerful and highlight what I think are some of the most interesting financing trends happening now and what this tells us about how financing of the low carbon economy might evolve, and the role of government in accelerating this.

So, what went wrong with the finance system?

I have to confess I have written and rewritten this section of my speech several times now.

The causes of the financial and follow on economic crisis, as the banks had to be bailed out, are various and many and they can be explained with many different framings. I am going to borrow – for the purposes of today's lecture – what I think is the most succinct explanation I have read. It was given by Gervais Williams of MAM Funds in his pamphlet 'Tomorrow's Finance'. I think it is worth sharing here because it provides some context for the debate about what needs to change.

The first thing to say is that the financial services sector hasn't always have a bad reputation – but it has changed substantively over the last few decades. The 1980s saw the arrival of a new and aggressive form of capitalism in Europe with the arrival of US investment banks. This aggressive capitalism was driven by an economic ideology known as the 'Washington Consensus' – a form of market fundamentalism – that became fashionable in the US during the Reagan administration. These were ideas around the role of deregulation and supply side economics in driving growth. They were in turn reflected in the thinking and policies of the UK Conservative Government under Margaret Thatcher – which is important because the City of London is regarded as the global centre of the financial system. These ideas also reflected the neoliberal tendencies of the business community and the economics profession in the US. Among the favoured policy prescriptions of the 'Consensus' is financial liberalisation at the global level.

Domestically, this is achieved by weakening or removing controls on interest and credit and by diluting or removing the differences between banks, insurance and finance companies. Internationally, financial liberalisation involves removal of controls and regulations on the flows of financial instruments that move through the financial markets.

It is the implementation of these ideas and policies that enabled considerable innovation in financial products over the past decades and the related surge in global financial flows. All financial institutions expanded as a result but it was the banks that expanded the most with the issuance of what some have called “a wall of debt”. Increasingly cheap credit over a period of over 20 years that has facilitated trading profits of ever increasing size.

Some of the most damaging effects of this deregulation were on the culture and behaviour of parts of the previously ‘gentlemanly’ financial sector and included:

- the blurring of distinctions between serving the interests of client’s capital and serving the interests of one’s own capital – which led to the collateralised debt obligation debacle and ultimately unleashed largescale instability in the financial system in 2007;
- the emergence of the big bonus culture – especially for the trading desks – that encouraged and continues to encourage the risk-taking and short-termism and has caused so much distaste among the public and damage to the economy.

The other big changes that were especially damaging were the changes to financial regulation that enabled mergers between investment banks and commercial banks to take place. These organisations serve quite different functions in society and have quite different risk—return profiles.

Let me explain what I mean by that in bit more detail. The banks most of us deal with on a day-to-day basis are the retail or commercial banks. These are the banks that take savings deposits and make business, personal and housing loans. They enable us to transact on a daily basis and tend to focus on servicing the financial needs of the small and medium sized enterprises that are so important for driving innovation and growth in our economies. Commercial banks have also played an important role in financing many smaller renewable energy and energy efficiency projects.

Then there are the investment or merchant banks. They are primarily focused on assisting larger companies access the capital markets to raise money for expansion or investment. This is big money: these banks play the very important role of linking institutional investor capital (capital held by insurance companies, pension funds and sovereign wealth funds) with the needs of the real economy. For example they raise equity capital (helping launch a public share offering or creating stocks for private investors) and they can raise debt capital (by issuing bonds). These functions of investment banking – providing debt and equity – I am a huge fan of. There is huge social utility in connecting long-term finance to the needs of the real economy. These have been big players in the financing of low carbon assets through securing exactly these types of capital for clients.

However with the blurring of functions of banks, insurance and finance companies the banks increasingly moved into the trading of all types of products and derivatives. Don’t get me wrong, market-based trading has value within the economy. It helps us to trade our surplus time and products in return for other items we would prefer. But increasingly – with deregulation – trading has become focused on speculative and claims-based trading (currency, commodity credit default swaps etc). I take issue with this type of financial activity. It creates volatility that benefits market participants at the expense of regular investors and savers.

It is here that, I believe, many of the systemic problems lie. It is also the part of banking that makes regular people most uneasy – because it is difficult to understand what they do and how they do it.

So going back to the effect of deregulation on the character of banks. By enabling mergers between investment and commercial and retail banking functions, governments enabled the pooling of high risk- high return and low risk- low return functions. A disastrous mismatch that made the banks too big – but also too significant in terms of the running of the retail economy – to fail. This meant governments were forced to bail them out, now putting their own credit ratings in jeopardy as huge deficits are accrued. I think at its root, this is one the most significant causes, of the current economic crisis.

The events of the past 5 years have led to a vociferous and ongoing debate about the how to reign in the worst excesses of the financial sector. There are calls the break up the Banks at European and national level, an idea that I think has a lot of merit – but a lack of political will to implement. The European Parliament has proposed a cap on bankers' bonuses – it's a popular idea but if implemented it is also likely to be met with a rise in base salaries instead. The European Commission has proposed a financial transaction tax in an attempt to reduce volumes of trading and thus volatility in the markets. But it is uncertain how effective this approach might be at reducing volatility – especially since other drivers such as mark-to-market accounting rules are not being reformed. Basel III regulations serve to require banks to hold more equity against the capital they lend out – but in the hurry to deleverage balance sheets this has led to a shortage of affordable and long-term debt. In the event that normal lending services resume, it is likely to result in a permanent shift toward short-term and lower risk investments. And away from long-term lending to low carbon assets, which are high risk compared to conventional technologies like gas fired powerstations.

But it isn't just the banks that are being hit: institutional investors have lost billions of Euros during the financial crisis as a result of 'mis-selling' of financial derivatives by the banks. They too are facing new regulations – Solvency II and Pensions regulation – that should leave them less exposed to the potential for future mis-selling of dodgey financial derivatives. But these regulations if left unchecked will also preclude substantive investment in low carbon infrastructure assets.

It is absolutely clear that we do need more regulation, but we also need smart regulation. And in the rush to fix what has gone wrong, we shouldn't – to coin an English phrase – "throw the baby out with the bathwater".

The low carbon financing challenge

OK, so against this backdrop of economic and financial turmoil we also have a climate crisis to address. I want to start this section of my speech with a quote from the Green Investment Bank Commission, of which I was a part in 2010.

"Some argue that good government policies and waiting for the financial market to return to 'normal' after the credit crunch will be enough to deliver the necessary investment. We disagree. Even a return to the 'old normal', which is not likely, would not accommodate the unprecedented scale, urgency and nature of the challenge. The only sensible plan given the conclusion of the Stern Review is to act now to facilitate the required investment needed to safeguard our future."

The low carbon transformation has been called the third big industrial revolution – following hot on the tails of the first industrial revolution (based on coal) and the more recent digital revolution (the internet boom). It is necessitated by science – the need to stay with a 2 degrees C global temperature increase. The investment profile of the low carbon assets needed to tackle climate change is different to high carbon assets. Low carbon assets have high upfront capital costs but then lower operating costs (compared to high carbon which has low upfront costs and higher operating costs).

In a nutshell this means a large 'pulse' of capital investment is required all in one go – but then gets paid off over a relatively long time period. We need to find a lot of cash and relatively quickly.

So how much is needed? The IEA estimated around $140tr is required just to transform the energy system to meet 2050 climate and energy security goals. It sounds a lot, but much is asset replacement – with an increase of $36tr compared to business as usual investment that would result in a catastrophic 6°C warming in global temperatures.

This is a challenge that is clearly far beyond the reach of the public purse alone. Therefore private sector investment at a much larger scale will be essential to deliver the required capital.

But, the plot thickens. This isn't just a challenge of numbers. Delivering decarbonisation will require the development of new financing and business models – again more innovation and more risk – something the finance sector, and perhaps society in general, is keen to avoid at the moment.

To date, the bulk of money to back low carbon investment has come from company balance sheets and the banks. But banks are unable to deliver the volumes of capital required: a fact that is compounded by impending Basel III regulations that require higher capital adequacy (this is the ratio that determines the capacity of an organisation in terms of meeting the time liabilities and other risks such as credit risk, operational risk, etc.). It is also both unrealistic and undesirable (if we want to create diverse and innovative marketplace) to expect the incumbents with large balance sheets to fund the whole of the low carbon transition. So, this means new capital pools and financing frameworks must be found.

So where could this financing come from? Institutional investors, with their long term liabilities and vast pools of capital could be a source funds. The pensions industry held $31.5tr under management in 2011; the insurance industry $24tr in 2011. However these investors tend to be risk-averse, just when there is a lot of risk about. So the questions for governments then become:

> what market interventions are needed to ensure these investors can earn adequate risk-adjusted returns;

> what institutional arrangements need to be in place to share risk where innovation is required;

> how should financial regulation be shaped to protect society but also ensure capital can be deployed at scale into this sector.

The story about the need for governments to create adequate returns to incentivise private sector investment in the low carbon sector to compensate for higher costs I think is well understood. This is the idea of creating 'long loud and legal' 'investment grade policy frameworks'.

But institutional arrangements for catalysing investment are also important. Why? Because this is a dynamic problem.

The profile of the financing challenges will be very different across different sectors of the economy:

> In buildings finding scaled finance to underpin investment may be challenging but equally challenging is the issue of creating demand for such investments, even though the savings once investments are made are substantive.

> In several industrial sectors, technologies are available but not yet deployed at scale. So it is about getting these innovations across the 'valley of death', that is, getting technologies from research to deployment stage; demonstrating that they work; and compensating early-mover companies that deploy them for the risks taken.

> For new business models – such as the Green Deal energy efficiency financing mechanism in the UK – it's about quantifying risk and demonstrating the viability of a new way of making investments.

> In periods of economic bust – such as now – it's about acting as a cornerstone investor that will bring in pari-passu private sector capital.

> There is also a need for dedicated institutional capacity to be focused on facilitating the refinancing of existing investments in low carbon assets, for example by packaging them up and selling them on as low carbon asset-backed securities to bring in low cost debt market capital.

Faced with this array of challenges, current institutional structures to support the low carbon transition in many countries are too ad hoc and need to be reformed and rationalised so they can deliver in a more synchronised and strategic way.

In the UK we made a case in 2008 and 2009 that a strong institutional presence in the low carbon markets in the form of a Green Infrastructure Bank will open up opportunities for more flexible and effective policy making, fit to take on future uncertainty and bring in new investors. It was a new approach to driving public-private partnerships in the UK. We argued the Bank should have a mandate to support delivery of capital to projects where such finance is not available from the private sector on reasonable terms. The case is compelling and has been taken up in a number of countries: Australia has a Clean Investment Finance Corporation, directly modelled on the GIB, and funded by revenues from carbon trading. The French Government is setting up BPE, to assist with financing low carbon infrastructure – especially energy efficiency. In Holland there has been a long-term discussion about setting up a Green Investment Corporation.

If you look back at history, state-backed development and infrastructure banks have tended to be formed at times of key development change – where the market could not deliver the scale of finance needed. They were created as enduring solutions to long-term issues. Examples include KfW Bankengruppe (formed in 1948, rebuilding Germany's homes and most recently playing a key role in the reunification process); Instituto de Credito Oficial (dating to 1971 and set up to promote Spanish interests which now focus on a wide portfolio including renewables and the film industry); and Cassa Depositi e Prestiti (set up in 1850, the Italian State owned 70%, with private banks holding 30% and with a mandate to finance 'the development of the country'). The European Investment Bank – the biggest bank in the world - was created in 1958 to further the objectives of the European Union by making long-term finance available for sound investment. Since the economic slowdown it has become the biggest financer of renewables in Europe. It too is currently reviewing its energy lending policy and we are actively making the case it needs to play a further enhanced role in the financing of low carbon technologies.

This isn't just a problem for European governments. Both developed and developing countries are facing the dual challenge of deteriorating or inadequate infrastructure and a shortage of fiscal funds. The question of how to address the upfront financing needs has thus become a common problem for governments around the world. Perhaps the most stark illustration of this point comes from the Chairman of the Board of Directors of the Bank of China – Xiao Gang – who in January this year wrote an article on the infrastructure financing challenge.

He said – and I quote – "Now it is imperative for the country to take further measures to utilize private investment to speed up infrastructure construction, and thus help overcome the shortage of fiscal funding." In his view is there is much that China and other countries learn from the public-private partnership (PPP) approach to financing that I have outlined this evening.

This PPP approach enables the private sector to do what it does best – engage in developing, financing and operating infrastructure projects. The key issue is how governments can effectively maintain a balance between public interests and fair returns for private investors. I'd argue public banking professionals can do a better job at this than government officials simply because they have financial expertise. And if it can, we have a partnership that will enable institutional investors to access the offered low-risk investment opportunities and stable income streams they crave while government gains to leverage limited public funds to close the financing gap.

Moving forward

So, how do we move forward? It seems clear to me we are on the cusp of a period of transformational change in the global economy – as we shift from a focus on high carbon to low carbon technologies. We need governments to develop institutional responses that match the scale of the challenges ahead and we need them to develop a plan to reboot our economies to deliver growth through seizing the opportunities implicit in the low carbon financing challenge. There is a whole wealth of data linking infrastructure investment to growth. When we at E3G looked at the UK's infrastructure financing needs, for example, we identified that 80% could be delivered as low carbon or low carbon-enabling technologies – superefficient buildings, smart grids and renewable power generation to name a few. This is not a subsector of a subsector of the economy – the infrastructure challenge is the climate challenge.

And there is money to deploy. Globally we have a glut of savings this is evidenced by the fact that despite the billions of dollars of public borrowing undertaken to fund ballooning public sector deficits in many rich countries over recent years, the real risk-free short- and long-term interest rates remain close to or below zero. What we need is a good place for that money to be deployed. A plan for low carbon investment, backed by public finance and smart policies, could create demand in low growth economies and a routemap to recovery.

Low carbon infrastructure assets offer the answer to the critical question of how savers – especially institutional investors - meet their long-term liabilities, especially as we are all now living longer. Low carbon infrastructure assets are low risk, inflation-linked and have long term liability-matching cash flows.

So how do we unleash this potential? Going back to the start of my speech, I talked about the risks implicit in the system of emerging financial regulation. Much of whether this potential can be delivered lies in the hands of the European financial regulators. The regulatory environment that will control investment in low carbon assets is currently in a state of flux, as the final response to the financial crisis is formulated. However, current proposals may inadvertently result in a shift towards short-term and lower risk investments − and away from investment in low carbon infrastructure assets which require a long term investment timeline to fully realise value. Solvency II, the new solvency regime for all EU insurers and reinsurers, was implemented in 2012. It aims to implement solvency requirements that better reflect the risks that companies face and is consistent across all Member States. This new system would demand high capital adequacy from investments in long-term low risk bonds, which is likely to deter investment in infrastructure bonds in particular. Yet in reality − and unlike corporate bonds − once an infrastructure asset is operational and has stable cashflows the risk of investment in such assets decreases over time. This is especially true where assets come under the regulated asset base and so cashflows come with a government guarantee of sorts. Thus, infrastructure bonds arguably deserve a different treatment and lowered capital adequacy requirements over time. This is not a point that has any traction right now.

Similarly the new pensions regulator EIOPA (The European Insurance and Occupational Pensions Authority) has been tasked with addressing whether or not regulations similar to Solvency II should apply to pension funds. This could have provided an opportunity to design regulation to encourage matching of assets to longer term liabilities such as direct infrastructure investment or long-term infrastructure debt without an undue focus on liquidity. However the rules governing pension funds appear to be headed in the same direction as Solvency II. This will have a similar detrimental effect on pension schemes' ability to invest in low carbon assets.

What emerges from this analysis that there is a clear need to ensure coherence between financial regulation and low-carbon objectives: a new and sustained dialogue about cross-sectoral regulatory coorindation. The EU's green paper on long-term investment is a start, but this should be augmented by requiring institutions like the European Banking Association, EIOPA, and the European Central Bank to be charged with assessing the interactions between financial markets and climate change policy objectives.

If we don't there is a real risk that overly onerous financial regulation will choke off the supply of credit to the emerging businesses that will ultimately drive sustainable growth and penalise long-dated investment in low carbon infrastructure and infrastructure-backed assets, so cutting out the secondary markets – and institutional investors – necessary to achieve scale.

After that slightly gloomy analysis, I wanted to leave you with a few observations about how the financial sector will have to and already is reorganising, despite the uncertainties. Four reasons to be cheerful:

> First, the recognition in and leadership from several major governments that a dedicated institutional response to the low carbon investment challenge is needed.

> Second, signs within the institutional investor community that they need to be shapers of their future investment opportunities. This group of investors has tended to be passive in the policy debate. We are seeing increased shareholder activism but also clear shifts in the attitude of some institutional investors to infrastructure investment – which is a way of bypassing banks financing for more mature infrastructure assets. In 2010 PGGM and Ampere Equity bought an equity stake in Walney Offshore Windfarm, which is owned by DONG energy. Borealis Infrastructure, the infrastructure investment arm of the Ontario Municipal Employees Retirement System (OMERS), entered into a joint venture with the Ontario Teachers' Pension Plan to purchase HSR1 − the link between

London and the Channel Tunnel. More recently, in the past few weeks the Prudential announced it will be moving bank into the residential property market as a landlord, after an absence of 30 years.

> Third, signs from within the energy industry that approaches to investment are changing. I gave you the example of DONG. I was recently at a renewable energy financing conference where Eon talked about a shift in thinking about how they finance renewables. Given current financing constraints they talked about how a shift from building, owning and operating windfarms was changing into a model whereby they build, sold on windfarms, retaining only a small equity stake and rights to buy the power generated. They see their USP as increasingly being the ability to develop and sell-on renewable energy assets.

> Fourth, the emergence of a cohort of progressive private sector bankers willing and able to engage with the investment challenges implicit in the low carbon challenge. I evidence here the efforts made by members of the Green Deal Finance Company and the similar initiative in the NL. These are some of the good guys – and we'd like to see a lot more of them.

So to sum up: change is afoot, but we need to build on that momentum through closer dialogue between financiers and policy-makers and between climate regulators and financial regulators to ensure that our financial system is fit to help deliver our low carbon transformation and route to global prosperity.

Ingrid Holmes

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