House of Commons

Environmental Audit Committee

# Green Finance

## Twelfth Report of Session 2013-14

### *Volume I*

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

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

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## Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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The following members were also members of the committee during the parliament:
Richard Benyon MP (*Conservative, Newbury*) *[ex-officio]*
Ian Murray MP (*Labour, Edinburgh South*)
Sheryll Murray MP (*Conservative, South East Cornwall*)
Paul Uppal MP (*Conservative, Wolverhampton South West)*

### Powers

The constitution and powers are set out in House of Commons Standing Orders, principally in SO No 152A. These are available on the internet via www.parliament.uk.

### Publications

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/eacom. A list of Reports of the Committee in the present Parliament is at the back of this volume.

The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume.

### Committee staff

The current staff of the Committee are Simon Fiander (Clerk), Philip Aylett (Second Clerk), Richard Clarke (Committee Specialist), Andrew Wallace (Senior Committee Assistant), Anna Browning (Committee Assistant), Sayeda Begum (Committee Support Assistant) and Nicholas Davies (Media Officer).

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# Summary

Responding to climate change is perhaps the biggest global challenge of the 21st Century, and the transition to a low-carbon economy will require investors to take account of the reality of a carbon-constrained world. This shift is happening, but there are obstacles to overcome—stock markets are currently over-valuing companies that produce and use carbon (a 'carbon bubble' consisting of fossil fuel assets which will have to be left unburned in order to cut emissions to the levels required to limit climate change), and there is a green finance gap with investments currently running at less than half of the level needed to deliver the decarbonisation implicit in national and international emissions reduction targets.

The UK, with London at its heart, is a world leader in finance, and there are great opportunities to lead on low-carbon investment. The Government must play a central role in concerted international efforts to address climate change and ensure that markets price-in the cost of carbon. More must be done to secure the required levels of green investment in areas such as low-carbon energy generation, energy efficiency, and transport. The Green Investment Bank has made a good start, making investments which will contribute to filling the gap in the required level of green investment. The Bank needs to be able to borrow to significantly enlarge the scale of its work. The Government must declare in Budget 2014 that the Bank will be permitted to borrow in 2015–16 as originally planned, to demonstrate continued commitment and ambition.

Robust regulatory frameworks, policy certainty and ongoing commitment to green investment is vital. Over the past decade, successive governments have helped to build political consensus around the existence and urgency of climate change. The Government should support binding national renewable energy targets in the EU, as it is an important driver of the transition to low-carbon energy generation. The Government has taken steps to help establish a more stable regulatory environment through its Electricity Market Reform and should look to avoid further regulatory change, such as its restructuring of the Energy Company Obligation.

The Government's Community Energy Strategy addresses a number of the concerns raised during our inquiry and includes provisions likely to boost local schemes. We are, however, concerned that recent proposals from the European Commission may slow the transition to a low-carbon economy. The Government should work with the Commission to ensure proposals to reduce the threshold for small-scale feed-in tariffs are not carried through because they risk undermining the viability of community schemes. Priority needs to be given to securing early State Aid approval for the Green Investment Bank to invest in community energy and ensuring that all local authorities have the tools and resources to play a full part in making such schemes a widespread and successful part of the UK energy mix.

Increasing the flow of green finance is a responsibility divided between different Government departments and other entities. The Government needs to do more to

accelerate progress and monitor impact. It has a range of ways to help co-ordinate its efforts between departments, including the advice of the independent Committee on Climate Change. Working to a single strategy would create greater certainty and a more favourable investment outlook. The Government should re-visit and expand its strategy on Enabling the Transition to a Green Economy to evaluate progress and identify areas for improvement. This would bring together and align:

- the UK's position in international negotiations on emissions reduction and climate change;
- action to deliver our carbon budget commitments and Climate Change Act obligations;
- the Industrial Strategies;
- the National Infrastructure Plan;
- the Green Investment Bank's role and the scope of the projects it supports, and the Infrastructure Guarantee programme;
- opportunities to take advantage of and direct EU funding towards green infrastructure;
- green-proofing Government grants, including the Regional Growth Fund and Local Enterprise Partnerships;
- community energy; and
- funding for adaptation to climate change.

# 1 The need for green finance

1. Governments agree on the need to de-carbonise the global economy. The challenge is how to achieve this. In this report we look at the actions the UK Government is taking to promote low-carbon investment to contribute to the reduction in global carbon emissions needed to prevent catastrophic climate change. It looks at what actions the Government is taking to provide stable and attractive conditions for green finance, as well as how it uses its own funds to support green investments.

2. The UK, with London at its heart, is a leading centre of global finance, and there are great opportunities for the UK to lead on low-carbon investment. We launched our inquiry with a seminar in the City of London in July 2012 to hear directly from investors what they saw the opportunities and barriers around green finance to be.[1] We then took detailed evidence from campaigners, analysts and investors, including pension funds and asset managers, the Green Investment Bank and those involved in community energy projects. We also took evidence from Michael Fallon MP, the Minister for business and energy.

## Commitments and mechanisms to reduce carbon emissions

3. In 2010, governments confirmed, in the Cancun Agreement at the UN climate change conference, that emissions should be reduced to avoid a rise in global average temperature of more than 2°C above pre-industrial levels, with the possibility of revising this down to 1.5°C. In 2012 international agreement was reached to draw up a binding UN global climate change deal by 2015 and to extend the Kyoto protocol until that deal comes into effect. Governments will meet again later this year in Lima to work towards the details of a deal in Paris in 2015.

4. The EU's and the UK's emissions reductions commitments reflect that wider undertaking. The Government's commitments are set out in the Climate Change Act: to ensure that emissions are reduced by 80% by 2050, relative to 1990 levels. Interim 'carbon budgets' are set through legislation, including a Fourth Carbon Budget which, as we reported in December 2013, may be reviewed by the Government in 2014 if emissions are not consistent with the EU emissions reduction trajectory.[2] In December the Committee on Climate Change concluded that there was no reason to change the Fourth Carbon Budget.[3]

5. **Increasing investment in low-carbon energy, and reducing investment in fossil fuels, depends on an unambiguous assessment by investors that the international community will produce a credible and significant commitment to reduce emissions in a timescale commensurate with the urgency needed for avoiding dangerous climate change.** ***The Government needs to play a central role in agreeing ambitious and binding international***

1 Ev 68

2 Environmental Audit Committee, Fifth Report of Session 2013–14, *Progress on Carbon Budgets,* HC 60

3 Committee on Climate Change, Fourth Carbon Budget Review—part 2 , (December 2013)

***commitments on tackling climate change, both in the EU and in the lead up to the UNFCCC conference in Paris in 2015. Domestically, the Government should announce immediately that following the advice from the Committee on Climate Change there is no rationale for any review of the Fourth Carbon Budget.***

6. The UK's climate policies also have to fit within a wider EU policy and regulatory framework. In January 2014, the EU launched its Energy White Paper, *A Framework for Energy Policy 2030*,[4] which set an overall goal for reducing carbon emissions by 40% by 2030, in place of an existing target of 20% by 2020. It also set an EU wide target for renewable energy, although it proposes that these are not binding at national level. The European Parliament voted in favour of binding national targets for renewable energy, and member states will make a decision at the European Council in late March 2014.[5] We visited Brussels in February 2014 and discussed these proposals with Commissioners, MEPs and the UK Government permanent representatives in Brussels. We heard different perspectives on the importance of these targets, including the value of showing leadership and clear ambition, allowing member states flexibility, and concerns about the EU's relative economic competitiveness. The Government told us "we need maximum flexibility between all options to reduce the UK's carbon emissions" and "each Member State is different, and will need to pursue different technologies, in different orders and in different ways".[6]

7. As the ultimate goal of climate change policy is to reduce global carbon emissions to prevent dangerous climate change, it makes no sense to develop an incomplete regulatory regime that reduces the UK's relative economic competitiveness and results in the 'offshoring' of carbon emissions to places with lower environmental regulation. We recommended in our 2013 report on progress on carbon budgets, that the UK should introduce a supplementary target focused on carbon emissions on a consumption basis.[7] We first recommended in our 2011 report on Carbon Budgets that the Government should monitor UK carbon emissions on a consumption emissions basis,[8] and the Committee on Climate Change has now started to do so. Figures from the Committee on Climate Change show that on a consumption basis the UK's carbon footprint increased over the past two decades so that the UK now has one of the largest footprints in the world. The UK is one of the largest net importers of carbon (both in absolute terms and on a per capita basis).[9] As the EU moves closer towards a single market in energy, the Government should work with European partners to ensure that national emissions targets measure consumption alongside production.

4 European Commission, 2030 climate and energy goals for a competitive, secure and low-carbon EU economy (January 2014)

5 European Parliament MEPs want binding 2030 goals for CO2 emissions, renewables and energy efficiency (February 2014)

6 Environmental Audit Committee, Seventh Special Report- *Energy Subsidies*: *Government response to the Committee's Ninth Report of 2013–14*, HC 110, paras 27 and 28

7 Environmental Audit Committee, Fifth Report of Session 2013–14, *Progress on Carbon Budgets,* HC 60

8 Environmental Audit Committee, Seventh Special Report of Session 2010–12, *Carbon Budgets,* HC 1080

9 Committee on Climate Change Reducing the UK's carbon footprint and managing competitiveness risks (April 2013)

8. **We recognise the Government and European Commission's arguments about the importance of flexibility and dealing with individual states' circumstances and energy policies. Although energy efficiency may be more cost-effective than switching to renewable sources of energy for some countries, it is vital that each country has an ambitious and binding target for renewable energy to create a level playing field within the EU.** ***The Government should vote in favour of binding national renewables targets at the EU Council.***

## Green finance 'gap'

9. James Leaton of Carbon Tracker told us "the imperative to tackle climate change will require an energy transition. It will require changes to our energy system and infrastructure."[10] Josh Ryan-Collins from New Economics Foundation reminded us of Lord Stern's comments that climate change is "the world's biggest market failure", because "social and ecological environmental externalities are not incorporated into the price mechanism".[11] Michael Liebreich of Bloomberg New Energy Finance described "a systemic failure of valuation, an overvaluation of the fossil-related and extractive industries and various other utilities and some other asset classes".[12] There is a role for Government to set and enforce rules to reduce emissions, and establish detailed policy and regulatory frameworks domestically to correct this failure.

10. To deliver our emissions reduction commitments, the UK needs to make significant investment in renewable energy and energy efficiency. Our 2011 report on the Green Investment Bank identified estimates of the costs of the required investment in new low-carbon infrastructure in the UK, some of which were as high as £550 billion over 10 years,[13] a figure reiterated in our current inquiry by New Economics Foundation.[14] This figure includes a range of sectors, including transport and other infrastructure. Shaun Kingsbury, the chief executive of the Green Investment Bank, referred to a figure of £200 billion over the next 10 years, including £110 billion needed for new low-carbon generating assets and supporting infrastructure.[15] This report primarily focuses on the available finance for low-carbon energy projects, although we recognise that the gap for wider low-carbon and environmental projects is even greater than this, and is also extremely important to close.

11. After the 2008 global financial crisis, banks' instincts have been to lend less, particularly for long-term projects:

> Long-term debt financing (on which many renewable energy projects, for example, have been dependent) has become much less attractive to banks to provide. The introduction of new regulatory requirements such as the BASEL

10 Q16

11 Q154

12 Q39

13 Environmental Audit Committee, Second report of Session 2010–12 *The Green Investment Bank* (figure 1)

14 Ev 88

15 Q76

> III regime, and mounting pressure from regulators and shareholders has required financial institutions to meet more stringent capital, leverage and liquidity thresholds on their balance sheets to ensure their ability to meet their obligations over sustained periods of financial stress. Such obligations reduce appetite to hold long-term assets in banks' debt portfolios and can mean that financial institutions charge more for their available capital.[16]

Robert Rabinowitz of Pure Leapfrog, one of our witnesses on community energy projects, told us "the longer the time frame for the funding, the more the risk weighting from a Basel perspective, so the less inclination [institutions] have to do it. It is about finding long-term finance."[17]

12. Shaun Kingsbury highlighted a gap between the "£20 billion a year to be invested" and the "£8 billion to £10 billion a year going on at the moment".[18] As initial investments have not reached this level, the annual requirement continues to increase in order to reach the required £200 billion of low carbon investment by 2020. **There is a significant green investment gap. The current level of green investment is running at less than half of the level needed to deliver the decarbonisation implicit in national and international targets. A significant scale-up is needed.**

13. Attracting investment in 'green' projects depends on a favourable assessment by investors of the balance of risk and reward. Any actions that Government can take to remove instability and risk, and increase certainty about reward will assist investors. In this report we primarily focus on low-carbon energy generation, energy efficiency and community energy, and related electricity transmission and storage infrastructure. We explore whether investors have the certainty and information they need for such a risk-reward balance in Part 2 of this report, and what the Government is doing to help provide finance for investment in Part 3.

16 Ev 94, para 5

17 Q190

18 Ev 71

# 2 Providing information to direct finance

## Risk appetite

14. The Low Carbon Finance Group differentiated banks from three other types of institutional investors—pension funds and insurance companies, sovereign wealth funds, and listed collective investment schemes.[19] But for all types of investor, whether providing equity or debt, investment hinges on the balance of risk and reward. Northumbrian Water believed that high levels of risk meant that that balance was often unfavourable for green investments:

> Financiers broadly fall into two categories: Banks that make loans and Institutional investors that tend to buy listed, rated bonds. Banks and Institutional investors are similar in the sense that they primarily make decisions to invest their capital based on risk vs. return and there are a number of common themes that mean the perception of risk (principally political risk) in green finance is often higher than in alternatives.[20]

15. Michael Liebreich of Bloomberg New Energy Finance saw, however, that the balance of risk and reward was changing, and leading to a wider shift in the energy sector:

> The energy system is changing. There is a phased change from the old school centralised fossil and nuclear related power system to something that is renewables, lots more efficiency, smart grid, gas, some nuclear, and so on. That change is happening partly because of lots of small legislative interventions, partly because of the underlying economics in the energy sector. I think that is a long-term trend.[21]

The dependence on regulatory frameworks and technological innovation was emphasised by James Vaccaro of Triodos Bank:

> Renewable energy ... is quite attractive to banks when there is a stable enough regulatory environment and the technology is proven. There is now a good European-based infrastructure for operation and manufacture.[22]

RenewableUK highlighted that investment decisions are based on "long term, low-risk returns on investment within a diversified portfolio".[23] Ian Simm of Impax Asset Management saw three factors at work:

19 Low Carbon Finance Group, *Submission to the European Union: A framework for climate and energy policies*.

20 Ev w1, para 2

21 Q40

22 Q200

23 Ev w20, para 18

> We have seen a progressive increase—in fact, we would argue almost an exponential increase-in private sector capital coming into renewable energy projects in the UK over the last five years, first of all as institutional investors have sought out more exposure to infrastructure. Secondly, they have fewer opportunities to make money elsewhere in their portfolios because cash returns are low and bond yields are very low. Thirdly, they are increasingly comfortable with the regulatory framework that the Renewables Obligation has provided-with some modifications and evolution, but consistently—since the early part of the last decade.[24]

16. The risk profile of particular renewables projects varies. Ian Simm told us that:

> If you then look to other types of green investments or green project, many of them fall down on technology risk. Onshore wind is typically seen as low-risk, proven technology where the pension fund has a very low likelihood of losing money because the equipment does not work. If you could switch over to some of the more emerging marine technologies like wave or tidal, although there has been strong progress in those areas, they are still not effective with the consistency and reliability that the pension funds will need to see.[25]

Risks also vary depending on the project stage—project development, pre-construction, construction and operations. Different investors are willing to take on green investments at different stages of the project. A significant amount of the cost of green infrastructure projects is up-front which, as Josh Ryan-Collins of the New Economics Foundation explained, is also the most uncertain stage, with no guarantee that the project will reach full operation:

> The cost of renewable energy infrastructure is very, very high at the outset, which makes the lifetime cost appear prohibitive, but of course the real lifetime costs are much lower for renewable energy because it is free. It comes from the sun. It is that initial up-front cost that is creating the problem, and that is where the barrier is. You have to have investment. I do not think it is enough to rely on pension providers to do that.[26]

17. Donald MacDonald from the BT Pension Scheme concluded that the risk profile of these early stages can be too high for pension funds and institutional investors who tend to favour low-risk, long-term investments with secure returns:

> The large pension schemes will tend to look for the very large and boring investments rather than small investments. Small investments are probably better for pooled vehicles where a whole number of different projects can be wrapped up by a single manager with perhaps a number of clients.[27]

24 Q166

25 Q169

26 Q171

27 Q59

On the other hand, private equity and infrastructure funds, with a higher risk appetite, typically finance the initial costs of project development and construction, and subsequently sell these investments on to other investors seeking stable longer-term returns. We heard from pension funds that "having a larger pipeline of projects that we could invest in, that were up and running to the point where they met our risk profile better, would certainly be good".[28]

18. Whatever the risk appetite of particular types of investor, the level of risk is influenced by the information available to them. Michael Mainelli of Z/Yen told us that there is a need for "long finance", but identified two obstacles to its supply: "One is policy mistrust and the second is information gaps."[29] In a similar vein, the Committee on Climate Change identified in May 2013 how Government energy policy-making could be adjusted to improve the conditions for investment.[30] In the absence of the measures it proposed (paragraph 23), the Committee concluded that "there is a risk that current sources of finance will be insufficient to deliver the increased levels of investment required in a low-carbon portfolio".[31] It noted financing constraints for both the energy companies and investors:

> Even if the investment climate can be improved, there remain questions about whether finance would be forthcoming for required investments. In particular, large amounts of finance are required, while balance sheet strength of energy companies may be limited, and appetite of banks and institutional investors for project finance is unclear. ... In the absence of finance backed by balance sheets, investment might proceed using project finance—where debt is secured against future project cash flows. However, appetite from banks and institutional investors to provide project finance during the early stages of projects where risks are high is unclear, and likely to be even harder to secure until new market arrangements are proven. ... The risk is that finance becomes a binding constraint on the level of investment in low-carbon technologies.[32]

## Regulatory certainty

19. Because many green investments have a long planning phase, it is important that investors are clear not just about when regulatory decisions are going to be made but about the likely future direction of Government policy. Stephanie Maier of Aviva Investors told us that "where you have stable, predictable, simple policy, we can make investment decisions in that context."[33] Mike Turnbull of Bank of America Merrill Lynch highlighted

28 Q168

29 Ev 73

30 Committee on Climate Change *Next steps on electricity market reform*, (May 2013), p9

31 Committee on Climate Change *Next steps on electricity market reform*, (May 2013), p12

32 Committee on Climate Change *Next steps on electricity market reform*, (May 2013), pp55-56

33 Q172

that the Government has had a good record of giving investors confidence by setting out a clear framework, but that recent policy reviews had caused concerns:

> Pension funds and insurance companies want to invest in transparent, sustainable cash flows and regulatory instability or lack of consistency—and we have been renowned as one of the most consistent and one of the longest-standing regulatory environments for energy, particularly electricity and water—and there is more anxiety around that now than there has been for some time.[34]

Ian Simm of Impax Asset Management told us that "policy uncertainty and political uncertainty around future projects has a dampening effect on project development activity today. ... When there is policy and political change in this type of infrastructure area, there is almost invariably a hiatus created."[35] Investors needed certainty and stability not just for prospective projects but also for those already in operation:

> ... it is absolutely essential ... that there are no retrospective changes to support in any form, and that includes taxation for existing infrastructure assets. If that is not possible, then there will be a very direct consequence—the risk appetite for future investments among the private sector will drop.[36]

20. These risks can be particularly significant for community investment projects (which we discuss further in Part 3). We heard from Mike Smyth of Energy4All and Wey Valley Solar Schools, who told us:

> One of our schools went through 10 regulatory changes before we built the panels. That gives you an idea of the extraordinary uncertainty and why people drop out in droves, normally having lost time and money. At the moment it has settled down for solar for communities. The problems are difficult on wind because of longer timescales, and the renewable heat incentive, which frankly has not worked as well as it should have done, has complete uncertainty built into it. Broadly, the rates can be changed at any time without any criteria applying. On a project that might take a year or 18 months to deliver, you do not know what the end point is and that is one reason why there has been a low uptake.[37]

21. James Vacarro from Triodos Bank told us this may be one reason why community energy had not become more widespread in the UK. Against a background of "quite destabilising" changes in Feed-in Tariffs and Contracts for Difference:

> ... you do not get enough people entering the process with the confidence that there is going to be something at the end of it and, if reviews are taking

34 Ev 79

35 Q172

36 Q172

37 Q211

> place every year but it takes two or three years to develop a project, that specific factor means that not enough people are forming the habits.[38]

22. DECC highlighted initiatives which they considered would stimulate green finance: Electricity Market Reform, including Contracts for Difference and Capacity Market payments, and an escalating carbon price floor.[39] They stated that these "provide the longer term institutional and financial structure to attract investment into energy infrastructure."[40] We identified flaws in aspects of these programmes in our December 2013 report on Energy Subsidies, noting for example that gas will be the only energy technology eligible for capacity payments when they begin in 2018–19, and that on current proposals by the European Commission renewables feed-in tariffs would not be driven by the need to meet a UK renewables target after 2020.[41]

23. The City of London Corporation highlighted the possibility of using index-linked carbon bonds to underwrite the risk associated with investment in an uncertain policy environment. This would align the incentives for government and investors together for a stable policy environment, so that "if governments fail to meet their green targets, they pay a higher interest rate on the bond".[42] The Committee on Climate Change listed in May 2013 a number of measures that it considered the Government should take to provide greater certainty for investors and "a strong signal about the future direction of travel for the power system in order to support supply-chain investment, which has long payback periods, and development of new projects, which have long lead times".[43] Those measures included:

- introducing a carbon-intensity target for electricity generation (previously recommended by the Committee) before the 2016 timeframe currently planned by the Government;[44] and
- extending the Levy Control Framework, which covers feed-in tariffs for renewables and nuclear, beyond 2020 to 2030 (the Committee assessed the current £8 billion a year Levy provision to be "broadly sufficient" but uncertainty beyond 2020 was limiting investment).[45]

24. The Committee on Climate Change acknowledged that "investment conditions in the UK power sector will be improved in the long run by the introduction of long-term contracts (Contracts for Difference) ... and by the setting of the Levy Control Framework."[46] Subsequently, in December 2013, the Government announced the strike

38 Q192

39 Ev 95

40 DECC *Electricity market reform: Allocation of Contracts for Difference*, January 2014, para 20

41 Environmental Audit Committee, Ninth Report of Session 2013–14, *Energy Subsidies,*HC 61

42 Ev w43, para 15

43 Committee on Climate Change *Next steps on electricity market reform* (May 2013), p8

44 Committee on Climate Change *Next steps on electricity market reform* (May 2013, p54

45 Committee on Climate Change *Next steps on electricity market reform* (May 2013), p49

46 Committee on Climate Change *Next steps on electricity market reform* (May 2013), p49

prices for different types of renewable energy, but the Minister suggested in a speech that he was intending to end subsidies for onshore wind.[47] He told us:

> You may be placing a little more weight on ministerial remarks and statements and speeches than those speeches can bear. What matters is the strike price itself. The strike price is there, it is final, they have been published for each year and everybody can draw their conclusions from it. [48]

However, in January 2014, the Government announced more detailed plans for Contracts for Difference and Feed-in Tariffs which differentiated more 'established' technologies, including onshore wind below 5MW, which "should be subject to immediate competition through a competitive process of CfD allocation".[49] James Vaccaro told us that such media speculation could have an impact on investor confidence:

> At the moment there are some of these perception-reality things, and the reporting of the green levies, which is nothing to do with renewable energy and renewable energy targets, undermines confidence in the regime in people's minds.[50]

The Prime Minister's announcement in October 2013 of a review of energy bills, which we examined in our report on Energy Subsidies,[51] was however new and unexpected. The resulting delay in the implementation of part of the Energy Company Obligation scheme has had an impact on the energy efficiency market and the collapse of a number of schemes to insulate hard to treat homes.

25. **As we have highlighted in previous inquiries, a significant barrier to investment in low-carbon energy has been uncertainty for potential investors about the future direction of Government policy. The Government's Electricity Market Reform, including the contracts for difference and capacity market regimes, though flawed, provide an opportunity for greater policy stability in future.** ***The Government should make the changes recommended by the Committee on Climate Change to bring greater longer-term certainty for investment—an early energy-intensity target for electricity generation and an extension of the Levy Control Framework and indicative funding levels to 2030. The Government should reiterate its commitment to the already planned escalation of the carbon price floor and use the implementation of the Electricity Market Reform to make a clear commitment to avoiding further unplanned regulatory and subsidy changes for low-carbon energy.***

47 Speech to the *Spectator* Energy Conference, December 2013

48 Q256

49 Department of Energy and Climate Change, Electricity Market Reform: Allocation of Contracts for Difference (January 2014), p11

50 Q210

51 Environmental Audit Committee, Ninth Report of Session 2013–14, *Energy Subsidies*, HC 61

## Providing investors with information to assess risk

26. We first examined the risks of a 'carbon bubble' in fossil fuel energy company stocks in our May 2012 Green Economy report.[52] Awareness of such a bubble would be an important factor for investors to consider their exposure to the risks associated with unburnable assets. However, many investors lack the information to adequately factor carbon risk into their investment decision-making.

### *Carbon 'bubble'*

27. Dr Nicola Ranger from the Grantham Research Institute told that the "total amount of reserves of oil, gas and coal, currently held by both states and listed companies, far exceeds what we call the 'carbon budget' that would allow us to keep global temperatures to below 2 or 3 degrees".[53] Since our 2012 report, the Grantham Research Institute and Carbon Tracker have published further analysis of the carbon bubble. Their report, *Wasted Capital and Stranded Assets*, concluded that "60–80% of coal, oil and gas reserves of listed firms are unburnable".[54]

28. Dr Ranger believed that "investing in these [fossil fuel] companies that are potentially at risk from stranded assets in the future could be a high-risk strategy for them, so investing in other areas might be better in terms of the returns".[55] The London stock market has become 7% more exposed to coal since 2011.[56] Mark Campanale of Carbon Tracker told us that " two-thirds of the revenues of the FTSE 350 is based on three sectors: finance, oil and gas and mining. If these valuations are wrong then we are putting our banking system and the London capital markets at risk from significant changes to the fossil fuel demand."[57] Other analysts, such as HSBC, have also identified such risks:

> Because of its long-term nature, we doubt the market is pricing in the risk of a loss of value from this issue ... Capital-intensive, high-cost projects, such as heavy oil and oil sands, are most at risk ..."[58]

Michael Liebreich of Bloomberg New Energy Finance, similarly, foresaw "some rather messy adjustments":

> I think it is probably more analogous to sub-prime than to any sort of bubble, where you hold these assets, you think they are good, and suddenly it becomes clear that they are not. At that point, the readjustment, the rebalancing of portfolios and so on, feeds on itself as people undertake fire

52 Environmental Audit Committee, Twelfth Report of Session 2010–12 *A Green Economy*, HC 1025

53 Q2

54 Carbon Tracker and Grantham Institute on Climate Change and the Environment, *Unburnable Carbon 2013: Wasted capital and stranded assets*, p4

55 Q4

56 Carbon Tracker and Grantham Institute on Climate Change and the Environment *Unburnable Carbon 2013: Wasted capital and stranded assets*, p4

57 Ev 72

58 HSBC, *Oil & carbon revisited: Value at risk from 'unburnable reserves* (January 2013)

> sales to rebalance and then that pushes down the market values even further below book values.[59]

29. We heard different views about when such a readjustment would take place. Ian Simm of Impax Asset Management told us that the most likely way that a carbon bubble would "feed through to destruction of value" would be "through the imposition of carbon taxes or carbon prices, as they affect the break-even point of carbon resource extraction".[60] The City of London Corporation told us "There is a very real risk of a carbon bubble", but added that "the policy and legal changes required for it to burst are complex and largely reliant on international agreement."[61] David Russell of the Universities Superannuation Scheme questioned whether policymakers would in fact act to implement policies that cause a bubble to burst, citing the failure of the EU Emissions Trading System.[62] However, James Leaton of Carbon Tracker believed that an existing "patchwork of regulation" meant that a carbon bubble was not dependent on a "whether or not we get a global deal in 2015".[63]

30. Michael Liebreich told us that he thought it was important to "understand the dynamic of the system much better",[64] and said there was a role for higher reporting requirements and 'stress testing':

> There are believable scenarios where you could see a rapid adjustment. Whether it is an oil price drop, whether it is a bad hurricane season, leading to the Americans moving more quickly on policy, there are scenarios where you can see quite a rapid adjustment. I would certainly suggest stress tests to look at: does that mean that people start breaching covenants? Having to engage in fire sales? What does it do? Are there other contagion issues? Can one rebalance portfolios? One should at least be looking at that. So I think disclosure and stress tests would be the first thing.[65]

Stephanie Maier of Aviva Investors told us that there are potentially serious long-term issues if capital is misallocated, and the Bank of England has a responsibility to investigate the potential impact of climate change.

> When you look at the proportion of the FTSE 100 that is invested in these energy-intensive, carbon-intensive stocks, it is potentially a more systemic issue than that. One of the things we like to see the Bank of England do is assess the extent of climate change and the high-carbon exposure that the UK has, and what impact that has on financial stability. If it is a systemic risk, how do you start addressing it? We do not want to see a point where you fall

59 Q42

60 Q171

61 Ev w42, para 11

62 Q48

63 Q7

64 Q63

65 Q63

> off the cliff and these assets become devalued. You want to find a way to understand the true value of these assets.[66]

31. We asked the Bank of England whether they considered the carbon bubble to be a risk and how they were monitoring it. They told us that the Financial Policy Committee met regularly to review the risks to UK financial stability and that it had not identified risks to financial stability from a carbon bubble.[67] This follows a Bank of England response on a carbon bubble risk in February 2012, when it noted that "there could be such a risk if the impact of policies aimed at reducing returns in high carbon areas were not already being priced into the market".[68] ***The Financial Policy Committee of the Bank of England should regularly consult with the Committee on Climate Change to help it monitor the risks to financial stability associated with a carbon bubble.***

### Carbon reporting

32. Investors get some of the information they need from companies' annual reports and accounts. The Government has introduced regulations to replace the requirement on quoted companies to publish a 'business review' with a requirement to produce a 'strategic report'.[69] These regulations include a requirement to provide information on the company's environmental impact to the extent that this affects the development, performance and position of the company. The regulations also implement the Government's commitment (as announced at the June 2012 'Rio+20' UN Summit) to introduce mandatory reporting of greenhouse gas emissions by UK companies.[70] In our October 2011 report on Preparations for the Rio+20 Summit, we concluded that while many companies had identified that sustainable development was in their own interests, others needed to be incentivised to fully address the environmental and social aspects of sustainable development, and we recommended that the Government should push for Rio+20 to agree a mandatory regime for sustainability reporting.[71] And in our June 2013 report on the Outcomes of the Summit we welcomed the Government's decision to introduce mandatory emissions reporting for large UK-listed companies announced at the Summit.[72]

33. Stephanie Maier of Aviva Investors highlighted the benefits of carbon reporting in terms of driving more sustainable behaviour by companies.[73] Michael Mainelli told us that environmental reporting could become more sophisticated in identifying "sustainability risks",[74] to allow investors to more fully understand those risks. Some companies are also

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66 Q171

67 Ev w47

68 Environmental Audit Committee, Twelfth Report of Session 2010–12, *A Green Economy,* HC 1025, para 70

69 The Companies Act 2006 (Strategic Report and Directors' report) Regulations 2013

70 All UK companies listed on the Main Market of the London Stock Exchange. It excludes non-UK registered companies, companies listed on AIM and privately owned companies.

71 Environmental Audit Committee, Eighth Report of Session 2010–12 *Preparations for the Rio +20 Summit,* HC 1026

72 Environmental Audit Committee, Second Report of Session 2013–14 *Outcomes of the UN Rio +20 Earth Summit,* HC 200

73 Q154

74 Ev 74

using 'shadow pricing' to manage these risks in their operations.[75] The UN has set out Principles for Responsible Investment,[76] and there are a number of international initiatives to improve the quality of information available to investors to assess the sustainability of investments, including 'financed emissions'—carbon produced as a result of a company's financial investments.[77]

34. James Leaton of Carbon Tracker told us that requiring companies to provide detailed reports on their exposure to carbon would help inform investors:

> The financial system, and the regulator ... need to send stronger signals to the market to factor in these risks to enable investors to shift capital. That relates to greater transparency around the carbon content of reserves that companies have an interest in, and also asking those companies to stress test their business model against different warming scenarios from 2 degrees upwards.[78]

Aviva Investors told us that they would like all large companies to report on their material sustainability issues through their reports and accounts to allow investors to easily assess whether all potential risks have been taken into account. Despite the UK's narrative reporting requirements, their assessment ranked London 14th amongst the world stock exchanges in terms of sustainability disclosure. They considered that a standard for Stewardship, similar to the ISO standard on environmental management, would raise the credibility of the stewardship work that fund managers undertake.[79]

35. **New carbon reporting arrangements for companies can help investors understand carbon impacts, and could help stimulate greater focus on these issues amongst customers and suppliers to help add pressure on companies to adopt more sustainable practices.** ***The Government should work with companies to ensure that reporting requirements provide investors with all of the information they require to assess carbon risk, and develop the standard reporting requirements further.***

## Fiduciary duty

36. ShareAction told us that some investors cite 'fiduciary duty', the legal requirement to act solely in another party's interests, as a reason for not factoring the impacts of climate change into their investment strategies. "Fiduciary investors will wish to ensure that they are looking after ... savers' long-term best interests."[80] James Leaton of Carbon Tracker believed however that short-term considerations were given priority over long-term stability:

75 Carbon Disclosure Project Use of internal carbon price by companies as incentive and strategic planning tool, (December 2013)

76 United Nations Principles for Responsible Investment (http://www.unpri.org/)

77 These are counted as 'scope 3' emissions and are not included in current reporting requirements.

78 Q3

79 Ev 112

80 Share Action Green Light report- Resilient portfolios in an uncertain world, p2

> [The] whole system has various short-term drivers, whether it is the performance incentives for the fund managers based on quarterly performance, the recommendations from analysts, which are based again on the short-term revenue flows from that company and their ability to generate revenues in the short term. So that is not very good at factoring in long-term risks. To them, 'long-term' is perhaps more than a year or more than three years, and that does not necessarily reflect the investment strategy of some of those large institutional investors, the pension funds.[81]

37. In 2012, the Kay Review of *Equity markets and long-term decision-making* recommended that the Law Commission review guidance on fiduciary duty. The Law Commission expect to publish their conclusions by June 2014,[82] although its 'initial views' published in May 2013 were that "despite the uncertainty of this area of law ... any attempts to codify fiduciary duties would be impractical."[83] ShareAction nevertheless believed that:

> legislative clarification is needed to confirm that there is no legal bar to trustees focussing on long-term, sustainable wealth creation, and that trustees can take into account their beneficiaries' wider non-financial interests provided that this is prudent.[84]

38. Ian Simm of Impax Asset Management told us that as an asset manager he had "quite limited room for manoeuvre", and described how the mandates given by pension funds, including target returns, were "tightly specified".[85] Donald McDonald, head of the BT Pension Fund, also told us that their primary duty was to ensure that "the right pension is paid to the right people at the right time", but explained that as they were investing for people who would draw pensions in many years time, "climate change is a major risk factor that has to be taken into consideration." He stressed the need to take a balanced approach to manage risk across many in different future scenarios.[86] The BT Pension Fund had set up a 'carbon-tilted index':

> We take the FTSE All-Share Index but we then introduce a tilt factor into that to reduce the carbon exposure. Basically, that is tracking or doing very slightly better than the normal index, but with 18% less carbon.[87]

Catherine Howarth of ShareAction concluded that the Law Commission needs to give further guidance on this area:

> The evidence coming out of pension schemes is that in fact they take a very narrow view and are very confused about what the law allows them to do, so we are presenting the Commission with evidence that in practice, on the

81 Q26

82 The Law Commission

83 The Law Commission Consultation Paper 215 Fiduciary Duties of investment intermediaries (2013)

84 Ev 97

85 Q177

86 Q45

87 Q51

> ground, pension fund trustees feel quite constrained and that they might be in breach of legal obligation if they do not take a very narrow view.[88]

39. UK Sustainable Investment and Finance told us "sustainable and responsible investment is becoming increasingly popular owing to growing awareness that it is difficult to separate issues of financial return and risk from topics such as the environmental/carbon impact, energy security or other factors."[89] The Law Commission observed that studies have shown a link between Environmental Social and Governance (ESG) factors and performance, and concluded that "the answer is clearly that pension trustees *may* use wider factors":

> ... an ESG driven approach is not simply about avoiding the next company crisis. It works on the basis that companies do better in the long term if they are well-run and sustainable, and have loyal suppliers, customers and employees. Thus ESG factors in this context are about improving financial outcomes for the beneficiaries: they are not about ethical preferences.[90]

40. However, the key question is the extent to which investors *must* take these factors into account. The Kay Review (paragraph 37) concluded that "institutional investors acting in the best interests of their clients should consider the environmental and social impact of companies' activities".[91] The Law Commission suggested that investors would not have to implement an approach that takes into account ESG factors, but should at least show that they have considered it:

> We think that this is a sensible conclusion. Even if the duty of adequate consideration does not require this, trustees are also under a duty of care. As part of this duty, we think that trustees should consider, in general terms, whether their policy will be to take account of ESG factors in their decision-making, bearing in mind the resources available to them. The law, however, allows trustees discretion not to take an ESG approach if after due consideration they consider that another strategy would better serve the interests of their beneficiaries.[92]

**All investors are required to follow a fiduciary duty in their investment decisions, but that can be interpreted in different ways by different investors. It is important that investors factor the risks of exposure to carbon into their decision-making and consider the climate impacts of investments, as part of their wider social and environmental responsibilities.**

88 Q179

89 Ev w39

90 The Law Commission Consultation Paper 215 Fiduciary Duties of investment intermediaries (2013), p146

91 J Kay, The Kay Review of UK Equity Markets and Long-Term Decision Making: Final Report (2012), para 10.20.

92 The Law Commission Consultation Paper 215 Fiduciary Duties of investment intermediaries (2013), para 10.66

# 3 Government funding and support

41. In this Part we discuss the support provided by the Government for green investments through the Green Investment Bank and Infrastructure UK loan guarantees, but also through separate funds for community energy projects. The Government told us:

> New sources of capital are required for investment in green technologies, given the overall magnitude of investment required in the United Kingdom. A relative lack of information and expertise amongst such investors about green technologies ... could be a barrier to attracting additional green investment.[93]

As well as providing finance, Government initiatives aim to remove these barriers by managing risks, simplifying processes and building the skills and experience in these projects.

## Green Investment Bank

42. The Government set up the Green Investment Bank, which started operating in October 2012, to "enable projects that are both green and commercial".[94] In our 2011 report on the Green Investment Bank we recommended that the Bank should be set up as soon as possible, with a significant initial capitalisation and the ability to borrow. The Government accepted our recommendations, although they announced that the Bank would only be able to borrow in principle from 2015–16 but only "once the target for debt to be falling as percentage of GDP has been met" (paragraph 48).[95] Four-fifths of the value of its investments is divided between four main 'priority sectors' (offshore wind, waste recycling and energy from waste, non-domestic energy efficiency, and support for the Government's Green Deal), as stipulated by the terms of its State Aid approval from the European Commission. Shaun Kingsbury, the chief executive of the Green Investment Bank, told us:

> ... we are an infrastructure investor. We don't invest in venture capital or technology; we don't invest in project development or private equity type investments. We have an infrastructure mandate, which was agreed with Brussels when we established the Bank. We can provide capital into the debt or the equity or a mezzanine strip in a project, as long as it gets an appropriate rate of return.[96]

43. The Bank was mandated to achieve its aims by 'crowding in' investment. It has Government funding of £3.8 billion, and at the time the Bank was established the

93 Ev 94, para 11

94 Green Investment Bank 'What we do'

95 Environmental Audit Committee, *First Special Report- Progress on Carbon Budgets: Government response to the Committee's Second Report of 2010–12*, para 27 and 28

96 Q76

Government expected that, with private finance invested alongside the Bank, there would be "an additional £18 billion of investment in green infrastructure by 2014–15 as a result of the [Bank]".[97] Shaun Kingsbury explained:

> We don't want to take away the risks from the market; we want to help solve the risks with the market. We want to find solutions, where the people best able to take the construction risk should take the construction risk, and the people best able to take the technology risk should take the technology risk. If we can get those structured, and it means the first transactions take a huge amount of time and effort, and get the risk allocation right and then demonstrate we are serious about it by putting large chunks of capital alongside it with the right risk adjusted return, then other people will come and repeat.[98]

As of January 2014, the Green Investment Bank had committed £764m, to mobilise £3,200m when fully deployed, a ratio of private to public investment of 3:1.[99] Shaun Kingsbury told us in September 2013 that "we think £3 to £1, for example, 25% of the total capital, is a pretty good number."[100]

44. Shaun Kingsbury told us that "our vision for the Bank is to create an enduring institution".[101] It was looking for low-risk investments that are unable to find finance, rather than to speculate on higher risk technologies or to be "early stage technology pickers".[102] It is aiming for a balanced portfolio:

> We are investing against a portfolio of technologies and a portfolio of sectors. We have senior secured debt, mezzanine, equity, geared equity and increasing amounts of risk. When we look across a balanced portfolio, we will undoubtedly, looking back five years from now, have some projects that were huge successes and some that failed to perform to the level we expected. Overall I expect this to be very profitable but it is not that there will not be situations where, frankly, something did not hit the numbers we said it would. We are taking risk, but we are doing it in a very thoughtful, structured and controlled way.[103]

He described how the Bank:

> ... mapped out all the places that we could invest in and we basically built a two-by-two matrix that looked at risk and looked at green impact, and where

97 Treasury / BIS *The Plan for Growth* (March 2011), para 2.160

98 Q100

99 Green Investment Bank Presenting Our Investments (January 2014)

100 Q129

101 Q112

102 Q124

103 Q101

> we wanted to focus was the areas that had the biggest green impact and the lowest risk.[104]

45. The Bank is not only seeking to help to fill the gap in the funds being made available for investment in green infrastructure. It is also about demonstrating what is possible to others. Shaun Kingsbury highlighted the Banks investment in replicable projects: "We are breaking new ground. It is important that we create structures in the transactions we do that other people will recognise and be able to repeat."[105] Selecting projects that would secure good commercial rates of return played a part in this.[106] He explained:

> We want to find solutions, where the people best able to take the construction risk should take the construction risk and the people best able to take the technology risk should take the technology risk. If we can get those structured, and it means the first transactions take a huge amount of time and effort, and get the risk allocation right and then demonstrate we are serious about it by putting large chunks of capital alongside it with the right risk adjusted return, then other people will come and repeat.[107]

46. Jonathan Maxwell of Greencoat investors, who received £50m from the Green Investment Bank to invest in both onshore wind and offshore wind, explained to us how that approach was critical for funding the construction phase of projects. He described how once renewable energy schemes were operational they could then be sold to longer-term investors, such as pension funds.[108] Ian Simm of Impax Investment Management concluded that the Bank had been successful so far on that front:

> The Green Investment Bank is at a very early stage in its lifetime and we should not judge it just yet, but it has been very successful in identifying projects that fit its mandate, in my view, and ... it has attracted a significant volume of pure private sector capital into the areas that it is supposed to be focusing on. I think from the current vantage point it is doing a good job. It appears to be successful in catalysing investment into offshore wind, waste management and biomass in the energy sector.[109]

47. However, we heard some criticisms of the Green Investment Bank's approach. Friends of the Earth, whilst supportive of the Bank, stated that it believed that the Bank had "made investments that we believe are environmentally questionable", citing the partial conversion of the Drax power station to biomass.[110] Biofuelwatch argued that the Green Investment Bank investment in the Drax conversion is not consistent with the Bank's overall goal for green impact, which includes the protection of the natural environment,

104 Q104

105 Q100

106 Q9

107 Q100

108 Q123

109 Q160

110 Ev w37

enhancement of biodiversity and the promotion of environmental sustainability.[111] Shaun Kingsbury told us that ultimately the decision to fund Drax was based on a "Government decision about what represents green", but added:

> We take that a step further by writing that into all the documentation, by having real teeth in those agreements and by ensuring that we follow up by auditing and tracking that, so that if, in the end, we found that any investment we made was not following the agreements we had in place around how it sourced its biomass, we have the ability to retrieve the loan, put them into default and get our money back.[112]

### *Ability to borrow*

48. In our March 2011 report on the Green Investment Bank, we recommended that it be able to raise its own finance and offer a range of commercially driven investments as soon as possible. The Government has prevented it borrowing until 2015–16 and "once government debt is falling as a percentage of GDP".[113] Last year's Autumn Statement noted that such a milestone had slipped to 2016–17, although the graphs in the Autumn Statement report showed projected debt to be, if not falling, at least no worse than flat between 2015–16 and 2016–17.[114] Several of our witnesses questioned why the Bank's borrowing should be controlled when the similar KfW bank in Germany borrowed significant sums in order to provide extensive loan finance to renewables and energy efficiency schemes, particularly community schemes.[115] In our 2011 report on the Bank we noted how the Government's decision to limit the Green Investment Bank's borrowing hinged on the decision by the Office for National Statistics to classify the Bank's borrowing as 'public sector debt'.[116] Shaun Kingsbury told us that "a natural step in due course might be a combination of public and private sector ownership", but that was not the Bank's current focus.

> My view has been that if I am successful in that and we do build a very green and profitable investment bank here, there will be lots of sources of capital open to a profitable and successful company, one of which would be debt. We would like to borrow at some point in the future, but right now I have plenty of capital. [117]

49. The business and energy Minister, Michael Fallon, considered that "it has all the funding it needs for the moment; it has funding through to the end of 2015–16. It has plenty to be getting on with and plenty of projects to be investing in, so I think it is a little

111 Ev w23

112 Q139

113 Treasury, Budget 2011,HC 836, para 2.2

114 Treasury, Autumn Statement 2013, paras 1.82, 1.84

115 Ev w49; Ev w6

116 Q112

117 Q112

early to start comparing it directly with its German equivalent."[118] He noted that "[the Bank] has approval up until October 2016 and we will have to go back to the [European] Commission and extend that approval if we are to continue to fund its borrowing rather than push it out into the capital markets."[119]

50. **The Green Investment Bank has made a solid start, making investments which will help to fill part of the gap in the required level of green investment. The Bank's aim, rightly, is to establish itself as an enduring institution. It needs to be able to raise significant further private sector capital for investment alongside the Bank's programmes, and to borrow itself to enlarge the scale of its work. However, with Autumn Statement 2013 indicating a flat, rather than falling, trajectory in 2015–16 for Government debt as a percentage of GDP—the Government's test for allowing the Bank to borrow—there is doubt about the prospects of the Bank being able to borrow in that year as originally planned.** ***The Government must make an early and clear statement about the Green Investment Bank's long-term future, beyond the 2015–16 horizon of its Spending Review funding settlement. The Government should declare in Budget 2014, on the basis of the flat projections for Government debt in the last Autumn Statement remaining valid, that the Bank will be permitted to borrow in 2015–16.***

## Energy efficiency

51. On energy efficiency, Stephanie Maier of Aviva Investors was positive about the Bank's role, particularly the result.[120] Aviva Investors and the Bank are jointly funding a £36m new energy innovation centre for Cambridge University Hospitals NHS Foundation Trust at Addenbrooke's Hospital. The centre is designed to deliver financial and carbon emissions savings.[121] The Green Investment Bank has also announced plans to finance low energy street lighting, by offering local authorities low fixed rate loans over a period of up to 20 years, with repayments to be made from the resultant savings.[122]

52. Finance is needed for the Green Deal energy efficiency scheme, but as we noted in our December 2013 report on Carbon Budgets, take up has been slow. We concluded that that might indicate the presence of significant non-financial barriers as well as financial issues for homeowners.[123] The Green Deal Finance Company is a not-for-profit company, established to minimise the set up and administration costs of providing finance for Green Deals. The Government intend that the loans would be "regularly aggregated and refinanced in the capital markets at high investment grade: Aggregating loans in this way provides access to liquidity for energy efficiency improvements that may otherwise not be available at the level or scale required by participating households."[124] In our report on the

118 Q232

119 Q235

120 Q162

121 Pension Funds Online *Pension fund investment helps finance green infrastructure project*, (March 2013)

122 Green Investment Bank Low energy streetlighting: making the switch,(February 2014)

123 Environmental Audit Committee, Fifth Report of Session 2013-14, *Progress on Carbon Budgets,* HC 60, Conclusion 5, para 53

124 Ev 96, para 34

Green Investment Bank, we expressed concern that it would be difficult to achieve the multiple objectives of the Green Deal, and that the Bank should play a part in financing the scheme.[125] The Bank has now committed £125m to the Green Deal Finance Company.[126]

53. In his evidence to the inquiry, Alan Simpson criticised the Government's approach to financing energy efficiency:

> From the insanely complex (and costly) structure of Green Deal, to the reliance on energy companies to deliver (over-priced) ECO refurbishment, to the retreat from national energy efficiency standards and the fixed-budget (and ever changing) constraints on renewable energy generation, UK policies on Green Finance seem designed to marginalise its role and to prop up the powers of the UK's existing energy cartel.[127]

He described how the KfW development bank drives Germany's energy efficiency programme by providing loans at lower than market rates through high street banks (having first received underwriting from Government to facilitate the supply of loan capital), and writing off up some of the loan, if refurbishment reaches their 'near-zero' carbon homes standard. In 2011 the KfW delivered 360,000 whole house upgrades (and supported 370,000 jobs).[128] In contrast, Shaun Kingsbury told us that the cost of capital for the Green Deal was "a little more expensive" than a mortgage-secured loan.[129] Although the Green Deal operates under the 'golden rule', that the expected financial saving should be equal to or greater than the costs attached to the energy bill, it is not necessarily the cheapest form of finance for all projects.[130] By the end of December 2013, 626 households had measures installed, and a further 986 had indicated that they wanted to proceed or were in the process of being installed.[131]

54. **We are pleased that the Green Investment Bank has provided funding for Green Deal energy efficiency schemes. However, the number of schemes financed by the Green Deal is still some way off the required level, or that achieved in Germany.** ***The Government should make the Green Deal simpler and more attractive to households in order to achieve the level of scale-up required. Steps could include significantly reducing the assessment fee and the interest rate on the Green Deal loan, to be more in line with the terms of the Help to Buy scheme equity loans which start at 1.75%.***[132]

125 Q104

126 Green Investment Bank, Green Deal Case Study

127 Ev w50

128 Ev w50

129 Q104

130 Green Deal Finance Company and Capital Economic, Green Deal Payment Plans The Facts (September 2013)

131 Department of Energy and Climate Change, Domestic Green Deal and Energy Company Obligation in Great Britain, Monthly report (January 2014), Table 3, p17

132 Government, Affordable home ownership schemes; Help to buy: equity loans

## Community energy

55. The Green Investment Bank has not addressed the problems which community energy schemes have in accessing finance. This was an issue raised at our Guildhall seminar last year.[133] Robert Rabinowitz compared the situation in the UK, where perhaps 1% of renewable energy is either owned directly by individuals or through communities, and Germany where the figure is much greater.[134] In Germany, 35% of renewable energy generation was owned by individuals in 2012.[135] There has been a longer tradition in Germany of affordable finance for community projects supported by the KfW development bank,[136] which provides significant financing to support and promote community energy (paragraph 53).

56. The Green Investment Bank has not so far invested in community projects because of the scale of its operations: "We have £3.8 billion that we wish to invest over the next few years. It is very difficult to do that in chunks of £1 million or £2 million for a community project; we have to invest that in chunks of £25 million and above."[137] The *Community Energy Strategy* states that the Government are working with the European Commission on including small-scale onshore wind and hydroelectricity sectors within the Bank's approved scope of operation.[138] When we spoke to the Commission in February 2014 they told us that the decision-making process for approval did not need to take a long time. ***The Government has spent a long time talking about extending the remit of the Green Investment Bank to community energy without being able to show any progress. The Government should prepare and submit the relevant information to the Commission to secure State Aid approval for these additional areas of activity for the Green Investment Bank as quickly as possible and should work with the Green Investment Bank to develop effective aggregation methods to facilitate smaller scale lending.***

57. Mike Smyth of Energy 4All told us that community energy projects in the UK are usually funded by both local residents and outside investors through community energy groups: "At Energy 4All we find that approximately half the members of the project are local and half are from what is described as a community of cause".[139] But bringing together investors through 'crowdfunding' has risks, with "a high level of trust [needed in] the integrity of the people running those projects because, at the moment, they are not subject to [Financial Conduct Authority] disclosure rules".[140]

58. We heard how community energy has been dominated by areas where people have the specific financial skills required to set up projects. Robert Rabinowitz pointed out that "if

133 Ev 80

134 Ev 80

135 Energy Transition, German renewables still grassroots movement

136 Environmental Audit Committee, Second report of Session 2010–12, *The Green Investment Bank*, para 42

137 Q87

138 Department of Energy and Climate Change *Community Energy Strategy* (January 2014)

139 Q201

140 Q201

you want to know where community energy projects are, look at where the retired solicitors and accountants live".[141] He explained that one of the major issues with community energy "is not the attractiveness of the returns; the problems are around the transaction costs and the risk management procedures."[142]

> Part of the problem is that small community energy groups find it very hard to play the numbers game on planning, for example, because they only have one project, whereas a commercial developer might have 20 projects. ... Some of them are going to fall away and some of them will survive, but if you only have one project and you are reliant on semi-retired people and you do not have deep equity to underwrite development planning risks, then it can be very challenging. I think we need a mechanism to mutualise risk among the smaller groups so that you replace the deeper pockets that a larger organisation would have.[143]

Mike Smyth of Energy 4All explained how in Germany:

> KfW do provide that backstop role. They have a set of standardised documents and transactions and they will then provide guarantees to the lending bank for a very modest fee. That is another way that Germany is driving the development of renewable energy and community ownership.[144]

59. James Vaccaro of Triodos Bank told us "the next logical stage" would be using the more efficient technology that is currently deployed at a larger scale "within the local environment, ... developed by local people".[145] The Government launched its *Community Energy Strategy* in January 2014, which set out a range of initiatives to support local energy projects. It announced a new £10m Urban Community Energy Fund for England to go alongside the £15m Rural Community Energy Fund. The Community Energy Strategy also announced the "establishment of a 'One Stop Shop' information resource for community energy, developed with community energy groups using seed funding from government".[146]

60. In December 2013 the European Commission launched a consultation on proposed new rules for State Aid for the energy sector, which could potentially affect the viability of community schemes.[147] The Government's *Community Energy Strategy* promises a consultation in "spring 2014" on doubling the maximum capacity ceiling for solar PV Feed-in Tariffs from 5MW to 10MW for community projects.[148] However, the Commission's proposals envisage feed-in tariffs being available only for the smallest

141 Q193

142 Q207

143 Q195

144 Q207

145 Q195

146 Department of Energy and Climate Change, *Community Energy Strategy* (January 2014) P10

147 European Commission, *Draft Guidelines on environmental and energy State aid for 2014–2020*, (December 2013)

148 Department of Energy and Climate Change, *Community Energy Strategy* (January 2014)

renewable energy projects (under 2MW) and payments to those above that threshold being determined by competitive auction, which might require community projects to compete on price against large energy companies. This runs counter to the Government's plans in the recently published *Community Energy Strategy*:

> In response to feedback from community groups on the type of financial incentive that works best for them, through the Energy Act 2013 the Government took powers which will allow the Secretary of State to increase the maximum capacity for community projects eligible for [feed-in tariffs] from 5MW to 10MW. We intend to consult on the use of this power in spring 2014.
>
> At this stage our view is that this change would address the potential access to market issues that community groups looking at these larger projects faced, and remove the perverse incentive for community groups to limit their electricity generation projects to 5MW. This will help community energy realise its electricity generation potential.[149]

61. James Vaccaro also identified access to the grid as a key factor for successful community energy,[150] as well as local authority engagement:

> ... things are changing and there are some local authorities who are trying to take leadership, but they have to do it themselves a little bit first to show they are serious because there is not a wealth of community energy groups there for them to choose. It is a bit of a chicken and egg situation and, in a way, they have to be able to show they are committed to it for the long term to be able to generate the interest.[151]

Michael Fallon told us in December 2013 that he "would envisage us mapping out a route for community projects to work with local authorities on schemes of interest to them, whether that is generation or purchasing, or indeed, ... reducing energy use or energy demand."[152] The subsequently published *Community Energy Strategy* acknowledged "a lack of capacity and understanding of the benefits of community energy; inconsistency compared with other local authorities in the application of planning rules and consents; and confusion over interpretation of government's energy and climate change targets".[153] The *Strategy* envisages partnership and guidance to encourage local authorities to do more, with a new Community Energy Unit to be set up in DECC to be a focal point for these issues. It also states "we will work with Ofgem to look at ways to enable communities to supply energy, including license lite".[154] License lite is a scheme to license energy producers to supply electricity through the local grid. Since it was established in 2009, there have been

149 Department of Energy and Climate Change, *Community Energy Strategy* (January 2014), paras 182-183

150 Q192

151 Q218

152 Q225

153 Department of Energy and Climate Chang, *Community Energy Strategy*, (January 2014), para 75

154 Department of Energy and Climate Change *Community Energy Strategy* (January 2014) p10

no License lite agreements, although the Greater London Authority has applied for a license and is in advanced stages. Such schemes could help reduce bills by allowing local communities to receive electricity at lower rates. License lite relies on reaching agreement with existing District Network Operators who control access to the local grid.

62. **The Government's Community Energy Strategy addresses a number of the issues of concern raised during our inquiry. The scale of some of the challenges is significant, and will require co-ordination between Government departments and local authorities for progress to be made. We await to see what 'teeth' the Community Energy Unit will have to make progress on these issues. In contrast, the European Commission's proposals on energy state aid rules appear to run counter to the strategy's objective of encouraging community energy groups. The pace of change has been slow, particularly around key initiatives such as 'license lite' and State Aid approval for the Green Investment Bank to be involved in Community Energy.** ***The Government should work with the European Commission to ensure its proposals to reduce the threshold for small-scale feed-in tariffs are not carried through. The first priorities of the new Community Energy Unit in DECC should be to seek early State Aid approval for the Green Investment Bank to invest in community energy, and to actively engage with other departments—including DCLG and the Treasury—to ensure that all local authorities have the tools and resources to play a full part in making such schemes a widespread and successful part of the UK energy mix. It should prioritise initiatives to allow community energy producers to directly supply energy at lower prices to local communities, and work with Ofgem to make it mandatory for District Network Operators to work with License lite and set fixed fees for this.***

## Sources of funding

63. Although we heard that the Green Investment Bank has sufficient funds for its current projects, it is scaling up its operations and there is still a 'gap' between the funding levels required and currently available. Under the infrastructure Guarantee Scheme, introduced in 2012, the Government has been providing guarantees for up to £40 billion for large scale projects, to avoid delays to investment in major UK infrastructure projects that might stall because of adverse credit conditions. The Government supports projects which "may find it difficult to obtain private finance, not necessarily because of the commercial or economic viability of the individual infrastructure projects but because the banking markets are currently constrained and providers of finance are taking significantly longer to approve lending to these projects."[155] The scheme has included some 'green' projects, including energy and energy efficiency programmes, for example providing £75 million to convert the Drax power station to run off biomass, and £9 million to support investment in improving the energy efficiency of industrial buildings and urban infrastructure.[156]

64. Michael Fallon told us that the Guarantee Scheme and the Green Investment Bank co-ordinate well and work together on projects:

155 Ev 96

156 Treasury, UK Guarantees scheme: table of prequalified projects

> The UK Guarantee Scheme ensures that it is easier for those financing these big projects, whether they are transport or nuclear power or a biomass conversion, to access that kind of finance in the markets; it enables them to do it on slightly easier terms. It does not make it cheaper, but it enables them to do it over a longer timeframe. The Green Investment Bank of course is taking a direct stake in some of the projects, so there is relatively little overlap between the two. There are a couple of examples, one of which is Drax, where both instruments have been deployed, but they have different purposes.[157]

Shaun Kingsbury told us:

> [Infrastructure UK] can provide debt guarantees—that is the only tool they have—but we have more flexibility in the ways we can provide the capital. If they go in and it is a project where they would like to provide a debt guarantee, it means that the lenders are not looking at the project, they are really looking at the guarantee. It extends the market of people willing to lend money because they do not need to be experts in biomass or waste or whatever, they just need to accept the credit guarantee from Infrastructure UK.[158]

65. There are significant challenges to be overcome in achieving a low-carbon energy supply. Many of these can be overcome by political consensus, but some will require technological innovation, and greater collaboration between countries. The EU's Horizon 2020 funds important areas such as Carbon Capture and Storage and interconnectors between Member States.[159] There are also other EU funding schemes which potentially offer opportunity for greater investment, including the European Regional Development Fund. Future European Regional Development Fund rounds (2014–20) will include a thematic focus on the low-carbon economy, and more developed regions such as the UK will be required to spend a minimum of 20% of the funds on this theme.

66. Within the UK, there are also funds for innovation, such as Ofgem's Low Carbon Networks Fund.[160] Local Enterprise Partnerships could provide support for green finance. Whereas the former Regional Development Agencies had low carbon enterprise as a core theme, the Regional Growth Fund (which can be used by Local Enterprise Partnerships) does not include low carbon development as part of its core criteria. It encourage all bids "to demonstrate, where possible, how their proposal will contribute to green economic growth",[161] but as we recommended in our report on Sustainability in BIS last year, the Government should ensure that Regional Growth Fund grants are more closely aligned with the need for action on environmental protection and climate change.[162]

157 Q239

158 Q106

159 European Commission, *Horizon 2020 The EU Framework Programme for Research and Innovation*

160 Ofgem, *Low Carbon Networks Fund*

161 HM Government, Local growth: realising every place's potential, p36

162 Environmental Audit Committee, Seventh Report of Session 2013–14, *Sustainability in BIS,* HC 613

### New sources of finance

67. We heard suggestions for how the Government could raise more investment, through re-directing Quantitative Easing and a Financial Transactions Tax. The New Economics Foundation told us that the Bank of England should re-direct Quantitative Easing—the policy of purchasing financial asset with central bank money, increasing the amount of 'liquid' funds in the economy. The Bank of England's Asset Purchase Facility has since January 2009 made total assets purchases of £375 billion.[163] New Economics Foundation believed that the aim of Quantitative Easing was "to stimulate the economy by nudging investors to invest in other, productive sectors of the economy, and by reducing long-term interest rates, making investment more attractive" and proposed that:

> the Asset Purchase Facility buys bonds issued by agencies with a specific remit for sustainable investment within the UK, such as house building and retrofit and low carbon infrastructure.[164]

The Green House also told us "We would support the recent call ... that quantitative easing should be used strategically to provide finance for green infrastructure."[165] The New Economics Foundation explained that:

> Even if there is no additional quantitative easing, and there has not been the last couple of quarters-the Governor has chosen not to increase it—£100 billion-worth of corporate bonds will reach maturity over the next 5 years and the Bank of England is then faced with the decision as to whether it renews those bonds or the Government just pay them back.[166]

In response, Michael Fallon told us he did not support these proposals:

> Quantitative easing is a matter for the Bank of England and the Monetary Policy Committee. Parliament has given that committee a very precise remit to focus on price stability, and I think it would undermine its task of pursuing price stability if we started to give it conflicting policy objectives or asked it to target certain sectors of the economy or indeed to start thinking about how some Government spending programmes would be financed. I would not support that.[167]

68. Josh Ryan-Collins of New Economics Foundation envisaged a Financial Transactions Tax having the benefits of raising green finance, reducing financial speculation and improving macro-economic stability. He believed that high-frequency trading is "net socially negative in terms of welfare costs, because it is fine in the good times, but in the bad times it pulls liquidity out of countries when they most need it".[168] Friends of the Earth

163 Bank of England, Quantitative Easing Explained

164 Ev 88

165 Ev w6, para 17

166 Q182

167 Q249

168 Q185

told us that they "strongly support" a financial transactions tax.[169] Aviva Investors, however, said that they would favour a trade cancellation fee in place of a tax.[170] Michael Fallon told us that the Government's opposed the current EU proposals as it could add costs to business and affect the financial services sector:

> We are not opposed to a financial transaction tax in principle, but we believe it would only be acceptable here, it would work only if it was done on a global basis and that kind of consensus is simply lacking at the moment. There is not even a consensus in the European Union. There are only 11 member states, a minority of the member states, who are currently signed up to trying to proceed with it and we do not think that is the right way to make policy. Of course if they did go ahead, it could be quite damaging to us here. It could put up costs and damage our financial interests, so we are obviously concerned at the extent to which the European Union is pursuing this.[171]

69. **Whilst we recognise the difficulties inherent in redirecting Quantitative Easing and securing the international support needed to introduce a financial transaction tax, we consider there is merit in further investigating such devices to provide an additional source of finance for green investment.** ***We urge the Government to look positively at ways of overcoming the problems relating to such funding sources.***

169 Ev w36

170 Ev 114

171 Q250

# 4 A green finance strategy

70. This report has focused primarily on investments in low-carbon energy generation and energy efficiency, which mitigate the impacts of climate change, rather than investments to adapt to climate change or investments in green spaces and natural capital. Increasing the flow of green finance in all these areas is a responsibility divided between different departments and other entities. The Government has a range of ways to help co-ordinate its efforts between departments, including the advice of the independent Committee on Climate Change. The *Community Energy Strategy* (paragraph 56) is a welcome move towards bringing greater coherence to an important area of green finance. However, the Government needs to do more to accelerate progress and monitor impact.

71. Michael Fallon noted that "the Treasury publishes annually the *National Infrastructure Plan* and that lists the major projects. It may be we should go perhaps further than that and look at the way the projects there are tabulated just to give everybody a running check on how the green projects are going on."[172] He added that "there may well be merit in having somebody more independent monitor the number of projects that are coming forward".[173] But more is needed. We noted in our Sustainability in BIS report, for example, that there was a need co-ordinate the 11 *Industrial Strategies* to ensure that as a whole they reflected the wider requirement to decarbonise the economy.[174] The Committee on Climate Change last year recommended that the Government undertake and publish an assessment of capital market conditions.[175]

72. The Government published in 2011 *A transition to a Green Economy*, which was initially intended to provide a roadmap for investors.[176] In our Green Economy report we expressed disappointment that this had not included the role that UK financial markets could play in helping to finance the green economy, nor any time-bound milestones.[177] A more detailed plan could help ensure a long-term co-ordinated strategy, which reviews achievements and sets out next steps, in a similar way to the *National Infrastructure Plan*.[178] Stakeholders from a number of departments, including the Treasury, would need to be involved.

73. **As we have described in this report, there is an urgent need to address the green investment gap. The Green Investment Bank and some individual programmes and initiatives are making some inroads in filling that gap. But a more co-ordinated approach is needed to accelerate progress.** ***The Government should publish a single overall strategy to refocus and direct all relevant policies towards this essential task of***

172 Q251

173 Q252

174 Environmental Audit Committee, Seventh Report of Session 2013–14, *Sustainability in BIS,* HC 613

175 Committee on Climate Change, *Next steps on electricity market reform*,(May 2013), p56

176 Defra, Business Plan 2011–15, (May 2012) Action 3.5.i.

177 Environmental Audit Committee, Twelfth Report of Session 2010–12, *A Green Economy,* HC 1025

178 Treasury, National Infrastructure plan 2013, (December 2013)

***mobilising action on reducing carbon emissions, as it started to do in Enabling the Transition to a Green Economy. It should re-visit that document to evaluate progress and identify areas for improvement, as well as extending it further. It should monitor and report on overall progress across the full range of green energy and infrastructure investment, in the same way as it reports annually on the National Infrastructure Plan. Working to a single strategy would create greater certainty and a more favourable investment outlook by bringing together and aligning:***

- ***The UK's position in international negotiations on emissions reduction and climate change;***
- ***Action needed to deliver our carbon budget commitments and Climate Change Act obligations;***
- ***Industrial Strategies;***
- ***The National Infrastructure Plan;***
- ***The Infrastructure Guarantee .programme;***
- ***The Green Investment Bank's role and the scope of the projects it supports;***
- ***Opportunities to take advantage of and direct EU funding towards green infrastructure;***
- ***Green-proofing Government grants, including the Regional Growth Fund and LEPs;***
- ***Community energy;***
- ***Funding for adaptation to climate change.***

# Conclusions

1. Increasing investment in low-carbon energy, and reducing investment in fossil fuels, depends on an unambiguous assessment by investors that the international community will produce a credible and significant commitment to reduce emissions in a timescale commensurate with the urgency needed for avoiding dangerous climate change. (Paragraph 5)

2. We recognise the Government and European Commission's arguments about the importance and flexibility and dealing with individual states' circumstances and energy policies. Although energy efficiency may be more cost-effective than switching to renewable sources of energy for some countries, it is vital that each country has an ambitious and binding target for renewable energy to create a level playing field within the EU. (Paragraph 8)

3. There is a significant green investment gap. The current level of green investment is running at less than half of the level needed to deliver the decarbonisation implicit in national and international targets. A significant scale-up us needed. (Paragraph 12)

4. As we have highlighted in previous inquiries, a significant barrier to investment in low-carbon energy has been uncertainty for potential investors about the future direction of Government policy. The Government's Electricity Market Reform, including the contracts for difference and capacity market regimes, though flawed, provide an opportunity for greater policy stability in future. (Paragraph 25)

5. New carbon reporting arrangements for companies can help investors understand carbon impacts, and could help stimulate greater focus on these issues amongst customers and suppliers to help add pressure on companies to adopt more sustainable practices. (Paragraph 35)

6. All investors are required to follow a fiduciary duty in their investment decisions, but that can be interpreted in different ways by different investors. It is important that investors factor the risks of exposure to carbon into their decision-making and consider the climate impacts of investments, as part of their wider social and environmental responsibilities. (Paragraph 40)

7. The Green Investment Bank has made a solid start, making investments which will help to fill part of the gap in the required level of green investment. The Bank's aim, rightly, is to establish itself as an enduring institution. It needs to be able to raise significant further private sector capital for investment alongside the Bank's programmes, and to borrow itself to enlarge the scale of its work. However, with Autumn Statement 2013 indicating a flat, rather than falling, trajectory in 201–16 for Government debt as a percentage of GDP—the Government's test for allowing the Bank to borrow—there is doubt about the prospects of the Bank being able to borrow in that year as originally planned. (Paragraph 50)

8. We are pleased that the Green Investment Bank has provided funding for Green Deal energy efficiency schemes. However, the number of schemes financed by the

Green Deal is still some way off the required level, or that achieved in Germany. (Paragraph 54)

9. The Government's Community Energy Strategy addresses a number of the issues of concern raised during our inquiry. The scale of some of the challenges is significant, and will require co-ordination between Government departments and local authorities for progress to be made. We await to see what 'teeth' the Community Energy Unit will have to make progress on these issues. In contrast, the European Commission's proposals on energy state aid rules appear to run counter to the strategy's objective of encouraging community energy groups. The pace of change has been slow, particularly around key initiatives such as 'license lite' and State Aid approval for the Green Investment Bank to be involved in Community Energy. (Paragraph 62)

10. Whilst we recognise the difficulties inherent in redirecting Quantitative Easing and securing the international support needed to introduce a financial transaction tax, we consider there is merit in further investigating such devices to provide an additional source of finance for green investment. (Paragraph 69)

11. As we have described in this report, there is an urgent need to address the green investment gap. The Green Investment Bank and some individual programmes and initiatives are making some inroads in filling that gap. But a more co-ordinated approach is needed to accelerate progress. (Paragraph 73)

# Recommendations

12. The Government needs to play a central role in agreeing ambitious and binding international commitments on tackling climate change, both in the EU and in the lead up to the UNFCCC conference in Paris in 2015. Domestically, the Government should announce immediately that following the advice from the Committee on Climate Change there is no rationale for any review of the Fourth Carbon Budget. (Paragraph 5)

13. The Government should vote in favour of binding national renewables targets at the EU Council. (Paragraph 8)

14. The Government should make the changes recommended by the Committee on Climate Change to bring greater longer-term certainty for investment—an early energy-intensity target for electricity generation and an extension of the Levy Control Framework and indicative funding levels to 2030. The Government should reiterate its commitment to the already planned escalation of the carbon price floor and use the implementation of the Electricity Market Reform to make a clear commitment to avoiding further unplanned regulatory and subsidy changes for low-carbon energy. (Paragraph 25)

15. The Financial Policy Committee of the Bank of England should regularly consult with the Committee on Climate Change to help it monitor the risks to financial stability associated with a carbon bubble. (Paragraph 31)

16. The Government should work with companies to ensure that reporting requirements provide investors with all of the information they require to assess carbon risk, and develop the standard reporting requirements further. (Paragraph 35)

17. The Government must make an early and clear statement about the Green Investment Bank's long-term future, beyond the 2015–16 horizon of its Spending Review funding settlement. The Government should declare in Budget 2014, on the basis of the flat projections for Government debt in the last Autumn Statement remaining valid, that the Bank will be permitted to borrow in 2015–16. (Paragraph 50)

18. The Government should make the Green Deal simpler and more attractive to households in order to achieve the level of scale-up required. Steps could include significantly reducing the assessment fee and the interest rate on the Green Deal loan, to be more in line with the terms of the Help to Buy scheme equity loans which start at 1.75%. (Paragraph 54)

19. The Government has spent a long time talking about extending the remit of the Green Investment Bank to community energy without being able to show any progress. The Government should prepare and submit the relevant information to the Commission to secure State Aid approval for these additional areas of activity for the Green Investment Bank as quickly as possible and should work with the Green

Investment Bank to develop effective aggregation methods to facilitate smaller scale lending. (Paragraph 56)

**20.** The Government should work with the European Commission to ensure its proposals to reduce the threshold for small-scale feed-in tariffs are not carried through. The first priorities of the new Community Energy Unit in DECC should be to seek early State Aid approval for the Green Investment Bank to invest in community energy, and to actively engage with other departments—including DCLG and the Treasury—to ensure that all local authorities have the tools and resources to play a full part in making such schemes a widespread and successful part of the UK energy mix. It should prioritise initiatives to allow community energy producers to directly supply energy at lower prices to local communities, and work with Ofgem to make it mandatory for District Network Operators to work with License lite and set fixed fees for this. (Paragraph 62)

**21.** We urge the Government to look positively at ways of overcoming the problems relating [to redirecting Quantitative Easing and securing the international support needed to introduce a financial transaction tax]. (Paragraph 69)

**22.** The Government should publish a single overall strategy to refocus and direct all relevant policies towards this essential task of mobilising action on reducing carbon emissions, as it started to do in Enabling the Transition to a Green Economy. It should re-visit that document to evaluate progress and identify areas for improvement, as well as extending it further. It should monitor and report on overall progress across the full range of green energy and infrastructure investment, in the same way as it reports annually on the National Infrastructure Plan. Working to a single strategy would create greater certainty and a more favourable investment outlook by bringing together and aligning:

- The UK's position in international negotiations on emissions reduction and climate change;
- Action needed to deliver our carbon budget commitments and Climate Change Act obligations;
- Industrial Strategies;
- The National Infrastructure Plan;
- The Infrastructure Guarantee .programme;
- The Green Investment Bank's role and the scope of the projects it supports;
- Opportunities to take advantage of and direct EU funding towards green infrastructure;
- Green-proofing Government grants, including the Regional Growth Fund and LEPs;
- Community energy;
- Funding for adaption to climate change. (Paragraph 73)

# Formal Minutes

### Wednesday 26 February 2014

Members present:

Joan Walley, in the Chair

Peter Aldous
Martin Caton
Zac Goldsmith
Mark Lazarowicz
Dr Matthew Offord
Mrs Caroline Spelman
Dr Alan Whitehead
Simon Wright

* * *

Draft Report (*Green Finance*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 73 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Twelfth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report, in addition to that ordered to be reported for publishing on 12 June, 4 and 11 September, 9 October, 20 November, and 11 and 18 December 2013.

[Adjourned till Wednesday 5 March at 2.00 pm

# Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the Committee's inquiry page at www.parliament.uk/eacom .


**Wednesday 26 June 2013** — **Page**

**James Leaton**, Project Director, Carbon Tracker Initiative, and **Dr Nicola Ranger**, Senior Research Fellow, Grantham Research Institute on Climate Change and the Environment. Ev 1

**Michael Liebreich**, Chief Executive, Bloomberg New Energy Finance, **Donald MacDonald,** Trustee, BT Pension Scheme and Chair of the Institutional Investors Group on Climate Change, and **David Russell**, Co-Head of Responsible Investment, Universities Superannuation Scheme Investment Management. Ev 7

**Thursday 12 September 2013**

**Shaun Kingsbury**, Chief Executive Officer, Green Investment Bank, **Tessa Tennant**, Non-Executive Director, Green Investment Bank, and **Jonathan Maxwell**, CEO and Co-Founding Partner of Sustainable Development Capital. Ev 16

**Monday 11 November 2013**

**Josh Ryan-Collins**, Senior Researcher, Finance and Business Team, New Economics Foundation, **Catherine Howarth**, Chief Executive Officer, ShareAction, **Stephanie Maier**, Head of Corporate Responsibility, Aviva Investors, and **Ian Simm**, Chief Executive, Impax Asset Management, Steering Committee, Low Carbon Finance Group. Ev 34

**Wednesday 20 November 2013**

**Robert Rabinowitz**, Chief Executive, Pure Leapfrog, **James Vaccaro**, International Head of Corporate Development, Triodos Bank, and **Mike Smyth**, Energy 4All, and Wey Valley energy cooperatives. Ev 46

**Wednesday 11 December 2013**

**Rt Hon Michael Fallon MP**, Minister of State for Business and Enterprise, Department for Business, Innovation and Skills, and Minister of State for Energy, Department of Energy and Climate Change. Ev 60

# Published written evidence

The following written evidence was received and can be viewed on the Committee's inquiry web page at www.parliament.uk/eacom.


| | | |
|---|---|---|
| 1 | Transcript of the Seminar held at Guildhall on 5 June 2013 | Ev 68 |
| 2 | The New Economics Foundation | Ev 88 |
| 3 | Department of Energy and Climate Change | Ev 93 |
| 4 | ShareAction | Ev 97 |
| 5 | Triodos Bank | Ev 102 |
| 6 | Pure Leapfrog | Ev 106 |
| 7 | Aviva Investors | Ev 111 |

# List of additional written evidence

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


| | | |
|---|---|---|
| 1 | Northumbria Water Limited | Ev w1 |
| 2 | Green House | Ev w4 |
| 3 | Carillion | Ev w9 |
| 4 | EDF Energy | Ev w11 |
| 5 | CDP | Ev w15 |
| 6 | renewableUK | Ev w18 |
| 7 | Biofuelwatch | Ev w23 |
| 8 | WWF-UK | Ev w26 |
| 9 | Greater London Authority | Ev w31 |
| 10 | Friends of the Earth England, Wales and Northern Ireland | Ev w34 |
| 11 | UK Sustainable Investment & Finance Association (UKSIF) | Ev w38 |
| 12 | City of London Corporation | Ev w 42 |
| 13 | Environment Agency | Ev w45 |
| 14 | Sir John Cunliffe, Bank of England | Ev w47 |
| 15 | Alan Simpson | Ev w48 |

# List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the Committee's website at www.parliament.uk/eacom.

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

**Session 2013–14**

| | | |
|---|---|---|
| First Report | Embedding sustainable development: an update | HC 202 (HC 633) |
| Second Report | Outcomes of the UN Rio+20 Earth Summit | HC 200 (HC 633) |
| Third Report | Transport and accessibility to public services | HC 201 (HC 632) |
| Fourth Report | Protecting the Arctic: The Government's response | HC 333 |
| Fifth Report | Progress on Carbon Budgets | HC 60 (HC 928) |
| Sixth Report | Biodiversity Offsetting | HC 750 |
| Seventh Report | Sustainability in BIS | HC 613 (HC 1069) |
| Eighth Report | Codes for Sustainable Homes and the Housing Standards Review | HC 192 |
| Ninth Report | Energy subsidies | HC 61 (HC 1103) |
| Tenth Report | Sustainability in the UK Overseas Territories | HC 332 |
| Eleventh Report | Plastic bags | HC 861 |

**Session 2012–13**

| | | |
|---|---|---|
| First Report | The St Martin-in-the-Fields seminar on the Rio+20 agenda | HC 75 |
| Second Report | Protecting the Arctic | HC 171 (HC 858) |
| Third Report | Wildlife Crime | HC 140 (HC 1061) |
| Fourth Report | Autumn Statement 2012: environmental issues | HC 328 (HC 1087) |
| Fifth Report | Measuring well-being and sustainable development: Sustainable Development Indicators | HC 667 (HC 139) |
| Sixth Report | Energy Intensive Industries Compensation Scheme | HC 669 (Cm 8618) |
| Seventh Report | Pollinators and Pesticides | |

**Session 2010–12**

| | | |
|---|---|---|
| First Report | Embedding sustainable development across Government, after the Secretary of State's announcement on the future of the Sustainable Development Commission | HC 504 (HC 877) |
| Second Report | The Green Investment Bank | HC 505 (HC 1437) |
| Third Report | Sustainable Development in the Localism Bill | HC 799 (HC 1481) |
| Fourth Report | Embedding sustainable development: the Government's response | HC 877 |

| | | |
|---|---|---|
| Fifth Report | The impact of UK overseas aid on environmental protection and climate change adaptation and mitigation | HC 710 (HC 1500) |
| Sixth Report | Budget 2011 and environmental taxes | HC 878 (HC 1527) |
| Seventh Report | Carbon Budgets | HC 1080 (HC 1720) |
| Eighth Report | Preparations for the Rio +20 Summit | HC 1026 (HC 1737) |
| Ninth Report | Air Quality a follow up Report | HC 1024 (HC 1820) |
| Tenth Report | Solar Power Feed-in Tariffs (Joint with the Energy and Climate Change Committee) | HC 1605 (HC 1858) |
| Eleventh Report | Sustainable Food | HC 879 (HC 567) |
| Twelfth Report | A Green Economy | HC 1025 (HC 568) |

# Oral evidence

## Taken before the Environmental Audit Committee

## on Wednesday 26 June 2013

Members present:

Joan Walley (Chair)

| | |
|---|---|
| Peter Aldous | Dr Matthew Offord |
| Martin Caton | Mark Spencer |
| Zac Goldsmith | Dr Alan Whitehead |
| Mark Lazarowicz | Simon Wright |
| Caroline Nokes | |

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**Examination of Witnesses**

*Witnesses:* **James Leaton**, Project Director, Carbon Tracker Initiative, and **Dr Nicola Ranger**, Senior Research Fellow, Grantham Research Institute on Climate Change and the Environment, gave evidence.

**Q1 Chair:** I would like to commence our proceedings this afternoon by thanking both of you for coming along to give evidence to our inquiry. Will you begin by giving us a summary of the recommendations of the work that you have done on the carbon bubble? We have two sessions this afternoon, so we have quite a lot of detailed questions. What we really want to understand is the main thrust of what you are recommending and who those recommendations are aimed at, so that the conclusions are deliverable by somebody. If you would introduce yourselves briefly and then answer that question about the recommendations, that would be really helpful.

***Dr Ranger:*** Thank you very much for inviting us to speak today. I am Dr Nicola Ranger. I am a Senior Research Fellow at the London School of Economics. On this particular report, I was responsible for the scientific modelling side of it.

***James Leaton:*** I am James Leaton. I head up the research at Carbon Tracker, and fitted together with the contribution from Nicola and Grantham by bringing in the financial and reserves analysis.

**Q2 Chair:** What are the main recommendations of the report?

***Dr Ranger:*** The key message from our side was that the total amount of reserves of oil, gas and coal, currently held by both states and listed companies, far exceeds what we call the carbon budget that would allow us to keep global temperatures to below 2 or 3 degrees, 2 degrees being the level at which Governments, through the UNFCCC process, have committed to try to reduce emissions to keep temperatures below. We found that total reserves at the moment are around, say, 3 billion tonnes of carbon dioxide equivalent, whereas to keep temperatures to about 2 degrees the budget is only 1,000 billion tonnes. You can imagine that if we burned everything that is currently held by these companies and by states, you are talking a temperature rise certainly in excess of 3 degrees.

We also found that even if we want to keep warming to 3 degrees, it would still mean that a lot of the reserves that we currently hold can't be burnt. It would still mean around 60% of the reserves cannot be burnt, even for that much, much less ambitious climate goal than countries have currently signed up to.

**Q3 Chair:** Mr Leaton, did you want to add to that?

***James Leaton:*** Yes, just to follow on from that. To use the title of the report, obviously that was around wasted capital and stranded assets. We felt, given this shows we already have more reserves than fit within the budget, that there is a risk that developing more reserves would be a waste of capital and could result in stranded assets that cannot be operated for their full expected lifetime, whether that is a power plant or a mine or an oilfield. This obviously has implications for investors, which we touched on, in terms of what they can do to scrutinise the business strategies and the models that companies are using to justify continued exploration and development of reserves.

I understand you are hearing from representatives of investors later who are better placed to explain the constraints that they operate within. We felt that, beyond that, there is a limit to what they can do, but there are other parts of the financial system, and the regulator, that need to send stronger signals to the market to factor in these risks to enable investors to shift capital. That relates to greater transparency around the carbon content of reserves that companies have an interest in, and also asking those companies to stress test their business model against different warming scenarios from 2 degrees upwards.

**Q4 Chair:** Who do you expect will do anything with the recommendations that you have made in the report? Were they aimed at a particular group? Is it aimed at Government? Is it aimed at investors? Is it aimed at shareholders? Who do you think will be taking action from your recommendations?

***Dr Ranger:*** We propose a set of recommendations for different matters. For investors, for example, the suggestion is that investing in these companies that are potentially at risk from stranded assets in the future could be a high-risk strategy for them, so investing in other areas might be better in terms of the returns. We also make recommendations for

regulators, as James was saying. Do you want to speak to the regulation ones?
***James Leaton:*** Yes. I think we do view the ultimate audience as the financial regulators, because there is obviously a role for the financial markets here that they are currently not playing. There is obviously an ongoing debate around the climate regulation, but we feel the financial regulation needs to be in tune with that and that currently it is not aligned. A lot of the recommendations are linked to making greater connections between that climate debate and the financial stability debate.

**Q5 Chair:** Are you communicating the message of your recommendations to those different groups of people?
***James Leaton:*** Yes. We are doing that through some of the investor groups. We are working with investors, asset managers and pension funds to get them to review this issue and raise it. We are also pushing it directly, in terms of some of the key markets where we have seen high exposure. London and New York have very high exposure to fossil fuels, so we have sent this to the regulators in both countries and are following up with them now.

**Q6 Chair:** Assuming that we do get a global agreement in 2015 as part of the UN process, how do you feel that will have a bearing on the research that you are doing as far as the carbon bubble is concerned? Will that puncture it? Will that start to deal with the issues that you are raising? Is that directly relevant to the whole agenda that you are looking at?
***Dr Ranger:*** If there is an agreement in 2015, which puts in place emissions reductions that will aim to stabilise global temperatures at 2 degrees, that implies a carbon budget, which is this 1,000 gigatonnes, so a billion tonnes of carbon dioxide. That would then mean that that is the maximum amount of carbon dioxide that could be emitted to meet that international agreement. If they agree at a higher level, say 3 degrees, which obviously means much higher impacts in terms of climate impacts, it gives you a bigger budget. The impact on the fossil fuel industry will be lower, but then of course the impacts of climate change will be much higher at that level. I don't know if you want to say anything about how that budget then feeds through to the response.
***James Leaton:*** Yes.

**Q7 Chair:** Also, the timeframe in which that would have an effect as well.
***James Leaton:*** We would also be keen to note that it is not necessarily dependent on a global deal or a very clear overarching signal like that. The market could obviously deal with that quite simply. What we are seeing is there is already a patchwork of regulation around things like air quality that we are seeing China move on—so that is more of a driver politically in some countries—and in the US coal has declined due to competing technologies. We are seeing the price of other options coming down all the time. It could be lack of water. I think this term "stranded assets" could appear from a range of factors, not just whether or not we get a global deal in 2015.

**Q8 Zac Goldsmith:** Very quickly, it would be interesting to know if there has been any noticeable reaction by the markets to the announcement by Obama yesterday, which has effectively made fossil fuels into more of a liability than they were before he made his intervention. How have the markets reacted?
***James Leaton:*** I did see an article in the *Washington Post* that suggested the coal stocks were down a few percent. I can't comment on whether that is directly related but they certainly made that connection. Certainly, US coal has already seen 75% of the value of mining stocks wiped out over the last two years because the market has declined in their country.

**Q9 Zac Goldsmith:** If the market has reacted in such a marginal manner, is that because the intervention is weak or is it because the market does not believe that it is going to happen?
***James Leaton:*** For the mining stocks it might be because they have already lost so much of their value, so they have already—

**Q10 Zac Goldsmith:** They have already priced them?
***James Leaton:*** Yes. The fact they have already lost 75% of their value, to lose another percentage they are still getting down very low compared to where they were previously. I guess the question for us is whether the market saw that coming. I don't think two years ago it did predict that coal stocks were going to be down 75%, 80%, on where they were then. That is the worry for us, that the market isn't very good at seeing these systemic risks coming.
***Dr Ranger:*** A further point is that, even if we have a strong global deal in 2015, the reduction in global emissions will not happen quickly. To get to the level of 2 degrees that they are aiming for means a halving of global emissions by 2050. We are probably still going to be using fossil fuels in 2050 but at a much, much lower level. So, in terms of the use of fossil fuels, we are talking more of a gradual tail-off. How the market will respond to that knowledge, that this industry is going to be tailing off, I think we can only speculate about whether that would be a rapid reaction or not.

**Q11 Martin Caton:** Dr Ranger, you have just given us a round figure for the global carbon budget. It would be very helpful if you could tell us a little bit more about how you estimated that figure and what, if any, were the main uncertainties that you had to grapple with in reaching it?
***Dr Ranger:*** The way we estimated the figure—and I should say that a number of different groups have produced a similar figure, or actually the same figure, about 1,000 gigatonnes of carbon dioxide—was to run lots and lots of simulations of climate models, and estimate what the relationship is between the rising global temperature and the amount of emissions that we make between now and the end of the century. When you plot those two things together you can see that it is quite a linear relationship. Even though there

is a strong relationship, there are a lot of uncertainties on that. For example, there is uncertainty about how much non-fossil fuel activity there is.

A lot of carbon dioxide emissions and greenhouse gas emissions don't come from burning fossil fuel. Fossil fuels account for about 60% of total emissions at the moment, so we have to make assumptions about how other sources will change as well. We also have to make assumptions about how aerosols will change. Aerosols that are emitted when we burn fossil fuels have a cooling effect on the climate and offset some of the warming effect of greenhouse gases, so we have to make estimates about those as well.

Another estimate we make is about how sensitive the climate is to greenhouse gas emissions. For example, looking at the effect that has on the budget, if we take a more pessimistic estimate, the budget could actually be as low as about 900 rather than 1,000 billion tonnes. If we take a much more optimistic estimate, it could be about 1,200, but still that range is quite narrow and is still a very big constraint on fossil fuel emissions.

**Q12 Martin Caton:** We have received different evidence from the scientific community suggesting that there are different views on climate sensitivity. Whose model did you use?

***Dr Ranger:*** We did not use a single model. The approach we took is that we used a large number of models. We did a probabilistic estimate. For example, the IPCC—the Intergovernmental Panel on Climate Change—says that climate sensitivity could be likely between about 2 and 4.5. That is based on looking at the results of many, many different models. We used that range in our modelling. So it is not just one model, it is using the results of many, many different models and simulating those.

**Q13 Martin Caton:** Do you see the promise of carbon capture and storage as possibly delaying the carbon bubble being taken seriously? Also, do you think that CCS would potentially increase the amount of fossil fuel reserves that could be burnt?

***Dr Ranger:*** I think that was a really interesting conclusion of this report, actually, which surprised me. We looked at the most recent projections from the International Energy Agency, the IEA, for carbon capture and storage. We looked at their most optimistic assumptions, which suggest that, between now and 2050, CCS could capture only about 125 billion tonnes of carbon dioxide compared to the 1,000 budget that we have. So it only increases the budget by quite a small amount.

That is not to say that CCS is not important. It is just saying that in the near term it has little effect because it will take quite a long time to get that technology to scale. It is only by around 2040, 2050, that we expect to see that it will be having a really big benefit, and beyond that, of course. But in the near term it actually does not make much difference to the carbon budget.

**Q14 Dr Whitehead:** In that analysis, did you look at where you put the stuff; that is, the actual capacity of various places around the world to store carbon? For example, a recently revised estimate for North Sea storage capacity was published. Secondly, did you consider or have you considered any other forms of what we call geo-engineering coming into play as far as elements of that total problem are concerned?

***Dr Ranger:*** We did not do any new analysis on CCS. We only used the estimates that have been provided by the IEA. We did not look at where the carbon would be stored. As I said, this particular estimate from the IEA that we used was their most optimistic estimate. In this estimate, we go from about, say, 16 plants that are currently under construction and it would require 4,000 plants by 2050. That looks pretty optimistic given where we are now. Their more realistic scenario of what could be achieved by 2050 is much, much, much lower. Then on other sorts of technologies, no. All of our scenarios assume that there will be no geo-engineering. We could talk about geo-engineering in more detail if you would like to.

**Q15 Zac Goldsmith:** You have argued that, if fossil fuel companies continue to invest in finding resources, inevitably their investments are going to become stranded. Can you just explain what that means that before I move on?

***James Leaton:*** I think the term "stranded" perhaps means slightly different things to different people. When we are using it, we are saying that those assets ultimately will not be burnt, basically, and that may be for a number of reasons.

**Q16 Zac Goldsmith:** Yes. Can you explain what you believe are the consequences of that, not just for the companies with those stranded investments but more widely as well, the wider economy and society? What are the implications of that?

***James Leaton:*** The imperative to tackle climate change will require an energy transition. It will require changes to our energy system and infrastructure. We are pointing out the implications of that. We won't need as many fossil fuel reserves and we won't need as many fossil fuel power stations, but if we continue to build those that isn't aligned with the direction the global community has indicated it wants to go in. The further we go down a path that heads towards 6 degrees or 4 degrees, the more we may be putting into assets that can't fulfil the predicted lifetime that may be communicated to investors or to the public.

**Q17 Zac Goldsmith:** I am going to come back to that in one second, but you have mentioned the International Energy Agency's report and that a lot of your analysis is based on their assessment. They take a different view on stranded assets to your report. They argue that only the investments in oil and gas fields that are yet to be developed will have to be written off, whereas in your report you argue that up to $6 trillion worth of investments will be stranded or could be stranded over the next 10 years. Given you are using the same data, I assume, can you explain what different assumptions you were using that led you to reach a different conclusion?

***James Leaton:*** Sure. I think the way the IEA did it the 5% and 6% for the oil and gas essentially refers to the current policy situation, whereas there is also

the 450 parts per million scenario where you would then get a higher proportion.

**Q18 Zac Goldsmith:** Your assumption is you are going to have more political activity or decisive activity?
***James Leaton:*** Yes, or something. Also they have a narrower definition of stranded assets. Essentially, they defined it as where costs are not recovered. We would say that then does not include any asset where you have not spent anything. A company may have the right to explore an asset, and there are lots of fossil fuels out there that have not been started to be developed yet but they still could come into the pipeline and be developed. It is still something out there that we would argue is stranded because it can never go to market.

**Q19 Zac Goldsmith:** Are there any significant signs that the fossil fuel companies have taken on board the possibility of stranded assets accruing?
***James Leaton:*** Yes, the other differentiation is for a commercial company or an investor they want to see a rate of return. The IEA only applied a breakeven requirement before it becomes stranded. For example, what we have seen is some of the large mining companies—like BHP Billiton and Rio Tinto—have pulled back from thermal coal in Australia. Rio has put up 3 billion worth of coal assets for sale and BHP has said it is not investing capital in any new coal projects. It is only completing the ones it has already started.

**Q20 Zac Goldsmith:** Even taking that into account, current trends suggest that we are going to reach a point where there will be these enormously valuable stranded assets, and that seems unavoidable by your analysis.
***James Leaton:*** Certainly, if the market continues to place a value on them and assumes they can be burnt, then there may—

**Q21 Zac Goldsmith:** Then, logically, does that mean that the fossil fuel companies, which are already creating a situation where they will be sitting on what you define as stranded assets, simply do not buy into the possibility of decisive political action on this? Are they just assuming they are going to be able to exploit and realise those investments?
***James Leaton:*** Certainly, the decisions they are making on investing capital in many of those companies are not reflecting that ambition of limiting global warming, no.

**Q22 Zac Goldsmith:** Before I move on, the concept of stranded assets as applied to fossil fuels—this is a question, not a statement—only becomes a reality in the event that there are a series of or a single political reaction. In other words, it is a market that becomes stranded as a result of political decisions and nothing else, is that correct?
***James Leaton:*** There could also be market forces, with alternative technologies the costs are coming down all the time. As soon as you get a relative cost that is cheaper than—

**Q23 Zac Goldsmith:** That applies to all sectors, though.
***James Leaton:*** Yes. I am just saying that, while we are waiting for regulation, solar is already approaching grid parity, and there could be other reasons.
***Dr Ranger:*** General behaviour change could do it as well, but certainly I think aside from the cost of renewables coming down through some break-through, the only thing that will make it happen quickly would be an international agreement; political action.

**Q24 Zac Goldsmith:** Yes. I do not know whether or not we are going to have some of the fossil fuel companies here to talk about what they understand to be stranded assets, but it would be interesting to put that same question to them. The International Energy Agency also predict that even with policies to limit warming to 2 degrees, future revenues from oil and gas will be greater still than in the last few decades. On that basis, is it logical to assume that the attraction to investors is not going to diminish regardless of political decisions? The upside is still very much there and growing?
***James Leaton:*** Some of the assumptions we always look at with any scenario with investors is around the price and the demand compared to, for example, what HSBC did on this. They used a peak demand scenario and assumed that the oil price would essentially drop to $50, whereas the IEA still use quite a high level, even in a 450 scenario, of around $100. I think that is why there is still a high revenue flow under the IEA scenario, whereas I think to us this is where the market needs to do some more research around what are the price implications, what are the demand implications, and how does that feed through to the revenues of the companies.

**Q25 Dr Whitehead:** The question of stranded assets, in terms of the analysis that you have put forward as far as extraction is concerned, also absolutely logically applies in terms of emissions caps that may have been placed on overall emissions and, indeed, national allocations, for example. Therefore, that quite simply means that, say, if you have a gas-fired power station grandfathered until 2045, that will be stranded under your scenario. You will have to decommission it well before it has recovered its costs as far as its asset base is concerned?
***James Leaton:*** That is certainly a possibility. From setting a budget and understanding that, you then go through and have to make political choices about how you use that budget, essentially, a bit like you would with a financial budget. Certainly, the IEA picked this up and they figured that over half of their current generation capacity would either have to be retired early, idled or would need CCS, so it could not carry on for the full predicted lifetime. So, yes, that is something to factor into planning for utilities and infrastructure.

**Q26 Caroline Nokes:** It seems clear from your report that investment is still quite readily flowing into fossil fuels. The report indicated $674 billion last year. What

do you think it is that is driving that continued level of investment?
***James Leaton:*** I think the financial system is still very short term and there have been recent Government reviews—the Kay review—around the short-termism that affects the energy markets. That whole system has various short-term drivers, whether it is the performance incentives for the fund managers based on quarterly performance, the recommendations from analysts, which are based again on the short-term revenue flows from that company and their ability to generate revenues in the short term. So that is not very good at factoring in long-term risks. To them, "long-term" is perhaps more than a year or more than three years, and that does not necessarily reflect the investment strategy of some of those large institutional investors, the pension funds.
There are issues around fiduciary duty that the Kay review has recommended that the Law Commission is looking into, so that it is clear that it should be more of an intergenerational issue, which pension fund trustees and fund managers should consider so that they look more long-term. So, yes, I think the current system is still based around these short-term metrics. If you are looking at an oil company, you are looking at: did you replace your reserves. As long as you have those traditional indicators, which are looking at the future will repeat the past, you are building up this problem. The one thing with climate change is we know the future cannot repeat the past either because of the impacts or because of the limits to emissions. That is why we need some new metrics or some new indicators.

**Q27 Caroline Nokes:** What do you think the non-fossil fuel alternatives are that could produce similar returns for investors?
***James Leaton:*** That is part of the challenge that the investors can probably speak to better. They do need to meet their criteria for investment grade of scale and return, and work is ongoing to create things like climate bonds that can fit that bill. Again, this comes back to the way the market views risk. We think currently it is not factoring in enough of the risk associated with fossil fuels, so you end up with risk being defined as how much you deviated from your benchmark, the FTSE100 or whatever your benchmark is. Even if that went down, as long as you did not go down as much then you have still outperformed the market. Whereas we think you should be looking at how much value you have lost, and we see that there is value at risk here that is not being picked up by the market.
***Dr Ranger:*** Just a small point is that I think another interesting finding of the recent IEA report, which came out a week or so ago, was that the impact on the power generation industry is going to depend very much on how they respond to this risk. Overall, globally, the revenues of the power sector could increase significantly under this 2 degree scenario, much more so than it is now, because of these opportunities for investment in new technologies. If they seize those opportunities, actually, a global deal could be a massive opportunity for them. It is just those companies that can't or don't, for whatever reason, then stranded assets could pose a significant risk.

**Q28 Caroline Nokes:** Do you think investors are already balancing out the risks and having broader portfolios or is there no evidence of that?
***James Leaton:*** There are some funds where you can see it, such as the Environment Agency pension fund where they have a very explicit strategy to reallocate capital at the portfolio level. But I think there is still more work to be done to develop some of the tools to stress test portfolios against different climate change scenarios. I am not sure that the system has developed enough and there are still a lot of these short-term drivers that are holding that back.

**Q29 Caroline Nokes:** Is the crux of the matter that, quite simply, investors do not have the certainty that Governments are going to take the necessary action to tackle climate change so they still feel secure in investing in fossil fuels?
***James Leaton:*** I am sure certainty would help any investor. I think we have seen with things like the removal of renewables tariffs at very short notice, that has certainly warned off investors in some countries when they have been burnt by that. Certainty is definitely a good thing, and, yes, there are still a lot of other areas that are related. It is not just the climate regulation, there are still a lot of fossil fuel subsidies that are in place that do not make it a level playing field. That is a mature industry, yet it still has a lot of subsidies. Again, linking that financial regulation in, we would rather prevent a bubble and a crisis around this by having indicators built in. We have measures now hopefully to look at the financial stability of the banking sector, but we want to understand the carbon stability of the energy sector as well.

**Q30 Caroline Nokes:** Finally, isn't one of the significant problems, as HSBC have identified, that the vast majority of fossil fuel reserves are held either by Governments or by state-backed organisations? Where then does that provide the incentive for Government to take action?
***James Leaton:*** You can certainly see that, yes, some Governments do have a strong interest in fossil fuels. Equally, we are still seeing some of the Middle East countries are actually some of those leading in investing in solar, because they are having to subsidise the use of oil in their own country. It is still a cost to them in that sense. The flipside of that is obviously all the countries who have high import bills currently, because they are importing expensive fossil fuels, would be better off if they developed their own renewables and had energy security. So, yes, it would change the global balance, but I think through all this there are those who are going to seek to adapt and those who don't adapt so well.

**Q31 Dr Offord:** I want to explore the role that financial regulators have in addressing a potential climate bubble. The Environmental Policy Committee's report, back in November 2012, did not mention once climate change, greenhouse gases,

carbon or emissions. Do you believe that the Bank of England is taking the whole agenda seriously?
***James Leaton:*** The Bank of England obviously has had some other issues on its mind, with various crises and LIBOR scandals and a new Governor coming in and restructuring. We are going back in to see them next month, but I think we would certainly question at the moment whether they have the right data and information and indicators to give that view. We can produce our analysis of how much carbon we think is listed where, but when parliamentary questions have been asked there hasn't been a clear response of, "Yes, we are monitoring it. This is the data we use. These are the people we speak to, to assess whether this is a risk". That would give us much greater comfort that they were at least looking at it in a more comprehensive way that we do not currently have.

**Q32 Dr Offord:** How do you feel about the Kay review? Did they take the issue more seriously?
***James Leaton:*** I think it demonstrated some of the problems of the markets. I don't think it followed that through. For us, climate change would be a very good case study of whether the markets can deal with long-term systemic risk, so I think that would still be a test we would like to see applied as to whether the markets are being properly regulated to deliver a long-term system. Yes, I think the fiduciary duty area that did come out is a key one.

**Q33 Dr Offord:** I also understand that you are an advocate of seeking that companies provide environmental information in their company reports. How did you come to make that assertion?
***James Leaton:*** I think partly to help the regulator. Obviously, we see this as a systemic issue, so having piecemeal information does not enable you to build up a picture of the whole system. If every extractive company, which is only a subsector, had to translate its reserves—which we assume most companies know what reserves they have—into carbon, that would be a very simple indicator so we know: is London becoming more carbon intensive, less carbon intensive, what direction are we heading in? So that is the numbers side, and then there is the business model side of it: how does the company's management justify continuing to develop more reserves, when the overall conclusion is we have more than enough already; and how are they going to continue to provide returns to investors in a low-carbon scenario?

**Q34 Dr Offord:** Did you discuss this with any larger investors?
***James Leaton:*** Yes. I think there is certainly interest in seeing how this can be put on the agenda. We have seen other examples, for example, around revenue transparency where the extractive sector is now having to report the payments it makes to Governments for the wider benefit of society. For example, we have talked to ratings agencies and they have said, "Well, we see it a bit like pension liabilities. We didn't used to know whether companies had enough funds in their balance sheet to pay their pension liabilities and now they are required to disclose that". Things evolve over time when we understand new risks and we think this is a new risk worth looking at.

**Q35 Dr Offord:** Do you think that the reporting of such information alone will see a change in behaviour of investors?
***James Leaton:*** No. The transparency would send a signal to the market that it needs to be looked at, and then that would require some further work and some further activity. I think it would certainly send a strong signal that would be welcomed.

**Q36 Dr Offord:** Considering that we are in a global financial context, do you think that introducing these measures into the UK domestic market singularly will be effective?
***James Leaton:*** It would be a good place to start and show leadership. As we have already seen, London is a leading centre for financial services and prides itself on having strong governance. In a sense, the price people pay for coming to list in London is that they have to meet the requirements. We would see that as an additional measure, in the same way that if a company lists in London it has to give an independent assessment from a competent person that its reserves actually exist. We think they should also have to consider is there a market for their reserves. Certainly, London and New York we think are the leading centres that could set an example on this that the international community could then follow.
It is an international issue, you can have an investor in New York holding a fund in London that has companies in Australia that export to China. It is a global system, and there are global standards that we think would benefit from integrating this. But London is obviously a leading place to start thinking about that and take it to those global associations.

**Q37 Dr Whitehead:** One way in which companies could continue to maintain a healthy presence in the market would be by the very scarcity of the remaining fossil fuels, such as they are, depending on the scenario as to whether the rest of the potentially extractable fuel stays in the ground by pricing or by regulation.
***James Leaton:*** Yes.

**Q38 Dr Whitehead:** On the basis of price then, it certainly would be more than possible for companies, if they already have ownership of those existing assets, to make a very good living by pricing for scarcity. Therefore the mechanism of investor flight, because the assets have been overvalued, is countermanded by the value of the remaining assets at that particular point. First, have you looked at how that effect might work, and, secondly, under those circumstances, have you considered whether mechanisms, which basically rely on regulation rather than pricing, would have different outcomes as far as that effect is concerned?
***James Leaton:*** That is certainly one possibility that, yes, oil becomes a luxury good. We would then look at the volume. If you are saying, "You can only produce a third as much oil" how do you know if you

own the company that gets to produce that third or are we saying every company only produces a third? What we see is that different companies have very different assets, in terms of their cost of production and the taxes they have to pay, the royalties, where they produce it. What we think the market should be thinking about is: if this limit is applied for whatever reason what does that mean? If we get a high price scenario, then who is best placed? If we get a low price scenario, who is best placed? At the moment that is not really happening. I think those are all very good questions. We would not second guess the market. If we could we would be a lot richer and doing a different job. But, yes, I think those are certainly things that need thinking through.

**Chair:** That brings us to the end of this part of the session this afternoon. Can I give a very big thank you to both of you for coming along? I hope you will follow the subsequent hearings that we have. Thank you very much indeed.

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**Examination of Witnesses**

*Witnesses:* **Michael Liebreich**, Chief Executive, Bloomberg New Energy Finance, **Donald MacDonald**, Trustee, BT Pension Scheme and Chair of the Institutional Investors Group on Climate Change, and **David Russell**, Co-Head of Responsible Investment, Universities Superannuation Scheme Investment Management, gave evidence.

**Q39 Chair:** Can I start off by saying thank you to each of you for coming along this afternoon? I think that you sat through the previous evidence that we have just heard, so perhaps it will not come as a surprise to you that my first question is to ask each of you whether or not you feel that such a thing as a carbon bubble does actually exist? If you agree, to what extent do you agree with the proposal that has been put forward that a carbon bubble is developing in financial markets? I don't know whether you have a spokesman among you or if you each want to reply. Just for the record, will you say who you are and who you represent at the start of that response. Mr Liebreich, I think you have been nominated first.

***Michael Liebreich:*** I am the Chief Executive of Bloomberg New Energy Finance. We are an information provider of about 200 people that I founded nine years ago and then sold to Bloomberg. What we do is provide news, data and analysis, which was initially on renewable energy but now on energy efficiency, smart grid, electric vehicles, water, gas, nuclear. That is what we do.

I am nervous with the terminology "bubble" because the technical definition of bubbles is that there are all sorts of things that go like that, then they pop and come back down again in some timeframe. There is an issue—I would not characterise it as a bubble—which is whether there is a systemic failure of valuation, an overvaluation of the fossil-related and extractive industries and various other utilities and some other asset classes. I think there is a real issue around that.

Then the question is: how serious is it? Is it just that there will be a nice orderly rearranging of priorities and valuations, and some people will lose money in the traditional way and some people will make money by calling it right? Or might there be some sort of systemic or disorderly adjustment, requiring perhaps some sort of macroprudential intervention? I am much less convinced. I veer towards thinking there probably will be a rather ugly readjustment, but I don't think I would characterise it as a bubble that is going to pop and all that somewhat dramatic description.

**Q40 Chair:** If you are saying that there would be some kind of readjustment, are you thinking that that would be necessary in the short term, the medium term? In what kind of timescale might that happen?

***Michael Liebreich:*** Let me take a step back to what might cause that readjustment. It was characterised by your last witnesses as very much dependent on a global deal. There will be a global deal and then something will happen. What we see, day in, day out, is actually that the energy system is changing. There is a phased change from the old school centralised fossil and nuclear based power system to something that is renewables, lots more efficiency, smart grid, gas, some nuclear, and so on. That change is happening partly because of lots of small legislative interventions, partly because of the underlying economics in the energy sector. I think that is a long-term trend.

Then to answer your question: will the valuations progress in an orderly way, just slowly readjusting, or will there be a mispricing and then suddenly the market is understanding that they have mispriced and then rushing for the exits on certain investments and rushing for the entrance in others? What I would suggest is, let's look at history.

**Q41 Chair:** Which history would you look at?

***Michael Liebreich:*** History would tend to say that markets will misprice for a considerable period of time, and then engage in very rapid and potentially disorderly adjustments.

**Q42 Chair:** Would you compare that with what happened with the banks?

***Michael Liebreich:*** You could compare it to sovereign debt in the last century. I think it is probably more analogous to sub-prime than to any sort of bubble, where you hold these assets, you think they are good, and suddenly it becomes clear that they are not. At that point, the readjustment, the rebalancing of portfolios and so on, feeds on itself as people undertake fire sales to rebalance and then that pushes down the market values even further below book values. As I say, I don't like the terminology "bubble" but I do think we are going to see some rather messy adjustments.

Then you say, "What will the timeframe be?" I don't know. I think it was Keynes who said that the market's

ability to maintain a mispricing will outlast most investors' ability to bet against them. It is very hard to tell at what point the animal spirits will wake up and revalue. We are talking five to 10 years. We are talking five years, around that, not 30 years and not, as I say, purely dependent on what might or might not come out of COP 21, 22, 25, and so on.

**Q43 Chair:** In terms of the investors who you are advising, who are making decisions now about where to invest, is this something that they are acutely aware of? Are they looking to see how to position their investment decisions now, with that long-term view for the next 10, 20, 30 years? Are they asking for this kind of analysis from you yet on climate change issues?
***Michael Liebreich:*** Just to be clear, we don't advise anybody on their investments. We are infrastructure, energy and water analysts. We tend to work with clients who are concerned. There are other analysts who—

**Q44 Chair:** So ones who did not think that would not come anywhere near you?
***Michael Liebreich:*** To be clear, we work with many if not all of the major utilities, the major oil and gas companies and so on, but we are working on these issues of: is there a future that looks considerably different and, if so, what should we do about it? I think if an investor really thought that this was all going to blow over then the chances are they probably would not subscribe to our services.

**Q45 Chair:** If I could perhaps move on to Mr MacDonald, from your perspective as a trustee, do you concur with what has just been said or do you see it through a different perspective?
***Donald MacDonald:*** Well, if I can, our first duty as trustees is a fiduciary responsibility to our members and to the trust. Primarily, we have to ensure that all of the pensions are paid to the right people; the right pension is paid to the right people at the right time. That will continue to be the case until the fund closes, which will be somewhere between 60 and 80 years ahead. For us, climate change is a major risk factor that has to be taken into consideration. That is a mixture of adaptation measures, and we believe mitigation measures will be necessary.

**Q46 Chair:** Can I just interrupt and ask for how long has it been that major consideration? Is it something that has come about in the last couple of years?
***Donald MacDonald:*** No. I would say that, probably, over the last five or six years we have become much more aware of those issues. One of the first steps we did to become more aware of the risks was to take an active part in the IIGCC—the Institutional Investors Group on Climate Change—which I now chair. We took an active part in that, quite deliberately, to try to get to grips with the information, try to get a better understanding of what is going on, and try to look at what best practice is within the investment sphere and to work with our peer group. That includes other pension funds like USS but also with fund managers and with private equity and infrastructure people. So, yes, it is becoming much more on the agenda, certainly of the large pension funds. I think there is a capacity issue for pension funds, in the sense that the smaller and medium-sized funds simply do not have the internal resource to have a look at those strategic issues. They tend to be much more reliant upon their investment and actuarial advisers.

**Q47 Chair:** Just picking you up on why you think the smaller ones don't have the resource to pick up on this, is this because the staff that are in place are there because they are approaching it from a perspective that they have always approached it from, and they have not taken on the new skills to adapt to this new risk that is in the process of being identified?
***Donald MacDonald:*** I personally come from a large pension fund so we do have resource, but for the small and medium-sized funds it is simply a question of the very small numbers of people employed directly by them and they don't have the in-house expertise. It is quite a big investment in terms of time and commitment because, once you get into that, you then have to start engaging with investee companies, with fund managers and so on. There is more to it than just acquiring knowledge. It is then what you actually do with that knowledge. There is a genuine capacity issue, so I think one of the things that we would like to be able to think about is finding a route for the smaller schemes to get involved, and perhaps things like the pension infrastructure platform could be part of that process.

**Q48 Chair:** Then just moving to you, Mr Russell, in terms of the Universities Superannuation Scheme, what is your take on all of this?
***David Russell:*** I am here representing USS Investment Management. We are the fund manager for USS, which is the second largest UK pension fund after BTPS, which is the largest, so you have two very unusual schemes here.
Looking at the Carbon Tracker report and analysis, I think that there seems to be something in the numbers. I don't think you can very easily argue with the analysis that they have done. Our view is that, unfortunately, the basis of some of the assumptions that policymakers will act to implement policies that cause a bubble to burst—hopefully it won't go there—and that there are alternatives to carbon-based fuels, are simply not there at the moment. The evidence we have is policymakers find it very difficult to act. We have seen that in Europe recently with the failure to support back-loading of the emissions trading scheme. We see it in Australia where it looks like, if the opposition gets in, they will unwind the emissions trading scheme there. So, notwithstanding Obama's stance yesterday, policymakers don't seem to be acting in a way that would drive policy to get us to a point where we will see emissions reductions.
The other point on the alternatives is there simply are not the alternatives there yet, which will enable us to have the energy supply that we need globally to replace carbon-based fuels.

**Q49 Chair:** Do you see a carbon bubble actually existing?

***David Russell:*** I think long-term it is very likely, and part of what we do at USS is try to engage with policymakers in different markets to encourage putting in place the policies that would lead to a shift to a lower carbon economy.

**Q50 Chair:** You are saying it is not a question of whether; it is a question of when?
***David Russell:*** I think, yes, it probably is, but when is a very open question. I don't think it is five years' time. I think it is a longer term than that. The IEA in its report would seem to think it is a longer term than that as well.

**Q51 Simon Wright:** Could you give us your insight, please, on the main drivers behind investors' decisions, specifically where support for energy or environmental projects is considered. What relative weight is given to questions of possible environmental or carbon impact?
***Donald MacDonald:*** We have a wide range of investments, really, in all asset classes and in all continents, apart from Antarctica as far as I am aware. What we try to do is to ensure that the issue of externalisation of environmental costs is tackled. Through our fund managers and through the engagement services that we use, we try to engage with the large energy companies, for example, as well as the large utilities, about the externalisation of costs. For us, we do try to integrate the whole issue of carbon and externalisation of costs across the whole of the energy sector.
In terms of new investments, you have to remember that big institutional investors are not only the drivers for investment for renewables but, historically, we are the largest owners of investment in coal, oil and gas. For us, there is an inescapable logic about the Carbon Tracker, the basic analysis about the possibility of stranded assets, particularly in the light of the possibility of major policy change. Therefore, in terms of future investments, there is a preference for low-carbon solutions. There is much greater knowledge about exposure to carbon, and we try to drive that through our investment analysis and into our portfolio. For example, we provided the seed money for a joint fund with the UK Government to set up a renewables fund. It is not particularly big but it is there. We have set up with Legal & General a carbon-tilted index. We take the FTSE All-Share Index but we then introduce a tilt factor into that to reduce the carbon exposure. Basically that is tracking or doing very slightly better than the normal index but with 18% less carbon.
A lot of investors, including ourselves, are now aware of the situation. We are not taking drastic measures, but we feel that there is a transition taking place. I think that some of the companies in which we invest are also going through a transition. For instance, in the mineral extractive industries where there is evidence—and that was referred to earlier on—that some of the larger companies are now reducing their exposure to coal, or actually quite quietly selling off some of their coal assets, because I think they themselves feel vulnerable. So there are mechanisms taking place and there are things happening.
It is becoming integrated into the investment analysis, and we are trying to integrate that into the portfolio. But the truth of the matter is we are all at the early stages of this and we are trying to come to terms with what is a really big issue. It is one that is going to be a long-term issue because trapped assets for carbon is only part of the challenge that we face with climate change because water, energy, food, agriculture, property, everything is actually affected. We have already taken very rigorous measures, for example, to protect our assets and property against the risk of flood and drought and all the rest of it. There are very significant areas and the possibility of stranded assets is one that we have to address, but I think we should do it within a holistic approach to climate change.
***David Russell:*** From our perspective, I would like to break the climate change issue into two parts that affect investors. First, there are the policy risks, the emissions trading cost. If you are an investor in utilities or cement companies in Europe, you have to understand how climate change policy is impacting your assets because the emissions trading schemes currently gives carbon a very low price in those sectors, but there is an emissions trading scheme and you have to understand how that impacts your investments and look at how policy is developing.
The other bit of the climate change issue is the changing climate. That is far more difficult for investors to deal with mainly because it is a timeframe thing. This is an issue that could be happening now or it could be happening in 15, 20, 40 years' time. How do you, as an investor in a retail company, look at the climate change impacts on that retail company? There are ways of doing it. Three or four years ago USS joined up with a number of other investors in the UK to look at how some of the sectors that we were investing in were looking at the need to adapt to climate change. From that analysis, basically, the water utilities were doing a reasonable job there, but other sectors we looked at were not really looking at it. So that issue of how a changing climate is taken into account by the companies, and other assets in which we invest, I believe is some way behind the issue of policy risk and cost of carbon, which can be more built into investment decision-making.

**Q52 Simon Wright:** HSBC believes that lower fuel prices, driven by a fall in demand, is a greater risk to the value of oil and gas companies than investment in stranded assets. Would you agree with that?
***Michael Liebreich:*** I am not sure you can distinguish between the two, in the sense that if you look at the new sources of oil as being Brazilian subsalt, if you look at the Arctic, if you look at tar sands, they have very high costs of production. Whether your price drops because you can do Brazilian ethanol competitive at $45 and $50 per barrel, whether it is because electric vehicles become cheap enough, whether it is because a tax is put on, the point is there is a risk there to the investors for whatever reason. Perhaps for the purposes of today the idea is to focus in on the climate risk, and the risk of action on climate, as driving some of this. I think those risks are there and they are very real, whether you can ascribe them to that single cause or not.

***Donald MacDonald:*** Might I just add a point to that, because I think one of the difficulties that pension funds have, particularly mature schemes, is the vast majority of our members are drawing a pension and we have a relatively small number of contributors nowadays. It is a big gamble to take for a pension fund, with major responsibilities to beneficiaries, to put the shot on a bet on the price of oil because, as we have seen, the price of oil can be quite volatile. Oil and gas prices have separated relatively recently because of the fracking technology and, of course, Lord Browne was quoted not very long ago as saying that, having been in the oil industry all of his life, trying to anticipate oil prices, he was never terribly successful at it. I think he is in a much better position than a pension fund would be to make that sort of analysis and bet.

From the point of view of a pension fund, the issue of fiduciary duty, and how we respond to that, is very critical. A rapid response, by getting out of oil for example, could mean severe loss of revenue over what could turn out to be quite a sustained period of time. On the other hand, a "do nothing" scenario could also expose risk in the other direction. I think each pension fund will probably have to try to find a balance of risk, share that information and learn from each other, and try to make an informed judgment as to the best way for them to proceed. Is that helpful?

**Q53 Simon Wright:** Yes. There is often talk about political risks associated with uncertainty over energy policy and how this influences investment in renewable energy projects specifically. I guess there is always an element of political risk with most things, but just how clear cut is that risk in your view, specifically over renewable energy investments? How does that political risk compare with other types of energy investments?

***David Russell:*** It is an absolutely clear risk, and the best example that we have is what happened with Spanish photovoltaic investment about two years ago. In the last few years of the last decade the Spanish Government put in place some very generous tariffs to encourage significant investment in solar energy in Spain and, not surprisingly, investors took advantage of that and built and developed a large number of PV sites. Unfortunately, post 2008, that became unaffordable for Spain, and what Spain decided to do was to retrospectively change its tariff, which is almost unheard of. It really does not happen very often that you make an investment decision, based on what you are told you will earn from that investment, and then they say, "We are going to change the rules". That does not happen very often. The knock-on implications for that is not only for the investors who were invested in the Spanish PV sector, where we did lose money, but it raises the risk level for investment in renewable energies across Europe, if not globally, because investors now consider the additional risk that someone else might change their tariffs retrospectively has gone up. If it can happen in a developed market, like Spain, it can happen almost anywhere.

***Michael Liebreich:*** Let me add to that. That is exactly right. I have just come back from Asia and I talked to some of the most significant infrastructure investors in the world, organisations that are always in the top three or five debt providers to infrastructure of all sorts. One of them said to me, "We are not doing any deals in southern Europe, none, not in any sector". The reason is they say, "Country risk we can deal with, but retroactive changes we cannot.". Very obviously there is a contagion, first there was Spain, then there was Greece, then there was Bulgaria, now Romania; even Belgium has made retroactive changes that affect the returns. We are not talking about a company making a technology and the market might be there and the market might not. We are talking about projects where you do the spreadsheet, you think you have managed all the risks and then, retroactively, somebody comes along and says, "That line there, you know you thought you were going to get this revenue, you are just not". It is equivalent to a sovereign default. So it is very real.

I would point out a couple of other things. With renewable energy in many cases most of the cost is upfront, very little maintenance and no fuel cost. It is very, very sensitive to cost of capital. If you look at gas, it is cheap to build but you have to buy the gas for a long period. Clean energy, renewable energy, is very sensitive to cost of capital. So messing with the cost of capital, by doing things that make people demand extra risk premiums, is circular because then you drive up the cost. Of course, if you drive up the cost, it then becomes more politically difficult to maintain whatever support you have in place. There is a sort of circularity that goes on there.

Also, I would say, "Look at the contagion". Originally it was Spanish solar, but the words that one hears are "Spain" and then, therefore, all of Europe. Then you hear "solar" and so it spreads to other sectors across clean energy. Retroactive changes are a behaviour that we have not seen in other heavily regulated sectors. It does not happen in telecoms. It does not happen in aviation. This is no different from confiscation of landing slots or whatever. You just don't see it without proper consultation, without signalling of intent and so on. I would say right now it is one of the key issues, certainly, in the renewable energy sector but really in the energy sector worldwide.

**Q54 Peter Aldous:** Looking at how Britain is viewed in this respect—and I will give you two examples: the retrospective windfall tax on oil and gas exploration in North Sea in the 2011 Budget; and then there was the fairly sudden reduction of FITs in the solar sector—I welcome your views on how those were viewed in the marketplace.

***Michael Liebreich:*** I am fresh from this experience of meeting probably 200 investors in about seven or eight countries in the last month. I think Britain is seen as a good location to invest. We don't generally engage in retroactive confiscations. Occasionally we have done other windfall taxes in oil and gas—going back to the 1980s, I believe—but it is not regarded as the rule. I don't think that has really spooked many investors.

The solar one was more of a worry for clean energy investors, partly also because the solar industry's response to sue the Government was probably the best

possible way of signalling that it could not possibly survive without elevated levels of Government support, which ultimately turned out not to be the case. So I think the solar industry bears equal blame in that situation, but it was a damaging situation.
***Donald MacDonald:*** I totally agree with what Michael is saying there. The UK does have a good track record. From the pension fund point of view, probably, we would like closer discussions with Government on infrastructure. I believe there may be some sort of announcement coming out shortly, so we will see where that takes us. But, yes, the UK is generally seen as a stable country in that respect.
New technologies do need some form of stimulation. There has to be a degree of certainty. Of course, the argument the other way could be that too much subsidy for too long stifles innovation. The trick, from the policymakers' point of view, is to try to get the stimulation and provide the incentivisation but do it in a way that does encourage innovation and improvement. I think the investors would be willing to work within that dialogue.
***David Russell:*** To add to that, the difference between what happened in Spain and what happened with the FITs in the UK—the short notice was one of the concerns the sector had—was that it was not retroactive. It was for future developments. It wasn't for those people who already had PV on their roofs. So that was a significant difference between the two markets.
**Peter Aldous:** Just for the avoidance of doubt—Madam Chair, I wasn't here at the beginning of the session—I should have started off by declaring that I do have interests in farms where renewable energy projects are being pursued.

**Q55 Chair:** That is absolutely fine. Can I just go back to what you were just saying, Mr MacDonald, about the infrastructure plans that are being announced? You said it would be helpful to have some kind of dialogue on that. What would be the mechanism for doing that?
***Donald MacDonald:*** There are a number of mechanisms coming into being. The pension funds were involved in discussion with Government in setting up the Pensions Infrastructure Platform, which, from memory, I think is designed to generate something like £2 billion to £3 billion of investment. Once it is all in place, and they appoint a manager and so on, that should provide a helpful opportunity for the small to medium pension funds to become involved, and perhaps the larger ones as well. The larger pension funds are already in the space working through a variety of avenues, partly through private equity, partly through direct investment and so on.
If and when there is a new tranche of infrastructure projects coming out, I think it would be very helpful for the Government to try to directly engage—whatever they can do—with all of the institutional investment players. That obviously includes the pension funds but also the investment banks, the private equity and the venture capital sectors, because all have roles to play but they might not be the same role. There is an interesting discussion going on within the investor community about risk capacity: who takes on the technology risk; who takes the build risk; who then does the long-term heavyweight, the more boring stuff, providing the capital for interconnectors, for example, which is hugely capital intensive, not terribly exciting. You are looking towards a fairly long long-term approach, which may not be of interest to the private equity or the venture capital people. So there is an issue of churn that comes into play, and I think the more dialogue the industry can have with Government—and that is the various parts of Government, including the Treasury, I think—then the better.

**Q56 Dr Whitehead:** Looking specifically at investments, Mr Russell, I think your fund has by far the largest single holding in Royal Dutch Shell and your fourth largest holding is in BP. Is that anything you have given any thought to over the period? How do you see those holdings, in the light of what we have been discussing relating to your fund investors?
***David Russell:*** As a UK pension fund, we are heavily exposed to the UK market, which is the FTSE. If you look at the structure of our holdings, the top 10 will probably be the top 10 that are in the FTSE index. I am not here to defend Shell or BP or HSBC, which is our largest holding, or Nestlé, on anything. If the companies come in there will be an interesting discussion there, I suspect. From a climate change perspective, Shell is a company that is exposed to oil sands on one side and gas development on the other side. It has a big bio-fuels business buried within itself. It is also one of the few oil companies that is involved in carbon capture and storage in Alberta, associated with its oil sands developments there. So, yes, it is an investment we have, but we invest in basically everything in the UK as a holder of the UK index.

**Q57 Dr Whitehead:** From your point of view, as a fund manager, do you see how or whether those sorts of considerations are likely to change your view of the relative nature of holdings within your fund?
***David Russell:*** What we do with Shell and BP, and other oil companies and other companies in different sectors—for example, the mining sector—is actively to engage with them on how they are responding to the climate change risks that they face, whether that is the cost of carbon or the physical impacts that our changing climate could have.
As a UK pension fund, we don't have an ethical screening policy. As I have said already, we hold everything in the UK market but we do actively engage where we see risks or opportunities for these companies. Shell would be an example of that where we do talk to management on a regular basis about how they are dealing with these issues; how they are engaging with policymakers around these issues. So we do actively talk to companies around climate change and other related issues.

**Q58 Dr Whitehead:** Mr MacDonald, on the other hand, among its highest investments, your fund has bonds and Treasury bonds and you don't appear to have much in the way of investment in oil and energy companies. Is that correct?

***Donald MacDonald:*** That has become the case. We have changed that over a period of years, not because of the carbon issue but simply because we are now a mature scheme and, with regulatory compliance, we have to have a very conservative approach to investment, particularly with over half of our members already being pensioners. A huge slice of our assets nowadays is in bonds and in other assets; we have a 5% allocation for infrastructure for example; we have 11% allocation for property. So we don't have significant holdings in listed equities as we used to have and that has been reduced, but it is more for fiduciary reasons and prudence rather than because of the carbon issue. If we were a younger and expanding pension scheme, as is USS, our capacity for risk would be much higher and, therefore, our equity exposure would be higher.

***David Russell:*** Just to complete that, we are still a growing fund. An immature fund is what we would be called. So we do have a higher equity rating than mature funds like BTPS. Also, because we are a direct investor, you can see what we are investing in, because we publicise that on our website. That is one of the reasons we come up top of the list of shareholders in companies, because we do directly invest and our name is against the shareholding whereas, for many pension funds and other investors, they are hidden behind a fund manager in an account where you don't get a separate name.

**Q59 Dr Whitehead:** In general, funds do hold diversified portfolios, offset higher risk against lower risk. In your view, what might that look like in terms of some of these considerations we are discussing; in terms of the sorts of ways that one might hold funds in the future?

***David Russell:*** Currently our holding in the oil and gas sector, globally, is about 7.5% of our assets. For mining it is about 3%. For utilities it is about 0.5%. So that gives a spread of some of the more exposed sectors. We have something under 1% in renewable energy/clean tech, which is a relatively low percentage but actually, if you look at other pension funds, that is not a bad level of investment. That is in renewable energy funds, or lower carbon funds, which has more exposure to direct gas as well.

Going forward, something that pension funds in general are looking at is greater investment in infrastructure, and renewable infrastructure is just part of that. With BTPS and another organisation, we were bidding for the OFTOs, which is the connectors that connect offshore wind to the land. Basically, it is the network that provides electricity so people can use it. We are looking at direct investments in renewable energy in the UK. There has been a change in regulation within Europe. There is something called the unbundling regulations that basically stated that you could not own generation and the network because you could corner the market, so to speak. That was put in place a few years ago, mainly to stop utilities holding both distribution and generation. But it also impacted pension funds. So we could not invest in the OFTOs, which provide us with a very stable long-term return, and invest in generation. So we could not buy wind farms directly, and that is something we have looked at in the past and will look at in the future.

One of the issues in the UK is that the onshore wind farms tend to be very small. As a fund, we would prefer to buy existing assets rather than build new wind farms and build new infrastructure, because there are different levels of risk associated with that, whether it is planning or technology, or whatever. But it is something we will look at going forward.

***Donald MacDonald:*** May I just add to that point? It is this business of the technology and build risk. Sometimes we have been asked, "Why don't you own more wind farms?" "We do own wind farms." "But why don't you own more? Why don't you do start-ups?" The reason for that is partly—as we said earlier—we are not the right people to do that. It does need the venture capitalists to do that; the people who really know that sector. But the good thing is the churn of investment. Having churn does not necessarily mean it goes against long-term investment because, once that stuff is built, if the long-term pension funds then come in and take it over for 20 or 25 years, that then frees up the capital that the venture capitalists and the private equity people have at their disposal. They can then allocate that capital to new technologies, into new innovation. That is an example of how the capital markets can work very effectively. I think we should realise there is a different capacity for risk and there are also different capacities for scale. The large pension schemes will tend to look for the very large and boring investments rather than small investments. Small investments are probably better for pooled vehicles where a whole number of different projects can be wrapped up by a single manager with perhaps a number of clients. Is that helpful?

**Dr Whitehead:** Yes.

**Q60 Peter Aldous:** In the first instance I will address this to Mr MacDonald. Could you tell us a bit more about the Institutional Investors Group on Climate Change that you chair?

***Donald MacDonald:*** Yes, certainly. I am very honoured to chair it. We are a European-based organisation, originally formed by investors in the UK. My own scheme has only been a member of it for a handful of years. We weren't among the founder members, which I think included my colleague from USS. We have over 80 members. In total, their investments are worth something of the order of €7.5 trillion. I would guess that only a very small part of that would be in renewable and clean tech at this stage. What that reflects is the fact that a lot of very heavyweight investors recognise climate change as a risk to their long-term portfolios. There is a recognition of the need to understand the risks, share best practice and see how well we can then adjust our portfolios and what investment measures we can take to either adapt or to mitigate those risks.

**Q61 Peter Aldous:** Can you point to a specific impact or win the group has had?

***Donald MacDonald:*** Yes. Certainly, over the last two years, a lot of our work has been in the public policy space, trying to identify the obstacles to institutional

investors investing in clean tech or in low-carbon technologies. Because so much of our work is European-based, and so much of the regulatory environment is set in Europe, the two big issues that we had were Solvency II—as applied to pension funds and insurance companies—but also the unbundling regulations, which were designed to improve competition. But of course, as usual, the law of unintended consequences kicks in. We have spent a long time discussing with the Commission, with the member state Governments and with other interested parties.

For instance on Solvency II, as you know, there was a huge coalition of member state Governments, employer organisations, trade unions and investor groups, such as ourselves, and so on. Certainly we have pushed it back, at least for a temporary period, pointing out that the rigorous application of Solvency II, in the way that the Commission was describing, would effectively restrict our ability to invest in infrastructure, and all of the other things that are required, and will be a serious inhibitor factor. The energy unbundling regulations were not terribly well understood to begin with and, again, we were involved in building up a coalition—involving even people at the OECD—who referred to both Solvency II and the unbundling regulations in their documents about obstacles to investments.

I think on both of those counts, on Solvency II, at least we have been able to push that back for the time being. Of course there is a new Commission going to come in next year. We don't know yet what the end game is going to be. The Energy Commissioner has issued a statement on energy unbundling, saying that the unbundling regulations should not necessarily inhibit investment in both generation and in infrastructure. Our concern now is, well, that is fine but when those opportunities for investment come up, once the process of due diligence has been gone through, the assembling of partners and actually putting in a bid, sometimes that bid can be narrowed down to a two to three week period, as it has done in some of the bids so far. In that situation, we need to be able to have that information turned round very quickly at Commission level. So we made those points to Philip Lowe at DG Energy, and I think that there is a willingness there. That demonstrates the value of investors working together because the public policy areas are terribly important for us, because those obstacles need to be addressed and we need to look at incentivisation; we need to look at clear policy signals; we need to look at signals to the market. All of those areas are important for us and we have been very active and, I think, successful in that area.

**Q62 Zac Goldsmith:** Just for Michael first. You were talking about mispricing earlier in your introduction. What do you think will cause that mispricing to become obvious to the market and for the adjustment to happen? In your view, is it likely to result from political acts and decisions, or from emergence in technology or a combination of the two? What will trigger that moment do you think?

***Michael Liebreich:*** It is very difficult. First of all, this is really complicated stuff. Energy is hard. It is 10% of the world's economy, but it is also very dynamic. You have long asset lives; you have heavy regulation; you have new technology. I think that the mispricing is partly just human weakness. It is impossible, I now have 214 people. If I could double my staff, we still would not have perfect knowledge of all the costs, prices, policy interventions, technologies and so on. I think what you have is the right model. It is just an eco-system that is changing from a prairie to a rain-forest and, at some point, individual people and then groups of people will realise that the future does not look like the past, to use the words of one of the panellists.

People put too much faith in a global deal, because that would clearly send a big signal. My own view is that that will follow many, many different micro economic changes, cost reductions in all sorts of technologies and, also—I don't want to belittle them—lots of individual interventions, as we have just heard from my co-witness here. Those will build up to the point where people have "Aha" moments and think, "Hang on a second, why do I have only 0.5% in this stuff and 7% in the other?" and they will rebalance.

**Q63 Zac Goldsmith:** Do you think there is anything specific that the Government can and should do to help address that risk and perhaps ensure that, when it happens, the adjustment is not profound but more manageable?

***Michael Liebreich:*** The answer is, yes, I think there probably is. Again, on the earlier panel there was some conversation about disclosure. I am not sure if the first thing to do is disclosure or the next thing on my list, which would be stress tests. There are believable scenarios where you could see a rapid adjustment. Whether it is an oil price drop, whether it is a bad hurricane season, leading to the Americans moving more quickly on policy, there are scenarios where you can see quite a rapid adjustment. I would certainly suggest stress tests to look at: does that mean that people start breaching covenants? Having to engage in fire sales? What does it do? Are there other contagion issues? Can one rebalance portfolios? One should at least be looking at that. So I think disclosure and stress tests would be the first thing.

In a sense, you have reserve ratios already to protect macro stability. Whether you want to move to reserve ratios of, "You are not allowed to have more than this amount of carbon or fossil fuel"—that is really dangerous stuff. It may be that it is necessary, but I think first would be the stress test and disclosure and really understanding the dynamic of the system much better.

**Q64 Zac Goldsmith:** Before I come to the other two panellists, there have been quite a lot of calls recently for the Financial Policy Committee of the Bank of England to take a more active interest in carbon risk. Is that something you support?

***Michael Liebreich:*** I think they should be the ones doing or managing those stress tests because, if this issue leads to a disorderly rebalancing of portfolios and potentially contagion, in terms of the valuations of assets, that absolutely is their business. It is always

good to ensure that the last crash does not happen again. But I would like to think that there is at least as much thought going into scenarios of potential future instabilities, and I do see this as one of them.

**Q65 Zac Goldsmith:** Can I come to the other two and actually go back to the first question. For both of you, what would be the most useful practical thing the Government could do, in order to make it easier for you to shift your focus more towards low-carbon investments and away from some of the investments we were hearing about earlier?

***Donald MacDonald:*** With respect to the Select Committee, I think the greatest contribution that Government can make is to try to depoliticise and make the whole issue of climate change less partisan because I think, to a certain extent, there is a public policy issue in there and that is quite worrying.

**Q66 Zac Goldsmith:** Do you think things have become more politicised on these issues?

***Donald MacDonald:*** For example, there is a tendency for sections of the press to play up the politics of climate change, in a way that I don't think is justifiable. But that is my personal opinion. From the point of view of the investor, I think that is a worry because it does create policy uncertainty. Nobody wants guarantees, but they want strong policy signals. What we want is a much clearer longer-term approach from Government, which recognises the fact that there are different layers of capital available for different periods of time. For the very big heavyweight investors, long-term investors, security of policy I think is really important.

**Joan Walley:** Can I just bring in Peter Aldous on that point?

**Q67 Peter Aldous:** Mr MacDonald made a comment there, which I think had all of use shaking our heads quite vigorously in agreement, which was depoliticising climate change. I would welcome your views about how we might go about that.

**Chair:** We are coming to the end of the session.

***Donald MacDonald:*** I wish I knew. We would be very happy to work with you to assist in that matter. Policymakers have to sit down and say, "What is the scientific opinion?" We are not climate scientists. We have to take the best informed opinion on energy, on climate science, in the same way as we have to take the best informed opinion on transport, on agriculture, on food policy and so on. I think there seems to be something different about the way that climate science is approached in the political arena. It is becoming a bit of a football, and I think it is to the detriment of the long-term interests of citizens. From a pension fund point of view, it is to the detriment of the long-term interests of our members. From the political point of view, from your point of view, you would probably benefit as well from a more harmonious approach to the issue. So anything we can do, we would happily help.

**Q68 Chair:** There was an all-party agreement before the Climate Change Act was introduced.

***Donald MacDonald:*** Yes, indeed.

**Q69 Zac Goldsmith:** Before I move on, do you want to add anything?

***David Russell:*** Yes. There is no doubt that over recent years the UK has been one of the leading countries in trying to drive global policy to address climate change, but in the last year we have seen DECC arguing with itself about renewable energy and land-based wind farms; we have seen a section of our MEPs voting against the Government's position on back-loading in Europe. So the signals being sent to the market are that policy on climate change is all over the place at the moment within the UK. That does not strengthen our confidence in investing in renewable energy or in energy in general in the UK, because of the way that carbon is all through that system. One of the strong things that the IIGCC, as a group of investors, have been pushing for is supporting back-loading and supporting a strong carbon price. That sends a signal to the market, for the foreseeable future, that this is the direction of travel and we don't keep jumping around in that direction of travel because that again reduces confidence.

**Q70 Zac Goldsmith:** If I could ask for quick responses because I do want to come back to you on that point. Do you believe in greater reporting by the oil companies on the potential carbon emissions in their reserves, and would that have any impact on your investment? Briefly.

***Donald MacDonald:*** We actively ask our managers to engage with the oil companies on all carbon emissions and to go for maximum disclosure. The more information that is available on that will ultimately affect the pricing mechanisms. The market will have to take those issues into account. One of the problems in all of this is that, in terms of environmental concerns, those costs have been externalised for a century and it is going to be difficult to recover that. I think we need to go there and we are actively working in that direction.

***David Russell:*** Just looking at the data available about the oil companies in particular, if you work out what the reserves are, Carbon Tracker has calculated what their carbon exposure is—it is possible. The next step then is to give that meaning and that is where the policy comes in. It is just numbers without having a price on it.

**Q71 Zac Goldsmith:** Can I come to you in one second, do you mind? Just a last question relating particularly to Donald MacDonald. In terms of influencing the direction of your investments, and the nature of the investments, would active pressure by your pension fund members be the thing that would have the biggest immediate impact, do you think?

***Donald MacDonald:*** Pension fund members becoming involved in that, undoubtedly, would change the nature of the equation. In my own scheme we have not had a lot of pressure from our members. Obviously some members do have a point of view on this. Other schemes—and I think it is probably because of the nature of the schemes—I would imagine that the University Superannuation Scheme probably has a more active layer of people who are

concerned about that. But we have not had that pressure from our members. We are doing it and we are reporting on it to our members.

**Q72 Zac Goldsmith:** How would that balance then match up with your fiduciary duties? Do you think they would get in the way of the shifting nature of the investments?
***Donald MacDonald:*** Active involvement of the members in the area would impel pension funds to actively consider the whole issue much more vigorously than they have done in the past. I think that would be true for every single pension fund. At the moment, I don't think pension funds are on the back heel on any of this, but I think it is quite possible that in the future there will be more activism oriented towards pension fund members.

**Q73 Zac Goldsmith:** Is that already the case with you?
***David Russell:*** There is a group called ShareAction, which is a campaign organisation that runs various campaigns to encourage pension funds to look at these sorts of issues. They recently ran a campaign on the stranded assets issue. I checked yesterday, we have had 80 emails around this issue. We have 300,000-ish active, deferred and other members, so it is a very small proportion that is involved in this particular campaign, fewer than we have had in other campaigns. Before ShareAction it was called FairPensions and before Fair Pensions it was called Ethics for USS. So we do have a relatively active membership around these issues.

**Q74 Zac Goldsmith:** Just as a last question, unless anyone else wants to come in, and I only want to comment on something before you or even perhaps after you. On this issue of political uncertainty, given what you know about the growth in the green sector, given what you know about the success story of the last few years, why do you think that we don't have sufficient commitment across all levels, all parties, in terms of Shadow Ministers, Treasury Ministers and so on? Just purely from the point of view of economic growth and development and opportunities and jobs, why do you think that message has not got across? How is it possible this is still as political as it is?
***Michael Liebreich:*** That is a very big question.
**Zac Goldsmith:** I know.
***Michael Liebreich:*** It involves sociology, media studies and all sorts. But, broadly, I would say that the reason is that those who feel the problem most urgently tend to come from—how shall I put it?—a more interventionist, statist or a more collectivist tradition. I am trying to do this in a very neutral way. The Left feels the problem very urgently, but the solutions that it proposes are just so difficult for the Right to accept. There are very few people—you are one example—who come from the Right who also think this is a really, really big problem and are able to think of solutions that are not on that single line spectrum.
So what I see is people on the right of the political divide—and this is whether it is in the US, the UK, Germany, Japan—tend to so dislike the interventions that are being suggested, that they go back up the food chain and say, "This can't possibly be a problem or, if it is a problem, then it is much less of a problem than the solutions that are being foisted on us". Tactically it has become a football, for all sorts of reasons, on both sides of the Atlantic, but I think that both sides of the polarisation have been equally at fault in that. What the solution is, is perhaps for a separate session.
**Zac Goldsmith:** You wanted to add something else.
***Michael Liebreich:*** I want to come back in on the question of disclosure. It also relates back to your point about Shell. There are rules, and for oil companies it is not difficult to find out what their carbon exposure is because it is directly related to their reserves. But what the most responsible oil companies are doing—and Shell is a good example, so is BP—is using a shadow price for carbon in their investment decisions. I believe it is $40 per tonne in the case of both of those. In a sense, that is equivalent to a scenario saying, "Well, if there was a $40 price, would our investment be resilient?" because, if we can only extract one-third of the reserves, then the answer to, "Who is going to get to do that?" is the ones who have used a shadow price and only invested in things that are profitable in that environment.
One, not many oil companies do that. Two, lots of other companies that might be dependent on fossil fuel, whether it is utilities or the car industry and so on, have not gone through that exercise. If you look at companies, the Glencores or the Billitons and so on, have they done that exercise? Have they shared the results with their owners? It is not a question of suddenly there will be a $40 carbon price; it is a question of how resilient is our system?
I can't let the session finish without mentioning the ratings agencies. The question is: are they looking at the micro and macro resilience as well? Are they saying, "Well, what would happen in a scenario with a carbon price and so on?" They have a privileged position in the financial system, where a lot of municipalities, pension funds, life insurers, the only risk assessment they have to do is to make sure that there is a rating by a proper ratings agency. So they have a very important position, and they are not running this sort of stability scenario, and this is possibly one place where—and I don't know how the mechanics would work—there should be more scrutiny of the methodologies ratings agencies are using on this.
**Zac Goldsmith:** Thank you.
**Chair:** I sense that we have reached the end. We certainly have time-wise and we have gone into extra time. Between the three of you, you have raised a huge number of really far reaching issues, which sooner or later will have to be addressed and tackled. So can I thank all of you for being so generous with your time with your evidence this afternoon? I don't know how long our inquiry will go on, because so many issues keep on being raised, but thank you very much indeed.

## Thursday 12 September 2013

Members present:

Joan Walley (Chair)

Peter Aldous
Mark Lazarowicz
Dr Matthew Offord
Mr Mark Spencer
Dr Alan Whitehead

### Examination of Witnesses

*Witnesses:* **Shaun Kingsbury**, Chief Executive Officer, Green Investment Bank, **Tessa Tennant**, Non-Executive Director, Green Investment Bank, and **Jonathan Maxwell**, CEO and Co-Founding Partner of Sustainable Development Capital LLP, gave evidence.

**Q75 Chair:** It is a great pleasure for the Environmental Audit Committee to have the opportunity to come and visit the Green Investment Bank in its very new office space. Thank you very much Shaun Kingsbury and your colleagues, Tessa Tennant and Jonathan Maxwell, for arranging for us not only to have this session here today in Edinburgh but to have an opportunity beforehand to have a very brief but nonetheless detailed look at the facilities and accommodation that you have here. By way of context, it is important to note for the record that this Environmental Audit Committee undertook a previous inquiry, so it is quite right that we should follow that up and see just how much of what has been agreed is now being put into policy and followed through.

First, to get us started this morning, is there anything you would like to put on the record about your long-term views and where you feel you are now in the great order of things?

***Shaun Kingsbury:*** Thank you very much and welcome everyone. I am very pleased you could make the trip; it is great to host you here today. The office really is new, it is a couple of weeks old, so as we showed you around, we tidied up all our boxes—we had just moved in. Let me introduce my colleagues and ask them to say a few words of introduction and then I will make a statement about where we are with the Bank.

***Tessa Tennant:*** My name is Tessa Tennant. I am Chair of the Interim Green Committee of the board of the Bank. My background is in green finance. I was involved in launching the UK's first green investment fund in 1988 and I have been active in the field ever since.

***Jonathan Maxwell:*** My name is Jonathan Maxwell. I am the Chief Executive of Sustainable Development Capital. We act as a fund manager for the Green Investment Bank within the energy efficiency strategy. Sustainable Development Capital—as the name portrays—is focused exclusively on arranging finance for the sustainable development markets. Our investment business is involved exclusively with investing in energy efficiency projects.

**Q76 Chair:** Thank you. What I will say, both to you as witnesses and to my colleagues, is that it is important that we speak up and try to use the microphones as much as possible to assist with the transcription that we will have from this session today.

***Shaun Kingsbury:*** Let me say a few words to introduce the Green Investment Bank. Our role in life is to catalyse private sector investment. We have £3.8 billion of initial capital from the Government to do so, but our job is to bring in private sector money because of the scale of the challenge of moving the UK towards a more green and sustainable economy. Estimates show that it will require approximately £200 billion to be invested in the next 10 years, about £110 billion of that in low carbon generating assets. We have a concept here of investing that with a double bottom line; it is a financial return on those investments and a green return. We measure the financial return, as you might expect, by profits or project IRRs; we measure our green return by looking at things like green power produced, avoided $CO_2$ emissions and avoided waste to landfill or better recycling rates. We are a for-profits bank and we are focused on making a return on that capital. Everything we do is aimed at being additional to the market. By that I mean that we look for projects that are both green and profitable but are short of capital. We come in and try to bridge those projects through to a final investment decision so they can move ahead. We have to crowd in rather than crowd out capital. By getting projects that were previously stuck to move forward, that private sector money gets moved in but it is not our job to go and elbow our way into projects that are already financed and do not need our money so we would be crowding out the capital.

We can invest anywhere into a project, but we are an infrastructure investor. We don't invest in venture capital or technology, we don't invest in project development or private equity type investments. We have an infrastructure mandate, which was agreed with Brussels when we established the Bank. We can provide capital into the debt or the equity or a mezzanine strip in a project, as long as it gets an appropriate rate of return.

When we established the Bank and we had these discussions with Brussels, we agreed with them that there were four key areas that we could invest in—the areas that needed the most capital: energy efficiency, offshore wind, waste to energy and waste recycling. We must allocate approximately 80% of our capital there, and we can put up to 20% of our capital into the non-priority sectors. Those are biofuels—it really means biomass to power for us, that is the area we are focused on—and carbon capture and storage or wave and tidal. We have been up and running now for nine

months. As you said, we have just moved into this office. We were in temporary accommodation in Edinburgh before that. Edinburgh is our head office. We have about 85 people between London and Edinburgh, about 50 in London and 35 here. In our first year we committed to 11 transactions with about £635 million committed. That catalysed about £1.6 billion of private sector money on projects that were previously stuck. In total, £2.3 billion of capital was brought into the market. This year has been a bit quieter; we are off to a slower start. We have invested in two projects, committing about £70 million of capital and catalysing in total just over £350 million. Our transactions last year represented just over 40% of the market and this year just over 30% of the market in the year to date.

I hope that that is a good introduction. I am happy to take any questions.

**Q77 Chair:** It is a helpful résumé in terms of our questions. I want to start off with something that you have not mentioned so far but that came up when we had the session that launched this current finance inquiry at the Guildhall. I am talking about community renewable energy schemes. At that session we had evidence from Robert Rabinowitz about the impact that community renewable energy schemes can have. Since then, there has been a report by the Green Alliance policy insight looking at the potential of community energy. I would be interested in your views, given the tendency for the major power companies and so on to dominate the whole sector. Could you set out for us what help you are able to give these community energy schemes? Many Members of Parliament and constituencies all around the country want to find ways of getting them set up.

***Shaun Kingsbury:*** Speaking personally, we are very interested in being able to participate in community renewables. When we agreed the set-up of the Bank with Brussels, they did not differentiate community renewables. They have renewables split into solar, wind, offshore wind, biomass and so on. Community renewables is really about smaller scale projects; they could be hydro, they could be solar, they could be two or three onshore wind turbines—those types of projects. Unfortunately we are precluded from investing in those areas, which we think is a great shame. We are, at the moment, preparing to go back to Brussels to try to demonstrate to them that that area does need new capital—that there is a lack of capital to support these projects—and have our investment mandate extended to participate in that. However, today I cannot, I am afraid.

**Q78 Chair:** Can you then set out why it is that Brussels and the definition that they have imposed on your operations would exclude this and whether the whole issue of state aid rules comes into that? I would imagine if it did then the issue of market failure would be something that you could justify investment in these community renewable schemes.

***Shaun Kingsbury:*** Correct. They do not have a category called "community renewables"; they just think of it as onshore wind, hydro, solar. When they look across those markets, as they think about them, they see that there is plenty of capital for solar or onshore wind in particular, which are the biggest areas. We want to go back and further categorise community renewables because of its scale, the way the developments are done, the fact that the ownership is very different—they are not owned by big professional companies but by very much smaller communities—and demonstrate to them that, while there may be capital for onshore wind or solar at scale, there is not the same amount of capital for onshore wind or solar at a very small scale, such as community renewables, and hopefully convince them.

**Q79 Chair:** Do you have dedicated staff among your 85 people employed both here and in London who could be set to work on that task to make this case to Brussels? How much of that case is the need to have some kind of an aggregated scheme so that each individual investment, if it was part of an aggregated scheme, could actually meet much better the criteria that are set?

***Shaun Kingsbury:*** Yes, we have teams. We would use a combination of our legal team and our Government relations team, because ultimately this is not the Green Investment Bank talking to Brussels. It is the UK Government talking to Brussels about releasing us from some of the constraints.

**Q80 Chair:** So it is not the Green Investment Bank that would be taking that case to Brussels, it would be BIS or DECC?

***Shaun Kingsbury:*** We would be supporting BIS taking that case. It would be BIS.

**Q81 Chair:** Is the mechanism in place now for that case to be made?

***Shaun Kingsbury:*** It is.

**Q82 Chair:** Who is the lead official dealing with it?

***Shaun Kingsbury:*** From our side, Oliver Griffiths will be preparing all the work to sit down with the BIS legal team. We have our first meeting scheduled for next month in Brussels; it is already in the calendar.

**Q83 Chair:** Could I turn to your two colleagues? First of all, Ms Tennant, is that something you are actively supporting?

***Tessa Tennant:*** Completely. Right from day one this has been something that I have been keen to see the Bank do.

**Q84 Chair:** How much of a frustration to you is it that this is not included?

***Tessa Tennant:*** I think that the important thing is that the Bank was set a mandate—quite a challenging one—by Government and Brussels initially, and the Bank has done a very good job of responding to that mandate.

**Q85 Chair:** Can I just interrupt a moment? Is it the mandate that was set by Government that took the case to Brussels or is it what Brussels has actually said to Government?

***Tessa Tennant:*** It is a combination of the two. The important thing is that we had to get on and deliver on that mandate and that has been a top priority of the Bank over its less than one year of operation. What is great is that the team is already moving into action and starting to define and push how we can get into areas that we are not currently allowed to invest in.

**Q86 Chair:** Mr Maxwell, has your company managed to invest in some of these community renewable schemes?
***Jonathan Maxwell:*** As I pointed out earlier, our firm focuses on energy efficiency, which is typically associated with reducing the demand for and cost of energy and greenhouse gas emission reductions. It does touch on the area of community or district energy, so we are looking at opportunities that include provision of combined heat and power through distributed energy solutions and, as Shaun has pointed out, sustainably sourced biomass solutions for communities. These are distributed energy projects, where we can demonstrate a clear reduction in demand, cost and greenhouse gas emissions. That is my answer to the question. We are not set up as a renewable energy fund, but through our energy efficiency policy and through our looking to act in accordance with the EU Energy Efficiency Directive that promotes combined heat and power—we are certainly heavily involved in distributed schemes, including healthcare and education where there are very large numbers of people involved.

**Q87 Chair:** Is the principle of aggregated funding something that is on your agenda?
***Shaun Kingsbury:*** Absolutely. We have £3.8 billion that we wish to invest over the next few years. It is very difficult to do that in chunks of £1 million or £2 million for a community project; we have to invest that in chunks of £25 million and above. Some of the transactions that we are looking at could be upwards of £200 million. We recognised very early on that, in some of the key areas where we have a mandate to invest, particularly around waste, biomass and energy efficiency, a lot of the transactions could be smaller than our target size and that they were good companies, good projects with a real need for capital. Therefore, one of the early decisions we took was to establish four funds with a mandate to invest in those areas. We effectively ran a competition. We asked them to come forward and explain who was on their team, their track record, their portfolio of opportunities and their investment strategy for investing money. We selected two groups to focus on waste and biomass and two to focus on energy efficiency. SDCL and Jonathan was one of the two winners in that. We said we would allocate between £30 million and £50 million to those funds that they had to match. They could either match it by going out and raising £50 million that would sit pari passu alongside us or they could match it project by project, so every time we were asked to draw £1 million, someone else would put £1 million beside us. We have a mechanism for targeting the smaller projects.
They are up, they are running, they are investing, but they only cover a portion of where I think you are really focused, which is a typical community energy project. There may be some biomass, we can do that today, but they tend to be one or two or three turbines or some solar, and those areas are precluded but we are working on trying to fix that.

**Q88 Chair:** My final question is whether your lead person could be linking up with the Green Alliance to look at how the best case could be made to get some change so that community projects could be supported. That is work that could be ongoing.
***Shaun Kingsbury:*** Absolutely. There are a number of reports—including a new one that has come out and was launched in the House of Commons two days ago on community renewables—all of which provide really helpful background data. We have to convince Brussels not just that this is a valid sector—that is one aspect; it is really the lack of capital that we have to convince them on so that they will allow us to extend our mandate into that area. That is the case we want to make. The first meeting is in October.

**Q89 Dr Whitehead:** What is your anticipated timescale on that process?
***Shaun Kingsbury:*** How long is a piece of string? My aspiration would be that we could do that in less than six months. These things are frustratingly long in my short experience of having to do it. I would hope that we have an answer before the end of the financial year in March.

**Q90 Chair:** I will turn to Peter Aldous in a minute to take up the issue of state aid, but finally from me, in respect of this particular issue, you wouldn't see state aid as a blockage to the community renewable schemes at all?
***Shaun Kingsbury:*** State aid is currently the blockage for us. That is the blockage, otherwise we would be looking at it.

**Q91 Chair:** But the market failure has been proven in the case of these community projects so there shouldn't really be a problem, should there?
***Shaun Kingsbury:*** We would hope that is the case. The last time we tried to put this case to Brussels, it was part of the original remit that we asked for the Bank, and they rejected it.

**Q92 Chair:** In Germany, with the KfW bank and the means of financing there and the whole different infrastructure arrangements, that is not a problem is it?
***Shaun Kingsbury:*** KfW seems to get treated in a slightly different way. They have been around for a long time, before the European Union was in place. We will certainly look at every opportunity to push it. I am exactly where you are. I want to be in this market. I think it is a good market, a green market and a profitable market, and I think it is one that needs capital. I am absolutely committed to try to get there. It is just not something where I can wave a magic wand and make it happen.
**Chair:** I am sure that is something our Committee will be looking at in detail.

**Q93 Peter Aldous:** Just to start, for the record of Members' interests, I have an interest in family farms where renewable energy projects are being pursued. As you said, the European state aid approval prescribes those sectors that you can invest in—we have heard those four. Just following on from the opening questions, are there any other specific sectors that are not permitted at the moment that you would like to be investing in?
***Shaun Kingsbury:*** There are a variety of sectors where it could make sense to make investments. To give you an idea of the size of the market, if you look at the UK renewable and energy efficiency market, it is about £10 billion of the European market. The areas that we can invest in today represent between £2.5 billion and £3 billion; they change every year as projects get done and others get waylaid. It is 25% to 30% of the total market. There are other areas, therefore, in that market where we would see an opportunity to invest. It could be that we could look at low carbon transportation. We never had a chance earlier, but downstairs there are charging stations for electric vehicles, and rolling out infrastructure for that in the UK is an area where it may make sense to invest. We have talked about community renewables. There could be areas in the supply chain. The difference between the £110 billion that we need for low carbon generation and the £200 billion includes the build-out of other infrastructure like interconnectors and supporting grid, port facilities, installation vessels for offshore wind. All those could be deemed to be lower risk infrastructure-like investment that could fit with our investment style and our knowledge of the market but are currently precluded. We are in the process of producing that list. Our plan is to go to see Brussels in October, talk to them only about community renewables—that is the key focus for that meeting with the case already done—and then give them a list of other areas that we would like to come back and talk to them about. We are keen to be able to play a bigger role in expanding our green remit.

**Q94 Peter Aldous:** Just taking one thing, investing in the supply chain, what were the reasons given in the first place for precluding you from investing in that area?
***Shaun Kingsbury:*** They believed that in general there was no shortage of capital. That was their view.

**Q95 Peter Aldous:** Do you agree with that conclusion?
***Shaun Kingsbury:*** It depends which parts of course; the devil is in the detail. There are pieces of that where I am sure there are adequate amounts of capital and other pieces where there are not. Interconnectors, for example, is an interesting area. I was asked questions at a Scottish Select Committee on that last week. The Islands are keen. They have the potential to produce large amounts of renewables and need interconnector support. That is an area we would love to talk about. There are opportunities to import renewable energy from other countries such as France, Ireland, and even from Iceland where there are large amounts of geothermal. Investing in the interconnectors that would bring that on, maybe at a cheaper price than some of our own internal resources could produce, seems to make sense to me. These are the areas we need to look at.

**Q96 Peter Aldous:** Within the sectors you are working in at the moment, how do you devise your investment strategy?
***Shaun Kingsbury:*** We take a bottom-up approach from those three big areas. We put waste and biomass together—it is combustion technology—we have offshore wind, and then we have energy efficiency. Let me describe offshore wind. We have gone out and talked to all the developers. It is a fairly concentrated market and we know everyone who has a project. We get the full list. We decided to start in an area where we thought we could bring in more capital with us. That was to buy into or finance operating offshore wind farms, on the condition that the utility would reinvest the money in construction. So we could either invest in construction or we thought we could bring more people with us, and indeed we have. We have provided debt for a refinancing of the Walney offshore wind fund, we have recently refinanced Masdar and its London Array project, and we took a direct equity investment alongside a fund called Greencoat Capital in the Rhyl offshore plant. On every occasion the utility that received the capital—some from us, a lot from the private sector—has committed to reinvest that.

**Q97 Peter Aldous:** Is a condition of the lending that you have to reinvest?
***Shaun Kingsbury:*** A condition, absolutely a condition. We are starting to look at the next round of projects. There are seven or eight that are on our radar, which could be committed to in the next six to nine months. We are in discussions with them about providing equity capital to take construction risk. What we are trying to do is make those markets work. We worked with BIS to help establish a listed entity called Greencoat Capital that would invest in both onshore wind and offshore wind. The rationale for that is there is a large chunk of capital that can only invest in listed equities. About 30% of all our pension funds are invested in listed equities, about 50% in bonds and very low yield, low risk securities. The piece that would typically go into investing in offshore wind is a very small part, part of the infrastructure bucket, and it is maybe 2% or 3%. We want to target that 30%, so we helped a company called Greencoat—who had an opportunity to invest in projects—to create a listed fund. Several of the members of Greencoat had tried this a couple of years ago and they had been unable to raise the capital. We came in and helped restructure that in terms of which assets they should buy—a combination of offshore wind and onshore wind—to prove that offshore was investable.
We brought that team and its fund management business onshore in the UK, so it is now based in London fully paying tax. We also took it from the AIM market, the junior market, to the main market, the main London exchange. We committed £50 million—the money will come from BIS but we helped to arrange it—of capital into that. It was a very

successful IPO. They raised more than £260 million and it was the largest green IPO in the world in the first half of the year. More importantly, since they were successful a number of companies have copied their model, taking slightly different assets—some UK, some European, some onshore wind maybe mixed with solar, slightly different varieties of it—but the concept has been firmly established and we now have capital markets working to provide long dated capital for this asset class. That is an example of how we targeted offshore wind, the different types of investment strategy and then something we have done in capital markets. We are doing similar things in waste and biomass and, of course, energy efficiency as well.

**Q98 Peter Aldous:** Can you elaborate on what you are seeking to achieve in energy efficiency and support for the Green Deal and how you think it is going so far?

***Shaun Kingsbury:*** Energy efficiency is probably the area in which we would like to invest the most amount of capital we could find, the rationale being that it is hugely sensible as it really does take down energy costs. It does not require any form of Government subsidy or support mechanism, and it is probably the greenest thing we have across all the areas we invest in. So it is a huge area of focus. Unfortunately, it is a very nascent business, it is very new, people are just establishing it and we cannot find sufficient deals to do. This is one of the reasons why we understood they would be smaller and we established the two funds. Jonathan, I will let you talk about energy efficiency in just a second. We are looking across combined heat and power, building retrofit, smart meters, all those areas.

One of the areas where we have had some success is in establishing a fund with Aviva—they are a large insurance company based in the UK—to target energy efficiency in NHS hospitals. The first project we did, which we hope is a marquee transaction that can be copied again and again, was in a hospital in Cambridge called Addenbrooke's, where we put in a £35 million investment in energy efficiency. We replaced old coal boilers with modern CHP biomass fired boilers. We put in heating and cooling systems, a little bit of district heating, and some solar and a number of other systems that bring the energy consumption down. After paying for all the financing of this, it saves the hospital about £1 million a year, which can then go into patient care.

Jonathan, why don't you talk a little about where you are focused?

**Q99 Peter Aldous:** I will come on to Mr Maxwell; it is an appropriate opportunity there. The Green Investment Bank has invested an estimated £50 million in your fund. What parameters has the Bank set as to how you use that funding?

***Jonathan Maxwell:*** The summary that I gave before in terms of the requirement to finance projects that reduce energy demand, energy cost and greenhouse gas emissions. We have some limits, some metrics to hit in terms of investment per tonne of carbon abated, which are on our website. I can go into the statistics another time.

Going back to Shaun's point, the key for us is how to achieve energy efficiency at scale and the means to deliver that is through creating and improving business models that are replicable and getting transactions done. We launched our fund with the Green Investment Bank last September and there are four key areas that we are focused on. One is buildings retrofit, the other one is combined heat and power—which includes hospitals, which I will come on to in a second—and renewable heat and what we call urban infrastructure. In the buildings retrofit sector, we have been successful at developing and investing in energy efficiency projects, particularly in the industrial space in the UK. Currently we have £50 million by the Green Investment Bank and the £50 million of co-investment that we have been mandated to raise in conjunction with it. We currently have deals at term sheet stage; we have £75 million worth of projects in the UK.

**Q100 Peter Aldous:** Do you believe that the Green Investment Bank's investment is making it easier for you to get that additional investment?

***Jonathan Maxwell:*** Incredibly so. There are two elements that are very catalytic for us, one of which was the initial capital commitment from the Green Investment Bank that was a stimulus to encourage other investors to come on board with us. That is UK institutional investors, but also I am very pleased to say that we have international investors from Europe and even further afield. The opportunity to mobilise private sector capital at scale was critical. The second thing that really helped us was the profile of having the Green Investment Bank behind us to target the key areas. I will go through a few examples. In the buildings retrofit space we have been successful at making investments in the UK building efficiency sectors. It is a brand new sector. There is nothing like the amount of capital being invested in energy efficiency as there is even in the renewable energy markets. This is a brand new marketplace. We are very much, with the Green Investment Bank, making the market, designing the new financial and contractual structures to get projects done. Once we have proven our model—we announced a project earlier this financial year where we are retrofitting a major factory in north Wales with energy efficiency equipment, reducing energy demand, cost, and greenhouse gas emissions—we are then able to replicate it. In July we announced the launch of a partnership with the Buildings Research Establishment to marry our capital up with standards here in the UK so that we can roll out energy efficiency projects at scale, using models that are proven.

We are taking a very similar approach in the combined heat and power space. We are partnering with a number of absolutely leading suppliers in the energy supply space, equipment manufacturers as well as energy services companies. An example is a partnership we have announced with GE and the NHS confederation to retrofit hospitals across the UK with energy efficiency solutions, concentrating to start with on combined heat and power—to go back to the

Chair's previous comment—in hospitals, even in universities, where community benefits are significant. The third area is renewable heat. Again, we are partnering there with local developers, with the local supply chain, to deliver local, sustainable biomass renewable heat projects.

The last sector for us is what we call urban infrastructure. This is where we get into district energy, hopefully in the near future street lighting projects and even into the smart energy space. Our strategy is about identifying and delivering replicable solutions that might individually be small scale but in aggregate can make a huge difference.

***Shaun Kingsbury:*** Let me add something about how we try to solve these. You mentioned the word "replicable" and I think that is the key. We are breaking new ground. It is important that we create structures in the transactions we do that other people will recognise and be able to repeat. My Greencoat Capital example is a good one. We frequently find that people bring us projects and say, for example, "We have an offshore wind project and we would love to finance it but we are worried about refinancing risks, so if you could just take that away from us and guarantee you will underwrite us for six years, that would be really helpful. If you could underwrite the power price for us, if it is a ROC project, or guarantee beyond the CfD period, if it comes under the new regime, we would be very happy." If you could take away all of these risks, there is a lot of capital that would be available. We have said that is not our job. All that we would do if we did that was invest our £3.8 billion, probably, frankly, lose a lot of it, because we would have taken on the risks that nobody wanted, and all that we would be able to demonstrate is that the renewable energy business is full of risks and no one knows how to make any money.

We don't want to take away the risks from the market; we want to help solve the risks with the market. We want to find solutions, where the people best able to take the construction risk should take the construction risk and the people best able to take the technology risk should take the technology risk. If we can get those structured, and it means the first transactions take a huge amount of time and effort, and get the risk allocation right and then demonstrate we are serious about it by putting large chunks of capital alongside it with the right risk adjusted return, then other people will come and repeat, just like they did at Greencoat Capital. They repeated the piece of work we did. It took us six months to restructure it to take it to the market, to find a book runner, to get all the equity players, but after we did it, the market took over and did it again and again because it was a demonstration that this worked. What you are doing, and spending a lot of time on, is getting the contractual structures right, getting the legal documents right so that the first one might take six months, but then the next one takes three months, the one after that two months and then we are away. It happens on the small side and it also happens on the big side.

**Q101 Mr Spencer:** If we come back in five years' time, will you have backed every project to fail?

***Shaun Kingsbury:*** It is possible that some of our investments will not have performed. It is entirely possible. I can't sit here and tell you that everything we do is without risk; that would be untrue and unfair. The risk varies, depending on the type of project we are investing in and where we sit in the capital structure. If we take a geared equity risk, it means that our equity sits behind the secured debt so if the project is not a complete failure but it performs below the level that we expected it to then the debt may get paid and the equity would see a lower return than that which is projected. If we are sitting in the debt in those situations, we have no upside but we have a lot of downside protection. We are investing against a portfolio of technologies and a portfolio of sectors. We have senior secured debt, mezzanine, equity, geared equity and increasing amounts of risk. When we look across a balanced portfolio, we will undoubtedly, looking back five years from now, have some projects that were huge successes and some that failed to perform to the level we expected. Overall I expect this to be very profitable but it is not that there will not be situations where, frankly, something did not hit the numbers we said it would. We are taking risk, but we are doing it in a very thoughtful, structured and controlled way. It would be wrong if I said we had excluded all the risks as a result; that would not be fair.

**Q102 Peter Aldous:** Coming back to another of your loans, to the Green Deal Finance Company, the £125 million, what were the aims behind that loan?

***Shaun Kingsbury:*** As you know, the Green Deal Finance Company has two pieces to it. There is the services company and the asset company. The services company goes out and secures the loans, works with the contractors, gets the work done. The asset company then buys those loans, effectively, from the contractors. We only provided capital to the asset company. So we made it clear we are a bank, we provide capital, we do not run the Green Deal Finance Company, we are not an equity holder, we do not sit on the board and we wanted to separate out the various risks, the risks of not hitting the numbers, the risks of potentially mis-selling, the risks of non-payment. To be honest, nobody knew at the beginning of that programme whether the customer uptake number would come to fruition, whether the delinquency and payment numbers would come to fruition and whether the default expectation they had of people who just would not pay would come to fruition. We said, "We do not want to be financing your services company, you have to run that. We want to finance the asset company and, because these things are unknown, we will treat this much like we would a project financing where we will be willing to provide senior secured debt, in other words our investment when drawn would be secured against the assets, the loans to each of the householders. But because all these things are unknown, and frankly unknown for a lot of the time, we want a buffer where we see equity put in. 30% of equity has to go in first and that will be drawn first." So imagine if they did not get the sales numbers—it would mean that we

would end up with 80% equity and only 20% debt. We would be very well covered.

We also said that we wanted a period of 18 months to see how it goes before we would extend the loan, change the terms, bring in someone else. We took a very thoughtful structured risk approach to establishing how we lent money to that company, safe in the knowledge that, if it did not perform—and we hope it does perform, we hope that it goes well and it is a great idea to try to drive energy efficiency—that the capital that we have lent or will lend is secure. Just to be clear, none of it has been drawn yet as it has not been needed.

**Q103 Peter Aldous:** You said has not been needed yet. That does raise the question of could the finance company have secured the finance from somewhere else?

***Shaun Kingsbury:*** I don't believe so. They talked to us and to the European Investment Bank and we agreed we would allow the EIB to come in. So if it was a roaring success and lots more people than we expected took up this opportunity we would allow the European Investment Bank to come in beside us on the same terms, even though they are coming in a little bit later. The reason it has not been drawn is they have not used the equity portion—the 30% of equity that was put in first has not been needed yet so they have not drawn our loan.

**Q104 Peter Aldous:** Do you think your loan will allow lower Green Deal interest rates to be offered to households?

***Shaun Kingsbury:*** The cost of that capital, when you go through the cost of our capital and administration cost on it, is just below 7%. I think it is 6.96% or something like that. When you compare that with some form of secured lending, it is a little bit more expensive, so if you had a mortgage secured against your house maybe you would be paying 4.5% or 5% today; if you looked at it against the unsecured loan for a home improvement or a car, it may be 8% or 9%, so it is cheaper than that. It sits somewhere in the right range, we believe. Those are the thoughts we had on it.

**Q105 Peter Aldous:** Moving on, the Government has set up the guarantee scheme to help get stalled infrastructure projects moving. Are you able to provide guarantees as well?

***Shaun Kingsbury:*** We are able to provide guarantees. We have not used that tool so far. We can use any financial tool in any part of the capital structure and we have worked with Infrastructure UK on, for example, the financing of the Drax coal to biomass conversion and we may work with them on other projects. We work closely with them; we are in contact with them the whole time. They may provide a debt underwriting to a project that then is debt covered but is short of equity and we can provide the equity.

**Q106 Peter Aldous:** Surely there is some duplication in the case you have mentioned, in respect of renewable energy projects you are involved in anyway.

***Shaun Kingsbury:*** Duplication in the sense that they could provide capital and we could provide capital? Yes, but typically we tend to work together on it. They can provide debt guarantees—that is the only tool they have—but we have more flexibility in the ways we can provide the capital. If they go in and it is a project where they would like to provide a debt guarantee, it means that the lenders are not looking at the project, they are really looking at the guarantee. It extends the market of people willing to lend money because they do not need to be experts in biomass or waste or whatever, they just need to accept the credit guarantee from Infrastructure UK. That will mean there is no need for us to play a role in the debt side but then typically we will look at a mezzanine strip or an equity strip, otherwise, frankly, with those we felt were good—where we do not need to touch that project—we wouldn't crowd in capital effectively. But we do work with them, it is co-ordinated and I don't feel it is a challenge or an overlap or anything like that.

**Mark Lazarowicz:** I have a question about the European approval for sectors, and it is a good time to ask this question. First, two preliminaries. I welcome the Committee to Edinburgh. I am pleased to see you here. Secondly, I have also to declare an interest—in the Edinburgh Community Energy Group. It is a voluntary and not a pecuniary one, but I should declare an interest in it at this point.

My question is in relation to the European restrictions. One of the areas where there is a major impact of carbon emissions is the whole transport sector and one can see all sorts of areas of investment. You mentioned electric vehicles. I mentioned earlier extending the Edinburgh tram. We had a debate in Westminster on cycling, about funding cycle schemes in London. There are a large number of what would seem obvious areas in which you would want to invest, but do I take it you just cannot invest in transport full stop? Is that the situation?

***Shaun Kingsbury:*** Yes, I am afraid at the moment with the restrictions we have it is not one of our permitted sectors of the four areas of focus and the three areas of non-priority sectors. But, like you, we agree there are areas of that that are good projects. The projects are both green and profitable and there is no reason why we could not provide capital. We just need to go and convince Brussels that that is the case.

**Q107 Mark Lazarowicz:** The second question following on from that is that I understand from preliminary discussions that one of the reasons why you chose or agreed with the four major sectors with Brussels was that they were relatively non-controversial and Brussels didn't want to get involved in a long discussion that delayed the whole establishment of the Bank, if that is fair to summarise what we discussed earlier. Would it not now be sensible to make the case, even if it is quite extensive, that negotiation is required for areas like the transport sector, and maybe others as well, precisely because you will be restricting yourself from major areas if that is not changed? Is that something that the UK

Government should be trying to work on with you, if necessary lobbying to do so for quite a considerable period?

***Shaun Kingsbury:*** Yes, I think you are right. With all these things, you can get to a perfect answer that might have taken an extra six months or a year to do—it would have meant that the Green Investment Bank would not be functioning today, we would still be three months short of our launch—or take a more pragmatic view, which was to get started on the areas that needed the most money. That is the view that we took. I think that was the right view. It means that nine months ago we were established, we are up and running, we have hired our people, we have made £700 million of commitments, there is £2.5 billion of new capital gone into the market that would not have gone in. So, was that right answer? Yes, I am pretty sure that was the right answer.

But you are quite right, now is the time to go back and look in more detail at some of these areas—to look at that portion of the market that we believe is both green and profitable but we cannot invest in—and have the discussion. I completely agree.

**Q108 Mark Lazarowicz:** Just briefly on one factual point, on the non-priority sector, 20% of your portfolio, you mentioned the three areas, where you are restricted to those three non-priority areas—

***Shaun Kingsbury:*** Correct, and just for the record that is all wet renewables, wave and tidal, carbon capture and storage, and biofuels.

**Q109 Dr Whitehead:** Just before we move off the question of EU and investment criteria, will they possibly take a view when you go and see them that some of the bodies you are investing in are migrating the funds to things other than the priority areas? For example, Greencoat, as you mentioned, is investing in a system called Aveillant, which is a radar system to prevent planes from mistaking wind turbines for aircraft. That definition is outside your end investment but you have invested in a company that is doing that.

***Shaun Kingsbury:*** Greencoat has a number of funds. The bundle I mentioned was their infrastructure fund and we did not make the investment; BIS made the investment. We advised BIS, we held their hand, we had the idea, but because that investment included onshore wind as well as offshore wind we were precluded from making that investment ourselves, so BIS held it. BIS still holds that investment in Greencoat, but that is purely in their infrastructure fund. They have a number of funds, some of which do technology investments. I am not aware of that specific investment but, yes, I am aware they do other things. We didn't invest in Greencoat. We put capital as a limited partner into their infrastructure fund. BIS put that capital in and we advised them.

**Q110 Dr Whitehead:** So capitalisation is okay?

***Shaun Kingsbury:*** Yes.

***Jonathan Maxwell:*** Just as a point of fact, the investment that the Green Investment Bank, as an example, has made into our fund is governed by a limited partnership agreement that is very specific in terms of what investment policy and criteria we have to abide by.

***Shaun Kingsbury:*** Which is consistent with ours.

***Jonathan Maxwell:*** Exactly.

***Shaun Kingsbury:*** So you can invest only in the approved sectors.

***Jonathan Maxwell:*** Correct.

**Q111 Dr Whitehead:** Perhaps we can move to the ability of the Green Investment Bank to borrow. We hear 2016 is the date at which you can borrow but, as we have discussed informally, the question of borrowing remains on the books. Is 2016 a date you think is about right for that process or would you like that to happen earlier? If it does happen earlier, what would be the terms under which you think it would be best that the Green Investment Bank might be able to borrow?

***Shaun Kingsbury:*** There have been a lot of questions around our ability to borrow ever since I got here nine months ago. I decided I wouldn't publicly engage in that discussion because with £3 billion and now £3.8 billion we have plenty of initial capital and my focus as the CEO of this organisation is to build a successful organisation, a green and a profitable company that can demonstrate the value of investing in renewable energy projects in the UK. My view has been that if I am successful in that and we do build a very green and profitable investment bank here, there will be lots of sources of capital open to a profitable and successful company, one of which would be debt. We would like to borrow at some point in the future, but right now I have plenty of capital.

To put it in context, we have a concentrated area of focus obviously with what we do so we are not like one of the large retail banks that has 3% to 5% equity and 95% of debt. When we think about borrowing we would be geared 50:50 or one third equity, two thirds debt, but it would allow us to deliver on our goal of capitalising private sector investment. That money coming in in the form of debt would be private sector money that we could deploy and invest and see a return on. So, is 2016 the right time? It is in and around the right time. We have plenty of capital now and I am focused on making really good investments, building a successful company here and then we will see a variety of ways, one of which is debt, to raise that private sector capital.

**Q112 Dr Whitehead:** The question of borrowing, which then goes back to Treasury, is firstly the Treasury definition of when the Green Investment Bank becomes a bank as such and we have a formula there for the amount of debt falling to—I can't remember the exact wording.

***Shaun Kingsbury:*** A smaller percentage. It is debt volume as a percentage of GDP.

**Dr Whitehead:** Yes. The prospect of borrowing has been advanced a little from that particular definition but, as we have said, this remains on the Government books. Obviously one issue relating to that borrowing and the definition is the question of the extent to which the Green Investment Bank then becomes off the books in terms of its borrowing. Does that, in your view, take the form of—in your words—crowding in

of investment rather than crowding out, bringing partners in or simply having, you might say, a proto-borrowing fire sale of Green Investment Bank at a particular stage in order to get all the circumstances right, at which point the Bank becomes a bank and the borrowing becomes real?
***Shaun Kingsbury:*** Yes. I think the key challenge around borrowing is there has been a big focus, as you all know much better than me, on reducing Government debt at the moment and while the Bank remains a 100% subsidiary of the Government, owned by BIS as you know, any borrowing done by the Bank represents borrowing by the Government. It is on balance sheet. If the Government owned less than 50%, the accountants would likely say that is 40% or 49%—that will be, I am sure, a great debate should that time come—then borrowing would be off balance sheet. Borrowing done by the Green Investment Bank would no longer show up on the Government books as borrowing by the Government. Could we get to that point in four or five years? Who knows, it is possible. We are certainly migrating and our vision for the Bank is to create an enduring institution. Our vision is not to invest the £3.8 billion and then kind of disappear, having hopefully solved some of the problems. If we are going to have our maximum green impact over time it is in creating an enduring institution and the key to that is to raise capital.
We want to be able to raise capital from the private sector, that is the whole point. We can raise that capital in a number of ways. We could raise an equity fund, go into the fund management business. Nothing precludes us from doing that at the moment. We could raise private sector money by borrowing, and that is on the table in and around the dates that you suggest. Eventually we could migrate the Bank from being public sector owned and public sector financed to being public sector owned and private sector financed. A natural step in due course might be a combination of public and private sector ownership, but is that a focus for where we are at the moment? It is not. Could I see that in a number of years when we have built a successful business? Potentially, yes, but we are starting to look at those ways of driving in private sector money before the transaction. So, rather than doing it deal by deal, we could go out to folks. We have a tremendous team, probably the biggest and most experienced renewable energy team here in Europe. We could manage other people's money on the back of that.

**Q113 Peter Aldous:** Just very quickly, on the ability to borrow, I think you said that 2016 was in and around the right time and you had plenty of initial investment capital to get on with it.
***Shaun Kingsbury:*** Yes.
**Peter Aldous:** At the current time with EMR, particularly with regard to offshore wind projects, there is a little bit of a brake on investment and potential stream of work. If EMR goes the right way, next year that brake could go off and the foot could be hitting the accelerator from the investors big time. In that scenario, would you either need some more investment capital or would it be appropriate to say that perhaps we should be looking a year or two earlier than 2016?
***Shaun Kingsbury:*** All these things are possible. We are very hopeful that when we get to the end of this year and the EMR process is more or less complete, all the documents are available, the prices are finalised, people will understand and I hope will feel very comfortable, we could see an increase in investment levels. We are certainly seeing a bit of a hiatus at the moment, not unexpectedly. But of course if that happens there may be a lot of additional capital, which means that instead of having to put one part of our money to three parts of someone else's, it may be one part of ours to seven or eight parts so our initial capital may go further. We just have to wait and see.

**Q114 Dr Whitehead:** Yes, but which way round do you view that or might you view that occurring? At the moment we have a great deal of detail to sketch in the EMR and we have a potential hiatus, for example, as a result of the question of financial closure decisions relating to whether you go for ROCs or CfDs on wind, particularly offshore wind, whether you go for investment instruments in order to secure your position on CfDs or whether you try rushing investment to get in early. You could conceivably be seen as the bridge as far as that hiatus is concerned. The fact that you are coming in and sorting those decisions out could itself be the bridge over that uncertainty. On the other hand, you could say, "Well, actually, we are going to pace our investments in order to deal with the arising of certainty over that period". Do you see yourself as a positive saviour of uncertainty or a surfer on uncertainty for the future?
***Shaun Kingsbury:*** I am not sure I see it either way, to be honest, and I am not avoiding the question on that. We see a number of projects on offshore wind teed up and ready to go. Some might catch the tail end of the ROCs regime if they take a decision literally within the next couple of months. Others are already CfDs and they have the choice, as you said, of taking the numbers on the table now or waiting to see how those numbers progress as they get finalised through the consultation process. We are engaged with seven or eight projects that are in the category of things that are reasonably ready to go, and we are talking to them about the type of capital they need, the role we could play and when we would be in position to take an investment decision. I guess in a perfect world you would love to be able to turn over all the cards, understand exactly what hand you might have and select the ones that would work best. We will do the transactions that are in front of us and are ready to go as long as they meet our investment criteria, meaning they are both green and profitable.
If we see a project that has secured all its capital except for a piece of it, and they are ready to go, they really are ready to commit that capital, rather than risk the project getting delayed, getting shelved and maybe not coming to the market or not coming to fruition, we will lock in that other capital by making the investment we need to make. I can see us making our first commitments over the next six months to construction capital or existing commitments in offshore wind including refinancing operating wind

farms or taking equity positions, on the condition that money is invested in the next round of offshore wind. But I hope we can make commitments in the next six months. We will do the projects that are ready to go that fit our investment criteria.
I guess we will look back in 18 months or two years and we can decide where we were a bridge, a saviour of security or we were helping the market. I honestly don't know what the answer will be.

**Q115 Dr Whitehead:** Do you have a view—and I guess you do in terms of your analysis of these matters—on the size of the stuck market in these matters? So taking, for example, the upcoming offshore wind market over the next period, one can say that, probably for the reasons we have discussed, a good proportion is potentially stuck and then you will presumably have an analysis of a number of other stuck markets in the other sectors you are dealing with. What is the overall size of that in your view?
***Shaun Kingsbury:*** I don't remember off the top of my head but let's talk about offshore wind, which is the cleanest, it has the fewest projects, you can get your arms around it. The six or seven projects that we are in discussions with are £500 million up to just north of £2 billion. So it is several billion pounds of investment that is waiting on the answer for sure in that sector, and I am sure that it is probably a smaller number in other sectors. Jonathan, you might have a view as you do some consulting work as well, outside the investment in offshore wind.
***Jonathan Maxwell:*** Sure. While we only invest in energy efficiency, we advise on a range of renewable energy and environmental infrastructure projects. In the offshore wind sector in the UK we act as an adviser to a very large offshore project, very close to here, in Scotland, the Neart Na Gaoithe project, which is a 150 MW development and a good example of this concept of capital mobilisation. It is going to require approximately £1.5 billion of capital, so absolutely in Shaun's range. It is going to require a series of features to come together at the same time over the course of the next year post consent, which is expected in December. Those include drawing on Government instruments, international sources of finance from DECC, both from public and private sector, working closely with Infrastructure UK on the debt side, working closely with Green Investment Bank on the equity side. I think this concept of a bridge that you have referred to is very interesting because these projects do not happen overnight. They are a series of planned actions that are part of a process. As an observation, I have seen Green Investment Bank's participation in early stage discussions as pretty fundamental to these projects coming together. Equity consortia, debt consortia have to merge and form around any kind of market incentive that falls out of the EMR process, whether it is ROCs or CfDs that are selected. So I think the concept of the Green Investment Bank playing a role as a bridge is a very acute observation and certainly something that I have noticed in the market.

**Q116 Dr Whitehead:** It is interesting that you say that. In terms of the seven projects the Green Investment Bank is involved in that are potentially stuck, round 3 projects, that is the majority of round 3 projects?
***Shaun Kingsbury:*** It is. There are also some around round2.5, at the tail end of the second round, that are in that category.

**Q117 Dr Whitehead:** My point is that you are sitting on the majority of stuck projects in terms of getting round 3 away, with all the consequences that that has, and no one else is. So you turn yourself around into the position of being a policy influencer rather than a policy follower at that point. Does that make you feel less or more comfortable about what you are doing?
***Shaun Kingsbury:*** When you put it like that I think it makes me feel less comfortable. We are very clear on the role we play. Do we spend some time talking to DECC about where we think pricing should be and those types of things? Yes, we do. Do we have a good idea about who the potential foreign direct investors are, because some of this money is going to have to come from outside of the utilities, maybe the majority that are operating here in the UK? Do we know where they are, do we know what their aspirations are, do we understand their cost of capital? Yes, we do. How do those types of investors—and, Tessa, I may pass on to you to talk about how foreign direct, particularly Asian, investments, an area you are familiar with, feel about investing in the UK. They generally have very good levels of comfort but when you sit alongside an investor as the Green Investment Bank, investing in the same piece of capital on the same terms as you have and you know that that money is from the Government, it helps bring credibility and stability to those discussions and that is very helpful. So we are very aware of that role that we play. We do have views on things and we share those privately with DECC so that they understand where we think the market is, but we are restricted in what we can say. We are a commercial organisation, we sign non-disclosure agreements with our counterparties, they have to believe and understand that we take those things very seriously, which of course we do, so we don't disclose information or anything like that. But do we have opinions on things? Yes. Do we provide that? Yes, we do.
Tessa, it may be interesting to get your view on Asian investors because they are one of the categories that are coming in.
***Tessa Tennant:*** Yes. It is very exciting to see the interest that is coming from Asia and if you scroll back to the beginning of the noughties it is fair to say that there was very little, if any, interest from that part of the world in green finance at all, let alone having an appetite to invest outside domestic economies. I have been very involved since the early noughties in a major exercise in education around the region to get sovereign wealth funds, the emerging pension industry—if it is not already, it is becoming one of the largest pension industries in the world and some of the largest funds globally are in Asia. So there is now capability that there wasn't before and the Bank is building on that. There is a congress that the Bank is organising for late October to invite some of these large assets owners to come over, who are very

interested in how the Bank is being set up and how they can interface with what is going on here. So I think the Bank is incredibly catalytic, not just in terms of opening up stuck markets in the UK but opening up this whole area internationally.

**Q118 Dr Whitehead:** A final easy question, I guess. In terms of the relationship between loans and equity, and you have talked about how the Bank wants to look at that in terms of its own strategic move forward, is that and would that be determined over the future period by the extent to which you can get the money back and invest it in other projects or are there other criteria that determine that ratio? Depending on what your criteria are, to what degree might that then affect the extent to which you can unstick stuck projects in the way that you might want to?

***Shaun Kingsbury:*** One of the great things that a lot of thought went into when we established the Bank was the ability to invest anywhere in the capital structures. If we had restrictions—we can only do a certain type of debt of or we can only provide equity—that would set some challenges. But it was very thoughtful that we were allowed to invest anywhere in the capital structure as long as we get an appropriate return on our investment.

When we look out at each sector and we think through where we need to invest, it is different. Energy efficiency will involve a lot of debt, I suspect, to put equipment in. Sometimes that will take the form of lease debt, so it is 100% debt on a piece of equipment, sometimes it will take project financing kind of debt. When we think of offshore wind and refinancing, we have taken a view that is mostly debt but when we think of new construction, that is going to be mostly equity, because that is what is missing. Waste falls into two categories in a way. We didn't think we would have to play a role in the big PFI PPP projects. They are very well financed usually, very large companies, take four or five years to develop, hundreds of millions of pounds going in, but we found that, as projects were nearing financial close—they had been started four years ago maybe, prior to the crisis or just after it—banks which had joined consortia and had offered 15 year capital for a 25 year waste supply agreement—a 25 year project—and now that the project was finally through planning and really ready to go, they had to withdraw because of the liquidity crunch, which is still there in the market. They are saying they could provide seven year debt and are no longer in a position to provide 15 year debt. So in those situations we would then have provided the 15 year debt. So we have a flexibility—

**Q119 Chair:** How does that tie in with your concept of additionality?

***Shaun Kingsbury:*** The project would not have gone ahead because it was stuck. Originally it was properly financed. There were five banks in the consortium, each doing £50 million, say, for a £250 million package. If one or two of them fell out, the project is completely stuck, the money wouldn't be invested. If we go in and fill the gap where they had retreated, because the project developer did not want seven year money, he wanted 15 year money, we provide it on exactly the same terms as the other banks which are still in that consortium and therefore crowd in not just the debt package but all the equity that would have gone with that because the project would have failed.

**Q120 Mr Spencer:** I shall speed up, Chair. You have been very clear that all these projects have to be green and they have to be commercially viable. Leaving the green to one side just for a minute and focusing on the finance, can you give us a flavour of how you balance that risk and return? What is the formula for how you analyse these projects in terms of the return you expect and the risk you are willing to take?

***Shaun Kingsbury:*** One of the great things about setting up the Green Investment Bank is we have an opportunity here to build a team who are truly experts—deep subject matter experts—and to build a team between London and Edinburgh, which is already going strong. We see today almost all of the transactions in the UK. We may not see things that are already financed and up and going where they don't need our money. One of the best ways I heard one of my team members describe it is that 18 months ago, when we were talking about the Green Investment Bank, people said, "If you're talking to the Green Investment Bank, you must have a problem". Today they say, "If you're not talking to the Green Investment Bank, you must have a problem with your project", and that is a nice way of thinking about it.

So we understand, if we are looking at a biomass combined heat and power project, what technologies are used in all the others? We understand what the debt and equity structures were on the others. We understand what the real results are likely to be, not the first model when someone tells you, "This thing will run, it will never have any downtime". We understand what the real experience of running these things is. We understand what other transactions have been done, so if they are debt, what is the cost of that debt? It depends on how much of it there is and on the gearing ratio. If it is an equity return, geared or ungeared, we know what it should be, because we have done many of them before. The way we make sure that that we don't get out of sync with the market is very simply that we always co-invest with others. We will never take 100% of the debt position or 100% of the equity. As well as having this market knowledge, someone co-invests on exactly the same terms that we do always. We need that to prove to Brussels our compliance with the market economy investor principle. Brussels can come at any point and audit any of our transactions, so we are always very clear that we have documented that the project went out and tried to raise capital and could not—we are additional, going to back to your question. Then we document what the terms of the loan or the terms of the equity are and we never take more than 50% of the equity. We might be able to take a little bit more of the loan but never more than 50% of the equity. We show that others are investing on exactly the same set of conditions. That demonstrates we are at market. So, there is a combination of other people being with us, which gives us great comfort, and a great depth of market knowledge.

**Q121 Mr Spencer:** Is there a sliding rule, though, in terms of the bigger the risk the bigger the return you expect?
***Shaun Kingsbury:*** Correct. The least risky things we would do would be a very low geared senior secured piece, debt. A little piece of debt in a very big project would be the lowest risk and that may be a few hundred basis points over gilts. The next most risky thing we would do might be ungeared equity, because we own the whole project, there is no debt in front of us, and for those projects it may be the 7% to 10% kind of range you would expect. When we are on ungeared equity, where there is a piece of debt in front of us, it just depends how highly geared it is, but those returns could be anywhere between 9% and 15%.

**Q122 Mr Spencer:** Do you keep those returns? Do you keep the investments your fund managers are making?
***Shaun Kingsbury:*** The investments the fund managers are making, they pass our capital back to us and we keep it, but you have carried interest so there is alignment. You have a fee that effectively says the better you do, you can keep a little bit more of that, so we are all aligned in driving and optimising the profit. If it is a direct investment, which is the vast majority of what we do, we own that debt piece, we own that equity piece, and all the returns come back to the Bank.

**Q123 Mr Spencer:** Are those fund managers aware of the rate of return that you are expecting?
***Shaun Kingsbury:*** Absolutely.
***Jonathan Maxwell:*** I am pleased to say that, under the structure of the fund, one of our jobs is to price correctly the investments that we are making. I suppose it applies to the Green Investment Bank in general, but certainly it applies to us as a manager on its behalf. There are three fundamental things we do. One is we figure out the right solution to the problem. We do not want to be a solution looking for a problem. We want to understand what the problem is and then apply the right type of security, if it is a debt or equity instrument, to solve that problem. But I am afraid capital is only one of the three fundamental things we have to do.
The second one is really to help the projects. We have talked today about the work that needs to be done to develop and structure a project correctly, manage it through construction and make sure that the right contracting protocols are in place. Maybe on that point I would ask you to imagine what it would be like if the UK was full of mortgage banks with no developers or construction firms or utilities that could build or operate houses. So we have to build the ecosystem, we have to help create these projects.
Then the last thing we really do, to answer your point, sir, is take risk, but take risk in a way knowing that we can manage that risk actively out of the project. We have to identify the risks involved with anything that we are doing and be comfortable going into the project that we are able to set a protocol to mitigate or eliminate those risks through the construction process. Pricing is one of the functions of being able correctly to structure the deal from capital, put in place the right mechanisms to make the project happen and then correctly manage out the risks.

**Q124 Mr Spencer:** What about the risk here still? If I am going to build an anaerobic digestion plant, it is fairly established technology, it stacks up because the funding is there and the support from Government. What if I have a nuclear fusion plant that is going to be the new technology? Surely people would say, "That is what you should be supporting, the stuff that is going to make the next link". Have you invested in nuclear fusion plants?
***Shaun Kingsbury:*** I was going to ignore the suggestion, just so that I did not say anything flippant—that is scary—but you make the point of should we be doing the early stage things that have the bigger impact or should we be doing the stuff we can do now that has a lower impact but less risk. We were very thoughtful about setting our strategy at the beginning of this. We have spent a long time looking at it to answer those questions, "Should we do big projects? Should we do small projects? Should we do the riskier one or should we not? Should we go for the biggest green impact and the highest risk or a lower acceptable green impact and a lower risk?" We mapped out all the places that we could invest in and we basically built a two-by-two matrix that looked at risk and looked at green impact, and where we wanted to focus was the areas that had the biggest green impact and the lowest risk.
Why the lowest risk? The renewable energy business has had a number of highs and lows. There was a tremendous push into new energy technology some five or six years ago. A lot of people raised venture capital money and, as happens in the venture capital business, they invested those in early stage risky technologies. Some of those were successes, but more than most were failures. To give you an example, the US Government supported a number of new technologies, some of which did not work, which failed to achieve commercial success, and the US Government lost a lot of money on those and it caused a huge furore. We wanted to stay absolutely away from that area, not be early stage technology pickers, which is pretty risky, but to focus on the areas where we could get the biggest green impact with the lower end of risk, which is how we ended up in the infrastructure. That is also what Brussels wanted us to focus on, so we were absolutely keen on those two bits.
I would not like to be sitting in front of this Committee, or any others, explaining to you that we have made 25 investments in early stage technology, that we expected 20 of those to fail and five of those to succeed. Of course, you get the 20 failures before you get the five successes. You know when something is dead butyou are never sure if it is going to be a success, and so for the first three or four years of our life we would be sitting here saying, "Yes, we lost money on that and, yes, we lost money on that and, yes, we lost money on that but we have three that we think could really be great, but we can't prove it yet". So we want to focus on biggest green impact, lower end of the risk scale, investing in projects with proven

technologies, proven management teams and then managing the risk.

To get back to your AD suggestion—I will choose that rather than the nuclear one—when we are looking at building AD, we will look for a contractual framework that will minimise our risk. We will look for proven operators, "Have you done this before? How many times have you done it? Show me the operating results of the three plants. What did you learn? What is different about what you are doing now?" We will try to get fixed price engineering, procurement and construction contracts so there can't be any cost overruns. If there are, the guy who built it picks it up. We may decide that it is better to be in the debt rather than the equity. We may decide equity is okay, but we may decide the debt because if the thing doesn't quite perform, the equity takes the bath, not the debt. Then we will want to see secure off-take agreements for the power. Maybe we need a 10-year power purchase agreement, and we will want to see supply contracts locked in place during the period of our debt.

So we fundamentally look at a project and we take apart the various different pieces of risk. We have a whole risk team who sit here in the Edinburgh office and that is all they do. They are not responsible for getting deals across the line, they are not responsible for finding things. They are responsible for pulling apart the various pieces of that and finding structural solutions that mitigate that risk.

**Q125 Mr Spencer:** So you are not going for the risk yourself, you are sticking with what is proven?

***Shaun Kingsbury:*** Yes.

**Q126 Mr Spencer:** You have said to us that there are several projects that, because of their long-term nature, need that sort of pump-priming, or that support to make sure they stack up over a longer period of time. As the economy recovers and the banking sector recovers and the regular banking sector can look much longer term, you will become irrelevant because the commercial sector will be able to support all these things without mentioning green.

***Shaun Kingsbury:*** I don't think we will. It is a good point, but I don't think we will because the market will deepen. More capital may come in, but there may be more projects that still need capital or they need it in a different place. Hopefully you are right—that people are willing to lend, they are willing to lend long. Maybe we will focus on the capital markets side there. Let me give you an example. In the US today, if you were funding a long-dated onshore wind farm you probably would not go to a project finance bank and ask them for a 12-year loan. You would go to the project bond market. That is the long-dated institutional investors who like those very steady, secure cash flows. That capital market does not exist today for projects in the UK, so what we may do is go and find a piece of that debt or buy into the debt of that project. We may credit enhance that project, so take a piece of it, maybe a first loss piece. We would then take the remaining piece, get it rated as a bond by the rating agencies and then take that out and try to establish a role for long-dated capital institutional investors to buy into that.

So we may not be doing the piece that we are doing today. We are always half a step ahead, so I do not think we would go away. I hope you are right, by the way. I hope there is more capital, I hope we see more projects and more capital flowing in. It just means that the piece of it that we need to provide will change. We will still do the innovative things, the green capital transactions, still try to get capital markets to work and provide different types of capital that aren't available today. We are going to be around for a while.

**Q127 Chair:** I think it would be helpful, both to our witnesses and to the Committee, if I remind us that we need speed up a bit and I need to take responsibility for getting our witnesses to speed up a little bit. On the current questions we have, I know that Mr Maxwell wants to come in, Mr Aldous does and Dr Whitehead does as well, if that is okay. Do you want to come in now, Mr Maxwell, in relation to what Mr Kingsbury said?

***Jonathan Maxwell:*** I was going to make a couple of quick points on technology.

**Chair:** Crisp points.

***Jonathan Maxwell:*** First—and this was within the three sectors—I am pleased to say that the UK has a global-scale resource on the offshore wind side of the business, and for an energy economy that needs 85-ish GW of power, offshore wind can contribute very substantially to that. I think it is part of the focus areas that should be acknowledged that the Green Investment Bank is in the main highway there in terms of delivery of renewable power.

On the energy efficiency side, I am also pleased to say that established, commercially-proven technologies can be responsible, in my opinion, for at least 60% to 80% of the energy savings that we are going to be able to create in the UK. We have to take about 15 GW of power—wasted energy, I would call it—out of the economy here in the UK over the next five or 10 years and Ofgem has told us we are going to have a 3% capacity in the energy market in 2015 and that can be delivered through established commercially proven technologies, so I think deployment rather than risk-taking is key.

**Q128 Mr Spencer:** Crisply, Chairman. You are doing £3 privately for every £1 that you are currently investing?

***Shaun Kingsbury:*** Correct.

**Q129 Mr Spencer:** The Government said you should be doing £5 to £1. Why are you under-performing and when will you get to £5 to £1?

***Shaun Kingsbury:*** I am never sure where that £5 to £1 number came from; it is never a number we committed to. I think it is a number that somehow got out there. We have no idea where. We never committed to any number, by the way. We think £3 to £1, for example, 25% of the total capital, is a pretty good number. We have done slightly better this year. We are at £4 to £1.

**Q130 Mr Spencer:** So you would never get to £5 to £1?
***Shaun Kingsbury:*** I don't know if we can get to £5 to £1. The case that you mentioned earlier of more people coming into the market and requiring more capital and more projects going ahead may mean that we have to provide a smaller portion of that, so we may get there. I have never committed to a target. I have no idea where the £5 to £1 came from.

**Q131 Peter Aldous:** Very quickly, I can understand the strategy of pursuing those projects with the biggest green impact and lowest risk and avoid being an early technology picker. If you get a project that is more risky, that is one of those early technologies, do you have a dialogue with venture capitalists or other people who you might be able to refer that to on to?
***Shaun Kingsbury:*** Yes, we do. We know lots of players in the market and if it is a technology that is a bit new, we can kind of invest in the technology. We see technologies, for example, in gasification coming to the UK, which could deal with both biomass and some portions of the waste stream that are new to the UK but they are operating at scale with multiple plants in places like North America. We would look at that type of technology. Again, it is the demonstration effect; it is a perfect thing for us to focus on. We have the technology skills to understand whether we think that is going to work, we will structure it very carefully to mitigate that risk, but if we can get one of those away, other people will finance them and it is a good thing we want to see in the UK.

**Q132 Dr Whitehead:** Very crisply, are you considering green bonds as a way of going into the next phase of capital rating?
***Shaun Kingsbury:*** We are considering green bonds. There are several flavours of green bonds, if you like. Most of the green bonds that have been issued in the world today have been issued by folks like the IFC, where they say, "We are AAA. Here is a piece of debt. We are going to invest that capital in green stuff, so it is a green bond". We are focused on an asset-backed green bond, so we are talking to some of the existing providers of debt, people who have already lent money to performing and operating renewable energy projects around the UK about whether we could repackage those pieces, whether we could put them all together from a variety of different projects, create a green bond, but an asset-backed green bond with operating securities and take that to the market. We are in early-stage discussions with them. We have identified people who might be willing to sell those, but we would like to get those into the public market. We have been successful in helping Greencoat Capital get away, that transaction I talked about with the £50 million from BIS. There are now Greencoat and a number of other folks who are out there providing a way to invest equity money into projects. We need similar vehicles for debt, green bonds effectively, and we are very much focused on trying to do that. Can we get it away? I don't know the answer to that yet. Are we working on it? Yes.

**Q133 Mark Lazarowicz:** Back to this issue about investment strategy, clearly you want to invest in projects with the maximum green impact and a low risk and no doubt the best financial return as well. It is easy to say that, we all want to do it, but the issue is how you do that. Also, how would you more specifically do that, weighting different factors? For example, is it purely a monetisation of benefits? Do you simply value the green benefit impact or do you have some kind of threshold that projects must pass before making a decision? How do you go about it in practical terms, taking account of the green consequences?
***Shaun Kingsbury:*** Tessa, why don't you answer on the threshold we have for green?
***Tessa Tennant:*** I think one thing that it is important the Committee is aware of is that, when the Bank was established, it was agreed very early on that, unlike quite a lot of financial institutions where there would be one main board director who had responsibility for green, a green committee and a whole green facility, because this is the Green Investment Bank that was not really acceptable as a model. Green in our case had to be integrated throughout the way the Bank operates. Therefore the interim green committee that I Chair, is there to establish the policies, sort out the reporting procedures and the environmental green impact evaluation processes, but also to ensure that green is written into the script of the risk and audit committee, the remuneration committee, the investment committee and so on so that the Bank as a whole has culturally got this mix on board. This is key and it is real leadership, I guarantee you, in terms of what institutions in the finance sector are doing in this area.
On the specific question of how projects are evaluated and how you weigh up the finance/green discourse, we have set out the green investment principles and policies and they are about to go public. I hope the board will be signing those off next week. Beyond that and as part of creating those, over the late spring/summer months, we organised a series of workshops to stress test our thresholds and the way we were thinking about how to evaluate each of our key sectors with key stakeholders and experts in the priority sectors. While we cannot please all the people all the time, we have a fairly high degree of comfort that we have robust policies in place now for how we go about evaluating projects.
That bit is done, and I think that what we did in our first green report was really great, given that the Bank had not even existed for a year, but there is more work to do on the reporting side. That is what you will see coming through over the next year. I hope it will answer a lot of the questions around how the projects get evaluated.

**Q134 Mark Lazarowicz:** This is a complex area and I appreciate time is limited, but those green criteria, are they primarily about $CO_2$ emissions and so on? How do you take into account other sorts of environmental considerations?
***Tessa Tennant:*** Absolutely. The mandate of the Bank is very clear around this, that it is carbon emissions, but also impact on the broader environment, impact

on biodiversity, green economy implications. That is set into our DNA.
***Shaun Kingsbury:*** Yes. We have five green purposes. I will give you them, and I always like to read them off so I don't mix them. First, the reduction of greenhouse gases, and we report on that every year. The advancement of the use of natural resources—"Can we do things more efficiently?" is how I would describe what that means. We look at efficiency and the protection of the natural environment. Things like avoided landfill is a way of measuring that, where we are not putting things in the ground and they leach. Protection and enhancement of biodiversity. We are very conscious when we look at things like biomass to power that we are not clearing whole areas of trees somewhere else in the world so that we can feel good about being green here in the UK. We audit all the supply chains on those things. Then finally, the promotion of environmental sustainability, and that is everything from the video pods you saw when you walked around the office where we can communicate—we do not always have to travel up and down between Edinburgh—to the way that we kit out our offices, and we explained some of that at the beginning.

**Q135 Mark Lazarowicz:** On this question, you mentioned biomass was obviously a controversial area and the issues of debate about the Drax investment and so on. How did you go about applying those high principles in such a way that you concluded that the investment in Drax was environmentally sustainable? How did you do that?
***Shaun Kingsbury:*** The first thing that I would say is that we do not set Government policy, and so there is a support mechanism in place to move coal off the system by doing coal to biomass conversions. Drax is the first to take advantage of that. We knew it was supported; it was part of the Government's plan to move towards a greener economy, and it fell within our investment remit, which was approved by Brussels.

**Q136 Mark Lazarowicz:** So it was a Government agreement that you implemented?
***Shaun Kingsbury:*** Correct, but that is not enough by itself. We spent a huge amount of time looking at the sustainability criteria that Drax have put in place and the sustainability criteria we had developed ourselves to ensure that the way they were planning to source their fuel would meet those. Subsequently, I should say that Government has published a set of sustainability criteria as well and that investment absolutely fits even within those newer, tighter criteria. We also sent a team out to North America to look at the supply chain, go and visit it, and that has focused on using existing forests that are managed as a crop, they are managed for the paper and pulp business or the plank business, for furniture and things like that, and using the offcuts from those, the smaller branches, all the other pieces that cannot be used for the major work to put through the chippers and the pulpers to come out with the pellets, which are then shipped here.
We went and helped set up the sustainability criteria. We wrote into our documentation that they needed to do that, so even if they are financially on track, but off track from a green perspective—if they don't adhere to those sustainability criteria—we have the ability to pull our loan. We have real teeth in those arrangements and we will have those externally audited and reported to us every year. We did not just accept what they said. We went out and visited and made sure the criteria met our own and theirs. We have put in audit arrangements, and our arrangement with them has teeth.

**Q137 Mark Lazarowicz:** If I can briefly follow up this point. It is important that that external audit is not just financial auditing, it is auditing on environmental concerns. If you are provided with information that leads you to not just Drax, but any project that does not meet those criteria, you can then review presumably, at a certain point anyway, your investment in that firm?
***Shaun Kingsbury:*** Correct, absolutely. That is a warranty in the equity investment or the debt investment we make, that they have to abide by that, and we will have it externally checked. There is assurance in place from an external person. Just like you would assure and audit the financials, we assure and audit the greens.

**Q138 Mark Lazarowicz:** We have had—and I am sure you have seen as well—papers submitted to us about the supply for biomass for Drax, suggesting that natural hardwood of the southern USA is being damaged, cut down, to supply not necessarily Drax, but the market generally in North America.
***Shaun Kingsbury:*** Yes, I have seen that.
**Mark Lazarowicz:** It is not necessarily that you are doing it, but it is because of a higher demand for biomass generally. That is going to have an effect on forests, and there are no doubt different views on that, but how do you take account of that? What would you respond to that particular criticism or query, and how do you ensure that maybe changing information is taken into account in your decision-making process?
***Shaun Kingsbury:*** Again, it comes back to the policy question; you are asking a policy question. Let me turn it around the other way. If Government was supporting a conversion of coal to biomass and we decided, "We are not going to do that. We have just decided we do not want to do that, that doesn't feel right to us", no capital would be provided and we would be in conflict.

**Q139 Mark Lazarowicz:** So it is a Government decision really?
***Shaun Kingsbury:*** It is a Government decision about what represents green. What we do is take that a step further. They set the bar, the minimum standard, if you like. We take that a step further by writing that into all the documentation, by having real teeth in those agreements and by ensuring that we follow up by auditing and tracking that, so that if, in the end, we found that any investment we made was not following the agreements we had in place around how it sourced

its biomass, we have the ability to retrieve the loan, put them into default and get our money back.

**Q140 Chair:** Dr Offord is just going to follow on with the relationships with Government, but just for my clarity could you explain how Government goes about defining what is green and what is the actual mechanism for that? Presumably you are looking at what could be a definition from within and across different Government Departments?
***Shaun Kingsbury:*** The major source of that and the major interaction we have is of course with the Department of Energy and Climate Change. They release, periodically, views on the sustainability of biomass. They have sustainability and what constitutes CHP, combined heat and power. They have views on all the key drivers, all those key metrics that we would have and set the level, for example, on the fees that you charge for putting stuff in landfill. So those are all the key drivers. We look to them predominantly and we take our lead from that, but we do not stop there. That is the key thing. That is the bit that I really want to reinforce. We go further. We give all our arrangements real teeth. We can claw that money back, we can cancel those loans and we push with each of the investment companies a need to perform better. We build in an improvement in their performance and we ask them to come back every year and suggest ideas for improving their greenhouse emissions, their carbon footprint. So we are taking it that step further.

**Q141 Dr Offord:** I will try to come in from that point. I think you made it very clear that you do not set Government policy, and you mentioned DECC earlier about CHP, biomass and sustainability, but the way that you are constitutionally instructed is that you operate independently from the Government?
***Shaun Kingsbury:*** Correct.

**Q142 Dr Offord:** How does your relationship work with the Government, and what I mean by that is how do you communicate? The Secretary of State for Business, Innovation and Skills is your sole shareholder, so in some ways he is the boss, but I am sure you do not speak to him daily or weekly.
***Shaun Kingsbury:*** Let me describe the governance arrangements for the Bank, which will address that. It was decided that the Bank should operate independently, being a kind of expert investor, much better that it gets on with deciding how to deploy and how to deliver on the strategy of the overall objectives, and so we established a board. We have an independent board and an independent chairman. Lord Smith of Kelvin is our Chairman, who is based up here in our Edinburgh office. The board has eight members. Tessa is one of them, but they come from a variety of backgrounds, from green investing through the finance world, through the energy world as well, all parts of the energy spectrum. We have a really interesting and helpful group of people who come together to provide direction and I report to the chairman through the board. We have one member of that board who sits on the Shareholder Executive, so represents BIS, if you like, but when it comes to the board meetings, as all directors, he acts in the best interests of the company. We have Quarterly Shareholder Meetings where we sit down and review where we are, a big presentation and go through all the financials, and every two months we have a board meeting, usually here in Edinburgh, where we sit down and go through with the board where we are.
When you are the chief executive of this company, it feels very much like the chief executive of any company. I have a board; I have the regular corporate governance. We are set up as a PLC, we are entirely transparent in those ways, and that is really how it works. So we run the business under the auspices and the governance of the board.

**Q143 Dr Offord:** Thank you. That is really helpful. One of the questions I would like to ask is about your interaction with other Government Departments. You mentioned that DECC specifies the sustainability of CHP plants and also biomass. Do you have any contact with other Government Departments, and particularly I am thinking of Defra?
***Shaun Kingsbury:*** Yes, we do. We have spent some time talking to them about their aspirations for waste and recycling, because that is the area where we have most overlap with them. We are aware of where they like to be, where the UK is as a whole on a path towards reducing significantly the amount of material sent to landfill so that we can improve on our recycling rates and things like that. So we are very close to where they are, and on the waste and bioenergy thing we particularly spent a fair bit of time talking to them. We also talk to BIS, both as our shareholder and then just understanding that they take responsibility for looking at supply chain for offshore wind and things like that, and of course we talk to Treasury, which provides the capital, so that they understand where we are. We co-ordinate with Infrastructure UK. One of the earlier questions was about the debt guarantees they could provide—we co-ordinate with them.
***Tessa Tennant:*** In the workshops I mentioned, we involved groups like the Committee on Climate Change, because they are key stakeholders in the Government's development of policy.

**Q144 Dr Offord:** They very much, though, provide the policy in regard to the kind of technologies that are used and also you mentioned waste, for example, the amount of targets DECC set are based on that?
***Shaun Kingsbury:*** Correct.
**Dr Offord:** Thank you. One other thing is that you obviously work with a lot of people who have a great deal of industry knowledge. During the course of your discussions about investments and putting together a deal, they may come to you with information about the problems that they are facing with some Government policies. What kind of mechanism is there for you to take that back to Government for the Government to refine their policy or to understand the problems and challenges faced by the industry?
***Shaun Kingsbury:*** We have a Government relations and policy team. It is two people who work fulltime on these issues. We gather the information. We are very much engaged with DECC on the EMR process,

as we understand the cost of capital. If we are in the middle of negotiations with people on offshore wind and—one of the questions that came up earlier—we have to be careful we do not take private information provided to us by counterparties who we are trying to work with on a deal provided under a non-disclosure agreement. That stuff stays within the Bank. That is protected and is subject to the non-disclosure agreement we have signed, which is standard commercial stuff. What we can do is give them a view, an aggregated view of where we think the market is. We can give them an aggregated view on the cost of capital. We can give them an aggregated view on the number of projects we see coming down and the strength of our pipeline. We can tell them about where new players are coming in.

Frequently, foreign direct investors who are looking at investment in offshore wind will come and talk to Treasury, DECC and the Green Investment Bank. Frequently, they will be shown around by UK Trade and Investment. We are also very close to them. We have attended a number of events where they have asked us to come out and speak to potential sources of foreign capital who have made it clear to them that they are interested in this sector, so we have made visits, where appropriate, to do that as well.

**Q145 Dr Offord:** Thank you. Finally, are there any specific areas, particularly policy areas or regulatory changes, that you would like to see the Government change that would particularly help you in your work so you could hopefully do more?

***Shaun Kingsbury:*** Yes. I am going to give you a very obvious answer. I really want to see the EMR completed in a very successful way. It is a huge piece of re-regulation, designed to bring in the types of foreign direct investors and other sources of capital—it could be UK capital—that haven't invested in this sector to bridge that very large gap. It is a very forward-thinking piece of legislation. We are supporting DECC in nailing it down and that is the thing I really want to see. Whenever you come to make an investment, it is very important that you see the strike prices or you see a piece of the contract or you understand how the market is going to work, but from a previous life of being a private equity investor in this space, you need to see all that come together, because if there is a piece missing, you cannot get to a final investment decision. It is all very interesting and it is all heading in the right direction, but I won't write the cheque until I see it all in one place, so by Christmas I am very hopeful we are in a place where people can write cheques.

**Q146 Dr Offord:** Can I ask my final point, and I tread carefully for your sake. The Green Investment Bank was very much an initiative set up under the Coalition Agreement, so it could be perceived by some to be politically motivated. How have you maintained your independence from Government so that you are not perceived to be the Coalition's Green Investment Bank, particularly in light of some of the investors that may become nervous about political interference?

***Shaun Kingsbury:*** It is all back to the governance point. We really do operate as an independent, at arm's length company. The Chairman and I are very strong around those issues. Tessa, you can speak about the board, but I have to say we have had tremendous support from all parts of the political divide. We have been out to see all the regional Governments as well and we have had tremendous political support and help from them. We are very fortunate in that we are off to a really good start. There is lots more work to do, so we are not declaring victory on that, and people have been tremendously supportive. But it is one of the things that of course concerned me when I considered taking such a role, "Is this going to be a political football?" and I have to say it absolutely has not been. We get no interference, but we do get tremendous support from all sides, and I just put this point on the record to thank everybody for it. It makes our job a lot easier.

**Q147 Chair:** I am going to bring in Mr Lazarowicz. Just before I do, you talked about the different relationships you have with Government Departments. What is your relationship with the Committee on Climate Change?

***Shaun Kingsbury:*** A very good and open relationship. There are no formal governance relationships between the two. One of our board members, Professor Dame Julia King, is on the board of the Committee for Climate Change, and I previously knew and had a very good relationship with their CEO over there anyway, but we now have a common board member, so we have absolutely no reason for having any separation. We spend time talking to them about their aspirations and about their goals. They are one of the people we brought in when we were looking at our green investment criteria, for example, as part of this process of going out and getting feedback on it, so it is good. There are no governance relations, but we have at least one person in common and a very good open working relationship.

**Q148 Chair:** I will ask finally Mr Maxwell and Ms Tennant if there is anything you wish to add to the question that we have just had on Government relations?

***Tessa Tennant:*** I would just add to what Shaun has said, that one thing that I am delighted by is that there have been communications reaching out at local government level—so LAPFF for example, the Local Authority Pension Funds Forum—to help them understand the problems that exist in the deployment of energy efficiency solutions and the opportunity to get local governments more engaged and understanding that the Bank is working very hard to develop products and packages that will help local governments to get energy efficiency happening more rapidly.

**Q149 Chair:** Is that particularly directed at the pension funds rather than at policy level?

***Tessa Tennant:*** It is the two things. It is them as institutions, but it is also whether the pension funds

should be aware of what the Bank is doing, because this is a very interesting investment area for funds too.
***Jonathan Maxwell:*** In short, we have been maintaining a very open dialogue with DECC and I sit on the advisory board for the Energy Efficiency Deployment Office at DECC. That allows us to draw on and indeed feed back into DECC features of the energy efficiency marketplace and financing challenges. We also maintain an open dialogue with European institutions like the European Investment Bank and DG Energy for the same reasons, to understand policy implementation and also flow of capital.
**Chair:** We have now reached the end of our session and, because the honourable Member for Edinburgh North and Leith has put so much effort into making sure that the Green Investment Bank's headquarters should be here in the city of Edinburgh, I am going to give the last word to Mr Lazarowicz.

**Q150 Mark Lazarowicz:** That is very kind, Chair, but it is a question that probably will get a very short answer. We are going to have a referendum on Scottish independence next year. I would not expect you for one minute to express a view on behalf of the Bank. I am sure you are well able to avoid, quite rightly, the answer to that question. But clearly if that was to lead to Scotland being a separate state, there would be an issue about what would happen to the Green Investment Bank thereafter. I presume we would have to either divide it in some way or it would become jointly managed. Have you had any suggestions or any thinking from the Scottish Government as to how they would see the Green Investment Bank developing or changing if Scotland were to vote for independence?
***Shaun Kingsbury:*** Hopefully we are going to prove you right by ably avoiding questions on the devolution.

**Q151 Mark Lazarowicz:** It was a simple question. Have you had an approach?
**Chair:** We do need an answer.
***Shaun Kingsbury:*** We are focusing on building up the Bank. We are not engaged in this political debate at all and therefore it is not something that we spend a lot of time on, around developing ideas or separation. It is not a focus for us.

**Q152 Mark Lazarowicz:** That is why my question was simply have you had an approach or suggestion from the Scottish Government?
***Shaun Kingsbury:*** We have not had an approach or suggestion.
**Chair:** All right, at which stage I shall bring the proceedings to a close. Thank you to each of the witnesses and my colleagues, and I very much look forward to following your progress in the next few months and years. Thank you very much indeed for hosting us.
***Shaun Kingsbury:*** Thank you for coming.

## Monday 11 November 2013

Members present:

Joan Walley (Chair)

Peter Aldous
Martin Caton
Zac Goldsmith
Mark Lazarowicz
Caroline Lucas
Dr Alan Whitehead
Simon Wright

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**Examination of Witnesses**

*Witnesses:* **Josh Ryan-Collins**, Senior Researcher, Finance and Business Team, New Economics Foundation, **Catherine Howarth**, Chief Executive Officer, ShareAction, **Stephanie Maier**, Head of Corporate Responsibility, Aviva Investors, and **Ian Simm**, Chief Executive, Impax Asset Management, Steering Committee, Low Carbon Finance Group, gave evidence.

**Q153 Chair:** I would like to start our session this afternoon by welcoming all four of you. We have some quite detailed questions on very specific issues in our third session on the green finance inquiry. What we want to do today is just try to see what sources of green finance there are for green investment. We will be looking at community issues at a later stage.

My first question is, how effective are the financial markets in matching available finance to the required investment in renewable energy and other green projects? We would like to get a feel from each of you as to just how fit for purpose the current financial markets are. I do not know who wants to go first. You are conferring—it is a bit like *University Challenge.* Catherine Howarth.

***Catherine Howarth:*** I think they are not very effective overall. My expertise is in relation to pension fund investors. Pension fund investors in principle should be the absolutely ideal long-term, patient capital providers for the investment in a smooth transition to low-carbon prosperity that we need, but for a variety of reasons, relatively little pension fund investment flows into the kind of low-carbon and green investments that this Committee is looking into. I might say a bit later in the evidence session what those barriers are, but they are very mixed. One of them is misunderstanding of investors' fiduciary duties.

**Chair:** We will come on to fiduciary review later on.

***Catherine Howarth:*** Another is that many pension savers are very interested in seeing some of their regularly monthly pension contributions flow into low-carbon investments, but pension savers have pretty little voice in this system overall. There are a number of things we can do about that. The organisation I work for, ShareAction, is trying to enable pension fund members to advocate for more of their pension fund savings to flow into low-carbon investments, but it is quite uphill work at times. But there are solutions to these things, and I would be happy to say a bit more about those.

**Chair:** Do the other witnesses agree or disagree with that? Mr Simm.

***Ian Simm:*** Yes, I generally agree with what Catherine has said, except perhaps for her first remark. My view is that financial markets, generally speaking, are pretty efficient in allocating capital and that the issue lies at the project or investment level. Environmental investments, generally speaking, are too risky and/or fundamentally unsuitable for many pension funds. That is where our focus should lie in trying to solve the problem.

***Stephanie Maier:*** Yes, I would agree. The whole capital market does not integrate sustainability in the way it should. That is along the capital investment chain from the pension fund holder—the individual, as Catherine has mentioned—up through the investment at institutional level and the advice that investment consultants make, to the relationship between asset owners and their asset managers, and more broadly, the various information flows that help oil that system.

One of the things we have been working on at Aviva Investors is forming a coalition calling for integrated sustainability reporting, which is essentially asking all large companies to disclose the extent to which they integrate environmental, social or governance issues into their business strategy, because that is one of the areas of inefficiencies, which mean the flow of capital does not go towards the most sustainable companies, it often goes to the less sustainable companies. One of the areas to look at is how we can connect the dots between the investors understanding the real risks and impacts that some of these environmental issues can have on businesses in the long term and directing their capital towards those more sustainable companies.

**Q154 Chair:** Is that part of the whole agenda about behaviour change, as well, and wider understanding?

***Stephanie Maier:*** Yes. Part of the requirement for reporting is not just for the sake of reporting, it is about seeing the extent to which reporting can drive behaviour. Certainly within the greenhouse gas reporting requirements that have just come into effect, one of the elements that the Government itself drew up was the estimated savings that would come purely from the actions that are driven by a company better understanding its impacts. It is about the company seeing, and having to evaluate, how those issues impact on business strategy, thereby causing it to consider them, embed them in the strategy and change behaviour towards a more sustainable path.

***Josh Ryan-Collins:*** Nicholas Stern called climate change "the world's biggest market failure", and I just want to emphasise the point that social and ecological environmental externalities are not incorporated into

the price mechanism in a way that necessarily allows companies or pension funds to invest easily in long-term renewable energy or climate change adaptation, or other such policies. I think some sort of intervention is a priori required on the part of the state in this area, and I do not think corporate social responsibility is going to be enough.

**Q155 Chair:** But when you say some sort of special intervention is required, whose responsibility would it be to do that?
***Josh Ryan-Collins:*** I think the state has to take that on, and of course there is a range of different ways that could happen—taxation, Government spending, subsidies. I am sure you have been discussing those, but there is just a broader point—let's not leave it to the market, basically. Let's make the case for state intervention.

**Q156 Chair:** If you are saying it should be the state that should do it, would you go so far as to say which Government Departments should particularly have the responsibility for doing that?
***Josh Ryan-Collins:*** Obviously DECC, but also BIS and ultimately the Treasury, because it is the Treasury that is determining the fiscal rules. I would also point to the Bank of England in terms of monetary policy, which I will be talking about in more depth later.

**Q157 Chair:** Just turning to the Green Investment Bank—we went up to Edinburgh as part of our current inquiry—how do you see the impact that it is having on the whole investment agenda? Is what the Green Investment Bank is doing making a difference, or do you see what they are doing as being an additional add-on?
***Josh Ryan-Collins:*** Much more an add-on at the moment, given its very, very small size and scale. I am not that keen on calling it a bank, either, because it does not have the right to make loans or borrow on capital markets, as most investment banks do. I prefer to call it a fund, and I think it needs seriously upscaling. If you look at similar organisations in other countries, they are many, many times larger.

**Q158 Chair:** On a scale of one to 10, where 10 is good and one is not so good, what would you say the impact and the difference that is making is? How would you rate it?
***Josh Ryan-Collins:*** The mere fact of its existence makes a difference. It has already proved that it can leverage in some private sector capital, but I think it has the potential to be an eight or nine, and currently it is a two or a three.

**Q159 Peter Aldous:** Taking into account the parameters within which it has been set up, the seedcorn funding and the restrictions on where it can and cannot invest, how do you think it is performing?
***Josh Ryan-Collins:*** Given the very tight parameters, the fact that it is not allowed to borrow in the financial markets and the small amount of capital, I think it is doing okay. It is almost too early to say—I think you need to evaluate it in a couple of years.

**Q160 Peter Aldous:** Would you say that the model, with opportunities to borrow and a wider parameter, can mirror what has been done in the Netherlands and Germany?
***Josh Ryan-Collins:*** I see no reason why it should not be given the same kind of banking licence and credit-creating powers that similar models have, the KfW in Germany being the most obvious one, which is more like 18% of GDP in terms of its assets. It is about 0.2% in the UK if you take the Green Investment Bank and the Business Investment Bank.
**Chair:** What do your colleagues think? Yes, Mr Simm.
***Ian Simm:*** I would agree with Mr Ryan-Collins that the Green Investment Bank is at a very early stage in its lifetime and we should not judge it just yet, but it has been very successful in identifying projects that fit its mandate, in my view, and as has been observed, it has attracted a significant volume of pure private sector capital into the areas that it is supposed to be focusing on. I think from the current vantage point it is doing a good job. It appears to be successful in catalysing investment into offshore wind, waste management and biomass in the energy sector. I understand it has been less successful in attracting deal flow in energy efficiency, where there are a number of other barriers to project creation and project development that the Green Investment Bank is trying to solve and struggling. But at the moment it is doing very well in three out of the four areas, and it needs support, encouragement and ideally a licence to borrow.
***Stephanie Maier:*** I would just add the point that it is an investor in one of our funds, which is a fund for a new energy centre through the NHS trust up in Cambridge. I agree that it is early days, but it has provided that investment within the fund, which will deliver both financially and in terms of cost savings and carbon savings to the trust. Yes, it is in the early stages of finding projects to invest in, and as with any new organisation, especially with the specific remit that it has in terms of additionality and delivering carbon reductions, I think it will need to review how all those things are measured. But it has started, and it has found some investments to make, and that is a positive starting point.

**Q161 Chair:** Yes, we wanted to ask you about that investment with the energy efficiency at the Cambridge University Hospital Trust. Would that investment have happened without the Green Investment Bank or did it only come about because of the Green Investment Bank?
***Stephanie Maier:*** It is hard to say. It is open to other investors, but that is the one investor in that fund at the moment, so to a certain extent that would not have happened without it. Having said that, we have a range of infrastructure investments that look at renewable energy and energy efficiency, so it is an asset class and project type that we offer and invest in for ourselves and for our clients. Hopefully we will see more of that particular element. What is interesting there is that because it has the energy efficiency element to it as well, it is not just pure renewable investment.

**Q162 Chair:** What sort of an experience was it working with the Green Investment Bank on that project?
***Stephanie Maier:*** It was certainly positive in terms of the outcome. It was certainly early on in the Green Investment Bank process, so they were still defining some of the broader investment framework as we were going through the investment. There is an element of learning by doing, and I am sure they will learn from it, but we are certainly happy with the end result.

**Q163 Dr Whitehead:** Josh Ryan-Collins of the New Economics Foundation, you have mentioned that the state needs to head up a lot of this investment in some form. That is essentially what you are saying. Is that view because of the estimation of the sheer scale that is needed over the next few years, or because it is likely that institutional investors are simply going to think that this is all too difficult or not remunerative enough—or remunerative only over a time scale that is too long to contemplate given how the market works? Which way does it lean, and what sort of effect might that have on the proportion that you think could indeed be funded from the market and the proportion that could be funded otherwise?
***Josh Ryan-Collins:*** It is very much a chicken and egg problem. My colleague was right to say that investing in these kinds of projects is very high-risk for private companies, and in a way it is up to the state to step forward and derisk those projects by showing that they have confidence that these type of projects have long-term potential. Of course the best way to do that, if not by directly investing in them, is to capitalise organisations such as the Green Investment Bank, but you could also have a Green Deal company of some kind that was equally responsible for these kinds of investments for energy efficiency in particular. It needs to be at a very large scale, a much larger scale than we are seeing now. The target is £550 billion of investment in low-carbon infrastructure over the next 10 years.

**Q164 Dr Whitehead:** Forgive me, that is your analysis, isn't it? That is not generally shared, is it?
***Josh Ryan-Collins:*** That is a calculation that has been widely accepted, I think. I am sure there is somebody here who can give me a perspective on it.

**Q165 Dr Whitehead:** A £200 billion figure, and about half of that for low-carbon generation, seems to be more prevalent.
***Josh Ryan-Collins:*** Okay. If that is the figure, I will come back to you on that. Even if it is half of that, as you suggest—
**Dr Whitehead:** Yes. It is a rather large sum of money, I would say.
***Josh Ryan-Collins:*** Yes. We are not getting there at the moment, and the Green Investment Bank, with a couple of billion, is not going to do it.
I would also make a broader point that when you have systemic market failure such as in this area, there is an a priori obligation on the state to intervene. There should not be issues around state aid, because it clearly is an example of a market failure. I think that will draw in the private investment; pension funds, as colleagues here will know, are looking for good, solid, long-term opportunities for patient capital. We just need to create those opportunities.
The other point I would like to make—perhaps it is a bit soon—is that this does not have to be taxpayers' money. The Bank of England could purchase bonds to stimulate this in the Green Investment Bank or any other similar type of vehicle, and it would not create cost for the Treasury. If we were in a much better fiscal situation, one could make the case that the Green Investment Bank should be capitalised to a much higher degree just through taxpayers' money, but we are not in that situation, as everyone knows, so I think we need to look to alternatives.

**Q166 Dr Whitehead:** Do other panel members share that particular view? Bearing in mind the difference in estimates as to the overall likely requirement for green infrastructure and low-carbon investment over the next period, the extent that the market can finance this one way or another and the extent that other measures may be necessary, what is your view on that?
***Ian Simm:*** My general view is that the state should minimise its intervention wherever possible in order to have an efficient capital market and allocate capital around the world efficiently, which leads to job creation and growth. The state has intervened quite effectively in the renewable energy sector in the UK over slightly more than the last decade, in particular with the renewables obligation. We have seen a progressive increase—in fact, we would argue almost an exponential increase—in private sector capital coming into renewable energy projects in the UK over the last five years, first of all as institutional investors have sought out more exposure to infrastructure. Secondly, they have fewer opportunities to make money elsewhere in their portfolios because cash returns are low and bond yields are very low. Thirdly, they are increasingly comfortable with the regulatory framework that the renewables obligation has provided—with some modifications and evolution, but consistently—since the early part of the last decade.
As you will know, Dr Whitehead, the electricity market reform was intended to be an evolution of the renewables obligation. Having been part of the discussions around EMR, I believe that I speak for many people in the finance community in the private sector who believe that with the correct detail it, it could be a very successful natural evolution of the renewables obligation, taking account of a wider range of factors. But it still involves state intervention, so I personally would encourage discussion about other areas, to err on the side of minimal state intervention or less state intervention, recognising that we already have a lot of state intervention.

**Q167 Dr Whitehead:** Just to be clear, you would characterise the CfD regime as not essentially state intervention, but state encouragement?
***Ian Simm:*** It is not state intervention in the sense of taxpayers' money being used to subsidise the market, because it is the electricity or energy consumer who ultimately provides a subsidy, but the state is certainly

intervening in structuring the market in a way in which it would not be structured without that intervention.

***Stephanie Maier:*** Going back to broader funding, ideally you want as many sources of capital as you can, so that is why we are looking at how you can make the whole capital system more geared towards preferring the sustainable investments as opposed to the less sustainable ones. Yes, the Green Investment Bank is there as a pot of money. Clearly, whatever number you take for what is required, it is a small part of that. The role that it plays in leveraging other investors is a key role, but it is also looking at how you can make those investments more attractive across the board and at different points. We tend to look at assets that are already up and running. We do not tend to look at the development and construction risk, but that is because our clients tend to be more risk-averse and that profile does not fit in with the risk/return profile, but for other investors within the private sector, that may be a more attractive proposition.

More broadly on the point about state intervention, it is about having a stable regulatory framework so that you know as an investor what is coming and as the developer what you can expect. That helps all the decisions be more efficient as it goes along.

**Q168 Dr Whitehead:** Interesting. Bearing in mind that you mention that your particular forte is looking at projects that are already up and running, is there any sense that the considering the role of either state encouragement or state intervention, the overall requirement might be seen as de-risking the construction and the installation of those low-carbon developments? Is it effectively—almost literally—about selling those on when the risk is at a point where you say, "That is rather interesting for investment, because a lot of that has gone, so I can now take it on"? Is there a sense in which that model might be—

***Stephanie Maier:*** Yes. We certainly have the capacity, if we saw an attractive project, to invest in the earlier stage of that asset. Yes, having a larger pipeline of projects that we could invest in that were up and running to the point where they met our risk profile better would certainly be good. That is another part of the policy or regulatory framework—having stability and consistency of policy, but also having a pipeline for understanding what sort of assets will be coming online so that we can take a view on those.

***Ian Simm:*** To add to that, there is an interesting contrast to be made between the onshore wind sector and the offshore wind sector when it comes to the need for additional state intervention. In the onshore wind sector, which is very well established in the UK and in other countries, there has been and remains a relatively large amount of capital to support and fund the construction of onshore wind farms, because the construction risks are well understood and the risk of cost overrun is almost invariably borne by a private sector contractor. Once those projects are effectively constructed, which typically takes between nine and 15 months, they can increasingly be sold on to pension funds, fund managers and other providers of long-term capital. In contrast, the offshore wind sector has a number of very significant uncertainties for investors, not least of which is the capital cost of the construction, which is linked in part to the uncertainty around the engineering and in part to the time frame for deploying the equipment. There has been a well identified and well publicised gap in the financing market, and this is where the Green Investment Bank has provided additional funding, so there has been an additionality argument for Green Investment Bank intervention.

It is entirely anticipated that provided that the CfD structures work under EMR, the evidence of construction risk and cost from the early offshore wind projects will provide—hopefully, if they are successful—sufficient positive evidence to the private sector that the risks and costs of construction are knowable. They can therefore start to commit capital based on a much more detailed set of investment facts. Therefore—this is perhaps the crux of the point—state intervention in offshore wind is essential, given the rate at which the UK is seeking to build out this industry, but it should not be required forever. It is simply a bridging mechanism until the private sector is comfortable coming in.

**Q169 Dr Whitehead:** You have very much anticipated the thrust of my next question, which is what appraisal you might make of the appetite for different forms of low-carbon generation among investors, either in terms of the sort of issues that you have raised, Mr Simm, about what the overall risks look like, or even in terms of the extent that certain projects may be found fundable at all. For example, there is the distinction not just between wind and tide, biomass, wave and other things, wave, but there are also things such as demand-side response and demand-side management, where you are dealing with a difference in how you invest. You are investing in things that do not happen, rather than things that do happen, and therefore the extent to which you can put that easily on an asset base makes it a rather different proposition from more traditional forms of investment. What sort of distinction is made between those sort of investments and the appetites for them?

***Ian Simm:*** Perhaps from the perspective of a fund manager sitting within a pension fund, they are almost invariably not looking for green investments per se, but they are looking to make deployment of capital to meet liabilities over a usually long-term time frame. They are typically looking for a number of factors: cash flow, because if you have cash you can meet liabilities such as paying pensioners; inflation link, for obvious reasons; liquidity, so that you can change your mind if things are not working out; currency risk, and so on. Typically and historically, pension funds have invested in fixed income or equities and are increasingly looking at alternatives, of which infrastructure is a component. Typically, a UK pension fund would have less than 5% of its assets in infrastructure, possibly down to zero, so infrastructure as a concept is a new asset class.

Infrastructure to a pension fund is not what we would all call infrastructure—bricks and mortar—per se. For a pension fund, it is all about regulatory framework,

cash flow and inflation link, and therefore infrastructure must have a minimum set of financial attributes for it to qualify for that bucket. Within that framework is the question of how one can tailor green projects to meet the latent or emerging demand for infrastructure investment from institutions. The renewable energy power-generating sector fits well in the infrastructure bucket, provided that there is price certainty and ideally an inflation link. What does not fit well is merchant risk, so we can make that first distinction.

If you then look to other types of green investments or green project, many of them fall down on technology risk. Onshore wind is typically seen as low-risk, proven technology where the pension fund has a very low likelihood of losing money because the equipment does not work. If you could switch over to some of the more emerging marine technologies like wave or tidal, although there has been strong progress in those areas, they are still not effective with the consistency and reliability that the pension funds will need to see. One could make similar comments about energy efficiency or some of the more advanced waste energy technologies. As soon as you lose the argument on technology risk or the argument on pricing, you are highly likely to fail to qualify for that emerging bucket and then you become lost, in my view, in the mêlée of mixed opportunities that are being offered to pension funds from all corners of the economy.

***Catherine Howarth:*** Can I just follow up on that? I think that quite clearly pension funds can be put off by what they see as political risk or policy risk, and equally they are not necessarily going to be the first wave of investors into the most high-risk technologies, but there are now quite a number of reasonably well proven low-carbon technologies, as Mr Simm has said. We need to look at why is there not more appetite and demand from pension funds to move into that area, and I think it is partly because at the moment most of them see these investments as they would any other investments. That is fair enough, but one of the things we want to try to introduce—and it is beginning to happen—is an awareness among pension fund investors, who have an obligation to look after people who will retire many decades hence, that a real threat is posed to well-being and the cost of living in retirement, and to the investment returns of those people, by failing to address climate change and not putting in the investments that prevent catastrophic climate change.

There are some pension funds, a very small number, that have that. Probably not very surprisingly, the Environment Agency pension fund is globally a pioneer on this. It has understood its fiduciary duties to act in the best interests of the members of the fund, and it is taking quite an enlightened view of ensuring that we make that transition across the economy as a whole. Clearly an individual pension fund, even a giant pension fund, cannot by any means make that happen alone, but if we can begin to create a bit more comfort in the industry as a whole, which a number of policy signals would help to achieve, we could begin to see a much accelerated flow of investment from pension funds, not all of which have DB liabilities. Many of them are investing on behalf of defined-contribution young pension savers, who bear all the investment risk and who are exposed to the risks of climate change in the future.

I think we do need the right signals from policy makers and from the political establishment. We probably need the right fiscal regimes and so on, but there is a lot of room to create movement within the pensions industry if we can overcome some of the very narrow views of the duty to maximise investment return in the short term and not take account of the positives for pension savers that could be achieved if that transition happens.

**Chair:** We will come on to fiduciary commitments in a short while, but interesting that you mentioned the Environment Agency pension scheme. It might be useful for the Committee to get some details of how it came to have such an ahead-of-its-time pension scheme, because that was an interesting reference.

I will move on to Caroline Lucas.

**Q170 Caroline Lucas:** Thank you. Before I start, I apologise for the fact I have to leave at 5 pm to go to a Green Alliance thing that I am speaking at. This session is slightly out of synch from our normal Committee sessions, so I do apologise.

I wanted to ask you a question about institutional investors and some of the key drivers of what makes them decide on the types of investments they include in their portfolios. I know you have touched on it already, but in the case of investors who were contemplating supporting energy or environmental projects, what relative weight would they give, do you think, to questions of possible financial returns on one hand versus the carbon impact and the environmental impact on the other? What kind of trade-offs are they considering?

***Catherine Howarth:*** I think it is almost totally geared to the financial considerations, and that is fine. Within taking a view of the financial interests of the scheme and its members, it is quite possible to begin to look for the investment opportunities that exist in the low-carbon economy; Mr Simm's company is a provider of those investment opportunities. While we want pension funds to take quite an enlightened view, it can be a view that is focused on the long-term financial wellbeing of fund members, but a more enlightened view would help to increase the demand for the kind of low-carbon investments that we need capital flowing into. But currently pension funds look for financial first.

**Q171 Caroline Lucas:** Can I just follow that up? Are they apprised of the Carbon Tracker reports and the whole idea of stranded assets and so forth? Is there much of a discussion yet going in that particular community about the fact that they could be undermined by not being able to exploit some of the resources?

***Catherine Howarth:*** There is just beginning to be. Obviously, Carbon Tracker's analysis is relatively new to the scene, and we at ShareAction have been trying to accelerate awareness of that analysis by enabling pension fund members to e-mail their schemes asking them for a view on the risk that they compute to a stranded asset in a carbon bubble. Very

interestingly, there is a complete mix of responses from schemes. Some said, "We take this very seriously. We are beginning to do some analysis on it, and we want to look at that potential stranded asset risk and minimise it". Others dismissed the possibility entirely. It is not surprising, because they are all different actors in the market and they come to different views. That is okay. What we think is very important is that funds give consideration to that risk and that trustees then have discretion, so that in the light of the evidence before them they can come to a view about whether it is something they want to incorporate into asset allocation decisions, for example.

***Ian Simm:*** Just to build on Ms Howarth's two points, in our experience, which goes back 15 years, institutional investors, including pension funds, do put financial criteria ahead of everything else. Yes, we can talk about fiduciary responsibility in a moment, but financial criteria do include risks as well as opportunities. There is increasing evidence that pension fund managers are open to being persuaded that environmental investing does offer both an opportunity set that they have not seen before and a way of mitigating certain risks where mitigation has not been available hitherto. The financial crisis of 2007 and 2008, which hopefully we are now largely out of, has shaken many pension funds to their core and has persuaded them and their consultants to go back to basics on asset allocation and risk.

On the topic of the carbon bubble, I would certainly agree with Ms Howarth that this is a very new debate and that it is uncertain where pension funds and other institutional investors will come out on it, but I think it has immediately put the searchlight on to the potential risk of regulatory change having an impact on carbon prices. If you look at how the carbon bubble idea could feed through to destruction of value, it is largely through the imposition of carbon taxes or carbon prices as they affect the break-even point of carbon resource extraction. That is a very fertile area for discussion at the moment.

**Chair:** Stephanie, I think you wanted to come in.

***Stephanie Maier:*** Just to say that I sit within the global responsible investment team within Aviva Investors. Part of our role is to talk to fund managers and work with them to help them integrate environmental, social and governance considerations into the investment decision-making process. In terms of the balance between financial and environmental, increasingly it is not a trade-off between the two. We look at it from a long-term perspective, and the more companies understand the exposure and the risks—and the opportunities as well—that they face through a range of these broader issues, including climate change, the more material those issues will be to the future value of that company. It is about understanding the apparent financial return, but also understanding what that means in a long-term perspective under a range of different scenarios.

On the point about the beneficiaries challenging where their money is being invested, that is an important point and it does seem that they are too far removed from that process. Happily, we fall into the camp that says that we are addressing the issue about the potential for stranded assets. It is an issue that we need to look at, but it is not just for individual investors or even collectively for the investment sector. When you look at the proportion of the FTSE 100 that is invested in these energy-intensive, carbon-intensive stocks, it is potentially a more systemic issue than that. One of the things we like to see the Bank of England do is assess the extent of climate change and the high-carbon exposure that the UK has, and what impact that has on financial stability. If it is a systemic risk, how do you start addressing it? We do not want to see a point where you fall off the cliff and these assets become devalued. You want to find a way to understand the true value of these assets.

**Chair:** Were you going to add to that, Mr Ryan-Collins?

***Josh Ryan-Collins:*** Just to make a broader point, which is that it is cheaper and more profitable at the moment, and there is less risk, to invest in fossil fuel-intensive forms of production. I am not sure that will change unless somebody steps in and starts creating in this country a real industry in alternative forms of provision. If you look at China, the reason that their solar panels are undercutting everyone in Europe and the rest of the world is because the Government—obviously they have cheap labour costs—basically runs the banks over there and has those banks investing in producing these. The cost of renewable energy infrastructure is very, very high at the outset, which makes the lifetime cost appear prohibitive, but of course the real lifetime costs are much lower for renewable energy because it is free. It comes from the sun. It is that initial up-front cost that is creating the problem, and that is where the barrier is. You have to have investment. I do not think it is enough to rely on pension providers to do that.

**Q172 Peter Aldous:** At the outset, I draw attention to the Register of Members' Financial Interests; I am involved in farmland where renewable energy policies or projects are being pursued.

I was going to ask about blockages to investment and risk. We have covered an awful lot of that in looking at the various financial criteria, technology risk and construction risk, and we have touched on political risk. How significant is political risk to investors from possible changes to the Government's energy and environmental policies? As an addendum to that, if we had go back four or five months, would your answer to that question have been different from today?

***Stephanie Maier:*** We would still stay with the perspective that policy risk is through policy uncertainty, so where you have stable, predictable, simple policy, we can make investment decisions in that context. I think that remains true. What I suppose the recent debate has highlighted is the difficulties that that can pose to Governments and why it is important that the policy framework is sufficiently long-term to help support what the UK Government want to achieve in the energy mix of the future. Part of what we are discussing is how best to facilitate that, but ultimately it is also as simple as setting a clear message about what the priorities are and, how will we get to the point we want to get to in our energy

mix. On a more technical point, policy certainty is part of what makes infrastructure investments deliver certainty of returns, and any change to that would change the view of that infrastructure and the viability of that project.

***Ian Simm:*** It is important to deconstruct political risk. If we start from the perspective of projects that are already on the ground, I think it is absolutely essential—as has been well-rehearsed in these sorts of fora—that there are no retrospective changes to support in any form, and that includes taxation for existing infrastructure assets. If that is not possible, then there will be a very direct consequence—the risk appetite for future investments among the private sector will drop. We have seen that particularly in Spain, as you will be aware. If that is area number one to consider, the second area would be the policy uncertainty surrounding future projects.

It is important for the Committee to recognise that for a project to come to the point where it is ready for construction, somebody needs to take a risk to get the project developed, which includes getting the land rights and scoping out the engineering and utility connections and so on. That is a particularly risky exercise at the best of times, but it is even more risky if there is uncertainty around the economics of the project once it is built. Policy uncertainty and political uncertainty around future projects has a dampening effect on project development activity today. To put that in the context of where we are in UK energy policy, the electricity market reform is moving to a final conclusion, with policy details being worked out right now. All being well into 2014, we will know exactly what sort of economics to expect when those projects are built. Those developing projects are waiting at the moment in many case, because we do not know what the outcome is going to be. When there is policy and political change in this type of infrastructure area, there is almost invariably a hiatus created.

From the perspective of a pension fund, there is also the third area to consider, which is media concern and media discussion. Perhaps this goes to the second part of your question. One could take a view that the political climate, as represented by the media at the moment, is not very conducive to investment or supporting investment in the UK energy sector, but I think the pension fund managers are experienced enough to look beneath the surface and are discounting the media confusion in favour of waiting to see what the details of EMR are when they forthcoming at the end of the year.

**Q173 Mark Lazarowicz:** I have a question with regard to some specifics. There have been two areas where possible changes in energy policy have been announced on different sides of the political spectrum, so I am interested to know, particularly from Ian Simm and Stephanie Maier, whether they have had an impact in your area of work. First there was the Government's announcement of a review of green levies—we do not know what that is going to be, but it has been announced—and then on the other side there was Ed Miliband's announcement of a freeze in energy prices for 20 months. Have either of these two policies had an impact on your area of activity? That was for Stephanie and Ian particularly, but obviously the others may want to comment.

**Chair:** Who do you want to answer?

**Mark Lazarowicz:** Probably Ian Simm and Stephanie Maier first, I would have thought. I am just interested in whether you can give a bit more detail.

***Ian Simm:*** On the review of the green levies, the Secretary of State for Energy and the Minister have made it clear, to my understanding, that there will be no impact on the renewables obligation or the support that is envisaged in the EMR legislation, and therefore the searchlight is being turned towards ECO in particular. Therefore, because my company is investing in the former and not the latter, we are not concerned, although I can understand that those private sector businesses that are developing projects in the energy efficiency sector may be concerned.

With regard to statements around retail prices, it is generally our view as an investor that we look at the wholesale market and the wholesale price as the driver of our investment returns or prospective returns. What happens beyond the dispatch of the energy into the grid system, the exposure to taxation and any Government intervention on the retail prices is not our concern, so from the narrow view of our own investment world, it is not making any difference. But we are sympathetic to views from outside the UK, possibly outside the European Union, that this media confusion, which I referred to a moment ago, is less well understood and less easy to interpret if you are sitting in Korea or California. It may therefore be having a negative impact on the perception of the UK as a destination for energy investing.

***Stephanie Maier:*** Again, this about the broad point of what messages it sends and the uncertainty around what might happen. In general, we will see what specifics come out of it. We look at it not just from the infrastructure perspective, but also from the perspective of equity in some energy companies. At any point, Government intervention on something like pricing is going to be a sensitive issue and brings up issues about how a company responds and manages within that context.

Having said that, the broader point is about looking at the broader operating context. UK energy firms operating in the UK set their business strategy on the basis of the current policy framework, but they are definitely aware that ultimately their consumers are going to have an impact on that company's business strategy. We look to companies that understand the impact on their ultimate consumers, because that is also what makes better businesses—those that understand and act responsibly in accordance with their customer base.

**Q174 Martin Caton:** We are going to look at fiduciary duties now, so I think it is sensible to ask Ms Howarth the first question, but obviously I will be interested in other panel members' ideas. In your written evidence, Ms Howarth, you say that fiduciary duties are generally interpreted narrowly as a duty to maximise returns, which in turn is interpreted as meaning short-term returns. You have said something very similar already today. Is there evidence that

fiduciary duty is responsible for institutions avoiding investment in green projects?

***Catherine Howarth:*** No, I do not think there is evidence of that. What there is good evidence of is quite significant confusion among pension investors about what their duties mean in practice. I mentioned that earlier in the spring, we had enabled pension fund members to e-mail their schemes, encouraging them to give a response as to whether they were concerned about the possibility of a carbon bubble. Although we had not mentioned the words "fiduciary duty" at all, about quarter of the schemes that responded to members invoked fiduciary duty. Half of them invoked fiduciary duty as a reason that they should take account of the potential environmental risk and the financial implications of a carbon bubble, and the other half of those that invoked fiduciary duty used it for precisely the opposite reasons. They said, "We cannot take this kind of consideration into account because we have our duty to meet the best interests of the members by maximising returns, and this is a long-term factor".

So we think that it would be helpful—this is one of the things that the Law Commission is currently looking at—to help to clarify and codify investors' duties by introducing statutory clarification of investors' duties. That would make it clear that this is a permissive regime, in that they can look at the long-term financial implications of environmental risk and environmental cost and also take account of the wider well-being of beneficiaries who may retire into a world where climate change has imposed great changes upon the environment. The Law Commission is currently reviewing the situation. It has just brought out its interim paper and is seeking responses to that. It says some very helpful things in the paper. For example, it has clarified that pension funds who are universal owners—in other words, they have holdings right across the economy—are not necessarily obliged to seek to maximise each and every stockholding if that imposes costs upon the wider portfolio. Climate change and environmental considerations would be a classic example of that particular dynamic. But it has stopped short; it looks like it is not going to recommend statutory clarification, which we think would help to unblock some of the current inhibitions and blockages to pension funds thinking about investing in low carbon and green investments.

**Q175 Martin Caton:** You talked about the different interpretations of fiduciary duties. Do you pick up that certain types of investment institutions are taking what we would regard as a more progressive approach, and other types of fund managers would tend to take a more traditional financial approach?

***Catherine Howarth:*** I must say, there is a great mix in both the pension fund and the asset manager community when it comes to this matter. There are an increasing number of pension funds that think that in order to act in the best interests of the fund members, they must take a long-term view of issues like climate change and the impact that they might have, but there are other pension funds that just still take a very narrow view.

Similarly, in the asset management community, last year we organised a letter to Vince Cable and a public letter to the *Times,* which was signed by a number of asset managers, including Hermes and Aviva Investors and Generation Investment Management and others, but there are quite a number of asset managers who are less confident about that point. There are those whose entire strategies are based on very short-term trading, and for them such considerations do not have an impact on their investment success or otherwise, so they are less inclined to engage with this debate.

**Q176 Martin Caton:** Do fund managers need better guidance about fiduciary duty?

***Catherine Howarth:*** I believe so. That is one of the recommendations coming out of the Kay Review—that the FCA could give a stronger steer to asset managers, as the regulator for the asset management community, and try to ensure that fiduciary standards are built into the regulatory standards that govern the asset management community. I do think that greater regulatory clarity would be helpful for asset managers and for pension funds as fiduciaries. We think that statutory clarification will help to clear up once and for all the scope that trustees have to take a long-term view and think about the best interests of the beneficiaries and the costs of things like climate change upon them.

**Q177 Martin Caton:** Could I just ask Ms Howarth, could you give us a bit more of an idea of what you would like in this statutory clarification? What would it look like?

***Catherine Howarth:*** We have drafted up a short draft statute, and I can provide it to the Committee after this session, yes.

**Chair:** Mr Simm, you wanted to come in.

***Ian Simm:*** Yes, I just wanted to add a couple of points to expand the issue. The vast majority of pension funds in the UK are small relative to international standards, and as a result there are very few of them that have the resources to employ specialist staff to assess infrastructure investments directly or green investments specifically. The vast majority of UK pension funds employ consultants—groups such as Hymans Robertson, Mercer and Towers Watson—to give the trustees advice on asset allocation at the top level. Then within each asset bucket—for example, fixed income, equities or infrastructure—the consultant advises the trustees and the pension fund manager on how to deploy that capital, typically through a competitive tendering process to identify a fund manager. That could be a group like Impax Asset Management—in other words, not the pension fund manager but a third-party service provider. They manage the money over a specified timeframe.

I think the context of fiduciary duty is one that needs to be seen at the level of both the pension fund, where there is a debate between the trustees, the consultant and the individual fund manager about what scope they have within the limitations of fiduciary duty, and how that is translated down into implementation at the

asset manager level. Speaking as somebody who is executing similar contracts, I can say with some certainty that the mandates that are given by pension funds to groups such as ourselves are very tightly defined. The risk tolerance—risk budget, if you like—target returns and scope for making investment decisions are generally speaking quite tightly specified. As asset managers, we therefore have quite limited room for manoeuvre.

**Chair:** I think Stephanie Maier wanted to come in.

***Stephanie Maier:*** Yes. I suppose I would say that fundamentally, fiduciary duty is about acting in the best interest of the beneficiary, and we would see that as taking into account these broader sustainability issues to deliver that long-term return. But I would make two points. One is that the UN Environment Programme Finance Initiative has produced two reports now. It commissioned Freshfields Bruckhaus Deringer to form a legal opinion, and it looked across a number of different jurisdictions and was clear that fiduciary duties should include a look at the longer-term issues, taking the broader elements into account. The point is that it is not required in UK statute, and I definitely back up the point that there is an ambiguity there. Some choose to interpret the current framework in a longer-term way, and others choose to look at it in a more limited way. But there has certainly already been legal advice sought on those elements, and it may be helpful to look at those. I can forward the links to that.

The other point is looking at the Stewardship Code. This is for equities, but there is a requirement on a fund manager to have appropriate oversight of the assets that they manage. At the moment, we have a number of asset managers signing up to this code, which is a set of principles that looks at how you hold the board to account, effectively. On the asset owner side, very few sign up to that. If we had more asset owners looking from a stewardship perspective at how they invest, and instructing their fund managers to do the same, that would also be an enabling mechanism to help drive all investment in a more responsible, sustainable direction.

**Q178 Mark Lazarowicz:** Briefly on that point, the Kay Review obviously does allow the potential for providing extra comfort to managers who are nervous about looking at the longer-term aspects of some of the environmental climate change concerns and so on. But is it going to have a sufficient impact, since fund managers and people in the field—people like yourselves—can already decide to look at it longer-term and will do so under the present rules and legislation? Those who are either very cautious or who are looking at short-term returns will be made to look longer-term by the Kay Review. Is that going to have a sufficient impact? Also, I would be interested in knowing where is the Kay Review in terms of implementation from your perspective.

***Stephanie Maier:*** On the fiduciary duty question, the Law Commission is consulting on that now, so the opportunity should be taken now, because it is there on the table. That would be an element that could help facilitate this debate. On whether it is going to change the direction of all investment—no. It is just one of the elements that fit within the capital structure and how capital is allocated at the moment. Certainly the need for understanding the broader context and sustainability impact of investments at different levels is part of. It is part of beneficiaries understanding how investments are made at institutional investors, and how they instruct their fund managers to invest through management agreements. Key players like investment consultants, who have been referred to already, play a key gatekeeper role—or can for certain pension funds—for which fund managers are selected.

***Catherine Howarth:*** Obviously the Kay Review looked at whether short-termism exists in capital markets and what are the drivers of it, and it looked at things beyond fiduciary duty, absolutely. It looked at the whole question of misaligned interests, where asset managers frankly know that they are going to get their bonus payments and they are remunerated on the basis of outperforming a benchmark index, usually over quite a short time horizon. That drives behaviour. It also looked at the problem of trustees thinking that they have a duty to ensure that they maximise returns over the short term, which they cannot move out of There are a variety of factors, and fiduciary duty is not a silver bullet for all of them.

We need remuneration incentives in the asset management world that help to align the long-term financial interests of the underlying risk-taking pension savers with the incentives of the agents in the chain—particularly asset managers, but also company directors, who also, as we know, can often be pursuing quite short-term strategies, because that is what they are incentivised to do. But Kay did conclude that fiduciary duty was an issue, and as Stephanie says, we have this very interesting opportunity just now to ensure that the Law Commission, which is looking at it, comes to the conclusion that we hope it will. That is that we need statutory clarification and codification that puts aside once and for all the misconception that you have to pursue the short-term financial interest and profitability and exclude long-term factors, even though those might influence the well-being of fund members.

**Q179 Chair:** You talked about the conclusion that you hope the Law Commission will come to. What will it take to ensure that the Law Commission will come up with that recommendation, do you think?

***Catherine Howarth:*** It is interesting. They have just brought out their paper, and as I say, there is some excellent things in it. They are very much emphasising that where environmental, social and governance factors are financially material, trustees should take account of them, but that they do not have to take a narrow view and can take a universal view of systemic risks, including climate change. But they are not currently, it would appear, minded to recommend clarification in statute. We think that is largely because they have looked at the law in theory and have not looked enough at how the law is applied in practice. The evidence coming out of pension schemes is that in fact they take a very narrow view and are very confused about what the law allows them to do, so we are presenting the Commission with evidence that in practice, on the ground, pension fund trustees feel

quite constrained and that they might be in breach of legal obligation if they do not take a very narrow view. There is a bit of a challenge in making sure that that is fed through to the Commission, and we will be undertaking—

**Q180 Chair:** But as you say, it is a big challenge in so far as the Kay Review did not specifically mention fossil fuel emissions, climate change or greenhouse gases, did it?
***Catherine Howarth:*** No, it did not, which was interesting, because in a way it is the classic long-termism/short-termism dilemma and problem. The very fact that the Kay Review came out so strongly to say that there is quite problematic short-termism in capital markets, but had not even incorporated the environmental issues that we have been talking about today, does suggest that those problems he identified are very big ones. I think the Kay Review recommendations are only amplified when we consider the factors that are in front of the Committee today.

**Q181 Mark Lazarowicz:** To be fair to the Kay Review, I think I did come across a reference to environmental considerations in the statement of good practice of directors, so there is certainly some reference to it in the report.
This is a question that is perhaps unfair to ask you, and maybe I should ask the Minister in due course, but what is your understanding of the time scale for the consultation to conclude and for any decisions thereafter? It is probably in our papers here somewhere, but I am not able to find it. Do you know off the top of your head?
***Catherine Howarth:*** It has only just released its major paper, for which it is seeking consultation responses. That will close in January, I believe, and then the Commission is due to make a final report and recommendations in June of 2014.

**Q182 Simon Wright:** I have a few questions for the New Economics Foundation regarding the evidence that you have submitted, which suggests that the Bank of England should direct the Asset Purchase Fund to buy bonds with a specific remit for sustainable investment. I wonder if you could say a bit about what you believe the risks are in using quantitative easing in this way and how, for example, you would avoid the Bank of England simply picking winners and choosing some sectors over others.
***Josh Ryan-Collins:*** Sure. I would just like to frame that question in a broader context initially, which is that the Bank of England has purchased £375 billion-worth of almost entirely corporate bonds to date, and that has not been neutral in its outcome for the UK economy. The effects have been documented, but they include essentially supporting people who own assets already, because it has led to an increase in asset prices, so it is basically a fairly reaggressive policy and may well be stoking up the house price bubble that we are seeing at the moment. I would like to make that initial first point—that the current system is not in some way neutral and what I am proposing dangerous and not neutral.
What we propose in the report is that rather than the Bank of England directly creating money to go into particular projects, there would be a new body created, what we call the Monetary Allocation Committee, which would be separate from the Monetary Policy Committee. The Monetary Policy Committee would continue to determine the total amount of central bank money that is created, but another body staffed by macro-economic experts—it could be from the Treasury and the Bank of England—would decide on the allocation of that money, based upon a wide range of factors, including inflation, regional spare capacity across the UK and ecological sustainability issues. Those are longer-term factors. What we propose in the report is that they would use that funding to capitalise agencies such as the Green Investment Bank or the Business Investment Bank. We have also suggested that the Green Deal could have an agency that could also take capital. You could achieve a massive upscale in what these agencies are currently doing in a very short space of time.
Even if there is no additional quantitative easing, and there has not been the last couple of quarters—the Governor has chosen not to increase it—£100 billion-worth of corporate bonds will reach maturity over the next 5 years and the Bank of England is then faced with the decision as to whether it renews those bonds or the Government just pay them back. My prediction would be they will be renewing them, because I do not think the economy is strong enough at the moment to pay them back, so the question is then what do you do with that £100 billion? If you just put £30 billion of it into some of these policies, you can achieve a massive change and we have been talking for the last hour about pension funds changing this or that. This could just sort out the problem much more rapidly, potentially. The key thing in terms of picking winners is that you would have that division between the people who create the amount of money, where it is allocated, and then a third stage, which is the actual investment agencies who are making the individual decisions, so I think the risk there of political influence is minimised.

**Q183 Simon Wright:** Thank you. On the model that you described and the structure within that, with the creation of the Monetary Allocation Committee, you are suggesting that the role of the Monetary Policy Committee would largely be unchanged, but obviously there would be quite a high degree of interaction between the two.
***Josh Ryan-Collins:*** Yes.

**Q184 Simon Wright:** Just coming on to the future of quantitative easing, there is speculation that it may be coming to an end altogether. Would you advocate though that we should continue with quantitative easing as part of your proposal here?
***Josh Ryan-Collins:*** The first point to make is that when you say that QE may be coming to an end, it is not coming to an end if, when the bonds come to maturity, the central bank buys them. Then it is just rolling over—the total amount is not increasing, but it is just being rolled over. In the US context, the

tapering is about the US Government not buying at £85 billion every time, so just keeping it the same is not the end of QE. We would advocate, as I say, when the existing £375 billion comes up for renewal, buying different kinds of assets, different kinds of bonds—bonds that are going to direct investment into productive sectors of the economy—building houses, supporting green infrastructure and development and insulating homes all across the country.

The current problem with QE is that in buying corporate bonds, many from pension funds, the hope is that those pension funds will then invest in more productive assets, but there is very little evidence that is happening. Typically, where there is lack of confidence, capital markets will not necessarily move in the direction you are hoping. They will just potentially buy other kinds of bonds or other kinds of assets—existing assets rather than new assets. The other hope is that banks start lending more to the productive sector. Neither of those things has happened, so we would suggest using what we call strategic QE to enable that and then reviewing how it is going. Look at spare capacity in the economy and let that be what decides whether you reduce or increase the total credit creation by the Bank of England.

**Simon Wright:** Very helpful, thank you.

**Q185 Dr Whitehead:** Just a brief thought on financial transaction tax. Is there any appetite for the introduction of that in the UK? As you know, a number of EU members appear to be in favour of Europe-wide financial transaction tax. The UK is putting it under legal challenge at present, but are there any thoughts on the suggestion that such a tax could be hypothecated for green investments?

***Josh Ryan-Collins:*** Yes, I would like to kick off. The financial transaction tax is an idea that has been around for a long time, and there are a lot of myths out there about what its effect would be. The fact is that there are many examples of successful unilateral implementations of financial transaction taxes without requiring multi-state collaboration. A good example is here in the UK with the stamp duty on shares, which has been around for many hundreds of years, the latest since the 1980s. It does not seem to have caused companies to run away from this country, and it raises billions of pounds every year, but there are also good examples from Brazil, South Korea, Hong Kong, Taiwan and many others. That is one point to make.

Another point to make is that the financial transaction tax, as the current proposals are laid out, would fall most heavily on those parts of the financial sector that trade most frequently—high-frequency trading, as it is known—and there is a lot of research that has come out recently to suggest that that kind of trading is net socially negative in terms of welfare costs, because it is fine in the good times, but in the bad times it pulls liquidity out of countries when they most need it. So there is a broader systemic value to it that I think potentially could tie into the broader discussion we have been having about fiduciary duties. If part of the fiduciary duty is to have broad long-term macro-economic stability, one can argue that taxes of this kind that slow down very, very high-frequency trades could be beneficial on the investment side.

***Stephanie Maier:*** I can certainly see the commercial attraction of it. I think the challenge is that the cost would not just be borne by the high-frequency traders, it would be borne ultimately by pension fund beneficiaries. The likelihood is that the charges would be passed on.

One thing we are looking at to target high-frequency trading—which we agree is short-termist and is undermining the sustainability of the capital markets—is a trade cancellation fee, because one of the distorting elements of high-frequency trading is that essentially the trades are placed and then are withdrawn milliseconds later to distort the market, to get the benefit from the trading. Putting on a cancellation fee would focus more on the behaviour we are trying to mediate, which is high-frequency trading, rather than all trading, so we would have a more specific impact rather than a diluted impact on all trading.

***Ian Simm:*** The issue with green finance, in my view, is not the supply of capital for green finance, it is the risk of the underlying projects, which is high relative to many other opportunities faced by institutional investors. I would much rather see public policy effort put into bringing down risk where appropriate, addressing market failure and providing funding for public goods than into trying to create a different levelling of the playing field through the supply of capital, which I think has a lot of danger of unintended consequences.

***Josh Ryan-Collins:*** Just a few more points. The kind of level we are talking about for this tax, between 0.1% and 0.01% on trades, would bring back the total relative cost of trading back to what it was 10 years ago before the crisis if it was implemented now. There did not seem to be any great liquidity problems or costs to players in the financial markets back in 2003—rather the opposite. They were booming. So we just need to be quite clear about the potential impact of this. The whole point about this tax in one sense is to support pension funds and other long-term, patient capital investors, because is likely to fall much more lightly on those kinds of institutions and traders than it will on very high-frequency kinds of traders.

The other point to make is that the institutions that it will most hit are the big banks and hedge funds and other types of institutions, many of which are already receiving enormous public subsidies—the figure for 2012 is £37 billion for the big four banks. These institutions are not efficient in a market sense, they are being massively heavily subsidised, and the proposal is to make a very small transaction tax on part of their trading. So we need to be quite clear: nine EU countries are going ahead with this tax, previously with one exception, Sweden. These kinds of systems seem to have worked, so obviously the proof is in the pudding and let us see what happenes, but I very much hope that the UK can embrace this, and I think green infrastructure would be an excellent way of hypothecating those funds.

**Chair:** We have reached the end of the questions that we had for you. It is a complex and wide-ranging issue, so I thank each and every one of you for making time to come and give evidence this afternoon to the Committee. Thank you to all of you.

## Wednesday 20 November 2013

Members present:

Joan Walley (Chair)

Peter Aldous
Neil Carmichael
Martin Caton
Mark Lazarowicz
Caroline Lucas
Mark Spencer
Dr Matthew Offord
Simon Wright

### Examination of Witnesses

*Witnesses:* **Robert Rabinowitz**, Chief Executive, Pure Leapfrog, **James Vaccaro**, International Head of Corporate Development, Triodos Bank, and **Mike Smyth**, Chair, Energy 4All, and Wey Valley energy co-operatives, gave evidence.

**Q186 Chair:** I would like to start by welcoming each of you to our session this afternoon on Green Finance. When we commenced our inquiry with the launch in the City of London we were very impressed by those who contributed to the debate, highlighting the whole issue of community energy projects; so much so that we thought we would like to have an opportunity to hear directly from those of you with some expertise in this. There is no better way for us to start off this session this afternoon by inviting each of you to very briefly introduce yourselves and to say how you see the direction of travel, in terms of how it is and, more importantly, how it could be, and how what is happening in the UK compares with other countries. For example, Germany comes to mind where there is a great deal of local ownership of community energy schemes. If I could start with you, Mr Rabinowitz, that might be helpful.

***Robert Rabinowitz:*** Yes, thank you very much. Thank you very much for the invitation to give some evidence. I run a charity called Pure Leapfrog. We focus on support of community energy projects. We do it in two ways. We have a network of lawyers, accountants and other professionals who provide professional services to community energy organisations that they would not otherwise be able to afford.

For example, we were approached at the end of December 2011 by a community group that wanted to do PV solar panels on social housing. They said they had everything organised except for the contract. They were not incorporated. They did not have a share prospectus. They did not have a financial model. They did not have a contract with the installer. They had all the relationships in place, but they did not have all the technical, professional stuff. Our network comes in and helps put all that stuff in place that they would not otherwise be able to afford.

The second thing we do is provide relatively low-interest loans to community energy groups to help them to afford the capital costs of installing community energy projects. We are very close to exhausting our first £1 million of finance, which we have received from Big Society Capital. We have approved or issued loans to just around 20 projects, focused on deprived areas of the UK.

That is a little bit about us. Where I see things happening right now is I think it is important not to divorce community energy from the broader ferment and turmoil of what is going on in energy. If you look at continental power markets, certainly in Germany, there is a lot of turmoil going on that is to do with renewables and decarbonisation. You will have seen that RWE recently halved their dividend, blaming it on what is happening with renewables. In this country we are not at that level of development, but I think community energy has the potential, in due course, to be quite disruptive to existing models of energy.

**Q187 Chair:** What do you think the difference is between here and Germany?

***Robert Rabinowitz:*** I have given this a bit of thought. I think there is a massive cultural difference between here and Germany. They are more comfortable with the state role in financing and so there has been strong state finance through KfW in financing community energy. Traditionally, they have invested with a longer timeframe in mind, so they have been able to put more affordable finance in for community energy, and they have built a financing system that is designed to support and promote community energy. I am not an expert on Germany.

**Q188 Chair:** How would you define the real hurdles towards achieving what you hope to achieve from your own charity?

***Robert Rabinowitz:*** There are lots of small hurdles and hopefully I can go through a lot today. I think the biggest hurdle is whether both the community energy sector and the Government believe that community energy could be a significant part of what we need to do over the next 20 years to decarbonise this country. I think at the moment there is a view that it is interesting, it could scale up, but it is a bit of a sideshow. I believe that it is not a bit of a sideshow. I believe it could be very central, but I am not sure whether the Government believes that yet and I am not sure whether the sector believes in itself enough.

**Q189 Caroline Lucas:** It is a bit unfair because you did just say that you were not an expert on Germany, but when you were talking about the difference there being primarily a cultural one, I was going to make the point that they also have some positive, practical policies; for example, having priority access to the grid for renewables and the continuation of the FIT Scheme and so forth. It seems to me if we are to look at Germany, because Germany is such a leader in this,

it is important to see there are things that are translatable. It is quite hard to change the culture of a country, but certainly you could adopt some policies.
***Robert Rabinowitz:*** Absolutely, and I think the same with community energy. There are lots of individual hurdles and there are lots of things we could copy from Germany, but I have been trying to think about it and trying to wonder why it is we have not gone down that route. I suppose "culture" almost answers too much and too little and, you are right, maybe I need to be more specific.

**Q190 Neil Carmichael:** Carrying on this German theme, one thing that strikes me about Germany is the company structure that it has, the Mittelstand kind of company that you get in Germany, which are quite strategic and pretty much family-controlled often and, therefore, able to take decisions without the usual processes that the British equivalent would have to go through. Do you think that makes a difference? If so, how would you see us replicating that kind of company structure?
***Robert Rabinowitz:*** Again, I am not an expert on Germany. I think there is definitely an issue around time frames. For example, when we have been talking to banks about financing this type of project, the longer the time frame for the funding the more the risk weighting from a Basel perspective, so the less inclination they have to do it. It is about finding long-term finance. On the company structure side, we deal primarily with industrial and provident societies and those are built around a 20-year structure. I think the companies will have a longer time frame and maybe that is a company structure that is worthy of being promoted more.

**Q191 Peter Aldous:** We will come to detail later, but I think you said there had been quite a lot of rhetoric but not policy framework. I am conscious that last month Greg Barker said he wanted to move from the Big Six to the Big 60,000, which would indicate to me there is a will to do that. Have you noticed any change since he made that announcement?
***Robert Rabinowitz:*** I am not close enough to the policy to notice since that announcement. From the conversations we have been having with people at DECC, it is quite clear they are thinking quite practically about solutions to particular issues. I was doing some calculations on the way here. To get community energy to where it needs to be we need several hundred of these companies, and perhaps the Big Several Hundred is not quite as good as the Big 60,000. They are quite clearly thinking and trying to address some of the particular hurdles. I am not sure there is a real belief that we could get to the Big 60,000.
**Chair:** You think it comes down to belief, to some extent?
***Robert Rabinowitz:*** Yes, belief and confidence that this thing could be as big as it could be. It could be one of the Bigs, as it were.

**Q192 Chair:** I am conscious I need to move on to your two colleagues. Mr Smyth, why don't you tell us a little bit about Energy 4All and the Wey Valley energy co-operatives?
***Mike Smyth:*** I am a solicitor, retired, by background. I joined Energy 4All as its chair, which is a volunteer job in my case. Energy 4All seeks to deliver co-operatively-owned renewable energy and so far it has delivered a dozen projects around Britain; in Scotland, Northern Ireland and England. It has another dozen or so close to launch, but there is a high abort factor with energy. We would expect the majority of those to go through, so it is probably the largest single organiser of community energy by some distance in Britain. The projects sometimes come from grassroots organisations approaching Energy 4All; sometimes they come from developers seeking a community involvement in whole or in part; and sometimes they come from projects that we originate, either directly or through contacts, and then take to communities. Wey Valley Solar Schools is a fairly typical example. This is a community group in south-west Surrey. It raised £625,000 through a share issue and has installed 250 Kw of solar power on six local secondary schools. It has been a very successful project and it is that sort of project that we are seeking to replicate.
***James Vaccaro:*** I am James Vaccaro from Triodos Bank, which is a values-based bank operating in Europe. What that means is that we only finance social, environmental, positive projects. We have developed specialisms in sustainability areas such as renewable energy, organic fuel farming, social housing, health and social care and that sort of thing. Our total funds under management is around €9 billion. About €2 billion of that is in renewable energy and it is mostly aimed at smaller schemes. Not the large utility-level schemes, but smaller schemes. We have financed around 650 around Europe. We are a Dutch bank operating in northern and western Europe: Germany, the Netherlands, Benelux, Spain, France and the UK.
In renewable energy we finance mostly the mature types of renewable energy schemes: wind, solar, hydro, and looking now at energy efficiency. In terms of communities, we see a diversity of different types of model. We are mostly financing independent operators and those can be farmers, small businesses and communities organised as co-operatives or organised in different ways. Some of our larger clients in the UK would be some of the schemes for companies like Ecotricity, and some of the smaller schemes would be community-interest companies formed by local communities in the Highlands and Islands in Scotland.
The specific questions you put in terms of comparison, I would broaden it from Germany, which I do know a little bit about, but also the Netherlands. If you take Germany, there are certain things where the features of the economy are such that there are more local banks. There are a greater number of mid-sized developers and a greater number of partnerships. There is a clear feed-in tariff system that has been around for many years and people have been used to how it is reviewed, and its decline has been less of a surprise than in other European countries. The priority for grid access is, again, something that people have

been able to gain confidence in. The major factor that makes Germany different to here is that people have formed habits and, in a way, culture is formed from habits. I think people have been used to a framework that exists and is fairly stable. When it is stable it allows you to invest, go through things, build up the experience and get better at it.

What has happened, I think, in UK communities, which are still very small and fragmented, is that, in the context of quite large changes where you have had originally the NFFO scheme, then ROC, then feed-in tariff, and now the consultation for Contracts for Difference, you have a fast-changing system with specific details, like the FIT banding review and all of those things, being quite destabilising. You do not get enough people entering the process with the confidence that there is going to be something at the end of it and, if reviews are taking place every year but it takes two or three years to develop a project, that specific factor means that not enough people are forming the habits.

**Q193 Chair:** Given that you have described the situation in the UK where you have had change after change and a lack of stability and perhaps not that much general awareness or even capacity to be able to set up the kind of schemes that you are all committed to, how would you say that plays out with the inequality agenda as well? Would you determine that maybe there are parts of the country that would be much more ready to embrace these ideas than others? Is there an issue of social inequality here as well, would you say?

***Robert Rabinowitz:*** In our loan portfolio, we have a lot of projects. There is an affluence connection and then there is a plain physical geography connection. We have projects on the south coast. We have projects around Bristol. We have projects in the south-west. We are starting to do some projects now in Staffordshire, relatively close to your heart. It has been a combination. I did hear one person say, "If you want to know where community energy projects are, look at where the retired solicitors and accountants live".

**Chair:** How do we get over that?

***Robert Rabinowitz:*** This is something that Mike and I have been working on quite a lot. We tried to do a project, and we are still trying, that twins Mike's area, which is a relatively affluent area, with another more deprived area that brings the skills that Mike has in. Mike has a £625,000 project that has assets that we would take security over and lend against, and we could set up projects in an area where there is not the same human capital or financial capital. It would improve the returns to Mike's investors. It would help projects in more deprived areas. There are ways. It is still quite small-scale, but we are thinking of—

**Chair:** Can I just then perhaps paraphrase what you are saying? You would say that, for those looking to formulate policy on community energy projects, somehow attention should be given to the possible social inequalities insofar as there is not necessarily the expertise in some of the most deprived communities to be able to fly with this?

***Robert Rabinowitz:*** Yes. There are a couple of things. There is the expertise. Groups are normally retired professionals or semi-retired professionals, plus they have capital where, if they invest in the project and get EIS tax relief, there is quite an attractive return. Areas where there are fewer people who are interested in EIS tax relief and do not have those skills and all that time, there is definitely an issue.

**Q194 Mark Lazarowicz:** I have a number of related questions. First of all, can I refer to my declaration in the Register of Interests that I am an unpaid member of the board of Edinburgh Community Energy Co-operative, so I have a non-pecuniary interest in the subject. Mr Vaccaro, you refer to Triodos' experience in Germany and Britain. You are also involved in Spain, which has a fairly big renewables sector. I am not sure if there is a community energy part of that renewables sector. If that is so, are there any conclusions we can draw from their experience in relation to the UK as to how we could improve our record?

In terms of the UK, is it fair to say that an area where there has been a particular success in developing renewables has indeed been the Highlands and Islands of Scotland, where there has been a lot happening? In connection with that, quite a lot of the schemes there are ones, as far as I can see, where perhaps a developer decides to erect a number of wind turbines and donates one or arranges for one to be community held. That is a perfectly valid way of proceeding, but does it not much depend upon the commercial sector taking the lead? I wonder how far the community energy sector in the UK, to date, has been dependent upon that kind of spin-off from commercial developments.

There are a few questions on Spain, the Highlands and Islands of Scotland's relevance as a cluster, perhaps, and the issue of community energy being dependent upon commercial renewable development.

***James Vaccaro:*** Unpacking all of them, in terms of Spain, we predominantly focus on solar and it has mostly been through mid-sized development companies. There have been some smaller, more distributed schemes,

**Mark Lazarowicz:** There it is more commercial operations?

***James Vaccaro:*** Spain is in a specific situation at the moment because of the announcement of retrospective action on feed-in tariff. There is still an announcement awaited at the end of the year as to how that will resolve and that has sent shock waves around Europe. In terms of the future as to how it will look in Spain, I think that will be quite a big barrier. We are looking at quite a few schemes in things like energy efficiency, which do not rely upon Government subsidies so much, and looking at both ESCO models and house models for social organisations there.

In terms of the more general point about community models, if it is only about the traditional community co-op then there is more of an inequality in that it does tend to be white, middle-class, male, professional, retired people, and for reasons of that is where expertise and capital tends to live. There are other models of involvement. For example, in the

Netherlands there are the green funds. Banks have separate green funds that allow people to invest quite small amounts of money into a distributed portfolio of renewable energy projects that are certified by the Government and benefit by a tax credit, and that has generated about €15 billion of private investment into renewable energy. There is a degree of ownership or connection. In a way, there is quite a wide spectrum of different schemes and different ways of being able to involve people and other models that we picked up. You then went on to how the Highlands and Islands have worked. There have been some schemes that have been more genuinely community-promoted, developed and managed through and we have been involved in quite a few of those. There are others where there are developer partnerships and I think Mike will have experience of those. Again, there are going to be different situations that are required for the local environment. What we are seeing is one of the developers on a scheme that we financed in Scotland took the project right the way through the process in a local area and he is now helping out as a community consultant at a project about 20 miles away.

That resource, in a slightly informal sense, is very important for being able to develop some of these patterns because you can then not buy in but allow for the transference of some of these skills and experience around different communities. That can be very helpful in giving the community the confidence that they could do it themselves, rather than only having the option of going into a partnership with the developer and maybe feeling a bit unequal in that relationship. I am afraid I can't remember the third one.

**Mark Lazarowicz:** That was the third one.

**Q195 Caroline Lucas:** Mark's declaration of interest reminds me that I should probably say I have a very, very small shareholding in a community solar scheme in Brighton and a wind one in Oxfordshire. My question is about the Government's community energy strategy, which I think we are hoping to see before Christmas, and it is a fairly broad question. What would a good strategy look like with regard to finance? I guess you have begun to touch on it a little bit—for example, the example that you gave about the green funds in the Netherlands—but if you could just say a little bit more about the components of what a good, robust strategy would look like from a finance perspective, that would be helpful.

***James Vaccaro:*** Overall, we would want to see that community is playing a central role for a pivotal part of the overall mix; that it was not just something that was bolted on to the side as a nice thing to do because we did not want to forget it. When that happens, several things follow as a corollary. You look at things like the feed-in tariff mechanism, so looking at where the bounds are and there is discussion at the table about 5 MW to 10 MW. There may be some of the more advanced co-operatives who say, "Why stop there, in fact?" At the moment there is a lot of fixation with "community" meaning just micro-schemes and looking at having to down-rate turbines in order to qualify for a feed-in tariff, when actually—once they have gone through that—the next logical stage would be using much more efficient technology at a larger scale still being appropriate within the local environment because it is being developed by local people. The overriding objective is being more ambitious about community energy becoming a meaningful slice of the pie.

I have been at Triodos Bank for 16 years. I remember talking to the DTI about things in about 1999 and the conversation from NFFO to ROC and being told, "The trouble with all these small schemes", which is what we finance, "is that they are never going to be very much of the pie, if you look at the overall amount of energy", and it was all going to be offshore. The reality is that, from a financing point of view and from a commercial landscape point of view, it is not just about the large schemes if you do not have enough wealth of experience through the smaller schemes to be able to get to the large schemes.

Through having financed 650 independent power projects through non-recourse project finance, that probably puts us in the league of financing as many different types of schemes as any other bank. That makes us more resilient for being able to take a full understanding of the risks in looking at larger projects if we had capital to fund that. It is being able to look at how the financial players within the UK are able to make that step. They need to have enough experience of dealing with lots of different structures and lots of different projects at the smaller scale to be able to move up sufficiently.

***Mike Smyth:*** I want to mention a couple of points. First, this to some extent goes back to the earlier question of differences between Britain and Germany. One of the key things Germany has is a holistic view, whereas in Britain we tend to try to pick off individual issues but that always means there is another blockage elsewhere. It is a slightly different question, in a way. If you talk about the differences between Britain and Germany, I do not think it is in the existence of social entrepreneurs—there are just as many, if not more, in Britain—and it is certainly not the willingness to get engaged. The framework is very, very different and in Germany there has been a comprehensive thinking-through of the framework and all the obstacles and removing them all so that community groups can develop.

That is exactly what has happened and I think we can do exactly the same thing in Britain very quickly if the multitude of obstacles were assessed as a whole and were tackled and removed. Finance is one of those obstacles. It has become much more difficult in the last few months with the effective demise of the Co-operative Bank so far as lending to renewables is concerned because in the smaller area—the gap between Pure Leapfrog/Big Society Capital and Charity Bank, and when you start getting into the syndicated loan area of about £10 million plus—there is a complete void in Britain. The Co-op used to be the principal lender in that. It has gone. There is now a big market issue there. The Green Investment Bank has been a major disappointment. It is simply a non-player so far as this is concerned.

It is ironic, because the big difference in many ways that Germany has on the finance side is KfW Bank,

which was formed at the same time as III. It was formed as an equivalent to III. One of them got flogged off and has become a hedge fund/private capital organisation. The other is doing this constant rebuilding of German infrastructure to this day. Those are the big gaps, as I see it, as part of the larger whole.

***Robert Rabinowitz:*** I echo very much what James said. For me, there is a shopping list but there is a bigger picture, which is that community energy is not just, "There is a problem that these nice people have with doing small projects. We need to help them out". A proper community energy strategy would see community energy in its broader sense, which includes local authorities and community co-operatives. It is the preferred solution not just for renewable energy generation, but it is about everything we need to do with our energy strategy: decarbonising; the grid; energy efficiency; demand reduction. That is a preferred solution and that is why I was talking before about the vision and belief. That is what a good strategy would say; "This is the best way to do it. We understand it is not the only way to do it". Everything else would follow.

At the moment DECC is looking at some of the blockages for community energy groups that are developing hydro and wind projects, in particular. Those are there and should be addressed, but you need to take a broader view of the regulatory policy aspects and say, "Across the landscape, what are the things that are built into policy and regulation that do not promote community energy?" There are a lot of issues around grid, not just grid access but right to buy electricity, right to dispatch electricity; all of those things that they have in Germany.

On the financing side, if we are going to do 5 GW and we need 500 projects that are only 10 MW, what scale of finance is needed? What level of capital is needed? Where is that going to come from and how are we going to get that? What are the requirements of those funders to get that capital in there? For me, it is starting with a commitment to the big picture.

I do have a couple of shopping list items that I will mention briefly. One of them is priority for community energy to sell energy; to say, "We are generating. We want to sell electricity to our consumers". That will make a massive difference. Priority to connect to the grid. Priority to dispatch. I think there should be a right of first refusal for public sector property. If the public sector has property that could benefit from renewables and community energy can install on a pari passu basis with the commercial sector, they should have the right to do that. I think there should be a right to buy into commercial development, again on a pari passu basis. Private capital should not necessarily be disadvantaged, but we do need to build an asset base to enable the sector to grow. There are a couple of broader things, but that is probably my biggest specific thing on the shopping list.

I think we do need a mechanism to share experience and mutualise risks. Part of the problem is that small community energy groups find it very hard to play the numbers game on planning, for example, because they only have one project, whereas a commercial developer might have 20 projects. As Mike said, some of them are going to fall away and some of them will survive, but if you only have one project and you are reliant on semi-retired people and you do not have deep equity to underwrite development planning risks then it can be very challenging. I think we need a mechanism to mutualise risk among the smaller groups so that you replace the deeper pockets that a larger organisation would have. Those are probably my main shopping list items.

**Q196 Caroline Lucas:** Thank you. You have answered a number of the questions that I have, but I think one is still outstanding. You just mentioned 5 GW. I wondered whether your colleagues would agree with you in terms of the kind of scale we should be looking at in terms of the level of ambition that is realistic. I know that Baker Tilly said 3.5 GW, but I don't know if you want to stick your neck out and put a figure on it.

***James Vaccaro:*** I think it should certainly be that quantum. Again, there is a related thing in the broader green finance agenda, and that is probably looking at the mature renewable energies and you have to then look beyond at what could be accelerated and taken through. One of the things that we would be looking for in terms of the ambition phase is being able to take things through to larger projects.

We do finance things from about £1.5 million to £2 million. We do things on non-recourse project finance, which means there is no other alternative security. It is just the set of contracts and the due diligence required to put everything into place so that it is absolutely watertight. The cost involved in doing that means that it is not feasible, we feel, to do it at less than about £1.5 million and probably more like £2 million. Other banks probably feel that cuts in at about £10 million or even £20 million. It is about what level of interest you take in a sector, but if more communities were encouraged to be able to look at projects where the equity component, rather than being only equity in a scheme that is for a smaller turbine, could be leveraged with bank debt to becoming larger projects, it might take more banks into the picture.

Banks are not going to be helped by the new banking regulation and Basel III impacts. It is not generally going to be helping banks in this sector, and that is not something that UK legislation is going to be able to impact itself. What UK legislation could do is look for things like green funds where banks have been able to develop off-balance-sheet funds that they take responsibility for, and they are not things which are off balance sheet and out of sight and out of mind. They are specifically retail vehicles for individuals to invest in, from which banks can use their expertise in project finance to continue the supply of capital into the sector. I think that could be quite an important intervention in being able to support more of the smaller scale schemes.

***Mike Smyth:*** If I could just come in on that, there are a couple of factors. First is the overall size of the market and the second is the time it might take to get there. There are various figures that get bandied around. Baker Tilly had their 3.5 GW. That was an absolute capacity and it was before solar panels had

become cost-effective. I think that report is obsolete. ResPublica came up with a figure of about 5 GW—I do not quite know what timescale they put on that, I think it was 2020—which was heavily dependent on a joint venture system between communities and commercial developers. That is eminently feasible if the regulations provide for it and it would be similar to the Danish system. I know some work has been prepared for DECC as part of their strategy that was coming up with a figure of about 2.5 GW, which did not require the same degree of mandatory involvement as the Respublica report. That is by 2020 again.

The answer is it could easily be a low number of gigawatts of capacity by 2020 within the right framework, which is creating, collectively, a pretty significant new participant; turning a Big Six into at least a Big Six-and-Three-Quarters. I have gone through the calculations. I think that is eminently feasible with the right framework, the same sort of framework that they have in Germany or in Denmark or in Flanders or in the Netherlands. We could start delivering that outcome in Britain, which has lots of advantages.

**Q197 Peter Aldous:** For the record, I do have interests in family farms where the renewable energy scheme is being pursued. If I can just pick up on something that Mr Smyth said. I think you described the Green Investment Bank as having been a disappointment. Could you just elaborate a little bit more on that?

***Mike Smyth:*** Yes. It has not participated at all in the community energy sector. It simply refuses to lend to it.

**Peter Aldous:** What reasons do they give?

***Mike Smyth:*** It is not wholly clear. I think they have argued state aid, but it is not necessarily state aid to lend in small amounts. They have concentrated very much on the offshore sector.

**Q198 Peter Aldous:** I think there are four areas the Green Investment Bank is allowed to lend in. Does community energy fall in one of those areas? I can't immediately recall.

***Mike Smyth:*** My recollection is that they are not at the moment either permitted or, as a matter of policy, have decided not to lend in that area.

**Peter Aldous:** It is the fact that they are not allowed to, rather than the fact that they have been—

***Mike Smyth:*** Yes. I do not think it is a statutory allowance.

***James Vaccaro:*** Although, as a matter of record, they just invested, from recollection, £50 million in a public IPO for a company called Greencoat, which is a commercial aggregator of pre-existing, operating onshore wind farms. There may have been a reason for that in terms of capacity-building within the sector, but it is not very clear and certainly it is not the first time I have heard frustration that it is not in scope. I think they have been arguing it has not been given to them as scope.

**Q199 Chair:** I am quite keen just to look at this. We must move on in a minute to Simon Wright's question, but can you just try to elaborate for me about the Green Investment Bank and the state aid rules? I understood that this was one of the obstacles to getting community energy projects off the ground and that there was some dispensation that would need to be submitted to Brussels for what would need to be provided. From preliminary discussions that I have had on this very subject, I am not quite sure in my own mind now and I would like some clarification from you. The answer that I am getting back is that there would be nothing inherently in the state aid rules to prevent this, in which case I can't quite understand where that blockage might be. Picking up on Peter Aldous' point about where perhaps the Green Investment Bank is not doing what was needed, do you have a message for this Committee about the Green Investment Bank, about state aid rules, and whether or not that is or is not the obstacle?

***Robert Rabinowitz:*** I must confess that most of what I know about the Green Investment Bank and state aid is what I have read of they have said to this Committee. However, on the issue of state aid, the community energy world has been stymied by a number of issues related to state aid where I think, from a perspective of other countries in Europe, they would be looking at us and wondering why we see state aid where they do not think it is there.

**Chair:** It is specifically how we as a member state apply those state aid rules? Is it that the UK has not grasped what needs to be done to get this investment in place?

***James Vaccaro:*** I could not comment on that specific part because it is around legal interpretation. There are certainly things where perhaps things like market failure and what constitutes market failure can be subjective. What I would say is, though, Triodos Bank is a bank that is lending into this sector at the moment and it will continue to do so. On a commercially equivalent basis—because there is a lot of co-lending, which usually is the main exemption for state aid disqualification—if the Green Investment Bank was to do something alongside us in these types of schemes, we could do more than we are currently doing.

**Chair:** That would be something that you would be recommending to this Committee, would it?

***James Vaccaro:*** It would certainly be favourable. If you wanted to take it as a recommendation, then yes.

***Robert Rabinowitz:*** From our perspective, that still leaves the sub-£1.5 million, sub-£2 million, which is where these organisations get started. We need to help them before they get there and there is definitely a market failure. You have just heard there is not any lending into that space. Co-operative Bank, which was the lender that was most willing to look at the smaller space, is absent. We are trying to fill some of that gap, but we are not yet at the scale. Our largest loan is £200,000. There are a number of areas where that could be helpful.

**Peter Aldous:** Madam Chairman, I do think, before we complete this inquiry, we need to go back to the Green Investment Bank and just follow up and ask for clarification on this particular issue.

**Chair:** I think we possibly do and also, I would think, with the DG inside Europe in terms of state aid rules as well. Thank you.

**Q200 Simon Wright:** In relation to the Co-op Bank, the *Telegraph* reported at the start of last week that it is preparing to sell off its renewable energy lending arm because of low yield. What do you believe the future is for bank financing and lending to community groups?

***Robert Rabinowitz:*** I have been thinking about this recently. It is one of those things where there are pressures on the banks right now, which makes us feel that some banks will be trying to step away to a certain extent if we need very long-term money, which causes them problems on their capital adequacy because of Basel. I think over the longer term I can't see this working without bank financing although you could talk about crowdfunding or you could talk about pension funds as alternative sources of capital.

Ultimately, I am hopeful that the bank situation will resolve itself and I think we are going to need banks to get involved. The way banks are set up right now, I do not see that they can do anything too much to help the sub-£2 million type project. I think there is an absence there and I do not see that absence being addressed without something like the Green Investment Bank or some other form of assistance.

There are plenty of projects. The world of solar farms has picked up dramatically in the last 12 months and there are opportunities for banks to get involved there. I do not think there is anything wrong with renewable energy per se. I think there are certain pressures that are on long-term money, but our sector at least is not benefiting from any repair of the balance sheets.

***James Vaccaro:*** I would say there are not many banks in our part of the sector. Renewable energy, though, generally, is quite attractive to banks when there is a stable enough regulatory environment and the technology is proven. There is now a good European-based infrastructure for operation and manufacture. A lot of it is not UK-based, but it can be managed well and can be quite reliable. I think also it is good for banks to be in projects. It is all a question of risk and if you go through a banking process you are making a project more watertight and more robust. That is not to say that every project needs to go through that if there are enough people around it who can go through and accept the risk and satisfy themselves with a lighter level of due diligence. We have done projects in the past that are smaller. From a feasibility level, to go through that process at this moment in time, it is around about £1.5 million to go through a non-recourse project finance basis. A smaller project will need a different approach.

One of the other things I would like to highlight, which is an ongoing consultation at the moment through the Financial Conduct Authority, is on crowdfunding and similar activities. I have not gone through all of it in detail, but I think there is a significant risk that the Financial Conduct Authority may see crowdfunding as being something that needs to have the heat taken out of it because there is not necessarily capacity within them to regulate it as much as they perhaps would like. I think there is a real risk that, having a lot of people in DECC maybe seeing crowdfunding as being the solution to the retreat of banks, it might be an option that is under threat of coming off the table. The reality is that you need to have a diversity of different funding mechanisms, but banks can absolutely add value to projects and need to be brought into the fold.

**Q201 Simon Wright:** On that point of crowdfunding, do you think there is sufficient interest for people to invest in local projects who may be removed from that area; people in investing projects that might be some distance?

***James Vaccaro:*** There is plenty of demand.

***Mike Smyth:*** I will speak on that. The answer is yes. At Energy 4All we find that approximately half the members of the project are local and half are from what is described as a community of cause. They are national and they come from everywhere. The computerised crowdfunding platform, an organisation called Abundance, draws very little indeed from the local area. It is primarily database marketing to people who have expressed an interest and are interested in trying to achieve an outcome and get a fair return on their money. They do not tend to do that much local marketing, whereas the cooperative model tends to have more local marketing but still is heavily dependent on support coming from across the country.

**Q202 Peter Aldous:** I wonder if there is any more scope for joint ventures with commercial operators who may be having their own particular challenges on planning issues at the moment. Is that something you have explored?

***Mike Smyth:*** There is something that Energy 4All does. A lot of our projects are joint ventures of one form or another, but it has very little relevance in practice to planning. The developers who are doing it are primarily doing it because they are continental developers. They do this on the continent and they do not see why they should treat people in Britain less favourably. They get some brownie points for it perhaps on an extension, but it does not count for anything in the planning system.

**Q203 Simon Wright:** How ready or how prepared are individuals to invest, to put their own money into local energy projects? What is the motivation and what are the risks to those making those decisions?

***Robert Rabinowitz:*** Of the projects we finance, our loan to value is under 50%. In excess of 50% will be provided by the local community. I think it shows a willingness on the part of the community to invest. There is a number of share offers that are either happening or have just happened, which demonstrates that people are willing to put their hands in their pockets. Brighton Energy, which I think Caroline might have alluded to, to which we issued a loan, is now doing a second share issue. I think that is going pretty well. Bath & West Community Energy, every time they have raised money they have raised more than their target. In fact, I think they had to turn people away from their last project. People are willing to put money in.

I think there is a high level of trust the public needs to have on the integrity of the people running those projects because, at the moment, they are not subject to FCA disclosure rules, and I think that is what James has alluded to. If you started loading up the FCA costs

on to it, I think you would have another massive hurdle that would kill it. The issue is around integrity. So far, people have been willing to invest because very few people have been burned by it. I am not expecting it is going to happen, but there is a risk there. We, as an organisation that supports these projects through our network, are looking at making sure that the prospectuses and everything are of a sufficient standard that people will put in the money.

I will say one thing. Bear in mind, the people raising money for these projects will often be putting their own money in and that of their friends and families. That is not a guarantee that their money will not be lost. We do know of one project where, a colleague tells me, something adverse happened. They did not take a lot of money off people, but something happened around planning, so they could not proceed. The people who had created those expectations in the community felt for about a year that just popping down to the shops was somewhat of an ordeal because it was neighbours who they had made excited about it. There is something about it being embedded in a community that hopefully adds an additional layer of security.

***Mike Smyth:*** Can I just speak on the returns? About 10,000 people have participated in Energy4All co-operatives. This is not scientific, but I guess there are probably between 15,000 and 20,000 people altogether who have participated, that sort of scale; probably nearer the 15,000 end. The problem so far has been shortage of projects, rather than shortage of people.

The number of people who want to engage is very substantial indeed. Their motives are always a mixture and different people have different priorities. The fact is that it is tangible: you can see something happening with your money and you can see yourself making a difference, particularly if you are local, to your local community. You can see the wind turbine. You can see the solar panels going up. You are getting a fair return and, in retail terms, it is a good return at present. It is not right to compare the return you get from community renewable energy with bank deposit accounts but, inevitably, people do compare 0.5% with 5% or something like that. It is a mixture of the return, the tangibility and care. People want to make a difference. They want to improve their local community. They want to do something to tackle climate change and this enables them to do it.

With all of these cases, why they are rather different from investing in a commercial wind farm company is the community approach on top. The surplus of these projects is reinvested back into that local community. You get a whole hybrid of factors. With Energy4All, where perhaps half the investors are national, they are primarily motivated by doing something to tackle climate change and create an amount of renewable energy that is held in a different structure in Britain. People who are local, their motives are more mixed. In all cases, the financial return is of some significance, varying significance, and the EIS relief is absolutely crucial, I would say, particularly for the larger investors.

***James Vaccaro:*** I would endorse that, but also to mention that Triodos Bank runs investment funds as well. Triodos Renewables is a plc. It is an unlisted plc but with 5,000 shareholders—in a way, it is like a community of interest—and that company owns and operates wind farms and hydro plant. There, it is about the direct connection. It is not about holding shares in a utility and hoping that somewhere along the line, as a secondary measure, there might be some energy projects they felt positive about. It is the fact that they directly own a stake in that collection of projects.

In terms of the risks, most of it, beyond the technology and procurement, is around the management and how it is all being pulled together. At the moment, beyond Triodos Renewables, Energy4All's schemes and some of the co-operatives that Robert is working with like Bath & West, there is not a big diversity in terms of numbers of people managing these types of schemes. It is about being able to see how we might be able to get more. Where I might differ, though, is that all of our materials follow the Financial Promotion Order we do for the larger share issues. We follow the European Prospectus Directive, even though we are not a listed company for Triodos Renewables.

Under the FCA crowdfunding consultation, the fact that we are not listed might mean that we would not be able to market that generally. We would have to go through a process that is more like suitability and appropriateness and find out how much net wealth people had and those kind of things. That is quite a big barrier to promoting investment. There are certain things that, for the very few providers who are around at the moment, might be further roadblocks to more of this type of investing happening.

**Q204 Neil Carmichael:** Just before I ask what I am supposed to ask, Robert specifically, what kind of structure do you like to see in a community project?

***Robert Rabinowitz:*** The structure we are used to, the legal structure, is one of an industrial and provident society, if that is what you are asking.

**Neil Carmichael:** Yes.

***Robert Rabinowitz:*** The reason for that is it can attract investment, so it can take shares. There is democratic control over it, so one single party can't come in and boss it. As soon as you let the public in, you then have to be answerable to everybody. The way it is set up, it has community benefit hardwired into it; so it is a charity in which you can invest. From our perspective, it is able to take an investment and give a fair financial return. 5% to 7% with EIS is a nice return. It operates on a commercial basis, but it has the charitable community benefit component hardwired into it. That is the one that we see. We either lend to industrial and provident societies or to charities, predominantly.

**Neil Carmichael:** James, Mike, do you have anything to add to that in terms of structure and the sort of things you want to see?

***Mike Smyth:*** No. I agree with Robert. That is the model that is typically used for the community approach. If you are going into crowdfunding, they tend to adopt a plc model and quite often what they are doing is crowdfunding a debt, but it is a privately-owned plc that may or may not have any particular community interest at heart. It typically does not, but some do.

**Q205 Neil Carmichael:** Yes, because presumably the ones who are participating in crowdfunding would be bringing their own interests and representing their own financial interests.

***Mike Smyth:*** Broadly, the crowdfunding is replacing bank debt, but it is presented in, and genuinely is, a more community and supporting and interested role than one would expect if you had bank finance. I think people who are crowdfunding do feel they have a degree of a say and are trying to make something happen with their money, but the underlying structure is that of a privately held company with some entrepreneurs behind it or a big business or whatever.

***James Vaccaro:*** For a bank, when you are financing under non-recourse project finance, that means you just have the project contracts as security. Therefore, it is quite a belt-and-braces approach because if anything goes wrong you have to have all the things within the contracts to be able to find a solution. Typically, the security package would include a debenture over the owner of the company, which is usually a sole-purpose-vehicle company, the charge over the land lease, and the charge over shares.

For an IPS, that is more difficult. What has happened is that you have a co-operative that owns a subsidiary, an SPV, which could be a CIC, a community interest company, or it could just be a limited company. Then it is the charge taken over the shares in the limited company that is taken for non-recourse project finance. That can be set up. It adds a layer of additional complexity but, given the complexity and going through all the project finance documents, it is not that much more than what you have to go through if you are going to go through a full banking process.

**Neil Carmichael:** Yes. You have a structure that is effectively pretty robust, as you have just described.

***James Vaccaro:*** Yes.

**Q206 Neil Carmichael:** Moving on to this question, what are the main sources of external financing that community projects can expect to reach? I am talking about the Green Investment Bank, but obviously we have named that already.

***Robert Rabinowitz:*** Our projects have access to three types of external finance. The first was that, in the early stage, groups were getting grants through either local authority or big lottery or something like that.

**Chair:** Sorry, can you just explain what kind of grants from a local authority?

***Robert Rabinowitz:*** Yes. If you have a swimming pool or leisure centre that has been transferred to community ownership, the local authority will still have an interest in it operating or if it is being operated on a long lease by a company limited by guarantee, which very frequently happens, they will still have some kind of financial interest and may be willing to put money in to make things happen.

***Mike Smyth:*** It is quite rare at local authority level. Edinburgh is doing it at the moment.

**Chair:** But it does happen?

***Robert Rabinowitz:*** It does happen. Unfortunately, the feed-in tariff rules have been written in such a way that, if the local authority does do that, it disqualifies the project from receiving the feed-in tariff. I dare say there are many hundreds of projects around the country that have been bitten by this because the change was not communicated to the grant-giving organisations who gave the grants and then the projects, after having invested, found out subsequently that they were not eligible for the feed-in tariff. We are in the process of trying to rescue one of those projects right now in a very deprived area. The grants are being phased out. The second source is community share issues. I think we have covered those.

The third source is social investors like us. For the larger projects, you might have Triodos or Co-op coming in to finance. For the smaller projects, the people who will provide debt will be social investors, people who are prepared to offer lower-cost capital or capital with lower due diligence costs on it. I was sitting with our lawyers yesterday to discuss a particular project. They recommended that we take a charge on the assets, a charge on the lease, a charge on the shares and a charge on the warranties. That may be appropriate for banking, but, as I was saying to the lawyers, "Look, we are talking about a community energy project here with a small loan".

For projects that can't afford those due diligence costs, it has been mission-driven organisations like me, foundations, that provided debt. Even commercial organisations have put in some debt, but on preferential terms that is not replicable. At our level, there were grants. The grants have gone. The share issues are still there. There are still social investors, but there is no commercial finance provided on a commercial basis. Larger projects would be different.

**Neil Carmichael:** Would you like to see more commercial finance provided?

***Robert Rabinowitz:*** I do not believe we are going to be able to get to 2 GW, 5 GW or whatever without accessing commercial-scale finance. We need to find a way to do it.

**Q207 Neil Carmichael:** Have you thought about making it more attractive and how that might be done?

***Robert Rabinowitz:*** The problem is not the attractiveness of the returns. The problems are around the transaction costs and the risk management procedures. If you look at the transaction costs that would be imposed by a bank, even a bank that wants to help these projects, it has to be £1.5 million to be able to carry the costs. There is an issue around reducing those. The solution we are trying to promote is that we start using standardised documents, standardised business models and a standardised approach. At the moment, projects come to us with their own leases, their own finance models and their own prospectuses. We have to evaluate each one. If we knew there was a standard set that had been pre-approved by a bank and that everybody who came to us was prepared to use the same set, that would take out the transaction cost.

**Neil Carmichael:** A sort of an off-the-shelf approach by a larger commercial organisation going alongside in parallel?

***Robert Rabinowitz:*** If you had the resources to build that pack and then to go out to a number of funders who are interested, get everybody to sign off and say, "If it fulfilled these following criteria, we'll fund it", that might reduce some of those transaction costs. The

second issue is around risk. My latest line to some of our borrowers is, "You are like Bruce Willis in the movie *Sixth Sense*", right? Bruce Willis in that movie is trying to make himself heard. You do not get it until the end of the movie. He is trying to make himself heard to his wife, when he is dead.
**Neil Carmichael:** I have not watched that film, I am afraid.
***Robert Rabinowitz:*** Anyway, he is a ghost. To banks, industrial & provident societies are like ghosts. They can't see them. The bank wants to see a local authority or someone with a big balance sheet, and that is where they want to square the risk off. They do not want the end of the contract to be this small entity that I do not understand. The other thing is, can we get local authorities in to underwrite some of the risk, to give some comfort, or someone like the Green Investment Bank, or large installers; the bank will not have to look to the borrower for comfort, but can look beyond the borrower to organisations—
**Peter Aldous:** A sort of fund capable and willing to step in. That is what you are looking at, is it not?
***Robert Rabinowitz:*** A bit of balance sheet support to the entities. If we could have standardised documents to reduce the transaction costs and some kind of balance sheet support, then you could get the banks in, theoretically. I am not sure you can. That is what we are working on.
***James Vaccaro:*** I would endorse a lot of that. The thing with a non-recourse basis, where there is no other security, is you can't take many shortcuts. We standardised our loan facility documentation, but there is a limit to how much standardisation you can do. There is a limit to how much standardisation you can do when the rules on the power-purchase agreements change every so often and standardised lease agreements require standardised landlords, and they have not manufactured those yet. If you look at the smaller schemes where the transaction cost is impossible, our conclusion is that is not possible on a non-recourse basis. You need some recourse, at least part recourse to something. Within a community, that is quite challenging because, once they have subscribed the money in whatever community share issue, they have signed their bit of paper. To then go back and think there is some potential liability, that if something happens they have to put their hands in their pockets, that is difficult.
It is not impossible. We have worked with securitising of communities of guarantors, but having some kind of revolving facility, something that acts as some recourse and security for that transition, especially in the going through to getting something built, it would be something that might be able to get more banks into the space. The difficulty being, though, that, even when that is in place, unless there was enough volume coming through for large amounts, there is a huge investment in time and effort for what would be a quite small business compared to alternative opportunities for them. It would only be the commission-driven ones who would be interested in looking into that.
***Robert Rabinowitz:*** We have asked banks that question. They have said, "Tell me how many billion the market is worth, and then we will educate somebody. But until then, we are not going to invest the time".
***Mike Smyth:*** Just going back to Germany again, KfW do provide that backstop role. They have a set of standardised documents and transactions and they will then provide guarantees to the lending bank for a very modest fee. That is another way that Germany is driving the development of renewable energy and community ownership.
**Neil Carmichael:** Yes, but that is traditional in the German system, already. I am trying to tease out how we could do something similar.
***Mike Smyth:*** The Green Investment Bank could undertake the role that KfW does in Germany, and I think should be, otherwise why did we bother to—
**Chair:** Is it that they are saying at the moment, "We can't do that because of state aid rules? That might be a red herring.
***Robert Rabinowitz:*** There are two things: there is the state aid rules and there is the issue of size, again.
**Chair:** Sorry?
***Robert Rabinowitz:*** Size. When the CEO, Shaun Kingsbury, presented at the session in Guildhall, we heard it was, "£25 million we will do. £5 million and above, we have our funds that do it. Below that—" To get their attention, we need a £5 million fund that has enough volume of projects to do £5 million.
**Neil Carmichael:** It is that fund that you need, which is—
***Robert Rabinowitz:*** Yes.

**Q208 Chair:** Just before I move on to Martin Caton and the European Development Fund, I was at a seminar in Brussels last week, and there was a lot of talk about energy and so on. Am I right in thinking that that is going to be distributed through the local enterprise partnerships and, therefore, you would expect all the local enterprise partnerships around the country to be flagging up the importance of this part of funding, for what they are given money for? Putting it another way, if there was a local enterprise partnership that had not included this whole energy theme, low carbon solutions, in their prospectus for the latest applications, they could perhaps be held to task over that. Would you agree with that?
***Robert Rabinowitz:*** I am fairly ignorant of it, I will confess, but my inclination would be to agree. If we are looking to promote local economic development and the LEP has not considered community or distributed generation, that would be an omission.
**Neil Carmichael:** I am about to go and see my own LEP and, funnily enough, you have touched upon one of the issues that perhaps needs thinking about.
**Chair:** I am sure you have it on your agenda there, Neil.

**Q209 Peter Aldous:** Do you think there has there been a lack of policy certainty that has affected the financing of community level projects?
***Robert Rabinowitz:*** I will talk from our experience.
**Peter Aldous:** I thought I would start off with the opener for expediency.
***Robert Rabinowitz:*** Yes. There are two things that happened. The first was the very abrupt cut in the feed-in tariff and then the general uncertainty in the

feed-in tariffs. I will relate a number of stories. The abrupt cut was quite good for us because it gave us an opportunity to finance a few things quickly that might have taken longer, but we have seen that, following that and the issue of state aid around grants, because a lot of organisations were in receipt of grants, and the uncertainty around that, we saw our pipeline projects tail off very dramatically for about 12 months.

It is now picking up again because it may be that some more confidence is coming back, but the recent debate around green levies again exacerbates that. There have been a number of groups that have been very badly burned. There are a lot of people who are now just beginning to get their confidence back, but we have spoken to social investors to talk about investing in us and a number of them have raised that they will not do it because they do not trust the regulatory regime. They say, "If we are going to invest £5 million or £10 million, we are not confident you are going to get the money out the door before the regime changes again."

**Peter Aldous:** I think we all do remember the abrupt change in 2011.

***Robert Rabinowitz:*** Yes.

**Q210 Peter Aldous:** What has happened since then? Has it settled down? Do you feel more confident with it or are you always looking around the corner to see what might be on the way?

***Robert Rabinowitz:*** In our sector, in terms of the people who are coming to see us, two things have happened. We are predominantly focusing on the built environment, which is where we are different to the kind of projects that James is focusing on. We are not doing wind and hydro. We are trying to make buildings more energy efficient, put more renewables on. Solar is a big part of it. Two things have happened. There is a feeling that there is a little bit more certainty, plus the price of solar has dropped dramatically. Of course, just when everybody was feeling confident again, then you had the trade tariffs on solar imports, but that seems to have worked its way through. I think there is more confidence, but I don't think anybody in the sector does not live with the constant concern that something unexpected will just pop up. The feed-in tariff going off the energy bill into general taxation, does that mean the amount set aside for feed-in tariffs is going to change?

***James Vaccaro:*** I just want to add that there is a big relation between perceptions and reality and there is a feedback loop. If you take the 2011 feed-in tariff reduction, it was not the fact that it was not necessarily the right level. It was the fact that it was the way it was carried out and the way that that was reported that pulled the rug under everybody's confidence.

I think that what happens as well is there is a hiatus effect whenever something that is quite an interesting new thing comes on the horizon. Developers think, "Should I plough on with my project now, or shall I wait for something better?" That certainly happened during the ROC review when FITs were about to come in. At the moment there are some of these perception-reality things, and the reporting of the green levies, which is nothing to do with renewable energy and renewable energy targets, undermines confidence in the regime in people's minds. That has to be looked at in one way.

There is other stuff in terms of effective planning guidance, aligning all the stakeholders, so non-statutory and statutory agencies like the Environment Agency for the hydro permits and those kind of things, that are more regularly flushed out as being issues in the German model and addressed; whereas here they can stagnate and put everybody off. In order to get a project done, it is only going to be as strong as its weakest link and only by being able to make sure that absolutely every part of it has been smoothed out and the things running through it can you be sure that you are going to be able to get a project through.

**Q211 Mark Lazarowicz:** Considering what you are saying about the uncertainties, even if you get Government decisions on whatever happens with green levies or with CFD, which are enshrined in stone for 50 years and so on, nobody is going to believe that there is not going to be a change in a few months' time or a couple of years down the line. It is going to take a lot, isn't it, to get that stability and confidence restored, no matter how much is said by Government? Can anything be done?

***Robert Rabinowitz:*** Less saying and less doing, I think.

***James Vaccaro:*** But there are specific things within the way that the legislation can be drafted that provide the certainties. No one is expecting there to never be drops in price support mechanisms, but the way in which those reviews can be taken out—

**Mark Lazarowicz:** Tell us.

***James Vaccaro:*** The criteria can be set and be transparent. The frequency of the review mechanisms can be set appropriately so that is not whenever somebody decides to take it on as a political issue, but it is done, say, on a two-year rolling cycle. There are specific commitments that can be put in place. Even now, under contracts for difference, without going into too much of the detail, there is certainty of onshore winds that are £105 or whatever, but if you read it, it is only up to a certain amount of volume and then it is going to be bid into auction. There is the devil in the detail. If the legislation could be drafted so that there was real certainty that was legislated for—even ROCs, they went through to 2027, but then ROC banding could come in at some point. It undermines the entirety. It is like, "Who cares if they come in for such a period", but then it is undermined by some of the more detailed changes. There are absolutely ways of drafting the legislation that can give the certainty and enshrine that in things that cannot be moved, given the political cycle.

**Peter Aldous:** Mr Smyth, do you have anything to add?

***Mike Smyth:*** I was just going to make one comment. One of our schools went through 10 regulatory changes before we built the panels. That gives you an idea of the extraordinary uncertainty and why people drop out in droves, normally having lost time and money. At the moment it has settled down for solar for communities. The problems are difficult on wind because of longer timescales, and the renewable heat

incentive, which frankly has not worked as well as it should have done, has complete uncertainty built into it. Broadly, the rates can be changed at any time without any criteria applying. On a project that might take a year or 18 months to deliver, you do not know what the end point is and that is one reason why there has been a low uptake.

**Q212 Peter Aldous:** Finally, from each of you, what one thing do you think Government could do to increase policy certainty?

**Chair:** One each. Who is going to go first? You do not have to.

***James Vaccaro:*** If you want it to be simple, then I would say to commit to a feed-in tariff level for, say, a period of five to seven years for a banding, whatever that is, and accept that in the short term there may be some things where it is just like, "Well, is it value for money", and all these sort of things, but that will deliver a supply chain that will drive costs down in the longer term.

***Robert Rabinowitz:*** I did not come up with anything so specific, but just to go back to the German cultural comment. One of the things that they do there is they set it and then they stick with it; if we can just have one thing and then stick with it for a fixed period.

***Mike Smyth:*** I do not have one thing to add, other than look at it holistically rather than issue by issue. At the moment we have a mentoring project starting but in a vacuum, without addressing all the other issues.

**Q213 Dr Offord:** How difficult is it for community groups to access external finance, or is it easy?

***Robert Rabinowitz:*** External finance that is not local finance—

**Dr Offord:** Yes.

***Robert Rabinowitz:***—is not local share issue, is difficult. We try to make it easy, but we are a relatively small pot. Apart from us, you have to ring around all the various foundations and philanthropies. They will make it easy to a degree. After that, as soon as you are into commercial finance, it is very difficult below this scale. The scale and the type of project is crucial. The type of projects we are trying to support, there is no commercially-sourced finance that is being offered at a commercial rate. It is not there at all.

**Q214 Dr Offord:** All right, I will bring it back to you then. How would you describe what a viable proposal would look like?

***Robert Rabinowitz:*** For us?

**Dr Offord:** For you particularly, yes.

***Robert Rabinowitz:*** We will lend money over 5 to 10 years. So we are looking for a project that will repay our loan over 5 to 10 years and give a margin of at least 20% between what the project's net income is and the loan repayments. Generally that means, for solar, they have to provide something over 50% of the capital. For some of the biomass projects we are looking at, they do not have to provide very much of the capital at all. We need to take security over the assets and we need to see it is an organisation that has community benefit hardwired into its very structure—if we see those things then we are very happy—and then the ability to raise the other amount of money.

**Q215 Dr Offord:** My second point from that is how do you make that balance between lending to those that you hope will be successful and also expanding the range of people who you assist, because they may be considered more risky, from how you describe that you provide lending?

***Robert Rabinowitz:*** We are at the moment considering a loan from a very small organisation. It is in great financial distress in a very deprived part of the country. We sat down with our investment committee yesterday and we decided to keep looking at it because of the level of distress in such a deprived area. We are not relaxed, but our risk appetite is greater because we are a social funder and because of the way our funding goes back to Big Society Capital. We take a first portion of the loss on our loan portfolio and they take the rest, which allows us to take that risk.

At the moment we will only lend this amount of capital to projects that are located in the bottom 50% of the country, as measured by the Index of Multiple Deprivation. We are, of necessity, restricted from lending to some of the wealthier areas. We are already probably, de facto, into the riskier areas, but there is probably a layer of projects yet that we do not have access to because they do not have the local human capital to bring us the projects. The areas we are lending to, they have people to bring us the projects but they are short on capital. As long as they are coming to us with a project, we can probably help find a solution that is a combination of our finance plus someone like Energy4all's network of investors will come and provide some outside capital.

Where we have the problem is where they do not have the people with the time or skills to provide it. That is where we have a real problem. If we are to scale up the financial risk issue will become more pressing, but right now the major constraint is that human capital issue.

**Q216 Dr Offord:** That is helpful and very interesting to hear as well. How would you describe yourself, particularly in contrast to some of the commercial banks? What would you say are your main assets?

***Robert Rabinowitz:*** Our assets: we are willing to lend to organisations that do not have balance sheet; that do not have trading history. If you look at a debenture, we take a charge over the assets that we lend against. The first draft of the debenture I obtained from the lawyers had so many things in it that I just thought, "If any of the community groups read that they will be scared off". The lawyers were doing their job of giving me everything, and it was my job to say, "Look, tell me what I need, rather than what would be nice to have". We are trying to take an approach where we pare down the due diligence to a risk level that is appropriate and bearable for the project. Because we do not have shareholders or depositors to answer to if we have losses, that also allows us to take more of that risk approach. The fact that we do not have depositors or shareholders and, I suppose, in our processes we are trying to be rigorous within an

appropriate level and we are able to step down from the demands that are placed on banks for their due diligence. I do not know if that is—

**Dr Offord:** No, that is very helpful. I think that covers everything. Thank you very much.

***Mike Smyth:*** Dealing with Pure could not be more different than dealing with a bank. In one case you are dealing a charity that is mission-led and trying to deliver community-owned renewables and in the other case you are dealing with an organisation that wants to minimise risk and maximise return. They are not the same at all.

**Q217 Martin Caton:** You have already mentioned local authorities as grant givers and the problems with accessing FITs after that, but you have said it has been a very limited role. On the face of it, that seems quite strange because local authorities, at least superficially, seem to have something to bring to the table. They are often major landowners who therefore could provide sites and, also, they are more expert than anybody else in the planning process, which, again, you need to engage with. Do you think there is considerable potential for involving local authorities to a greater extent as partners, and how do we make that happen?

***Robert Rabinowitz:*** I agree with you 100%. I do not believe we are going to scale up to the level of 2 GW without local authorities. That is an increasingly common realisation across the people in our sector. They have property portfolios. They have a source of projects, especially where they have social housing that has not been spun off into housing associations. They have ALMOs or their own housing. Leisure centres or schools are all things that communities will want to fund. They have the expertise, they have the ability to execute, and they have finance.

The biggest challenge for local authorities is determining a policy that needs to be executed, but they are not the ones that are going to execute it. Creating the partnership and saying, "We want to have solar panels on our 10,000 houses and we are going to work with a community energy group to do it". They either want to procure it and own it or they want to do a procurement that involves getting private capital in, through a procurement process. It is very hard for them to say, "Okay, we have a preferential approach to something we want to have happen through community energy".

We are currently working in very early stages with three local authorities, one of whom we have persuaded to carve out part of their portfolio. They want to do £30 million of solar. We have said to them, "Give us £1 million or £500,000 for the local community energy groups to do". We are getting there with that one. Another one is, again, taking that approach. So we are just beginning to work with them. If we can create these replicable models—I think it goes back to the issue of inequality and geographical spread—we could start doing a lot more projects where we are currently not doing projects, which is the urban areas around the Midlands, the north-west and the north-east where community energy does not have as much penetration, because the local authorities would be the key. They have massive estates to make available and expertise and finance. I agree 100%.

**Q218 Caroline Lucas:** When you said that it is difficult for them to choose to go with a community energy programme, do you mean it is difficult in terms of they want to do things on a level of scale just because it is cheaper to do that or it is difficult for them legally to do it?

***Robert Rabinowitz:*** I think it is more psychological than legal. I am sure there are ways of doing it. Mike and I funded a project in a school. The local authority would not give us an answer—we needed their permission to do the project—and part of the reason was, "It is one school and I am not going to put my neck on the line to give you permission to do one school when I have 300 other things to do and we are thinking about the whole estate". It is more of a bandwidth issue, but our experience has been they either want to procure it themselves and do it themselves or have it procured and done for them. The idea of partnership is quite difficult for them. I do not think it is legally problematic. I think it is more to do with, in an atmosphere of cuts and feeling imposed upon and having a million other things to do, it is quite difficult.

***James Vaccaro:*** I would endorse that. We have been very keen to work with more local authorities. We work much more with local authorities and the regions in, say, the Netherlands. I would say that things are changing and there are some local authorities who are trying to take leadership, but they have to do it themselves a little bit first to show they are serious because there is not a wealth of community energy groups there for them to choose. It is a bit of a chicken and egg situation and, in a way, they have to be able to show they are committed to it for the long term to be able to generate the interest.

**Q219 Martin Caton:** Is there anything that central Government should be doing, either to help create the opportunity for local authorities to get involved in that way or even just to encourage it?

***Robert Rabinowitz:*** Certainly, encouragement, yes, a massive role. As I say, we are working with three at an early stage. I am sure there are others out there. The encouragement and the promotion of the ideas, absolutely. I do not understand the balance of powers between local and national Government well enough to comment on that legally and whether it is mandated. Certainly, on the encouragement and promotion, there could be investment in time, convening power, research and promotion that can be done.

***James Vaccaro:*** This is on the edge of my knowledge but, as I understand it, how the national minerals plan works is you look at where the resources are and then you divvy that up with the different regions. They have to work out, "What is the best way to get to these things, given all the other things you have going on in your particular area?" A similar type of mechanism, where there are certain resources that can be deployed in different ways, to be given targets for local authorities where then they can, in some way, be incentivised to make sure that they reach those in a

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"race to the top" kind of mechanism, could be a way of being able to promote more action.

***Robert Rabinowitz:*** With permission, I am embarrassed to admit that I forgot the one thing about local authorities that we submitted to the DEC community energy strategy. It is almost like a community asset type thing. Where it is identified that a local authority property is suitable for renewable energy and they do not have the capital to do it themselves, community energy should have right of first refusal to fund that installation, as long as it is pari passu with commercial. One of the challenges community energy has is the projects we fund do not have a big enough asset base to throw off enough revenue to fund professionals. Local authorities have that asset base and, if they can't fund the renewables themselves, that would be an immense opportunity for community energy groups to get access to a large enough asset base that, if they can fund or generate enough revenue, they can then hire professionals and they can up their game. I am very embarrassed not to have thought of that straight away.

***Mike Smyth:*** If I could add one brief point on that, because it is not just local authorities. One of the biggest landowners of suitable buildings in the country is the NHS and it is one of the most difficult, unhelpful and obstructive organisations when it comes to community energy there is. There has been a handful only of projects, but it is a very difficult organisation to deal with. The Ministry of Defence is another one; very big landowner, but utterly unresponsive, which is a shame.

***Robert Rabinowitz:*** Local authority and the public sector.

**Q220 Chair:** Basically, what you are saying is that the local authority and the Government estate—MoD, the NHS—should be looking at this. I am just thinking of some evidence that we have had whereby there is a suggestion that community energy groups do not have the economies of scale to make it worthwhile; so it is much more important to prioritise the big investments rather than the small-scale community energy ones.

***Robert Rabinowitz:*** It is a chicken and egg and, if you look across to Germany, it can be done. What we have is a set of rules that are inherently built against the groups.

**Q221 Chair:** Okay. Finally, I read somewhere that IKEA, for example, had gone down this route. To get the step behavioural change that we need, do you think it is worth having a demonstration of projects from companies, be it IKEA or other ones, who can demonstrate by doing this just what a benefit it could bring?

***Robert Rabinowitz:*** We have approached a major retailer that has a distribution centre with significant capacity for solar panels. They are intending to install some, but not all, and we have offered to install solar panels on the rest of the roof free of charge. The local community can invest and then all the surplus will be reinvested in local schools and community centres, at no expense to them and they will get cheaper, green electricity from it. There are huge possibilities for them, at very little cost or risk, to get significant reputational benefits from it.

***Mike Smyth:*** One difficulty with that is the landholding structure of commercial buildings. The occupier, the retailer for instance, is often very supportive and would like to do something. The freeholder either has no interest in it or is after the entire value added. That is one reason why the commercial buildings in particular are struggling to engage in this, because of the split of ownership. We will probably have to wait for some of the energy efficiency requirements to come into force in letting commercial buildings in a few years' time—and for those possibly to be strengthened—before that can be grappled with effectively.

**Chair:** On that note, I am going to bring our session to an end. Thank you very much, each of you, for coming along this afternoon and I hope that when we do produce our report, you will read it with interest. Thank you very much indeed.

## Wednesday 11 December 2013

Members present:

Joan Walley (Chair)

Peter Aldous
Neil Carmichael
Martin Caton
Katy Clark
Zac Goldsmith
Mark Lazarowicz
Caroline Nokes
Dr Matthew Offord
Dr Alan Whitehead

### Examination of Witness

*Witness:* **Rt Hon Michael Fallon**, MP, Minister of State for Business and Enterprise, Department for Business, Innovation and Skills, and Minister of State for Energy, Department of Energy and Climate Change, gave evidence

**Q222 Chair:** Minister, can I give a very warm welcome to your repeat appearance before the Select Committee after a very short space of time? We understand that your officials are out there in the queue waiting to come in and I certainly hope it will not be too long before they are able to join us. On that basis, we are happy to proceed.

I wanted to start off our questioning on green finance with a very quick reference to the fact that the Climate Change Committee has issued its report on the *Fourth Carbon Budget* this morning. We would be very interested to hear from you what kind of timescale you now envisage and whether, in view of the recommendations of their report, you feel that there is any need at all for further revision, or whether there is any timescale that you could share with the Select Committee.

***Michael Fallon:*** Thank you for your welcome. I am afraid you are, as always probably, ahead of me. I have seen reports of the Committee on Climate Change's report, but I have not yet had time to see it.

**Q223 Chair:** In terms of its having been issued today, are you envisaging a very quick response? How are you envisaging linking with other departments in terms of the Government's response? Will it be DECC or will it be Treasury? Who will be leading on that? You must have some kind of a timetable in mind.

***Michael Fallon:*** I do not, I am afraid. I have not had time to see the report yet, so I must do that. It has been a rather busy week.

**Q224 Chair:** Perhaps we will come on to that a little bit later.

We want to come down to the local from the national and ask you to share with us what more you think could be done to facilitate major investment in green infrastructure, including renewable energy, in respect of the local initiatives that there are. We understand that the *Community Energy Strategy* was due to be published this autumn, but it has not been published as yet. I wonder if you could perhaps shed light on that, the reasons for the delay and the priority that the Government is giving to local energy investment.

***Michael Fallon:*** On the first point, a huge amount of investment is now taking place in low carbon and renewables, partly because the framework is now being cemented into place through the Energy Bill, which I hope will become law in the next few days, and the details of the final strike prices, which we published last week, and our progressing of the FiT-enabling projects as the intermediate regime between the renewables obligation and the Contracts for Difference that are coming. We are seeing a surge of interest in renewables projects.

On the *Community Energy Strategy,* yes, it has been a little delayed. We hope to publish it early in the New Year. That does not mean we are not doing anything about community energy: we have a number of funds and instruments, but we want to bring them together into a coherent strategy, which we have been discussing with the various stakeholders, and we want to see what the barriers are to local groups either generating their energy, purchasing their energy or indeed with schemes to reduce the demand for energy. We want to see what the barriers are, whether they are barriers of finance or whether it is the capacity of the communities or whether there are other regulatory or planning barriers that get in the way. These are the issues that the strategy will address and I hope it will not be delayed much longer.

**Q225 Chair:** Do you see local authorities as being part of the mix in terms of being in a position to invest in energy at a local level and their need to have green energy finance to do that?

***Michael Fallon:*** Yes. I see community groups wanting to work with local authorities, which is only logical. Some local authorities are already quite heavily involved. My own in Kent, for example, has a scheme—I think it is called Lumina—and works with a company to buy collectively on behalf and sell energy to small businesses. I would envisage us mapping out a route for community projects to work with local authorities on schemes of interest to them, whether that is generation or purchasing, or indeed, as I said, reducing energy use or energy demand.

**Q226 Chair:** You said "mapping out a route". I just wonder whether there is advanced work going on that will then be reflected in the strategy you referred to that will be published early in the New Year, because there are huge numbers of obstacles for local authorities and community groups to overcome, are there not?

***Michael Fallon:*** There are, and there are barriers, and I think it is legitimate to ask why there are not more community schemes and why they get to a certain point and then do not get any further. That is what I hope this strategy will address.

**Q227 Chair:** I am tempted, given that you have mentioned Kent, to mention Stoke-on-Trent. I just wonder, without going into any details, whether the kinds of obstacles there are to getting investments in renewable energies underway are top of your list in terms of trying to see how the investment can be found.
***Michael Fallon:*** There are a number of Wave 2 City Deals that the Government is currently looking at that have a very strong energy component and the Stoke and Staffordshire proposal is one of those that we are looking at intensely at the moment.

**Q228 Chair:** I wonder if I could just press you—not on that direct case, because that would be wholly improper—on the cross-cutting agenda that is needed from other Government departments, whereby, for example, that is a programme where any scheme applying to it would require Cabinet Office, BIS, various departments; whether there is the sort of mechanism in place in Whitehall to be able to unlock some of the barriers that there currently are to making sure that the finance is available locally.
***Michael Fallon:*** Yes. We do look at these things collectively. It is in the nature of the City Deals, the propositions, that they do of course cover funding streams from a number of different Government departments. That was the whole point of the Heseltine devolution, that there are bits of the transport budget and bits of the housing budget and bits of the skills budget and other departments being asked to contribute where necessary. We look at these things collectively, we assess them across Whitehall. Greg Clark is in overall charge for the Cabinet Office, but I can assure you that DECC and BIS, which I represent jointly, are extremely involved in a number of these projects.

**Q229 Chair:** I somehow suspect that converation will continue, but finally, what advice would you give to local authorities wishing to make a mark on investment in renewable energy?
***Michael Fallon:*** What advice would I give them to—
**Chair:** To local authorities wanting to try to find ways of investing in renewable energy, given the Government's policy. What would be your advice to them to make sure that they do it?
***Michael Fallon:*** I think the best route for these projects is probably through the Local Enterprise Partnerships, which local authorities play a major part in, or through the City Deals, or indeed to talk directly to the Department, but the *Community Energy Strategy* I hope will set out a little more clearly the various routes that these schemes can take.

**Q230 Chair:** Finally, can I just ask you about crowd funding, because we have been told by various people, including Triodos Bank, that the Financial Conduct Authority might be taking steps to regulate crowd funding, which of course can be a significant source of funding for community energy. Have you had any conversations at all with the Financial Conduct Authority to ensure that funding for community energy schemes is not going to be compromised in the future?
***Michael Fallon:*** I have not myself directly, but I am obviously concerned that we have this alternative source of finance—of course it carries risks for investors, but is becoming more mainstream—and I do not want to see it choked off at the point where it is becoming more mainstream, so I am concerned. Of course, there are risks, and risks should be regulated and those who want to invest their own money through crowd sourcing need to be fully aware of the risks that they are taking. But I think anything that was done now to make this more difficult would be unfortunate, given the difficulty that small businesses in particular have in raising finance through the more conventional means from the banks.

**Q231 Neil Carmichael:** Hello there. I just want to talk about the Green Investment Bank, and in particular, just generally first of all, how do you think the progress is in connection with its formation and direction of travel?
***Michael Fallon:*** I think the Bank is making good progress. It has some £734 million out there in around a dozen projects, so that has been a fairly swift start from the blocks. It is attracting private investment alongside its own money—that is extremely important—and it is covering a range of different types of technology. As you know, its priority areas are offshore wind, energy efficiency, waste recycling and waste to energy and the projects it is investing in seem to cover most of those areas, so I think the Bank is off to a pretty good start.

**Q232 Neil Carmichael:** In comparison with the German equivalent, KfW, one obvious difference is effectively the balance sheet. KfW's is about £500 billion, as compared with the Green Investment Bank, which is pretty much tiny. Does that worry you?
***Michael Fallon:*** The KfW has been going for a long time now—I think it has been going for 60-odd years—so it is a very well-established part of the German financing landscape and no doubt the Green Investment Bank will build up over time. But it has all the funding it needs for the moment; it has funding through to the end of 2015/16. It has plenty to be getting on with and plenty of projects to be investing in, so I think it is a little early to start comparing it directly with its German equivalent.

**Q233 Neil Carmichael:** But do you think that the direction of travel is towards the sort of scale of KfW?
***Michael Fallon:*** That is certainly possible. We will have to see, first of all, how it gets on in borrowing from the private capital markets alongside the borrowing that it can now do from the National Loans Fund. It is still a very new bank, but I think the direction of travel is right. I am not sure I should speculate on whether it will reach the scale of its German equivalent.

**Q234 Neil Carmichael:** Do you think the restrictions on its borrowing capacity have anything to do with that?
***Michael Fallon:*** No. I think it was right at a time when our overall public borrowing was hopelessly out of kilter, with the legacy we were left by the last Government—a deficit of course that was far larger than that of most other countries and is simply off the scale when compared with Germany's financial position. We were not able to set up an equivalent to the German bank and allow it to borrow on that scale. But we will see how we go. I think the Bank has made a good start.

**Q235 Neil Carmichael:** As far as I understand it, KfW is not on the public sector balance sheet, but of course the Green Investment Bank is. Is that something that is going to hamper the progress of the Green Investment Bank?
***Michael Fallon:*** No, but the choice we have made over it does of course mean that we will have to continue to seek state aid approval for its continuing operation. It has approval up until October 2016 and we will have to go back to the Commission and extend that approval if we are to continue to fund its borrowing rather than push it out into the capital markets.

**Q236 Neil Carmichael:** The *Autumn Statement* obviously talked about our debt and deficit. It pointed out that it is going to be a bit longer to reduce the debt as a falling percentage of GDP until about 2016/17, but we were told that debt levels will be similar, if not falling, by 2015/16. Does that alter our view about the scale of the Green Investment Bank?
***Michael Fallon:*** No, it does not. I think we always made the position clear about the Green Investment Bank: that we should not allow it to borrow openly until we were in a better position on the public finances, given the depth of the recession, which I do not think was fully understood or fully mapped when this Coalition Government started. We only now realise the depth of the recession and the bust that we inherited, and given the very sluggish growth in the eurozone, I think it inevitable that our timescale for getting into a healthier financial position has slipped back a bit.

**Q237 Neil Carmichael:** Thank you. The *National Infrastructure Plan,* which was also published last week, states, "The Government will be looking at options to bring private capital into the Green Investment Bank to enable it to operate more freely in delivering its objectives". Does that imply some sort of relaxation of the borrowing rules?
***Michael Fallon:*** No. It follows through on what we said originally, that in the longer term we want to see it able to borrow privately and it will now be borrowing a proportion. I think the amount it can borrow from the National Loans Fund is some £500 million of the £800 million, so it will now be able to test its ability to borrow in the private markets. This is a very new bank, so it has to establish its—
**Neil Carmichael:** Credibility.
***Michael Fallon:*** Creditworthiness, and it has to establish its track record and its ability to secure a decent commercial return. These are relatively early days.

**Q238 Neil Carmichael:** But you see it playing a part in the *National Infrastructure Plan* development?
***Michael Fallon:*** Yes, I do. As I said, I cannot look ahead to tell you that it is going to match in size the scale of the German operation, but I certainly think it is already playing a part in the national infrastructure we need. That is because the investment we need in energy is such a large proportion of the total requirement for new infrastructure.

**Q239 Neil Carmichael:** Last but not least from me, the UK Guarantee Scheme versus the Bank: what are the determinants of the decision between those two?
***Michael Fallon:*** They do different things. The UK Guarantee Scheme ensures that it is easier for those financing these big projects, whether they are transport or nuclear power or a biomass conversion, to access that kind of finance in the markets; it enables them to do it on slightly easier terms. It does not make it cheaper, but it enables them to do it over a longer timeframe. The Green Investment Bank of course is taking a direct stake in some of the projects, so there is relatively little overlap between the two. There are a couple of examples, one of which is Drax, where both instruments have been deployed, but they have different purposes.

**Q240 Mark Lazarowicz:** A last point on the related point about the linkage with other initiatives: how do you envisage the Green Investment Bank linking in or having a relationship with the British Business Bank and how that develops?
***Michael Fallon:*** It is early days to make a judgment on that. The Business Bank is only just getting underway, but obviously we will need to make sure that the two are fully aligned and they are not tripping over each other and trying to invest in the same kind of project. The British Business Bank brings together the various Government schemes that are out there to get capital into new types of business in different ways, but the Green Investment Bank obviously is looking at projects in these four particular sectors. I would hope that a project that came forward or that the British Business Bank heard about that fell into one of those four sectors would get referred across to the Green Investment Bank.

**Q241 Chair:** Minister, can I just go back to your questions with Mr Carmichael? Looking at the *Autumn Statement* and the fact that it said the Government's target of debt to be falling as a percentage of GDP will not now be met, as Mr Carmichael pointed out, until 2016/17, I am not quite sure where the Government is on this, because what we need is certainty as far as the Green Investment Bank is concerned for those looking to invest in 2016 and 2017. I wonder whether you will allow the Bank to borrow in 2015 and 2016, as originally indicated. I am still not clear about where the Government is in relation to that.

***Michael Fallon:*** We have set out the borrowing that it can undertake up until the end of 2015/16, up until the end of March 2016. That is £3.8 billion in total and I am quite sure that is going to be adequate for the next couple of years. Beyond that, we have not allocated a specific figure. That then falls into a new spending review period. It is not possible for us to make those kinds of allocations now, before the election and before the construction of possibly a different Government.

**Q242 Chair:** But are there not problems, insofar as we have not reached where we would have expected to be with the Green Investment Bank because of the graph in the *Autumn Statement,* and, therefore, if the Government is going to go back to review the state aid rules, are we not leaving investors a bit short? There is not going to be any certainty for 2016/17, which is what is needed for long-term investment. Do you not see a sort of inconsistency there?
***Michael Fallon:*** We have always known we would have to go back to the Commission to get the state aid approval continued beyond October 2016, so there is nothing new there for investors. Look, we are committed to this Bank and we are going to make sure this Bank continues. This is not just something for this spending review or this Parliament. We are committed to this Bank, but we did not want it adding significantly to our borrowing requirement while we were still taking measures to reduce that requirement.

**Q243 Chair:** Will you be pressing the Treasury to make sure that the amount that would be allowed for 2015/16 will still be there?
***Michael Fallon:*** Yes, for 2015/16, it will be.

**Q244 Chair:** It will be, okay. Just finally on the European state aid rules, I understand that the Green Investment Bank could invest in community projects now, as long as that was in the remit of the Green Investment Bank as approved by Government. Is there any likelihood that the Government and the Green Investment Bank will perhaps be looking at or reconsidering that remit to allow that investment to be taking place in small community schemes?
***Michael Fallon:*** Yes, they can invest in small-scale schemes, provided they are in those four priority areas, so if it is a small-scale waste scheme or a small-scale energy efficiency scheme, yes, the Bank can already invest. We continue to discuss with the Commission whether that could be extended into other technologies. The Commission's view is that the Bank should not be investing in areas unless there is real evidence of market failure, and simply because it is a community scheme does not mean necessarily that there is market failure. It might just be a different way of putting a project together. That is something we continue to discuss with the Commission.

**Q245 Chair:** Forgive me, but I have had conversations both with the Green Investment Bank and with the European Commission officials and get the sense that both are saying, "The other will not allow us to do it". Surely there should be some quite straightforward way of being able to arrive at a situation where that kind of investment for the small-scale community energy schemes could get over both hurdles, be eligible for Green Investment Bank and not be in breach of state aid rules.
***Michael Fallon:*** I would like to see it, but the state aid rules are there. They are there technology by technology and they are based on whether there is real evidence of market failure in a particular technology. That is quite hard to argue, for example, for onshore wind or hydro power or for solar. It is easier to argue for energy efficiency or waste from energy. That is the difficulty, but we continue to discuss these things with the Commission.

**Q246 Dr Offord:** I am a little bit confused, because I understand that the Green Investment Bank was seeking approval to go into certain sectors and seek state aid. Do I have that incorrect?
***Michael Fallon:*** No. As I said, we are discussing with the Commission whether the Green Investment Bank could have more scope to invest in some of the smaller scale projects, but at the moment, we are restricted to those areas where there is market failure, and that is why up until now the Green Investment Bank has been focused on areas like offshore wind and energy efficiency and so on. But I would like it to have a wider scope and I would also like—picking up the German point—us soon to be able to establish with more certainty how it will continue after October 2016 in some of these areas.

**Q247 Dr Offord:** Mr Carmichael has mentioned Germany's KfW, and I understand that they lend to community energy schemes, but that we are currently banned in the UK from doing so.
***Michael Fallon:*** That may be right, but their borrowing model may be slightly different. I think Mr Carmichael was drawing our attention to the fact that it was almost all private and did not involve public funding. That is the difficulty. Where there is public support involved, direct public support from the Treasury, we need state aid clearance and there are quite tough state aid rules to negotiate.

**Q248 Dr Offord:** Okay, thank you. My final question is, why didn't the Government seek state aid approval on a further range of measures in the very beginning?
***Michael Fallon:*** State aid should not be made available to areas where the market is able to finance these things. It would not have been possible to have received state aid approval, nor do I think it would be right to get state aid approval, for example, for the Bank to invest in onshore wind, or indeed large solar farms, where there is plenty of evidence that companies and investors are quite happy to invest themselves.

**Q249 Martin Caton:** In its evidence to us, the New Economics Foundation suggested that quantitative easing could be adjusted and used specifically for green investments. Is this something the Government has considered or is considering?
***Michael Fallon:*** No. Quantitative easing is a matter for the Bank of England and the Monetary Policy Committee. Parliament has given that committee a

very precise remit to focus on price stability, and I think it would undermine its task of pursuing price stability if we started to give it conflicting policy objectives or asked it to target certain sectors of the economy or indeed to start thinking about how some Government spending programmes would be financed. I would not support that.

**Q250 Martin Caton:** We know the Government is not keen on the financial transactions tax being taken forward by some other European countries. Have you in BIS or the Treasury looked at whether there is scope for some other form of tax or fiscal incentives on financial transactions to improve green investment?
***Michael Fallon:*** We are not opposed to a financial transaction tax in principle, but we believe it would only be acceptable here, it would work only if it was done on a global basis and that kind of consensus is simply lacking at the moment. There is not even a consensus in the European Union. There are only 11 member states, a minority of the member states, who are currently signed up to trying to proceed with it and we do not think that is the right way to make policy. Of course if they did go ahead, it could be quite damaging to us here. It could put up costs and damage our financial interests, so we are obviously concerned at the extent to which the European Union is pursuing this. We do not think it is very sensible to do this unilaterally. You will recall that Sweden tried this back in the mid to late 1980s and had to abandon it.

**Q251 Caroline Nokes:** I wanted to ask about how Government monitors the adequacy of current levels of green finance and specifically which department is responsible for it.
***Michael Fallon:*** The Treasury publishes annually the *National Infrastructure Plan* and that lists the major projects. It may be we should go perhaps further than that and look at the way the projects there are tabulated just to give everybody a running check on how the green projects are going on. If that is your suggestion, I would be happy to look at that.

**Q252 Caroline Nokes:** Do you think that there would be any merit in having an independent body evaluate the adequacy of green finance?
***Michael Fallon:*** That is certainly possible. The way we monitor its progress is predominantly through the information updates in the *National Infrastructure Plan*, but there may well be merit in having somebody more independent monitor the number of projects that are coming forward. There may be scope for this Committee in doing that.

**Q253 Dr Whitehead:** Do you think that potential green low-carbon investors have a legitimate complaint when they talk about a lack of policy certainty in the energy sector or do you think it is as good as it could be?
***Michael Fallon:*** Yes, I think it is. Obviously if you are undertaking a major revision of the energy market and you have a massive piece of legislation going through both Houses, of course you are going to have potential investors waiting to see what the final outcome will be. I hope that we are only a few days from that, but throughout this year, we have been making the picture more and more certain. We have brought forward the publication of the draft strike prices and the draft Contracts for Difference; we have indeed brought forward the final strike prices that were published last week; we will be publishing the delivery plan I hope next week, the final delivery plan, with more detail of the Contracts for Difference; we have committed to running a capacity market next autumn for capacity four years hence; we have run the competition for the so-called FID-enabling projects and we have some 16 projects going forward into the next round. There may have been some uncertainty a few years ago, but there is much more certainty now about the landscape for investment in low carbon and you have seen that in the agreement with EDF over Hinkley and the offer of a guarantee to Horizon Hitachi in respect of Wylfa. You see that on the nuclear side as well.

**Q254 Dr Whitehead:** The change that you mentioned to the feed-in tariffs, particularly for solar energy and onshore/offshore wind, that was announced as a final version of the draft version last week—which had relatively small changes from the draft version—is that now a pretty secure long-term iteration of where those strike prices are likely to be?
***Michael Fallon:*** Yes. These are the final strike prices and they run right through to 2018/19, I think. The Levy Control Framework figures are there. We consulted on this throughout the summer and we had a lot of response from the industries concerned. We did make adjustments, as you have spotted, to the draft prices that were published at the end of June, slightly increasing the price, I think, in the final year for offshore wind and further degressing the prices that were being offered for onshore wind and for large-scale solar. I think there has generally been a welcome for those final prices, and above all, a welcome for the certainty that investors now have.

**Q255 Dr Whitehead:** On 2 December, you said, “Mature renewable technologies, including onshore wind and large-scale solar farms, should not receive Government subsidies” and on 4 December, it turned out they were going to receive Government subsidies. Is that the certainty we are looking for?
***Michael Fallon:*** No. I think you have slightly jumbled something. I did say that I did not think they should be subsidised forever and I do not. As technologies mature, the justification for a subsidy disappears. I do not think it right to ask our ordinary taxpayers to cross-subsidise something the market is perfectly prepared to bear. That is the importance of seeing those prices degress over the four-year timescale of the Levy Control Framework. Beyond that, who knows?

**Q256 Dr Whitehead:** The general point I am trying to get across—I did not see the word “forever”, I have to say, in what was said at *The Spectator* meeting, but there you are. There is a difference between signals that have been given out and what happens in terms of the process. For example, at the time of the

announcement of the changes in the feed-in tariff, it was said, "This is effectively the end or getting on for the end of subsidies, underwriting for onshore wind, and it is all going to offshore wind". It did, to a very small extent, and the degression rate stays roughly as it was, and, therefore, what came out of the process appeared to be rather different from the signals—I hesitate to say being spun—that were being given out in the first place. Do you think that process is as good as it could be in terms of getting investors clear about what the direction of policy travel is as far as underwriting for green technology is concerned?

***Michael Fallon:*** You may be placing a little more weight on ministerial remarks and statements and speeches than those speeches can bear. What matters is the strike price itself. The strike price is there, it is final, they have been published for each year and everybody can draw their conclusions from it. The offshore wind industry argued very successfully that the final year's degression was a little too harsh if we were to be in sight of bringing on some of the round 2 projects, and I think they are now in a much happier place. So far as onshore and solar are concerned, these are increasingly mature technologies. But the prices are there now and everybody can see exactly what they are.

**Q257 Dr Whitehead:** Is there any relation to the higher tariff that effectively has now been announced for offshore and the general trajectory of the Green Investment Bank's role in investing in offshore? Is it envisaged that there will be any quid pro quo there or the Green Investment Bank's appetite would remain undiminished?

***Michael Fallon:*** That is matter for the Green Investment Bank to be sure that they are making a commercial return on these projects, but certainly offshore wind is one of the areas that is extremely expensive, one of the areas in which some support is still necessary.

**Chair:** We have a Division. It would be helpful for the convenience of the Committee if we went to vote and just came back a quick five minutes following that.

*Sitting suspended for a Division in the House.*

*On resuming—*

**Q258 Dr Whitehead:** On changes in ECO that were announced last week as a result of the green levies, what assessment has DECC, and indeed BIS, made of the likely impact of those changes on investment in the home energy efficiency market and particularly the jobs and supply links that go with it?

***Michael Fallon:*** These are changes that have only just been announced and do not take effect immediately. Obviously, we are going to work these changes through. Some of them require changes in primary legislation, others will have to be discussed with the industry, so it is too soon to speculate on the impact on jobs or the level of energy efficiency, but you will recall the thrust of the changes is of course to spread the scheme over a further two years and to ensure that it is much better targeted on the most vulnerable.

**Q259 Dr Whitehead:** Yes, a reduction in CERO by 33%; changes in the relationship with the Green Deal and ECO; concentration under CERO of work on cavity wall insulation and loft insulation as opposed to solid wall insulation, and therefore probably pretty much the disappearance of solid wall work under CERO. It appears at first sight to have a potential impact on those people who are investing in training, employment, upskilling and so on in terms of the solid wall insulation market, but maybe I am wrong in that.

***Michael Fallon:*** I think it is too early to come to a conclusion like that. As I have said, the scheme is going to be much better targeted in future and indeed the net and the definition of the more vulnerable households is being widened, so these are changes we should welcome.

**Q260 Dr Whitehead:** Is it too early to tell because no impact assessment has been published of the changes in ECO after the policy has been enunciated?

***Michael Fallon:*** These are proposals and they obviously have to be worked through and we will be discussing with the industries concerned exactly how they are going to be worked through. As I have said, some of them require changes to the legislation itself, so there is plenty of time to assess where the actual impact is likely to be.

**Q261 Dr Whitehead:** But is it not rather more normally the case that, when there is a policy change that perhaps has an impact on investment and the way the market might respond to those changes, an impact assessment is published at the same time as the policy change is made?

***Michael Fallon:*** No. We assess the impact when we publish proposals to change legislation. We have announced that it is our intention to spread the scheme over another two years and to focus it on those who need it most, as I have said.

**Q262 Dr Whitehead:** So it does not matter?

***Michael Fallon:*** Of course it matters. These are extremely important schemes. They involve significant commitment from the big energy companies and there are certainly jobs at stake here, so it does matter.

**Q263 Dr Whitehead:** I note in terms of the potential uncertainty in terms of investors, you mentioned just a little while ago you had not had a chance to look at this morning's Climate Change Committee report on the suggestions of any changes in 2014 to the *Fourth Carbon Budget.* You did not happen to receive a letter of 3 October 2013 from the Chairman of the Climate Change Committee saying exactly that, did you?

***Michael Fallon:*** I may have had a letter from him. I certainly have regular discussions with him. He came to see me about these matters; I think that may well have been in October.

**Q264 Dr Whitehead:** What I am slightly puzzled about is that this letter says, "I am writing to you about our emerging conclusions on the review of the *Fourth Carbon Budget,* for which we will provide our full advice in December" and it then goes on for nine

pages to talk about what the advice is likely to be, particularly on, shall we say, the legislative legality of revising the *Fourth Carbon Budget* downwards in 2014, and also sets out a number of arguments that are certainly not the final arguments, as he indicates, but are clearly substantial in terms of how that conclusion is drawn. You may well, I guess, have had time to have a look at that particular letter and have drawn some tentative conclusions about what might be in the report that came out this morning, in terms of how the Department might respond should a report emerge. Would that be fair?
***Michael Fallon:*** I am afraid I cannot recall every letter that was written to me in October. There are lots of these letters. I do recall something.
**Dr Whitehead:** It is a rather important letter, from the Chairman of the Climate Change Committee.
***Michael Fallon:*** Yes, indeed. It is an important committee. I do recall something along those lines now that you mention it, but I have not had time today to look at the report that has been issued.

**Q265 Dr Whitehead:** I understand that point, but this letter very clearly set out what was going to be in that report and effectively signalled—I would imagine probably as a helpful signal for those people who perhaps have not had time to read the report—what might be in the report so that at least provisional conclusions could be drawn as to what that report might contain and therefore how the Department might respond to it. I personally thought that was a very helpful letter in that respect.
***Michael Fallon:*** I will have to go back and read it, along with the report that has come out this morning, and see how accurate it was as a predictor of what was in the final report.
**Chair:** I think the concern there is whether there should indeed be any revision by the Government in view of the report that has come out today. I suppose, in a way, the Government's response to this Committee's early report on carbon budgets very conveniently does not address what was in the report of the Climate Change Committee today, so I think there is a need for urgent attention by Government.
***Michael Fallon:*** The report is of course advice. It is important advice, but it is advice.

**Q266 Mark Lazarowicz:** I accept fully that I would not expect the Government or a Minister to respond this afternoon to a review that was published this morning, but you will of course be aware of the wide, strong view within the industry about the need to stick to the *Carbon Budget,* and we have had an email from a renewables business in my constituency just before we came in this morning to that effect.
Given the need to ensure there is not uncertainty about Government's intentions, would you accept it is important that Government does reach a decision on this matter very quickly to avoid any build-up of uncertainty about the direction of travel for Government in relation to the *Carbon Budget?*
***Michael Fallon:*** There I can agree with you. I think it is important to make a final decision on this as quickly as possible. Having only received the advice this morning, obviously it is a little too early for us to respond to it.

**Q267 Mark Lazarowicz:** I am not going to ask you the date, but how quickly can we expect that from you?
***Michael Fallon:*** I cannot say, I am sorry.

**Q268 Dr Whitehead:** Were you able to respond or have you thought about any response indeed to the Climate Committee's publication in November of their full analysis of EU circumstances that would lead to the conclusions that came out in December relating to the advisability or otherwise of revising the budget downwards? That was a report they published.
***Michael Fallon:*** I am sorry, I am behind in my reading of their reports.

**Q269 Dr Whitehead:** You are quite seriously behind in reading their reports, aren't you?
***Michael Fallon:*** There are lots of reports I should be reading. Every day there are reports I should be reading.
**Chair:** Perhaps we better bring this session to a close as quickly as possible, but we have Mr Aldous. I am just thinking about giving you time for bedtime reading.

**Q270 Peter Aldous:** Thank you very much, Madam Chairman. I will just draw attention to my entry in the Register of Members' Financial Interests. I have farming interests where there are renewable energy projects involved.
Thank you very much, Minister, for coming in front of us. I think it is recognised that investors need good information when they make investment decisions, and if they do not get that good information, they may not take the risk or invest at all or would seek a higher rate of return to cover the risk of any uncertainty. To what extent do you think investors in environmental and green energy projects have all the information they need to be able to make decisions?
***Michael Fallon:*** That is a very hard question to answer. These are commercial decisions for investors to make and it is up to them to satisfy themselves that they have the information.

**Q271 Peter Aldous:** If I could just get a little bit more specific, some organisations like Carbon Tracker have placed quite a lot of emphasis on the carbon bubble, and they have expressed a concern that investors do not have the right sort of information in front of them to properly weigh up any carbon bubble effect. Is that something that you might have seen or not?
***Michael Fallon:*** I have heard about that, but I do not think it is right for me to speculate on the amount of information that investors may or may not have in particular projects.

**Q272 Peter Aldous:** Just moving on, the Government recently introduced legislation that requires companies to report their greenhouse gas emissions, which certainly some investors in environmental projects would be interested in. Has

there been any feedback from investors on whether that information on greenhouse gas emissions is welcome?
***Michael Fallon:*** Not that I have seen.

**Q273 Peter Aldous:** The final point: is there any evidence that some investors might be reluctant to invest in low carbon and green businesses rather than fossil fuels due to the higher financial returns, because they may have a nervousness about fulfilling their fiduciary duties? Is that something the Department has come across or not?
***Michael Fallon:*** The establishment of the Green Investment Bank is designed to deal with those areas, where it is more difficult for some projects to attract finance in the normal financial markets, and therefore the Bank can step in and provide the financing that is needed. That may well be the case in some of the more expensive and potentially riskier technologies.

**Q274 Peter Aldous:** Do you think that fund managers should be interpreting the fiduciary duty more widely so that the carbon bubble and the long-term need to decarbonise, for instance, are factors that are taken into account in investment decisions?
***Michael Fallon:*** I do not think it is for me to tell fund managers how to interpret their fiduciary duty.

**Q275 Peter Aldous:** If I could just go back a couple of questions, to the introduction of the legislation that requires companies to report their greenhouse gas emissions and the feedback from investors, will Government, BIS, be analysing any feedback from industry on that from investors? If they are, would you be able to get that to us?
***Michael Fallon:*** Yes. I am not aware of any feedback, as I said earlier, but if we do get significant feedback that is either very negative or very positive about it, of course we can see how we can share that with the Committee.
**Peter Aldous:** That would be great, thank you.
**Chair:** Minister, I think that brings an end to the session this afternoon. Apologies for its having been interrupted by the Division, but thank you, as always, for your generosity with your time.

# Written evidence

**Transcript of the Seminar held at Guildhall on 5 June 2013**

| *Members present:* | *Speakers panel:* |
|---|---|
| Joan Walley MP (Chair) | Catherine McGuinness, Deputy Chairman, Energy and Sustainability (Policy & Resources) Sub Panel |
| Peter Aldous MP | Richard Burrell, CEO, Aggregated Micro Power |
| Neil Carmichael MP | Mark Campanale, Carbon Tracker Initiative |
| Mark Lazarowicz MP | Shaun Kingsbury, CEO, Green Investment Bank |
| Caroline Lucas MP | Michael Mainelli, Z/Yen Ltd |
| Mr Mark Spencer MP | Robert Rabinowitz, Pure/Leapfrog |
| Dr Alan Whitehead MP | Mike Turnbull, Bank of America Merrill Lynch |
| Simon Wright MP | Alderman Fiona Woolf CBE |

1–2: Opening remarks
3–6: First Panel presentations
7–9: Discussion
10–12: Second Panel presentations
13–14: Discussion
15: Closing remarks

**1. Catherine McGuinness**: Good morning everybody; delighted to see you here this morning. I am Catherine McGuinness. I am Deputy Chairman of Policy and Resources here in the City of London and I am pleased to welcome you all to Guildhall on this World Environment Day. I was doing a little survey before we started to see who knew that it was World Environment Day and I was very surprised that it was only me so far and that only came from listening to Radio 3 this morning, I have to say.

For those of you unfamiliar with the City Corporation, we have three key roles. We are the local authority for the Square Mile, providing local government and policing services; we provide a number of services for London and the nation more generally; and we support and promote London as the world's leading international financial centre. The rather unusual range of services we provide for the wider community includes three of London's wholesale food markets, Smithfield, Billingsgate and Spitalfields and about a third of London's open spaces, including Hampstead Heath, Epping Forest, Coulsdon Common and the other commons around the south, and Burnham Beeches. "London's lungs" they are sometimes called and I think we can legitimately claim that they were part of the start of the original green belt.

We are major supporter of the arts and we run the Barbican Art Centre and the Guildhall School of Music and Drama. We sponsor three academies in neighbouring boroughs, in areas where educational attainment was historically poor. One of those we co-sponsored with KPMG, which I see is represented here today. Our charitable arm, the City Bridge Trust, is London's largest grant-giving body, providing around £16 million a year to charities across London.

I think it is our work to support and promote London as the world's leading international financial and business centre where sustainable development comes to the fore because, in order to maintain the City's competitiveness, we need to ensure the quality of the physical environment; not just in terms of high-quality buildings and infrastructure, but also in terms of energy efficiency, resilience to climate change, good air quality—where, I have to say, we have quite a bit of work to do—and, of course, social capital, including education, creativity and a sense of community. We need to ensure a thriving economy, not just based on existing markets but one that has its eye on the future and is continually developing new products and services and working with all businesses, regardless of size and focus. This is why the City Corporation has been actively promoting sustainable and socially responsible finance for over a decade, why we were responsible for putting together the UK's submission on financial services to the Johannesburg Earth Summit, and why the Square Mile is recognised as the world's centre of expertise for low-carbon investment and sustainable finance.

The financial services industry, particularly banking, has, of course, had a lot of criticism over the last five years and that is understandable. Mistakes have been made, but a strong, successful and well-functioning financial services industry is essential to the success of our society because they touch almost every aspect of our lives, from buying a house, insuring our possessions or saving for a pension. The City has historically been at the forefront of innovative finance and I think green investment is an area where the City can truly step up to the mark and put those skills to use in developing new ways of investing that, at the same time, demonstrate its response to the question of social utility.

We, in the City of London Corporation, are absolutely delighted that the Environmental Audit Select Committee has chosen to hold this meeting here. At this point, before handing over to our Chairman for the day, Joan Walley, I would just like to offer particular thanks to my colleague Alderman Alison Gowman over there. She is an untiring champion of sustainability and it was she who initiated contact between the City of

London and the Select Committee when she took a group of City practitioners to the House of Commons late last year. Without Alison, we would not be meeting here today; so thank you very much, Alison.

At this point I would like to hand you over to Joan Walley MP, Chair of the Committee, who will guide us through the rest of the morning's proceedings. Thank you.

**2. Chair:** Thank you very much indeed, Catherine. As well as yourself, I want to extend a very warm welcome to everybody who has come along this morning. What we hope is, for the very limited amount of time we have, we will have a far-ranging and constructive exchange. In that respect I feel a little bit like a caller in charge of some kind of speed-dating event because we have some very distinguished panellists and we also have Members of the Environmental Audit Select Committee here as well and we want to get through an enormous amount in the very short time that we have.

Just before I get into the details of what we hope to do today and say how good it is to have this relationship with the City of London, I do need to say a big thank you on behalf of Committee Members here today to the City for organising this innovative and joint event with us, and particularly to say thank you to Simon Mills, Claire Holdgate and our Committee clerks as well who put an enormous amount into organising this. I have to admit, hands up all those along with myself who did not know that 5 June was World Environment Day. Hands up. I did not see the Members of the Panel. Okay. Well, if we have done nothing else today, what we have done is perhaps put down a marker that, if throughout the globe people are looking at World Environment Day, then we too here in London—here in Westminster if I can say that figuratively—need to be doing exactly the same thing.

I also want to reflect my thanks to Alison. Alison, do you want to put your hand up so we can all see you. I know that you have to leave early. There is a lot of mention at the moment about women on boards and all this kind of thing, but I think that we have four key women involved in organising the event today and I think that is worthy of note. So thank you, Alison, for helping to bring this together and making sure that this is going to be a networking event between the Select Committee of the House of Commons and people with an interest in this agenda.

What we are trying to do today is what the Parliament has asked us to do, what the Speaker of the House of Commons has asked us to do and what the Liaison Committee of the House of Commons has asked us to do, which is to reach out beyond Parliament. This time last year when we were in the process of preparing for the Rio+20 Summit as part of the United Nations negotiations we reached out to business, to faith groups and to the voluntary sector with a special event that we organised at St Martin-in-the-Fields. That was attended by over 500 people and it gave us an opportunity to start to focus on what we wanted to press our Government to do in the run up to the Rio+20 World Summit but also in respect of what should happen afterwards and to follow up.

We decided after that event, as a Committee, that what we wanted to do was to reach out to other sectors as well and at this stage, just one day after the Energy Bill going through Parliament yesterday, I think there is nowhere that is more important than the investment community. When we look at all the things that we need to be doing on the sustainable development front, if we do not find a way of engaging with the investment community and identifying all the issues that need to be looked at and then resolved at a political level, at a strategic level, at a grass roots level and at a professional level, then we are not going to deal with the challenges that our generation faces, which is that of sustainable development and it is also that of climate change. We do feel it is particularly appropriate that you should be allowing us to jointly hold this seminar today.

I think you will be pleased to hear that we do not intend this event just to be a lot of hot air, whatever people might say about Westminster and about the House of Commons. It is about linking action to the role of Parliament and it is making sure that the task we have been given by Parliament, which is to hold the Government to account in a cross-cutting way on sustainable development issues, is done in conjunction with people who share this agenda with us. We hope that this seminar today will help our Committee of the House of Commons scope an inquiry on green finance. We are going to have question and answer sessions following each segment and we believe that that will be just as important as the distinguished presentations that I know we will have.

We shall put a transcript of today's discussion on our Committee's website. We want to have your thoughts and input into the issues facing green finance and our aim is to launch the terms of reference for a parliamentary inquiry as soon as we can following this, if you like, informal discussion and then to seek written evidence. We hope that all of you here today and your colleagues will not just come along on World Environment Day and think, "That is it, ticked the box. I can go away now". We want you to engage with us. We want you to submit formal evidence to our inquiry and that is what today is all about. For the actual inquiry we should be looking to follow up on our previous Committee inquiries on the green economy, on the Green Investment Bank—and we shall be following it up with a visit to Edinburgh, we hope, in September later this year—and also on the budget.

In respect of the issues that we feel have to be addressed, if I can just list five. There is a large gap in the billions of pounds between the finance needed and the finance available for projects that help meet our obligations under the Climate Change Act and to improve environmental protection. I know that all Members

of my Committee are faced with how we can get investment in our constituencies for this whole agenda. How do we get the finance to the projects that need it? Is the problem a lack of available finance or a lack of demand from potential projects? There are also issues around smaller green projects not having many options for sourcing finance. Are there enough options out there for financing these small projects? Do we need some way of amalgamating these projects into larger investment opportunities? I have been very focused with some of the work that Michael Heseltine has done in respect of investment across the UK and, time and time again, people say, "We don't just want the really big investments to succeed, we need the smaller projects, the smaller initiatives, as well".

Then there are the concerns about the carbon bubble and I am very conscious of the Carbon Tracker report. I think what we have to do is address this agenda and to see, if investments in fossil fuels do continue apace, what that means for tying up finance that could otherwise go into green areas and what that means as well if we are to keep our overall limits within 2° centigrade. What does the investment world feel about that? Are we going to be left with stranded assets and, if so, what can we do about it? Then there is the issue of how does Government strike the right balance between regulation and facilitating voluntary action. Where do we get the certainty from about the investment that is needed? Would greater regulation help make finance markets work in the longer-term interests of society? Where would we draw the line on that?

Last but not least there is also the issue of heightened political risk and I think as Members of Parliament, certainly my Committee who are here today, are very aware of public pressure and in any of these agendas you can only go as far as people will allow you to go. How do we engage with this whole issue about informed debate on these environmental issues? That is just a flavour of the issues that we have flagged up. I am sure there are an awful lot more because we are not the experts and we are here to listen and to see what you have to say today so that as a Committee—and I am so pleased that so many Members of my Committee are here today—we can do all that we can through proper debate to urge Government to address these most important issues.

I am going to go back to the chair and keep everybody in order to try and get through by 10.30am. I think that each of our panellists, some of whom I only had the pleasure of meeting just before we started, are going to have five minutes and I am going to start, if I may, with Alderman Fiona Woolf who is here today and I know has a lot to say and a huge amount of work in front of her. Fiona, over to you.

**3. Fiona Woolf**: Thank you very much indeed and good morning, ladies and gentlemen. I am a partner in CMS Cameron McKenna. I have been working on reforms in the energy and infrastructure sectors since before some of you were born, but certainly starting in a big way on it in the privatisation years under the Thatcher administration when we put in place a whole new structure, particularly in the electricity industry, that drove much greater resource efficiency and provided a platform for, ultimately, the decarbonisation efforts that we are now seeing.

I have worked in 40 countries on this agenda now and a lot of the focus has been to create a stable environment that is well regulated and where the policy initiatives are joined up and stable as well in order to attract the investment that the economies need and particularly to deliver low-carbon economies. The stability is all important, as we all know in this room, and I have been able to bring some of this to bear in my corporation work here in the City of London as an Alderman, largely thanks to Alison Gowman. I just basically ride on her coattails and she opens up all the possibilities for us; so thank you for that again.

As you have heard from Catherine, in our post-crash but very globalised world cities are competing directly against each other to attract investment and business and much of that competition is based on the strength of the infrastructure and the quality of life they offer. As time progresses, I am afraid this competition is going to increase. Happily we are in the forefront and one of the factors is that London is a nice place to live in and it has the infrastructure that just about passes muster with everybody.

Again, we have to sober ourselves up with the thought that, for the first time in history, more than 50% of the world's population live in cities and London's population grew by 12% between 2001 and 2011. The Office of National Statistics is projecting a further 14% increase by 2020 and we are already well down the track of getting to that date. The trend is, of course, repeated at a global level and the UN estimates that in China, for example, more than 70% of the population will be residing in urban centres by 2015. For city governments around the world, and I mean city governments and not just national governments, this growth in urban populations presents very significant challenges. The extra people will need food, housing, water, sanitation, energy, waste and transportation. These needs will be framed by a resource-constrained warming planet inhabited by some 9 billion people.

All this is a call to action but it is a great opportunity for the City of London and I think it is a great moment to be here because rising to challenges is something that has kept the City on its mettle for not just decades but centuries and we can't afford to lose our competitiveness as a place in which to live, work and do business. As we all know in this room, we are asking the question: where will the finance for this infrastructure investment be found? I know other panellists will talk about this and come up with ideas, many of them very practical, there is a lot of work going on and certainly the financiers are the implementers of best practice and experience all over the world on a bespoke basis.

Then there is the question of how we manage the financial and physical risks effectively and, importantly, how resilience can be built into the urban development. The global knowledge and expertise that is collected and brought back to the City that I have mentioned is very well placed to help us to tackle these problems. The UK Financial and Professional Services is an asset not just for London—they are a very important asset for London—but for the nation as a whole and they can offer expanding cities of the developing world the complete package, because we are known for particular strengths in construction and engineering and infrastructure services.

Certainly I admire the architects and engineers in the way that they get it and do it, but I think that we should not underestimate the way in which the much-maligned banks and players in the capital markets get it and are doing it as well and I hope to have an opportunity to showcase more of that as next year unfolds. There are also, I have to say—a plug for my own profession—legal services that have been brought to bear all over the world, but I think we are thinking of new models for writing very long-term contracts that can withstand the vagaries of renegotiation better and prepare people for what Michael Mainelli calls VUCA—volatility, uncertainty, complexity and ambiguity—and help to make our clients VUCA-ready, if I can coin that phrase. Then we have all the risk-management and insurance services here to ensure that resilience is built in.

I am probably running to the end of my time, but I am delighted that you have started this inquiry and we have a very long history of being pioneers in the field. My view is that the City of London is going to survive by being tomorrow's city rather than yesterday's city or today's city, but there is a great deal of what is happening and needs to happen tomorrow that is already going on today. Thank you.

**Chair:** Thank you, Fiona. I did give you a little bit of a special dispensation but I know that my other three colleagues on the platform want to very strictly stick to the five minutes. At this stage, with a very warm welcome, can I hand over to Shaun Kingsbury, Chief Executive of the Green Investment Bank?

**4. Shaun Kingsbury**: Thank you very much and welcome this morning. I promise I will run through this quite quickly. What I want to do with my introductory comments is introduce the bank, what we do, what we are all about and how we think about these things. Our role, our mission in life, is to catalyse private sector investment in renewable energy and energy efficiency. We are not going to be able to do all of this ourselves. Our role is to catalyse other folks to do it. We have £3 billion of initial capital from the Government. That is capital we can invest and we can use and we can recycle and eventually raise some more, but that is a small drop in the ocean compared to the size and the challenge. The UK needs to invest close to £200 billion over the next 10 years to hit its targets. About £110 billion of that is into new low-carbon generating assets and supporting infrastructure. If you do the maths and, being very simple I like to divide by 10, that is £20 billion a year to be invested. We are investing at about 40% to 50%, about £8 billion to £10 billion a year going on at the moment. So there is a bit of a gap.

We have in our strategy this concept of a double bottom line and that is a return on our capital. We are a for-profits bank. If there is one thing you take away from today's introductory comments on the bank it is we are a for-profits bank, but we also have this concept of a double bottom line; a green bottom line. We have all spent many hundreds of years developing accounting rules for how you might talk about our profitability, project IRRs or return on capital or EBITDA, but we are developing the language and the skills and the matrix around discussing and measuring a green bottom line; whether that be avoided tonnes of carbon or whether that be avoided waste to landfill or whether that is renewable energy generation, but we have this concept of a double bottom line. We are focused on projects that are green and profitable, not green or profitable.

We must be additional. What do we mean by that? We look at projects that have the right type of backers and the right type of structure, but are struggling to raise all of the capital they need. We invest alongside private sector investors to get those projects across the line. Our job is to crowd in capital as a result, not crowd out capital; so we always have to be additional. We can invest wherever we like in the capital structure around projects. We can invest in equity, in debt, in mezzanine. We can provide guarantees. We can do more or less anything we like with regard to how we invest as long as it provides an adequate return for the risks we are taking, but it does mean that we are not a lender of last resort. We do not provide soft loans. We do not provide grants. Everything is done at market rates.

We can invest only in the UK. This is where we focus. We are not investing overseas, we are focused here in the UK and we are looking at projects throughout England, Wales, Northern Ireland and Scotland. We have a series of sectors we have to commit 80% of our money to. This is all defined by our state aid clearance from Brussels. So 80% of our capital has to go into waste recycling, waste to energy, offshore wind or energy efficiency, and 20% has to go into our non-priority sectors of biomass, wave and tidals or wet renewables, or carbon capture and storage.

So far we have been up and running about six months. We have about 75 to 80 people spread between our office here in London, which is down in Millbank, and our headquarters in Edinburgh where we will be looking forward to seeing, hopefully, most of you in September when we will talk a little bit more about the Green Investment Bank. In the five months to the end of our first financial year we completed 11 transactions and supported BIS in its investment in GreenCo capital. That was £635 million of commitments. The total size of the projects that were therefore moved forward, which were previously stuck, was £2.3 billion. The ratio is 1:3 of our capital versus private sector capital. We are providing about 25% of that.

We are up and running. We are making investments. We are focused on some of those smaller areas. We talked a little bit about the challenges, Joan, in some of your opening remarks about the smaller projects. We have set up four funds that we have corner-stoned with between £30 million and £50 million to look at the waste side and on the energy efficiency side where there are lots of small projects; projects which are in the £5 million and £10 million of investment capital required, where we focus on the £25 million to £50 million and have made advancements and commitments up to about £100 million. That is a quick introduction.

**Chair:** Thank you very much indeed, Shaun. We will move straight on to our next speaker, who is Mark Campanale from the Carbon Tracker Initiative, who will be speaking about the carbon budgets.

**5. Mark Campanale** *[material in accompanying slides is at end of this transcript]***:** Yes, thanks very much. My name is Mark Campanale. My background is having trained in agriculture at Wye College. I then went into the City of London. I spent the last 24 years in asset managers, such as Jupiter and Henderson, focused on green finance. I set up Carbon Tracker in 2009 to look at one thing, which is the flow of capital to the fossil fuel sector, in the context of understanding carbon budgets. Our goal is to get capital markets aligned with a 2º world. The burning of fossil fuels contributes to emissions, particularly carbon dioxide. In the last 10 or 15 years we have burnt enough fossil fuels to increase $CO_2$ to the equivalent of the previous 300 years of burning.

This is accelerating and as this is accelerating, as this graph shows *[slide 1]*, the $CO_2$ sits in the atmosphere. Once you burn it, it sits there for about 200 years. Now, if you do that you rapidly go towards your 2º and 3º of warming. What our analysis did—and you can see this on our website and the MPs should have copies of the reports on your seats—is we took the top 200 companies listed on the world's capital markets, including London and New York, that own fossil fuels, the coal, the tar sands and the oil. We then looked at the reserves and looked at what the $CO_2$ was in those reserves; so future emissions. Then we looked at a notional budget. How much of those reserves can you burn if you want a 2º world? Now, at 0.8º of warming, which we have seen against pre-industrial levels today, we have already seen 70% of the ice disappear from the Arctic. At 2º we are looking at very significant damage.

Just to look at these circles *[slide 2]*, if you take the pink, this is the *[225]* gigatonnes of $CO_2$ that you can burn to keep to 2º warming. If we look at the little circles above, let us look at the purple one, the 762 gigatonnes is what is owned by the public companies listed in London and New York and around the world. The 762, which is what they own, is significantly greater than your budget; so the two do not go together. Now, how much more of it can you burn if you want 3º of warming? Clearly that is what is represented by the yellow line *[319 GtCO2]*. It is not significantly greater than the pink budget. The capital that is being raised every day in London and in New York and elsewhere to finance the fossil fuel industry is the next big phase of new financing for that sector and these are what are called resources; so the stuff that is in the Arctic that you are finding now for the oil, the shale gas, the tar sands and the coal.

These we call resources and there is 1,541 gigatonnes that is being financed today and in the next five to ten years. What we have is the capital markets are on a trajectory to take us significantly beyond 2º unless we align that back and this takes into account the fact that Governments own most of the reserves. Where does it sit? We have gone exchange by exchange, company by company, to say what are the global centres for the fossil fuel industry today and where does the fossil fuel sit. There are three bubbles or three circles *[slide 3]*that you can pick up there: Moscow, London and New York. The black represents the oil, the grey the coal and the blue is the gas.

If we can move on to the next one *[slide 4]*, we estimate that $650 billion is being raised each year to expand the fossil fuel sector through London and New York. This slide shows you how this very quickly changes and London switches from being a bit of an oil and gas centre to being the coal centre of the world along with the Australian market. New York is in a better position because it has more oil, which is more likely to be burnt. This creates a contradiction, which we call the carbon bubble.

To the next slide *[slide 5]*, here are the capital flows. Now, let us put it into some kind of context. On the left we calculate that the top 200 listed companies of oil, coal and gas represent around $4 trillion of equity and each year $674 billion is spent on developing more reserves, which gets you to your 1,500 gigatonnes and they pay back, in terms of earnings, $927 billion, which goes back in the form of dividends or to repayment of debt. Now, the other way of looking at this is over the next 10 years the companies will be tapping pensioners in the UK and obviously the US for around $7 trillion to expand the fossil fuel sector. We call our report *Wasted Capital* because what happens if you can't burn all that coal and all that oil is you lock in coal infrastructure in terms of energy and power stations. You lock in mining. Obviously, once you have done that and built that infrastructure, that capital is not coming back. It is wasted. What else could you do with that $7 trillion over the next 10 years? Could you put it into renewable energy or to energy efficiency?

What Lord Stern said is that there is a contradiction here between the valuations. Now, the valuations of these companies is based on the assumption that you can burn all the oil and you can burn all the coal. If you can't, and we say 70% of the reserves will have to stay in the ground, then the valuation of these companies is wrong. The *Financial Times* reported this week that two-thirds of the revenues of the FTSE 350 is based on three sectors: finance, oil and gas and mining. If these valuations are wrong then we are putting our banking system and the London capital markets at risk from significant changes to the fossil fuel demand.

Do we want to bet the banking system on expanding coal and oil? Maybe we can because that is what the market is doing, but maybe we need to reflect on that and put in place the measures to avoid that. Our recommendation is that we should get companies to disclose future emissions, both the $CO_2$ and the reserves, and that regulators such as the Financial Stability Committee of the Bank of England should report publicly on how they are managing this contradiction.

My last slide *[slide 6]*, so we do not get out of time, what we are doing is we have recruited some of the City's leading analysts to work with us, from HSBC and JPMorgan, the climate specialists, to start rerunning the numbers and we have a series of projects looking at financial stability, looking at valuation scenarios, looking at policy and looking at the capital-raising process. If you want to raise money for coal in London you do not have to disclose climate risk. In fact, very rarely in the IPO documentation do you have anything about climate risk in those documents. So this is what we are focused on doing as a project and we are not-for-profit backed by some key foundations such as the Tellus Mater Foundation and the Joseph Rowntree Charitable Trust. Thank you very much.

**Chair:** Thank you very much indeed. There is a lot of food for thought there for future action and you kept within the five minutes. Now, on this panel our final contributor is Michael Mainelli from Z/Yen Ltd who will be speaking on sustainable financial systems and products. So over to you, Michael.

**6. Michael Mainelli**: Thank you very much, Joan. My remarks are really directed at three areas where I feel that policy and finance can link. The initiative that I am representing here is Long Finance. Back in 2005, with the City of London Corporation, we initiated a joint research project with 24 firms in the City. This is 2005 before the Turner Review was commissioned. In 2007 we published an 800-page report at Mansion House. That initiative has grown remarkably to well over 50 institutions and nearly 400 reports that are available to policy-makers to see what finance thinks about government policy and initiatives.

Anyway, I think it is very reasonable, as Joan opened, to ask: how can investment be bent towards sustainability? Investors already acknowledge very clearly two big themes, population growth and resource scarcity, but there are two obstacles that I see as paramount. One is policy mistrust and the second is information gaps. It may be difficult to point out how much investors do mistrust bringing forward investments based on government policies. The EU ETS is a notable example. Biofuel policies, feed-in tariffs and carbon pricing have all been introduced summarily and ended and sometimes withdrawn. The highly centralised Government of the UK provides great flexibility but sometimes facilitates capricious behaviour such as windfall taxes. So if Government policy is the most common route to internalised environmental externalities, this changeability bodes ill for long-term investment in sustainability.

Now, there are numerous suggestions for also improving the information gaps. Moral suasion is quite common but this is unlikely to result in rational investment allocation. More information tends to take the form of campaigns for greater disclosure and I certainly can't object to any of those, but more information is not necessarily better information. I think this leads to perhaps the first policy recommendation that I think ought to be discussed more and that is enlarging the existing big data initiatives the Government has undertaken; widen that to include things such as the Natural Environment Research Council information and satellite imagery, and be aggressive about that.

The second proposal that has been coming out of Long Finance will sound slightly technical but it is, I think, fundamental and very related to Mark's remarks that the information analysis that is currently being presented is misleading. This initiative is called *Confidence Accounting*. It is a proposal to use distributions rather than discrete values where appropriate in accounting and auditing. This could allow firms to indicate on their balance sheets their environmental sustainability risks and to present those reasonably. This initiative has been supported by the Association of Chartered Certified Accountants and the Chartered Institute for Securities Investment. Sir David Tweedie has come behind it and Andy Haldane, Executive Director of Financial Stability at the Bank of England wrote the foreword, so there is much more information on that. A subtle but, I feel, very important change that would allow us to incorporate some of the empirical carbon points that Mark made.

Finally on Government policy, the Long Finance of London Accord community have a simple, almost subversive proposal and in a moment I will give you a climate change example but it could be directed toward water, forestry or other sustainability issues. The idea in climate change is an index-linked carbon bond. This would be a Government bond very similar to an inflation-linked bond that was indexed to levels of interest based on a carbon target; for example, levels of feed-in tariffs for renewable energy, emission certificate prices or actual greenhouse gas emissions of the issuing country. So an investor in an index-linked carbon bond receives an excess return if the issuing country's targets are not met; for example, an extra percentage point of interest for each euro that $CO_2$ emission certificate prices are below a target, or an extra percentage point for every percentage that the UK Government has failed to induce renewable energy. The proceeds from such a bond are not hypothecated, however. They are for general Government expenditure and investors can use these bonds effectively as a hedge on Government policy and Government policy risk. There is considerable scope, I think, to use these types of bond cuffs for other sustainable policies, water biodiversity and so on.

For investors, I think what we have are two big issues. "The money is there". I disagree with that. As Mark quite eloquently pointed out, the money is flowing. It is just flowing in the wrong direction. Three policy things. One is to enlarge the data. The second is to promote the use of confidence accounting, a gentle policy note. The third is for the Government frankly to put its own money where its mouth is and say, "Yes, we are

absolutely committed to these targets and if we fail to make them you will be compensated but why don't you bet with us". Thank you.

**7. Chair:** Thank you very much, Michael. I think we have 15 minutes for questions and what I will do is start, first of all, with my fellow Committee Members and then questions from the floor to our panel members here. We have two roving mics, so whoever wishes to catch my eye first of all.

**Caroline Lucas***:* Thank you very much. I had a comment and a question. To Shaun, it was great to hear that the Green Investment Bank is up and running. It has been an issue that the Environmental Audit Committee has been following very closely and I completely appreciate what you are saying about the importance of profit being absolutely up there as well as green and to be able to demonstrate that it can work in economic terms. My comment was just to wish you well in the ongoing bids for the ability for the bank to be able to borrow in the future. I was just going to note the constrained funding of the bank and comparing that with the £50 billion that was made available by the Government through the infrastructure guarantees under the recent Infrastructure Financial Assistance Act. It does seem as if, when the political will is there, some more can be done; so I wish you well with that.

The question was to Mark on the Carbon Tracker report because I have raised this with Ministers a number of times. I have held an adjournment debate. I have put questions to Ministers and their get-out-of-jail-free card appears to be a somewhat unrealistic faith in [Carbon Capture and Storage] and I just wanted to invite you to talk about what happens to your scenarios even with CCS, because I think it is important that we have that on the record too.

**Peter Aldous**: Two questions, first of all to Fiona Woolf. She emphasised the importance of stability. In green investment terms, how is Britain viewed internationally? Secondly, to Shaun Kingsbury, before the Green Investment Bank was formed I think it was Bob Wigley who did quite a good report on it and he was emphasising the need for quick returns and concentrating on specific areas to make an impact and get off to a flying start. Is he concerned that he is spreading his resources too thinly? Secondly, I would be interested in the importance of leveraging; how he thinks the Green Investment Bank is performing in leveraging in private sector investment to his counterparts in Germany and the Netherlands.

**Mr Spencer:** Just as important to the City of London in terms of carbon is security of supply and continuity of supply and I just wondered if you would like to comment on the effects of some of these changes that might happen in terms of our energy security and how you rate that in terms of importance?

**Chair:** Thank you. I will bring Mark in to respond to Caroline's point and then the rest can come in.

**Mark Campanale**: Yes. It is detailed in our report. The IEA say there are about 16 projects of carbon capture and storage, experimental projects, today. In an idealised scenario, you will have to have 3,500 projects up and running in the next 20 to 30 years to have any impact on emissions. In that ideal scenario, if you do get these 3,500, 4,000 projects around the world, this will only increase your budget by about 20%, so even with CCS, you still have a huge problem with emissions and increasing carbon dioxide in the atmosphere.

**Chair:** Thank you, Mark. Fiona, did you wish to respond to this?

**Fiona Woolf***:* Yes. How are we viewed internationally from the point of view of stability? Certainly in the electricity sector, not well. It has had a chilling effect on investment, and as you know, it is a very international sector. As far as the networks are concerned, the natural monopolies, we have seen quite a lot of interest. For example, the networks underneath us are owned by Hong Kong now and if you talk to them, they say that they think that we are fairly high up on the stability level in world terms. Recently, the water company I am a director of changed hands and there was a lot of interest in it. So I think it is more about people are quite comfortable with the way that our regulators go about things, even though those of us who advise regulated companies don't think so.

**Shaun Kingsbury***:* Let me respond. I think the question was around the Bob Wigley report, which was set out at the beginning, not to have a strategy that was a mile wide and an inch deep, and I think with the restriction that we have on putting 80% into the four key priority sectors, we have a really keen focus. If anything, I probably could look at other sectors that we cannot invest in at the moment. For example, we can't invest in solar; we can't invest in onshore wind; we can't invest in regular hydro. So I think we have a good balance at the moment. I think we could do a little bit more. We have a big team, probably the biggest renewables team in Europe, sitting at the Green Investment Bank and I think we can do a little bit more than we are doing today.

With regards to the leveraging in the private sector money relative to our own capital, for the first series of investments, the ratio is one to three, so we are providing 25% of the total capital. Will that get better or worse? It depends where we end up putting the money. If the capital flows back into some of those markets, we may end up having to look at more tricky and smaller transactions where there are fewer people who are willing to invest alongside of us and so that ratio may shrink. If we are able to invest in things like offshore wind successfully and create real comfort for the investors, that they can come along beside us, we will have to put up less of that capital, and over time it may grow. So it is really hard to predict from the first six months of operations of the Bank, but it is a clearly a metric we are watching carefully.

**8. Chair:** Thank you, Shaun. If I open it up now to people who wish to catch my eye. Could you say who you are and try and be brief with your questions or comments?

**Andrew Raingold**: Thanks, Joan. Andrew Raingold, Executive Director from the Aldersgate Group. Yesterday in Parliament, during the debate on the Energy Bill, MPs narrowly lost the vote on the decarbonisation target that businesses have been very vocal in supporting, particularly those businesses who would like to invest in UK supply chains and UK jobs, and they are facing a bit of a cliff edge after 2020 because there is lack of certainty. I just would like to hear from the investor perspective as the debate moves into the Lords in a couple of weeks' time, how important do investors see this target as providing just a bit more clarity on the direction of travel for low-carbon energy systems?

**Gary Hayes***:* Hi, Gary Hayes, HGEN Capital. One for you, Shaun: we are looking at going offshore and we are seeing so many people coming back onshore. What is your response to that?

Mark, the weather is caused by the solar wind, and looking at the variables, you have to be very careful in interpreting what is going on. What is your response to that?

**Alison Gowman***:* Alison Gowman, a member here, Alderman in the City of London. Speaking I suppose with a slightly local authority hat on, we do have large pension funds that we, as all local authorities, are investing, and how far do you think that local authorities and other major investors are seeing green finance as just another add-on in a slightly separate silo, and how far should it be really part of the whole mix, engrained and underlying all investments by pension and other major investors?

**Chair:** Thank you, Alison. Who wants to come in first? Shaun.

**Shaun Kingsbury**: Shall I have a go at the one that was offered to me, plus the 2030 target? I think a target for 2030 is obviously helpful. It gives direction and comfort. I think the key issue for me is to make sure that we get the [Electricity Market reform] right in the next couple of months. I think that will be the area of focus that the investors really think about in the first few projects, and if we can get the EMR right and we get the strike prices right and the contracting counterparty right and all of the pieces that need to come together to form a holistic solution to this, people will start to invest, because they have projects queued up. Once we start momentum and people see that it is possible to make adequate and decent returns on those investments, they will get more and more comfortable with it. So my view on 2030 target, it would have been great if we had been able to get that, but if that is now a moment that has passed, let's focus on getting the EMR right and we can get some traction and momentum.

Then let me come on to the comment on offshore wind. So offshore wind, of all of the sectors that we focus on, is the one that needs the most capital. It may require £20 to £50 billion of capital, depending on where you think we are going to get to, between 10 and 12, 18 GW of offshore wind produced. It is a new sector. What we have been trying to do is focus on creating a secondary market, initially for operating assets, allowing the utilities who wish to recycle their capital that they have invested and the risk they have taken in the construction back into constructing the next round of projects and to really focus on supporting people coming in and buying operating projects.

The great thing about renewable energy projects is that as investors are looking for yield these days, these are projects where most of the capital goes in upfront. They are huge generators of cash. A lot of that is index-linked to inflation, so they have the right kind of long-dated cash flows that meet the obligations of insurance and pension funds. So what we want to do is to bring those investors in by investing alongside them, creating a secondary market, recycling their capital back into construction, and we will put some money into construction too, and trying to bring people in. So if they would like to start to invest in that sector, we would be very happy to sit down and talk to people about how we could co-invest alongside them and give them some comfort.

**Fiona Woolf***:* Can I also pick up on yesterday's failed vote, if I can call it that? It does go back to the question of stability. I agree entirely that part of the chilling effect on investment has been the lack of certainty around EMR and the strike price, but I think there is something that somebody said to me at breakfast, which is that getting the policy initiatives and the policy decisions joined up with the regulatory initiatives and joined up with the implementation—and there are lots of different organisations who are responsible for a bit of it—would go a long way to creating a stable environment.

Can I deal with Alison's question about pension funds, and particularly I guess the question was should local authorities be engaging their pension funds in this agenda perhaps more intelligently or in a targeted way? Of course, we are very blessed to be the recipients of pension fund investment from Canada and the United States. I do not know what it is about teachers, but they all seem to have very well-run pension funds that are not necessary in deficit the way that some of ours are. I think that it is a very good point, and we are seeing some very interesting and different models for financing urban infrastructure, which is what I talked about, coming out of Germany and the Stadtwerke, who have perhaps a bit more autonomy than some of our authorities do, but they look to engage both their assets, their operating knowhow, their authority to grant planning permissions and their closeness to their communities in a way that is a completely different model for a public private partnership at city level.

**Mark Campanale**: Yes, just to address the questions of what investors can do, HSBC's oil analyst suggested that companies should increase the dividends, fossil fuel companies should increase the dividends they pay back to pension funds, instead of investing it and developing more fossil fuel resources. Now, with the increased dividends, pension funds will be in a position to diversify their portfolio into renewables and we would certainly encourage that. The rebalancing of their portfolios to renewable energy infrastructure would certainly help us achieve some of our targets.

The second thing that we are asking investors to do is test the valuation assumptions of their portfolio, particularly their equity portfolio, to coal and tar sands, because if they are wrong, then there are questions here for the allocation of capital. So there are a couple of things that we would like pension funds to do. Ultimately, what we need to do is realign the capital markets, of which London is a major centre, to help create the sustainable energy systems that we need.

**9. Chair:** Thank you, Mark. I will take three more.

**Gordon Edge***:* Thank you. Gordon Edge, RenewableUK. There has been some talk about pension funds already and that the nirvana seems to be for pension funds to ride in with their billions and be the long-term owners and kind of save the day, but my perception is that there is a double problem here. One, you have to persuade them to invest in infrastructure at all, and then secondly, you have to take the next step of doing green infrastructure. Does the panel really think that the pension funds will be riding in and being the cavalry and saving the day here?

**Samantha Heath***:* Yes, following on from that, my name is Samantha Heath from London Sustainability Exchange. Shaun talked about the double bottom line. We work on the triple bottom line, which is talking about the social elements as well, and what I would like to begin to exercise—which could be a Noddy question—it is about where you can't get a return on things that we desperately need. Mark talked about 2º. We have climate change that is already with us. We serve on the Climate Change Partnership in London that looks at adaptation. We are finding it very difficult to get people to invest in adaptation, things that we desperately need but there is little return. There could be some technologies for windows to get some decent shading, but how do we get investment into things that really do not give a long-term financial return, but we desperately need it in order to secure not maladaptation?

**Richard Templer***:* I am Richard Templer from Imperial College, and the Climate-KIC, which is a pan-European innovation community in the climate change area. In fact, my question was a follow-up to the penultimate one, which is you have talked about mitigation; there is a lot of concentration on that subject. Adaptation tends to be the ignored component and I think that is rather dangerous, because the effects, according the science of extreme events, are going to happen first. We are going to see those things hitting us quite regularly over the next few decades. An example that I would give and would ask you to comment on is that the insurance sector is looking at about 200,000 buildings in the UK that it is thinking it really can't insure any more because of flood risk. It has come to this stand pass because the Government is meant to have a deal with them in which it works on securing those infrastructures and it is not doing it. This has now reached a very critical moment. I think over the next six months, something is going to have to happen. So there is clearly a schism between national funding and what the private sector, the insurance sector, is willing to do. So the question is what can the money markets do? What can finance do to try and bridge that gap to commercialise, if you like, adaptation?

**Chair:** I will bring Fiona in first.

**Fiona Woolf***:* Okay. As you raised the question of whether pension fund trustees pay attention to the green agenda, I will tell you a chilling story from a think tank called Tomorrow's Company, who ran a survey of pension fund trustees and asked them if they routinely took into account ESG outcomes—environment and social governance outcomes—in their investment strategies. They said, "Well, we don't know. You have to go and ask our asset managers". So they ran the same question past the asset managers, who said, "Well, we couldn't possibly do that unless we were specifically instructed". That is, in a nutshell, what the outcome had been. So they are doing some work on the alignment of incentives in capital markets. However, I have met some pension fund trustees who absolutely do get it.

As far as the investing in adaptation, I think it is a big issue for us here in the City with the carbon footprint coming largely from our old buildings. I am surprised that nobody has asked any questions about the Green Deal, which is another issue that we will not go into. However, I will not go on and I will let other people come in.

**Michael Mainelli**: Yes. It is really on pension funds and stability. Obviously my theme here is finding ways of making the Government commit and prove its commitment, not to have targets and things that, frankly, don't bear any problems when they are overturned. I agree with Fiona's point totally that most pension funds do not care, and the reason is that they have to manage scenarios: a high-carbon scenario and a low-carbon scenario, and therefore they have to bet on both of those, and Mark's numbers tell you pretty much how they are betting right now. It is pretty clear. So they do not believe Governments; that is really the case.

Things like CCS, oddly, cause different problems. You are basically building two power plants at once. Are you going to see energy prices double? I do not know. That is a very simple engineering answer to something that was also contained in a report that JP Morgan did for us back some five, six years ago that Ministers did

not like. So you have this difficult problem of trying to manage two, and we need to find ways of locking down one of those scenarios, the high-carbon scenarios is really not very attractive. That will move the pension funds.

I will give you just one quick positive tale: working with one of our clients over the last four or five years, they agreed that they needed to decarbonise and they are pretty much down to the minimum that they can get to in coal—that has been a five-year programme, you just do not hit the markets and say, "I am getting rid of my assets"—and we were sitting there just the other day discussing Mark's report, and the risk team has finally agreed that Mark's report has validity and that they are over-exposed for the long term to oil assets, so they need to start moving out of those. So people are recognising it, but they have to sit there and think to themselves, "Yes, but where is Government putting its money?" and it is putting it as least as much into the high-carbon scenarios as the low.

**Shaun Kingsbury**: Look, let me respond, Gordon, to your question around pension funds and just build on the comments Fiona made. They have capital that they like to invest, but they will not invest because it is green, because they like the UK, because they think that their pension holders would like them to do so. They will only invest if they make an adequate return, and so part of what we need to do at Green Investment Bank is to drive those returns. We often get challenged on do we have too much of a focus on profits, but what we want to do is build an enduring institution, an institution that is here the next 10s of years, maximising its green impact on the environment and bringing in other capital. The key to that as a bank is capital formation, and that capital formation is only possible on the back of profits. We have a unique opportunity to show people—because it has been hard to make money in some of these markets—that it is possible to make money in renewable energy in the UK.

Of course if we fail miserably, it is going to put it back many, many years, so we need to stay entirely focused, with a laser focus on delivering profits at the bank to crowd in that extra capital, to have capital formation and build an enduring institution and to maximise that green impact over time, and so profits are the key. We have to be green and profitable, not green or profitable. Any woolly thinking around giving away money just does not work. It will continue to show that these markets don't work unless you show a return.

**Mark Campanale**: Yes, I think for pension funds, who have a duty going out 20, 30, 40 years, they have to ensure that the investments they make take into account different types of risks and the expectations that their investments will generate the returns needed to meet liabilities. Now, at the moment, in a changing climate, we don't know what the stresses will be on the pension funds for their exposure to real estate. You mentioned insurance. With the billions already lost from weather damage, what is the effect on the insurance exposure and their agricultural investments? So what we have to do is look at risk in the round and ensure that you take into account what potential impairments will affect other parts of your portfolio. We can't have a situation where all your fossil fuel investments will win, however, that means your real estate investments will take a loss, so we have to look at risk in a balanced perspective.

One of the other things we can do, and pension funds can add their voice, is to remove some of the perverse incentives that exist in the market. The most obvious one is the OECD—I think it is—estimates around $300 billion a year subsidies to the fossil fuel industry. Now, if they were removed, that would somewhat rebalance the case for supporting investment into renewables by removing these subsidies from the fossil fuel industry.

**Chair:** All right, thank you. Now, at this stage, it is going to be all change, so if I can thank our panellists and invite the next three panellists to come and join me on the top stage, please.

With no further ado, I want to move on. I think we have just touched a little bit on the practicalities of doing something of what we are talking about, and our next three panellists are going to each have five minutes. First of all, I would like to hand over to Richard Burrell, Aggregated Micro Power. Thank you, Richard.

**10. Richard Burrell**: Thank you very much indeed. I want to talk about three things today. One is some comments on the Green Investment Bank; secondly the DNOs, or the Distribution Network Operators; and thirdly, the Environment Agency and planning.

Before I do that, I will just give you a bit of background on who I am. I am Chief Executive of a business called Aggregated Micro Power. We are about developing, owning and aggregating small-scale energy facilities in the wood to energy and waste to energy sectors. We believe passionately in distributed generation, giving energy security locally to users, commercial users, of electricity, heat and power and we believe that takes the pressure off the transmission networks and related large-scale schemes. Our business can operate in every local community and we believe by doing what we are doing, over time and aggregating this, we can provide cheaper sources of fuel and electricity. Finally, we are passionate believers in closed looped energy systems, where energy from waste is a classic example.

However, first, if I could just turn my attention to the Green Investment Bank, and I listened to a lot of the comments and the presentation. I think the issue with the Green Investment Bank is it is more of a co-investor, rather than a bank. I come out of a background—I have only been in renewable energy for about three years—of building doctors' surgeries. Now, for those of you who do not know—I am sure the MPs will know it, because it is quite a topical issue in their constituencies—doctors' surgeries or primary care centres have 100% Government subsidy in terms of the notional rent scheme, and what the Government did in the early days of the notional rent scheme is that they created a business called GPFC, which was basically loan finance for

doctors to be able to build their doctors' surgeries using the subsidy. This is what should happen in small-scale energy facilities.

If the Government was to stimulate the Green Investment Bank to be a genuine lender at the small scale, along the lines of GPFC, you would have a lot of community projects, a lot of small aggregated projects being able to source development finance that basically does not exist at the moment, and then be able to put those development loans into long-term lending on those schemes, which ultimately can then be sold to the pension funds. The point was not made that they only want to invest in big ticket items; they are not interested in small-scale schemes. So you have to aggregate these and you have to put them into a pool of assets. That is exactly what GPFC did and it has been very successful in primary care, in the development of modern doctors' surgeries today. So I would encourage the Government to look at that as a model for this sector.

On the Distribution Network Operators, all I would say is a plea that they need better regulation. Trying to get a grid connection on a small scheme is a very painful, onerous task and they should be regulated to very fixed times of response and very fixed tariffs of connection. It is rather chaotic at the moment. It makes it very, very difficult to move schemes forward fast and efficiently.

On the Environment Agency and planning, the key issue there is that the Environment Agency needs to regulate technologies, not science, so if you have a really good energy from waste facility that has been through Environment Agency testing and you want to roll that out nationally, you don't need the Environment Agency to come back every single time. The planning system can deal with the issues around local concerns and all of that. The Environment Agency should be about regulating the technology.

The final comment I would make, and this is a suggestion to all of those who look at Government-owned land and assets, who really are serious about pushing energy from waste, which we are passionate about, all redundant Government land—and there is a lot of it—should be fast-tracked through planning for energy and waste projects. Thank you very much indeed.

**Chair:** Thank you very much indeed. I think we are really getting down to the practicalities of all of this now. My second panellist now is Mike Turnbull, Bank of America Merrill Lynch. Over to you, Mike.

**11. Mike Turnbull**: Thanks. I will be brief. I work in Bank of America Merrill Lynch. I run the European infrastructure financing business, so I am responsible for the actual implementation of lending, hedging and providing financial support to the investment in infrastructure generally, and obviously in green infrastructure in particular. I am also part of a team who helps gets equity investments into those projects as well. We were not in this business three years ago, and we have gone from a standing start to a 6 billion or so, 4.5 billion to 5 billion net exposure position in the overall infrastructure space, and a subset of that is obviously the green infrastructure.

This is part of a broader strategy that we have at Bank of America Merrill Lynch. We have invested or helped facilitate the investment of about $21 billion into the green economy or the transition to the green economy since 2007 and we intend to invest up to $50 billion over the next 10 years into that space. So we are trying to put money where our mouth is on all this, and all of that obviously on a financially viable basis.

My operation is across Europe, so I am very aware that all the investors that I associate with, whether they are debt or equity, are global investors and they are looking to invest in a market that is a global competitive marketplace. So UK green investments are competing with the investments around Europe and the world, and that is a very competitive environment. The bulk of the money that I am talking about, although a lot of it does come from UK pension funds and insurance companies, there is an enormous amount of money coming out of the Canadians and Germans, the US, the Australians as well as the Japanese banking system and other places. So the amount of money available is large, but the competition is extremely intense, and that is a very important element of the puzzle here.

I am obviously particularly involved in the process of financing projects and very sensitive to the process of de-risking projects. We want to move pension insurance money into these assets. They are long-dated, stable cash flows, they are inflation-linked, they are ideal as part of an asset liability management programme. However, there are risks such as construction, and the early day operations of these assets, particularly offshore wind, are very challenging, and I think that the reality is you will not get these guys investing day one. We need to stimulate a process of recycling capital, where the specialist developers, the constructors in the large energy companies, put the initial investment in and then they are recycled out of those assets into the next wave. We are seeing that starting to happen in offshore wind as the third generation of the wind farms come on, but it is a very challenging environment.

Just to close—and I am conscious of time here—four observations. What we need to stimulate this process and to get the investment programme moving more efficiently is, I see, four elements of a stable environment. One is a stable and consistent over-arching energy and transportation policy. I think the Government needs to be clear and consistent about the importance of the green element in that energy policy. We have obviously had enormous numbers of back and forwarding by various Governments over time on that, but I think consistency there is essential. I point to things like removal of PFI status from waste to energy plants in the UK recently as very telling practical events that damage our consistency. I would support the investor fund regulation, we need regulation that is consistent and is not changed with political whim. Whether you want to

improve the environment for the consumer against the investor, whatever you decide to do, you need to do it on a consistent, understandable and manageable basis.

I would point to an interesting event, when the Northern Ireland regulator for gas moved to adjust the pricing policy for its gas, and that was overruled by the Competition Commission, they cited very clearly the damage to international inward investments to Northern Ireland by the movement by the regulator on pricing. I think people need to be very aware that regulation does have a direct impact on the investability of these sorts of projects. We are seeing a period now, whether it is electricity, gas, water, where the UK is, I would say, almost falling into line with other regulatory environments, where there is more instability and less consistency around pricing and therefore the investment model behind those networks and behind the investment in projects that support the growth of those networks. We are seeing it all over Europe, we are seeing it in Norway, we are seeing it in Germany, we are seeing it in Spain. It is not just the UK, but that does damage confidence in investment in the long term. Pension funds and insurance companies want to invest in transparent, sustainable cash flows and regulatory instability or lack of consistency—and we have been renowned as one of the most consistent and one of the longest-standing regulatory environments for energy, particularly electricity and water—and there is more anxiety around that now that there has been for some time.

So the third point is joined-up policy implementation and alignment of incentives. I agree with various panellists about this. We need to make sure that the incentives for investment are aligned with the policy, and at the moment they simply are not. We do not have time to go into that in great detail.

Then finally, I think, just joined up. I operate on a very regular basis between all sorts of elements. I applaud the GIB, they do a fantastic job with a very small amount of capital. I think they do it in a very sensible and practical way. They need more resource, they need more support and we need to use them and various other institutions to try and create more consistency and joined-up nature in the policy implementation. I think the Green Deal needs to be resolved. The Government infrastructure, the £40 billion guarantee programme is a phenomenal opportunity. It just needs to get implemented quicker and in line with the policies of the Government. I think again they are doing a fabulous job, but they need more help getting actual money out the door, or getting projects up and running. Alongside that is making sure that people—the external investors, not just the equity and the debt investors, but people like EIB—feel confident and strong in their design. These guys want to invest in the UK, it is a very attractive proposition, but they are constantly frustrated about the lack of consistency of implementation. I could go on but I think, in the interests of time, that is probably enough. I hope that starts an interesting debate.

**Chair:** Thank you very much indeed. So many issues, and to deal with them all at once at the same time in a cross-cutting way, so thank you for that. Our final panellist is Robert Rabinowitz, who is also going to be speaking on the whole issue relating to community energy projects from Pure/Leapfrog.

**12. Robert Rabinowitz**: Good morning. Thanks for the invitation to come here to talk a little bit about how we can encourage investment into community energy. My name is Robert Rabinowitz. I run a small charity called Pure/Leapfrog. We are a merger of two existing charities called Pure and Leapfrog, not surprisingly. As you can tell, we have not really thought of a new name yet. However, what we do is we specialise in supporting community energy projects. We have a track record of supporting around 100 projects. We do this in two ways. The first is through pro bono support. So we work with small-scale projects, and thinking about Shaun's levels of ticket size, we are not as his level, we are probably not as his friend level, we are the level below those. So we are taking really rather small projects that can't afford the transaction costs of getting up and running. We have a network of lawyers, accountants, financial planners, technical consultants who donate their time into these projects to get them to investment close, investment readiness. We then provide affordable debt to them to get them up and running.

I think our role here today is to take a bit of a focus on the smallest level and a sector that is still a bit player, which is community energy, and talk about why we should be investing in it more. Community energy is tiny in this country. It represents 1% of the assets by capacity registered under the feed-in tariff. I am going to talk a little bit about why it should be supported more strongly and I am going to just come up with a couple of recommendations as to how we do it. To talk about the benefits, we talked about the double bottom line and the triple bottom line. That is the one we operate with, the triple bottom line. We have a loan fund for community energy projects. We provide cheap debt to these projects in deprived areas of the country. For every pound that we lend out, we get that pound back. Our average yield on the portfolio at the moment is 4.2%. For every pound we lend out, we get about 16.2 kilograms of $CO_2$ reductions, quite expensive in terms of pounds per tonne, but still a respectable return. Although, I think most strikingly, what we also achieve is we leave £4.50 of benefit in deprived communities. So we get the financial return, we get the environmental return and once you deduct financing costs, operating costs and all the rest of it, you are leaving £4.50 in the local community. The projects that we fund are using that to fund reduced fuel poverty, they are using it to run employment training. We have one organisation that specialises in employment training in deprived areas. We are helping reduce their fuel bill, get access to feed-in tariffs, their plan on that interim employment training. There is a project we will be lending to this week where we are helping a leisure centre that is threatened with closure, because of local authority cuts, stay open. The biomass boiler is the difference between staying open and closing, so we are keeping a swimming pool for seven schools, we are protecting jobs. So the triple bottom line is what we are doing.

However, we are currently doing it on a really tiny scale. We have to scale up. We are currently 1%. In Germany, renewable energy, 50% of it is either owned directly by individuals or through communities. That is where we should be aiming, because the economic multiplier benefit would be significant. So I have a couple of suggestions. What we need in our sector right now is a little bit more than simply a balance sheet to underpin us or risk guarantees for investors, although that is part of it, but we also need some help in getting us up to our initial ticket level, where we can begin to walk into the Green Investment Bank.

The first thing we do need is some balance sheet support. There are risks in these projects that do not exceed the risk of any other type of renewable energy project, it is just because it is a community energy project conventional funders look at it and they do not understand it. I will give you an example. The entities that we fund might not have a significant balance sheet, they might not have trading history. However, what we feel is that from a credit perspective, they are particularly strong, because they are rooted in their communities. We believe we can demonstrate that, but it is going to take us time, so we do not believe the risks are greater. We just don't believe that the funders understand the risks, and whenever we sat down, particularly with banks, to talk about it, they just couldn't get their heads around we were asking them to think about something differently. So we need some balance sheet support. We are not asking the taxpayer to underwrite unreasonable levels of risk. We are asking the taxpayer to help us educate on the risk by demonstrating a track record.

I would say the second thing we need is some more revenue funding, frankly. The organisations working in this space don't have working capital. There are a whole bunch of challenges we face: our origination costs for projects are too high; our transaction costs are still too high. We are developing solutions to address that. Pure and Leapfrog together are creating standardised funding packages to put solar panels and LEDs into schools. We will be creating local co-operatives to invest in those projects, in which parents and communities can invest. We will be providing the debt, we are providing all of the legal documents needed to do the transaction; we are providing the finance on standardised terms; we are providing the pro bono support to get the projects to financial close. So we can get the projects over the line. However, that is just one part of the whole range of solutions we need to address risk management, to address reduction of transaction costs, and frankly, the organisations in this space don't have the working capital. We do need that support to help us reach that level.

Finally, just to come back to consistency, I am not going to repeat what everybody said about consistency of policy. I just want to highlight that for community energy, you have a lot of people who are investing a lot of time on a voluntary basis for the common good and a lack of consistency hits them even harder, because what we have with a couple of issues around state aid at the minute, we have people who have given two or three years of their lives to make projects happen. They have ticked all the boxes, and because of a failure of Government to communicate a change in rules, are finding those are stranded assets that are now not economically viable. So it is an added layer of an inconsistency. I believe very strongly that the returns are there financially, economically and environmentally. I do not believe it would take us much to demonstrate proof of concept, and if we can do that, what we do is unlock the scale of investment capital so that we are no longer a little bit player in this discussion.

**13. Chair:** Thank you, Robert, and thank you for bringing this whole debate back to Earth, at that subterranean level, if you like, and obviously the grassroots is really important. I will open this up to questions. We aim to finish at 10.20am and I don't know if any of my colleagues first of all want to chip in. Yes, Peter Aldous.

**Peter Aldous:** Yes, thank you Chair. There was very much a consistent message coming out there for the need for consistence in policy terms. I would just be interested, Richard Burrell was fairly damning about the UK, but I think he also included other European countries in that. Where is the role model country or place we should be following and how is the States viewed in regards of shale gas and their energy policy?

**Dr Whitehead:** I wonder if I could get your thoughts on one of the issues of community energy, which is the dissonance in terms of lending, so, for example, if you are trying to get a district heating scheme going, there is a view by lenders that, "Well, unless you have all your fuel supply contracts, your heating network contracts, your other long-term arrangements all aligned in terms of length of lending, no one will be lending anything". Now, do you think those are insuperable barriers to that sort of community initiative or are there ways forward as far as getting that financing in line with the realities of what is proposed, particularly the length of return these schemes seem to involve?

**Caroline Lucas:** Following on on the community energy, if we had time to get to it in the debate yesterday on the Energy Bill, there were a number of amendments around community energy that were trying to both put a target in the Bill for community energy and also increase the threshold for the FiT and I just wonder what your optimum figure would be if you were looking at a figure for the number of megawatts, whether it is, you know, the Government at the moment has a 5 MW threshold for the definition of community energy; others wanted higher figures. I wondered what your position was on the figures.

Just to say to Richard, what you were saying about DNOs was music to my ears, because it feels to me like they are the kind of forgotten players in all of this, and there is a huge scope, I think, if we made them a little bit more visible and were able to regulate them a little bit more effectively, and I wondered if you thought that local authorities had a particular ability and particular responsibility, I suppose, to be trying to put some local

regulations in terms of getting more of their local community energy on to the grid and requiring DNOs to do more in that respect.

**Mr Spencer:** A direct question to Richard really as to what the motivation of his clients is: is it to go green; is it to make money or is it to secure their supply?

**Chair:** All right. I think I am going to give Robert the first bite of the cherry on those questions.

**Robert Rabinowitz**: I am going to address the easiest question first around community energy threshold. Sitting here, I am not sure why we have to specify a threshold. I think the definition of community energy is around how it is owned and who benefits from it, and that is the key factor rather than saying it has to be small. I think that is what distinguishes the projects that we are working on. We are fighting at the minute with a load of local authorities to let co-operatives invest with schools, because the local authorities are nervous about PFI and private equity because they feel like what we are trying to do, they perceive us as trying to take the value out of the schools, whereas we are trying to provide a type of finance that satisfies the investors but maximises the value that stays with the schools. I think that is the ethos and it is not about a threshold.

In terms of lending, in terms of contract, there clearly are different types of projects that are more complicated than others, so it is not simply district heating, we have some community energy groups trying to do anaerobic digestion, and again, you have to have your waste supply agreements. There are a whole bunch of things you have to line up that are more complicated. Ultimately, I think there are two responses. One is as an organisation to date, we are focusing on easier stuff, so it is solar. We are focusing primarily on buildings. We are probably then going to get wind and hydro, which are longer, have more risk. You might regard that as a bit of a cop out, but we are biting off one thing at a time. Although again, a lot of that is to do with balance sheet capacity, because the lenders will pay as much attention as they need to that when they feel very uncertain about what balance sheet is backing up the investment and the capability of the organisation to line up those contracts. Ultimately that will just be a matter of time and growth. I do not think you can substitute for that. There can be some form of balance sheet support, but I just think there is an inherent complexity. Maybe I do not have the answer yet, but there is some need to find a way of putting a bit of balance sheet behind some of those projects that will give the lenders the comfort they need while the other stuff gets lined up.

**Chair:** Thank you, Robert. Richard.

**Richard Burrell**: Okay, I am going to just deal with the question in reverse order. Firstly, motivation of clients. When I got into this game, I thought it was about companies wanting renewable energy for all the good reasons that came out of the previous panel, and Google is a good example in this morning's *FT.* However, at a local level, the green energy agenda is one thing, but energy security is the main driver. If you are running a factory in the south-west or a factory in one of the communities, energy security and distrust of the grid and what will go into the grid is what is driving it, and cost, yes, they would like to see a cost reduction, but cost comes third to those.

Caroline, in terms of your question on DNOs and local authorities, we would love the local authorities to be more efficient and to help speed up that process. We are just putting a biomass boiler into a school. It has taken over a year for the local authority to get its act together around the legal process, so I would absolutely love them to do it, but the education involved to speed it up I think needs a bit of top-down push here on the network operators, rather than it coming from the local authorities.

To answer your question, it is absolutely the reason why at Aggregated Micro Power we have funded this business totally with equity. Bank debt at a small-scale level is simply not there, so the only thing you have to do with small schemes is equity finance them, aggregate them together and then go to the debt markets. This is my point about small-scale doctors' surgery developments, they could not get bank debt in the early days and it needs to be aggregated into a pool before the likes of Mike and his colleagues will go and sell the debt to long-term buyers of income.

**Mike Turnbull**: We love aggregated debt because of the diversification in the portfolios and the assets are much, much more attractive to us, and the bigger the better, because then you get to the liquidity of the insurance and pension funds. The only comment I would make is that we then run into all sorts of European legislation around state aid and aggregated are not allowed; for some reason aggregated are a bad thing to the European community with regard to the provision of guarantees and supports. We have been trying to get an aggregator together for the various elements of the Green Deal, which has been extremely difficult, and it comes back to the point where a very good idea gets challenged by other entities that are not directly responsible for the solution. Aggregation would be a fantastic development, because you would drop the cost of debt from 5% or 6% to 2% or 3% almost overnight.

**Richard Burrell**: Finally, your question, I am not critical about the UK policy. In fact, I speak to most investors who have been bitten by what has happened in Spain and things like that and nobody I talk to is concerned that the British Government will retroactively take away subsidies. People do applaud the Green Investment Bank. I just want it to do more and when I hear about RBS splitting from a good bank to a bad bank, why doesn't the Government put the money that they are supporting what I would call the retail banks into genuinely bank lending in this sector, because that is what will drive renewables and drive it further. My other comments on the environment agencies are just basic whinges from people at the coalface.

**14. Chair:** All right, do I have any more questions from the floor? Yes, thank you.

**Bryan Kilkelly***:* Bryan Kilkelly from World Cities Network. We are working with cities across the world on building capacity between public and private collaboration. It strikes me that there is this theme of the fact that the world is becoming more volatile, and they were talking about the need for consistency, and it seems that part of the answer is certainly building capacity at the local government level. Somebody talked about, I think it was Richard, the biomass plant taking a year for the public authority to get their head around that. We certainly find that one of the biggest challenges to making things move forward is the lack of capacity at the local government level to push forward solutions. So there is a will there and there is a desire there, but if we are really going to get things moving faster in terms of infrastructure investment, in terms of working between developers, investors and public authorities, we need to help the public authorities to have the skills to be able to take things forward. The trend seems to me is that the world is getting more volatile, yet the resources and the people and the skills at the local level to take decisions is becoming more constrained and that is something that we need desperately to try and reverse.

**Simon Barnes***:* Good morning, Simon Barnes from the High Speed Sustainable Manufacturing Institute. I have heard an awful lot of the words "risk" and "uncertainty" this morning and it seems to be a major barrier to green investment. Do we know much about—and this is for Mike, really—future demand and where that demand for energy is going to come from, which particular sector and in what form? Is that creating risk and uncertainty in itself, and is there anything that the Government could do to create better demand forecasting potentially around future types of demand to get rid of some of this risk and uncertainty that we seem to be coming up against?

**Kirsty Hamilton***:* Thanks very much. Kirsty Hamilton from the Low Carbon Finance Group. We are a group of senior energy financiers with a strong interest in renewables, and a couple of years ago when it started out—Shaun was involved at the helm of that before he moved to the GIB—we had a big meeting all about the investment gap and big picture issues about infrastructure and investment and the £100 billion, and now we are working on the absolute undercarriage issues of EMR, which may not be a surprise to people like yourselves on the panel. However, I just wondered, from the perspective of the Audit Committee's work, how do we join the dots between the high-resolution detail that structures risk in risk management at your level with the £100 billion and the bigger picture issues of infrastructure investment? How do we manage expectations about the timeframe and at some points in time holding the nerve until track record and people have time to get off the ground rather than stepping back again under pressure from austerity and cost arguments? I wonder if you could put a bit of flavour on that. Thank you.

**Chair:** Are there any more contributions or questions, because I am very conscious that we need to bring it to an end at 10.20am. Yes.

**Gavin Dunn***:* Good morning, Gavin Dunn, Environmental Markets at BRE. My question is primarily at Mike, but I am quite happy for anyone else to respond as well. You mentioned briefly green infrastructure. I am very curious as to how you go about identifying from an investment point of view what is green infrastructure, what is good green infrastructure and what is brown infrastructure, and in particular, is there any information that the market or investors require, are there any gaps in that information and the consistency and so on? Thank you.

**Chair:** I am going to give the panellists an opportunity to respond to the points made that affect them, so first of all, if I may, Mike.

**Mike Turnbull**: Yes. I mean, on what is green infrastructure, that is still being determined and I would say each portfolio manager has his own view of it. There is definitely information lacking, particularly around the greenness of infrastructure. We are working on that. Disclosure is one of those things, until it starts getting standardised, it is very difficult to get it implemented, but definitely stuff like offshore wind clearly falls into it, onshore wind clearly falls into it. CCS and biofuels and retreading existing carbon plants into more attractive carbon plants is in the grey area between brown and green, and how that works and the efficiency in the carbon reduction statistics are the sorts of numbers that people are starting to look at. There are only a very small number of investors who are genuinely being driven by greenness. To be absolutely honest, most of them are looking for stability and sustainable returns, but I think obviously we will take a lead from what the Green Investment Bank thinks is green a lot of the time. To some extent in my book, it is very important that we get as much capital allocated to as broad a range of green investments as possible at the time. I am not trying to be particularly prescriptive.

**Richard Burrell**: I want to answer that question on green infrastructure from a different angle, and hopefully answer some of the other points that were made. The best example, I think, of green infrastructure is if you take Gatwick Airport, we have all flown through Gatwick Airport here. What is it? It is a place where a lot of waste comes in on planes every morning and a lot of fast food waste gets generated in the terminals. At the moment, they pay to take that waste off site, and some of it is probably landfilled. At the same time, both terminals need to be heated or airconditioned and lit virtually 24/7. Green infrastructure to me is turning the waste that is generated that comes into the site from the planes or onsite into energy that can provide the heat and power for those buildings. That is what I mean about green infrastructure, and if you can link that with all these high-level targets and the grassroots, that is about what we are trying to do here, and driving investment into those sort of projects is where we will move this debate forward.

**Chair:** Thank you. Finally, Robert.

**Robert Rabinowitz**: Local authorities and capacity, there clearly is an issue around capacity, but I think it is also clearly an issue that the people we deal with in local authorities do not get rewarded for helping us make stuff happen, but will get penalised if they let it happen and then something goes wrong, so I think it is about incentives as well as capacity.

**15. Chair:** All right. At this stage, I am going to bring our proceedings to a close. What I would like to say just finally in conclusion is that I think having an event like this, as it turns out on World Environment Day, is just really important. The fact that we have had so many panellists and so many active members of the audience here means that we are not just having an event, we are providing an opportunity for people to carry on networking among yourselves in terms of how we take forward some of these issues. I think that our Select Committee of the House of Commons, the Environmental Audit Select Committee, does have a real role, and it was really like the penultimate question that we had, it is how you bring together all these different disparate issues in a cross-cutting way. Obviously we are not Government Ministers, but our report that we will be launching will come up with recommendations, will be informed by this debate and Government will have to respond to each of our recommendations that we come up with. So what we are hoping is that in the course of having this seminar today, we are, if you like, taking this active engagement a step further on and bringing the very local and the very community grassroots part of our constituencies to the very highest level of decision-making and infrastructure investment and really involving the City of London with all the expertise that there is here as well to see how, in a way, we can all inform the work that each of us are doing.

I just feel very much that the detailed issues that have been raised, it is not just about capital investment, it is about revenue funding, where is the best practice: is it in Germany, is it elsewhere? How do we cope with the infrastructure investment in the future and align investment to not going beyond 2º centigrade are really important issues. I also feel that one of the things that has come out of this morning is dialogue and better informed understanding of the bigger picture in order that we can then go away and develop what we are each individually doing within our own work programme, if you like, in terms of what needs to be done. I think that the whole issue of education for sustainable development, it is no use having all these wonderful ideas if the local authority committee chairman or whoever it is in charge of private finance initiative, cannot escape from the liabilities of the PFI that would allow some of these issues to take place. So it is about how do we innovate and how do we do that on the basis of dealing with the risks that we face and really being able to manage this whole agenda and be vocal about it as well so that we can, if you like, press and urge those who are at the very top table to really find ways of saying, "Yes, that makes sense and this is how we can take that forward". At the same time, I am sure we will have the Green Investment Bank, won't we, Shaun, moving along and saying, "Yes, we need to be looking at these guys at the local level".

So I would like to thank you for your patience and your time, and particularly thank Fiona and everybody here who made this happen. We are very grateful to you, but we don't intend to finish it here. We will be going back to Westminster now for Prime Minister's Question Time, but we will be pursuing this inquiry. Thank you very much indeed.

SLIDES (MARK CAMPANALE):

1: CARBON BUDGETS

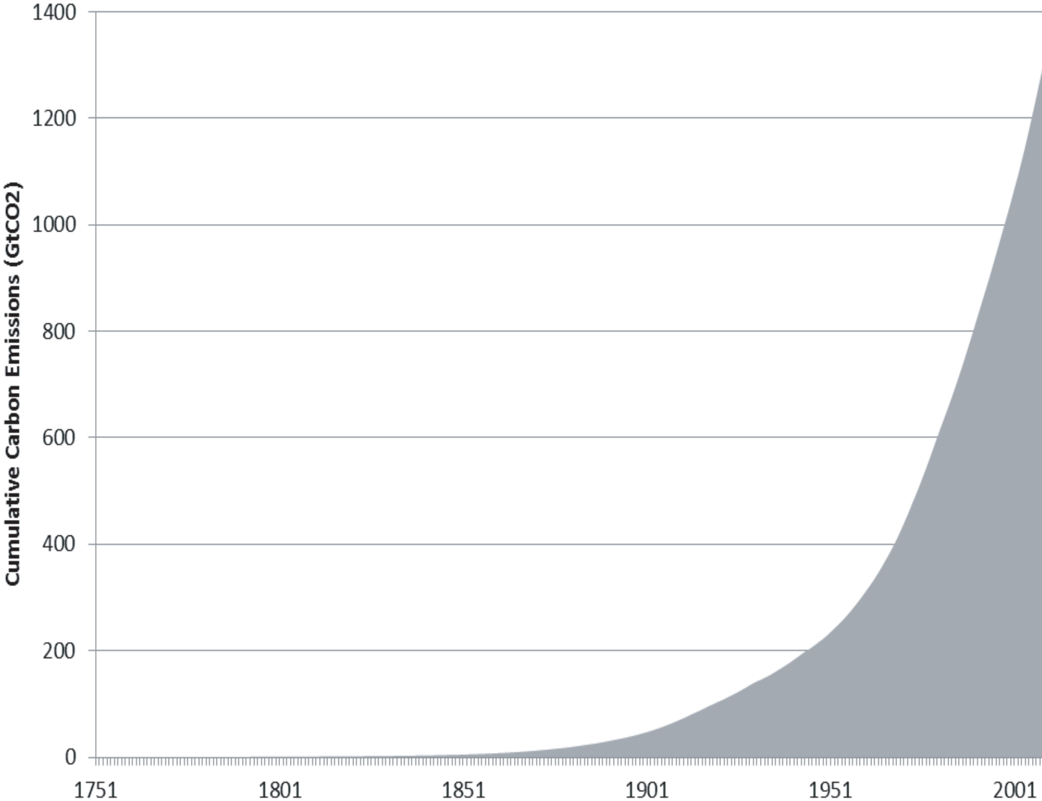
Recognising that many consider a 2°C goal to be ambitious, in this work we stress test the conclusions for a range of goals between 1.5 and 3°C, as well as assumptions about CCS

*Why carbon budgets?*

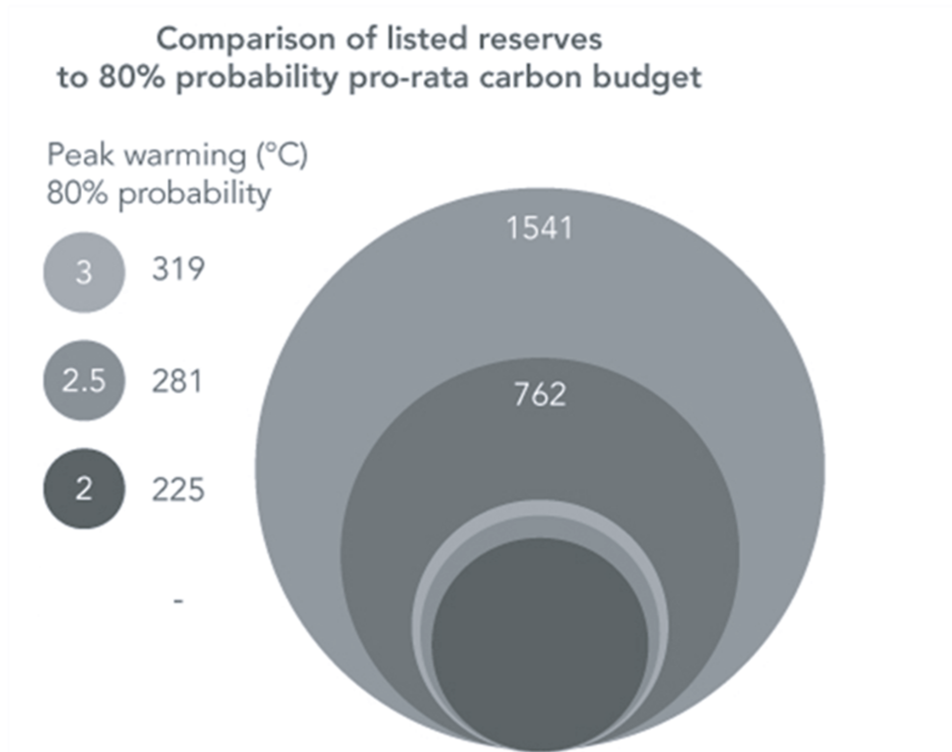
Carbon dioxide remains in the atmosphere for around 200 years.

Cumulative volume of emissions over decades, rather than rate in any particular year that drives climate change.

The budget tells us how much more carbon dioxide can be emitted before a certain target temperature level is exceeded.


Cumulative Carbon Emissions from Fossil Fuels since 1750
Cumulative Carbon Emissions (GtCO2)
1400
1200
1000
800
600
400
200
0
1751
1801
1851
1901
1951
2001

2: Carbon Budget Deficits for Listed Companies




Potential listed reserves: 1541

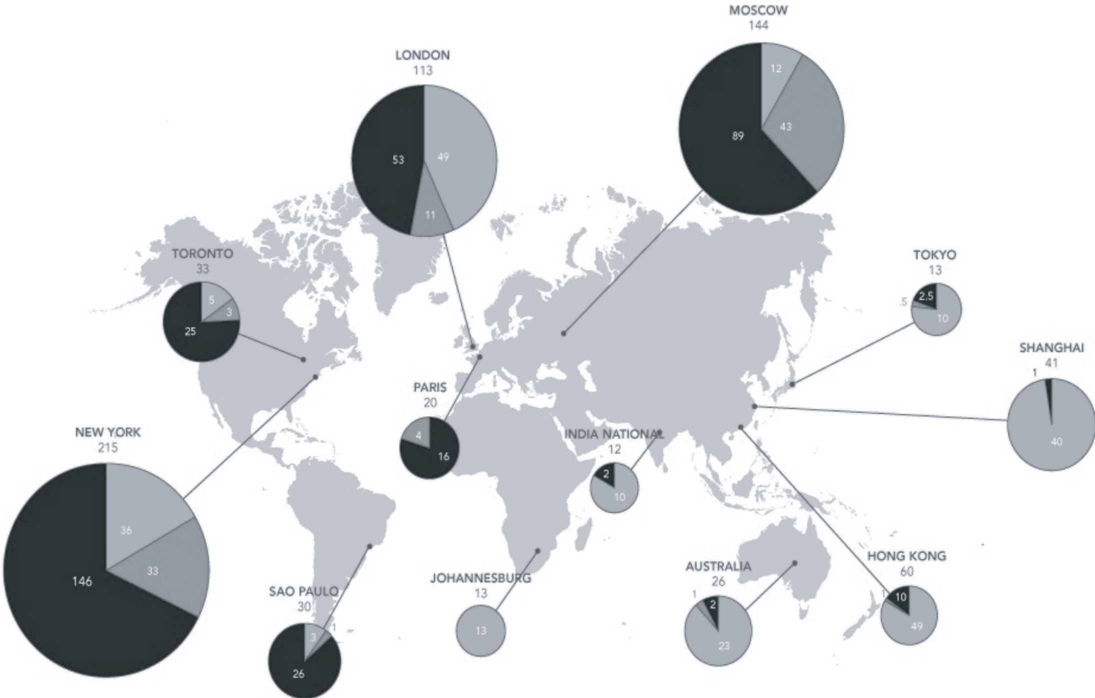
Current listed reserves: 762

Listed reserves are a quarter of all known fossil fuel reserves.

Current listed reserves (762Gt$CO_2$) far exceed a quarter of the total carbon budgets but could double (1541Gt$CO_2$).

If we break the 2°C budget we very quickly hit 2.5°C and 3°C.

3: CURRENT RESERVES ON STOCK EXCHANGES

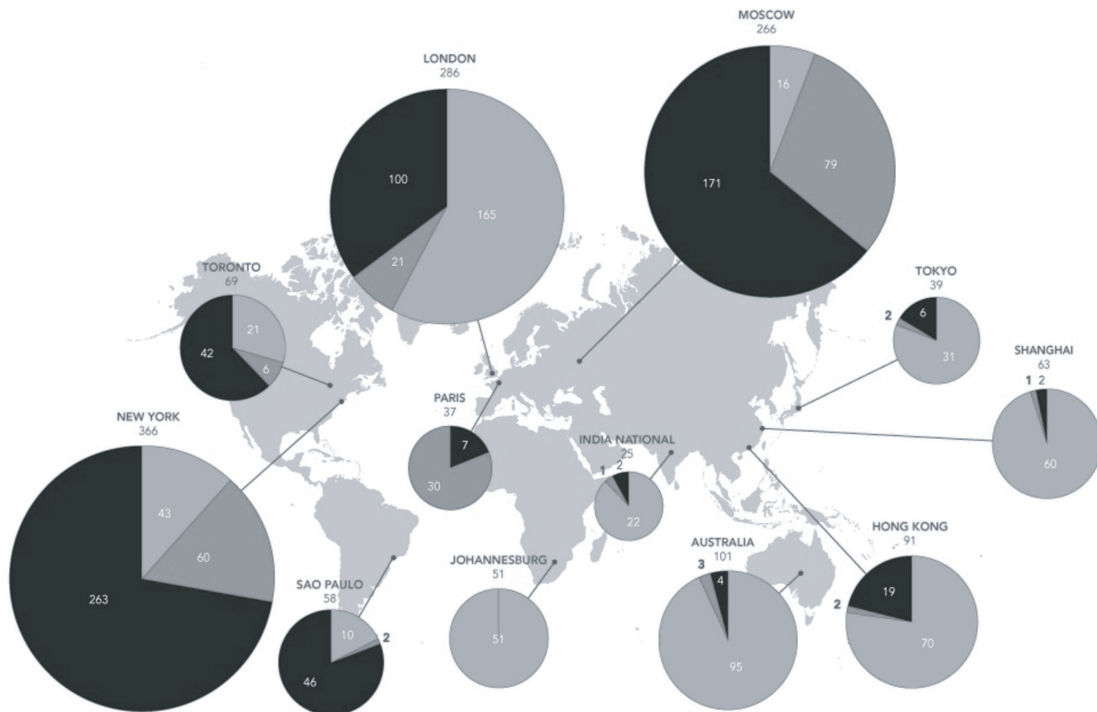



Totals

- — Coal: 273 $GtCO_2$
- — Oil: 388 $GtCO_2$
- — Gas: 101 $GtCO_2$

Global Total: 762 $GtCO_2$

4: Potential Reserves with Ongoing Capex

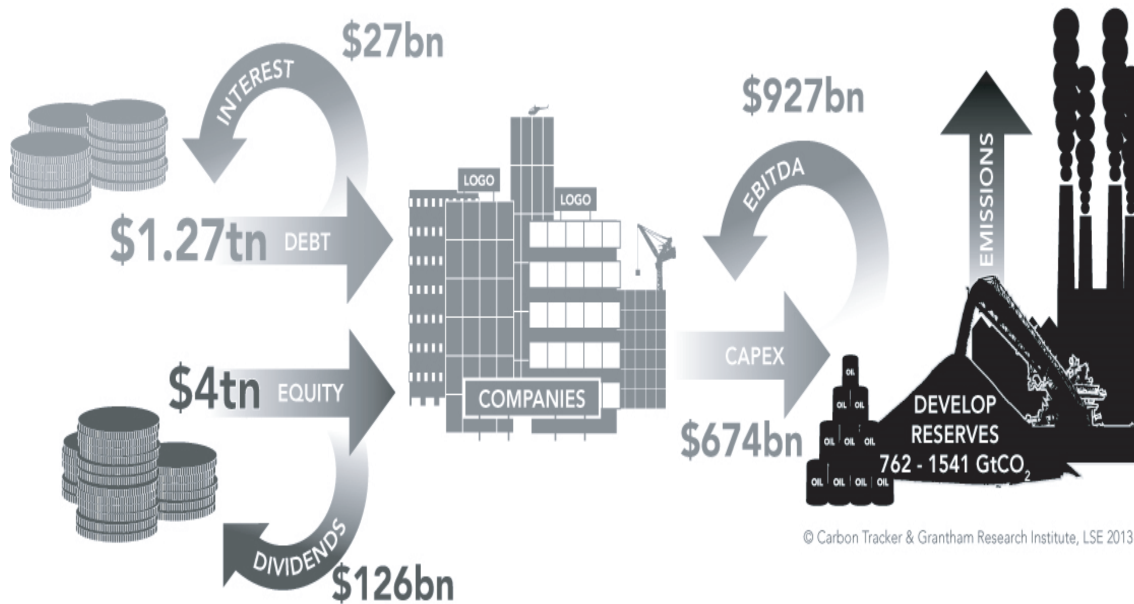



Totals

— Coal: 640 $GtCO_2$
— Oil: 715 $GtCO_2$
— Gas: 186 $GtCO_2$

Global Total: 1541 $GtCO_2$

5: A Rebalancing is Needed Between Flows



6: MAKING THIS SHIFT—OUR WORKSTREAMS

| *Workstream* | *Systemic Risks* | *Challenging Valuations* | *Accounting for Stranded Assets* | *Capital Raising* | *Closing the Policy & Market Gap* |
|---|---|---|---|---|---|
| Activity | Global climate analysis & market rules | New models for equities and credit ratings | Assessing implications for accounting standards | Placing climate at heart of IPO process | Regular updating of macro analysis |
| Targets | Investors, Regulators | Analysts, Ratings Agencies | Accountants Listing authorities | Banks, Lawyers, Regulators | Investors, Government |
| Outcome | Regulation of climate change as a systemic risk | New valuations that change CAPEX | Standards which recognise climate risk | Listing rules including climate risk | Climate policy that integrates finance |

## Written evidence submitted by the new economics foundation[1]

EXECUTIVE SUMMARY

We recommend that the objectives, implementation and governance of Quantitative Easing (QE) are reformed to help fund the transition to a low-carbon economy.

An estimated £550 billion of investment in new low-carbon infrastructure is required over the next 10 years in the UK, but government budgets are under pressure, the banking sector remains severely constrained and the private sector lacks confidence to carry out the long-term investment required to green the UK economy.

We therefore propose that the Asset Purchase Facility buys bonds issued by agencies with a specific remit for sustainable investment within the UK, such as house building and retrofit and low carbon infrastructure. The use of a proportion of QE to fund long-term sustainable investment would be non-inflationary and in line with the Bank of England's broader remit to support the Government's economic policy.

Both government and opposition parties now support the economic case for a national development bank and Green Investment Bank, however the lack of a banking license and the Government's reluctance to commit taxpayer funds will severely limit their impact. Total capital for both these institutions of less than £4 billion compares with balance sheets of over £200 billion for the Brazilian development bank and £400 billion for Germany's KfW.

Central bank support for national infrastructure investment has worked before. The Industrial Development Bank of Canada, which supported Canadian SMEs from 1946–1972, was capitalised entirely by the Central Bank with not a single penny of taxpayers' money required. In New Zealand in 1936, the central bank extended credit for the building of new homes, helping the country out of the Great Depression.

1 *Can we afford to tackle the environmental crisis?*

> *It is clear … that what a great nation can "afford" in periods of crisis depends not on its money but on its man power and its goods. Russia, Italy, Germany, Japan, the United States, all used money in the situations mentioned, but money was obviously not the dominant factor. Man power and materials were the dominant factor. Yet at other times, when crisis was not so acute, the money for necessary tasks could not be found. Unemployment, insecurity, want, dragged on. This is a puzzling paradox.*

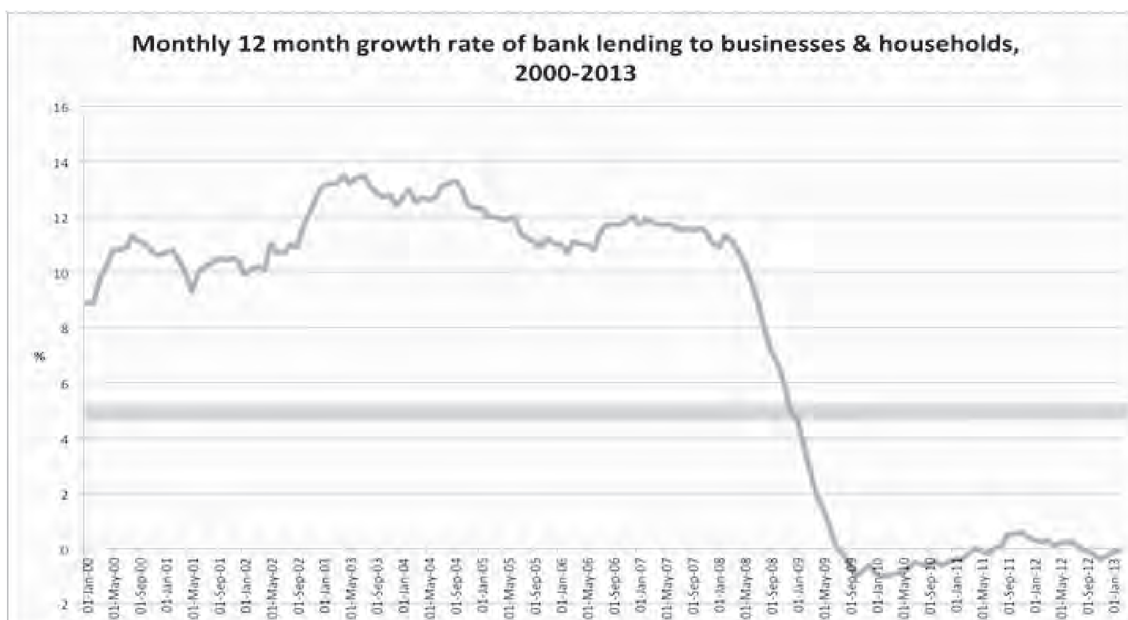
Stuart Chase, 1943, Economist, engineer and

adviser to Franklin Roosevelt and Lyndon Johnson.[2]

1.1 The challenge of building a sustainable low-carbon economy seems harder than ever in the context of a weak economic recovery. The recession has been the longest in two centuries, including the Great Depression, with output losses estimated to be equivalent to a World War. The most obvious cause of the problem is that the main providers of new money in the economy, private banks, are contracting rather than expanding their balance sheets. Net lending has been shrinking for the last five years since the financial crisis (figure 1).

**Figure 1**

BANK LENDING TO BUSINESSES AND HOUSEHOLDS, 2000–2013




*Source: Bank of England, Funding for Lending Measure, code LPMV6PI*

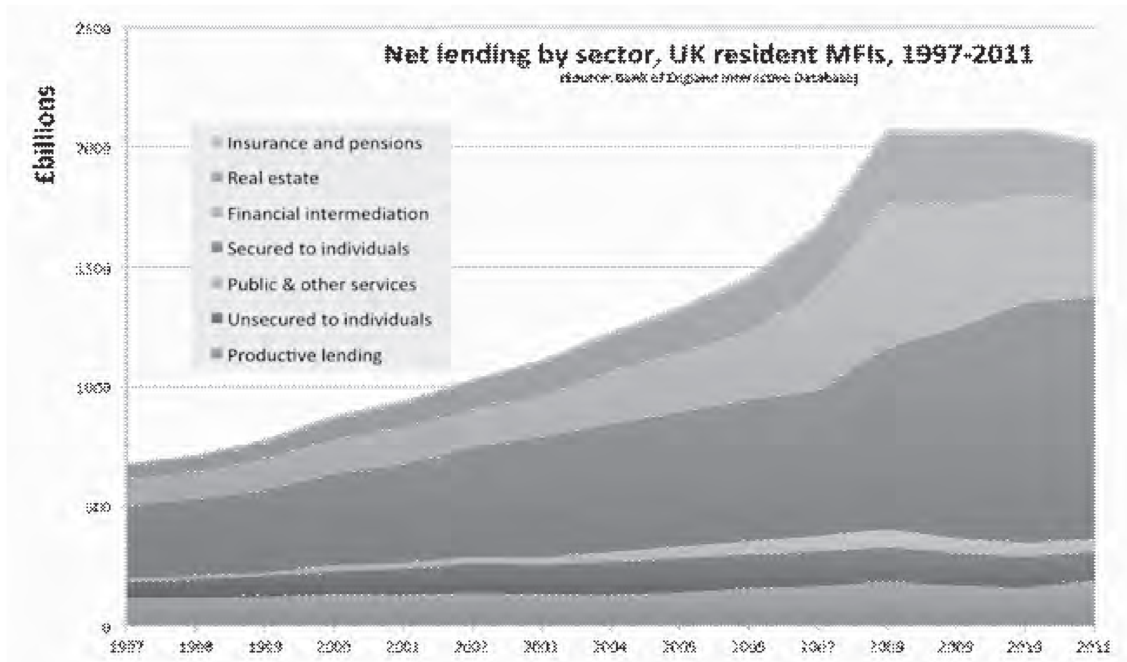
1.2 In such a situation, it is left to the public sector to get money in to the economy. Governments, unlike banks, cannot create money; they can only borrow it from financial markets, thereby increasing public debt. However, the coalition government has committed itself to reducing government debt. This meant that fiscal stimulus—increases in spending or reductions in taxation—have been ruled out as an option for generating recovery.

1.3 Fortunately the UK has its own sovereign currency, leaving a third option. The Bank of England, as everyone now knows following Quantitative Easing (QE), also has money-creating powers. And it was left to the Bank to perform the rescue job of getting more money in to the economy when neither the private banks nor the government could do so. The policy was called "monetary activism". So far, it has involved a drastic reduction in interest rates (held at 0.5% for four years), an injection of £375 billion (25% of GDP) in to the economy via QE and, most recently, the Funding for Lending Scheme (FLS) which subsidises commercial banks' lending to the real economy (households and SMEs).

1.4 The Government's hope was that the private sector, capital markets and the banks, with the support of easy money conditions, would take up the slack and invest in, and lend to, the real economy. Not only would this create growth, it would also create the right *type* of growth, rebalancing the UK economy away from its dependence on the housing market, consumption and the financial sector and towards manufacturing, construction and other export-orientated production. The results have been poor. Not only have we endured a record slow recovery but there is also little evidence of "re-balancing". Manufacturing and construction in particular remain in the doldrums, which compounds a chronic lack of investment in productive sectors over the past ten years, when bank lending has flowed mainly into property and the financial sector (Figure 2).

**Figure 1**

BANK LENDING BY SECTOR (1997–2011)

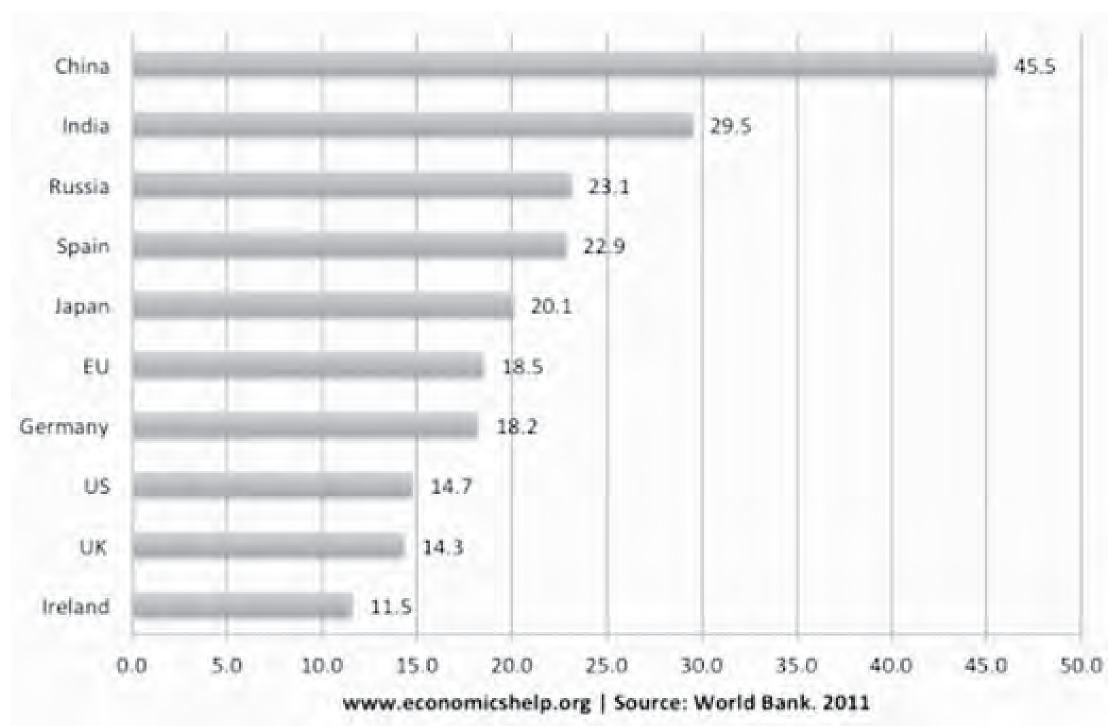



1.5 The Bank set up a special body to conduct its QE purchases—the Asset Purchase Facility (APF). All the assets held in the APF are indemnified by the Treasury, however they do not count against the public debt nor are they part of the Bank of England's balance sheet. Whilst the Independent Monetary Policy Committee (MPC) decides upon the quantity of assets that will be purchased via the creation of Bank of England reserves, it is the Bank of England Directors (some of whom sit on the MPC) who decide upon the *type* of assets that the APF purchases, and they have chosen almost exclusively to buy government debt (gilts) from financial institutions and other investors such as pension funds and insurance companies.

1.6 This is supposed to stimulate the economy by nudging investors to invest in other, productive sectors of the economy, and by reducing long-term interest rates making investment more attractive. However, the impact on the economy will be determined by what investors choose to do with the new money they receive from QE purchases. Only if it is invested in new production will it contribute to GDP transactions and growth. In the current environment, it appears larger firms are happier just sitting on cash. The Office of National Statistics recently estimated that the UK companies were sitting on £750 billion in cash, 50% of GDP.[3] In other words, success in lowering interest rates does not necessarily translate into success in stimulating the real economy. Nor does it guarantee that investment will be directed into productive or sustainable sectors of the economy. Capital expenditure as a proportion of GDP, already on a long-term declining trend, has fallen significantly since the financial crisis and remains far below many of our main international competitors (Figure 3).

**Figure 3**

GROSS FIXED CAPITAL FORMATION AS % OF GDP




2. Strategic QE: Public Money for Public Benefit

2.1 We propose that the solution to underinvestment in productive and green sectors of the economy is to reform QE. Instead of buying Government bonds, the Asset Purchase Facility (APF) should purchase bonds issued by agencies with a specific remit for sustainable investment in UK housing, infrastructure and SMEs.

2.2 We propose that the APF could purchase bonds in intermediaries that specialise in providing funding to particular sectors of the economy that are recognised as having spare capacity. The existence of spare capacity and/or unfulfilled demand provides *prima facie* evidence of market failure, which should ensure compliance with EU state aid regulations (although this is a complex area where further research, including expert legal opinion, is required to define the precise structures and terms and conditions required to ensure compliance).

2.3 The advantages of this proposal are as follows:

— Investment via purchase of newly issued bonds is a small evolution from current practice. Indeed, as the original mandate of the APF was to purchase corporate bonds, it may be seen as more in keeping with the intended purpose of the Treasury in authorising the creation of the APF than the purchase of government bonds.

— Purchase of newly issued bonds, rather than existing bonds in the secondary market, provides a direct injection of capital into the economy instead of relying on financial investors to reallocate capital through the portfolio rebalancing effect.

— The use of intermediaries ensures an appropriate division of responsibilities between investment professionals that have the expertise to assess and select individual companies and projects, and economists at the Bank of England who have the expertise to identify economic sectors that require capital investment.

— The provision of patient capital to intermediaries is likely to provide opportunities to "crowd-in" private finance by giving confidence to private sector investors.

— The terms of finance can either be at market rates or preferential rates. Market rates would allow for sale of bonds by the APF into the secondary markets at a later date, preserving maximum flexibility around monetary policy and also developing the breadth and depth of UK bond markets. Alternatively, low-cost finance via bonds with very low coupon rates held by the APF until maturity would expand the range of feasible projects to include economically beneficial investment that cannot be provided by the private sector because of extensive social or environmental externalities. This precedent has been set already by FLS and Help to Buy, both of which provide funding and guarantees at non-commercial rates to commercial banks. FLS funding can be accessed for as little as 0.25% per annum.[4]

2.4 One of the key obstacles to injecting funds into the real economy under strategic QE (or indeed tax-funded government investment programmes) is finding the means of deploying investment rapidly and efficiently. We examine a range of options which either exist already, or could be utilised with relatively little institutional and regulatory change:

— National development banks, building on the British Business Bank (BBB) and the Green Investment Bank (GIB).

— Housing construction, via a new intermediary to fund construction of new homes for social and affordable rent.

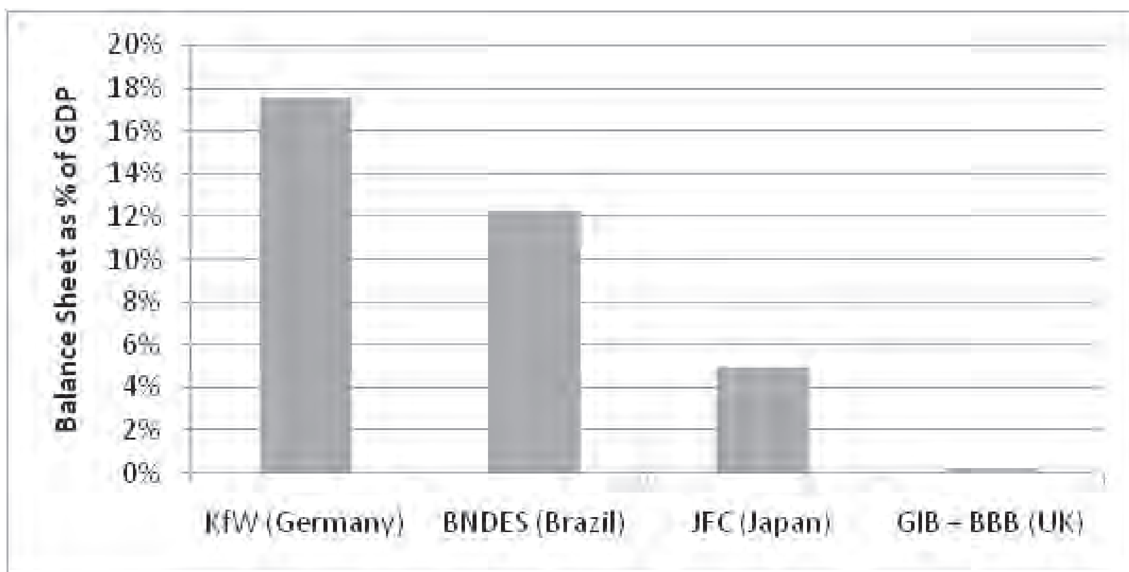
— Housing retrofit, via the Green Deal Finance Company.

We do not consider this to be an exhaustive list and certainly should not preclude other options. They are intended to illustrate that strategic QE is possible in practice.

2.5 The economic case for a national development bank has now gained support from both Government and opposition parties. However, reluctance to commit taxpayer funds will severely limit its scale and impact. The same is true of the Green Investment Bank. Total capital for both these institutions of (£4 billion) pales in comparison with those of Germany, Brazil and Japan (Figure 4). Meanwhile, an estimated £550 billion of investment in new low-carbon infrastructure is required over the next 10 years in the UK, and housing construction remains at its lowest level in the post-war period.

**Figure 4**

ASSETS OF SELECTED PUBLIC INVESTMENT BANKS AS A % OF GDP (2011)




2.6 There are strong historical precedents for central bank support for national infrastructure investment, in particular in two of Britain's ex-colonies. The Bank of Canada provided all of the capital for the successful Industrial Development Bank (IDB) of Canada in the period 1946–1972. Not a single penny of taxpayer's money was required for a bank with a strict remit to lend only to SMEs. And in New Zealand in 1936, the Central Bank extended credit for the building of new homes, helping the country out of the Great Depression.

3. Implementing Strategic QE

3.1 Would using QE to fund sustainable investment blur the line between fiscal policy, the preserve of politicians, and monetary policy, the preserve of technocrats? In reality the distinction has always been blurred, and is further dissolved by unconventional monetary policy. Instead we should ask what the appropriate governance measures are for hybrid monetary/fiscal measures and then select the most effective tools to deploy.

3.2 We suggest the formation of a Monetary Allocation Committee which would be accountable to the Treasury and Parliament but separate from the Bank of England. This committee would decide how best to allocate new QE funding and any reinvestment of maturing gilts; almost £100 billion are being repaid over the next 5 years. The committee would be charged with carefully examining different sectors of the economy and spare capacity within them and make allocation judgements based on a broad range of macroeconomic criteria: for example sustainable GDP growth, employment, financial stability, energy security, the trade balance and inflation, ecological sustainability.

3.3 The MAC would be expected to coordinate closely with the FPC and the MPC and could have non-executive members of each plus the Treasury on its board. The quantity and maturity structure of asset purchases would remain with the MPC with its focus on longer-term rates and inflation.

3.4 Even though at arm's length from the Government, it is important that the MAC does not have the ability to explicitly choose certain projects or companies over others. The APF should act via intermediaries such as the BBB, the GIB, the Green Deal Finance Company or a newly established Housing Investment Bank. Preventing the MAC or the APF from engaging in "picking winners" both ensures the correct division of responsibilities and isolates the MAC from any danger of political pressure to favour particular projects or companies.

3.5 QE has been criticised as posing the danger of increasing inflation. Would this be true for strategic QE used to fund sustainable investment? We contend that Strategic QE should not cause an adverse change in inflationary expectations for two reasons:

— The objective of targeting QE on real economy investment where spare capacity exists is intended to avoid generalised price inflation.

— The proposed institutional arrangements do not weaken the MPC's independence or remit at all, and provide greater transparency by separating the control over the quantity central bank asset purchases from allocation decisions. It should therefore strengthen credibility overall.

3.6 If a loan funds the building of a house, or a railway or a broadband network, it is creating a productive asset. A productive asset creates value over many years, providing a continuous flow of increased products and services over time. Money spent on such an asset should thus be able to be absorbed in to the economy without creating inflation. In contrast, if new money is created and spent on existing assets, such as existing houses, equities, bonds, or derivatives, this does not create any new flow of value—instead it is more likely to simply increase the price of the asset (ie asset-price inflation).

3.7 The financial crisis has seen the creation of a variety of novel new institutions and interventions in the UK economy—including QE, FLS, the FPC, the Prudential Regulation Authority and the Financial Conduct Authority. The MAC would not seem to be qualitatively different to these other innovations. The FLS itself is overseen by a joint operating board of the Treasury and the Bank, suggesting there are no great barriers to the two organisations working together to direct credit in those areas of the economy where it is most needed.[5]

3.8 One of the clearest market failures, as Lord Stern has observed, is climate change. We must urgently address the lack of investment in the transformation of the UK economy to a low-carbon and sustainable economy that can stand the pressures of the 21st Century. We cannot use the excuse that we cannot afford such a transformation.

3.9 Reforming QE so that is less scattergun and more strategic, and more focused on long-term economic, social and environment benefits, provides a viable route to stimulate green investment without increasing government debt. The environmental pressures facing the UK and world are one we cannot afford to ignore.

## Endnotes

[1] Evidence that supports this submission is contained within an extensively referenced **nef** report entitled "Strategic quantitative easing: Stimulating investment to rebalance the economy", available at http://www.neweconomics.org/publications/entry/strategic-quantitative-easing

[2] Chase, S. (1943). *When the War Ends: Where's the money coming from? Problems of postwar finance* (Vol. 3). New York: Twentieth Century Fund., p. 43.

[3] The Guardian, 14 April 2013, Firms told to spend cash to boost economy, available at http://www.guardian.co.uk/business/2012/apr/15/firms-told-to-spend-cash-to-boost-economy [accessed 19th May 2013]

[4] Bank of England. (2013). Funding for Lending Scheme extension: worked examples of borrowing allowance and fee. Retrieved from http://www.bankofengland.co.uk/markets/Documents/flsworkedexample2.pdf

[5] Bank of England. (2013). Bank of England and HM Treasury announce extension to the Funding for Lending scheme. Retrieved from http://www.bankofengland.co.uk/publications/Pages/news/2013/061.aspx

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## Written evidence submitted by the Department of Energy and Climate Change (DECC)

### Introduction

1. In response to questions on green finance raised by the Environmental Audit Committee, the Department of Energy and Climate Change (DECC) provide the following information.

2. In the wake of the global financial crisis, financial markets have seen significant restructuring, including reduced risk appetite, deleveraging and tightening credit and collateral requirements.

3. This restructuring has implications for project sponsors, in terms of the levels of debt and equity they can attract and for investors and lenders, in terms of what risks they will and will not take on.

## Barriers to Entry in Green Finance

4. When looking at investment opportunities, investors will analyse the risks compared to the returns they may earn. Some of the major barriers to entry or risks they will encounter are:

### *Liquidity*

5. Following the global financial crisis, long-term debt financing (on which many renewable energy projects, for example, have been dependent) has become much less attractive to banks to provide. The introduction of new regulatory requirements such as the BASEL III regime, and mounting pressure from regulators and shareholders has required financial institutions to meet more stringent capital, leverage and liquidity thresholds on their balance sheets to ensure their ability to meet their obligations over sustained periods of financial stress. Such obligations reduce appetite to hold long-term assets in banks' debt portfolios and can mean that financial institutions charge more for their available capital.

6. Furthermore, since the financial crisis, the perception of risk that a counterparty may default has increased significantly. This is leading financial institutions to charge more relative to the interest rate curve for their available credit and impose stricter controls around the projects, counterparties and technologies to which they lend.

7. As a result, investors are unable to access the same financing or level of leverage as prior to the financial crisis and what they can access will be more expensive.

### *Required returns*

8. The ability to attract investment into green finance may be reduced by the rate of return on investments, such as renewable technologies, that require higher upfront investment as compared to their fossil fuel alternatives (which have a lower upfront cost but higher on-going costs). This can disincentivise investment decisions in green projects, as the impact of higher capital costs (outlined under "Liquidity", above) are factored in to investment models. The ability to attract investment or financing could be further reduced, given energy price volatility in recent years. This makes it difficult to model future returns or the ability to meet repayment thresholds from investing in the sector

### *Perception of political or regulatory risk*

9. Investors are naturally averse to markets in which policy decisions or changes in laws impact on existing or future investment decisions. Investors and financiers require transparency and clear forward visibility of policy making and future proposed market developments as well as confidence that previously taken policy decisions will not be amended in retrospect. A number of European markets have seen changes in policy or regulation, in some cases retrospectively, which has served to undermine investor confidence more generally across the region.

10. In addition, the European Union Emissions Trading Scheme (EUETS)—the region's primary measure to reduce carbon emissions—has suffered from repeated price declines, borne of an over-supplied market, which has done little to instil confidence amongst investors.

### *Asymmetry of information*

11. New sources of capital are required for investment in green technologies, given the overall magnitude of investment required in the United Kingdom. A relative lack of information and expertise amongst such investors about green technologies, coupled with a lack of resource with which to acquire the necessary intellectual property, could be a barrier to attracting additional green investment.

## The Main Drivers Behind Investors' Decisions

### *In general investment decisions*

12. Investors are accountable to their shareholders and finance providers. As such they will be constantly looking for a risk-reward ratio that makes economic sense and meets other non-financial criteria. Some of the main factors they will consider in making this decision are:

#### Consistent returns

13. Whilst some investors may still look to achieve supernormal profits across equities or other high risk investments, investors are increasingly turning to real asset classes to provide long term, consistent returns that enable them to meet their banking or investor covenants.

#### Low correlation

14. Investors will create a diversified portfolio with a low correlation between their various investment sectors (a diverse range of low-high risk investments, or a range of renewable technologies within one

portfolio). This will create an offsetting effect between cyclical and sectoral trends allowing for a smoothing of returns across financial periods.

Proven track record

15. Investors will be cautious about new or unproven technologies. Whilst benefit may be gleaned from the first mover advantage in some cases, this needs to be balanced against the risk that the technology does not perform as expected. A proven track record of investment in the sector will help alleviate this concern.

Strong counterparty and/or conglomerate

16. Investors will wish to satisfy themselves that the counterparty, group of investors, developer and principal contractors who they are working with, will continue to operate as a going concern and have the necessary skills and balance sheet to fulfil their obligations.

*In green finance decisions*

17. Investments in green finance bring several nuances over and above that of general investment decisions. In particular, investors in green finance will be looking for:

Strong relative returns

18. An investor may be willing to offset some upside return for the "green" finance aspect, but the returns will still need to be sufficient to satisfy investors.

Reputational risk

19. Most investors and lenders want to ensure they are not associated with unduly controversial technologies or projects, for example where there are sustainable development concerns, over fuel or feedstock supply for instance, or where there is evidence of poor project governance mechanisms.

High marketability

20. A core consideration of investing in "green" is whether or not the investment can be used for public relations benefit. Increasingly, consumers will choose to buy products and services that are green with the costs and risks associated of investing offset through the ability to maximise advertising of the investor's green credentials either via consumer driven channels or in annual reports.

21. Conversely, many investors will not invest in project types which they regard as contentious, due to concerns over the adverse publicity this may attract.

Reductions in volatility

22. Investors will look for reductions in input price volatility. A good example of this is fossil fuel prices, which have been hugely volatile for near on a decade. Most forecasters see this as an on-going trend and, as such, investors will look for projects where these inputs are reduced or excluded.

## Actions to Stimulate Green Finance

23. DECC and HM Treasury have initiated a number of policy and programme measures to stimulate green finance, including:

*Electricity Market Reform (EMR)*

24. Under the EMR, DECC has developed a range of initiatives to address some of the barriers to entry that are affecting investors in green finance and create a stable, predictable market framework. These policy initiatives are currently being deployed in the UK market.

25. Provided below is a snapshot of these policies showing how they are actively working across investor segments (retail through institutional) to alleviate these barriers to entry, and helping to attract the required investment to the UK green finance sector.

Contracts for Difference

26. Contracts for Difference (CfD) provide increased revenue certainty over an extended period as generators will receive a fixed price level for the low carbon electricity they produce known as the "strike price". This will smooth profits and allow generators to offset their higher capital costs resulting in an acceptable rate of return for investors.

Capacity Market

27. The Capacity Market will provide stability for the GB energy market by ensuring an adequate level of security of supply is forthcoming as we transition to a more low carbon electricity generation mix. It does this by providing a regular payment to providers of reliable capacity that are successful in capacity auctions. These providers include traditional sources of generation as well as other approaches such as demand side response.

*Green Deal*

28. The Green Deal overcomes mismatched incentive problems by providing a trustworthy framework of advice, assurance and accreditation for the energy efficiency supply chain resulting in a pipeline of energy efficiency measures for households. As energy efficiency measures are implemented, this will reduce household consumption of energy, and provide greater stability for consumers and help to keep energy bills affordable.

*Tariff support for low carbon technologies*

Feed-In-Tariffs

29. Feed-In-Tariffs (FITs) were introduced in April 2010 to encourage greater deployment of small-scale, low carbon electricity generation, particularly by those who would not have traditionally engaged with the energy market, such as individuals, communities and small businesses FITs allow those who install their own renewable electricity system (wind, hydro, anaerobic digestion or solar PV), up to 5 megawatts, to earn a generation tariff per kilowatt hour of electricity produced. An additional "export tariff" is paid for any excess electricity exported to the grid.

Renewables Obligation

30. The Renewables Obligation (RO) requires licensed UK electricity suppliers to source a specified proportion of the electricity they provide to customers from eligible renewable sources. Renewable generators are allocated Renewable Obligation Certificates (ROCs) for their renewable generation, and may sell these to suppliers to supplement their income from the sale of the electricity.

Renewable Heat Incentive

31. The Renewable Heat Incentive (RHI) tariff scheme incentivises businesses and households to install technologies such as biomass boilers, heat pumps and solar thermal to provide their heat. Participants are paid a tariff for each kilo Watt hour of renewable heat which is produced over 20 years. The scheme has been designed to reduce the UK's reliance on fossil fuels.

*Improving access to finance*

Green Investment Bank

32. The Green Investment Bank (GIB) can deploy £3.8 billion to enable projects that are both green and commercial. It was implemented to actively seek opportunities where their capital, knowledge and reputation make the difference that enables a project to be successfully financed, with 80% of deployment occurring in priority sectors (offshore wind, waste recycling and energy from waste, non-domestic energy efficiency, and support for the Government's Green Deal). The GIB is mandated to achieve this by "crowding in" investment ie by providing project enabling finance rather than shutting out existing investors.

Green Deal Finance Company

33. The Green Deal Finance Company (GDFC) is a not-for-profit company, established to minimise the set up and administration costs of providing finance across the industry and aims for Green Deals to be quickly and regularly aggregated and refinanced in the capital markets at high investment grade. Aggregating loans in this way provides access to liquidity for energy efficiency improvements that may otherwise not be available at the level or scale required by participating households.

UK Guarantee Scheme for infrastructure

34. In July 2012, the Government announced the UK Guarantees scheme to avoid delays to investment in major UK infrastructure projects that may have stalled because of adverse credit conditions. A key problem identified by the Government is that persons currently involved in providing infrastructure may find it difficult to obtain private finance, not necessarily because of the commercial or economic viability of the individual infrastructure projects but because the banking markets are currently constrained and providers of finance are taking significantly longer to approve lending to these projects. When they do approve financing, this is often for debt that is dated for much shorter periods (and is often not sufficient to cover the lifetime of the project).

The legislation underpinning the Guarantee Scheme received Royal Assent on 31st October 2012. Guarantees for up to £40 billion in aggregate can be offered.

*9 August 2013*

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**Written evidence submitted by ShareAction**

EXECUTIVE SUMMARY

In our view, climate change is a significant risk which pension funds must respond to: not only because of the risk of "stranded assets" due to regulation limiting fossil fuel extraction, but also because of the major implications of unmitigated climate change for pension savers' financial and non-financial interests. Some pension funds are beginning to recognise and act on this, but progress remains too slow. Some key issues and possible ways forward include:

— *Fiduciary duty.* Currently, pension fund trustees' fiduciary duties are generally interpreted narrowly as a duty to maximise returns, which in turn is interpreted in terms of short-term returns judged against a benchmark. Although pension funds are "universal owners" with holdings across the economy, and therefore have an interest in minimising systemic risks like climate change, this is not reflected in prevailing understandings of trustee duties. The Law Commission is currently reviewing this issue. In our view, legislative clarification is needed to confirm that there is no legal bar to trustees focussing on long-term, sustainable wealth creation, and that trustees can take into account their beneficiaries' wider non-financial interests provided that this is prudent.

— *The role of government.* Real and perceived risks associated with green technology hold back institutional investment. A clear and sustained commitment by government to lead and incentivise green investment, whilst phasing out subsidies for fossil fuels, will likely be needed to mobilise private capital on the required scale. The government's infrastructure strategy should also have a much clearer focus on paving the way for the low-carbon transition. This would also help to calm fears about political risk, which have been heightened in the UK by the Treasury's recent stance on the green agenda.

— *Better information.* Recent improvements in transparency, including the introduction of mandatory greenhouse gas emissions reporting for quoted companies, have helped to create the conditions for investors to quantify and act on climate risk. More needs to be done: company reporting must be comprehensive, comparable and reliable, and investors should be expected to practice the same transparency to their beneficiaries that they demand from companies.

INTRODUCTION

1. ShareAction (formerly FairPensions) is a UK registered charity that exists to promote an investment system which serves savers, society and the environment. In particular, we work to encourage pension funds and other institutional investors to integrate long-term environmental, social and governance (ESG) risks into investment analysis and shareholder engagement. We also work to improve transparency and accountability to the savers whose money is invested in the capital markets.

2. ShareAction is currently developing an ambitious three-year project to encourage pension funds to recognise and protect against the risks climate change poses to their beneficiaries. The Green Light Project will formally launch in October 2013 with publication of a report which we will make available to the Committee. A series of expert workshops was held in June and July 2013 to inform this report. This submission draws on the findings of these workshops and our other research to date. We focus on questions (i) to (iii) since these are most pertinent to our area of expertise and the research undertaken for the Green Light Project.

(i) *What drives investor decision-making?*

3. In our experience, pension funds' investment decisions are driven almost exclusively by expectations of risk-adjusted financial returns. Indeed, most pension fund trustees believe that they are legally prohibited from considering other factors, such as environmental/carbon impact and energy security. Growing recognition of the financial implications of climate change does mean that some larger pension funds now consider environmental/carbon impact for purely financial reasons, but the general consensus is that such factors cannot be considered for their own sake. Since the financial impacts of an issue like climate change are inherently long-term and difficult to quantify, this constrains pension funds' ability to act as "climate-conscious" investors. In our view, confusion about institutional investors' fiduciary duties continues to exert a "chilling effect" on green investment. Explicit clarification is needed to free trustees to exercise their discretion in a more enlightened and long-termist way.

Below we explore these issues in greater depth.

How far do investors act on the financial implications of climate change?

4. Institutional investors have fiduciary duties to act in the best interests of the beneficiaries who depend on their decisions. ShareAction has published extensive research on these duties, which helped to inform the Kay Review. We argue that fiduciary duties are interpreted unduly narrowly as a duty to maximise returns, which in turn is in interpreted in terms of short-term, benchmark-relative returns rather than long-term sustainable wealth creation. Professor Kay recommended that the Law Commission should be asked to clarify the legal position, and this process is currently underway.[1]

5. Of course, even those concerned purely with financial returns have good reason to consider the environmental impacts, since there is a growing consensus that this can affect the value of their investment. This approach is known as "Responsible Investment" and is gaining traction, particularly among larger schemes. In the IIGCC's most recent survey, 69% of asset owner respondents said that climate change had influenced their fund manager selection decisions, while 53% of managers said that climate considerations had influenced their stock selection decisions. However, it should be noted that this is a self-selecting sample of investors who acknowledge climate risk; in the wider market, there is a long way still to go. Firstly, among smaller schemes in particular, there is still a widespread perception that fiduciary duty prohibits the consideration of environmental and social issues—even where this may have financial impacts. Secondly, recognition of the financial impacts of environmental issues in principle does not always translate into greener investment in practice.

6. In particular, institutional investors are in our experience more likely to engage with environmental impacts which may affect profitability at an individual firm level than with systemic issues affecting their whole portfolio—of which climate change is the prime example. In theory, pension funds are well placed to consider these systemic risks, as they are "universal owners" with holdings across the economy. It is therefore not in their interests for companies they own to make money by creating environmental externalities, the costs of which are ultimately borne elsewhere in their portfolios. However, in practice universal owner thinking has not penetrated institutional investors' strategies. This is a major impediment to climate-conscious investment.

7. For example, in 2010 we co-ordinated shareholder resolutions on tar sands at BP and Shell, seeking disclosures from these companies about the risks involved. Our experience was that few investors were interested in discussing the potential for tar sands projects to impact their portfolio by contributing to climate change. Instead, they wanted a case to be made that the projects could be bad for profits at the level of the individual firms concerned: for example, because of operational risks.

8. In part, this reflects structural failings in the investment system: for example, asset managers continue to be monitored and incentivised on the basis of short-term performance. In addition, many investors still rely on models which assume that markets are efficient, that current market prices reflect long-term value, and that "risk" can be measured by how far short-term returns deviate from a given benchmark. These models are not capable of fully capturing the long-term risks and opportunities posed by climate change. This means that, for example, green bonds will continue to appear less "commercially competitive" than conventional alternatives (see below).

Can fiduciaries consider their beneficiaries' non-financial interests?

9. In our view, case law does not prohibit fiduciaries from considering factors outside financial return as long as they are acting, prudently and in good faith, to promote the best interests of their beneficiaries. Fiduciaries must exercise their discretion for a proper purpose, and in the case of a trust for the provision of financial benefits, such as a pension fund, this means that financial best interests must be the primary consideration. But they need not be the sole consideration. If the purpose of the trust is to provide a pension, it is legitimate for trustees to consider the underlying purpose of the pension: to provide economic security and a decent quality of life in retirement.

10. Climate change is likely to create economic and social instability, affect the spending power of beneficiaries' pensions through higher food and fuel prices, and result in flooding and other extreme weather events. All of these impacts undermine the purpose of the pension and have clear implications for beneficiaries' best interests. Trustees should therefore feel able to take these issues into account, at least to the extent that this does not jeopardise their immediate objective of securing a decent financial return. In addition, trustees have a duty to act impartially between beneficiaries. This ought to include consideration of intergenerational impartiality: some experts suggest that short-termist strategies which fail to take account of climate risk are a breach of the duty of impartiality to younger members.[2] A full discussion of these issues, including analysis of relevant case law, can be found in our 2011 report "*Protecting our Best Interests: Rediscovering Fiduciary Obligation*".[3]

11. Nonetheless, the prevailing consensus is that fiduciaries are indeed obliged to focus solely on financial returns and that other factors are extraneous. This acts as a constraint on the behaviour even of large pension

[1] Recommendation 9, Kay Review of UK Equity Markets: Final Report, 2012.

[2] See for example the work of US academic Keith Johnson, eg Johnson and de Graaf, "Modernising Pension Fund Legal Standards for the 21st Century", Rotman International Journal of Pensions Management, Spring 2009, Vol 2, Issue 1

[3] FairPensions (now ShareAction), 2011, 'Protecting our Best Interests: Rediscovering Fiduciary Obligation'—available online at http://www.shareaction.org/sites/default/files/uploaded_files/fidduty/FPProtectingOurBestInterests.pdf.

funds who are market leaders on sustainability. For example, in evidence to this committee in 2010, BT Pension Scheme said:

12. *"Based on current proposals for the issuance of green bonds, we would struggle to place them within our existing asset allocation and hence convince our Trustees to buy these. We have a fiduciary duty to invest in the most commercially competitive bonds after considering price, credit risk and liquidity. This means that any reduction in liquidity (inevitable given the small issue sizes envisaged) needs to be compensated by higher yields."*[4]

13. We understand that this also reflects the position of the Institutional Investors' Group on Climate Change. To be clear, we are not suggesting that fiduciary investors should disregard their usual investment criteria when considering green investments. However, this illustrates the prevailing tendency to equate fiduciary duty *solely* with seeking "the most commercially competitive assets" regardless of their wider impact. This means that the wider non-financial benefits to beneficiaries of investments in renewables are valued at zero—or, worse, are not considered to be relevant at all. Fiduciary duty becomes a constraint on investments to mitigate climate change, rather than a reason to seek out such investments.

(ii) *How effective are financial markets in matching available finance to required investment in renewable energy and other green projects? To what extent is a potential "carbon bubble" a real risk?*

14. Both of these issues are considered in background papers for our recent workshop series on pension funds and climate change, which have been shared with the Committee. They will be considered further in our forthcoming report. Below we summarise some of the key points based on our research so far.

The "green investment gap"

15. The United Nations has called this "an era of capital misallocation".[5] Financial markets are clearly not yet mobilising private capital at the required scale to finance the transition to a low-carbon economy. On the contrary, fossil fuels and related financial assets continue to thrive at the expense of renewable energies, energy efficiency, ecosystems, water and land protection. The latest figures from the International Energy Agency (IEA)[6] show that achieving their 450 Scenario requires a step change in global energy investment by 2035. Compared to investment currently planned, the transport system requires an additional $6.3 trillion, the buildings sector $4.4 trillion and the energy sector $2.2 trillion. The additional investment required of OECD countries will be $590 billion a year in 2035, according to the IEA. The OECD[7] calculates somewhat higher figures, showing the cumulative investment in green infrastructure required to decarbonise the global economy to be $36–42 trillion until 2030, or $2 trillion a year (2% of global GDP annually).

16. According to this analysis the current level of investment stands at $1 trillion, which implies an annual gap of $1 trillion. This is roughly in line with analysis by the World Economic Forum[8] which suggests the additional investment needed in clean energy, transport, energy efficiency and forestry is $0.7 trillion a year to 2020. With $28 trillion in assets under management,[9] the pension funds of the developed world have a potentially significant role to play in filling this gap. Yet despite growing interest in green investment, pension funds' allocation to green investments is still low.

17. This is partly because of demand-side problems (insufficient appetite/integration of climate considerations on the part of investors, as discussed above) and partly because of supply-side problems (insufficient investment opportunities of the necessary scale and quality). These problems are of course inter-connected: investors feel unable to place any sort of premium on "green" bonds based on their positive contribution to tackling climate change, meaning that such investments must be competitive with conventional bonds before institutions will invest. Given the perceived risks associated with investing in new and unproven technologies, and the fact that green bonds can be relatively illiquid, this is problematic. In this context, the role of the state (discussed below in response to question (iii)) is clearly a crucial question.

The "carbon bubble"

18. In our view, the "carbon bubble" is a real risk which institutional investors should be concerned about. Having said this, it is not the only way in which climate change poses risks to individual investors' portfolios and to the financial system as a whole.

19. As Carbon Tracker's analysis has shown, only 20% of the world's total fossil fuel reserves can be burnt until 2050 if we are going to limit warming to 2°C. The already planned activities of only the listed fossil fuel

4 http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvaud/505/505vw33.htm

5 United Nations Environment Programme. 2011. Towards a green economy: pathways to sustainable development and poverty eradication—A synthesis for policy makers. www.unep.org/greeneconomy

6 International Energy Agency. 2013. Redrawing the energy climate map. World Energy Outlook special report.

7 Inderst, G, Kaminker, Ch, Stewart, F (2012), "Defining and Measuring Green Investments: Implications for Institutional Investors ' Asset Allocations", OECD Working Papers on Finance, Insurance and Private Pensions, No.24, OECD Publishing

8 World Economic Forum. 2013. The Green Investment Report: The ways and means to unlock private finance for green growth. A Report for the Green growth Alliance.

9 Della Croce, R, C Kaminker and F Stewart (2011). "The Role of Pension Funds in Financing Green Growth Initiatives", OECD Publishing, Paris

companies are enough to go over a 50% chance of warming exceeding 3°C. If these listed companies are allocated a pro-rata share of the more prudent 2°C global carbon budget, reserves currently listed on the world's stock exchanges are already around three times larger than their reasonable budget.[10] Yet investors continue to value these companies on the assumption that all of their reserves will be burned and monetised. Indeed, investor pressure to maintain reserve replacement ratios may help to explain why, in the last year alone, the top 200 oil and gas companies spent $674 billion on new exploration horizons and techniques, and the London Stock Exchange has increased its exposure to coal by 7%.[11]

20. There is therefore a real risk that, if concerted international action is taken to limit global warming to 2°C, these stocks will suffer a significant fall in value. This conclusion has been supported by research from HSBC and Citi.[12] Pension funds are heavily exposed to these risks due to the carbon intensity of the indices against which they benchmark, such as the FTSE 100. In our view, Carbon Tracker's analysis creates a strong case for pension funds to move out of the most carbon-intensive assets (such as pure-play coal), which will be hit first by regulation. They must also shift the focus of their engagement with fossil fuel companies: instead of incentivising them to maintain reserve replacement ratios, investors should challenge the strategies of companies pursuing high cost exploration, and question the use of shareholders' money to locate or develop "unburnable" reserves.

21. Future carbon costs also pose risks to other sectors, such as utilities and automotives. Research from McKinsey and The Carbon Trust shows that the possible effect of climate change action on these high carbon industries will depend on how companies position themselves for a low carbon world: there are opportunities as well as risks for those who focus on developing low-carbon alternatives.[13]

22. One common argument against the notion of a "carbon bubble" is that the expectation of concerted regulatory action on climate change is unwarranted: there is currently little or no evidence of the necessary political will to achieve this. Even if this argument holds, the alternative scenario of runaway climate change poses arguably even more serious risks for investors. While regulatory risk will impact carbon-intensive holdings, the physical impacts of climate change could have catastrophic consequences for the wider economy, and hence for the whole of investors' portfolios. Although these physical risks are more difficult to quantify, they create an equally compelling case for institutional investors to be concerned about climate change.

(iii) *What should the Government be doing to help redirect finance to fill the £-multi-billion green finance gap?*

23. Below we offer comments on some of the specific questions posed by the Committee under this topic heading.

Political risk

24. Political risk makes investors nervous about investing in clean technology. Developments such as the Spanish government's retroactive changes to photovoltaic feed-in tariffs strengthen the perception that incentives for green investment are precarious and uncertain. In the UK, perhaps more important than changes to feed-in tariffs has been the more general impact of a Treasury stance which treats "green" politics as an obstacle to growth. This creates an environment where (a) regulatory risks to carbon-intensive investments through higher carbon prices are seen as less credible, and (b) investment in low-carbon solutions is seen as risky.

25. As the Committee hints, political risk can never be entirely eliminated, but the perception of political risk in the UK could certainly be significantly reduced by a stronger cross-party consensus on the importance of tackling climate change, and a clear, strong government commitment to catalysing the low-carbon transition. For example, at present, initiatives like the Pensions Infrastructure Platform (PIP) seem disconnected from the government's climate commitments, even though the type of infrastructure we build now will critically affect our ability to meet our carbon reduction targets in the future. Putting low-carbon solutions at the heart of government plans for infrastructure or industrial strategy would set a clear direction of travel to which investors would respond.

Promoting green investments

26. For the reasons discussed above, green investment opportunities may not meet investment criteria even for long-term investors, such as pension funds, with an interest in sustainability. The question of what role the state should play in catalysing private investment is therefore critical. Economist Mariana Mazzucato argues that the state is inherently well placed to lead the development of ground-breaking new technologies which are high-risk and/or require patient capital—with this state leadership creating the conditions for private investment

[10] Carbon Tracker and The Grantham Institute. 2013. Unburnable Carbon 2013: Wasted Capital and Stranded Assets.

[11] Ibid.

[12] HSBC. 2013. Oil & Carbon Revisited—Value at risk from "unburnable" reserves . HSBC Global Research. HSBC. 2013. Oil & Carbon Revisited—Value at risk from "unburnable" reserves . HSBC Global Research. Prior, E. 2013. Unburnable Carbon—A catalyst for debate: thoughts and implications for Asset Owners, Asset Managers, and Listed Companies—with a focus on the ASX200. Citi Research—Equities.

[13] Carbon Trust. 2008. Climate Change—a business revolution? How tackling climate change could create or destroy company value.

to follow.[14] To some extent, the state plays this role when it takes on part of the risk of green investments in order to make them more palatable to investors. However, Mazzucato argues that a more proactive and systematic commitment to developing and commercialising green technologies is needed. It is perhaps this recognition of the need for greater state leadership which has led many sustainability-minded investors to stress the importance of borrowing powers for the Green Investment Bank.[15]

27. It is also worth noting that subsidies for fossil fuels continue to outweigh those for green technologies. In other words, at present governments are not only failing to do enough to promote green investments, they are actively keeping those investments uncompetitive by subsidising high-carbon alternatives. An OECD report[16] which sets out the reach of fossil fuel subsidies suggests that UK support for coal, natural gas and petroleum totalled £4.3 billion in 2011, up £510 million from 2010. According to the IMF,[17] worldwide subsidies for petroleum products, natural gas, and electricity totalled $480 billion in 2011, or 0.7% of global GDP. The IMF argues that the removal of these subsidies could reduce CO2 emissions by 13%.

Better information

28. ShareAction is strongly supportive of measures to improve the information available to investors about companies' carbon emissions and environmental performance. Such data enables investors to assess their own exposure to carbon risks, and to directly compare the carbon intensity of their investee companies with others in the relevant sector. "Stress testing" of companies' business models under different climate scenarios, as recommended by Carbon Tracker and others, would also provide investors with valuable information and could help to normalise the integration of climate risks into investment decision-making.

29. In this context, the introduction of mandatory greenhouse gas emissions reporting for UK quoted companies is a welcome step. Ultimately, it may be necessary to extend such reporting requirements to cover significant scope 3 emissions (ie "indirect" upstream and downstream emissions) as well as scope 1 and 2 (ie "direct" emissions and those from purchased energy). Current reporting practices do not always capture a company's full impacts, particularly for those, like energy companies, whose impacts stem primarily from the products they sell. (Defra guidance encourages companies to report significant scope 3 emissions but this is not mandatory.[18]) In addition, if investors are to make use of carbon disclosures it is vital that they are *comparable* and *reliable*. Current reporting regulations give companies significant latitude to choose the assumptions and boundaries within which they report. This makes it more difficult for investors to make direct comparisons between companies in the same sector, and thus for disclosures to inform investment decisions. Reliability (ideally through some form of external assurance) is critical if investors are to be expected to treat this information on a par with financial reporting when assessing companies.

30. In our view, institutional investors should also be willing to extend the same transparency to their own beneficiaries that they demand of investee companies: fiduciaries should be accountable for their management of climate risk. Some pension funds have undertaken portfolio carbon footprinting exercises, although this remains the exception rather than the rule.[19] In our view, it is already best practice for listed asset management companies to conduct such exercises as part of their adherence to the new GHG reporting rules, since portfolio emissions constitute a significant scope 3 emission. Indeed, emissions associated with investments are arguably more relevant to assessing the carbon intensity of an asset manager's core business than emissions associated with business travel or lighting their offices (the type of emissions covered by scopes 1 and 2).

Fiscal incentives

31. The government already provides significant fiscal incentives for pension saving: even after recent restrictions, pensions tax relief still costs over £30 billion a year.[20] Some have suggested that this incentive should be made conditional in a way which supports the public policy intention of reducing reliance on the state in old age. For example, Professor Paul Woolley has proposed the revival of obsolete provisions in the tax code which stipulate that tax relief is only available to those deemed to be "investing", as opposed to "trading" or speculating.[21] He suggests that this could be operationalized by setting a cap on portfolio turnover, thus encouraging more long-term (and hence potentially more sustainable) investment. A 2012 paper for Green Alliance suggested that tax relief for savings should be specifically conditional on funds adopting responsible investment practices, and thus making "a contribution to the public good".[22] Much more work is needed in

[14] Mazzucato. 2013. "The Entrepreneurial State."

[15] See for example http://uksif.org/wp-content/uploads/2012/12/UKSIF-PRESS-RELEASE-UKSIF-calls-for-boost-to-GIBs-borrowing-powers-Autumn-Statement_5-December-2012.pdf

[16] OECD. 2013. Inventory of Estimated Budgetary Support and Tax Expenditures For Fossil Fuels

[17] International Monetary Fund. 2013. Energy Subsidy Reform: Lessons and Implications.

[18] Available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206392/pb13944-env-reporting-guidance.pdf

[19] See for example London Pension Fund Authority,

[20] See http://www.hmrc.gov.uk/stats/pensions/pen6.xls

[21] See Woolley, P. "Why are financial markets so inefficient and exploitative—and a suggested remedy", in LSE, 2010, "The Future of Finance", p121–143

[22] Green Alliance, 2012, 'Saving for a sustainable future: Increasing public benefit from UK tax relief for savings', available at http://www.green-alliance.org.uk/uploadedFiles/Publications/reports/Saving_for_a_sus_future_web.pdf

this area to develop proposals which promote the public purpose of tax relief for savings without unfairly disadvantaging individual savers.

Financial Transaction Tax

32. ShareAction does not have a firm position on proposals for a Financial Transactions Tax (FTT), or on the specific suggestion that revenue from such a tax be hypothecated for green investment. However, since the impact on pension funds has been a key point of contention in debates about an FTT, we make some brief comments on this below.

33. Some pension funds and trade bodies have objected to the proposed European FTT on the grounds that it would impose unacceptable costs on them. However, pension funds are the kind of long-term investor who should theoretically experience only a negligible impact from an FTT: as noted in a recent paper by the Network for Sustainable Financial Markets, "*The cost of a FTT is disproportionately high for short term [holding] periods (minutes-months), marginal for medium term periods (1–2 years), and negligible for long term periods (5+ years).*"[23] Insofar as the FTT will impose a cost on pension funds, this reflects features of the pensions industry which are widely acknowledged to be dysfunctional: excessive trading, shorter holding periods and an undue focus on short-term returns.[24] Conversely, insofar as an FTT might incentivise longer holding periods (which, if its costs are as crippling as the industry claims, would presumably be likely), it could potentially have a positive net effect on outcomes for pension savers.

34. In addition, as argued before the BIS Select Committee by Chris Hitchen, Chief Executive of the Railways Pension Scheme, pension funds have an interest in the curtailment of high frequency trading:

35. *"[An FTT] could potentially take a lot of unnecessary trading out of the system. Who pays for the profits of traders? Ultimately it seems to me it is the end investors; it is my members. Even if we end up paying a small tax on the trades that we do, if it stops us paying for a lot of profits on other peoples' activities, then we are still better off."*[25]

36. Again, if pension funds were behaving as universal owners, recognising their inherent interest in financial stability and the prevention of rent extraction, the case against an FTT might seem less clear. Of course, as discussed above, the short-term tendencies of the capital markets are also a major obstacle to climate-conscious investment, so it is possible that an FTT would have a positive impact on green investment whether or not revenue was hypothecated for this purpose.

*22 August 2013*

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## Written evidence submitted by Triodos Bank

Response to Questions

(i) *What are the main drivers behind institutional investors' decisions on the type of investments they include in their portfolios? Where they contemplate supporting energy or environmental projects, what relative weights do they give to questions of possible financial return, environmental/carbon impact, energy security, or other factors?*

The key driver behind institutional investor decision making are the risk-weighted return. The investment risks are impacted by:

- **Price uncertainty for future revenues** (for example future energy prices, energy taxes/ subsidies). This has been a critical factor in undermining investment in renewable energy in some cases. Take for example, Spain, where the Feed-in tariffs were effectively reduced retrospectively. This introduces additional risks which would weigh against the potential returns (eg by raising the threshold of return expectations, making renewable energy more costly)
- **The time horizon of investments** (if investors are short-term in their thinking and investment horizons, they may feel they will be more likely to "trade their way out of difficulties"—in other words, they feel confident of being able to sell before the potentially harmful impacts of investments were to impact on their investment.) Long-term infrastructure investors are more aware of broader social and environmental issues since they accept that they will be living with more of the consequences of their investments. The EU recently consulted on how to promote long-term investment which would certainly be required to underpin greater consideration of environmental factors.

In our experience, having raised around €400 million of institutional investment in equity funds for energy infrastructure projects, social and environmental concerns will only be discussed by investors once they are satisfied on the risk-weighted return expectations. An exception may be specialist Impact Investors who are seeking specific social outcomes (for example Big Society Capital's investment in Pure/Carbon Leapfrog).

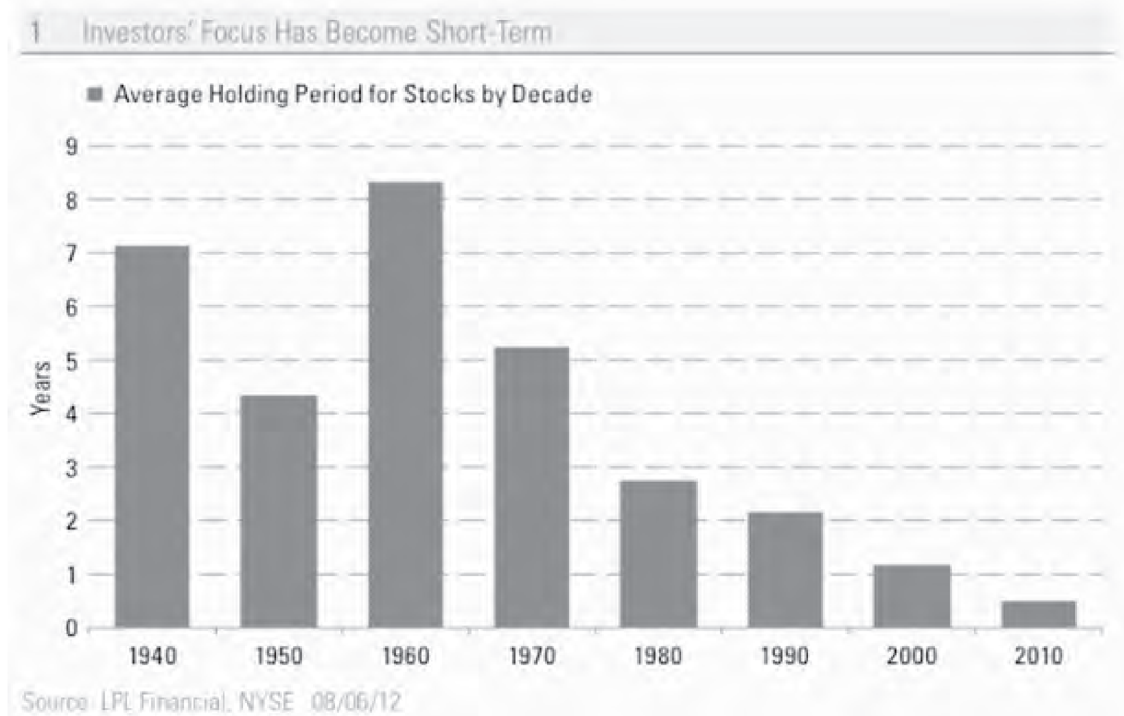
[23] http://www.sustainablefinancialmarkets.net/wp-content/uploads/2012/12/No_Exemption.pdf
[24] See for example the Kay Review
[25] BIS Select Committee, Report of Inquiry on the Kay Review of UK Equity Markets, p44

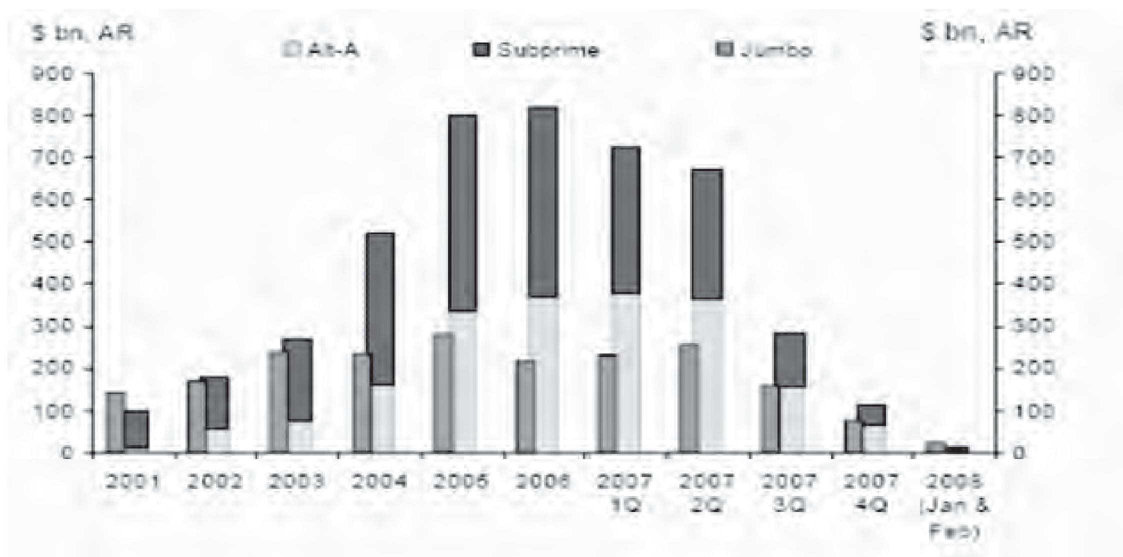
(ii) *How effective are the financial markets in matching available finance to the required investment in renewable energy and other green projects? To what extent is a potential "carbon bubble" a real risk?*

Most of the financial markets do not operate on a long term basis. This has been evidenced by the length of holding periods of stocks (see chart below) and the increasing volumes of high-frequency trading. For short term investors, the damaging effects of a high-carbon future are less likely to be picked up in the price until the future unless there was effective government regulation. Even then, the speed at which government regulation would be introduced would be far slower than their exit from the stock. This perpetuates a situation whereby short-term profit maximizing investors will have a tendency to invest in stocks as long as they increase in value—even if they are headed off the edge of a cliff. This was true of the financial crisis where trades in sub-prime mortgages were highest in 2007 just before the crash (see graph below).

The difference with the carbon bubble is that whilst there is likely to be huge costs associated with climate change and energy security (as reported in the Stern Report and others) it is not clear who these costs will fall on. Whilst, on the one hand, campaigners such as 350.org are arguing that it is the asset owners and carbon-intensive companies whose stocks will suffer, there appears to be another viewpoint. In BP's Energy Outlook 2030, they appear to claim that energy security from oil is not a short term problem, with CEO Bob Dudley saying: "Fears over oil running out—to which BP has never subscribed—appear to be increasingly groundless". Whilst this is only supported by new finds, rather than the logical process of accepting that resources that have taken millions of years to form cannot be replaced sustainably if used up in a matter of decades, it highlights a more specific concern that oil companies are planning for a world with a temperature rise far in excess of 2 degrees—possibly more than 4 degrees. Whilst the World Bank has called a 4-degrees rise potentially "devastating", carbon-intensive companies may be banking on the costs being mostly socialized (eg falling on society rather than on them). This will largely be influenced by future government regulation.

In other words, the existence of the Carbon Bubble is less in doubt than who is likely to suffer the consequences.






(iii) *What should the Government be doing to help redirect finance to help fill the £-multi-billion green finance gap? This includes:*

— *How can "political risk" to investors from changes to the Government's energy and environmental policies be reduced? Can the Government ever remove political risk or are more innovative financial instruments that offset those risks the solution?*

The key political risk is the future price of energy. Accepting that Governments are inextricably linked to energy prices through the taxation, regulatory system and subsidy mechanisms, there is an element of political control over how the costs of energy are apportioned. This can also lead to political risk whereby government policy can directly impact the energy prices. A recent case of energy price risk was seen in Spain recently when the feed in tariff was retrospectively reduced for solar installations.

Stability is therefore one of the key drivers in being able to give confidence to developers and investors in renewable energy. Whilst inter-governmental targets are useful in providing the backdrop for stability, they do not guarantee them. Better still would be to have legislated mechanisms which set the pricing structures for renewable energy. In practice this is a little more complicated, with the risk that as technologies became more efficient the government could be perceived as "overpaying". Stability does not mean setting one price curve in stone—rather, it should be possible to give open formulae based on transparent market data upon which future decisions will be made in such a way that the industry can

— Calculate the changes in advance by themselves accurately

— Have enough notice before changes are made. (The amount of notice which is sufficient relating to how long it would take to develop a project start to finish. Indicatively, this might be 9–12 months for a solar project, 2 years for an onshore wind project or 4–5 years for a tidal energy project… )

Specifically, what we would recommend would be the fine details of the review mechanism for the CfD strike prices and contract terms to be laid out in such a way that absolute certainty was given for long periods (certainly enough time for a complete development cycle), and that reviews were conducted on the basis of open-book formula that the market can take a view on in advance.

— *Is greater direction to banks needed to encourage them to increase their lending to renewable energy and green projects?*

Specific "guidance" to banks such as the general encouragement to lend more to SMEs has not proved to be effective. What currently drives the strategy for most banks is the allocation of capital against its loan book. Banks were to be incentivized to lend to low-carbon assets by placing a greater capital weighting on high-carbon assets. This would be a measure that would inject an incentive into the heart of most banks' strategies.

— *How can pension funds and other investors be encouraged to re-direct their capital funds towards investments with green objectives*

As discussed earlier, the degree to which investors are coerced into being longer-term will have a bearing on their attitudes. In the same way that people take more care in choosing a house they will buy compared to one they will rent, it is likely that most investors would make different stock choices if they were forced to stick with those for the long term. There are various mechanisms which can promote longer-term thinking. A financial transaction tax may penalize short-term trading, thereby meaning there is less trading and longer holding periods. Another idea is for companies to have Loyalty-shares which have incrementally higher dividends the longer that you hold them.

— *Are fiscal incentives for people/institutions to put funds in green investments needed, and if so what?*

Fiscal incentives cannot be separated from the overall web of subsidies and regulatory measures that control the pricing of energy. There are therefore subsidies that may be required to "level" the playing field whilst

effective subsidies are still in place for high-carbon investments. If all effective subsidies, externalization and regulatory benefits were removed, it is likely that green energy would not need any levelling-up support. A study in the Netherlands by Ecofys and CE Delft found that mature renewables would outcompete fossil fuel energy if all effective subsidies were removed.

However, to accelerate immature technologies, specific fiscal measures may be required for a specified period in order to stimulate supply chain efficiency and help investors to fund the transition phase of the development of a technology. In practice, this is required for many promising renewable energy technologies, but if stepped down in the future then it could allow for unsubsidized energy generation from these production methods as the technology matures.

— *How can better information on the environmental impacts of investments and companies be provided to investors? What difference would such information make to investors in practice?*

We don't believe there is an information deficit for institutional investors as there are plenty of good data sources highlighting the issues. Therefore we do not believe that more information alone would make a difference to behaviour for institutions.

However, for individual investors there is a high degree of intermediation and low degree of transparency meaning that very few people really understand what they own and the impact that this has. Since individuals are the ultimate beneficiaries of funds, having greater understanding of the information would empower them to make behavioural changes which are likely to flow through the financial system. This is why Triodos Bank regards transparency as core to our business proposition—for example we publish every loan we make across every branch so that our depositors can see exactly where their money is.

— *What are the pros and cons of having a financial transaction tax (Tobin tax) with revenue hypothecated to support green investments?*

A Financial Transaction Tax would effectively make high-frequency trading uneconomic. It would thereby **reduce the number of trades** and act as a behavioural intervention. In reality, it is unlikely therefore to raise much revenue that could support green investment. However by reducing the trading frequency, it would encourage longer term thinking on the part of asset owners and fund managers, thereby naturally promoting more sustainable investments that investors would be comfortable to hold for the long term. In this sense the Financial Transaction Tax could be a very useful instrument however would be best complemented by other supporting mechanisms (for example Loyalty Dividends, Carbon Taxes and other financial mechanisms which put a price on externalised environmental costs.

(iv) *What can the Government do to help increase the flow of finance to small and community-based renewable energy and green projects?*

The methods of supporting Social Enterprise and Impact Investing, as outlined by David Cameron's presentation to the G8 summit in June 2013 could provide a useful template of support for community renewable energy schemes. Often, community groups require some specialist legal, technical or financial support in being able to manage their projects through to completion. By supporting specialist advice packages with grant/loan funds (in a similar way to the Investment & Contract Readiness Fund) more communities would be successful. A broadly similar scheme is operational in Scotland (CARES operated by the Energy Savings Trust).

Whilst it was a welcome move to overturn the decision to remove EIS relief for community owned renewable energy projects under Feed In Tariffs, there is still a barrier for many individual investors in being able to hold these shares as part of their "normal" portfolios—eg within a SIPP or an ISA. There are either compliance rules or prohibitively high charges which prevent inclusion into standard wrappers for personal investment (eg SIPPS or ISAs.) This reduces the amount of available cash for investment which might otherwise be applied to these projects—especially since it has been our experience (from the 5,000 Triodos Renewables plc shareholders) that investors believe that they have a better understanding of the risks and more confidence in stable returns by investing directly in renewable energy projects than on the stock market.

Alongside this there are parts of the planning system which could be made more efficient—in particular the long adjudication times for processing hydro power licences has been cited by several community projects as causing a problem. Introducing more standardised benchmarks about how long certain parts of a process should take could be fairly easily introduced after consultation.

(v) *What impact is the Green Investment Bank likely to have on the green finance gap? Does it have the right investment strategy?*

The Green Investment Bank is currently acting as a very useful co-investor at a time where there are fewer banks who are able to lend to long term infrastructure. Their participation in recent IPOs of companies buying up second-hand wind farms (eg Greencoat plc) will not stimulate any new investment in new renewable energy, and strikes us as lacking ambition.

Where a national investment bank *is* required is in providing finance to accelerate investment in earlier stage technologies (for example tidal energy and energy efficiency) or models of development that still require some

development (for example community-owned renewable). The Green Investment Bank are doing this to some extent and would benefit from greater emphasis on this aspect. The statement of intent to be "all about making money" in the words of Shaun Kingsbury (CEO of Green Investment Bank) risks of skewing these priorities and over time opting to do more of the "easy, lower-impact" investments (like Greencoat plc) and less of the "trickier higher-impact" investments (like new technologies or community energy)

(vi) *How should progress against that green finance requirement be monitored? While the Committee on Climate Change monitor progress on emissions reduction via the Carbon Budgets, and the Office for Budget Responsibility monitors progress on Government debt reduction, who should monitors progress on delivering the necessary green finance?*

We are not sure what difference it would make as to who monitored progress unless and until it was decided what the implication would be of missing our targets. At present, whilst there are binding legal targets (set in accordance with the EU-coordinated targets) for the UK to achieve 15% of all energy to be from renewable sources by 2020, there appear to be no clear, direct or (importantly) financial penalties for failing to do so. Until this is clarified, it is unlikely that any of these targets will be sufficiently reflected in market signals for significant progress to be made.

*22 August 2013*

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## Written evidence submitted by Pure Leapfrog

### SUMMARY[26]

The term "community energy" refers to the ownership of renewable energy and energy efficiency assets by legal entities owned and operated for community benefit.

Frequently, community energy groups choose an Industrial & Provident Society (IPS) legal structure, incorporating as either a Community Benefit Society or a Co-operative. Other organisation structures, either for the entities that own the assets or that provide support to the sector, are charities or Community Interest Companies (CICs).

An IPS structure has become increasingly popular due to the increasing reliance on community share issues as the main source of funding. This particular legal form has the following benefits:

- They can have charitable status, enabling community benefit to be built into their corporate structure.
- They incur low regulatory costs when raising money from the public.
- They offer social investment opportunities for private investors with sound returns (usually 5–7%, often supplemented by EIS tax relief).

There are approximately 400 community energy groups established with a focus on renewable energy, with around a half of have either completed projects or are in the feasibility and development stages.

There is currently 58.9MW of total operational community energy capacity in the UK, made up of 146 installations.[26]

### SCALING UP COMMUNITY ENERGY IN THE UK

Since 2003, UK community energy capacity has undergone a fourteen fold increase from 4.1MW in 2003 to 58.9MW in 2013. This is over three times the growth rate of the UK's total renewable energy capacity which has grown from 3.5GW to 17.6GW in the same period.[27]

This growth has occurred alongside the introduction of various renewable specific incentives. The Renewables Obligation (RO) in 2002, the Feed-in-Tariff (FiT) and Renewable Heat Premium Payment (RHPP) in 2010 and the non-domestic Renewable Heat Incentive (RHI) in 2011.

Community energy is still, however, just a tiny fraction of its potential size. According to latest figures from Ofgem, it accounts for a mere 1% of feed-in tariff generation capacity. By contrast, in Germany 50% of

[26] We would like to thank Jon Knowles of the Co-operative Bank Renewable Energy and Asset Finance Team for his analysis of the barriers to community energy financing in the UK which have been used in this document.

[27] Harnmeijer, J, Parsons, M, & Julian, C (2013). *The Community Renewables Economy: Starting up, scaling up and spinning out.* London: ResPublica.
Renewable Energy and Asset Finance Team. (2013). *Barriers to Community Energy Projects.* Manchester: The Co-operative Bank.
Simpson, A (2013, March 13). From Patronage to Empowerment: Reforming the Energy Market. *Making it Mutual: The Ownership Revolution that Britain Needs*, 91–95. London: ResPublica.

renewable energy is owned by citizens and communities—more than twice the UK's total renewable energy capacity.[28]

We are committed to supporting a significant expansion of the field of community energy, with all of the social, financial and environmental benefits this will bring to communities across the UK.

### Community Energy Group Formation and Eevolution

Community Energy groups tend to originate from the following sources: a Transition Town group, a local sustainability group, a local authority initiative or a response to a call for funding proposals.

The early groups working with renewables tended to arise in more wealthy areas of the UK and this is a trend that has continued. Having said this, the integration of climate change and fuel poverty incentives into policy along with the genuine desire of wealthy groups to help poorer neighbours is beginning to redress this balance. There is a growing trend for successful groups to look for new projects in the areas where they can make the biggest impact.

### Barriers to Community Energy Projects

Below is a list of barriers faced by community energy groups.[29] The list is not intended to be exhaustive, and inevitably each community group will encounter its own particular challenges:

### Community Experience and Availability

— Lack of widely available information and advice, and limited mechanisms for knowledge sharing between communities.

— Limited awareness of the opportunities for or benefits of community energy.

— Challenges in establishing appropriate community group structures, and navigating complex legal structures.

### Regulatory Hurdles

— Complex regulatory environment in the UK.

— Management of tariff risks requires advanced sector knowledge.

— Expense and management of the planning process.

### Technical Complexities

— Renewable energy projects are often technically complex and require expert knowledge.

— Ability to negotiate with and manage appropriate counterparties.

— Challenges of selling electricity generated.

### Funding Issues

— Funding for set up costs and working capital.

— Managing costs on a one-off project basis.

— Administering revenue streams.

— Navigating complex and varied funding sources (debt/equity/grant funding).

— Inherent difficulties of an immature banking market.

Please see Appendix A for a more detailed analysis of the specific challenges faced by community energy groups seeking finance. This highlights a number of issues which community groups must address to secure appropriate funding.

### The Need for Aggregation

One of the primary barriers to the expansion of community energy to the levels achieved in Germany is the difficulty that these projects have in accessing conventional finance while retaining community ownership.

[28] Harnmeijer, J, Parsons, M, & Julian, C (2013). *The Community Renewables Economy: Starting up, scaling up and spinning out.* London: ResPublica.
Renewable Energy and Asset Finance Team. (2013). *Barriers to Community Energy Projects.* Manchester: The Co-operative Bank.
Simpson, A (2013, March 13). From Patronage to Empowerment: Reforming the Energy Market. *Making it Mutual: The Ownership Revolution that Britain Needs*, 91–95. London: ResPublica.

[29] Harnmeijer, J, Parsons, M, & Julian, C (2013). *The Community Renewables Economy: Starting up, scaling up and spinning out.* London: ResPublica.
Renewable Energy and Asset Finance Team. (2013). *Barriers to Community Energy Projects.* Manchester: The Co-operative Bank.
Simpson, A (2013, March 13). From Patronage to Empowerment: Reforming the Energy Market. *Making it Mutual: The Ownership Revolution that Britain Needs*, 91–95. London: ResPublica.

Most debt providers are unwilling to finance community energy projects, and even those who have a commitment to community energy are reluctant to provide funding for projects below the £2–5 million level.

This would leave private equity as the only other conventional financing route for smaller projects. This cuts out community ownership and means that financial benefits do not accrue for community benefit.

This explains why smaller-scale community energy projects to date have been funded exclusively through a combination of local equity and social finance, ie grants, debt or equity on preferential terms.

Pure Leapfrog aims to overcome this barrier by acting as an "aggregator" of smaller projects, bundling them up into portfolios of sufficient size and with the right risk/return profile for conventional finance.

Success in aggregation can unlock hundreds of millions of pounds of capital to fund community energy, transforming the demand for community-based renewables and making a major impact on the UK social investment market.

### Components of a Successful Aggregation Strategy

In order to get to a situation where individual projects, with different owners, technologies and locations can be aggregated effectively for commercial investment, there are a number of hurdles to overcome:

1. *Reduce origination and transaction costs*

   Origination and transaction costs for community energy projects are too high to make conventional debt provision viable because the projects are small and they often move at a slow and erratic pace.

2. *Develop risk management techniques appropriate for community energy*

   Funders often do not know how to (cost effectively) evaluate the credit-worthiness of community based organisations, which may lack a balance sheet or trading history, but are underpinned by community support. Conventional techniques for reducing risk, eg expensive due diligence and insurance, are not appropriate for community-based projects.

3. *Collaborating with, and providing support to, community energy groups*

   In order to accelerate the growth of community energy, time and expertise needs to be invested into community energy groups to build capacity of groups to engage their communities, manage project development and raise funding, both in the form of community shares and debt.

### About Pure Leapfrog

Pure Leapfrog is the UK's leading social investment provider in community energy. We are a business led charity (charity no. 1112249) which works in partnership with government, investors and communities.

We bring together affordable finance and accessible expertise. Finance is secured through a credit facility from Big Society Capital. Expertise is provided by our professional partner network. We have funded close to 50 projects through loans or grants and our network of lawyers, accountants and professional service providers have advised 30 community energy projects on a pro bono or discounted basis.

Our mission is to ensure that community energy becomes a significant part of the sustainable energy mix in the UK.

Pure Leapfrog has been at the forefront of the community energy movement as a founder member of the Community Energy Coalition which includes national organisations with a combined membership of 15 million such as The National Trust and The Church of England. It campaigns to enable communities to own, generate and save energy for the benefit of all.

Pure Leapfrog has built a loan portfolio of close to 20 community energy projects, primarily using solar PV, but also biomass boilers, LEDs and solar thermal.

Pure Leapfrog's funding has genuine triple bottom line benefits, ie financial, environmental and social returns. The first £610,000 of loans that we have issued to 17 projects will have the following returns:

- *Financial*: Average yield on the current portfolio is 4.22%, with a loan-to-value of 46%.
- *Environmental*: Lifetime carbon emission reductions of 9,500 tonnes.
- *Social*: Net financial benefit to communities, primarily in deprived communities, of over £3.4 million (over £5.50 for each £1 loaned out) composed of:
  - £3.1 million of financial surpluses for schools, charities and social enterprises.
  - £0.3 million of fuel poverty reductions

We are currently exploring with a range of social and conventional investors how we can scale up our financing facilities so that we can start to aggregate community energy at scale.

Appendix A: Analysis of funding challenges for community energy from a traditional senior debt funding perspective.

This analysis makes reference to the often used "CAMPARI" canons of lending, a traditional approach to senior debt funding. It exposes a number of issues which community groups must address to secure appropriate funding.[30]

| *Consideration* | *Issues* | *Potential mitigants* |
|---|---|---|
| **Character**<br>- Is the customer trustworthy?<br>- What is their track record? | Community energy projects are often developed and delivered by newly established community enterprises. These community enterprises will likely have a limited track record, making it difficult for a funder to assess their credit quality.<br>There is a perception amongst the funding community that community groups may not "tied" to projects, therefore presenting a risk that management walk away from a project. There is, however, mixed evidence as to whether this is the case. In some instances community individuals (who have invested their own money/have persuaded friends and family to invest) find it much more difficult to walk away from a non viable project than professional developers. Whilst in other cases individuals (for whom community energy is not their job) find it easier abandon difficult projects. | Risk mitigants may include the appointment of appropriate professionals to act on behalf of the community group. Professional services to consider in this regard would include technical advisers/owners' engineers, financial modelling specialists and legal advisers.<br>The additional costs incurred by the appointment of professional advisers often prove prohibitive to community groups seeking to establish a "one off" renewables project. Costs will need to be carefully considered and modelled. |
| **Ability**<br>- What key skills/potential weaknesses do management display? | Newly formed community enterprises typically include individuals with varying degrees of relevant experience and expertise.<br>Often less advantaged areas which would benefit significantly from community energy projects, have the lowest concentration of experience/ "human capital". | Subject to the skills already represented within the group, communities may again consider the appointment of third party professional advisers. As a minimum, a funder would likely expect that a suitably experienced legal adviser is engaged and that a high quality delivery partner is selected to develop, install, operate and maintain any project. |
| **Margin**<br>- Does the funder's remuneration match the perceived level of risk? | The interest margin demanded by any funder will be calculated on a risk/ reward system. Community projects are typically considered higher risk than professional developer projects and therefore will demand higher margins. This requirement for higher margins is opposed to the community group's ability to repay. Community groups (and particularly those seeking to establish a "one off" project) will have higher set up costs than professional developers, and the additional funding cost will often be prohibitive. | To mitigate this issue, community groups should consider reducing the perceived levels of risk by employing experienced advisers and selecting high quality, proven technologies.<br><br>Aggregation of projects will also allow for lower margins on later projects (when community groups have demonstrated a track record of successful operation and repayment). |

[30] Harnmeijer, J, Parsons, M, & Julian, C (2013). *The Community Renewables Economy: Starting up, scaling up and spinning out.* London: ResPublica.
Renewable Energy and Asset Finance Team. (2013). *Barriers to Community Energy Projects.* Manchester: The Co-operative Bank.
Simpson, A (2013, March 13). From Patronage to Empowerment: Reforming the Energy Market. *Making it Mutual: The Ownership Revolution that Britain Needs*, 91–95. London: ResPublica.

| *Consideration* | *Issues* | *Potential mitigants* |
|---|---|---|
| **Purpose**<br>- Does the purpose match the funder's policy?<br>- Is the risk appropriate? | Fundamentally the funder will need to be convinced that funding will be used for the described purpose. This ties back to the trustworthiness of borrowers, and can be mitigated by the Bank's due diligence process.<br>In addition, the project as described will need to present an appropriate level of risk. For example, a pilot project showcasing new technologies will likely not attract senior debt lending, and may only be attractive to equity funders with a greater appetite for risk. | Mitigation of this issue will require a shift in funders' mind-sets.<br>Senior debt lenders in particular need to be:<br>- convinced of the scale of the opportunity;<br>- offered education and training in the sector; and<br>- supported by government policy, |
| **Amount**<br>- Is the amount appropriate?<br>- What is the debt/equity mix? | The amount of funding requested can pose difficulties both where it is relatively small (and therefore does not generate a sufficiently attractive return) and where it is relatively large (and therefore presents a too great a risk).<br>Community groups must demonstrate a clear understanding of project costs and an ability to cover unforeseen cost overruns. | Senior debt lenders will often require equity funding to underpin the project, taking a first loss position in an event of default.<br>Aggregation of community energy projects may develop a more attractive funding requirement. |
| **Repayment**<br>- How will the debt be repaid?<br>- Are repayments manageable? | Any community energy project must demonstrate its financial viability, ie the project must generate sufficient revenues (for example through the FiT or RHI) or sufficient cash savings (paid for by the end user) that it can afford to service its debt repayments.<br>The funder will require a level of headroom such that cash flows more than cover repayments. | A financial model will be required for any project, demonstrating the availability of cash to meet repayment requirements.<br>This model will likely be subject to audit during the funder's due diligence process. |
| **Insurance**<br>- What security is available to the funder? | Any funder will be mindful of its security position in an event of default, ie how will the funder recover its debt or equity in the event that a project does not perform as expected and modelled.<br>In standard property loans, for example, the funder would take security over the property in question. | It is not appropriate that individuals involved in any community project should offer personal security to project. Instead a funder may look to take an option to step into any project that is underperforming.<br>Aggregation of projects and cross-collateralisation allows a funder to take a portfolio approach to risk. Eg in a portfolio of 10 projects, 2 may be able to fail without senior debt repayments being impacted.<br>The funder will likely require a full suite of due diligence (technical, financial, legal, insurance) to confirm project viability.<br>Ideally, a central body may step in to cover a first loss position and protect senior lenders. |

*25 November 2013*

## Written evidence submitted by Aviva Investors

### Executive Summary

Aviva Investors welcomes the opportunity to provide both written and oral evidence to the EAC's inquiry, which we believe is incredibly important and is an issue that we take seriously as investors.

As a founding signatory to the UN Principles for Responsible Investment (PRI), we believe that companies conducting their business in a sustainable and responsible manner are more likely to succeed over time. This is why we have a dedicated Global Responsible Investment (GRI) team that works with fund managers and analysts globally and across all asset classes to integrate environmental, social and corporate governance (ESG) issues into our investment decision-making and analysis.

From an equity perspective, Aviva Investors is largely long-term and risk-averse, investing for our clients over long periods of time. Looking at the broader dynamic in the capital markets, however, the pressures are clearly to the short term, which ultimately affects both investor and company behaviour. This short term focus undermines the ability of capital markets to deliver sustainable economic development, and reduces the long term return potential for our clients—hence our interest in the EAC's inquiry.

Policy Recommendations

1. To mitigate the systemic risks to the economy arising from unsustainable development the capital markets must *integrate sustainability at every stage of the value chain*. Specific actions that Governments could take include:
    (a) Mandating *integrated sustainability reporting* on a comply or explain basis.
    (b) Requiring *asset owners to comply or explain against the stewardship code* to ensure that the mandate to act in the long-term is passed on to asset managers.
    (c) *Clarifying fiduciary duty with respect to integrating sustainability considerations* and that a stewardship duty should be extended to all within the investment value chain.

2. To understand the potential systemic risk that climate change may pose to the financial market and how to most effectively manage this risk, the Bank of England should investigate the impacts of the UK's exposure to high carbon investment and how to manage this threat. In the same way we look to companies to integrate sustainability considerations into their business strategy, it would be helpful for government to look at how sustainability considerations are factored into and affected by policy and budgetary decisions.

3. To support investment in greener economy we require a stable, predictable and simple policy framework within which to make the most efficient investment decisions. Ideally, we would like to see clarity both in terms of policy and pipeline.

4. To implement a trade cancellation fee in place of the Financial Transaction Tax.

5. To develop a capital raising plan for sustainable development that includes a view on the money that can be raised via infrastructure investment, project finance, corporate debt, foreign direct investment, equity investment as well as sovereign and MDB debt.

### The Scale of the Problem

The Intergovernmental Panel on Climate Change (2007) estimates that $1 trillion/year between 2012 and 2050 must be raised to fund mitigation and adaptation measures to avoid a 2 degree rise in temperature.

Currently, the FTSE100 represents the fourth most carbon intensive index globally (measured as GtCO2/ US$ trillion market cap) based on current reserves and the third most carbon intensive based on probable reserves. Most pension funds will be invested actively or passively in this index. It is therefore an issue for all investors, companies and policy-makers to address.

In the oil, gas and coal mining sectors we have a situation where companies are valued on their proven and probable reserves in these resources but burning them would generate so much carbon dioxide that it is like to bring us above the 2 degree global temperature rises above which we are likely to see the more extreme impacts of climate change

The key questions to consider are what may cause these assets to become "stranded" and when may this happen? And given the degree to which carbon is embedded in the value of major global indices, such as the FTSE100, what does this mean for the institutional investors, and ultimately the pension savers, many of whom are invested in these indices?

### How the Capital Markets Undermine Sustainable Ddevelopment

This inquiry asks whether the financial markets are effective at matching available finance to the required investment in renewable energy and other green projects. However, there is a wider challenge within financial markets, namely that sustainability is not integrated at each part of the capital market value chain. This routinely results in investment not being directed at the most sustainable companies or projects.

There are two closely related reasons for why the capital market acts as a constraint on sustainable development: market failure in general and investor short-termism in particular.

The specific market failure argument for capital markets is that governments have failed to sufficiently internalize companies' environmental and social costs. As a result of government's failure to internalize these costs on company balance sheets (through, for example, fiscal measures, standards, regulation, market mechanisms, and so forth), the capital market does not incorporate companies' full social and environmental costs.

What's more, until these market failures are corrected through government intervention of some kind, it would be irrational for investors to incorporate companies' full social and environmental costs since they do not appear on the balance sheet and, therefore, do not affect companies' profitability or earnings per share over the relatively short time horizon over which most investors hold stocks. As a consequence, a company's cost of capital typically does not reflect the fundamental sustainability of the company, with unsustainable companies having a lower cost of capital than they should and vice versa. And in this sense, the market can be seen as failing to motivate sustainable corporate practices.

This is compounded further by the fact that at every stage in the investment chain, from the pension fund holder up through the investment at institutional level and the advice that investment consultants make, to the relationship between asset owners and their asset managers, and more broadly, the various information flows that help oil that system, actors are incentivised to behave in a short-term manner. This causes the capital markets to discount the future in a way that policy makers should not.

Increasingly institutional investors, such as pension funds, understand the impact that sustainability issues can have on their investments. Likewise investment consultants, such as Mercers are highlighting the impact that climate change in particular can have on portfolios. However, there are also a number of barriers both within pension funds (such as the resources available to robustly challenge their fund managers on how climate change for example is integrated) and more broadly, such as the level of disclosure of these risks to a company's business strategy by the company themselves. There is also clearly a need for greater accountability between pension fund and fund managers and the underlying beneficiaries on how their money is being invested.

We suggest that there are three key areas that policy makers can take to address these issues:

1. *Integrated Sustainability Reporting*

As an institutional investor we believe that better long-term investment returns come from companies that conduct business in a sustainable and responsible manner. Aviva Investors has been calling for some time for a global convention on sustainability reporting. We would like to see all large companies report on their material sustainability issues throughout their reports and accounts. This would allow investors to easily assess whether all potential risks have been taken into account throughout a company's operations and business strategy.

Despite the UK's narrative reporting requirements, a recent study commissioned by Aviva Investors showed that London ranks 14th amongst the world's stock exchanges in terms of sustainability disclosure.

We can see that reporting often drives changes in behaviour for the company board, for example When the Co-Op group started reporting its emissions in 2006, it reduced them by 600,000 tonnes per year. For investors looking to integrate ESG issues into their investment decisions, this information is crucial to making those decisions and directing capital flows towards more sustainable investments

This is about helping business and investors consider the impact that environmental, social and governance issues have on the business strategy. This will go some way towards integrating sustainability within the capital value chain and channelling investment towards more sustainably companies and investments.

We are supportive of the European Commission proposals on non-financial reporting and would like to see the UK support them to be passed in this Parliament.

On a project-level we are also proposing that a standard or "passport" is developed, drawing on the Equator Principle requirements which can be used by investors to understand the environmental (and social) impacts of a particular infrastructure project.

2. *Fiduciary duties*

The fiduciary duty is essentially the requirement for the managers of other people's money to act in the best interests of the beneficiary. We would argue that part of exercising that fiduciary duty involves understand the risks that social, governance and environmental issues, such as climate change, have on the investments we make on behalf of our beneficiaries.

Similarly, we believe that taking environmental, social and governance issues into consideration as part of our investment analysis and decision-making is in line with the duty to maximise returns over the *long*-term rather than short-term.

The UN Environment Programme Finance Initiative has produced two reports on this issue. It commissioned Freshfields Bruckhaus Deringer to form a legal opinion and was clear that fiduciary duties should consider long-term factors; however, this is not specified in statute and ambiguity persists. This is despite the fact that during the passage of the Pensions Bill, Lord Mckenzie, then Parliamentary Under Secretary of State for DWP, said:

*Current law already requires the trustees of pension schemes to prepare a statement of investment principles which must be made available to members and prospective members. It sets out the guidelines which fund managers must follow in investing members' funds. In the statement of investment principles, trustees of pension schemes must already state to what extent social, environmental or ethical considerations are taken into account.*

*That is an obligation on trustees—not simply a right or an option.*

and

*There is no reason in law why trustees cannot consider social and moral criteria in addition to their usual criteria of financial returns, security and diversification. This applies to the trustees of all pension schemes.*

The Law Commission is currently consulting on this point and should be encouraged to clarify that fiduciary duties should include consideration of the longer-term issues and of stewardship and should clearly apply to anyone who is responsible for managing or advising on others' money in the investment chain.

### 3. The Stewardship Code

The Stewardship Code sets out clear good practice yet the take up and/or disclosure on the Code by asset owners has been more muted than amongst asset managers. This is an area where considerable uncertainty and lack of conviction still exists.

Policymakers need to build on the solid foundations provided by the UK's Stewardship Code and should establish mechanisms that promote, encourage and require investors to maintain an appropriate oversight role of companies; for example, investors could be required to publicly disclose their voting record and pension trustees to report to their beneficiaries on how their ownership rights have been exercised.

There should also be regulatory enforcement measures of the stewardship codes and improved accountability of voting agencies, which have considerable power to either influence or control a substantial portion of the market at shareholder meetings. The voting recommendations of voting agencies are based on best practice, but cannot take sufficient account of individual circumstances. In some instances, this creates a box-ticking approach to corporate governance. This situation could be improved if proxy voting agencies were to explain their processes and explain the rationale for their voting decisions.

From the perspective of fund managers' clients, there is a further stewardship market failure of information asymmetry. In this case, the information asymmetry is that fund managers have perfect knowledge of the stewardship work that they conduct, while their clients rely on the reporting the fund manager produces. We believe a standard for Stewardship, similar to the ISO14001 standard on environmental management, would represent an important step in addressing this. Such a standard would be for fund managers to use on their marketing material and enable asset managers and intermediaries to easily communicate that their performance on responsible investment and stewardship meets certain standards. This would be useful to asset owners who, in many cases, do not have the time or resources to accurately assess this. This would facilitate greater oversight of asset managers by their asset owners and ultimately better governance of the companies in which they are shareholders.

### The Role of the Bank of England

To understand the potential systemic risk that climate change may pose to the financial market and how to most effectively manage this risk, the Bank of England should investigate the impacts of the UK's exposure to high carbon investment and how to manage this threat.

The Financial Policy Committee (FPC)'s mandate is "to contribute to the Bank's financial stability objective by identifying, monitoring, and taking action to remove or reduce, systemic risks with a view to protecting and enhancing the resilience of the UK financial system". It therefore has a clear remit to investigate how Britain's exposure to polluting and environmentally damaging investments might pose a systemic risk to the UK financial system and prospects for long term economic growth.

As this inquiry has already demonstrated, Britain's collective financial exposure to high carbon and environmentally unsustainable investments could become a major problem as we approach environmental limits. Five of the top 10 FTSE 100 companies are almost exclusively high-carbon and alone account for 25% of the index's entire market capitalisation"; this risk will exist in other indices and in bank loan books. The Bank of England therefore has a responsibility to investigate the potential impact of climate change and the economic implications of stranded assets.

### A Stable and Predictive Policy Framework

Above all else, investors require policy certainty and stability. Whilst we appreciate the political challenges in delivering certainty on energy and climate change policy, there are steps that the Government could take that would help in this area. For example, a decarbonisation target would significantly improve the UK's chances of attracting investment into infrastructure and new, low carbon power sources.

The current lack of a 2030 decarbonisation target is exacerbating policy risk. In many cases, this increases the cost of capital and deters major investors, manufacturers and project developers from investing in the UK and creating jobs. For example:

— A PwC report outlines that a 2030 decarbonisation target needs to happen before 2016. To delay the setting of a target to after the next general election will affect investment decisions being made now.

— EY state that the prospect of waiting until 2016, for even the possibility of a 2030 target being addressed, has "left investors with a sense of uncertainty".

— An REA survey of leading UK low carbon companies showed a "2030 target is seen as of major significance, and its absence is undermining confidence in investment in renewable energy and its supply chains".

— A statement by UK Energy Research Centre (UKERC) explains that: "The absence of a 2030 decarbonisation target may not persuade investors of the need for new manufacturing assets in the UK, as there is a risk that these could be stranded after 2020 once the current targets have been met".

The Committee on Climate Change recommended that this target should be in place by 2014, which we would welcome as the most cost-effective pathway to meet the UK's 2050 goal of cutting emissions 80% on 1990 levels, while triggering significant growth opportunities for the UK.

### The Financial Transaction Tax

The Financial Transaction Tax may present a viable option to tackle a number of the issues that are being raised by this inquiry—taxing high frequency trading, supporting green investment. But the impact assessment accompanying the EU's own initial proposals recognised not only that it may lead to a significant relocation of activities and substantial hikes in the cost of capital, it could result in a reduction of long-run economic growth in the EU by an estimated 1.8%, and that impact will not fall evenly between member States.

Ultimately much of the cost of the tax would fall on (i) consumers rather than high net worth investors in hedge funds or financial institutions and (ii) the more traditional long term investors, who would also find that it was no longer economical to run liquidity and cash funds as part of an overall investment strategy.

An alternative option would be a trade cancellation fee, which would target the more troubling end of high frequency trading. We understand that around 60% of trades on behalf of passive HFTs who market make in illiquid stocks are posted and cancelled in micro or milliseconds.

### A Capital Raising Plan for Sustainable Development

The International Energy Agency estimates that incremental investment in the energy sector alone will need to reach around *$1 trillion a year* from 2012 to 2050 in order to keep global average warming below 2 degrees Celsius. More capital will also be required to finance the Millennium Development Goals and the Sustainable Development Goals that look likely to succeed them. The MDGs were the most broadly supported, comprehensive, and specific poverty reduction targets the world has ever established but no mechanism was agreed for how they could be financed.

While the precise amount is open to question, it is clear that significant sums of money will be required. Raising this money will need considerable planning, effort and international coordination.

Failure to tackle this will have serious economic consequences in the relatively short term. The Stern Review on the Economics of Climate Change conducted for the UK treasury in 2006 found that without action, the overall costs of climate change will be equivalent to losing at least 5% of global GDP each year, now and in perpetuity. Including a wider range of risks and impacts could increase this to 20% of GDP or more, also indefinitely. Stern believes that 5–6 degrees of temperature increase is "a real possibility."

As an insurer, we are accustomed to dealing with financial arguments that point towards the benefits of taking preventative and mitigating action before a much more expensive disaster unfolds. The economic losses from natural catastrophes and man-made disasters totalled $56 billion in the first half of 2013 according to Swiss Re, with $17 billion covered by the global insurance industry and caused by natural catastrophes, mainly flooding.

History has shown that political will often depends on the presence of a crisis. We believe that the implied changes to the global economic system associated with a 5–6 degree change and unsustainable economic development present such a crisis.

Fortunately, with over $50 trillion invested in the global stock markets, and a further $100 trillion of sovereign and intergovernmental debt, on the face of it, there should be no shortage of capital available.

The short fall we perceive is a broad enough understanding of how to harness capital markets to raise new capital, move existing stock of capital and harness the influence of asset owners in a concerted, integrated and focused way.

Intergovernmental organisations have traditionally been good at sourcing public financing but not yet as successful in leveraging private finance. If we are to raise this money in an efficient, effective and sustainable manner, *we need to challenge the international community to develop a well considered capital raising plan* that includes a view on the money that can be raised via infrastructure investment, project finance, corporate debt, foreign direct investment, equity investment as well as sovereign and MDB debt.

Raising and or diverting capital on this scale is likely to provide a significant number of practical challenges that policy makers developing such a plan will need to consider.

In order to catalyse policy makers into developing a set of capita raising plans this, we propose the following actions:

1. The establishment of a focused group of finance sector chief executives that are willing to take on a high-level advocacy role at a small number of the key meetings with Finance Ministers, and UN negotiators;
2. The development of an open-source, detailed advocacy plan that is shared with all members of the coalition and identifies the key people and key events in the run up to COP 21 (widely seen as the critical meeting to securing a climate deal) as well as the post 2015 process;
3. The publication of a range of research notes tackling some of key questions that the policy makers setting the national and international capital raising frameworks will need to consider. This will also include broker notes setting out why the current performance of the policy makers falls a long way short of moving the markets over a time frame that is supported by the science. These finance sector papers would be provided to the Expert Committee on a Sustainable Development Financing Strategy; and
4. The development of a capacity building course that uses the research notes to train policy makers, NGOs and negotiators in governmental and non-governmental organisations on how the capital markets work and how they can be better harnessed to influence sustainable development.

**Annex 1**

PROPOSAL TO LAUNCH A RESEARCH PROJECT ON AN EQUATOR PRINCIPLES RISK PASSPORT

*Proposal*: a government-IFC research project, funded by the Cabinet Office and a group of investors to explore how the IFC performance standards on environmental and social sustainability could be made relevant to asset classes beyond project finance, with a particular focus on equities, corporate debt and private placements.

*Objective*: to develop a standard that listed companies could use for communication with institutional investors and other stakeholders.

*Purpose*: to enable companies to easily communicate the percentage of the projects they are involved with that comply with IFC performance standards. This would be useful to investors who do not have the time, expertise or access to data enjoyed in the project finance due diligence process.

*Context*: the Equator Principles are a credit risk management framework for determining, assessing and managing environmental and social risk in project finance transactions.

We know that environmental and social issues can present risks to a company's financial performance and are therefore important to all investors, active or passive. The difference between the two lies in the extent to which they are able to engage with and influence the behaviour of the investee, an important part of risk management.

At one end of the spectrum, where providers of finance are proximate to the asset, eg development and project finance, providers utilise a range of environmental and social risk management (ESRM) tools, such as the Equator Principles. These tools are used to identify, quantify, allocate, price, manage and mitigate (where possible) the environmental and social risks to which the underlying asset/project and financial supporters could be exposed throughout its lifetime.

At the other end of the spectrum, listed funds are remote from the asset and typically invest in corporate entities whose businesses may comprise many individual assets, some on balance sheet but many ring-fenced off-balance sheet in special purpose vehicles (SPVs).

Fund managers lack the practical tools to manage environmental and social risks effectively at this end of the spectrum. However, they draw significant comfort, across commercial and political risk from recognised expert involvement. Equity investment in a company can be more complicated and may require ESRM tools at least as rigorous as those employed by lenders.

The Equator Principles (EP) have proved successful specifically to project finance in signing up 79 financial institutions, including in emerging economies. They have raised awareness at sponsor level and built a

consensus around the need for sustainable finance. Arguably, the most significant criticisms of EP relate to financial externalities that go beyond project finance. This is why it is desirable that the Principles are broadened in their applicability and usefulness to other asset classes.

We propose that the Equator Principles could be developed into a type of *Risk Passport, or standard*. The underlying information is already reported and collated for ESRM at the asset level (eg provided to senior project lenders). What is needed, however, is a framework specifying how that information can be formatted for use all the way along the investment chain, and research into the necessary institutional framework to support this change.

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