

Environmental Audit Committee

Oral evidence: UK Export Finance, HC 1804

Tuesday 26 February 2019

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Members present: Mary Creagh (Chair); Alex Cunningham; Mr Philip Dunne; Mr Robert Goodwill; Caroline Lucas; Kerry McCarthy; Anna McMorrin.

Questions 39 - 101

Witnesses

I: Greg Muttitt, Research Director, Oil Change International, Mike Knight, Carbon Tracker Initiative, and Andrew Scott, Senior Research Fellow, ODI.

II: Dr Ben Caldecott, Director, Oxford Sustainable Finance Programme, Smith School of Enterprise and the Environment, University of Oxford, and Neil McCulloch, Principal, The Policy Practice Ltd, Director, McCulloch Consulting, and Associate Fellow, Institute of Development Studies.

Written evidence from witnesses:

- [Oil Change International - written evidence](#) | [PDF version](#) ( 132 KB) 
- [Carbon Tracker Initiative - written evidence](#) | [PDF version](#) ( 254 KB) 
- [Overseas Development Institute - written evidence](#) | [PDF version](#) ( 203 KB) 
- [Neil McCulloch - written evidence](#) | [PDF version](#) ( 242 KB) 

Examination of witnesses

Witnesses: Greg Muttitt, Mike Knight and Andrew Scott.

Q39 **Chair:** This is the second evidence session of the Committee's inquiry into UK Export Finance. We are garnering some interesting people looking at this inquiry—there was a letter about this inquiry from Ban Ki-moon in *The Guardian* yesterday. Can I welcome our witnesses for today's session? Can you please introduce yourselves, starting from my left with Greg?

Greg Muttitt: Good morning. I am Greg Muttitt. I am the research director at Oil Change International.

Mike Knight: I am Mike Knight. I am a regulatory affairs adviser at the Carbon Tracker Initiative.

Andrew Scott: I am Andrew Scott. I am a senior research fellow at the Overseas Development Institute.

Q40 **Chair:** Thank you all very much indeed for being here with us this morning, and thank you also for the written evidence that you have submitted, which has been extremely helpful. UK Export Finance support currently makes up a very small proportion of the UK's export market. Can you all say why it is so important for UKEF to change its policy on fossil fuels?

Greg Muttitt: It is particularly important precisely because it is quite small. The public money is scarce and so it is important that it is used strategically to advance policy objectives. UKEF plays an important role in de-risking investments. Other investors and companies would get involved in projects that would not otherwise in the absence of UKEF support, and so it has a role in unlocking much larger amounts of investment and capital.

It also plays a very important role in sending signals to the investment market. Other investors will follow those signals given by public finance. Probably, when you talk to UKEF itself, it will say it just responds to demand from exporters. In my view, that is looking at public finance upside down. The market responds to the signals that come from public finance. That is why it is important that UKEF is leading on investments that address the climate challenge and meet wider policy objectives.

Mike Knight: I would certainly endorse the idea of signalling. The signalling process of the link between investment, fossil fuel companies as well as policy is an important one. The degree to which the policy framework is taking this climate change challenge seriously is a very important signing process to the market.

I would also say the nature of the fossil fuel industry is that it is pretty big and competitive. It is often international and cross-border. It will happily—I use this term advisedly—exploit opportunities to promote its



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projects and activities. That is not meant to be an accusation; that is just the nature of the commercial world. If you provide the framework for something to happen, it will happen.

Andrew Scott: UK Export Finance from fossil fuels is about 3% of the fossil fuel industry's exports, according to its submission. We can compare that, though, with the amount of support that goes from the UK Government for overseas development assistance in the energy sector, which is lower between 2010 and 2017 than the value of the exports supported by UK Export Finance.

Chair: Can you say that again? Do you have the sum?

Andrew Scott: Between 2010 and 2017, ODA for energy amounted to just over £3 billion. UK export finance in the same period for energy to developing countries was about £3.6 billion.

Q41 **Chair:** Is that not to high and middle-income countries?

Andrew Scott: Most of that was to upper middle-income countries using the World Bank.

Chair: So Brazil and Russia, for example?

Andrew Scott: Exactly. There is a difference in terms of where the support is going. In terms of the volume of support from the UK that goes to developing countries, I would couple that observation with the concept that the support facilitates the development of the oil and gas industry in particular, potentially then providing a lock-in for a fossil fuel development path to those countries. That leads to potential risks for stranded assets in the future and so on.

There is also an inconsistency there between UK Export Finance supporting that proportion of fossil fuels with the UK Government's commitments to bring finance flows in line with the Paris agreement and to achieve sustainable development goal 7 for energy, which is asking for a significant increase in the proportion of renewable energy in the global energy mix.

Q42 **Chair:** Have you analysed where the ODA goes, to which countries and for which projects?

Andrew Scott: I can send you the most recent analysis after today.

Q43 **Chair:** That would be very helpful to our inquiry. Thank you. What are the consequences of such a high proportion going to low and middle-income countries? More than 99% of that energy support is going to these low and middle-income countries compared with 4% to high-income countries, so clearly we are exporting the renewable technology to the high-income countries and it is pennies compared with the vast bulk of this support. You are saying there is a lock-in. What about the state-owned enterprises? Your evidence mentioned the risk of debt in the future.



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Andrew Scott: I personally have not analysed the state-owned enterprises factor. Let me give a slight nuance to your comment about renewables going largely to high-income countries. Some of that is the case, but it is not necessarily all of the support from UK Export Finance on the renewables side going to high-income or even upper middle-income countries.

Q44 **Chair:** I was going from the UKEF's own numbers. They show that out of £250 million of support in 2017-18 to the energy sector, £178 million went to low or middle-income countries on fossil fuels and £68 million went to high-income countries on renewables. It has increased from less than zero five years ago, so there has been a path and I do not know whether that is a trend or a blip. We do not have the 2018-19 numbers yet, but clearly the low-income countries are getting the fossil fuels and the renewables are going to high-income countries.

Andrew Scott: I do not have the figures that you are citing, but I do not dispute at all the pattern you are painting. There is more potential for the UK renewables sector to export to developing countries. Again, as UK Export Finance's own submission indicates, the renewables sector is not demanding the support from it that the oil and gas industry is, because of the nature of their exports. If they are going to high-income countries, it is less risky and not requiring the kind of support that they are looking for. The question we have here is whether or not export finance support is going to facilitate increased renewable exports to low and middle-income countries.

Q45 **Chair:** Thank you. That is helpful. What should the Government be doing to reduce demand for financial support from fossil fuel energy projects?

Greg Muttitt: To me, it is fairly straightforward. As you noted in your terms of reference, in order to achieve the Paris goals more than 80% of the world's fossil fuel reserves need to remain unextracted and unburned.

In my research, I tried to look at which reserves were in the 20% and which were in the 80%. To that end, I looked specifically at reserves that have already been developed, where everything has been built, where the capital has been invested, because those are the ones where you get the strongest lock-in effect.

I found that if we run the existing mines and fields for their economic life—which is commonly several decades—the emissions from just those existing fields and mines would take us to roughly 2°, well past the 1.5° in the Paris goals. That means that any new investments in new projects and new infrastructure for fossil fuels will, at the very least, make it a lot harder to achieve the Paris goals, because achieving the Paris goals—pursuing efforts for 1.5° and keeping well below 2°—can be done only by shutting down things that are already built, where there is already steel, concrete and capital invested.



Not only does it make it harder to achieve the Paris goals, but it comes with significant economic and social costs—the problem of lock-in for developing countries, which Andrew refers to, and also for parts of the UK that rely on exports to the global oil and gas industry such as in the north-east of Scotland. To delay the process of transition will mean that the transition has to happen at a faster pace than regions can adapt to, faster than just a transition is possible. To continue investing in fossil fuels will help neither the countries the investment goes to, nor those in the UK whose jobs depend on those exports.

My recommendation would be that UKEF needs to follow best practice—such as the World Bank Group and, close to it, the Swedish Export Credit Corporation—and phase out all support for fossil fuel extraction and consumption.

Q46 **Chair:** Are the Swedes the leaders in this?

Greg Muttitt: Among the export credit agencies, I would say yes, but the multilateral development banks are right now ahead of the export credit agencies. The World Bank Group announcement at the One Planet summit in December 2017 that, apart from exceptional circumstances, it would end all support for upstream oil and gas by 2019 is the benchmark that the UK ought to be catching up with.

Q47 **Chair:** Given that we are donors to the World Bank, why is our policy not aligned with that policy?

Greg Muttitt: It is an inconsistency. The continued UKEF large support for fossil fuels is inconsistent with a whole range of policy areas: the UK's participation in the World Bank, the Paris goals and the sustainable development goals, of course, and also the clean growth strategy and the efforts of the Department for International Development, for example, to avoid the lock-in problem that Andrew talked about.

Mike Knight: To clarify the scope of your question, was it purely about export credits, about finance and climate more generally, or a broader question about the role of policy?

Chair: Let's keep our focus on UK Export Finance.

Mike Knight: I do not have a lot to add to what Greg has already said about export finance generally, except to say that the finance mix that underpins the energy transition and decarbonisation is quite broad, so it needs to be seen in the context of green finance initiatives, which the UK is seen as a leading proponent of, and also the extent to which brown finance can be constrained. We need both to address the green finance side of the balance sheet and attempt to constrain the brown side of things. As you have already said, export credits are a small piece of that larger pie.

Andrew Scott: I agree with what Mike has just said about the significance of UK Export Finance for the overall picture, in terms of



investment in fossil fuels. To follow on from what Greg was saying, however, one of the questions is the extent to which UK Export Finance takes into account the UK Government's commitments to international agreements for Paris and the SDGs and takes into account the imperative of addressing climate change. That is a policy question and it may be something that it needs to think about in terms of how it goes about assessing projects and the potential implications of its support. It is to be lauded, for example, for following the Equator Principles, but the Equator Principles are not fit for purpose for assessing climate change impact.

Q48 Chair: I was going to ask about that, because other evidence has said that the Equator Principles are de minimis, the lowest common denominator, rather than any high bar or threshold.

Andrew Scott: First, yes, there is the standard that they are meeting. Secondly, the Equator Principles are geared towards the assessment of the project being invested in, not the use of the products that come out of that project. If UK Export Finance took a different approach to assessing climate risk, we might get a slightly different picture.

Q49 Chair: What would you like to see UKEF basing its assessment on?

Andrew Scott: There are a number of options available to it in terms of how it goes about this. One would be to have a system whereby all projects, not just energy sector projects, go through some kind of climate risk assessment, looking at the extent to which the support would be facilitating or supporting damage to the climate. UK Export Finance could set its own targets. I do not see it as being beyond its remit to set targets for the carbon intensity of the projects it is supporting, for example, or targets for phasing out the amount of carbon it is supporting.

Q50 Chair: Ought all of UKEF's investments to be compatible with the sustainable development goals that the UK has signed up to?

Andrew Scott: The key for this one is the Paris agreement commitment that all financial flows should be consistent with the achievement of the Paris objectives. If we regard UK Export Finance as a financial mechanism—one of many available but certainly one—we should be asking UK Export Finance to ensure that the support it is providing is consistent with the Paris agreement. If we take the IPCC's 1.5° special report last year, it is pretty clear to everybody—certainly at this end of the room—that it is imperative that emission reductions take place soon and rapidly.

Q51 Caroline Lucas: It strikes me that we are all being incredibly measured here. Mr Scott, you just said that UKEF maybe needs to think about compatibility with the 1.5° goal. Is the truth here that the way in which UKEF finances fossil fuel investment in poorer countries utterly undermines any aspiration of the UK Government to be a climate leader?

Mike Knight: It would seem to be inconsistent with the UK's more general wanting to be seen to be a leader in climate.



Q52 **Caroline Lucas:** But it totally undermines it, no?

Mike Knight: Yes. To go back to Greg's use of the term "signalling", it seems to signal one direction when the UK in its own domestic decarbonisation and own desire to promote renewable energy and so on seems to be heading in another direction. In terms of absolute impact, I am unsure, but you are right that there is at least an inconsistency in the direction of travel.

If I can pick up something that Andrew was starting to get at, which is important here, it is just being clear in our thinking about the scoping of the impact of individual projects or companies or sources of finance. We have a global challenge in climate change terms, but finance itself does not necessarily respect or have a great regard for domestic or national jurisdictions.

The problem we have is that, whether it is export finance specifically or finance more generally, it will tend to move in a cross-border way if and where it sees an opportunity. If there is any mispricing or arbitrage opportunity to gain a return, whether it is a different jurisdiction, whether it is just the general global nature of the energy market, it will do so.

I raise that because the nature of the fossil fuel industry is upstream and extractive. It digs things out of the ground or sucks things out of the ground. It refines some of that into other products. Then there are also things like power generation. What I think Andrew was alluding to is that the extraction and the refining side of things is about economic activity, possibly in one jurisdiction or one location, which has no immediate climate change impact or a lesser climate change impact for that particular jurisdiction. His point on things like the Equator Principles is very important in that context.

Somehow we need to be able to think about this whole energy chain and consider at which point in that energy chain is the maximum effect of policy generally or climate finance more specifically.

Q53 **Caroline Lucas:** There could be a strong argument that you need cross-cutting international principles, standards, possibly regulation, as well as domestic regulation, but, to the extent that we are looking right now at what the UK does, what is the best argument in terms of others who will say that if UKEF does not support a UK business with a fossil fuel energy project, another country's export credit agency will do it instead, and so we will then get into a race to the bottom? Greg, do you have any thoughts about how we stop that race to the bottom?

Greg Muttitt: In the first part of your question your use of the word "undermine" is absolutely appropriate. Continued support of fossil fuels outside our borders undermines the world's ability and ours to meet climate goals.

In other areas of policy, the UK has recognised that it is not just about territorial emissions in the UK; it is also about the international picture.



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Climate change depends on emissions all around the world. When you look at the UK's role in the Powering Past Coal Alliance or the International Climate Fund enabling transition in developing countries, those are cases where the UK is saying, "It is not just what we do here; it is also influencing internationally." By failing to address UKEF support for fossil fuels, the UK is denying itself one of the most important levers there.

In answer to your second question, when you talk about the risk of a race to the bottom, the other possibility is a race to the top. When you look at how public finance for coal power in particular has shifted over the past five or seven years, the countries—including the UK—that have moved ahead of the others have actually influenced others to follow them. Leadership by UKEF in ending support for fossil fuels will also have an upward pushing effect in a race to the top more importantly than surrendering competitive advantages.

Mike Knight: If I can pick up the specific point out of that, which is that when you read the UKEF submission—and it seems to be very carefully worded—one of the seeming anomalies that comes out of it is that it says it does not do fossil fuel subsidies and that the UK Government position is that we do not do fossil fuel subsidies. Yet, by providing insurance, guarantees and loans—and it is very open about the fact that it is its main product—it would seem to be doing something that looks and feels like a fossil fuel subsidy but is not called a fossil fuel subsidy. It may have, in terms of fossil fuel projects, the same economic or financial effect. There seems to be an anomaly there.

Q54 **Caroline Lucas:** We need to clarify what a subsidy is and maybe use the WTO definition of subsidy rather than the UKEF definition?

Mike Knight: It is possibly just highlighting that anomaly and the inconsistency of a nation, like the UK, which holds itself out and is very admirable in terms of its own decarbonisation and its leadership on things such as green finance and renewable deployment, yet it seems to allow this particular type of financial activity.

Q55 **Caroline Lucas:** We have touched on this already, but maybe you could say a bit more about the standards applied by UKEF and how they compare to other export credit agencies, particularly with respect to transparency and climate-related standards. I know we have touched on Sweden, which seems to be the gold standard in a way, but is there anything more you could say about how the UK figures in its overall performance?

Greg Muttitt: Would you like to take this, Andrew?

Andrew Scott: I would rather you took it, Greg, just because I am not very familiar with the other export credit agencies.



Greg Muttitt: I can talk about investment in fossil fuels. On the transparency side I will have to follow up, because my colleague in the US is the specialist on that.

On investment in fossil fuels, a number of export credit agencies have introduced restrictions that go well beyond what UKEF has done. For instance, France has a categorical exclusion of coal power investments. UKEF tends not to do it but does not have an exclusion. A number of the export credit agencies in the larger economies of the global south—such as Brazil—have exclusions of exploration for new oil and gas, not necessarily or not entirely for climate reasons but they are ahead of UKEF. In investment in fossil fuels, UKEF is certainly one of the laggards. As I said before, the World Bank Group sets the standard for where international public finance ought to go.

Sweden has two export credit agencies. One of them is SEK—I just read its annual report, which came out last week—which sets a target of no more than 5% of their total finance will go into fossil fuels, and for the last financial year the actual number was more like 1%. Compared with where export credit agencies are heading, UKEF is certainly lagging.

Chair: That is very interesting—I am taking lots of notes.

Q56 **Mr Goodwill:** I get the impression so far that UK Export Finance is reactive rather than proactive, that it waits for an application to come in from an exporter. Could it do more in driving the energy transition both in the UK and overseas?

Greg Muttitt: I think so. I am sure the others will have more to add, but I think the market response to what the financial institutions say and for UKEF to argue that it can only respond to the demand is underplaying its hand rather here. UKEF makes a decision. There are clearly some types of activities that it will not support, such as projects that involve slavery, for example. It is a question of definition of what you will and will not support. Adopting a clear leadership position on this will shape where the demand from exporters comes from and where the other financial institutions go, in both the private and public sectors.

Mike Knight: In the international context, we have talked about a race to the bottom or a race to the top. Given that what happens in UKEF happens in an international context, what is the role of an agency such as UKEF, particularly born out of a country like the UK that is seen as a climate leader? To what degree can organisations such as UKEF act as agents of change internationally? It has made extensive reference in its submission to things such as the OECD arrangement. It could be that in international forums such as that you can gradually promote—change does not take place overnight—a higher standard of cross-border and international lending around this sort of stuff.

UKEF's submission very much recognises that the OECD arrangement is about the level playing field internationally and the drivers of competition



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internationally so, if you can, find a way of at least making the floor of that process rather than the ceiling as high as you can.

Andrew Scott: The question needs to be seen in the context of broader development and export strategy. UK Export Finance provides particular products of a particular kind to British-based companies to enable them to deliver goods and services to markets that may be more difficult than others. It tends to be responsive. There may be ways that it could be more proactive in encouraging the renewable energy sector, in particular, to use their services, bearing in mind that the support for the energy sector is a small proportion of energy exports, and I suspect that it would be the same in the renewables sector.

The questions that are much more significant to me are: what is the UK Government's strategy for exports, to what extent is that strategy going to be supporting the energy transition, and what can the UK Government provide through other forms of subsidy? The UK provides a huge number of other subsidies to the oil and gas industry, not just from UK Export Finance, so whether those could be diverted to provide a much more useful steer.

Q57 **Mr Goodwill:** We have taken a lot of tax out of royal revenues as well, of course.

Andrew Scott: Yes. However, if you look carefully at the figures—I would have to check the specifics—it is not necessarily always higher than the value of the subsidies. In one or two years it seems that the net flow of money has been towards the oil and gas industry rather than to the Treasury. What is the strategy? If the UK aspires to be a leader in climate change action, and to do that internationally as well as nationally, what will the UK Government do to support export from the UK? UK Export Finance is just a small part of that equation.

Q58 **Mr Goodwill:** Greg, you mentioned France, which has pretty much decarbonised its electricity generation through nuclear. The UK does not currently have a large nuclear power station offer, but we are putting Government money into small modular reactors, with companies such as Rolls Royce working on that. Do you think this would be the time for a clear signal to go out to say that, if we can deliver these cost-effective smaller reactors, that should be something that we could market around the world and that UK Export Finance should be there working with companies that are producing this new type of technology, and not only the renewables in terms of wind and solar, but also nuclear, which must play part of the decarbonisation of our world economy?

Caroline Lucas: Really?

Mr Goodwill: Really.

Greg Muttitt: As we know, there are a range of different views on nuclear, and I do not want to wade into that debate. My specialism is on fossil fuels, and we look primarily at the fast-growing clean energy



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sources, such as wind and solar. There is a significant opportunity for the UK to become a world leader in those industries.

I would like to go back to something that was in your original terms of reference for this inquiry, the clean growth strategy. As I say, I do not have anything to contribute on nuclear, but on the broader dimension of your question, the clean growth strategy primarily relates to UK territorial emissions rather than exports. However, in terms of the principles of the strategy, I think continued UK support for fossil fuels is very much in contradiction with it.

I will pick on two; one relates to finance and another to exports. One of the key planks of the clean growth strategy is to help direct finance into clean industries, particularly clean energy industries. Continuing to channel public finance into dirty industries contradicts that. Secondly, in relation to exports, another key plank of the clean growth strategy is to develop industries in the UK that can then be exported around the world. To provide extensive Government support to the export of dirty industries, again, runs very much in contradiction to that principle.

Mike Knight: I will jump in and say that I think there are some very important points to make about the clean growth strategy scope. I think we would all support much of the content of the clean growth strategy. The role of the UK internationally is also significant in terms of the message it wants to convey on climate change and climate leadership. It is bidding to host COP26.

Not far from here in the City of London is the London Stock Exchange. I realise I am not really comparing apples with apples here but, just in terms of the order of magnitude, I think the UKEF submission to this inquiry talks about somewhere in the order of £500 million per year of fossil fuel support, however you want to describe it. However, by comparison, the London Stock Exchange hosts something like £500 billion to £600 billion of economic value of fossil fuel companies—the Shells, the BPs, and the big coal and mining companies. In terms of order of magnitude, we are talking somewhere around 1,000 times the size of UKEF's activities. Let us try to see the overall UK role in climate change and climate finance in that context.

Q59 **Mr Goodwill:** To the same extent, is there a feeling that if the UK does not back a British company delivering a project that may not be particularly clean that the Chinese or one of the other competing economies around the world will just step in, so that the net effect on the environment would be zero?

Mike Knight: There is that risk and, again, the discussion about a race to the bottom versus a race to the top. That is one risk. There is also another challenge here in climate terms, and I think both Andrew and Greg have phrased this in various ways. The problem of global climate regulation, to the extent that there is regulation, is that it is built around these NDCs, the national-level emissions. Climate is accounted for at



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emissions' level. That creates a bit of an issue because: who is accountable at the project stage, when you are either extracting something out of the ground or you are refining that? It is lack of the accountability further back in the chain that creates what is sometimes called the carbon bubble effect, or you talk about stranded assets and that sort of thing. There is no traceability or no accountability back further in the chain.

Export Finance plays a role—but I would say in some ways possibly only a small role—because you have a bit of a distortion between what is happening today and what big fossil fuel companies are planning for tomorrow or the next year. I was reading just last week that oil and gas companies have recently announced globally that they are increasing their capital expenditure plans, not decreasing them.

At a time when there is increased focus on investor action and shareholder resolutions all that should be encouraged, but then there seems to be a bit of an anomaly if these oil, gas and mining companies are in some ways increasing their future business plans. It is very healthy that we have this focus on one form of finance, but all I am suggesting we do is see this in context. That there are still some very big institutional challenges to get our heads around in trying to align companies and investors' markets with climate goals.

Chair: We did two reports on green finance less than a year ago, so I think we do have our heads around the big picture, which is why we are getting our heads around the little picture as well. Thank you.

Q60 Kerry McCarthy: We have covered quite a lot of ground that I was going to ask about in these questions, but perhaps I can try to pull it together so that we get it in quite a succinct form. I was going to ask about the policies that underpin the operation of UKEF. The common approach is the Equator Principles, which were mentioned, and whether we ought to be revising that and looking at other principles. If the Government were to be taking what you have said more seriously and trying to match their commitments under the Paris agreement to what they are doing in terms of UK finance and overseas, what needs to be done in terms of what principles should be adopted?

Greg Muttitt: I would answer that in the big picture, which is that when you look at the trajectories that are needed in emissions—including in the IPCC special report from October—the vast majority of investment into energy needs to go into clean energy, not dirty energy.

Q61 Kerry McCarthy: You said the “vast” proportion. In terms of Government finance, is there an argument for saying that all of it, as opposed to the vast proportion, or is there an argument for saying that some of it should be?

Greg Muttitt: I was going to follow up with exactly that point. In all of the models that align with the Paris goals the emissions are decreasing very rapidly, and with that the extraction and use of fossil fuels are



decreasing very rapidly. Clearly, that suggests that investment needs to go much more into clean energy and less into fossil fuels.

I know in the previous evidence session you talked about the paper last year by David McCollum and colleagues, which gave some numbers on how much clean energy needs to increase and fossil fuels decrease. When it comes to public finance, I would absolutely agree that public finance plays a leading role in shaping the landscape and giving signals to the market. Public finance needs to be shifting to clean energy and getting out of dirty energy. That is the example that has been set by the World Bank Group, as we have talked about.

It is a direction of travel of many of the other export credit agencies, although none has gone as far as the World Bank has yet and some of the other multilateral development banks that are going that way. In my research the conclusion is that, although there is room for perhaps some investment in existing projects to maintain them, to keep them ticking over the remainder of their life, there is no room for new projects, or new infrastructure, new fields or mines that extract fossil fuels. Other researchers have done similar analysis for downstream, such as Alex Pfeiffer's paper a couple of years ago that looked at power stations, and then last month a paper by Chris Smith and others that looked at a whole range of downstream infrastructure, including power stations, buildings and also vehicles. The message from this is—both from my research and from these other pieces of research looking at the downstream end of the supply chain—all new projects need to be in clean energy, not dirty energy. There just isn't room for it if we are going to have a good chance of meeting the Paris goals.

Q62 Kerry McCarthy: Do the other two panellists agree?

Andrew Scott: I would agree, but I would emphasise that the UK Government have signed up to the Paris agreement. Therefore, they should be ensuring that all financial flows are consistent with the achievement of the Paris agreement goals. It is very clear that that is a matter of urgency and it is a matter for rapid action.

To achieve the 1.5° target by the end of the century, for example, all of the world's electricity needs to come from renewables by 2050. That is a pretty rapid change. It implies, as Greg is suggesting, that all new investment, and particularly for middle-income and low-income countries we are talking about expansion of generation capacity rather than replacement of existing generation capacity. To achieve the Paris goals, all that new investment needs to be about renewable energy electricity generation.

Mike Knight: I will just add some very broad points, in that I certainly agree with Andrew and Greg that there is need for action and the Government side of finance is important. However, the shifting finance needed to meet the requirements of the energy transition runs into trillions. I should know the figures off the top of my head. If needs be, I



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can send that to you after this, but it runs into trillions, and it is unlikely that Governments themselves can finance that.

It is also about mobilising the private side of the balance sheet—mobilising capital markets. Unfortunately, we get back into some old favourites of everything like the risk premium of fossil fuel and carbon pricing, carbon taxing, all of those things that either regionally, domestically but also globally apply in an overall policy and energy mix.

Other organisations, such as the Energy Transitions Commission, have mapped out those things that need to take place in order to get us to climate safety. Part of it is about recognising the technological change and now the competitive price of renewables against existing fossil fuel. But there still needs to be ongoing policy support in order to get that transition to take place at sufficient pace.

Q63 Kerry McCarthy: Is there a way that UKEF could be more transparent about the ultimate climate change impact of the projects it is supporting? There is this disconnect between what happens overseas, what happens upstream, or whatever, and what we do in this country. Is there an easy way of requiring UKEF to be more transparent?

Greg Muttitt: There is a concept that is commonly discussed in energy decisions in North America in particular, which is the climate test. It was first introduced by President Obama in 2013 when he was talking about how he would make his decision on the Keystone XL pipeline. Of course, things have moved on since then, but he introduced the concept that when a Government or a Government agency makes a decision on an energy policy or an energy investment, they will, as a matter of course, consider: is this aligned with our climate goals, with what we are committed to? In my view, something like a climate test ought to be routine in decisions on energy policies and energy investments.

Q64 Kerry McCarthy: Who decides whether that test has been met? Is it at the Executive level? Is it the President's office? Or is there an independent mechanism?

Greg Muttitt: I will have to follow up on questions of how decisions are made in UKEF. My colleague is more of a specialist in that.

Q65 Chair: Thank you. Just before we close, I was interested in the Swedish thing: no more than 5% fossil fuels to the Swedish export agency. I did some calculations and I have worked out that, for UKEF, it is between 10% and 33% of the annual spend, because it obviously fluctuates from year to year. What do you think is the right number for UKEF to be investing in fossil fuels?

Greg Muttitt: I will give a simple answer—partly responding to Ms Lucas's challenge to be less measured—I think it should be 0%, except for exceptional circumstances.

Mike Knight: I do not have anything to add to that.



Andrew Scott: Zero.

Chair: Zero. Okay. Nice and simple. Thank you very much. We will leave it there. Thank you very much indeed. You have been a very helpful panel.

Examination of witnesses

Witnesses: Dr Ben Caldecott and Neil McCulloch.

Q66 **Chair:** I welcome our two guests for our final panel today. Can I ask you to introduce yourselves, starting with Mr McCulloch?

Neil McCulloch: I am Neil McCulloch. I am a principal at Policy Practice, and I run my own consulting company, working on the political economy of energy subsidies.

Dr Caldecott: I am Ben Caldecott. I run a research group at the University of Oxford that focuses on sustainable finance and stranded assets.

Q67 **Chair:** Thank you both very much for being with us. Ben, can I start with you? We saw you on the sustainable finance reports that we did. How concerned are you about the risk of stranded assets from fossil fuel energy projects overseas?

Dr Caldecott: Very concerned, which is why I have spent the large part of the last decade doing lots of research on this question. The evidence keeps coming and is clearer and clearer that the risk of stranded assets is very significant and growing. I think the previous panel would have talked to you about the fact that climate change and having carbon budgets creates a constraint on the amount of fossil fuels that can be combusted globally.

The risks that can strand assets are not just to do with that; they are also to do with a whole range of other environmental factors. For example, air pollution concerns in India and China are affecting the value of coal-fired power stations, or the availability of water for cooling, or social norms that are changing very rapidly—consumer preferences, vegan January; those sorts of things—can affect the value of brands and the value of assets in different sectors as well.

Q68 **Chair:** What do you mean when you say that social norms are changing very rapidly?

Dr Caldecott: I mean that that captures things such as people wanting to buy fair trade or organic products, so those views changing, or, for example, the fossil fuel divestment campaign, which grew very rapidly around the world, retail investors starting to care more about the



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exposure in their own pension portfolios—those sorts of changes. That, of course, then affects policy and regulation. It also affects our legal system and how courts and juries perceive certain things as well. That is a very significant driver of a lot of these changes over time.

Q69 **Chair:** Is the UK contributing to that risk of stranded assets?

Dr Caldecott: UK Export Finance is exposed to the risk of stranded assets through, of course, the loans and guarantees it is providing. It is also having an impact on the environment through those loans and guarantees, and through the activities that it is supporting. The key question is: how is it measuring that exposure and what is its policy to manage it? It could be much clearer about that.

There are very rapid developments in how financial institutions are taking account of these risks, measuring them and disclosing them, so this is a rapidly evolving area. The UK is a leader in developing these practices and these changes, so it seems to me appropriate that UK Export Finance should be adopting these best practices as they arise and integrating that into what it does.

Q70 **Chair:** Are you saying that UK Export Finance should be measuring its environmental impact, and are you aware whether or not it is?

Dr Caldecott: If you bring UK Export Finance in and ask, "Could you tell us your exposure to physical climate risk across your £31 billion portfolio and which particular investments or guarantees are risky?" Hopefully UK Export Finance is listening and maybe it will do its homework to do that.

You do need to invest in data systems and analytical approaches to be able to answer that kind of question; similarly around transition risks, the policy and technological responses to climate change, again, "Which loans, which guarantees are particularly exposed in which regions? When is that exposure going to materialise, do you think? What are the assumptions you are using? If you are claiming that the loans and guarantees you are making to particular projects are compatible with Paris, for example, what are your assumptions?" You have to make a whole bunch of assumptions to make that determination: the size of the carbon budget, the allocation of that carbon budget to the sector or the country that the project is happening in, and so on.

Q71 **Chair:** Do you know what time period the UKEF loans are typically paid back over?

Dr Caldecott: I don't. I suspect they are relatively short to medium-term rather than particularly long-term, but I do not know.

Q72 **Chair:** Mr McCulloch, what do you think UKEF should be doing to increase the sustainability of future financial investments?

Neil McCulloch: The issue, as Ben just mentioned, is one of measurement. UKEF does have an environmental, social and human



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rights advisory group. It does look at the environmental, social and human rights aspects of the activities it finances, and yet, rather strangely, it does not measure the climate impact. Given that climate change is probably the biggest environmental threat that the world faces, that seems an odd omission.

It is extremely important that UKEF adopts a climate change policy in which it will make a serious attempt to try to measure what the emissions impact associated with the activities it supports would be. To my knowledge it does not do so at the moment. It is a complicated calculation because, in order to be able to do that, you need to figure out what the counterfactual might be. What would have happened in the absence of UKEF support? That is precisely the same calculation that is done all over the world when attempting to calculate carbon credits. Indeed, UK consultancies are among the leaders in trying to make those calculations around the world.

I do not think it would be impossible at all for UKEF to invest in the capability to be able to make assessments for each of the things that it supports as to what the potential emissions impact might be. Then it could judge whether or not those are going to be acceptable and consistent with the Paris agreement and its other commitments on climate change.

Q73 Chair: How much risk do you think UKEF is running of stranded assets?

Neil McCulloch: Ben is the expert on stranded assets. The issue as to whether UKEF is running a risk of stranded assets is really an issue of whether the market takes seriously whether or not these assets will be stranded. At the moment there is a mismatch between the valuation of the assets that we see for companies involved in the fossil fuel industry and the need that we build no more.

We have the chief economist of the IEA saying, "We basically need to have no more oil and gas," yet that is clearly not what is reflected in the company's books for its plans for capital investment going forward, so there is a mismatch there. Those assets will not be stranded if we don't worry about climate change in the sense that we just keep on going. They will be stranded if we take the net measures that are necessary to try to hit the 2°, or certainly the 1.5° targets.

Q74 Chair: Ben, if you were writing sustainability strategy for UKEF, what would you be putting in?

Dr Caldecott: We do a lot of work with financial institutions around the world, including multilateral development banks that are also grappling with these issues. It is not just UK Export Finance that is dealing with them. It goes back to those two things: first, what are the risks that you believe are material? Does UK Export Finance believe that physical climate change impacts are a material risk? Does it believe that existing regulations on climate change, carbon pricing and so on might be a risk



for some of the sectors it is exposed to? What is its strategy for identifying those, measuring them and reporting on them? There is a whole piece there. Also, what are the scenarios it is using to do that analysis?

The second piece is about impact measurement. Taxpayers are rightly interested in the positive and negative impacts that these loans and these guarantees are having on the environment and on society. What are the impacts it wants to measure? How is it going to measure them? Again, how is it going to report them? Of course, for some of these things it is quite difficult to do the measurement accurately. It is still an evolving science. For other things it is much easier and there are also established methodologies that can be used.

With all of these things, of course, it should be disclosing the assumptions it is using in these calculations, and that would provide appropriate levels of public scrutiny. Those would be the two central pillars in my recommendations.

Q75 Chair: The scenario analyses do exist and they are what the IPCC reports are based on, aren't they? Are companies able commercially to just use those scientific assumptions?

Dr Caldecott: Yes, absolutely. I think the companies, and of course financial institutions too, do business plan stress testing all the time. They look ahead and they look at the risks and opportunities that are facing companies in particular projects. All we are asking for here essentially is that they make sure that they are integrating the climate aspect into that, or indeed other environmental concerns as well.

As you say, there are all sorts of off-the-shelf scenarios and datasets that can be used. This is entirely doable. In fact, for some sectors, based on the work we are doing at Oxford, we have frameworks that allow investors and companies to go, "We can tell, based on these assumptions, whether this assessment is compatible with 1.5°, or 2° or 3°". Of course, you can change the assumptions and that will change the result, but it is important that the choices you are making around the assumptions reveal your view about the future status of the world. That is something that is quite important as well.

Q76 Chair: You also mentioned the water risks for power stations. That is clearly an emerging issue, as we sit in a heatwave in February, and we have been looking at some of the issues around the fashion industry, the drying up of lakes in central Asia, the risk of glacier collapse in India and Pakistan, and fresh water drinking supplies. What risks are you picking up on water?

Dr Caldecott: All of those things. We are seeing just on the power sector, for example, new coal-fired power stations in India having to stop because they do not have water for cooling. In Australia you have had power stations that have not been able to operate because of the heat—it



is just too hot for them to operate. Their efficiency also reduces, so it is the efficiency issue as well as the operation issue. These things are not going away, unfortunately. In terms of the contingent liabilities associated with these loans and guarantees, obviously as taxpayers we want to make sure that appropriate risk assessment is being undertaken, and not taking account of these risks properly is irresponsible.

Q77 Mr Dunne: We saw in the written evidence from UKEF that energy provides about 20% of the work that it has done over the past five years, and effectively close to 0% in relation to renewables. Do you have any knowledge of any renewable projects that have been put forward for finance by UKEF that it has rejected?

Dr Caldecott: I have no knowledge of that. I did see the statistics, and £1 million has been deployed on renewable energy from UK Export Finance.

Q78 Mr Dunne: In low-income countries I think, yes?

Dr Caldecott: It seems to me—as I said in the evidence I provided to the Committee before on green finance—this is the most capital-intensive transition in human history. It is all about CapEx. You would think that there would be a much greater allocation to these projects than there has been. That seems unusual to me.

Q79 Mr Dunne: We heard from the previous panel that they regarded UKEF as being very reactive and responsive to demand rather than proactive, but that is the nature of the entity, in that it is a source of funding rather than a source of projects. Are you aware of British renewables companies undertaking projects internationally in the renewables space?

Dr Caldecott: UK companies are certainly doing that internationally. If we are looking at kit, for example, there is a question of: where are they located and where are these things being manufactured? It might be the case that, relative to other countries, we do not have as much of that capability.

Q80 Mr Dunne: That is where I am trying to take you, because my impression is that, although we are among the leading countries in the world at adopting renewable energy, very little of it is manufactured here. In fact, are you able to point to any manufacturer here of renewable systems?

Chair: Siemens is manufacturing here.

Dr Caldecott: Yes. The Government have spent a lot of time over many years encouraging and supporting indigenous manufacturing in offshore wind, for example, and Siemens Hull is a good example of that.

Q81 Mr Dunne: Most offshore wind companies have closed, have they not? In Camelford they undertook some and also on the Isle of Wight, which was closed.



Dr Caldecott: My understanding is that a lot of those manufacturing facilities are serving the domestic market. These are things that we could look into and provide you with further evidence on.

Q82 **Mr Dunne:** The opportunities for UKEF to undertake financing of renewable projects are, by definition, limited if there are not significant exporters here seeking finance.

Dr Caldecott: I would look at it a slightly different way. Let us just assume that there is no renewable energy production opportunity for the UK. We do not export anything. The issue is that they are providing 20% of their capability to fossil fuel production in emerging economies and developing economies. Have they taken account of the risks and impacts of those investments appropriately or not?

Q83 **Mr Dunne:** That is a very different question, if I may say so. What I was trying to get to is this: if we are criticising them for failing to do something, it may not be their fault that they are failing to do it. What you are arguing is a completely separate point, which is not invalid—should they be doing it at all? Should they be promoting finance for energy projects that are exploiting fossil fuels? I think that is a perfectly legitimate question, but not the question that I was asking. Neil, did you want to comment?

Neil McCulloch: I was thinking I would jump in. I am by no means an expert on the renewables industry in the UK, but the renewables industry in the UK is a major potential export opportunity. I am a Scotsman, obviously, and in Scotland there is a huge amount of expertise in wind power, in micro hydro, and all the rest of it. I have friends who run around the world trying to build micro hydro plants all around the developing world. This strikes me as a major unexploited opportunity. UK Export Finance may be correct in saying that it is its policy to be neutral. It should not be making the call as to whether or not it should be supporting this, that and the next thing. That is the British Government's choice to make those calls. They are neutral across sector.

However, it is the job of BEIS and the Department for International Trade to promote British exports, and in the renewables sector the UK has a phenomenal potential to export elsewhere. The question is not: are UKEF at fault for not supplying more money to the renewables sector? It cannot supply more money to the renewables sector if the renewables sector is not applying. The question really is: why are the UK Government not succeeding in getting renewables exporters to access export finance for such exports? Why are they not boosting the renewables industry that we have and making it the global leader that it should be?

Q84 **Mr Dunne:** We heard from the previous panel that there is an opportunity for the UK to become a global leader, so what would your answer be to that? Why are British entrepreneurs and renewable energy companies—like the hydro companies in Scotland—not doing this? Is it because the opportunity in the UK is much greater than an international



opportunity?

Dr Caldecott: There is no question, the market in the UK and the market in richer countries is far better. Also, you can access commercial finance for that sort of thing; you do not need UK Export Finance. The real issue is a policy decision. If we wish to export this to other countries around the world—in particular to the developing world—some policy prompt from the UK Government might be appropriate.

Q85 **Mr Dunne:** I am supposed to be asking questions about subsidies, so if I may I will ask you some questions about the subsidy definition. We heard from the previous panel that they are concerned that UK Export Finance in its business operations uses a definition of “subsidy” that it is comfortable with, and most of the G20 countries use the same definition. This is not specifically related to energy; it relates to all of its financing operations. Do you have a view as to whether it is appropriate to define “subsidy” in that way?

Neil McCulloch: I disagree with how UK Export Finance defines subsidies. In particular, the UK Government argue that they have no subsidies for fossil fuels. That is clearly false. It is very easy for them to hit a target of having no subsidies if you define yourself as having no subsidies. The reality is the OECD—which compiles an inventory on fossil fuel subsidies—makes it clear that there are substantial subsidies for fossil fuels, part of which is from UK Export Finance. The dilemma that all the G20 countries and the OECD countries have faced is that measuring that kind of support is quite tricky.

The OECD inventory of support for fossil fuel subsidies consists of two components that are relatively easy to measure. One is budgetary transfers; you can see it in the budget. In the UK those are relatively small because you see them in the budget. The others are tax expenditures, which are relatively large. I think its latest assessment for the UK was something in the order of £6.5 billion per year. That is overall, of which about £4 billion was in tax expenditures.

The bits that it does not currently measure are loan guarantees and subsidised lending through export credit agencies. This has been regarded as a major omission, but it has been difficult, because how exactly do you calculate it? Fortunately, its 2018 edition of the companion to the OECD inventory has now developed a methodology. It was developed by Professor Deborah Lucas in MIT to calculate what the equivalent of subsidy value is of loan guarantees and of subsidised lending and direct lending, as is done by UK Export Finance and other export credit agencies.

One of my recommendations would be that UK Export Finance should be instructed to adopt that measurement approach and to report on what the subsidy element is of the loan guarantees it supplies. That should be across the board so that the UK taxpayer knows what the contingent liability being undertaken is.



Q86 **Mr Dunne:** Has that definition been adopted by any countries?

Neil McCulloch: It has only just been published by the OECD. The previous argument by the OECD countries has always been, "It is impossible, because we do not know how to do it." Now we know how to do it. It is not that hard, but it does require more data than is typically available, so we will have to do a little bit of digging. As Ben was pointing out, sometimes one has to do a bit of homework. That information is available to UK Export Finance. It knows the answers to the questions about the tenor of the loan. It rates it relative to other opportunities, the risk rate of the loan, the risk premium and so forth. If that information was used you can then calculate the subsidy component of the loan.

Q87 **Mr Dunne:** Would you be advocating that the UK should be a leader in changing its definition of "subsidy" and be an outlier, and therefore put its exporters at a competitive disadvantage if it puts up the cost?

Neil McCulloch: What we are talking about here is transparency. There is an issue as to whether or not UK Export Finance should support fossil fuels. That is one question. Then there is an issue as to whether or not the UK taxpayer should know how much UK Export Finance currently supports fossil fuels. I believe in the former as well but, on the second point, we should at least know how much that subsidy currently is and we do not know how much that subsidy currently is.

Colleagues from ODI have attempted to estimate it before, but the only data that they had available was data on the actual disbursement of loans, which overestimates the size of the subsidy. Now we have a methodology that has been adopted by the OECD there is no reason whatsoever for all export credit agencies, including UKEF, to support that and to report on the findings.

Q88 **Mr Dunne:** Do you think there is likely to be a better definition in the subsidy peer review mechanism that has been introduced with APEC in some other countries?

Neil McCulloch: The subsidies peer review mechanism is a slightly different approach. I think they are not incompatible with one another. One could adopt the OECD approach for the measurement of export credit, so that allows you then to have three different modalities through which subsidies are offered, budgetary transfers, tax expenditures and export credit all being measured, which they should be.

What the G20 peer review process does is to say, "You measure it whatever way you want to measure it. We have learnt a lot from the existing peer reviews, but let's measure the subsidies the way that you think is sensible, but let's have external scrutiny of that." It is a peer review process. For example, the UK Government could offer themselves up and say, "We will do a G20 peer review." I am rather surprised that they have not done so yet, and I think they should.



They could do it in partnership with any other country in the G20 group. Why not India? India has just made some rather dramatic reforms of its fossil fuel subsidies from a very high base. The UK has relatively low fossil fuel subsidies, but they do exist. The two of them could work together, peer review one another, and come up with a report that says, "This is how much we are subsidising and here is a plan for how to remove it."

Q89 Mr Dunne: Does the peer review system relate only to fossil fuel subsidies, or does it apply to all export finance?

Neil McCulloch: The peer review process is about energy subsidies. It would cover the electricity side of things, but it is not covering subsidies for absolutely everything.

Q90 Anna McMorris: I want to ask about the phasing out of fossil fuels and what you think would be a reasonable period of time for UKEF to phase out support for fossil fuels.

Neil McCulloch: How long is a piece of string? It is a very difficult question to answer, because it is fundamentally a policy choice. If UK Export Finance was to decide overnight to finish such support, the impact is unlikely to be catastrophic, either for UKEF or for the companies concerned. It could be done overnight but I imagine it would be a bit of a shock for certain companies that have been expecting to get the support of UK Export Finance on fossil fuel projects. The more logical approach—in my view, at least—would be to spend a little time clearly adopting a public climate change strategy, so you would work out what it is that you are attempting to achieve.

My suggestion would be that UK Export Finance should be compatible with the Paris agreement. It should not support activities that give rise to a net increase in emissions when we are trying to go in the opposite direction. Then you apply that to individual projects and, from that, you will automatically not support some projects that will give rise to net emissions but you might support others. Controversially, and perhaps in contradiction to some of the things that have been said in the earlier panel, there might be a situation, for example, where a country is burning a very heavy fuel oil with very high emissions. They wish to close down that power plant and replace it with an efficient gas turbine. The net emissions from that investment would be negative, because the counterfactual is a fuel oil power plant. In that circumstance, UK Export Finance might say, "That is a negative net emission, so we would support that". In other situations you are basically adding to the existing supply of emissions, so you might not support it.

We do not want to make policy on the fly but the point is that needs to be a serious process. Design a climate change policy and then put it into practice through an independent mechanism of measuring what the potential emissions might be from the projects that are supported. That process could take a few years. It should not be a decade or more, but it



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could take a little while to implement that properly. Rather than saying, "It has to be five years" or, "It has to be two years", I think the process is key.

Q91 **Anna McMorris:** Surely the Government should show climate leadership. Therefore, UK Export Finance needs to be showing—

Neil McCulloch: That is why I started by saying, "How long is a piece of string?" If the Government wish to show very strong climate leadership—Greg was saying some of these things earlier on—that would send a very strong signal to say, "Within X period of time we will now move to this new regime whereby we will not support it." That would then put political pressure on other export credit agencies and other countries to follow suit.

Q92 **Anna McMorris:** At the moment there is a skewed distribution between where UK Export Finance puts its support, whether that is upper middle-income countries—where it mainly goes—as opposed to the lower middle income or low-income countries, which is causing problems. Would you comment on that?

Neil McCulloch: Yes, there is a skewed thing, and that is simply because of where the demand tends to be, although they are supplying support for fossil fuels to developing countries. For example in Nigeria, where I work a great deal, they are supporting fossil fuel exports, which seems extraordinary to me.

The broader issue though, with regard to development, is that UK Export Finance is one component of measures that tend not just to lock in but also to inhibit the development of clean energy in developing countries. For example, I am going to Indonesia on Saturday and I am looking specifically at the challenges of boosting renewables in Indonesia. Indonesia has an enormous solar capacity—at 17,000 km wide, it could power itself with solar—yet solar constitutes roughly 0% of its energy mix.

The reason for that is very simple. The Indonesian Government subsidise coal and, if you subsidise coal and you are the purchaser of coal, PLN, their utility, will say, "In that case, I am going to buy the thing that is cheaper." If you take no carbon cost associated with it, and no environmental cost associated with it, then it is cheaper, so you are going to buy the thing that is cheaper.

UK Export Finance and things like UK Export Finance, and a number of other tools that achieve the same thing, artificially reduce the price of fossil fuel related power relative to non-fossil fuel related power and, as a result, they distort the energy mix in a country. A particularly egregious example is Pakistan. Pakistan desperately needs an increase in power. Over the last five years it had a huge increase—about 10 GW—on to its system. Most of that came from coal-fired power stations, which receive subsidised finance from China. It is a perfect example of how subsidised



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finance gives rise to a shift in the energy mix of a country that has ample solar and hydro power.

Q93 **Anna McMorris:** What would the risk be of supporting that reduction in support for fossil fuels?

Neil McCulloch: Do you mean from UK Export Finance's point of view?

Anna McMorris: Yes, from UK Export Finance.

Neil McCulloch: There would be a short-term risk for UK companies that are currently supported by UK Export Finance, for sure. I think there would be a benefit in terms of the signal that it would send and the opportunities for climate leadership politically.

There is, of course, a risk—this is precisely what the UK Oil and Gas submission to that inquiry stated—that if we do not do it, somebody else will. This is the same race to the bottom argument we were having earlier. I do not think there is any doubt that if UK Export Finance stopped financing fossil fuel-related projects, somebody else would finance some of them. There is no question about that. There will be leakage to other countries.

On the other hand, it ups the ante. It provides the UK with an opportunity to say, "We have stopped doing this. You should stop doing this to." It is a very difficult argument to sustain: that you should continue doing a bad thing because everybody else is doing a bad thing.

Q94 **Chair:** Would you like to comment on that, Ben?

Dr Caldecott: Sure. There are lots of things to comment on. The first thing—to your original question—in terms of a phase-out and when it should phase it out, should it not have a policy around what kind of carbon budget it is focused on? Is it that all projects that it lends to should be compatible with Paris, with 2°C, or with 2.5°C? What is it? Once it has made that decision, a lot of things flow from it. For example, if you agreed that the policy should be Paris compatibility, it does not suddenly mean that every single fossil fuel-related investment is incompatible with Paris. Some could be, in some locations, using some assumptions.

Q95 **Anna McMorris:** Why has it not done that?

Dr Caldecott: You should ask that. It is a good question.

Anna McMorris: We will.

Dr Caldecott: I hope you will. That is one starting point and then you have a consistent framework for making these decisions and obviously over time, depending on how ambitious your commitment is, of course you will stop lending money and providing guarantees to fossil fuel projects.



On the other thing—Neil’s comments about Indonesia, Pakistan and so on—the common theme there is China and Chinese export finance, and concessional finance in those jurisdictions. One of the few levers we have to make sure that this massive, multi-trillion dollar infrastructure programme—called the Belt and Road—is green is first by showing leadership, but secondly by making sure that multilateral lenders, such as the Asian Infrastructure Investment Bank, the World Bank and others, are adopting best practice.

If our own export credit agency does not have a clue what best practice is and is not implementing it, I don’t know how the hell we are going to communicate that to our partners internationally. We really do need to be best in class, and we aren’t.

Q96 Mr Goodwill: As Parliament, we obviously focus on what the Government do—the Climate Change Act; the Paris agreement—but many of the ways in which these things are delivered is down to business rather than Government.

What do you think businesses should do to support a transition to green energy in a net zero-carbon world? Are they doing enough on their part to react to these signals that central Government have given them?

Dr Caldecott: There are so many examples of companies in the UK and internationally doing great work to come up with technologies and services, and solutions to carbon emissions. Part of that is driven by the policy frameworks and the price signals created by Governments. However, a lot of that is not necessarily driven by subsidy or Government action; it is driven by the fact that some of this stuff is better than the alternative.

These are really big questions: how do Government support innovation at an early stage? How do Government support the scale-up of new enterprises? What kind of finance should Government provide at those different stages? How should Government support the real economy through market frameworks and subsidies? It is less of an issue about what the corporate sector is doing in terms of innovation because it is doing a lot. The bigger issue is Government creating much better frameworks that can enable innovation to flourish.

Q97 Mr Goodwill: Which do you think is more effective—giving subsidies and trying to pick winners and losers and giving those companies research grants, or just setting the overall environment through subsidies and tariffs and other types of green taxes? Or is it a bit of both?

Dr Caldecott: It is a bit of both, depending on the stage of the company, what sort of technology we are talking about, and what stage of development it is at. Clearly, at an earlier stage there is going to be more Government research money and Government grants to get things going, but once companies and technologies are mature obviously they should be competing without subsidy. I could pick any number of economists whom you could ask to give evidence and they would just say, “You just



need to introduce a carbon price—job done.” Unfortunately, I think it is a bit more complicated than that, to create a level playing field, but there is a bunch of different levers that Government can pull.

The other aspect of this, of course, is what incumbents should be doing. You have talked about new companies and innovation, but obviously you have these incumbent, very established companies in the fossil fuel industry. One question is: what should they be doing? How should they be diversifying, and how should they be working with communities to deliver the transition? These are also very important questions.

Neil McCulloch: Let me talk about two slightly different aspects. I am a development economist, so the way I am interpreting the question is this: what could the UK Government do to try to support the energy transition in developing countries? One of the challenges is consistency. We have an excellent Department for International Development. It does a huge amount of work on climate change and supports a lot of work on clean energy in developing countries.

Someone recently sent me a carbon lock-in guide—how to tell whether or not your investment locks carbon in—which I had not seen before and which was commissioned specifically for DfID. Simultaneously, we have another Government agency that is encouraging carbon lock-in in developing countries. Those two agencies are clearly incompatible with one another, so an issue of consistency across different Government Departments and across Government policy would be very helpful in that regard.

There is another element to this, which I would like to raise, and it is a tricky one. It is about fossil fuel subsidies in developing countries themselves. Many countries have very large fossil fuel subsidies themselves. The UK has fossil fuel subsidies and many other countries do too, including many developing countries. The largest fossil fuel subsidies are overwhelmingly those of the bigger countries, not surprisingly, because they are bigger economies, but many poor and middle-income countries have significant fossil fuel subsidies themselves.

Given the potential for switching from their own resources to renewables, one would expect that the UK Government would be putting a lot of time and effort in to say, “Rather than us giving you aid, why don’t we try to facilitate and support you in switching your own resources towards clean energy in your own country?” The UK Government currently provides almost no support for that in developing countries, which is a big surprise to me. One of my recommendations would be that the Government seriously consider substantially increasing their support, working in partnership with development countries, to tackle their own fossil fuel subsidies.

Q98 Mr Goodwill: At the current direction and speed of travel, how feasible do you think it is that we will meet our Paris obligations to be carbon neutral by 2050? Does something need to change fundamentally for that



to happen, both nationally and particularly internationally?

Dr Caldecott: Unfortunately it is the latter, isn't it? Significant change needs to happen if we are going deliver that.

Q99 **Chair:** What is the timescale? Neil just said there will be a shock to certain incumbents in two to five years, but the scientists are warning us that we have 12 years—somewhere between zero years and 12 years. Where do you think the sweet spot is for the transition?

Dr Caldecott: The sooner the better.

Neil McCulloch: On the subsidy side of things, we had an international commitment by the G20 in 2009, which is now a decade ago, that fossil fuel subsidies would be eliminated. What progress have we made on that? Well, a little bit but, if you read the reports, most of that progress has been made as a result of the actions of India, Mexico, and, to some extent, Indonesia. Relatively little progress in the elimination of fossil fuel subsidies has been made. The UK made a commitment in 2010, under the EU, that fossil fuel subsidies would be phased out by 2020. That would be in one year's time. I don't see yet a move to phase out fossil fuel subsidies in the UK by next year. The ODI has a very good report on that issue as well.

Q100 **Mr Goodwill:** The point was made earlier that the coal station built this year is still going to be operational, potentially, in 2020. Meanwhile, nuclear capacity around the world is going to come out of production, so we are swimming against the tide in some ways, wouldn't you agree?

Dr Caldecott: The thing we also have to do, and UK Export Finance will have to do this as well, is focus on the stock of emissions in the atmosphere, not just the flow. You have these situations where, if you replace an old coal-fired power station with a brand new gas-fired power station, yes, you are 50% to 60% more carbon efficient, but of course everyone is investing in the new gas-fired power station on the basis that it is going to be operating for 25 to 30 years, whereas the old coal-fired power station might only operate for another five or 10 years, and then be replaced by renewables. If you do the lifecycle analysis, the new gas plant has a bigger impact on the climate than the old coal-fired power station. A lot of the metrics that are used are about tracking the intensity of emissions, the flow of emissions, and not the stock and the stock-flow interactions, which is another big thing.

Neil McCulloch: In a sense, it is about breaking it down into manageable pieces. There are big questions as to how the entire sector needs to be reformed over the course of 10 to 15 years, in order to try to achieve the Paris agreement, but at a minimum it would be a good idea if we stopped subsidising fossil fuels. That seems completely incompatible with the direction in which we are attempting to travel. To the extent that UK Export Finance is one component of subsidies for fossil fuels, it would make sense for the UK Government to say that they will stop doing this.



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Q101 **Mr Goodwill:** I suppose we fall, as we often do, into the trap of focusing on electricity generation—there is domestic heating, metallurgical industries, fertilizer production and all the rest, and transport of course. Of course some of those will be easier to green than others. Currently, we have been going for the low-hanging fruit, such as aviation. Are we likely to make much progress in decarbonising aviation?

Neil McCulloch: That is a very difficult technological question. The way I would respond to it is to ask if it is compatible with our concerns about the impact of aviation on climate change that UK Export Finance supports building an airport in Uganda.

Chair: DfID supported an airport in Saint Helena. Yes, different questions for a different day. Thank you very much indeed, both of you, for coming. It has been a very interesting session. We look forward to our final sessions in a couple of weeks' time. Thank you very much.