



Energy and Climate Change Committee

Oral evidence: [Deep coal mining in the UK](#), HC 378,
Wednesday 9 July 2014

Ordered by the House of Commons to be published on 9 July 2014.

[Watch the meeting](#)

Members present: Mr Tim Yeo (Chair); Ian Lavery; Mr Peter Lilley; Albert Owen; Sir Robert Smith; Dr Alan Whitehead

Questions 1-71

Witnesses: **John Grogan**, Chairman, Hatfield Colliery, **Nigel Yaxley**, Managing Director, Association of UK Coal Importers (Coallimp), **Philip Garner**, Director General, Confederation of UK Coal Producers (CoalPro), **Chris Kitchen**, General Secretary, National Union of Mineworkers, **Dean Thornevell**, President of Joy Global Eurasia, Joy Mining Machinery, **Professor Kip Jeffrey**, First Quantum Minerals Professor of Mining Education, Camborne School of Mines, **Philip Pearson**, Senior Policy Officer, TUC, gave evidence.

Examination of Witnesses

Witnesses: **Philip Garner**, Director General, Confederation of UK Coal Producers, **John Grogan**, Chairman, Hatfield Colliery, and **Nigel Yaxley**, Managing Director, Association of UK Coal Importers, gave evidence.

Q1 Chair: Good morning. Thank you very much for coming in for this special session we have called. To help the cameras would you like to introduce yourselves very briefly please? Perhaps starting with you, John.

John Grogan: Yes, I am John Grogan and I chair the Hatfield Colliery EBT.

Nigel Yaxley: I am Nigel Yaxley from Coallimp, the Association of UK Coal Importers.

Philip Garner: I am Philip Garner, Director General of the Confederation of UK Coal Producers.

Q2 Chair: At a time when coal-fired power generation has had a bit of an upturn, why do you think it is that our deep coal mines are continuing to close?

Philip Garner: The short-term increase in coal-fired generation is very much at odds with the intent that appears to come from Government energy policy and that is the primary difficulty that coal producers face at the moment. If you need to invest in the future, and future capacity for production, you need a long-term market. All the signals that are coming from current energy policy are that long-term market does not exist for coal producers.

Q3 Chair: But is it also because imported coal is cheaper?

Philip Garner: No. Imported coal can be cheaper. The pricing of coal is quite difficult because, if long-term contracts are available for the UK producers, which is what they need in order to get the investment, then those contracts can in fact at times be cheaper than the imported coal, and indeed vice versa. It depends whether you are buying the coal spot or long-term contract, as well as the costs of production.

John Grogan: The coal price, Chairman, obviously goes up and goes down. At the moment, following a lot of fracking in the States, there is a surplus of coal on the markets. The strong pound has not helped as well, increasing by 10% to 15% coal that is priced in dollars. Of the coal that was burnt in the country's power stations last year—about 60 million tonnes—50 million was imported, and so there was a fairly small amount now left of deep-mined coal. As one of the three deep-mine collieries, we would argue that there are economic reasons why the power stations should continue to negotiate contracts with us, and contracts somewhat above current world prices. Those reasons would include hedging. Obviously, world prices are likely to increase in future years, so having a portfolio of different suppliers—no one is saying that imported coal is going to stop or whatever—is one advantage. If domestic coal disappears altogether, that option would go for the big power stations. Also, I think the big power stations have a responsibility really; a corporate social responsibility. They are the big boys in this operation. Drax yesterday received £250 million of public subsidy to develop a clean coal power station, which is great news, but we fear that, unless they do negotiate contracts with us—not just Drax, but the other power stations—they will build that clean coal power station and there will be no British coal to supply it.

Q4 Chair: Nevertheless, from the point of view of the generators, it is natural that they would want to buy their coal as cheaply as possible. Now I appreciate sometimes you pay a bit more to get a long-term contract and the certainty. But they also have a duty to their customers to try and generate electricity at the lowest possible cost.

John Grogan: I recognise that, but most of the big power stations, up until fairly recently, have seen the argument that I have given about hedging and so on. Drax, for example, until very recently, has taken 50% British coal. I am slightly alarmed to see that is going down to about 30% this year. There are obviously wider societal concerns as well in terms of the environment; obviously the carbon footprint of domestic coal is a lot less than imported coal. But even in terms of pure straight economics, I do think, regardless of corporate social responsibility, there is a strong argument for the coal-fired power stations keeping alive the British coal industry.

Q5 Chair: So, is there a sort of figure you have in mind about the balance between imports and domestically-produced coal that would be right?

John Grogan: International coal is now below £50 a tonne. We have a contract for next year—I would be reluctant to publicly give the figures, but I am going to give them to the Committee privately if that is acceptable, Chairman—but we are somewhat above that. Looking at the coal industry as a whole, 10% or 20%, above that are the sorts of figures that domestic coal producers would probably be negotiating with the coal-fired power stations. The pound could change that amount in the next two or three years—that would make that difference.

Q6 Chair: Do the import contracts also offer the opportunity of long-term contracts?

Nigel Yaxley: The way the import market works is that generally people can contract for long term, but they are more likely to contract at floating prices and follow whatever the international price is. They can then hedge those prices in the derivatives market. That is how that market works.

Q7 Chair: So, if we look back at say the last five or 10 years when imports have been a very substantial proportion of the total, could you point to occasions when there have been spikes in the spot price of imported coal, which would therefore have created a position where the generators were paying more than if they had taken a long-term contract with a domestic producer?

Nigel Yaxley: That is absolutely the case, yes. The import prices spiked quite dramatically in 2008 and there was a spike again a few years later. Indeed at that time, and for a significant proportion of the last 10 years, I think indigenous coal was probably being sold at lower prices than coal was available on the international market. The problem at the moment is that international prices are very low—they are 50% lower than they were about three years ago—and at the moment the prospect does not seem that they are going to increase significantly in the foreseeable future.

Q8 Chair: Is the cause of that principally the shale gas available from the US or are there other causes as well?

Nigel Yaxley: I would not say it was principally shale gas. Shale gas is one of the factors. But the biggest driver of the world coal market is what happens in Asia and I think the two most significant factors in pricing are the slow-down in growth in China at the same time as quite substantial production increases in Indonesia, which is China's biggest supplier of imports, plus the shale gas of course.

Q9 Chair: But is there not also a problem there too? We know because of China's concerns both about air quality and about climate change that it is determined to reduce the proportion of its energy derived from coal. So you will not go on seeing a continued increase in absolutely consumption levels in China; at best it is going to level off and it may even fall in due course. So although that may be a new situation, it is one that is likely to continue.

Nigel Yaxley: I would say that is probably the case, yes.

Philip Garner: If I could comment on that. The amount of electrification that the Chinese still have to do I think will still outweigh the amount of reduction, if you like, of the proportion of coal in the mix. There is a lot of electrification still to do, and not just in China, but across India and the whole of south-east Asia, of which a lot will still be fired by coal, although there will be a greater proportion, as you say, of renewables and possibly nuclear.

Q10 Ian Lavery: I just want to touch, first of all, on the impending mine closures. I was wondering if Mr Garner could give an update with regard to UK Coal's attempts to secure a private loan to assist with the managed closure of its last two remaining pits, Kellingley and Thoresby.

Philip Garner: Obviously, Mr Chairman, I am not still associated with UK Coal, although I did work for them until the end of 2011. My understanding is that although one of the parties pulled out of the potential loan consortium to provide around £20 million, of which £10 million was coming from Government—at a commercial rate, I understand—the mines have continued to perform well in production terms since then and UK Coal appear to be confident that they will find a replacement investor for Hargreaves Services in that consortium. When that will occur, I could not possibly say.

Q11 Ian Lavery: Do you think the deal with Hargreaves is dead and buried now?

Philip Garner: I do not think I can comment on that.

Q12 Ian Lavery: You mentioned, Mr Garner, that UK Coal were of the view that somebody else perhaps could come and step up to the plate with the finance for the loan. Have you any idea who that perhaps could be?

Philip Garner: I am afraid not, no.

Q13 Ian Lavery: If UK Coal is unable to secure that part of the loan, do you think that would result in the Kellingley and Thoresby closing almost immediately? Or when would you believe that those two collieries could close?

Philip Garner: Since probably the beginning of April when the crisis was announced, and it was announced that this loan was needed urgently, my understanding is that the collieries have performed very well in terms of output and have been making a reasonable amount of cash on a weekly basis from their performances. So I would think that, if that loan deal could not be put together, there will be a period where there is some cash available to manage the run-down of the mines. But if the loan deal was not there I do not think they would achieve the 18-month closure run-out that has been mentioned in the press.

Q14 Ian Lavery: Mr Grogan, Hatfield Colliery reopened the year after it was closed in 1993: how was Hatfield able to do that?

John Grogan: It closed in 1993 as you said, but then more recently it went into administration at the back end of last year. It was owned by ING bank and then they loaned the trust, which I chair, the money to purchase the colliery, and we now run it. It is rather like John Lewis in its format. We have four representatives of the work force on the operational board. We have 436 employees and about 60 contractors. We have risen from the ashes if you like. We had an operating profit over the first six months of about £2.5 million, about 10% of turnover. Turnover this year will be about £60 million. We are constantly seeking finance to invest. As you know, it is the nature of mining that you always have to be thinking about the next face. Our next face would come into operation in the autumn and we have begun to look at what might be available in terms of Government support. It seems that the coal industry is not eligible to apply for the Regional Growth Fund, unlike any other industry in Yorkshire. I could again provide the Committee with the details of that, but we are seeking guidance from the Commission because we thought the 2010 Council directive on coal, which is the most recent directive, tried to put coal on an equal footing with all other industries. So a Regional Growth Fund application, if we are allowed to make it, is one possibility. We have also noted that the Government made a proposal of a loan to our major competitor, so we are just in an exploratory way with Government officials looking at what might be possible for us, because we have a five-year plan, which we would very much like to fulfil if we can. But our contract for coal at the moment just lasts another 12 months.

Q15 Ian Lavery: So you are basically saying that Hatfield does not receive any support from the Government whatsoever in terms of subsidies or anything?

John Grogan: No subsidies, no.

Q16 Ian Lavery: Is it fair to say basically that if you are to have a future, a five-year plan, then you are looking to perhaps get the same sort of loan as has been offered to UK Coal? Is that right?

John Grogan: We want to explore all possibilities, whether the loan or the Regional Growth Fund, and we also want to explore possibilities with the power stations as well. I will be writing to all the major power stations in September asking whether they can give us contracts going forward.

Q17 Ian Lavery: If you got the same sort of loan that UK Coal were offered from DECC, how confident would you be of the future for Hatfield?

John Grogan: Any Government support would obviously be welcome and we have to negotiate the details and we are at a very early stage. But officials have said they will meet us to discuss what might be possible and I think if we are not eligible for the Regional Growth Fund that is probably an additional reason why Government might consider going down the same route that they did with UK Coal. But I would stress that we have a five-year plan for coaling, which we would like to fulfil if we can, and Government support would certainly help us do that.

Q18 Ian Lavery: You have explained very briefly there the new setup at Hatfield colliery with the new ownership. How do you think that potentially Kellingley and Thoresby collieries could learn from your experiences?

John Grogan: Well I think it has made a genuine difference to productivity really. The coal industry is traditionally hierarchical, but we have tried to involve the work force. We have had teams across the different areas of the mine to try to come up with ideas to improve efficiency and productivity and so on. Obviously there is a degree of cynicism but I think it has been embraced and there have been many ordinary miners who probably would not give speeches at their own kids' weddings without a bit of reluctance who are up and telling the rest of the work force what needs to be done. We are a proud member of the Employee Ownership Association and though it does not guarantee success, I think it helps.

Q19 Ian Lavery: Mr Yaxley, with regard to imported coal: if the deep-mine industry were to close in the UK, how do you think imported supplies would be able to make up the shortfall?

Nigel Yaxley: I think it is fair to say that the total import market—the international coal trade—is absolutely massive, and so in practical terms it would not be an issue to make up the shortfall. But I would suggest that that perhaps is not the issue. The issue is that we would like to see diversity in the supply chain, and my members, who generally buy indigenous as well as imported coal, would like to see that sort of diversity.

Q20 Ian Lavery: The main reason I asked that question is that if the UK were to rely on imported coal surely that would have an impact on consumer energy bills.

Nigel Yaxley: I do not think it would be significantly different from the situation now, given that imported coal is roughly 80% of the supply at the moment.

John Grogan: Can I comment? We work very closely together with Nigel on many issues, but on Nigel's website, what is not flagged up is where the coal comes from. A lot of it is Russia and there must be some geopolitical risks there. A lot of it is Colombia, which obviously has all sorts of issues both environmentally and socially in some of the conditions there. These are factors I think that wider society would like to take into account. The other thing we bring to the table is the supply chain. We have over 250 companies who we make payments to each year. In Yorkshire, in the north in particular—you will hear from some of them later—Joy is one of our companies who are helping us develop a new face. All that supply chain, or lots of it, will potentially go if the three remaining deep mines go.

Q21 Ian Lavery: Is it round about 50% of the imported coal that we receive in the UK from Russia and Ukraine?

Nigel Yaxley: Russia, not Ukraine. Ukraine does not really play a part at all, or nothing significant. But Russia, yes, Russia is about—

Q22 Ian Lavery: What would that be? Roughly 20 million tonnes?

Nigel Yaxley: Well, I have the numbers in front of me. I thought somebody might ask. Yes, it was 20 million tonnes last year, which was 41% of the total import volume.

Q23 Sir Robert Smith: I had better declare my interest in the oil and gas industry, in particular a shareholding in Shell.

Earlier there was mention of the long-term market being affected by the climate change strategy and the generation strategy. It was also mentioned that imported coal has a larger footprint than domestically-produced coal. How much difference of a carbon footprint is there between imported and domestic?

John Grogan: That is a very good question, which we have been asking Coalpro, our trade body, to give us figures on, because I think that is crucial to the argument.

Philip Garner: Obviously it is dependent on source but if you take coal coming from the centre of Russia and coming overland for 4,000 kilometres, then through the Baltic ports and then into the east coast ports of the UK and then by train to a power station, compared with a site such as Kellingley, which might be 10 miles away from its marketplace, it is about 30 times the carbon emissions to get it from A to B.

Q24 Sir Robert Smith: So yes, that is 30 times, but as a percentage of the carbon footprint of the coal in the power station, maybe you could send us something.

Philip Garner: We could do, yes.

Q25 Sir Robert Smith: Is it not a more structural challenge for the market that the country has accepted the concern about carbon emissions? Apart from power generation, is there any other use now for domestic coal?

John Grogan: There is, yes. About 10% of our coal goes for domestic purposes.

Nigel Yaxley: Also there is the steel industry, although indigenous coal does not feed that market particularly.

Q26 Sir Robert Smith: Is there a reason why the steel industry relies on imports?

Philip Garner: Yes, the quality of the coal is different.

Q27 Sir Robert Smith: For that particular use?

Philip Garner: For that particular use. It has to be a coking coal or a higher-heat coal generally than is used in power generation. But the other markets: there are still industrial users, as Mr

Grogan said. There are many domestic users—a lot of people off-grid rely on solid fuel for their domestic heating supply—and then of course there are the cement industry and other industrial users that have traditionally used coal and are still reliant on coal.

Q28 Sir Robert Smith: Does the cement one take domestic production?

Philip Garner: Yes. It takes a mix of domestic and imported.

Q29 Sir Robert Smith: How crucial is carbon capture and storage to the future of coal production?

Philip Garner: Absolutely vital I would say. As an industry, we certainly welcome the recent report from the Select Committee on carbon capture and storage. We heard in 2007 that the UK was going to lead the world in carbon capture and storage. If that had happened rapidly at that time we might not be sitting here worried about a continuous market for our indigenous supplies. It is the gap between the end of the current stations and carbon capture and storage that is the problem for the indigenous industry.

John Grogan: There are going to be two periods. If you look at Government energy projections over the next decade, a considerable amount of coal is going to be burnt in the conventional sense. I think official Department statistics suggest that about half the capacity that is there at the moment will still be there in about 2023. So, from our point of view, given that coal continues to be burned in those power stations in the conventional way, we would want a slice of that market. This is what is so exciting about the Drax project: that is not just a demonstration project; it is trying to make it commercially viable. Within a decade we could see perhaps four stations burning that sort of amount of coal and we would welcome that, but would say, if that is truly going to be green, we should fully take into account all carbon capture considerations. Surely there must be an element of British coal in that mix.

Nigel Yaxley: Can I make a couple points on that please? Everybody on this side of the table obviously very much welcomes carbon capture and storage, but I think we have to be realistic about the scale of what we are talking about at the moment. The scheme at Drax, which received this very welcome news of EU funding yesterday, will perhaps burn 1 million tonnes of coal a year, which is half the amount of coal Kellingley would produce in a good year. Last year this country burned 60 million tonnes of coal, so we need far, far more CCS. I think that is an absolutely key point. On the second issue, I perhaps slightly disagree with my colleague on the right: I do not expect to see half the current generating capacity still here in the early 2020s. I think there is a serious risk that it will close much sooner than that as a consequence of the carbon price floor, which is basically a tax, which seems to do nothing for climate change, but basically a lot to damage consumers' bills.

Q30 Chair: Even at the frozen price.

Nigel Yaxley: Even at the frozen price, yes.

Philip Garner: If I may add to that. I agree exactly with what Nigel has said, but one of our other frustrations is that the contracts for differences for carbon capture and storage appear to be

taking a long time to emerge from Department of Energy and Climate Change. Those other stimulating projects, as well as the two competition projects, will be vital in order to increase that coal burn to get somewhere between the figures that my two colleagues are debating. So energising that CCS market is very important as far as we see it.

The other part of it, going back to the carbon price support, is that before the Budget we did an exercise with the economic analysts NERA—I think some members of the Committee may have already seen that and if not we can provide it—looking at the levels of carbon price that were likely to stimulate some life extension in the current coal plants and the effect on the generation market of that difference in taxation. That concluded four things, basically. First, if you kept the carbon price at £9.55, that is to say at this year's level, bills for consumers would be £63 cheaper annually in 2025. Secondly, around 13 GW of the current coal-fired stations would invest to comply with the industrial emissions directive and thereby extend their lives. In doing that, the generation infrastructure would need £13 billion less in order to keep the lights on. Basically, because you are upgrading existing stations and not building new gas, the emissions targets for 2030 would still be met. That was the impact on the UK's generation market. We, as Coalpro, still believe that the carbon price floor is not good for the UK and for the coal industry, so we are undertaking a second exercise, which will look at the effect of differential carbon tax versus the European Union emissions trading scheme price on the whole UK economy, and we hope to have that in the late summer or early autumn.

Chair: That would certainly be useful.

Q31 Sir Robert Smith: On the industrial emissions directive and the effect it is having on power production, are you saying that that in itself is not a barrier if the carbon price is sorted?

Philip Garner: If the carbon price was not as high, there would be more opportunity for the coal stations to look at making those investments and getting a return on them in the lifespan that they are likely to have before carbon capture and storage. At the moment, I believe that their behaviours will be more to burn as much as they can while the carbon price is frozen and not make the investments to continue beyond that time because, first, they do not know what the carbon price will be beyond 2020, and, secondly, the competitive advantages they have over gas at the moment may not be there either.

Q32 Sir Robert Smith: So what is the time scale with the industrial emissions?

Philip Garner: The UK power stations, in the UK's interpretation, have to commit by 1 January 2016 I think to invest in the upgrade to comply with IED.

Nigel Yaxley: Yes.

John Grogan: That is right.

Q33 Sir Robert Smith: So, if they do not commit then?

Philip Garner: Then they can only burn 17,500 hours and have to close by 2023.

Q34 Sir Robert Smith: They would do that quickly to use up the cheap coal?

Philip Garner: Yes, exactly.

Sir Robert Smith: Thanks very much.

Q35 Ian Lavery: Government have already provided UK Coal—I am sorry if I keep mentioning UK Coal because there is no representative from UK Coal here.

Chair: UK Coal were invited.

Ian Lavery: I am not surprised that they are not here at the moment. They have already received £140 million worth of taxpayer support over the last 10 to 12 years. Government are keen to ensure that any further support to the coal industry represents value for money. How can the Government be assured that this is the case?

John Grogan: Can I have a go at that? I think you have to look at the wider supply chain as well. We take an interest in what is happening at UK Coal because if they go, a lot of the people who supply us, their viability will be questioned, and there is only a small number of firms in the market now. So our future is in many ways tied to UK Coal. So the whole health of the sector is dependent on that. We are probably at the minimum level that is viable now and so I think that is an important consideration. Obviously, I am not party to the details of what UK Coal was negotiating, but I think those wider considerations should be kept in mind.

Q36 Ian Lavery: One of the value-for-money aspects as far as I would be concerned would be continued employment in the areas where those pits are.

John Grogan: Absolutely, yes, of course.

Q37 Ian Lavery: Continued employment, better skills.

John Grogan: No, indeed. They are highly-skilled and well-paid relatively: £45,000 is our average pay level and all three mines are situated in areas that are still struggling. If the mines were to close precipitously there would be very heavy costs in terms of redundancy, in terms of retraining, in terms of unemployment benefit and so on, and so all of these have to be taken into account.

Philip Garner: I think the other side of it is back to the energy market and diversity. If we are going to have a diverse portfolio and a diverse set of fuel suppliers to our electricity mix going forward in the long term, then being able to keep a source of fuel for one of those fuels in the mix has got to be the right approach. Having access to the reserves that Hatfield have, that Kellingley have, and that Thoresby have, is a far more sensible solution than closing off that access and trying to access them again in the future.

John Grogan: Of course it is not that public subsidy is absent from the coal energy market, it is just that it is going to the generators, and Drax in particular is getting an awful lot of money, not just in terms of the capital costs of clean coal, but also in terms of the contracts for difference, which they are getting as well, burning some of the biomass.

Q38 Ian Lavery: Apart from providing direct financial support, what else do you think that the Government could possibly do to support the deep mine coal industry? Mr Garner just mentioned probably the most important things, and that is the carbon price floor. Is there anything else the Government can do to support the deep mine coal industry?

Philip Garner: Could I respond to one of your earlier questions about can UK Coal find another member to be part of this loan consortium? One question I would ask back: why is the Government saying it will lend £10 million and not a greater amount? If we regard the preservation of those reserves and jobs and the associated industries as being important, is £10 million for a loan the right number and what is that evaluation? We could possibly re-look at that. The other thing that I mentioned earlier is the contracts for difference for more CCS to give people the confidence that there will be a future sales market for their product as well.

John Grogan: Government obviously have regular discussions with the major players in the energy market—as far as coal is concerned it is Drax, E.ON and EDF. We would welcome it if Government Ministers raised the question with those great companies and argued that they should at least consider giving British coal contracts going forward. If Ministers were to do that, it would be very helpful.

Q39 Ian Lavery: With regard to the potential deal with the Government, are you suggesting perhaps that the Government should replace the money that Hargreaves initially said they would put in to the £20 million?

Philip Garner: I am asking the question whether Government have considered that, yes.

Q40 Ian Lavery: If there is no subsidy to the deep mine coal industry, can it survive?

John Grogan: Well, there are three deep mines left and we have had the announcement from UK Coal. The parameters are either Government support and/or some combination of long-term contracts with the power stations. I think that is the only way it will survive.

Philip Garner: Or that coal prices increase or that exchange rates work in the favour of the industry. There are quite a few variables and parameters. But it is interesting that my local council approved a planning application for an underground mine a couple of weeks ago at Crofton, which again is a co-operative designed to put benefit back into the community. It is much smaller scale than the three mines that we are talking about, but it is underground mining and it is mechanised underground mining, providing jobs and welcomed by the local population.

Q41 Ian Lavery: I am going to ask you a question again about UK Coal. Is it right that UK Coal has asked the Government to investigate EU state aid to support the coal industry? If it is, has anybody any idea how it is progressing?

Philip Garner: I am afraid I cannot answer that. I do not know the answer.

John Grogan: I heard yesterday that UK Coal had approached the Department about the possibility of state aid under the EU regulations that allow that—basically, as I understand it, it is closure aid. So under the EU regulations of 2010, the only form of aid that is now allowed for the coal industry—various other aid streams were allowable before 2010—is called closure aid. It would have to be financed by the British Government and the rules are that any mines in receipt of it would have to close by 2018. The Germans are not just good at football, they also have a closure aid scheme, and some of the other European countries do. I understand UK Coal have now approached the Government about that.

Q42 Ian Lavery: EU state aid to the coal industry could be used for a long-term future for the coal industry and not just used for closure aid: is it fair to say that is the case in other European countries?

John Grogan: My understanding is—the unions have done leading work on this and you will be seeing them shortly—that it is called closure aid, so to be in receipt of it you have to have a plan that results in closure in 2018. The unions have pointed out that if you were in receipt of closure aid and you paid it back or had some plan to pay it back, that could be a loophole in the regulations and you could stay open beyond 2018. I think the unions have done some very good work in talking directly to the European Commission, but I would stress that this is not European money: it would have to be a scheme approved by the European Union that would then have to be financed by the individual states, as in Germany.

Q43 Ian Lavery: Do you believe that the UK's energy policy framework has been hostile to the coal industry?

Nigel Yaxley: Yes.

Q44 Ian Lavery: Why?

Nigel Yaxley: I think too much attention has been paid to the sustainability angle of the energy trilemma and that insufficient attention has been paid to the affordability and security sides. I think a whole package of measures has come forward that supported renewable energy, which none of us are knocking—I am sure it is a very good thing—but CCS has been too slow. We would like to see more CCS developed more quickly—there is a lot of work that demonstrates that it can be cheaper than offshore wind—and in the meantime there is a whole raft of policies that militate against keeping coal going until CCS is ready. We have mentioned the carbon price floor. That is probably the most important example of that. But also the playing field in terms of the way the capacity market works is not entirely level in terms of allowing coal stations to compete on an even basis with gas stations.

Ian Lavery: Finally, it appears to me that UK Coal has jumped off what they say is a sinking ship: is that a fair comment? I will not ask anybody to answer that question.

Q45 Sir Robert Smith: What role, if any, does surface mining play in UK production?

Philip Garner: It is about two-thirds of our output now. Last year, we produced 12.7 million tonnes and over 8 million tonnes came from surface mining.

Q46 Sir Robert Smith: How much does that affect the market for deep mining? Is surface mining cheaper?

Philip Garner: Again, it depends on the amount of overburden ratio that you are going to remove, the location of the site and its market, and the coal qualities. In general, surface mining can be cheaper in terms of production, but the other side of that is you have to have the ability to restore and rehabilitate the land and manage the land afterwards generally as well, and in the first place get the planning consent to work the mine. So the production costs may be lower than deep mining but the overall cost is not very different.

Nigel Yaxley: I think it is probably worth adding as well the investment challenge is particularly great for surface mining because you need a rolling programme of new sites—they are relatively short-term sites. That means that the uncertainty in the energy market makes it very, very difficult for surface-mine operators to plan new sites to replace the ones that are running at the moment.

Philip Garner: I think it is also worthy of note that deep-mine production, when it is going reasonably well, as Hatfield and Kellingley and Thoresby are, is probably at least twice, if not three or four times, the weekly output of a surface mine. So there are a lot more surface mine sites but producing a lot less per week, so they cannot necessarily cope with increased demand at a power station. If there was a sudden need for more deliveries of coal, they would generally currently come from deep mines or from the ports, whereas the surface mines tend to give a long but consistent relatively small supply.

Q47 Chair: You will be aware that this Committee has expressed quite strong views about the importance of bringing forward a CFD for CCS—we very much share your concerns about that—and the need for CCS to be accelerated if at all possible. That is a technology that is not only needed in this country; it is needed, in our view, worldwide.

John, you suggested that the Government perhaps might talk to some of the generators about what they could support the industry. Do you think that at a time when there is obviously intense concern about electricity prices it is realistic for Ministers to tell a generator where they should buy their coal or gas or whatever they want to use?

John Grogan: Yes, I would not say a Minister should tell a private company what to do, but I think it would be worth discussing it in terms of price. If British coal goes altogether, that gives them one less option, and Nigel's members and so on would not have us competing with them. So I think our existence has a downward impact on pricing in the long term just because we exist and we are a competitor there. Obviously, Ministers are not going to tell the big companies what to do, but I think corporate social responsibility is very much the flavour of the month at the moment. These are big companies and they are getting a lot of public money—both Government

and European money. We are celebrating many things at the moment in Yorkshire, including the Drax announcement yesterday and the Tour de France at the weekend. The great Yorkshire public will find it a bit odd that we are going to have a clean coal power station—Drax—in 2020, and yet there does not seem to be any real effort being made to ensure that there is some British coal in the mix there. You are right, Nigel, it is relatively small amounts, but 1 million tonnes is what we produce, and if you have four that is 4 million tonnes. It builds up, doesn't it?

Nigel Yaxley: Well, what you haven't mentioned, if I may chip in, is that one of the key possible CCS schemes is indeed the one right next door to Hatfield colliery, which is the stuff that dreams are made of—having a power station and a mine on the same site. But that really does depend on the CFD coming forward.

Chair: Well personally I am very sorry I am not at the great Yorkshire show this morning.

John Grogan: Indeed, I should have added that to my list.

Chair: Thank you for coming in. Can I just say we have approached this in a completely open-minded way? If there was a solution that is helpful to the domestic owners we would like to try to find it. Therefore, if you are able to share any more information on a confidential basis with the Committee— obviously we would not disclose it outside—it might help to inform our recommendation to the Government.

John Grogan: We will certainly do that, Chairman. Thank you.

Chair: Thank you very much.

Examination of Witnesses

Witnesses: **Chris Kitchen**, General Secretary, National Union of Mineworkers, **Dean Thornewell**, President of Joy Global Eurasia, Joy Mining Machinery, **Professor Kip Jeffrey**, First Quantum Minerals Professor of Mining Education, Camborne School of Mines, and **Philip Pearson**, Senior Policy Officer, TUC, gave evidence.

Q48 Chair: Good morning. Thank you very much for coming in. Can I ask, as I did with the first panel, if you would introduce yourselves briefly for the benefit of the TV audience?

Philip Pearson: I am Philip Pearson from the TUC, senior policy officer dealing with energy and climate change.

Chris Kitchen: I am Chris Kitchen, General Secretary of the National Union of Mineworkers.

Dean Thornewell: Dean Thornewell, the President of Joy Global, mining equipment suppliers, representing ABMEC here.

Professor Jeffrey: I am Professor Kip Jeffrey from the Camborne School of Mines. I am the Professor of Mining Education.

Q49 Chair: Could I start with Mr Kitchen and Mr Pearson? Could you update us on your discussions with UK Coal and its attempts to secure a private sector loan to assist with what is I think “the managed closure” of its two remaining deep coal mines?

Chris Kitchen: The current position as it stands now is that originally a £20 million loan was required. It was going to be cross-funded—£10 million from the Government and £10 million from two private investors. One of the investors has committed £3.5 million. The Government is still wavering about whether to commit the £10 million. Because of the good performance at Kellingley and Thoresby, it is no longer thought that we need the full £20 million—it could be as low as now £10 million—so in effect the Government, if it was willing in the first place to put £10 million in, could put the full £10 million in without any other party being required.

Philip Pearson: Chris and I have been in contact with the company continuously for the better part of this year. If the managed closure strategy is what is available, then a commercial loan, then yes, let us get that together. But the twin-track approach, going in tandem, is the desire on the part of the trade unions to see the UK Government do what eight European nations are doing, which is to apply for state aid, provide a much longer-term strategy for these two pits and for UK Coal going out to the end of 2018. UK Coal is on record as wanting both approaches, to meld the one with the other, including the bridging loan to get through the current crisis, repayable with interest. It is a commercial deal. It therefore would go before the Industrial Development Act board. The value-for-money criteria would be met and all of that stuff related to a commercial loan by the Government. But that is a short-term expedient, as far as we are concerned, and as far, I think, as UK Coal is concerned. I understand from speaking to them that their first approach to Government in January was to prefer to go for a state-aid bid. What the position would be at the end of 2018 is an open question. The mines could return to viability and the loan could be repaid. That is the Spanish Government’s strategy—€55 million a year currently goes from the Spanish Government to mines, some of which are returning to viability. Of course, Germany spends €1.5 billion annually and is far more ambitious. There are two approaches that we are trying to work through.

Q50 Chair: What about the prospects for an employee buy-out?

Chris Kitchen: There are still discussions ongoing in respect of Kellingley colliery. The employees there have set up a steering committee, which has met with representatives from the PPF. They met with representatives of UK Coal yesterday and are actively trying to put together the financing required to be able to buy and run the pit themselves. In trying to raise the finances, the unfortunate thing, as has been said in the earlier session, is the uncertainty in the market about what the role for coal is going to be in power generation going forward. A lot of money has to be spent now to develop the reserves, but the reserves are not going to be realised for another two or three years and you do not know what the market is going to be and you do not know what the prices are going to be, so you do not know whether you will get a return on it. Obviously, for that reason, raising finance for mining is difficult, hence the Government is like the lender of last resort, if you like, because whereas you expect private companies to look at their balance sheets, you would expect Government to look longer-term at the security of supply of

energy for the country—not just a secure supply, but an affordable supply. You would see that as the role of Government—facilitating a long-term strategy in the interests of the country.

Q51 Chair: Are there any lessons to be learned from Hatfield about this?

Chris Kitchen: I think there are a lot of lessons to be learned from Hatfield. Hatfield is a good company that is struggling again because of the current climate for coal, but it has a long-term viable future if it can get through the short-term problems. That comes back to where I see Government's role—assisting British industry to get through the short-term problems so that they are there longer-term for the greater good.

Q52 Chair: Is it viable in the longer term in your view because of the fact that it will be price competitive with imports? Is that what you are looking for?

Chris Kitchen: Yes. At the moment, the spot price of world coal is down quite a lot compared with what it has been historically. It is sensible to believe that it will bounce back when coal production has been scaled back in America, because it is not profitable for them to sell it over here at this price. They are scaling back their industry, so this glut of cheap imported coal at the moment will balance back out and then you will see the prices start to rise.

Q53 Sir Robert Smith: On the state-aid rules, is it your understanding that the project would have to start as a managed closure programme, but that, if in the process you could see a commercial way of going forward, as long as you pay back the loan, you comply with the EU?

Chris Kitchen: Yes. From the meetings we have had with commissioners in Brussels, that is the way that Germany, Spain and Poland are going. They have mines that were commercially uneconomic that have had state aid and that are now economic, and they want to keep them open going forward. They are pushing that 2018 should be extended to 2020 or 2025 because they do not want to close their mines, because they realise the importance to their economies of keeping coal in their generating mix. The other one is that if the state aid has been paid back by December 2018, then in effect you have not had any state aid, therefore you can continue to mine.

Philip Pearson: Could I just add a comment on that? The Government have developed a state aid package for the energy-intensive industries that is worth £400 million to the end of 2016. That is not about the closure of energy-intensive industries like steel, chemicals and cement, but about their continued operation within the EU. The Government have so far laid out £35 million of state aid to steel, cement, chemical and other companies. That is £35 million to 58 companies. They are not expecting them to close—they are to sustain operations. What we would like to see is, if you like, the normalisation of the very idea of state aid as a transitional support to a vital source of UK energy. We think it should be seen as a normal business within Europe activity.

Q54 Sir Robert Smith: So you think that the UK needs to lobby the European Commission to alter the terms?

Philip Pearson: No, it does not need to; there is no lobbying required. Article 3 operating aid, article 4 special measures, and special issues relating to pensions and other provisions within industry, do not need any change. The same rules should apply to the UK. In our report, “The Merits for State Aid”, which we have sent to you, there is an in-principle case made by the NUM and the TUC. We think the Government need to put resources in to see if the case can be submitted to the EU.

Q55 Mr Lilley: Thank you. How significant is the carbon floor tax at the moment on affecting the viability of UK coal production? Or does it just impinge on the overall level of consumption by power stations?

Chris Kitchen: It is paid by the power stations. It does not impinge on the cost of production of coal. It is a tax on the use of coal for generating electricity. It is obviously the second tax, because you also have the fossil fuels levy—that is still there as well as the carbon floor price.

Q56 Mr Lilley: So, if it were not there at the moment, it would not really affect the situation with deep-mined coal in the UK?

Chris Kitchen: It would make electricity generated from coal cheaper than what it is at the moment compared with gas or other energy sources.

Q57 Sir Robert Smith: Would it not give more incentive for long-term investment in coal generation that would create more of a market?

Philip Pearson: The incentive that the industry needs is carbon capture and storage and support for state aid. Those are the two things.

Chair: I think we have bought the argument on CCS, certainly.

Q58 Ian Lavery: I want to move on to the impact of the pit closures but can I just ask a very simple question?

Mr Pearson, your suggestion is that £35 million has been given to energy-intensive industries—there are other amounts, but they have been given more than what has been given to the coal industry. The coal industry has been offered a loan at a competitive rate, or uncompetitive rate as I see it, of 10%. The coal industry has been offered a loan of £10 million. The £35 million and other amounts that you mentioned before are not loans, but subsidies to the other industries. Is there a feeling in the coal communities that, because the Government, or successive Governments, have taken more than £5 billion from the mineworkers pension scheme, an offer of £10 million on a 10% return is absolutely outrageous?

Philip Pearson: I would agree with those sentiments because it would suggest that the Treasury has received a very significant amount of money that it could choose to pay back to the industry. We would prefer the money to be returned in the form of state aid. That would be a legitimate use of that money.

Chris Kitchen: There is definitely a feeling that mining in the UK has been disadvantaged all the way through for many years. We have not been able to have a level playing field to compete on, but we are still here, albeit struggling. It is wrong, in my opinion, that the Government are prepared to make a loan of £10 million at 10% interest rate to put men out of work when we know that we are going to be burning coal in this country for the next at least a decade. Surely we should have British-mined coal keeping British miners in work and balancing things up for security of supply. It has to be better for the environment to ship 2 million tonnes of coal from Kellingley four miles down the road to Drax and burn it there than to import it from Colombia and Russia. The carbon they are burning is still the same but the carbon footprint of transporting it halfway around the world is bigger. For the environment, it has to be better if it is British-mined coal at the side of a power station.

Q59 Ian Lavery: Chairman, at this stage I think I should declare the fact that I am a fully paid up continued member of the National Union of Mineworkers. I think it is important just to place that on record.

To Mr Pearson or Mr Kitchen, what is the likely impact of the closure of both Kellingley and Thoresby on the local communities? We heard from the earlier panel that where they are situated there are high levels of social deprivation. What will the impact be on those areas?

Philip Pearson: Hatfield has told the Committee about its 257 supply chain companies. Joy Mining is here and it is obviously one of them and it has that in common with UK Coal. On the reported merits of state aid—I will not trouble you with repeating the statistics—we asked independent consultants to work through a cost-benefit analysis. The effect of the job losses would be a £75 million loss of tax and national insurance to the Treasury; there would be significant impacts in loss of value to the coal mining industry and supply of £1 billion; and there would be a loss of £163 million in wages spent in the local economy. We will all know that the coal field communities remain in a sub-optimal position many years after coal closures, so we think there are significant social and economic costs, which we have outlined in the report. We are frankly really disappointed that the Government have not seen that the answer to these questions is an active industrial strategy for the coal industry. There are three pits left. Let us have one of these active industrial projects like we have had for chemicals—there is one for aerospace, one for offshore wind, one for nuclear and one for construction, which we fully support. There is a case for an active industrial policy at this stage of UK mining. We think that it does not need a huge amount of subsidy. What it wants is a place within the energy mix and within industrial policy, addressing the social and economic and energy issues.

Chris Kitchen: The Orion report shows that it is common sense. Keeping people in work is better investment for the taxpayer than putting them out of work and then trying to find them re-skilled work. Mining is a highly skilled job—these are highly skilled men that we are talking about. Unfortunately, their skills are not easily transferable into other industries and are only of any use while you have coal mines. I did send to the Committee yesterday a copy of the state of the coalfields report done by Sheffield Hallam university. That shows that even with the regeneration money that has been spent in the four mining communities, there is still deprivation there, and things have not returned to what they were prior to the mines being closed. I cannot understand why we would want to make the same mistake again. We have a viable coal industry that can be used for the good of the country to balance out a secure and affordable supply of energy, and hedge against fluctuations in the world price, and it keeps jobs in this country. It does not make any sense that the Government are offering a loan to close it as opposed to what they are doing with other industries, which is offering assistance for a long-term viable future. That is all the

British coal miner wants. We do not want special treatment. We just want to be treated the same as every other industry and given a chance and support.

Dean Thornevell: May I just comment as well, from a supply chain perspective? There are numerous organisations around the UK that supply equipment to deep mines here. To give you some sort of factual information, that is at about a ratio at 50:1, so broadly speaking there is about 50 people in the supply chain for every one employee in the mine. So it is quite a knock-on effect exponentially on the number of people and the number of additional businesses that would be affected by the closure of UK Coal.

Chair: 50:1?

Dean Thornevell: Yes.

Q60 Chair: Is that validated by independent analysis?

Dean Thornevell: It is analysis that we have conducted and we are continuing to have it validated, but broadly speaking from analysis of the ABMEC members, which is the association for mining equipment companies, and work that we have done with other bodies, we are pretty comfortable that is a good estimate.

Q61 Ian Lavery: You mentioned the supply chain. How have the supply chains been affected by the rapid closure of the deep-mine coal industry?

Dean Thornevell: All of the ABMEC members will tell you that they have seen damage to their forecasts and are making significant savings in and around their business now to size their businesses accordingly. On my experience in the organisation that I work for and am responsible for, I am reducing the number of sites that I have here in the UK, with the closure of a site just north of Nottingham, and I am making continued headcount reductions around the rest of my business. It is very substantial and other ABMEC members are feeling that as well.

Q62 Ian Lavery: Is there any other supply chain you can move into?

Dean Thornevell: A lot of the companies in the ABMEC membership have diverse technology, and suppliers to mining are investing in technology, so there are some skills and some technologies that can transfer, absolutely. But the main core and the main competence of all of the ABMEC companies has been supplying the mining industry. So there would definitely be some significant hardship felt until such time as you were able to transition skills and resources to other industries.

Q63 Ian Lavery: Do you think this will impact more on smaller local suppliers?

Dean Thornevell: Certainly small and medium enterprises will suffer the most I think. Larger companies will generally have the other global parts of their business to fall back on, but I think small and medium enterprises in and around the UK will suffer substantially.

Q64 Ian Lavery: Professor Jeffrey, what impact has there been with the decline of the deep-mine coal industry in the UK on mining schools around the country?

Professor Jeffrey: If you look back at the latter part of the 80s, you could have looked at perhaps seven different universities and other colleges that were offering mining training or mine engineering, mining geology—the sort of technical training that underpins mining roles. That has shrunk in several stages down to the Camborne School of Mines, as a result of a range of things, including the demise of deep-mined coal. We are the only active mining school that teaches mining engineering in the UK. I would not align that necessarily with purely the coal industry. While some of those universities—those in the midlands, Newcastle, Leeds, Nottingham, and others in the north—were looking at people going into the coal industry, the likes of the Camborne School of Mines and so on have always had the international mining industry as their main focus. So while we actually have never been busier in terms of the number of students passing through our doors, they are not going into the UK mining industry, and that has not happened for quite a while. They are generally going on an international basis to various other mining countries in the world where those industries are still expanding. We have seen a big change but it is not necessarily directly aligned to the fate of the coal industry.

Q65 Ian Lavery: You are basically educating people in mining to export their skills to countries like Australia?

Professor Jeffrey: Yes. Our graduates, both at undergraduate and postgraduate level, go to Australia, to the various African countries and to south America. Fewer go to north America because they have some very well established mining schools there. A useful parallel, if you would be interested to hear it, is one project we are doing at the moment with Malaysia. Malaysia is a country that was a very well established mining country. It had a large proportion of the world's tin mining. We are working closely with them now because that tin industry declined—it declined over a 20-year period to the point where they have now one hard-rock mine operation going—and they are busy trying to re-establish it. They have had to come to us as a repository of information to start producing the skills that Chris talked about in terms of the highly skilled miners they do not have. They do not have academics in their own universities who can teach mining because those have disappeared. They do not have the consultancies that are used to mining. They do not have the service industries and they do not have the drilling companies. They do not have any of that because, over that time, they were lost, so they now have a standing start. My suspicion is that, in the future, coal mines will be started and will be required. I think it is a useful lesson to look at what is going on in a country like Malaysia. While you have even a fairly small-scale mining industry, those re-establishments are not so difficult to do. When you lose all those alternative suppliers of skills and training and services, it is much harder to do. I think that might be an important lesson for us when we are thinking about it.

Q66 Ian Lavery: Do you think the UK Government are doing enough to actively encourage training of students in the deep-mine coal industry? Or do you think that there is more that the Government could possibly do?

Professor Jeffrey: I think supporting mining education and mine training is vital in two ways. First, it supports the industry we have. I think the industry has always been very good at training its own specialist skills to its own mining staff, but there are also the educational inputs directly into the trades and the technical specialists in mining. I think we have lost some of that. There used to be local colleges who did some of this. A lot of those apprenticeship schemes have disappeared. That could be improved if there was a market for those people who then are trained and graduate, and that is obviously our issue.

The second thing is that we have a very buoyant export industry, if you like, in terms of training people for the world mining industry. But the perception can very easily arise that this is not a mining country, so why would you come to the UK to train in mining? That is a more difficult one for us. Those skill shortages are in universities as well. We find it very hard to recruit. We have been looking for two years to recruit a mining engineer to be the head of the school of mines. We want them to have both industrial experience and the research credentials to work in a university. We find that very difficult because there is a world competitive market for these skills. Over the last decade, it has been very difficult to find people to fill those roles. Skill shortages are not just issues around individual mines, they are global. We punch above our weight in terms of supplying mining-related services on a world basis, be it finance, insurance, consultancies, technology or equipment, but that is borne of our history—the diaspora, if you like, of mining specialists around the world that we have created. When we lose our mining base in the UK, it is not just about these direct supply chains you have heard about. Those are very easy to see and articulate. It is those indirect ones as well—the UK mining professionals who beat the boards around the world on a daily basis, and what they offer to the international mining industry. We should not forget that informal supply chain.

Dean Thornewell: I will just add that some of the discussion we have heard today has been about the cost of mining—how much it costs per tonne to get minerals out of the ground. The supply chain plays a huge part in trying to bring new technology to bring that cost per tonne down. We are finding it more and more challenging to find people to help us work with our companies in developing the technology because people who have worked in mines and have that experience—the skills and the knowledge of the mining processes—are becoming less and less available to be employed into the supply chain to bring their experience to help us develop technology to then bring the cost of extraction down. We do see that in our research and development activities.

Q67 Ian Lavery: Mr Thornewell, do you think the Government are sending the right policy signals to build investor confidence in the coal supply chain?

Dean Thornewell: Specifically in the UK, I think there have been significant mixed messages that investors would have some concern over. When you talk about investing in mines for the future, we find it hard to get banks and to get other financial institutions involved in supporting some of our customers when we offer lease or rental or financing packages when selling equipment. That has definitely come from some messages that Government would have given.

Q68 Ian Lavery: Do you think the Government have a more active role to play to encourage and improve investor confidence?

Dean Thornewell: I think so. I spent a significant amount of time lobbying various Government Departments when Kellingley was looking for some new investment. They wanted to buy some new equipment and it was a significant investment into the supply chain. I spent a large period of time lobbying Government Departments and I found it easier to gain assistance for securing finance for exporting than I could for supporting our own mining in the UK. So I think Government could definitely do more in that sense.

Q69 Ian Lavery: Finally to the panel, do you think the UK's energy policy framework has been hostile to the coal industry? If so, why?

Philip Pearson: It has been hostile to the coal industry. We do not think that coal has been integrated at all into the Government's thinking on the trilemma of low-carbon, secure and affordable energy. The biggest single issue for us has been the progress of carbon capture and storage and more recently the CFD issue. It is not just contracts for different sorts of power, it is also CFDs for heavy industry and the low-carbon technologies for industry as well, because if you bring power and energy together in carbon capture networks—like in Yorkshire or in Teesside—you then get economies of scale on CCS which coal, gas, and industry can feed in to. That really big picture has been missing, as has a place for coal within that supplying a number of UK power stations.

We produced a report earlier this year with the Carbon Capture and Storage Association on the economics of carbon capture. Essentially, that report is arguing for an integrated approach with coal in the mix—a minimum of 10 GW, and maybe 20 GW of coal CCS, for 2030—which would be consistent first with low energy bills, and secondly with climate change targets. It would also have enormous co-benefits in terms of jobs, supply chain and local economy. It is, in a sense, a bit of a no-brainer. We do not understand why there has not been the integration of coal into energy strategy. It is really high time that this last opportunity to do that is taken really seriously. What we would like to see is an immediate meeting between DECC and UK Coal to get straight that work needs to be done on a state aid application for UK Coal. That is the primary problem now. We, unlike Hatfield, have found it impossible to get a meeting with officials on the state aid case in response to the report that has been drawn up. We are not sure why and we think it is time that that willingness to co-operate, to develop industrial activism around coal, was put into the mix. That is the single most important immediate issue, but the strategic question is to get coal back in the energy strategy before it is too late.

Chris Kitchen: There is a strategy for gas, a strategy for nuclear and a strategy for renewables. There is no strategy for coal. Coal has been left to fend for itself. I do not know why. It does not make any sense to me. I do not see the economic argument and I do not see the social argument for not including coal and treating it the same as other sources of energy. It is an indigenous supply that we control and there are good arguments for keeping it. Why it has been left to fend for itself on an uneven playing field compared with other sources of energy, I do not know. I think it is about time it changed and we got a level playing field and the same support as others.

Professor Jeffrey: I have no particular foresight to offer and I am sure there are people who know a lot more about what may happen in the energy mix in the future, but I do get a distinct feeling that, for geopolitical reasons, security of supply is going to become a major issue for us at some point over the next 25 years, and that our ability to use coal to support that is going to be important. I think the strategic point of view, as opposed to a purely short-term or even long-term economic point of view, is an important area to consider, because there is a big challenge in

terms of the economics of supply. But even from an educationalist or research point of view, support from the Government in terms of researching some of these solutions may be worthwhile. I have certainly visited various Departments over the last decade and talked about mining-related research activities and I have had terms like “sunset industry”, “smokestack industry” put back to me, and it is all about knowledge economies and those sorts of things. I think the sort of messaging that the Government could take on board is that there are practical and very real research activities in support of the mining industry that can be done to improve its productivity, improve its economics and improve the way it can satisfy the carbon requirements. I think there is potential there.

Chair: Thank you very much for your time; it is much appreciated.