House of Commons

Foreign Affairs Committee

Oral evidence: Critical minerals, HC 1095

Tuesday 18 April 2023

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Watch the meeting

Members present: Alicia Kearns (Chair); Saqib Bhatti; Sir Chris Bryant; Liam Byrne; Neil Coyle; Drew Hendry; Bob Seely; Henry Smith; Royston Smith; Graham Stringer.

Questions 63-87

Witnesses

I: Duncan Wood, Vice President for Strategy & New Initiatives, Wilson Center; Christopher Heron, Director for Communication & Public Affairs, Eurometaux (European Metals Association); James Black, Assistant Director, Defence and Security, RAND Europe; and Aidan Davy, Chief Operating Officer, International Council on Mining and Metals.

Written evidence from witnesses:

– RAND Europe:

https://committees.parliament.uk/writtenevidence/118841/html/

Examination of witnesses

Witnesses: Duncan Wood, Christopher Heron, James Black and Aidan Davy.

Q63 **Chair:** Welcome to this session of the Foreign Affairs Committee on critical minerals. I invite both our guests to introduce themselves.

Christopher Heron: I am Chris Heron. I am the director for communication and public affairs at Eurometaux, which is the European non-ferrous metals industry based in Brussels. We are a trade association representing the collective European metals value chain, companies that mine, process and recycle the critical minerals we are speaking about today in Europe, and UK-based companies. It is great to be here.

Duncan Wood: I am Duncan Wood, vice-president for strategy and new initiatives at the Wilson Center in Washington DC. I am a British citizen who has spent the last 34 years in North America, in Canada, Mexico and now the United States.

Q64 **Chair:** Thank you. In this session, we are particularly looking to learn how our counterparts and strategic competitors approach this. Duncan, could you kick us off with an overview and analysis of how the UK approaches critical minerals, as compared to the EU and US?

Duncan Wood: Let me focus my comments on the US, because I think Chris is much better placed to talk about the EU. In terms of what the United States has done over the past two years, there has been nothing short of a seismic shift in its approach to critical minerals. The first phase really began at the beginning of the Biden Administration, with a focus on supply chains. During the covid crisis and the collapse of supply chains, there was recognition that the United States needed to take supply chain resilience a lot more seriously. A 100-day study put out by the Biden Administration early in the Administration helped to focus attention on these issues, particularly with regard to critical minerals. They then began international negotiations, and looked at the creation of bodies such as the Minerals Security Partnership, which we can come back to later. There was a focus on defence financing for the critical minerals industry. We saw the Defense Production Act pulling together $500 million for projects in the critical minerals area in the United States.

Of course, we then saw the huge push for the Inflation Reduction Act last year, which came together very quickly. The figure most commonly cited in that regard is $373 billion for electric vehicle financing or credits. In fact, that is an estimate of what can be spent; there is no cap on that funding. As long as vehicles and purchasers qualify, there can be many purchases of those electric vehicles. It could go up, by some estimates, as far as $800 billion. That overall package, of course, was more than $1 trillion put together.

It was the decision of the US legislature to pull together that financing. We then saw an incredible reaction from the private sector, which was involved all the way along in the development of the strategy. What really pulled it together at the end was the focus on competition with China. That was what enabled us to reach not completely bipartisan consensus on the issue, but a point where neither side was willing to block the legislation, because it really has proven fundamental to moving the United States forward in terms of global competition, particularly competition with China.

We can see what the United States has done, acting largely in an independent fashion, without much consultation with allies, with the exception of the Minerals Security Partnership. Then you see how the allies—Japan, Korea, the European Union and the UK—have reacted. First of all, there was shock that the United States would go ahead and pursue this kind of industrial policy, but then there was recognition that this is moving the market. I think it is a clear example of strong US leadership in the area. It was not necessarily wishing to move allies and partners in the same direction through that legislation, but that has certainly been the result.

The UK is at least 18 months behind the curve of what is happening in the United States. In the UK, from what I see from overseas, it is still, "Gosh, critical minerals matter, and we need to do something about it." We have had that conversation in the US. We have made a major dent in the problem, and now it is a question of how we move all the pieces and achieve those goals.

Q65 **Chair:** Before we move on to the EU, I presume there is no way to catch up, and that we will continue to be 18 months behind—or do you see opportunities that Britain should focus on?

Duncan Wood: There is no way to replicate what the United States has done, simply because of the financial power of the United States. The question should be: how does the United Kingdom catch up with the United States in terms of what it is capable of doing? What is the correct focus for UK Government spending, as well as for the UK private sector? Rather than saying, "We will provide massive subsidies that will bring investment to the United Kingdom," the question is: in what parts of the supply chain and value chain does the United Kingdom have a clear comparative advantage? Where can we spend funds and create policies that will drive us forward, and make us a destination for parts of the value chain and the supply chain? Where do we have value to add?

Q66 **Graham Stringer:** What are those parts?

Duncan Wood: I have thought about this a great deal. Obviously we can go to basic extraction of minerals, and there are questions now about what we have here in the UK. There is processing, but these will not be major parts of the global value chain. I would focus on, first, human capital. The United Kingdom has an extraordinary higher education system, and it has a great deal to offer. There are degrees in mining geology et cetera, but 21st-century Britain is more about questions of research and design—about how you can make more efficient electric vehicles and batteries; how you can reduce the weight of batteries and vehicles; and how you can create modular batteries, where you can switch parts in and out. These are things that the United Kingdom excels in today. That is where you could see a much lower level of financial investment with a much higher return, given the resources in the UK today.

The other thing that I would love to talk about at some point in this hearing is co-operation with the United States internationally, particularly on development finance.

Q67 **Chair:** I think Royston will come to that later. Christopher, what about the EU?

Christopher Heron: The EU has also taken steps forward in recent months on critical minerals, although probably not to the same extent as we have heard that our counterparts in the US have. Last month the European Union released its Critical Raw Materials Act, which is pushing domestic extraction processing and recycling to the top of its political agenda to an extent that we have not seen in the last two years of this commission. That is where I think the Critical Raw Materials Act is succeeding. For the first time, we have a very high-level political signal from the top of the European Commission, and from national leaders, whether it is President Macron or Scholz in Germany, that critical minerals are a crucial strategic issue, and that where feasible, we should foster investment here in Europe. Where it is maybe not achieving the same as the US is in the massive financial firepower that goes alongside that, and all the conditions that are required to bring that investment to Europe and to make those projects real.

The Critical Raw Materials Act sets a number of targets. By 2030, Europe wants to extract 10% of its raw materials domestically. It wants to refine and process 40% of its strategic raw materials domestically, and supply at least 15% of that from recycled sources. No foreign partner should have a share of more than 65% of imports for a single commodity into the European market. These are targets that set the direction of travel for Europe, which is positive.

There are also some clear provisions to speed up things like permitting. In the EU—and, I guess, the UK too—permitting delays are a major barrier for projects coming online at the speed required. The EU wants to set a timeline under which projects take no longer than one to two years to undergo the permitting process. That is all positive, but where our companies tell us that the US succeeds is in offering a carrot-based policy for companies to invest. There are massive incentives for companies to deliver and receive the funds required. In the EU, it is still more of a stick-based policy, and the regulatory load on companies is quite heavy.

Particularly now, after Russia’s invasion of Ukraine, the energy crisis means that it is a major challenge—this is a bit of an elephant in the room for any company, especially those upstream with energy-intensive processes—to stay competitive or make further investments.

In our view, the Act is a very welcome first step. There needs to be EU-level funding to back it up, moving forwards. That is a discussion still to be had. Currently, it is for each member state to decide whether it has the state aid to put towards these projects, and that advantages those member states with bigger pockets. Some smaller member states might not have the capacity to support their supply chains, but we cannot dictate where those companies are. The issue is about ensuring some EU-level funding, simplification of the regulatory environment, and really focusing on delivering the investment-friendly environment that the US has been able to achieve.

Q68 **Saqib Bhatti:** On a point of clarity, you said that no foreign third partner can import more than 65% of the supply of critical minerals into the EU. If that is the case, will the EU have an active policy to counter China's expanding influence in that area, considering that they will probably be the largest exporter to the EU?

Christopher Heron: It is a very ambitious target—achieving that by 2030. China supplies 98% of the EU's rare earths supply, for example, and a growing share of many other minerals as well. Its share in the processing stage is increasing and increasing. It will only be achievable if the EU is pursuing an active diversification strategy to work out where these new supply sources will be. So far, we maybe have not had clarity on where these minerals will come from. We know where the mining projects will be by 2030, because they have the 10 to 15-year timeline to come online. Latin America will be crucial for copper and lithium. The Democratic Republic of the Congo is crucial for cobalt. Indonesia is crucial for nickel. I guess the real question as we move forwards, for the UK, the EU and the US—all of us—is how we approach these regions and achieve that diversification.

Q69 **Drew Hendry:** Duncan, you talked about the UK being at least 18 months behind the US, where there has been a seismic change. I think I am quoting you right in saying that. One of the questions that I wanted to ask was about some of the lessons, but you have covered some of the lessons and talked about UK strengths that could possibly be brought into the fold. Where do UK aims potentially run counter to US actions at the moment, in your view?

Duncan Wood: Right now, the single biggest challenge is that there is no free trade agreement between the United Kingdom and the US, and there is no real chance of getting one in the near future.

However, if you see what has been done with the Japanese and what has been negotiated with the European Union from Washington, there is a willingness, at least on the part of the White House, to find ways to adapt the rules; an agreement on critical minerals can be negotiated, which would count the same as a free trade agreement, so that minerals that are produced or processed in Japan or the European Union can count as part of the requirements for the IRA. That would be a great opening for the United Kingdom to talk to Washington about how we reach that point. Given the importance of certain mining companies in the United Kingdom operating internationally, I think that is something. Given the prospects for building out processing capacity, albeit limited, in the United Kingdom, with relatively high-value jobs being created by that, I think that is a positive move.

If you can get beyond the critical minerals component into battery assembly as well, there are a lot of jobs available there. There is a win-win that can be negotiated, but at the moment the absence of an FTA really is a major obstacle.

Although we have the Minerals Security Partnership, and a general collaborative agreement between a number of countries to work together on the critical minerals equation, there is not a lot of meat on the bones of that yet, so we are really waiting to see how that shapes up. I think the UK could take a leadership role on the MSP, and could talk about the ways in which there can be collaboration, in the sense of "If you're going to invest in processing in x country and we're going to invest in extraction in y country, how do we pull all that together so that we are not competing against each other?" That is the really smart way to go, because if we are to compete against the Chinese, then everybody has to be on the same team. If we are not, there is just no way. I talk about the US being ahead of the UK by 18 months; the Chinese are at least a decade ahead of the United States.

Q70 **Drew Hendry:** Christopher, you were talking about EU levels of investment just now. Can I ask you both how you expect the subsidy race to affect the UK, given that the Chancellor has said that the UK will not use that approach? What would the terms be of any deal on a subsidy or investment that we are likely to generate?

Christopher Heron: Our view, and our message to the European politicians, has always been that competitiveness cannot be built from subsidies. However, with the subsidies in the US, there is a risk—a lot for these global companies—that this is attracting the investment decisions. If they have to make a decision between the European or the UK market and what is available in the US, currently the package is a lot more convincing in the US. Companies are having to make those decisions right now. In the EU, for the member states there is a matching clause in state aid now, so member states are theoretically able to match anything that is on offer in the state aid to try to restore a level playing field, which seems a sensible approach.

Our message, again, is not to be scared of the approach by the US, but to be inspired by it. Some of the companies in Europe or the UK will probably need support in key areas, at least in the medium term, to scale up. As Duncan said, the key threat is China and the dominance of the processing sites, so I guess that is our message.

Duncan Wood: Chris mentioned permitting. Permitting is such a huge obstacle for everybody, and it is a nut that the United States has not cracked yet. We are still stuck on permitting reform in the United States.

If you can make your permitting process easier, that is a relatively inexpensive thing to do.

Q71 **Sir Chris Bryant:** I do not know what you mean by that. I may be being very stupid, but I do not understand what that means.

Duncan Wood: Permitting for mining or for processing plants. It is about making sure that there is a streamlined process, without lowering standards, so that you make sure that it takes less time to get the permits you need to build a lithium refinery, for example, or to start up a mine. The comparison we always make in the United States is that in the US, it takes between seven and 10 years to get your permits to open a mine. In Australia and Canada, it takes on average two years. If you can make that much more streamlined without lowering your standards, that is kind of a win-win situation. However, it is symptomatic of a broader point that is very well understood here in the UK. If you look at where post-Inflation Reduction Act investment has gone in the United States, it has gone to those states that are much more business-friendly. It has gone to those states where there are fewer barriers to investment. It is a very basic point, but making your investment environment more business-friendly and more investor-friendly will help you every time.

Q72 **Drew Hendry:** On that subject, you talked about permitting being quicker. Could the UK benefit from subsidised supply chains in order to increase that competitiveness? Is that something that you think would be useful and, if so, how?

Christopher Heron: I reiterate that the business environment is crucial, so our message again to the European politicians is that subsidies are one thing. You need financial support for some of the capital expenditure. Operating costs for some of these operations are really crucial, and that is where we compare unfavourably with other parts of the world, specifically because of energy costs. But the framework to attract the investment and the regulatory load—in Europe, it is very bureaucratic to access funding and to go through these stages, so even before the subsidies discussion, you can do a lot just by simplifying things, speeding things up and giving a signal that you want the companies to come here and invest. In certain areas, yes, the subsidies may be necessary for scaling up, but business environment is just as crucial.

Duncan Wood: In terms of what the United Kingdom Government can do on the supply chain, making sure that the supply chain here is as green as possible is a huge help. What has happened in this country in terms of offshore wind is remarkable, and I think that is a very strong point in favour of investing in the United Kingdom, because every company that I speak to—whether it is on auto manufacturing, on batteries or even on the extraction and processing of critical minerals—they are all looking for a less carbon-intensive way of doing their business.

Christopher Heron: That is especially true for the European car manufacturers. The UK car manufacturers want to differentiate their supply chains by their sustainability, so if we can offer minerals that guarantee a certain performance where the UK or Europe has the advantage, I would agree with Duncan.

Q73 **Saqib Bhatti:** That leads very nicely to my next question. Building on what you said earlier in response to the question about China, how integrated are the UK and EU mineral-dependent industries, and what are the opportunities—you have mentioned automotives—in the context of the phased approach that the EU is taking?

Christopher Heron: I really emphasise that the UK and EU critical mineral supply chains today are highly integrated. The UK has notable producers of several critical minerals. To take some examples, we have a pretty competitive nickel industry, notably a refinery in Clydach, Wales, and we have a leading platinum group metals refining and recycling industry too, notably Johnson Matthey across the board, who is an industry champion. There are other companies and investments, but those companies are highly integrated already with the European industry and supply chains. I will give some examples. The UK nickel industry supplies 70% of its output to the EU market. For Johnson Matthey, they are producing more PGMs than the UK demands, so the EU market is again a massive consumer. That was true before the energy transition.

Now, if we look at where the battery gigafactories and hydrogen electrolysers will be produced, hopefully the UK can have some of that supply here as well, but a lot of gigafactory and electrolyser announcements are also overseas, so we would expect this integration to continue and intensify as we move forward.

I think there is a concern from some of the UK-based companies about two divergent UK and EU strategies on critical minerals—on both sides. The EU strategy is not really making any reference to the UK, and neither is the strategy on the UK side, from what I can see. Brexit has brought undeniable barriers for these companies to access the European market, in terms of administrative costs, some of the regulatory burden and the need to stock more supply. There is a concern about divergent critical mineral strategies bringing that further apart, not closer together.

To go back to Duncan's point about this common threat of China and the need to have a western response, we are looking at a massive US package. We have China, who are 10 years in advance of us. On the European continent as a whole, it is really a question of how we can make these complex supply chains work to the best extent possible. The UK has some specialised operations that the EU needs. The EU is also shipping metals back. The PGM industry here is actually the trading house for the whole of Europe, so these supply chains are very complex and will continue, and I think the recommendation of the business community is to make that co-operation quite central.

Q74 **Saqib Bhatti:** Are there competitive advantages that the UK can exploit outside the EU, or will the UK industry have to comply with EU legislation for it to be viable?

Christopher Heron: I think the integration is happening to a large extent today, and there will be the requirement to meet the requirements placed on the downstream gigafactories. But often when we talk about critical minerals, this could be an advantage for the UK again, because of the environmental and social side of things. If we have the processing industry here in the UK or the EU, the assumption is that it is going to fulfil those safeguards because of the regulatory environment we have, if we compare that with having a processing facility in China or somewhere else, where maybe those safeguards are not kept. Yes, there is an element of that, but, with alignment, it can also be an advantage to build that up.

Q75 **Saqib Bhatti:** How intentional is the alignment, or is it a natural development, and could the Government and the EU Commission be doing more to help that along?

Christopher Heron: It is a natural development over decades, due to the proximity of the markets, which will continue to be the case. Obviously, the single market was contributing to that, too. What could be done, I think, is for the UK and EU to explore a strategic partnership in this area—the EU is exploring a similar one with Norway, which is in a relatively comparable situation—to have some level of discussion about what the supply chains should look like and where there are certain barriers to entry, whether it is things like rules of origin or other things, and to work out how to resolve those. I think both sides, both communities, whether it is European business or UK business, would certainly appreciate a strategic-partnership approach on this topic, too.

Duncan Wood: Can I jump in very quickly on this one? The scale of the growth in demand that we are predicting is so enormous that there is going to be a willingness on the part of all parties to work together to find a way to solve this problem. It is not just a question of looking at lithium, rare earths, cobalt or nickel. It is about working out technologies on sodium batteries. It is about looking at manganese. It is about looking at graphite for anodes. It is about looking at everything that is out there.

The big one, which very few people talk about, is copper. As we are going through the electrification of everything, demand for copper is going to grow at an exponential rate. Some of the predictions are that in the next 10 years we will have to extract more copper than we have extracted in the last 5,000 years. So everybody needs to be in on this, and if you are competitive in the space, there will be a willingness to do a deal.

Q76 **Graham Stringer:** We are looking at critical elements and minerals, but there is a hierarchy of difficulties, isn't there? Do we have enough engineers? Are our energy costs too high? Are we completely hostile to mining what materials we have here? Would you care to comment on that hierarchy?

Duncan Wood: It is very difficult to know which one comes first—to be honest with you—because they are of almost equal magnitudes. But let's begin where you ended. Whether it is nimbyism or bananaism, there is an overwhelming tendency these days to say, "No, although I agree with the general principle, I just don't want it. I don't want to see that built, even if it's not in my backyard." That is going to require a huge amount of corporate engagement—not just public relations but real understanding of community needs, I would say, and a great deal of public education.

In terms of the human capital component, we have the problem not just that we have seen a decline in mining engineering and geology degrees over the years, but that mining as an industry is much less attractive to today's youth than it was even 30 years ago. This is an industry that has put itself forward very much in 19th-century terms—"We dig things out of the ground"—but it is not like that at all. This is an industry that is highly dependent on technology. Incredible things are being achieved every single day. But I would say the mining industry have done a lousy job of selling themselves to young people. We were talking before this session about the comparison with the oil and gas industry 10 years ago. They faced a similar problem: they couldn't get enough people to go into the industry. They did a reworking of, essentially, their marketing campaign for young people, and they were able to solve the human capital problem by engaging with community colleges and universities and also through heavy investment in technology, so that this was a much more attractive career to go into.

In terms of the permitting problem itself, making sure that companies know that they can get their permits in a relatively short period of time is not just important for them making the decision about where to invest; it is vital in terms of them getting the financing that they need. The last thing that a financer wants to hear is, "We can't start business yet, because we haven't got the permits." So this will be a major impediment as well.

So where we are is that we still have an enormous amount of work to do on all fronts. As I often say in Washington, there is this idea that because we passed the Inflation Reduction Act, the problem is solved. It is not solved. We have created now the targets to get to, but we have to get there, and there are problems at every turn.

Q77 **Graham Stringer:** Chris, does this country need a Critical Raw Materials Act, and if not, why not?

Christopher Heron: Talking to the UK-based companies, they appreciate the steps forward that have been taken with critical raw material strategies and refreshes in the last year, but yes: there is a request for clarity of vision and something to set the long-term framework until 2030, which we should be aiming for, which is ideally backed up with a level of financial support for the operation. I think the UK business community would certainly appreciate that signalling and clarity.

You also asked what we want to develop here in the UK. There are a large number of critical minerals, and there is the extraction stage, the processing stage and the recycling stage. Where is it feasible for the UK to compete, and how can we attract the investment? I think the companies are very willing to come on board in that discussion.

Duncan Wood: I know there are a number of places here in the UK where they are looking at the possibility of extracting rare earths from coal mines, which just seems to be a winning proposition in terms of regenerating some of the mining communities across the country that lost out in the 1980s. There is now the potential for going back in there and getting rare earths out of those coal mines—often out of the flooded mines themselves—and then creating the processing capacity around those. That seems to be something where you have, again, a win-win situation for a lot of folks.

Q78 **Graham Stringer:** Chris, you touched a couple of times in your answers on the impact of the Critical Raw Materials Act generally. What was the particular impact on the integration of UK-EU supply chains?

Christopher Heron: The impact of the EU Critical Raw Materials Act? I think we will have to see in the details. The Act was only delivered last month, and still needs to be negotiated for the next year before it will be a final package. However, I guess if the EU is successful enough in creating the measures to bring investment domestically, that is another pull for where companies will choose to invest. That is one thing. The proof will be in the pudding.

In addition to that, ideally, if we are going to integrate our vision towards that, some of the operations we are building here in the UK, such as the lithium refinery in the north of England, can be seen as a key contributor to those goals too. Ideally, the EU Critical Raw Materials Act should set a vision that the whole continent can contribute to. *[Interruption.]*

Chair: The reason we are all talking is because we have just been told we have three votes imminently. I suspect we have actually got about 20 minutes, but that means that the next panel will not happen, so I am going to invite the other two panellists to come and join us in a moment. You will see the Clerks go off and grab them, and then we will just seamlessly keep going.

Q79 **Royston Smith:** Duncan, you mentioned earlier some of the advantages the UK has in education and technology. How can we use that, or can we use that, to leverage bilateral relationships with the US and the EU?

Duncan Wood: I would say that No. 1 is to make sure that the education system continues to function well; obviously, we always need more investment in that. No. 2 is to make sure that we are attracting the best and the brightest from not just within the UK, but around the world, which requires a focus on immigration policy and basically asking, "Are we willing to bring in talent from pretty much anywhere, educate them here and then allow them to stay in the UK to work?" That is often the No. 1 consideration for companies when they choose where to invest: can they get the talent that they need?

In terms of how you parlay that into a role in the supply chain, I think it is very much a question of how US or North American companies see the UK as a place for investment, and therefore how they then exert pressure on policymakers in the United States to say, "We need to have a deal with the

United Kingdom”, because those decisions will follow where the investment is going. Look at what has happened in the automotive sector in North America over the past 30 to 40 years: that is a deeply integrated manufacturing platform across the three nations, and not just because of the USMCA and the NAFTA before it. The reason why you had to have the North American exemption in the Inflation Reduction Act is because that is how the automotive industry is organised there. Look at where the money is going; look at where the investments are happening; look at how the supply chain is integrated, and that will give you a clue as to how policy will follow. If you can actually be very successful in attracting those investments into the UK, with human capital being that major component, I think you are off to a very good start.

Christopher Heron: To add to that, many of the UK companies already in this space differentiate themselves through a high level of specialism. I noted two examples before. The nickel refinery in Wales is producing a very high purity of nickel product, which is in demand from specific downstream segments in the UK and in Europe, which is very hard to replace. The PGM refining and recycling capacity we have in the UK has also differentiated itself by its processes. On the recycling side, it recycles a very high grade of material that works in complement with some of the processes of the recyclers that are there in Europe, so it works together in a quite symbiotic way. I would say this specialisation of these companies is what allows them to have this continued differentiated role in supplying the bigger supply chains we have across the continent. That is probably an area to continue exploring, too.

Q80 **Chair:** I am going to ask James and Aidan—apologies for the slight madness; this is the way we live our lives, never knowing what is going to happen next—to introduce themselves briefly. Then we will continue with the questions. We will get through as many as we can before the votes. I am afraid that we will not return post-votes because we have at least four. That is at least an hour of your time, probably, that you would be sat waiting for us.

Aidan Davy: Hi, I am Aidan Davy. I am the chief operating officer at the International Council on Mining and Metals. That is an organisation that works very closely with major mining companies around the world to promote responsible business practices.

James Black: Hi everyone. I am James Black. I am assistant director of the defence and security group at RAND Europe, which is the UK and Belgium-based arm of the non-profit RAND Corporation, which is the world’s largest policy research organisation. I guess I am here representing the wider work we have done for UK Government, the EU, Australia, the US and others around supply chain risk, particularly geopolitical in form, and some of the supply chain risk mitigation techniques that are available to policymakers.

Q81 **Saqib Bhatti:** I will come to Duncan first, but maybe, James, you can also enter this part of the conversation. How should the UK Government respond to the competing interests with China and the US when it comes to developing their supply chains? Should we be worried about protectionist policy development among our allies?

Duncan Wood: Yes, you should be worried about protectionist approaches with the allies, but it is a reality, so you have to find a way to live with it, I'm afraid. You are not going to end that—I prefer to call it—industrial policy approach, so how does the United Kingdom find a way to live with that and take advantage of it? Over the years, the United Kingdom has found many ways to partner with the United States on different challenges internationally. This is one of the areas where the United Kingdom can work closely with the United States in terms of its international global activities, development financing, identifying resources, attracting talent and so on. There is ample scope for collaboration here. Therefore, it is fitting in with what the United States has already taken a lead in doing, and doing so in such a way that it really does reflect UK interests.

James Black: I would agree. Building on that, there is an opportunity here because clearly, we are not just talking about critical minerals in isolation; we are talking about a broader range of economic security, tech sovereignty—these sorts of issues where the UK and US are working very closely, as well as with people like Australia, Five Eyes, NATO and so on. Clearly, there is a bedrock of trust there but, as you say, you can compete within friendships as well as against your more overt adversaries, and protectionism is certainly a challenge. I think there are opportunities for the UK to exert leverage, as has been said, through specialising in areas where there is a clear UK USP or value proposition—some way we can maximise our asymmetric areas of advantage, rather than seeking to merely mirror what the US is doing, but at a smaller scale and therefore in a less consequential way.

The key thing of defining that value proposition is that that does require from the UK maximising how integrated its approach is. I know that is a very loaded phrase in Whitehall, but it really does mean working cross-Government. It means working with industry and defining a kind of Team UK proposition where different areas of Government are pulling together plus industry, because we do not have the scale to afford separate value propositions being presented by different bits of Government or industry in a way that is going to be meaningful to someone like the US or, indeed, the EU or China. That really places a premium on that kind of integration at our end, so we can get the maximum bang for our buck.

Q82 **Saqib Bhatti:** What does a "Team UK" proposition look like? If you had the opportunity to design that, what do you think we should go for?

James Black: I think it comes back to some of what has been said already. We are 18 months behind the US—that was the quote—and a decade behind China. We are, crucially, at the beginning of a journey. We have now had a strategy. That is a good thing. We have had a refresh already. We are starting to see buckets of money attached to that, not necessarily at the scale that some in industry would like, but we are starting to signal a level of policy intent.

What comes next to enable that greater clarity is having a 10-year or 15-year plan. As we mentioned, there are long lead times in a lot of the activities in industry. It is not just investments and permits and so on, as we have mentioned, but the training-up of apprentices, the hiring of people, investing in tech, R&D—all those sorts of things. They take five, 10, 15 or 20 years to come to fruition. There is inherently a lot of risk attached to them—from a policy perspective, but also from a shareholder perspective for your industry. If you are an SME that is trying to break into this space at some point in the value chain, you really can't afford to make the wrong bet that is then going to be pulled in a different direction by some Government policy change in a year or two time.

What that means is that you need that 10-year or 15-year clarity. What are the areas of priority for the UK in terms of critical minerals? We have started to see that with the assessments that the BGS has been doing. What are the areas where there are known areas of risk in the supply chain? What type of risk is the UK willing to tolerate in some areas? In what other areas is it not willing to tolerate risk, where the UK Government are going to intervene more, because they have decided, for whatever policy reason, whether national security, jobs, levelling up or whatever—they have designated that these two, three, four or five things are the areas that the UK really cares about?

Once you have done that, you can then start to build the relationship with industry, the clusters, and bring in the education providers and training—all those sorts of things. There are lots of good examples of other areas of policy and industrial policy, where the UK Government have done that, or other people have done that. It all starts with what you are prioritising.

Q83 **Drew Hendry:** Perhaps I could start with Aidan. What are the benefits of presenting the critical minerals conversation as one about delivering the green transition rather than one around national security? What would be the potential drawbacks of that approach?

Aidan Davy: One advantage is that, realistically, one of the demand drivers of the very significant increases that Duncan referred to in terms of critical minerals demand forecasts is around minerals required for the energy transition, not just domestically in the UK, but globally. In that sense, there is an imperative to produce minerals to drive a transition from a fossil-fuel based energy system towards a system that is less dependent on fossil fuels. Anchoring it into that paradigm becomes incredibly important.

The other advantage is that—this is hardwired into the mineral security partnership—a focus on incredibly strong environmental, social and governance standards is at the core of that, both within domestic partners who are part of the enterprise, but also when it comes to third countries.

There is an opportunities space for the UK and its partners through MSP to capitalise on that, not just when it comes to domestic production. Frankly, you are never going to get projects off the ground in the UK without an extraordinarily high focus on and attention to rock-solid environmental, social and governance standards. It won't happen.

Q84 **Drew Hendry:** On that, what could the UK Government be doing to improve public understanding of the role of critical minerals and the energy transition? What implications would that have for UK industry and mining?

Aidan Davy: You could put a lot of energy into that, but to what effect is the question. In a way, I would rather see energy being put into the permitting of projects that aspire to—and don't just aspire but have a deep commitment to—the application of those incredibly high standards.

If you look at the work that was produced by BGS in the last few days to look at prospective areas of the UK, they identified eight areas around the UK, in Northern Ireland, Scotland, Wales and England. By happy coincidence, or unhappy coincidence, almost all of those are coincident with areas of extraordinarily high protection, such as from a national park standpoint or outstanding natural beauty. That is just the nature of minerals globally, almost. When you throw the dice, they don't necessarily fall in the way that you want.

But we have seen, with the example of the Woodsmith Mine development in the Yorkshire Dales National Park, which Anglo American is taking forward, an area where it was technically thought we would never develop a mine in this context, where they have managed to navigate, practically, incredibly strong planning restrictions by applying extraordinarily high standards of ESG due diligence to make the project happen. It is not there yet, but it is on the way. As part of the process to permit any potential development in those prospective areas BGS has identified, capitalise on the good that you've seen in areas like Woodsmith, rather than—to Duncan's point—being stuck in a paradigm of, "This is a 19th-century industry."

Duncan Wood: On that point, it is commonly said now in Washington that there is no energy transition without mining. The truth is that there is no modern economy without mining. When you fly across the Atlantic, you are sitting in a metal tube. You need mining. This is a point that is not made very commonly.

I would rather see industry do that than Government, to be honest, and I think that industry needs to work a lot harder on getting that message across. That connection between the extractive industries and the modern energy transition is fundamentally important. That is a point we need to make time and time again.

Christopher Heron: A really interesting area for the collaboration of the UK, EU and US is this shared standard and shared environmental social expectations and combining those market forces. If there is a shared understanding of what is environmentally and socially responsible across these big markets, that allows us to have a market size to compete against some of the unfavourable practices we do not want to see.

Q85 **Royston Smith:** What are the trade-offs with relying on allies to be producers and manufacturers in our critical minerals supply chain? If I can shoehorn in the second question, because time will run out, to what extent should the UK Government be looking to bring supply chains to the UK?

Duncan Wood: I would be happy to jump in on that one. It is a question about whether you reshore, near-shore or ally-shore, or whether you go with global supply chains.

The fact is that over the past 40 to 50 years, I think pretty much everybody in this room has lived with the idea that you can get what you need from anywhere in the world, but you buy it from where it is at its lowest cost—"All that dirty work, whether it is the low value-add, whether it is extractive or whether there is a pollution component, let's do that somewhere else, because we don't want to do it here." Those days are over.

We are now in a different paradigm on supply chains. I always say this: we have moved from a paradigm based on value to a paradigm based on values. We think about the environment; we think about ESG components more generally; we think about national security; and we think about the broader strategy. Working out how we can get what we need to have done without compromising our national security and environmental principles—while, at the same time, maximising value here at home—is what it is all about these days.

It is a tough nut to crack—it really is. The fact is that we can go too far down that road, because you cannot reshore everything. You cannot bring everything home, particularly in a country like the United Kingdom, but even in the United States you cannot do it there. Part of it is the mineral endowments; if you don't have it, you don't have it, right?

Secondly, sometimes it just does not make economic sense to do it. Sometimes it is a question of human capital etc. Working out how you can actually collaborate with your partners and allies internationally is the smart way of doing this in the early 21st century.

James Black: Building on that, it is absolutely efficiency versus resilience. It is today versus, potentially, a problem tomorrow, and upfront costs versus long-term returns. These are all difficult trades for shareholders and boards to make; they are very difficult for democratic Governments to make, for obvious reasons, and an area clearly where China has some structural advantages.

The answer is that you will have different balances between efficiency and resilience—i.e. between cost and market forces, and Government carrot-or-stick induced resilience—in different areas of critical minerals. You cannot have the same blanket approach for everything; it needs to be driven by your priorities.

We will have to accept that in certain areas, we will accept a higher level of risk—it may be geopolitical, economic, demographic or whatever—and there are other areas where we are saying, "No, this is incredibly critical to our economy and national security etc, and in these ones we will optimise reshoring or friendshoring etc."

Q86 **Liam Byrne:** Maybe I will start with you, Duncan, on the way in which the Minerals Security Partnership could potentially steward a win-win-win on mineral security, influence in the global south and counter poverty.

The transition to clean energy supply chains is about 3 billion tonnes of minerals for solar, wind and geothermal energy. Africa has a big stake in that because 40% of Africa's wealth stock is in natural capital, and the forecasts are that, by 2030, two thirds of the world's poor will live in resource-rich sub-Saharan Africa. Is there a way in which the MSP can pioneer green mining in a way that yields tax bases in low and middle-income countries in a way that is good for our security and good for the development of those countries too?

Duncan Wood: What is implicit in your question is the fact that China is the dominant investor in almost every minerals-producing African country at present, and it has been doing that over a prolonged period of time, so it has a huge lead. However, it is clear that a lot of countries—not just in Africa but in Latin America as well—are not particularly happy with the deals that they got from the Chinese, so they are looking for an alternative.

I can put it to you this way: I spoke to two representatives of the Argentine Government not so long ago, and I asked, "What do you think about the Minerals Security Partnership? It is a shame that Argentina wasn't able to be part of that, given your lithium resources." The response was, "We're just delighted that we'll get to sell to somebody other than the Chinese". That is not instead of the Chinese, but in addition to the Chinese. That is what countries are looking for; they are looking for a way to balance the Chinese with a counter-offer from the west.

So, what is the way to go about that? I think it is very much to offer a deal that is attractive to host countries where the minerals are actually located. That means that we actually have to go and ask them what they are looking for. For too long, industry and Government have adopted this kind of colonial approach where we say, "You've got what we need; we're going to come in, extract it, and take it out of your country." There has to be much more of a deal among equals these days, where you say, "All right, so you're looking for what?" as we come in. They know that they don't want the Chinese model, where Chinese workers are brought in, where they are laden with large amounts of debt, and where, ultimately, there isn't much value added.

So what can we do? We can adopt a different approach where we actually train local populations, where we raise standards, where we actually invest in the infrastructure that is needed to get that product to market internationally. That means looking at things such as highways and bridges. One of the figures that was quoted to me recently was that, very often, trucks go from mines to ports only half-loaded with ore, because the bridges along the way aren't strong enough to take them if they are fully loaded. We can think about things such as that, and we can leave something behind that is really positive for those countries.

Q87 **Liam Byrne:** Presumably, if we help these countries build a tax base from 10% of GDP to 20% of GDP, we actually lower their debt vulnerability to bad actors as well.

Duncan Wood: Absolutely, plus the added advantage is that they presumably become better markets for our exports as well.

Aidan Davy: Can I maybe leave a little bit of a cautionary edge on this? I completely agree with what Duncan is suggesting, but the reality check is that within the development assistance community—at both the multilateral level and the bilateral level—we have tended to focus on governance reforms, and almost exclusively on governance reforms when it comes to the extractive sector. Multilaterals and bilaterals have retreated from putting real money into infrastructure investments, for example. Instead, they have focused on governance reforms.

Part of the challenge is that the anticipated investment on the back of those governance reforms has not materialised, so what has happened in several African countries that I can give you examples of is that those Governments have turned around and permitted projects on completely—they have essentially thrown the governance reform model out of the window for an unreformed model. I therefore think that we have to couple investments in governance reform, which I passionately believe are important in terms of realising the full benefits of minerals investments, with those infrastructure investments that make it appealing.

Liam Byrne: I am glad that we got that in. It is a really important point. *[Interruption.]*

Chair: I am really sorry; I can only apologise, as there are Divisions. This is unfortunately a situation that we find ourselves in quite often. Thank you all ever so much for taking the time. Obviously, please do feel free to send in written evidence. Our Clerks will stay with you for the next half an hour and grab a coffee and try to get some more evidence from you, but thank you all ever so much for your time.