HOUSE OF COMMONS

Business and Trade Sub-Committee on Economic Security, Arms and Export Controls

Oral evidence: Critical Minerals, HC 1795

Wednesday 22 April 2026

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Watch the meeting

Members present: Liam Byrne (Chair); Dan Aldridge; John Cooper; Sarah Edwards; Justin Madders; Charlie Maynard.

Questions 1 - 30

Witnesses

- Jeff Townsend, Founder, Critical Minerals Association;
- Dr Gavin Mudd, Director, UK Critical Minerals Intelligence Centre;
- Dr Kathryn Goodenough, International Lead (Regional Geoscience), British Geological Survey.

Examination of witnesses

Witnesses: Jeff Townsend, Dr Gavin Mudd and Dr Kathryn Goodenough.

Q1 **Chair:** Welcome to today's session of the Sub-Committee on Economic Security, Arms and Export Controls as we open our inquiry into the UK's critical minerals strategy. Thank you very much indeed to our witnesses for sparing us some time to give evidence this afternoon. Kathryn Goodenough, perhaps I could start with you. Do you want to give us a sense of what critical minerals are and why they are important to UK industry?

Dr Goodenough: "Critical minerals" is actually a term that is very well defined. They are those minerals that are important to the UK's economy but that have a risk to their supply. They can be important across a whole range of sectors, whether that be for the energy transition, defence or technology. Those risks to their supply are many and varied. They may be political; geological, but often not; environmental; or related to social aspects, so a whole range of different risks to supply. The decision on which minerals are critical for the UK is taken by the Critical Minerals Intelligence Centre, which my colleague Gavin Mudd is here representing.

Q2 **Chair:** Gavin, do you want to add to that definition? Is "critical minerals" some kind of statutory definition, or is it just a bit of policy language?

Dr Mudd: It is an approach that is used by people to decide what is important to them. We often describe critical minerals as risk management because we are trying to identify what the minerals are that are at greater risk than others, so we can work out what we do about that.

If you look at the approach that we take, we have a very comprehensive methodology, very similar to the EU or, say, the US, although the US is starting to look at some different ways. It is objective. We use a lot of data that is publicly available, including trade data and a whole range of other data. For us, that is really important. The decision about what is listed as critical, and what is still important but at much less supply risk therefore not critical, is based on an objective methodology and as much objective data as we can.

Q3 **Chair:** Is that methodology something you can submit to the Committee?

Dr Mudd: Sure. It is publicly available; it is on our website, but I would be most happy to follow up with that and send it to you.

Q4 **Chair:** How has the methodology evolved over the years?

Dr Mudd: The methodology involves looking at trade data, so that is one source, and looking at things such as where supply comes from. We have to combine things such as the imports into the UK. For a range of different minerals the UK is 100% net import reliant, so that means we have to think about global supply. If we look at something such as

niobium, for example, it is about 90 to 95% produced by Brazil. When you go through the analysis, niobium is often listed as a critical mineral. If you compare that with the likes of gallium for example, which is about 95% or so produced by China, gallium is typically always a critical mineral as well. They have different risks in their supply chain and that is what we try to do.

Over the years we have improved some of the breadth and other aspects, such as the environmental, social and governance factors. We have done some work in the past year looking at other things we can start to include to address things, whether it is the climate change risk to supply or the effect of trade policies and what that means for, say, the economic vulnerability of the UK. We are always trying to look at ways we can improve and use data in an objective way to bring the best judgment on where the risks are for the UK.

Q5 **Chair:** When you look at the methodologies that other countries use, say the United States or Europe, what are the significant differences there?

Dr Mudd: If you look at Europe, you need to meet two thresholds to be designated as critical. First, you have to be above a certain level of supply risk, after that is all calculated, and you also have to be above a certain level of economic vulnerability. When you do that and you plot the two together, you get a square, or a quadrant basically. If you are in that quadrant, you are designated a critical mineral. If you are outside that, you are obviously still important but there is less supply risk and you are therefore not designated critical.

We take a much more risk management-type approach. We take the product of our supply risk times that economic vulnerability, and that gives a criticality score. When you go through that approach, you end up getting a curve. That way, for us, something like iron is designated as critical, as is something like zinc, but, under the EU approach, they are not.

You can get other things there where the EU has said that copper is actually still really important for it, as copper would be important for the UK. Under the Critical Raw Materials Act, in terms of the policy side of things, the EU has still added copper to its strategic minerals list because that is what it wants to be able to support. So there is taking the methodology and then there is that translation into policy.

Q6 **Chair:** Is there much dispute about whether our methodology is the right one or needs refinement, or is it pretty settled in the policy community?

Dr Mudd: We develop the methodology. We are funded by the Department for Business and Trade to support the UK Government. We have always developed our methodology to capture what we believe is the best approach for the UK.

Q7 **Chair:** Your argument is that we have the right methodology.

Dr Mudd: We think we do pretty well. From our meetings internationally and from discussing it with colleagues and counterparts, our methodology is certainly well received.

Q8 **Charlie Maynard:** Thank you all for being here. I want to ask you about sovereignty and the relevance of focusing just on the UK or focusing on the UK and its allies. I am aware of various things. There is the G7 critical minerals action plan, the Minerals Security Partnership, RESourceEU, Pax Silica and all these things floating about. Which ones of those are most up and running and, in your view, heading in the most sensible directions to come up with an international plan? Do you think that is sensible, having international versus national, and who is doing what you really value?

Dr Goodenough: This is a really important question. You are quite right: the UK is never going to be able to supply all of its critical minerals, even though it has the potential to be supplying some domestically. Those international partnerships are absolutely crucial.

We have to remember that there are a lot of steps in the mineral supply chain. You start with exploration and mining, and there are some countries that are going to be key for that, whether it is Australia, Canada or many countries in Africa, for example. Then you have to think about the processing steps, so you are moving more into technology and engineering steps. There is a different set of countries that are very important to work with for those aspects. Then, of course, there is manufacturing and you also have to think about the manufacturing end of the supply chain.

Any discussion of critical minerals has to think about diversifying and developing those partnerships all the way along that supply chain to ensure that countries are working together. The Minerals Security Partnership, for example, is aiming to bring together countries that are involved in all those aspects of the supply chain. It is really important to look right along that supply chain and not just think, for example, "We must be talking to the DRC, because it has such a large part of the world's cobalt." I was in the DRC only about three weeks ago. It may be mining a lot of cobalt, but eventually everything it produces will go to China for processing, so you need to think about that whole supply chain.

Q9 **Charlie Maynard:** Would anybody else like to give views on that?

Dr Mudd: I will reinforce that it is really critical to plan how all these connections come together. That is what we need to be doing. Each of these different initiatives is aiming at that.

The other thing to remember is that some of these things take time. A mine does not happen straightaway, and nor does a gigafactory, a refinery or anything like that. They take time and we always have to be mindful of that.

Some of these questions are very policy-related. They are not areas that we work on specifically, but obviously we watch that international landscape. For us, the key message is that we have to plan what we are doing; we have to connect the dots between the exploration, the mining, the refining and the processing sides, to the manufacturing and then the end technologies, whether it be a smartphone, an electric vehicle or all the other things that we are looking for.

Q10 **Charlie Maynard:** Is the Minerals Security Partnership the one that is most active in trying to track down those supply chains and work out how they works? Is there anybody else out there who you particularly recommend?

Jeff Townsend: If you had asked me that six months ago I would have said yes, but I do not believe so any more. I believe that what we saw from the G7 CCMM meeting in Chicago in October, where the G7 met, was a split now into the G6 plus and America on the other side. America, hats off to it, has decided it is going to do something, and it is doing it very quickly. I do not necessarily agree with some of the stuff it is doing. We are seeing a split. The MSP is now being turned into the FORGE, which is an American-led organisation. Critics would argue that that is very much focused on promoting American ideals ahead of global western requirements.

The G7, however, is doing something different. If you look at what America has done recently with Project Vault, the FORGE and Pax Silica, it is very much finance-based. You can understand why; finance is the biggest issue that many companies face. However—I do not know who is a footballer or likes football here—even if you have the best-paid players in your team, if you do not fix the system in the league and you start the league 100 points behind, it does not matter how much you pay them and how good they are; they are not going to win the league. America is finding a way to fund our western players, but the system is not changing. The G7, through its standards-based market access approach, is trying to change the system. I believe that, mid term, that is the key.

Q11 **Chair:** The critical minerals list has grown from 18 in 2021 to 34 today. Gavin Mudd, do you want to tell us why the list is longer?

Dr Mudd: It is pretty simple really, or we think so. The 2021 assessment only looked at 26 elements. They were largely chosen for their emphasis in things such as the energy transition, digital technologies and speciality alloys in things such as aerospace. A whole range of other minerals and elements were not included. It was a much shorter-term project. In the 2024 assessment, we expanded the candidate list from 26 up to about 80—that includes almost every element, so we include things such as helium.

Q12 **Chair:** Is that 26 elements up to 80 elements?

Dr Mudd: Yes, 26 elements to 80 minerals, we would say. Helium is a gas. It is not a metal or a mineral, but we included things such as helium,

for example, whereas before we did not. We have effectively tripled the size of the assessment. When we are doing that, we are looking at a national assessment for the UK. We are not just talking about the energy transition; we are looking at inputs for the agricultural sector as well, such as phosphate. We are looking at other minerals as well that can be quite important for the UK.

Q13 **Chair:** Are we looking at rearmament now?

Dr Mudd: Potentially, yes. Some people have raised that concern, absolutely.

Q14 **Chair:** In the assessment that you conducted that took the list to 34, does that include the potential for the kind of future defence expansion that is now envisaged?

Dr Mudd: The way our methodology works is that it is a national assessment. It is everything that is imported into UK, things that are exported and a lot of economic activity inside the UK. Although we allocate a lot of the economic value by industry sector, we certainly do not break down the difference between, say, the civilian side of demand for things in the automotive or aerospace sector versus defence. It is a national-level assessment. Certainly, there are concerns out there about where that is heading.

Q15 **Chair:** The defence equipment plan has not yet been produced. Once the defence equipment plan is produced, do you think that should trigger a reassessment to make sure that we have all the critical elements on the critical minerals list that we are going to need for that rearmament programme?

Dr Mudd: An important point here to note, just for information, is that, if you look in the US, for example, there are multiple different critical minerals lists. There is one from the US Department of Defense, one from the US Department of Energy and a different one from the US Geological Survey. They all have different purposes. If you are the Department of Defense in the US, you need to be looking at your own specific supply chain.

That is the way criticality assessment can work. The methodology and why you see differences is because you might be doing it just for a specific sector, whether you are a company, a Government or a region such as the EU, for example. That is probably an important question for the future.

Q16 **Chair:** I have not quite followed; I am sorry. When we have some real clarity on rearmament, are we going to need to update the critical minerals list, do you think?

Dr Goodenough: A criticality assessment, which generates a critical minerals list, is a snapshot in time. It is based only on data that are available. It is not based on forecasting. That means that it is based on

trade and economic data that are available now and it tells you what the UK needs at this moment.

The Critical Minerals Intelligence Centre has done some separate foresight studies to try to understand what might be needed in the future. To bring those into the criticality assessment would introduce an element of subjectivity, which would mean that it could be, if you like, shown to be wrong as forecasts change. The thing about the methodology that exists now is that it is based entirely on data. It is completely reproducible. Anybody can go and apply the same methodology and get the same results. The key point is that, right now, criticality is based on what we need now and not what we might need in the future, because we do not have a crystal ball.

Q17 **Chair:** No, but we have some reasonable expectations coming into view. There could be a case for producing a risk-adjusted critical minerals survey.

Dr Mudd: If you look at Vision 2035, the general expectation is that a criticality assessment would be done every three years. That means that, under that strategy, we will be doing the next one next year. As I mentioned before, our report will be released sometime soon, after the election period is over. That will explore some of these types of things that we have been looking at to see how we can potentially incorporate some of these future aspects.

It is very difficult. If you are going to be incorporating a future trend for something, for one element, but not doing it for others, you are introducing a bias in the way that you do the methodology. You are not treating all elements equally then. We are trying to tread carefully there. There are things we can do and ways we can look at that. We can look at some potential changes to some of the numbers to see how sensitive that may be and what that means.

One of the most important things that we always try to emphasise with a criticality assessment is that it is what you learn about your supply chains and understanding that. When you are going through the work we have done on foresights for a lot of decarbonisation technologies, for example, different stages of the supply chain have different concentrations by country or region. It is that sort of knowledge that you learn from doing a criticality assessment that you could then apply, whether it is to defence or other things like that. That is what we feel is really important.

Q18 **Justin Madders:** You have touched on this already in terms of the reasons why certain supply chains might be more vulnerable than others, particularly because of the concentration of resources. I wonder whether you could say a little more about what the range of factors might be and how you evaluate that at each stage of the supply chain. Presumably some of this stuff goes through layers and layers before it actually ends up in the in the final product.

Dr Goodenough: Supply chains are obviously very vulnerable to disruption. Sometimes there is an assumption that it is because we are going to run out of some of these minerals and metals, and that is just not the case. There is no evidence to think that. Geologically, these minerals and metals exist and we can find them through exploration.

The challenges and reasons for disruption are very often political. For example, we regularly see export quotas and export bans that affect the supply of minerals and process of materials into the market. We see world events such as what is happening now that have an impact. Disruptions can also be environmental, whether that is actual things such as flooding, for example, in certain areas that cause disruption or whether it is down to protests and decisions taken for environmental reasons. They can be affected by social licence to operate. That is pretty common. Of course, economics is very substantially important, because the whole critical minerals supply chain is based on the private sector and being economically viable. Those are some of the key aspects that can disrupt supply chains.

Q19 **Justin Madders:** Can I push a little bit more on this suggestion that we do not need to worry about the source of it because there is enough to go around? You have mentioned already that it can be subject to monopolies and political influence. Is it not also the case that it is about how much physically you can get out at any one time, and then all the other parts of the process are dependent on that, and indeed on whether there is a problem in another part of the process? I would say that it is not the case that we should not worry about the source of it, because it is all dependent on who is getting it out and what they are then doing with it.

Dr Goodenough: Of course you are right that exactly where mining is being done is really important and concentration of supply is vital. In terms of whether we are actually going to run out, it is really important to understand that there are often studies that say, "These are the resources that the world has of"—let us say—"the rare earth elements and that is all there is," but the terms "resources" and "reserves" are dynamic terms. Resources and reserves grow as mineral exploration is carried out. Those terms do not tell us how much there is actually in the earth's crust; they tell us only what has been explored. Again, that is a snapshot in time.

Dr Mudd: Can I add some extra points there? When you look at a range of different critical minerals, they are actually very small markets. If you are looking at tellurium, for example, the last time I checked it was $100 million total, globally. When you are looking at some of these elements, only a handful of suppliers can meet that market. You could probably increase that market multiple times, sometimes by an order of magnitude and maybe even more. We know we find tellurium in copper and gold deposits. You can potentially extract it at lead smelters as well.

When you are looking at a lot of that, it means that a small number of suppliers can actually control the market, because they are generally

often small markets. That is not true for all critical minerals, but certainly a good bunch. These are the ones that we often call by-products, which are extracted only at things such as smelters, refineries and things like that. You need only a small number to meet global demand.

The point is a reasonable concern, but we often say that the processing stage, whether it is smelting or refining, is where the bottlenecks are. When you look at the landscape, that is where China has been very successful. It has built that infrastructure. If it cannot mine it itself, it will import it. It processes, smelts and refines. It has added a lot of these circuits there.

We know, for example, if you take indium—indium is in the indium tin oxide that is on the colour screens for all our phones, laptops and so on—we could probably triple global indium supply, which comes from zinc refineries, without even having to mine an extra tonne of zinc. Two thirds of the world's zinc refineries do not have a circuit to be able to extract the indium, for example. There are some indium circuits at zinc refineries in Europe, for example, but we do not have a zinc refinery here in the UK.

Those are some of the things that we have to start to think through, and that is that mapping. We were talking about some of the international partnerships and so on; that is the sort of landscape we have to really map out and understand. It is understanding where that processing happens.

The other point with that is, as you go further down supply chains, the amount of publicly available data decreases quite significantly. From the British Geological Survey, we have excellent data for the mining stage. For some elements we have really good data on smelting and refining, but neither we nor the US Geological Survey, for example, has a time series for refining of rare earths. We would love to, but we just cannot get a good enough quality dataset that we are confident in.

Jeff Townsend: Yes, the monopoly of the sector is absolutely key. China's control of the midstream fundamentally is the biggest vulnerability to the western world. One thing that gets overlooked is the difference between strategic value and commercial value. We know we need critical minerals and materials for strategic use, but they are potentially not commercially viable to be done by the private sector. That gap between the commercial value and the strategic value has to be filled by someone financially. Private sector finance is often unwilling to do that, and nor should it. That is not its job. It has to come down to Government intervention.

Q20 **Chair:** There is a public good in derisking that supply.

Jeff Townsend: Absolutely, yes. We see that we have, in the past, perhaps got that wrong.

Q21 **Chair:** In what sense?

Jeff Townsend: There is a company in the north-west called Less Common Metals.

Justin Madders: It is in my constituency.

Jeff Townsend: Right, so you know Less Common Metals. It is one of the few places in the western world that can do rare earth alloy-making. It came to the UK Government 18 months ago and asked for £20 million to increase its size, and the UK Government said, "No, we can't find that money for you." It has now been bought out by an American company for £200 million. We had one of the strategic projects in the western world. We had it and we now do not own it.

I am not saying that there is a problem. Perhaps the Americans will invest in it and increase its size—I hope, Mr Madders, they will—but we are no longer the kings of our own destiny in that situation. When we talk about vulnerability, understanding the difference between commercial value, which the Treasury often goes on about, and strategic value is something that needs to be better understood.

Chair: It sounds like a case for reforming the Green Book, Mr Madders.

Justin Madders: It certainly does, yes.

Q22 **Sarah Edwards:** Building on some of the conversation about the risks of having to go to so many different places for our minerals, we have a very handy table here that is illustrating the point you mentioned around the DRC and cobalt. It has 62% of global concentration there, while 24% of copper is in Chile and 63% of nickel is in Indonesia. South Africa has 37% of manganese. We see that we have to go very far to get these things and they have to be refined somewhere. I was wondering what your commentary might be on the risks to those supply chains.

One example is that we also have geopolitical tensions and we know that the race at the moment across the globe is for resource. Where those resources are now is obviously in this new age of electrification and highly advanced products. There is that notion that eastern Ukraine, for example, is well known for having lots of minerals there. Was that a driving force as well? There is discussion about it. I wondered whether you could comment on the moving tensions around the world, where it is that we are focusing and perhaps how it is that we derisk some of those elements.

Jeff Townsend: There is a joke in the mining industry that, at the bottom of every mine, you will find a Cornishman. The idea was that, at one point, literally every mine had a Brit in there, telling people what to do and how to do it. We were one of the powerhouses. We seem to have given that up.

On the global scale, we cannot change where the rocks are but they will, by and large, go to China for processing and refining. How do you

convince someone in South Africa or Malawi to let a Brit take over the permit and the rights to that mine? We are consistently losing that fight against China and its go-out policy, and now against other nations that are backing their companies to go and do it with more money and more political clout. Things have changed. The critical minerals strategy says that we need to make a change and be more progressive in the way that we build those international relations. I feel that it is coming, but we are not as far ahead as others are.

I know a company that was operating in Africa and it asked the British embassy to go and talk to the Mining Minister on their behalf. They said, "We can't do that, but we'll let you hold a meeting in our hall in the embassy." Another nation had five or six people from their Ministry straight over and talking to the Mining Minister. Suffice to say, the British company did not get the licence.

Q23 **Chair:** Why did that happen?

Jeff Townsend: Part of it is perception. "Mining" is a dirty word in the UK.

Q24 **Chair:** Is that a recent story?

Jeff Townsend: No. Perception has been a major issue that has held back the number of people who want to go into this, the number of people who are willing to invest in this and, frankly, the interest of Governments in getting involved directly and visibly in this sector. The reality is that, if you are going to build an economy that is going to last for the next 100 years, you do not have a choice. You are either going to do it or you are not going to do it. If you are going to do it, we have to change that perception.

Q25 **Sarah Edwards:** We have some domestic production, although it is very small, and we have an issue around the refining. We have a very tiny amount of capability, so we need to build that out. Some of the information that we have received is that other countries are ahead of us. You gave one example there.

We have things such as Cornish Metals, where the UK National Wealth Fund invested £28 million or so—that is fantastic and lovely, but the US is looking much more strategically at this and has offered it $225 million in financing. That is obviously to shore up its own access to that refining capability as well.

Where do you think we should be focusing? Do you have examples that you can share of how we get to that place? Its capital-intensive nature makes it very difficult, and we have heard many times in this Committee about the US often being the place where capital is found. Does the UK need to do more? The National Wealth Fund is great; it made the first step, but it clearly was not necessarily quite enough to give it the boost that we might need. Someone else has swooped in and found an opportunity.

Jeff Townsend: Hats off to America, because it has decided it is going to do this and has thrown a lot of money at it. Has it always got its investments right? No. In the UK, I do not think that is something where our Government could make a wrong decision and get away with it; I think that there would be some issues in the press around that.

The amount of money that goes into the whole mining supply chain, so mining, processing and refining, is billions. When the Government come out and say that they have £50 million for their critical minerals strategy, it is not enough—that is not a criticism about DBT, the civil servants or some of the politicians and the Minister; the Minister is actually a great guy and doing some good work—but it comes back to reality. Are we willing to put the money in? Are we willing to back this and make it happen? That is, financially, what we need to do.

Having said that, there is a Canadian company where the British Government have worked incredibly hard and managed to get it to potentially bring its boron speciality processing plant to the UK. Why is that important? There are only two places in the world at the moment you can get boron. One is Borax in California and the other one is Eti Maden in Turkey. Borax has about seven years left of boron and Eti Maden has just signed a processing agreement with China. The fact is that the UK may now have something of a similar size to Eti Maden, where the western world can secure its boron from. Strategically, I cannot think of a more strategic project at the moment in the world, so hats off to the UK Government.

Q26 **Chair:** Can I check what the partnerships are that we might need to forge? When we look at the data we have, we are looking at 85% of our graphite from China, 60% of rare earth elements and 46% of our phosphate. You can see a strategic dependency on China. Are there other countries in particular that we ought to be partnering with to derisk some of the supplies that are important to us? If there was a shortlist of countries, who would be on it?

Dr Goodenough: There is a lot of work being done to look at diversifying the supply and those different partnerships. That is partly my role at the British Geological Survey. We have been talking to a lot of people from a lot of countries, including some of those that are on your list. For example, you mentioned Indonesia and nickel, but the Philippines is the alternative that is perhaps less connected to China. It is recognising those key countries where there is still a supply chain and there are opportunities.

I have to back up what my colleagues on the panel have said. There are so many cases where the UK has had an opportunity and we have lost out. For example, there is a rare earth element mine developing in Angola. The company is headquartered in the UK. The plan was to bring the mineral concentrate to the UK for refining. There was a need for some support, not even capital investment but looking at things such as

energy prices and ways to support those. In the end, again, it is the US that has stepped in there.

Q27 **Sarah Edwards:** I wanted to follow up on the point that you made there about how the company was hoping to bring it back to the UK for refining. We know that one of the UK Government reports last year, in 2025, said that energy costs are too high for the production of UK critical minerals to be competitive. I wondered whether, especially as we talked distinctly about the challenge around energy prices, they are making the development of a business case for our own small share of refining and production even more problematic.

Dr Goodenough: Energy prices are a huge challenge for the industry. We have a really good example, because the UK has fantastic potential in south-west England of course, but actually right across the UK where we have a real history of mining. If we look at what has happened recently in Cornwall, we have had one of the significant lithium prospects being placed on to "care and maintenance". That is owned by a company that also has a potential mine in France. It has weighed up which is more prospective for them in terms of the entire environment it is going to work in—France or the UK—and it has decided France. Things such as energy prices are going to be a huge factor in that.

Q28 **Chair:** We are going to have to conclude the panel in a second. Would it be possible to give us your personal views on which are the top 10 nations that we ought to be forming these partnerships with? Is that something that feels doable?

Jeff Townsend: Canada and Australia are obviously No. 1 and No. 2. We probably have to have some kind of relationship with the DRC around cobalt. On the political side of things, we have to have a close relationship with the EU around critical minerals. There is also the lithium triangle, so down in South America.

Dr Goodenough: I am going to completely agree with Jeff. Canada, Australia and the EU are really important in terms of mining and critical minerals. For a personal view, I am going to say that, yes, the DRC is important, but there are many countries across Africa that are important. South Africa, of course, is really important. In Latin America, it is certainly Chile and Argentina, but Brazil is also a major player there. The Philippines is very important. We have to mention China; however we may work with it, China is incredibly important in this setting. Those are the key countries, I think.

Q29 **Dan Aldridge:** Which countries are making the most progress in diversifying their critical minerals supply?

Chair: Which are the countries to teach us most?

Dr Mudd: There are not some great examples out there. There are certainly some elements where there is some good progress. Japan has had JOGMEC for a long time. The US is starting to make sure it is

investing, so it is investing in gallium supply in Australia, for example. We are starting to see some of those changes. When you look at the landscape at the moment, China has leap-frogged way ahead, so we are all trying to catch up. That is the fundamental problem at the moment.

Q30 **Dan Aldridge:** There is a question about capital as well. Is the UK thinking seriously enough about its capital? Can we afford to do what we need to do? Is there enough money on the table?

Dr Mudd: There are probably two points I would make there. First, can we afford not to engage and do it? As Jeff said, this is our future that we are discussing. Also, a lot of global-scale mining companies are actually based in London—they are headquartered in London—and a lot of our finance for mining is actually through London. Certainly the strategy links those things up, so that is what we need to be doing more of.

Not all critical minerals are the same. They are all very different. Some are much larger in their scale; others are really small, such as tellurium. A one-size-fits-all approach is not the way to go about it. We have to make sure that we are thinking about, "For this element, we have this strategy with this country or countries," then for another element, we may choose a different strategy and a different way of financing, because the markets will be different, the technology is different and so on. That is what we always need to keep in mind.

Jeff Townsend: There are three points. One is that a lot of the companies do not need £75 million. I love the National Wealth Fund, and I love what it has done in the UK, but its minimum ticket is £25 million—and that is alongside two other players, so £75 million. We need £20 million here and £5 million to £10 million there, so smaller amounts.

The second one is around risk appetite. This is a highly risky industry. The industry, the private sector and the Government do not want to take the risk. If we go back to strategic value, there is risk, but there is reward.

The third one, and it is slightly in line with what you said, is on insurance. Getting companies to insure people to use new technology or to insure new mines is a nightmare. There is one country that has done all of this well, going back to your point, Chair: Saudi Arabia is doing an incredible job of attracting midstream processing, so there is something to learn there.

Dan Aldridge: We are talking about the money situation. The Government are talking very differently—*[Interruption.]*

Chair: There is a vote in the House. The panel is suspended.

Sitting suspended for a Division in the House.