



HOUSE OF COMMONS

Business and Trade Sub-Committee

Oral evidence: UK economic security, HC 835

Wednesday 21 May 2025

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Watch the meeting

Members present: Liam Byrne (Chair); Sarah Edwards; Charlie Maynard; Gregor Poynton; Matt Western.

Questions 88-115

Witnesses

Mike King, Vice President, Business Development and Government Relations, Cornish Lithium; Paul Atherley, Chairman, Pensana; and John Lindberg, Policy & Government Affairs Principal, International Council on Mining and Metals.

Examination of witnesses

Witnesses: Mike King, Paul Atherley and John Lindberg.

Q88 Chair: Welcome to today's sitting of the Sub-Committee on economic security. We are pursuing our inquiry into the economic security strategy of the United Kingdom. I am absolutely delighted that you have been able to join us for this first panel, which is zeroing in on critical minerals and the question of whether the UK has the right strategy in place to safeguard the critical minerals that our economy needs. Mike King, I will start with you. This is a baseline inquiry, so we are building up the evidence base on the issues that are at stake and the things that we need to worry about here in Parliament. From your point of view, how would you define a critical mineral?

Mike King: That is a very good question. A critical mineral is defined by two factors: how important it is to the development of an economy and the technology; and how rare, or scarce, it is as a resource. Those things with high criticality sit on the high end of both those axes. The fairly recent work by the British Geological Survey on criticality, which informed the current Critical Minerals Strategy, has quite a comprehensive analysis. It defined 10 or 15 minerals that are critical to the future of the UK economy, many of which cannot be sourced in the UK, but some of which can, such as lithium.

Q89 Chair: How much would we expect that list of critical minerals to move around over the course of the next, say, 10 to 20 years?

Mike King: Some minerals on there, some metals—I will talk to lithium specifically, for example—are unlikely to move off the critical minerals list. In fact, if anything, the level of demand will outstrip the supply by about 2030, based on all current projections. For other minerals, the level of mining activity will probably increase the level of supply, so some of the more niche minerals, which are critical because of the scale of production rather than the increasing scale of demand, may well move off.

Q90 Chair: Because they become more abundant and readily available.

Mike King: Because they become more abundant. There is always a balance between how abundant they are and how commercially viable it is to extract them. There is some movement around the margins, but metals such as copper, lithium, tungsten or tin are all fundamental. They are all about either storage or conduction of electricity, and the world is moving towards an energy system that is much more dominated by the generation and distribution of electricity, as a replacement for fossil fuels, than it ever has been.

Q91 Chair: If rarity is one of the two factors in defining a critical mineral, how rare does a mineral need to be to become a critical mineral?

Mike King: The rarity is a function of the volume of supply versus the demand. Lithium, as a mineral in the earth, is extremely abundant, but the level of production versus the level of forward projected demand is nothing like enough to satisfy future demand.



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Q92 **Chair:** Does that mean we can basically judge questions about rarity by just looking at the futures prices?

Mike King: I do not think you can look at the futures prices, but I think you can look at long-term projections of demand for the use, which is not always necessarily reflected in even one, two, three or four-year forward strip prices for the commodities. Again I will refer to lithium, but it is a good example. At the moment the lithium price is very subdued—around \$10,000 or \$11,000 per tonne of lithium carbonate equivalent. That was driven down by a big increase in the amount of mining activity when the price went up to \$80,000, so it has rebalanced. As we go forward to 2030, all of the predictions, which show an excess of demand over supply, show that going up to \$30,000 and \$40,000 per tonne, and going forward.

Q93 **Chair:** But at this stage we could not read a market signal from the futures prices.

Mike King: I do not think we can, no. Again, if you looked two or three years ago at the potential projections of future demand for electric vehicles in the UK, for instance, that was a proxy for the level of lithium demand. That demand for electric vehicles has dropped, therefore the demand for lithium has dropped within the battery manufacturing sector that services UK vehicle manufacturing.

Q94 **Chair:** So in thinking and planning for a strategy, the Government has to put together its own forecasting methods. It cannot merely rely on markets to send price signals that might help us understand what is going on.

Mike King: I think the market is more complex than that. The supply chains that ultimately land up in products in the UK market, or any market for that matter, are as dominated by fairly unpredictable levels of political risk as they are by price risk. The two things are conflated. At the moment, for instance, the lithium market is totally dominated by China, and China has started to weaponise some of the other rare earths and rare minerals that it either produces or processes. It has started to reduce access to its direct lithium extraction technology to other jurisdictions, and all of that affects the ability of supply chains to remove that political risk.

Q95 **Chair:** So you have some unpredictable policy and political risks that may affect the calculations and are perhaps hard for markets to read.

Mike King: Yes, and we would say—it will not surprise you that we would say this—that the way the UK Government, including Government policy, Government strategy and Government investment for that matter, can help mitigate that political risk is to promote and incentivise domestic production, and to look at all elements of the value chain from the raw materials through to the midstream, which is totally absent in the UK at the moment, and on to battery cell manufacturing, which is starting to emerge.

Q96 **Chair:** John Lindberg, what is your view on how we best think about what a critical mineral is?



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John Lindberg: What is really clear is that when you look across the UK and other key jurisdictions, we will not find a universally accepted definition of what a critical mineral is. That is something that is really important to note. We also note that the classification is a function of needs and priorities, both of policymakers and of industry, as noted by Mike.

In some cases we have markets that work to some degree, although I think we can debate how well they work for some of the bigger critical minerals that will continue to be on the list—lithium being one and nickel being another. But a lot of what we call critical minerals are niche minerals that are so small that there is not really a market that we can talk about in any sense. For many rare earth elements, you have in some cases a handful of mines producing these minerals, often as a by-product of the main commodity that is being extracted, and to date, there has not been any commercial incentive or, indeed, viability in extracting those niche elements.

Frankly, to date, we have not really had to think about that. But obviously, as we enter a new landscape, primarily geopolitically, and—as Mike said—we start to see the weaponisation of minerals, that shifts the conversation away from where we started, because critical minerals were fundamentally about supplying the transition to a clean energy economy. That is where we started, but that has changed.

Q97 **Chair:** I remember looking at this subject on the Foreign Affairs Committee two or three years ago, and it was clear then that risk levels were going up. It feels like, in your judgment, risk levels are now much more elevated than they were two or three years ago. Is that fair?

John Lindberg: Absolutely. We have definitely seen risk levels increase. But I also think we need to recognise that even if, two or three years ago, policymakers around the world started to wake up to the fact that there are considerable vulnerabilities, they have existed for decades. This is not a new problem; we have just woken up to it. But to rectify it at the scale required for this to make a material change, we need holistic policymaking and a significant amount of finance behind it, because it will take time to rectify the imbalance that has sat there for a long time.

Only today, the IEA released its report and we see a movement in the opposite direction. We see further concentration of most supply chains into the top one or, in some cases, the top two producers around the world. So the rhetoric and the reality on the ground are completely divorced.

Q98 **Chair:** Paul Atherley, thank you for battling through the House of Commons perimeter. How do you think about the minerals that are critical, and how do you think Parliament should define them?

Paul Atherley: I apologise for being a bit late. If I may, I will take a much more holistic view. If you take the 19th century, the world was powered by steam and from coal. In the 20th century, it was oil, which went into plastics and the internal combustion engine. We led the world in

the industrial revolution with coal and we were a leader in internal combustion engines during the oil-fuelled century.

We are now into the 21st century, which is the electrochemical century, and China is dominating. China is making it very clear that it wants to dominate the new generation of the way the world works. Just one simple example is electromotive power. That is what replaces internal combustion engines. It is what an electric vehicle is and what an offshore wind turbine is. This is the biggest energy transition in history.

China has set out to dominate it, and it is dominating it in three ways. One is, as you heard from John, almost unlimited funding: state-backed funding and private funding. Secondly, the Chinese have recognised that the key to it is the midstream processing. They do not have all the mines around the world, but if you can create overcapacity in the midstream, you can then bring in the raw materials from Australia, Africa and South America and capture the midstream.

Once you have captured the midstream, you own the downstream and you have to do only one more thing. Counterintuitively, the Chinese have unleashed a sort of Darwinian competition among electric vehicle makers. Three, four or five years ago, there were 400 start-ups in China that were creating electric vehicles. Now there is virtually one, and that is BYD, backed by Warren Buffett.

By the bye, another start-up revolution is happening in China and that is humanoid robots. We are the last generation that will grow up without a humanoid robot in our household. They are examples of the electrochemical future for us. China dominates that also.

The final thing I will say is that, as John and Mike mentioned, the rest of the world woke up to critical minerals two or three years ago and we are now seeing quite significant policy changes towards them. As John was saying, it is quite hard to define what critical minerals are. My answer is that critical minerals are the enablers of the electrochemical revolution. Whatever they currently are, they are the ones that are going into the batteries and the things that we need to enable this revolution.

To be frank, that could change—for example, battery chemistry has changed quite dramatically over the last five years. It was originally a ratio of 8:1:1 of nickel, manganese and cobalt, and that quickly degraded to 5:2:3. We then had these very low-powered batteries that have lithium iron phosphate, and we now have a manganese revolution, in which we use lithium manganese iron phosphate. Within five years, we have gone from cobalt-rich, energy-dense batteries to manganese-rich. In answer to the question, “What are critical minerals?”, they are the critical minerals that are the enablers of the current technology in the electrochemical revolution.

Chair: Thank you for setting the stage for us so clearly.

Q99 Sarah Edwards: To pick up on that point, when you came to the



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Committee in 2022, Paul, you said that the funding specifically had paled in comparison with other rivals. Does that remain your view, and if so, why?

Paul Atherley: On that particular question, when I spoke last time, the Biden Administration had introduced the Inflation Reduction Act, and I gave numerous examples from Australia and elsewhere where funding was going into developing their supply chains. What has changed now is that we have seen Trump come out this week and talk about a supply chain resilience initiative. The difference is in recognising that, rather than trying to back winners and find the right mine or the right critical mineral, it is about creating the environment where people are enabled to realign supply chains. To that end, I think the UK is very well placed, despite the fact that, compared with the amount available to other countries, as I have previously indicated, money is relatively low and more challenging to obtain.

I was just at the Choose France event at the Palace of Versailles earlier this week for a very nice dinner with President Macron. I met a Minister who was talking about investing €300 billion into an HVDC electrical distribution system. That is great for France, but we already have that. We have chemical clusters in places like Teesside. We have the world's biggest offshore wind farm of 3.6 GW in Dogger Bank, with the HVDC cable already connected. We do not have as many funds available in comparison with these other competing friendly nations, and we cannot compete with China, but we have this amazing chemical engineering and chemical industry legacy.

My argument is that our greatest gifts are chemical parks and bad weather, meaning Teesside, Saltend or Humber being connected to Dogger Bank, and it is the same in the Irish sea. The infrastructure that we have invested in, and several hundred years of chemical industry, are worth more than new funding, and we can piggyback off that.

I have one further example, if I can just go down this rabbit hole. If you go to Teesside, there are gigawatt-scale investments going in, such as a gigawatt-scale data centre, gigawatt-scale BES—battery energy storage—gigawatt-scale net zero deployment of captured carbon that will be embedded in the Endurance formation, and 1.2km-long factories building the stanchions for offshore wind turbines. We are already at gigawatt scale.

I founded a company called Tees Valley Lithium, which I am here representing today, and we are working with a \$6 billion US decarbonisation private equity fund that loves the UK because it has all this established infrastructure and all those sovereign benefits of being able to invest into this country. That is a very long answer to say that we do not have much money available in this country, but we have fantastic legacy infrastructure that we can build on.

Q100 Sarah Edwards: That's great—that is one of our strengths. You have given us some really good examples. Are there other things the



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Government could be doing? You said that money might be a bit of a challenge; what other things could the Government do to help with the competitiveness side?

Paul Atherley: If I could leave the Committee with only one thought, it would be energy prices.

Q101 **Gregor Poynton:** Mr Atherley, you talked about China trying to be the market leader in this space. What other countries does the UK most rely on for our critical minerals? All the evidence we have received suggests that it is perhaps difficult to define, but which countries do we most rely on as things currently stand?

Paul Atherley: As lithium took off five to 10 years ago, Western Australia went from producing virtually no lithium—a small amount—to now producing 51% of the world's lithium through hard-rock spodumene mines. China has invested \$750 billion across Africa into mines, railways and ports to access critical minerals. There are lots of mines and lots of critical minerals available around the world but, as Mike indicated, what we need to worry about is where the midstream processing is.

Q102 **Gregor Poynton:** Mr King, do agree with that? Do you want to add any countries to the list?

Mike King: The raw materials are coming from Chile, Argentina and South America, and some parts of Africa are starting to develop. As Paul said, Australia is the biggest producer. Lithium is incredibly abundant—it is probably one of the most abundant elements on Earth—so at the moment it comes down to market control. The midstream is concentrated in one place, and one of the reasons why the midstream does not have a presence in the UK—to come back to what Paul said; I am sure we would all echo this—is the base energy price. Our industrial-scale lithium development will develop 10,000 tonnes per annum. The biggest element of the operating cost by far is the energy price.

Q103 **Chair:** The implication of what you are saying is that we cannot safeguard the nation's supply chains effectively until we bring energy costs down.

Mike King: The people who are investing in the large-scale midstream developments look at it from an internationally competitive perspective, and they will go to where the lowest operating costs are—and capital costs for that matter, but particularly operating costs—because it is an energy-intensive industry. Is there support for energy-intensive industries in the UK? Yes, there is. But when you bring all that support together, does it give you a bottom-line power price that competes with Norway, Canada or the US? The answer is no. So the investors in that capacity will go to where that power price is the lowest, or is subsidised very heavily like it is in China. By definition, that preserves that political risk within our supply chain.

John Lindberg: The only country that I would add to that list is probably Indonesia, where we see a fairly substantial concentration of the nickel industry. That has happened quite rapidly. But as with most things critical minerals, the way still goes through China. If you look at a lot of the



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investment that has flown into Indonesia, it has been quite aggressive in its use of various policy levers, including export bans, for instance. It has become a major player in nickel but, again, that is backed by Chinese finance, and often by Chinese companies that have gone in to operate in-country. Other than that, I would echo that all roads will more or less go through China.

Q104 Gregor Poynton: Interesting. You have all spoken clearly and forcefully about energy prices. Is there anything else the UK should do to try to ensure that we have the supply chains so that we are not as reliant on the countries that have just been mentioned?

Mike King: In domestic lithium production, which is a good example, we always say that there are three p's. We have touched on power, and the second is people, by which I mean the availability of skills to drive the scale of industrial development that we all believe could be achieved here. The third is the planning process.

Our project has been designated as a nationally significant infrastructure project, which does expedite planning. There are amendments and further reforms going through the House that would allow that to be further expedited but, again, when investors are looking at this—and it will require a huge amount of investment—they are looking at the pace at which they will get their return and how competitive the operating costs are.

There are models: look at what has happened with the expansion at the battery plant in Sunderland. That was backed by the National Wealth Fund—we were very lucky that we were their first equity investment—with underwrite from the National Wealth Fund and UK Export Finance, and additional funding from the automotive transformation fund. That has facilitated that investment. That is effectively a subsidy that offsets some of its other un-competitiveness elements.

John Lindberg: I absolutely agree with the three p's. Looking at it from a slightly more long-term perspective, the fourth thing we would point to is leveraging the UK's academic prowess. We have a brain trust in this country, not only in the upstream but, as Paul has mentioned, in the midstream segment, which is critical. It is a very dynamic piece. The chemical composition of batteries will change and the way that we produce energy will continue to change.

The UK has always been a frontrunner when it comes to innovation, which the UK should redouble efforts in—providing support for universities to do the sort of innovative work that they do best. In China, they have thrown a lot of money at the universities and research institutions to become the leading edge in a lot of the chemicals and in refining the midstream part, because they have made a long-term bet in that segment. There is absolutely no reason why the UK would not be able to do the same. But again, it would take long-term planning and finance for that to materialise.

Paul Atherley: Can I add three points? First, Tees Valley Lithium is set up not just as a domestic midstream refiner but as an exporter. It is in the

Teesside freeport. The freeport provides inbound processing relief so that we can bring in high-value material from South America, process it, use it domestically and export to Europe.

The second thing is that you asked how to offset power costs, and when we look at ultra-low power costs—say, hydroelectric power in Norway and maybe nuclear in some parts of France—they do not often come with the cluster effect. Teesside has an amazing cluster: you set up there, we have people to buy some of our products and we have people who do battery energy storage right next door—we have all the skills available to us.

To secure our long-term future—this is what the French Prime Minister said at the address—we have to get past our productivity slump. Productivity is flat in this country. He talked about the French disadvantage for labour productivity and said there are three ways to solve it. The first is robotics, the second is automation and the third is AI. That is what we are looking at going into the future.

We can leapfrog the Chinese by hooking up with offshore wind, having zero-carbon electricity—that is low-embedded carbon into our product—and using electrochemical technology, which is what Mike and John were referring to, but implementing and operating it using automation, robotics and AI. That is our future. That is where our universities and all our skillsets can take us into the future. There is no point trying to compete with China on a labour-versus-labour basis. It makes no sense at all. A slight frustration is politicians' fascination with putting on a hard hat and a hi-vis.

Chair: We love that.

Paul Atherley: We would prefer to see you all in a lab coat in front of a computer using a digital twin to operate a plant out of a control room somewhere remote from the plant—

Chair: We can probably do that as well.

Paul Atherley: And for the factory itself to be a dark factory. BYD's cars are made in dark factories. There are no lights because you do not need any people.

We are just trying to say that to compensate for slightly elevated power costs, you take away the disadvantages: capture the fact that we are in Europe, which is the growing market, through a freeport, use the cluster effect and go to automation, robotics and AI.

Q105 **Chair:** Mr King, with the current planning process, how long would it take to get what you want up and running?

Mike King: We were designated a nationally significant infrastructure project in July or August—it was one of the first decisions the new Government made. We are hoping to get it through before the end of next year. It is probably a two-year process. That is probably at the quick end of the historical record for the process, but that is the timeframe within

which the project can be ready to start construction, so that is what we are working to.

Chair: It does not sound very quick.

Mike King: No—and you sound like one of our investors, Chairman. This is a major £400 million CapEx development in a peripheral part of the UK economy, so in planning terms that is relatively quick, given the scale of what we are seeking to deliver down there.

Q106 **Chair:** You are nodding, Mr Lindberg.

John Lindberg: Yes. To provide some context to that, two years might sound really slow given the urgency of the issues at hand, but if we look at it globally, for a key commodity like copper, we see a huge supply deficit coming our way. The global average time from discovery to the start of production for a copper mine is 17.5 years, and there are plenty of mines that are pushing 20 to 25 years. So if he gets through that process in two years, he will be the envy of the global mining industry—let's put it that way.

Mike King: We started with a brownfield site. We are repurposing a former china clay pit to deliver lithium, so the things that take up all the early years have been dealt with historically. Lithium was first produced in that particular area in the second world war—it was used in scrubbers for submarines—so it has been going for a long time. I was talking specifically about the latter part of the planning process.

Chair: That is very useful. Thank you.

Q107 **Gregor Poynton:** I have a question about politics. You are saying that the Government have taken a hand in this area. When you talked about it, it felt like there are very hyper-rational investors making judgments on energy prices, planning and so on, but are you seeing Governments distort the market with protectionism, and is that on the increase?

John Lindberg: We do see a trend across the world that Governments are very involved in the critical minerals marketplace. We have seen more and more policies put in place—for example, I mentioned Indonesia earlier, but in the DRC, Zambia and Zimbabwe, I think, we have seen export restrictions and bans put in place, essentially to try to stimulate more of the value-add happening in place.

For a lot of the critical minerals that we need, I am not sure that we can talk about markets, or whether they are functioning or not. There is Government intervention across most of them, and especially the more niche ones. We absolutely see direct Government intervention through policy, or Governments backing companies to make investments in resource-rich countries. We see that especially in Africa, where state-backed companies might come in to extract, but also do infrastructure deals backed by state finance. This is a very challenging dynamic, especially for listed companies that do not have state backing competing against those that do.



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Chair: Mr King, do you have any views on that?

Mike King: I agree with everything that was said. As a small start-up company, we put together a manifesto about what Government could do. In essence, we had three simple asks, and they were all non-financial. They were about setting a production target that gave investors the confidence that it was going to be well supported and perhaps incentivised, and—coming back to the planning system—rationalising the planning system to allow it to be expedited. That type of direct intervention is happening elsewhere in the world. The Inflation Reduction Act is a good example of how it was done in the US: that was direct intervention that had an impact in the market, but it was an intervention at a project level that drove market development.

Paul Atherley: I agree with everything that has been said. The supply chain concentration is phenomenal: 44% of copper and 98% of manganese is processed in China, so you need some form of Government-backed intervention to realign supply chains. Whatever form that takes, it is definitely Government-supported and Government-backed.

Q108 **Chair:** We have established some pretty good definitions for critical minerals, we have established that the risk to those minerals is going up, and we have understood that protectionism is a rising threat, too. Given all that, and that we need to make recommendations to Parliament on safeguarding our country's economic security, do you think that Government strategy today is in the right place to safeguard the supply of the raw materials we need for the future? Mr Lindberg, if you were marking Government strategy today, what would you give it out of 10?

John Lindberg: I would probably give it, depending on which grading scale we are using, a C. Government policy is waking up to the challenges at hand. We probably still need a degree of realism to be injected. To achieve the realignment that Paul has mentioned and to secure the UK's access to critical minerals will require a very concerted effort that goes beyond, if I can be very honest, platitudes. We have been advising the UK Government—both the current one and the previous one—and other Governments, and if there is one thing that we see across western Governments especially, it is a propensity to talk the talk really well, but not walk the walk. It is about understanding that this is a matter of economic, national and energy security, and that is costly and will take time.

Q109 **Chair:** If you were to list a couple of things that Government strategy needs to really get sorted, what would they be?

John Lindberg: It is absolutely about getting a grip on the energy issue. I would argue for the importance of not only continuing to build international partnerships but of being willing to put money behind those partnerships. There is a golden opportunity right now. With the US Administration flip-flopping on the issue, there is a real leadership opportunity for the UK. It is not a huge investment but, again, it is about realising the strength that can be built through partnerships. The UK has

made a good start, but there is definitely scope for a lot more collaboration with like-minded Governments to deliver the outcomes that we seek. The minerals security partnership is a great example of that.

Q110 **Chair:** Mr King, where is Government strategy today?

Mike King: I would probably say C+ or B-, or a little more. I say that because we have benefited from the first equity investment from the National Wealth Fund, which sends the right signal.

Chair: There have been some positives.

Mike King: But we wait with bated breath for the Critical Minerals Strategy, which we believe is about to be published alongside the industrial strategy. We hope that it is going to be a bit more hard-edged than the previous Critical Minerals Strategy, which was rather—

Q111 **Chair:** Where do those edges need hardening?

Mike King: They need hardening around establishing a production target for the industry to get behind, be it the type of activity that Paul undertakes in the Tees Valley or that we undertake in Cornwall, or the broader industry. We have talked about the power price, but the planning system also needs to be rationalised.

Also, if we are going to produce battery-grade lithium in the UK, that has a tremendous advantage of very positive traceability, so any end user can be guaranteed that that has been produced in a well-regulated jurisdiction. A traceability standard that is consistent with our main export markets—the EU and other markets that will use the product—is critically important. It is about stating that not in the form of aspirations but almost in a quantified form, particularly for the production target.

Q112 **Chair:** That is incredibly helpful. Mr Atherley?

Paul Atherley: I am a little more generous: I would go for A-. I think Teesside is world-class—it has everything—and if Sarah can fix the energy prices for us—

Sarah Edwards: I will do my best.

Paul Atherley: It will be the best in the world.

On the point that Mike was making, we are looking to export battery-grade hydroxide or carbonate, either to the UK or to Europe. We have Europe's and the world's biggest OEMs coming to us and saying, "We want to buy from Teesside, because it is in the European Union and the REACH regulations, and it will fit the battery passport." You will get all the EU benefits and you are hooked up to offshore wind, so you have arguably the lowest embedded carbon of any hydroxide or carbonate on the planet. Everything that Mike was saying—about those qualitative factors that we can provide to not just the UK but to Europe—puts us in a very strong position, building, again, on our chemical engineering heritage. So it is just the energy prices that will get us there.

Q113 Matt Western: One of you mentioned the Inflation Reduction Act—that massive intervention. Can we learn from any other country’s approach? I was looking through some briefing notes on the Japanese Organisation for Metals and Energy Security. Does the UK have anything similar? I do not think we do, but maybe you can tell me differently.

Paul Atherley: I can answer that in relation to rare earths, but not lithium. I am a founder of a company called Pensana, which has just commenced construction on one of the world’s biggest undeveloped rare earth mines, in Angola. As you are probably aware, outside China, only the Japanese have magnet-making technology. They are the only ones outside China. We are working with them.

Q114 Matt Western: What type of magnet?

Paul Atherley: These are the permanent magnets that go inside the axial motors for the electric drive units of electric vehicles; they are also used in generators and offshore wind turbines. The organisations that you are talking about are super keen to back developments such as ours, and we are aiming to bring that to the UK. To answer to question, yes, we are engaged with them—not on lithium but on rare earths.

Matt Western: Mike King, do you have anything to add?

Mike King: As Paul says, we are engaged with off-takers around the world that take our lithium from us. The short answer to your question is that the UK has to have the confidence, for want of a better word, to invest in its own capacity and capability. People will engage with us internationally if we have the confidence to do that. Government policy, Government strategy and Government investment need to be taken up a tick.

Q115 Matt Western: That reminds me of the lithium-ion battery, which of course was invented in Oxford, wasn’t it?

Mike King: Well, various people claim to have invented it. I think that the Japanese would claim to have invented it.

Matt Western: It was Oxford!

Mike King: Paul mentioned all the different battery chemistries. The one thing that is common to the majority of existing or emerging battery chemistries is lithium, so it is a very international marketplace.

John Lindberg: Building on that, I return to what I said earlier around funding for academia. That is hugely important, and something that we have seen done very well in China and other jurisdictions. Putting aside adequate funding across the value chain is really important.

The other thing—I appreciate the constraints on the Government’s purse—is thinking about using overseas development assistance and funding for projects abroad. As much as we try to do it in the UK, we need to recognise that a lot of this is not going to happen in the UK. HMG should actively consider using the available ODA funding—ensuring that it is done responsibly through the use of responsible standards, for instance—or our



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fairly substantial influence through multilateral development banks to get these projects off the ground across the supply chain.

Chair: Excellent. Thank you very much indeed. That has been an extremely clear and lucid panel. I am grateful to you for your evidence.