



# SECURING CRITICAL MINERALS SUPPLY CHAINS

**Announcer** 00:02

Please welcome the panel on “Securing Critical Minerals Supply Chains,” moderated by British Robinson, chair, Africa, Milken Institute.

**British Robinson** 00:43

Good morning. Good morning, everyone. Thank you for being here. Again, I’m British Robinson, the chair of Africa and managing director at the Milken Institute. I’m also your moderator today on this esteemed panel, “Securing Critical Minerals Supply Chains.” We have a very esteemed panel. But to kick us off, I’d like to have our panelists introduce themselves and take a couple of minutes to tell us a little bit about their organization, and if they would leave us with one takeaway today, what that would be. So, Anindya, I’m going to start with you, and we’ll just go down the row. Thank you.

**Anindya Novyan Bakrie** 01:16

Thank you. First of all, very nice to be here. My name is Anindya Bakrie. I run Bakrie & Brothers. It is an 84-year-old start-up out of Indonesia. We have 15 listed companies ranging from minerals, mining, energy, engineering, digital media, and also electric vehicles. I also am the chairman of the Indonesian Chamber of Commerce and Industry. And by so doing, I chair also APEC Business Advisory Council, so I think this will be a good discussion today. I think if I want to say one thing for early takeaway, I think the world has a lot of resources everywhere in the world—nickel, cobalt, what have you. Having said that, the challenge for all of us is we have to trust how to create a sustainable and strong supply chain together. And unfortunately, not one company or one country can handle the rest. One will need the resources. One will need the technology, demand, capital, and so forth. But I guess we’re going to talk about it. Thank you very much.

**British Robinson** 02:32

Thank you, well said. Assistant secretary.

**Michael DeSombre** 02:35

Hi. My name is Michael DeSombre. I’m currently serving as the assistant secretary of state for East Asian and Pacific Affairs. It’s great to be back here in Singapore. I spent 22 years of my life living in Asia, running the mergers

and acquisitions and private equity practice of Sullivan & Cromwell based out of Hong Kong. So, I traveled down to Singapore, and this is my preferred hotel in Singapore. I love it here at the Four Seasons. One takeaway that I would give you at the moment is that the United States government is all-in on helping create an independent supply chain for critical minerals, both the mining and the refining.

**British Robinson** 03:09

Thank you. Frank.

**Frank Fannon** 03:11

Thank you, British. Thank you all for being here. It's great to join this panel, especially to be here back in Singapore. My name is Frank Fannon. I am the cofounder and managing partner of the Orion Critical Minerals Consortium. The Orion Critical Minerals Consortium is a company being managed by Orion Resource Partners, one of the world's leading private capital providers focused on mining and metals, based in New York. It's an American firm. And the CMC, the Critical Minerals Consortium, is managed by Orion. It's partially funded by Orion. But it's also partnered with the US International Development Finance Corporation, the DFC, as well as the Emirati Sovereign Wealth Fund, now known as L'IMAD. And together, we will be approaching our first year since coming out of stealth mode later this month. We formed the CMC purposefully to align with the arc of what we're all talking about in terms of the requirements, the demand catalysts for critical minerals. And I look forward to the discussion, but we're talking about AI, we're talking about robotics. What we're really doing is a new industrial revolution. We're shifting the economy—an economy built on carbon—to one built on metal. And where are we going to get it? How are we going to get it? And when are we going to get it? Thank you.

**British Robinson** 04:42

Thanks, Frank. Zimi.

**Zimi Meka** 04:45

Thanks, British, and thank you very much, everyone, this morning for attending. Frank, I'm going to help you get that metal, because that's what we do. I'm the founding CEO of a company called Ausenco. Ausenco is a global service provider. We develop mines all over the world. We've got about 25 offices in all sorts of different countries, 15 or 16 countries. We're in about 90 countries at the moment, in all sorts of metal extraction, all sorts of commodities, pretty much whatever's on the critical minerals list, as we're calling it these days. But we're very specialized in mining. We don't do anything else. We get involved in very early stages of development and work through the economics of building a mine, and then go through and build it, and then continue to operate it. We have about 4,000 people around the world. The bulk of those people are engineers. About 3,500 of those are engineers, balance of service to the engineering group. And recently, we sold the business to Eldridge. Eldridge Industries now are our 100 percent shareholder, Todd Boehly's group. And we're now coupled with a very strong balance sheet, access to capital, which we think is the absolute right time to deploy in this industry. So, we have a very good pipeline of projects. We see a lot of opportunities. Marrying that together with the balance sheet and capital, we think is going to create a lot of opportunity and value. Thank you.

**British Robinson** 06:15

Thanks, Zimi. So, to kick us off, Assistant Secretary DeSombre, I want to start with you just to ground the conversation a bit more. Frank mentioned it, you mentioned it. The US government is all-in. US government has

been aggressively investing in expanding our commercial and economic diplomacy capacities with new tools, new instruments to advance investments in the full value and supply chain, so securing the minerals as well as the processing. Can you walk us through, assistant secretary, the US government's approach to investing and securing critical minerals and sourcing here in the Asia-Pacific region and with our Asian partners?

**Michael DeSombre** 06:59

Sure. Maybe it's useful to take a step back into why are we in this situation. So, in the mid-20th century, if you look at the 60 critical minerals that we think of as the important ones, mid-20th century, America manufactured, processed, refined about the majority of those for our own use. Now, in most cases, you have a dozen of those that the US has zero production, and the rest of them—generally over 50 percent—dependent upon foreign production. So, we're really in a challenging situation. You can look at specific minerals like antimony or magnesium and others, where, I mean, magnesium, we used to produce a majority of it, now we produce zero. Antimony, similarly, we're in a very difficult circumstance where 90 percent of that is now produced by China. So, we're in this difficult circumstance, and we found out what that means last October when China put export controls on its export of critical minerals. That basically woke up the entire world to the fact that we're entirely dependent upon China for so many of these. So, as a result, the US government really has stepped up and decided that we're going to use all the tools available for us to really ensure that we can support a supply chain from mining through processing and refining that is in our friends and allies. And so we have all these different tools that we've been allocating to that. As Frank mentioned, DFC has invested \$1.5 billion in the Orion Critical Minerals Consortium. You have the Office of Strategic Capital at the Pentagon that has \$100 billion set aside for this. You have a \$10 billion investment from EXIM in supporting Project Vault, which is our commercial stockpiling efforts. And then you have the Department of Energy that is spending around \$600 million or so related to battery and other recycling. And you have our efforts at State entering into MOUs with 20 countries around the world, including in Asia. We have Japan, Korea, Philippines, Thailand, Malaysia, Cook Islands, and others. And so we really understand that in order to develop the full supply chain in an independent, reliable way, we need to make sure that there's commercial opportunities here, which essentially means that there's guaranteed pricing in many circumstances. So, guaranteed offtake is one of the most critical areas that we're looking at, because unfortunately, we found the reason why we're in the circumstance is that we let all the production go to the cheapest, often most environmentally polluting location, and sort of felt ourselves good that we didn't have to do it ourselves. But now, unfortunately, we need to make sure that us, our friends and allies, are doing it ourselves. And to do that requires a lot of capital to ensure that these projects are economically viable in a supply chain that we can rely upon.

**British Robinson** 09:35

Wonderful. Thank you. Frank, I'm going to let you pick up on what the assistant secretary was saying. Orion Critical Minerals Consortium is an absolute game changer. It's a game changer for the US government, but we also think for critical regions such as the Asia-Pacific region in particular, how you're approaching this. You currently have about a pipeline of around—you've identified about \$20 billion around the pipeline across the region. Where are you seeing the biggest opportunities to deploy capital right now? Do you have enough deal pipeline? And what else do you need to develop additional investment opportunities?

**Frank Fannon** 10:11

Thank you. I think just stepping back at a macro level, this funding gap—we've got a multilevel approach to it in terms of the demand and in terms of, I mentioned, AI and where that's going. And why the CMC, the Orion Critical Minerals Consortium, where we're so committed to the thesis. If you look at the ramp-up in AI, the top four

hyperscalers this year are spending about \$750 billion. Now, that's a significant increase year on year, over the prior year. It's an increase of 70 percent of the spend. Now you look at the top 20 mining firms, they've increased spending 4 percent. We're looking at the same demand driver, but we have an asymmetry in terms of capital allocation. And there's lots of reasons why that's the case. Where we see, though, is opportunity in that. And so in terms of the CMC, we also have a disciplined approach into the type of projects that we're going to invest. There's a time horizon. You can build a data center, assuming it's permitted, in about five years, build a mine in 15 plus. So, there's a time gap, there's a capital gap. And so we're targeting on projects that can be built, refineries, processing, within three years. So, we're seeking to align the resource into the new demand catalyst. Asia represents multiple opportunities for both the sources of supply, processing centers, it has amazing demand, and the growth. This is a growth engine of the world. But also it has important technology opportunities to partner with a variety of countries. So, we're looking at it across all of those dimensions. And Asia has a tremendous amount of pipeline, but also partnership opportunities that we're pursuing actively across the region.

**British Robinson** 12:33

Great, thanks. So, Anindya, I want you to jump in here. Bakrie & Brothers, your role and the work you do is unique in the space in that you do mining and EV battery investments in Indonesia as well as in Africa. So, it makes you both a mineral supplier as well as an off-taker, as we would say. Will you see major industrial users of metals—and we're talking about metals—more vertically integrated to ensure that supply chain? That vertical integration is critical. It also helps shorten up the timeline that Frank was talking about. And how do you see the Asia-Africa partnership around critical minerals supply and processing opportunities?

**Anindya Novyan Bakrie** 13:12

I think first of all, the short answer is yes. We see a lot of producers, processors really are trying to go upstream. It's happening in the US, whether Tesla with Minnesota mine nickel offtake, or in Indonesia with the Ford, Vale, Huayou collaboration in Sulawesi. But I think what I would like to note here, while the economics makes sense, because on the face of it, 80 percent of battery is coming from the critical minerals and up about 100 percent from 10 years ago. But owning minerals under the ground doesn't really solve the bottleneck issues, right? The question is, can you refine it, qualify it? Can you really produce it at scale, right? So, what we are doing in Indonesia, we have been miners for the last 40 years. And in the last 20 years, we focus on critical minerals—that is copper, zinc, bauxite, and also nickel. And also on the back that Indonesia is really the largest reserve in terms of nickel and top five of copper, zinc, and of course, bauxite as well. And Indonesia is looking for the aha moment to get out of the middle-income trap. Remember, Indonesia is a G20 country, the 16th largest country in the world. Having said that, the GDP per capita is \$5,000. So, in order to get out of the middle-income trap, we need to get to the 15,000 within 20 years. And we think to focus on this particular initiative, meaning to become the decarbonization mecca of the world, starting with the minerals. And also, I think, Frank touched about power, renewables. Yes, Indonesia has one of the largest shipping coal. Having said that, the government has mandated—today we have 100 gigawatt. In the next 15 years, Indonesia is ambitious enough to make another 100 gigawatt, in which 75 percent of it is going to be coming from renewables, and on top of it, about 7 percent is coming from nuclear. And I think this is because in order to fuel the growth of the—they call it industrialization or downstreaming process of critical minerals—we need a lot of power. And this 100 gigawatt is before—the last two, three years, we see a lot of orders for AI. Now, AI, good, we can focus on the data center. But one day, I would love to be able to talk to secretary general that, hey, we also would like to buy some chips from the US trying to balance our trade, which is about \$2 billion surplus a year—sorry, a month—with the US, for example. So, coming back to your question, because I think we're doing that because it makes sense for Indonesia. It makes sense for the group. And the group, on top of being miners, and processing critical minerals, we are also energy producers. And in the last three, four years, we

focus also on the electric vehicles, buses and truck. But like what I said in the beginning, I think it needs a lot of trust going on in doing this partnership in different sector of the supply chain. And I think, lastly, you mentioned about Africa. I think the beauty about Asia and Africa, while people can say we're different in terms of the developing stage of the country, essentially we're the same in a way that when people talk about ESG, the environment, yes, very important, governance, very important, that's how you can gain trust in the capital. But the S is very important, the social impacts, right? And economics says that it works. Like in 2017, when we export raw nickel, we have about \$3 billion of export from that. Five years later, we process it. That three become \$33 billion by processing stainless steel. And we believe that 33 is going to go to 50 as we make nickel battery materials. So, I think collaboration has happened. We're involved in a couple of countries in Africa. And we feel also, for example this camaraderie of trying to make sure that South-South can increase the welfare as much as supplying for the world. And we, as a country, we cannot take any side because we need the technology, we need the market, we need the capital. But I think that's where Indonesia tries to contribute in the world.

**British Robinson** 18:08

Thank you for that. I think that was well said. I also think you raised something that was critical, is the infrastructure piece. You can't have critical minerals, you can't get to offtake without good infrastructure, and that means port, roads, rail, water, power, energy. You'll never get there if you don't build it. So, critical minerals is infrastructure, is critical infrastructure. And I think, Zimi, that's a good segue to you. You've been in this business for a really long time. You've been a long-term global operator. Infrastructure is critical. I think you've had to pay attention to commodity cycles, but you're also open to going where a lot of people don't want to go to. I think the South-South piece is really critical. Indonesia, you have some really interesting relationships. I think when we talk about processing, we talk about offtake with Africa and other regions. I think, again, if we're going to see commodity flow and not see some of the same mistakes, we really need to look at the picture holistically, including South-South and infrastructure. So, Zimi, if you could comment on what you're paying attention to now when we think about project selection, project preparation, and kind of this ebb and flow of the boom period and how you view it. It's very important because you guys take a really wide sort of aperture. Thanks.

**Zimi Meka** 19:23

Yeah, and we take a very long-term view. So, I guess we're in an unprecedented cycle. I've been in this industry for almost 40 years, and I know I've not seen it like this. The geology takes you where it takes you, okay? That's it. You can't do much. Geology is the rocks in the ground, and they're not always in the best possible locations globally. And it takes a lot of effort, and time, and money, and perseverance, and technology to find an ore body. And as Frank said, from when you've actually discovered an ore body to bring it in production is a 15- to 20-year cycle. So, what we're developing today is ore bodies that have been around for a very long time. Some of them were discovered in the '60s. I know one that was kind of early, in the 1920s. That all of a sudden becomes economic because the price of copper sits at \$6.50, and in that timeframe, the copper price has gone from 62 cents when I first started in the industry to where it is today. So, we're dealing with older ore bodies which need good prices to make them a development, given the time durations. So, you've got to be very careful when you determine the economics of a project that you're dealing with long-term reasonable pricing because if you pick a \$6.50 price, which is the peak at the moment, the economics will change over the life of that asset. And when the cycle turns, and let me tell you, it will turn, one day it will turn, may not be for a while, and it could turn hard, and all of a sudden those sub-economic projects go in care and maintenance. So, the best thing you can do, and we do it continually, is we pick long-term sustainable pricing of metals, which would be significantly lower than spot. And then base the economics around that. We try not to over-leverage, and there is a tendency in these markets for operators to over-leverage. And so when the cycle does turn, eventually, prices are down, balance sheets are

leveraged. We've seen that movie play out quite a few times before. So, it's being cautious and being relatively conservative and trying not to be swept up in this euphoria. Some comments around the copper market. As I've said to this group before, copper's my favorite metal. I started in the copper industry. We use about 23 million ton of copper a year, growing at about 4 percent, 3.5 percent. And you've got the overlays, Frank said, of data centers, decarbonization, electrification, electric vehicles. So, that demand will continue. Chinese process 60 to 70 percent of that copper globally, even though they don't mine a ton of it. It comes from other jurisdictions. The biggest in the world is Chile and Peru, which is 50 percent of the world's copper production, sending that concentrate to be on-processed. So, you've got a situation where you have to bring on about, if my math is right, around 800,000 to a million ton of new metal based on the 4 percent and 24 million tons. That's not happening. I can tell you now that I can go through the developments. The grade of these ore bodies are lower because they're deeper, they're more difficult. So, for moving a ton of material, you have less copper to be produced than it would've been, say, 20 years ago. And so there's challenges in that, and there's only one way for the copper price to go. And it's any time soon, it's always going to be up based on supply, demand, and replacement tons, and given the overlay of data centers, et cetera. So, it's a great time to invest in the industry, really is, and I think there's some amazing opportunities.

**British Robinson** 23:40

Thanks, Zimi. So, speaking of investing, assistant secretary, I'm going to come back to you. You have a terrific background for your role that you're currently in, with previously working in mergers and acquisitions and private equity. I'd love for you to talk a little bit and pull that thread on investment opportunity. What's your view on what's needed to get more transactions over the finish line over the next several years, whether it's from governments, commercial partners, or other actors?

**Michael DeSombre** 24:10

That's a very good question. We really do need to get more transactions. And when thinking about the sorts of transactions that we're looking at, essentially two main areas. One is to protect the processing, mining, and refining that happens in allies and partners around the world. The other is to bring it back into the United States. We've had some good success so far. Wonderful example from the region is Korea Zinc, which is investing \$7.4 billion in a refinery complex in Tennessee, which I think is the first new refinery being built in America since the 1980s or something. So, I mean, it's a real big project. And a lot of these really depend upon some degree of guaranteed demand. As Zimi was saying, prices obviously move up and down. You need to make sure you've got a long-term sufficient price. And so I think one of the areas we're trying to look at in the government as much as possible, and I know this is an area where the Pentagon, particularly for those critical minerals and rare earths that are necessary for our national defense, is guaranteeing offtake. And that's both for these projects also to supply Project Vault, our stockpiling as well, is basically buying the resources now so that we can use them. But one other area that's critical in light of the long time horizon, as has been mentioned, is recycling. And we're seeing great opportunities in rare earth recycling, which we haven't looked at before. And POSCO, the Korean company, and ReElement just recently entered into a \$200 million agreement to engage in rare earth separation and purification in the United States. And so being able to take back what previously has been used but is able to be used again is also a critical area that we're trying to look into and encourage because as was mentioned, it takes a long time to get a lot of these elements out of the ground and processed. So, being able to use what we can now, based upon what was mined before, is quite important. But really, a lot of the reason why we're in this challenge is because a lot of these processing and refining, particularly, has moved to China, where it's done at a low cost. And so we need to recognize that in order to bring it back into the allied world, it's going to require higher costs in many circumstances. And that requires us to ensure that we can ensure these projects are commercially viable, which means giving them guaranteed offtake or other minimum pricing arrangements so that at the end of the day, these

projects are investable because as mentioned, from the M&A and private equity background, if you want to get people to invest in projects, you actually got to make money from it. If people don't make money, they're not going to invest. And so we in the US government are trying to do our part to make sure that these projects are investable so that the private sector will work, and we'll make sure that we'll have the processing and refining in the allied world that we need.

**British Robinson** 26:45

Absolutely. So, that's a great segue, Frank, to you, speaking of the US government—heavily invested in you. Did that guarantee—so that you could actually attract global investors to move those investors off the sideline? So, you have US DFC money, you have Gulf investment money. What about Asian investors? Where do you see the opportunity for the Asia-Pacific investors to co-invest, either through their sovereign wealth funds or through institutional investors or even family offices? I mean, speaking of sovereign wealth, that would really round out that. And I think we sometimes forget that we still need—because critical minerals still makes investors a little nervous—and we need that guarantee that the US DFC provided. But we also want that, hopefully, to attract other investors. So, where do you see the Asian investor market play here? Thanks.

**Frank Fannon** 27:40

Thank you. Just to underscore some points Michael was making as well, and also differentiate a little bit what our work with DFC versus some of the other policies that Michael mentioned. The DFC is an investor with us, a partner with us. All investment decisions—we're working toward that end of it—but Orion using its experience to understand what is a project that will actually make money. We don't want—we've invested our money alongside the US government and L'IMAD. So, it's in our interest. We all have skin in the game. We have clear alignment in what we're seeking to do. One of the other points I think is really important to underscore, though, is so much time—years, and every year around the world, counterparty governments say they want US investment. But oftentimes there's risk aversion, there's perception issues where particularly US investors, Western investors more broadly, but certainly US investors, are slow to want to actually go into many of these emerging economies, even though the opportunity set is vast. One of the things that I think is also important to underscore is the US has entered into—and Michael touched on this—the bilateral agreements with so many governments around the world. Again, we're making investment decisions, what's a good project in our view, and one that can weather those down cycles, which will eventually happen, geopolitical issues or otherwise. There will be peaks and valleys in this commodity cycle, and we're investing in projects that will weather those downturns. But governments can help establish those enabling environments, to create certain ideas of cooperation and certain preferences for US persons in different partnership opportunities. And so we're not waiting to see those agreements. Those aren't the driving force, but they're a nice tailwind to the investment decisions we're otherwise making. Again, we're less than a year old, and we have active conversations with a variety of Asian sovereigns and other companies and family offices, and those conversations are ongoing. We'd welcome certainly more of them. But I really want to distinguish—I use the word partnership on purpose, partners, not just investors. We don't operate like a traditional PE fund in the sense of, we'll let you know how we're going every quarter. We're really working hand in glove with our partners and would welcome, also, opportunities to bring potential deal flow too. So, it's a real partnership construct, which is unique. But we're here in Asia for a reason. We want those kinds of partnerships. And whether that's on the technology side, the capital side, or the deal flow, Asia is the place we need to be.

**British Robinson** 31:00

Absolutely. Zimi, I saw you. I'm just going to jump around a little bit. I'm going to skip a question for a second. I want you to jump in on this point because I think you and I in the green room, we were speaking a little bit about other partners, co-investors. Love for you to just pull Frank's thread a little bit more here.

**Zimi Meka** 31:17

Around what we're doing?

**British Robinson** 31:19

Yeah.

**Zimi Meka** 31:19

Yeah, sure. So, as I mentioned earlier, Eldridge Industries bought 100 percent of Ausenco about a month ago. That gained us a lot of access to balance sheet, obviously. And, we see a lot of projects. We're doing over 100 feasibility studies at any one time. We've got 1,200 mining clients. We get involved very early, and so we can identify good opportunities. And some of our clients struggle with getting access to capital, or they haven't got a track record of developing, they haven't got the network, et cetera. So, what we'll be doing is we'll be developing assets under the Eldridge Industries banner, Eldridge Minerals. And we'll be working with Eldridge to create an investment vehicle that will invest across the whole capital stack, and participate in royalty streaming as well, in addition to actual asset ownership and operation. It works really well with our technical skill base. And we're happy to work in difficult locations. It's not something that's new to us. So, we're going to approach it head-on, if you like, and try and develop the minerals that are needed for the Western countries and the allied countries, as Michael calls them. So, that's what we'll be doing, and we're quite excited by it. There's a few things that already we've got our teeth into. So, hopefully over the next few months, we'll start to see deal flow.

**British Robinson** 33:02

Great, thanks. Anindya, I'd love for you to pick up on that. You play a leadership role in the APEC community overall, and you've really helped, regionally, accelerate Asia's critical minerals supply. As I said a little bit earlier, practical solutions around maybe how there can be better cooperation. Would love your thoughts on that, but also where you see the interest in partnerships with the US, where they emerge or diverge, ensuring that critical supply chain for Asia, but frankly, for the rest of the world. We're all in the middle of this transition, all of us together. And so there's an opportunity to look at what that looks like. Love your thoughts on that. Thanks.

**Anindya Novyan Bakrie** 33:43

Thank you. First of all, I think we side-talked a little bit about how in November there are going to be APEC going on in Shenzhen. I think that's going to be a very interesting summit in which, of course, the two superpowers will be there, and the other 18 economies. But I think for Indonesia especially, it's very important to have at least two routes of the sustainable long-term supply chain. And since Michael and Frank are here, we can talk a little bit about how Indonesia sees, for example, with the US. US is still and continues to be the biggest market in the world. It is the second largest trading partner for Indonesia, about almost \$50 billion per year. And we signed the reciprocal trade agreement earlier this year. And yes, I mentioned a little bit that we have about \$24 billion of surplus, but that also presents a lot of opportunities to actually work together. We actually think just in this

downstreaming or industrialization of critical minerals, there's so much opportunities in terms of the American technology, machinery, and of course, also services. And we're committed to make sure that we can be a long-term partner with the US. Even about three years ago, we set up this consortium, we call it the INBC, Indo-Pacific Net-Zero Battery-Materials [Consortium]. Because what we're saying is that the battery materials that we have in Indonesia, whether the nickel, not so much manganese, but cobalt, should also be able to get a lot of access to the Western world. And I think Indonesia, as the largest country in ASEAN or Southeast Asia, has a lot to do with it. And I'm happy to say, as chair of the APEC Business Advisory Council of Indonesia, that climate is a big agenda, but even more than that, critical minerals is a big agenda for APEC. I think one more thing, if I can share, energy is important. People say that AI runs in the cloud, but ultimately the infrastructure firmly is in the ground, right? And for Indonesia to continue to be strong, we need to push the renewables front. Because believe it or not, we're still importing oil to the tune of about, for the sake of argument, about 800,000 barrels per day. And for example, Michael, also for you, yesterday, we just signed a deal to buy oil from Midland Basin to Indonesia and refine it. So, anything to get energy. But of course, at the end, I think having it renewable is much more sustainable for Indonesia.

**British Robinson** 36:54

Sure. Thank you for that. Zimi, I'm going to come back to you. So, you work globally. You're in Asia, you're in LATAM, and you're in Africa. What types of partnerships could we expect to see in some of these emerging economies around processing? What is the potential to increase, again, back to Anindya, to increase Africa, Asia, LATAM collaboration when we're thinking about mining and processing? Again, there's a lot of opportunity. I'm not sure people actually stitch the dots together, but I think your work does that well. I'd love for you to speak to that for a minute. Thanks.

**Zimi Meka** 37:31

There's no point producing a concentrate at a mine site, and the only place that you can process it is in China. And if we increase the production of metal, which we're going to, and increase the amount of concentrate, we have to find locations to refine that concentrate into metal that's non-Chinese, otherwise, we're in the same boat. So, we've got to start to see the development of downstream processing facilities. And what's required when you downstream process metal is low-cost energy is really key, as you can imagine. Technology is the other one, because there can be environmental challenges with some smelting technologies, which you've got to deal with. And looking to place those assets in strategic locations, obviously, the US is a classic example of that. There's been smelting capacity in the US for ages, and I think there's probably six smelters not being used, that may one day be refurbished, who knows? So, it's important, I think, for the processing of those metals in locations that are sound and also can provide cheap energy. Indonesia did something very interesting, and Anindya touched on it. They made a law some years ago that you couldn't export unrefined materials out of Indonesia, and that created huge opportunities for investors to build processing facilities to produce metal in-country and value-add, as Anindya said. So, DRC, Democratic Republic of the Congo—huge copper, cobalt producer—has come out recently and said the same thing. They're not wanting to export concentrate unless it's processed in country. You can get exemptions for that, and it kind of bounces around a bit, and it'll be off in a year's time because it's been done before. But if they could link up with maybe someone in Asia or in Indonesia or countries like that and complete the processing in Asia, non-Chinese, that would be certainly worth looking at. But I think there's great opportunities. Middle East is another one, cheap energy. So, I think investors are starting to kind of seriously look at that.

**British Robinson** 40:09

That's great. Thanks, Zimi. So, that's a good segue to our lightning round here. So, Frank, I'll start with you. We'll just go down the aisle here. What's the biggest—I think that Zimi mentioned—what's an unlock? What's the biggest unlock you see for getting more capital deployed into this sector, say over the next 24 months? And who needs to address it or who needs to be a part of it?

**Frank Fannon** 40:33

I would certainly target Asia, as some investors. One of the other things that's kind of, a lot of countries also want to say that they want to focus on critical minerals, but they want to focus in their own country. And the US is not immune from that. As Michael's talking about—just the Korea Zinc project, that's enormous. But the reason why that also works is because we also have the demand. It's right there, and we have the cheap power, and there's a demonstrated political will to build things in certain states in the United States again. But at the same time, there's a recognition that we have to go beyond our own borders. I think that's something that a lot of countries, being parochial in advancing your own domestic capabilities is absolutely important, but are you the right country for that? Do you have the right policies, the enabling environment? Capital flows where it's welcomed. And as we talked about earlier, the geology is the geology, but we have to have the right enabling environment. So, I would say that would be one, is creating those appropriate conditions above the ground, and also to be open to have new investment models. Because doing the same way is a recipe for the same result. That's why we've created the CMC to fill that gap.

**British Robinson** 42:06

Well said. Assistant secretary, what's your biggest unlock to move capital in the next 24 months around this area?

**Michael DeSombre** 42:15

I think I would feed off of what Frank was saying—and something we spend a lot of time in the State Department is working with the countries, and we've entered, as I said, MOUs with 20 countries—and then we really focus on ensuring the regulatory environment is the right sort of regulatory environment. We provide a lot of advice in that regard. And this is not just in the mining area, but in commercial diplomacy in general, what can make your country more attractive, more welcoming to foreign capital that'll help grow your country as well as growing our economies. I think one other area, just briefly, I'd mention that we haven't touched on, which is a really exciting area in Asia at the moment, is seabed. So, seabed exploration and extraction is actually quite interesting, and we've seen a real sea change, if you want to call it, in terms of people's view of that. We're moving quite quickly with Cook Islands and Japan. But a lot of the other Pacific Islands, this is a wonderful opportunity for them, that really have challenges having economic resilience in their country, but being able to take advantage of minerals on the sea floor can be a real game changer. So, that's a really interesting new area.

**British Robinson** 43:12

Yeah, thanks for raising that. So, we've got regulatory environment, new models, seabed. Anindya, you want to give us your unlock?

**Anindya Novyan Bakrie**

43:21

No, I think, in the next 24 months, I would say if the two sovereign wealth funds, for example, for the sake of argument, DFC and Indonesia has Danantara, which is AUM a trillion US dollars, can work together to make sure that not only we talk about trade, but we talk about co-investments and involving a lot of private sectors to create that route of the sustainable battery supply chains or any materials. I think it will improve, and also it will move welfare in both countries. And the second thing also, if we can agree on the standard of ESG in the processing, as well as traceability, that would be helpful. Because a lot of times, I think, we discussed today, sometimes, yes, we have the resources, we have the market and the capital, but the technology to process certain critical minerals are still localized or centralized in China. So, we need to get that also going somewhere else.

**British Robinson**

44:22

I think that's a great way to end, including the sovereign wealth funds, the standardization, and then the South-South piece. So, please join me in thanking our excellent panel today. Thank you, everybody.

**Announcer**

44:41

Thank you for attending the discussion. Please exit the ballroom as we prepare for the next session. And remember to bring your belongings with you. Thank you for your cooperation.

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