Bloomberg Green at COP28

Special Session: Investing in the Cleantech Ecosystem

Mohammad Abdelqader El Ramahi: Hydrogen is the fuel of the future and the most critical element that will drive the decarbonization ambitions globally.

Maarten Wetselaar: We are building by far the biggest installation in Europe, which will be used to decarbonize shipping, industry, heavy trucking, all kinds of energy use that can be electrified.

Dr. Faye Al Hersh: It is both exciting and rewarding to be at the forefront of the energy transition.

Farah Elbahrawy: I'm Farah Elbahrawy, the deputy team leader, and stocks reporter at Bloomberg based here in Dubai. Thank you so much for joining us in this lunch briefing titled, Investing in the Clean Ecosystem at Bloomberg Green at COP28. We're very delighted to have you. Global Cleantech Competition is running hot, with billions of dollars being spent on innovative solutions to mitigate climate change. Around the world, governments are seeking to advance the development of clean technologies and pledges that not only underline the urgency around finding measures to protect our planet but also potentially encourage economic growth and find new ways to nurture new businesses.

With that in mind today, we will discuss innovation as a catalyst for economic growth, opportunities, and challenges in today's rapidly growing cleantech landscape, and how investors can drive momentum for planet-saving technologies. Before we begin, I'd like to take this moment to thank and acknowledge our presenting sponsor Mubadala Investment Company for making this session possible. Now, we're going to have our first conversation. Please join me in welcoming Dr. Ulrich Ehmes, CEO of Theion.

[applause]

Before we kick off, I think the best way to do this is just tell us a little bit about your company, what you do, and what Theion really means.

Ulrich Ehmes: Okay, thank you, Farah. First of all, thank you very much for being on this fantastic event here in Dubai. Theion is a startup in Germany, based in Berlin. We are developing battery cells which contains three times the energy than state-of-the-art batteries at one-third of the cost. You will ask me, "No, what? This is a wonder battery." No, that's not. It's just the application of the laws of physics, and by choosing the right materials, it all goes through materials, and the material of choice in our cases so far.

We are replacing all these difficult to mined materials and to process like nickel, manganese, cobalt, iron phosphate, which is mainly processed in China, and then transported to the world by sulfur. This is a fifths most relevant element by mass on earth and the waste product from the oil industry. We are transforming waste into

value in our battery. It's clean. It's cheap. It's available geopolitically. By the way, the reason why we are called Theion, this is a choleric Greek name of sulfur.

Farah: I really love that. It's such an interesting tidbit for me. You told us a little bit about why sulfur, but I want to get into that a little bit. We do have a visual if you could pull it up on the screen about how demand for electric vehicle components is still far outstripping supply for these elements. How does sulfur come in, in that play? Is that part of it because the demand is so high at the moment? And in terms of cost, weight, availability, and even range what the sulfur look like in those terms?

Ulrich: Luckily, for a company like ours was in the battery business demand will explode by a factor of 10 over the next 8 years until 2030, so up to 8 terawatt hours. In each quarter it's increased again. The main part of the cost is material costs, 70%. It's very important that there is enough materials. Here, we really need to choose a material which is available.

The second advantage after cost of sulfur is a very high energy content. In such a battery, we can store really three times more energy, so that means we can extend range of an electric vehicle by a factor of 3, we can make electric flying commercially available because instead of 1 hour, you can fly 3 hours.

This is a game changer to the eVTOL electric aircraft companies, they have great aircrafts designed, but the batteries missing. For stationary storage, it's very important having a cheap battery. Here again, it also costs $0.20 per kilogram. State-of-the-art materials cost €25 per kilogram. Imagine what big impact is that on cost side? In a stationary system for storing renewable energy, we can make, with sulfur batteries, this affordable for everyone.

Farah: That's really, really exciting, I think. I want to go back to something you mentioned in your first question, which is, sulfur is a waste product of the oil industry. Being based here, this event taking place in COP28, the energy transition is a major theme for this region. How can you partner up here in the Gulf, and what are your plans in the region?

Ulrich: That is one of the main reason to be here. It's a perfect match because really, using a waste product from the oil industry and transforming it to value, other battery companies, they're looking to be recycled. Now, we are the recyclers with our batteries and using this material. Everywhere on earth where the refinery, the sulfur, there are mountains of sulfur. If we would build all battery cells in 2030 with sulfur technology, we would need 5% of the yearly sulfur production. It's completely easy.

Our plans to be here is to bring first development or a part of our development of battery cells to the region and then to also build one of the first factories here because we believe, as we are thinking long term, the region is thinking long term, and we need the energy transition that this is a perfect place to be.

Farah: You did mention electric vehicles, planes, storing renewables, these are all use cases for the batteries that you're producing. First of all, who are potentially your customers, but secondly, why aren't companies like Tesla and Airbus already adopting this change? Is it, it needs more knowledge, needs more research? What is the barrier here?

Ulrich: This is a very good question. State-of-the-art battery industry, they need to first amortize the big investment in Gigafactories, though they are bound with their money on that. They have not always the means to think beyond state-of-the-art. They are looking to increment improvements of the battery technology. It's up to us startups to think holistically beyond state-of-the-art, and that's what we did. It's like 35 years ago when you remember we had nickel–cadmium batteries and then Sony came with the first lithium-ion batteries, three times more energy density, three times cheaper. This is exactly where we are right now.

Like 35 years ago, now is a time to change again to a new technology and being three times more efficient and three times cheaper, but at the same time, with a very, very low CO2 footprint. That is very important.

Farah: Do you think there are challenges, or to you, what are the challenges that you're facing daily in your industry and how are you planning to overcome them? Higher interest rates is one thing we've discussed, but also maybe not the right investors that you're always coming across. Is that an issue?

Ulrich: Obviously, battery industry is not a technology development which you do in two weeks. It takes some years because each change of a new parameter in your system needs, again, cycling, charging, and discharging of the new battery cell. Then we can change the next parameter and go to the next improvement. It always takes time. What takes time needs money. Funding is a very important key success factor. This can accelerate the whole development. Secondly, having the right people on board.

We are 16 experts, 10 nationalities, so we have really chosen the right people, not only from a technology competent, but specifically from the startup mindset because it's not only what you do, it's how you do it.

Farah: Absolutely. In our discussions ahead of the panel, you said there are 28 other startups in your field and that no one is in mass production. First of all, why is that the case? Second of all, what are your plans for mass productions, and do you plan to base it in Germany?

Ulrich: First of all, it's always good not to be the only company in one sector [chuckles]. 28 other companies in lithium-sulfur technology is great, but everyone has a different strategy, and some of them are over 10 years in the business. None is in most production, as I said. We are the only company using sulfur in its crystal form. Carbon can be soft pencil or a diamond depending of the property. We have chosen the crystal structure, and this is excellent for having long-life batteries with a very high energy density, proved by Drexel University in the US. That is our differentiator compared to the others.

From a perspective of mass production, yes, this is our target to become a cell manufacturer worldwide. We are in a development stage right now. We will have the first customer samples ready by the end of next year and plan to have the first, we call that small-scale production line by '27, and then address the first market. The biggest market will be automotive because of our lightweight cell. It will be €340 billion market in 2030. The next biggest market we'll address is stationary source, V175 billion in 2030. Really, really great markets and excellent for us to address.

Farah: Thank you so much, Dr. Ulrich. Unfortunately, we have neared the end of this discussion, but don't worry, there are still a lot more exciting ones. With that, I would like to welcome on the stage Ahmed Saeed Al Calily, Chief Strategy & Risk Officer at Mubadala Investment Company for a conversation with Bloomberg's Anne Kawalerski.

Anne: Thank you, Farah, and thank you, everyone, for being here. We're also going to talk cleaner tech, not necessarily around sulfur and batteries, but around investing, which will be great. With that, I wanted to start, before we even get to cleaner tech, let's start at the top a bit. Mubadala, obviously, an investment company. For investors, the primary motive is profit. From Mubadala's perspective, we'd love to hear a little bit from you, Ahmed, in terms of, is climate change a distraction for Mubadala in your investment-making decision, or is it the contrary.

Ahmed: Thank you very much for this opportunity to address this esteemed crowd. For us as Mubadala, I guess we've answered that question more than 15 years ago when we started Masdar if you recall. There was a time when investments in cleantech, in green buildings was still relatively in its infancy, but we took the decision that this is the right thing. We saw that this is the future, and we took the step.

For us, it was probably an easier decision. I think as Sovereign Wealth Funds, I think we inherently have a long-term horizon. We think in terms of decades, we think in terms of creating wealth and stability and a better future for our generations to come. I think from my perspective, marrying that fiduciary responsibility that we feel towards the younger generations with the view that this is something that in the future will be profitable, I think was probably an easier decision for us.

Anne: You're speaking a lot about purpose and what's good for the environment in the world's being good for business. How are you putting that philosophy into action?

Ahmed: I think everybody is trying to do the right thing in their own way. When we reflect on Mubadala and think of how did we internalize that beyond the investments in Masdar and the other, I think it's about being purposeful in how you approach and how you integrate these climate considerations. Nowadays, it is part and parcel of our decision-making process at the investment committee where we bring climate considerations to the decision-making process.

It's about being purposeful in helping our portfolio companies, becoming more responsible, adopting net zero ambitions and targets. It's about being also mindful of our global footprint, measuring our emissions, and looking at things to mitigate that. I think from many perspectives, we try to internalize the decisions with a view of climate and the broader responsible investing mandate into our decision-making.

Anne: It sounds like responsible investing, from what you just said, is really ubiquitous across the organization and your philosophical approach. What about cleantech specifically? How are you investing in cleantech?

Ahmed: Well, I think if we reflect, again, nowadays, everybody's investing in cleantech. It has become proven because, again, the level of awareness across the board, the pull from the consumers, from the younger generation has proven that this

is an area where profits pools exist, where money can be made. We're seeing a lot of deal activity in this space. Looking at some of the data that we went through with our colleagues recently, the level of deal activity in private markets relating to cleantech, if you look at 2019, around $75 billion. Just in 2022, that has risen to over to close to $200 billion. Again, this is a steady but impressive growth, again, because of the imperative on one hand, but again, because of the profit potential to be had. Within our Mubadala, various structures, various companies looking at all the way from the VC angle and looking at investments in that space through some of our vehicles, going all the way to buy-out opportunities. If you think of some of the recent deals that we've done investing in Tata Renewables in India, alongside BlackRock, around 525 million check size.

Again, to us, there is the potential to make a profit, but also, we're contributing towards the green economy and adding around 13 gigawatts to the Indian grid. Again, there's purpose there, but there's also the economic angle. If you look at other deals that we've done, investing in Skyborn Renewables, the largest private offshore wind developer with footprint in Europe, US, and Asia. These are some of the deals where, again, in the buyout space, we continue to deploy capital, but also beyond that.

I think we also work very closely with our peers in the sovereign network community to try to find opportunities, advance the conversations, and nudge our portfolios to be able to make a difference in various areas where we invest as sovereigns.

Anne: Amazing. Obviously, a lot of work taking place. Similar to Farah's question before around batteries, like why aren't we using these today? Why isn't Tesla adopting them? Similar, obviously, in your space, I have a question for you around, what is the barrier then for further investment in cleaner tech? How do we unlock that?

Ahmed: That's a good question. I think, again, if you ask that question to different people, you probably get 10 correct answers [laughter] because, again, there's a lot to be done along the spectrum. Again, I think I speak for us as Mubadala, we're deploying, we're putting money in various-- But the single biggest problem that we are facing, and we're also uncovered alongside our partners, is the lack of consistent, reliable data. Data, I think, from our perspective, at least, is a big hurdle.

I think until we can come as investors, whether they be Sovereign Wealth Funds, whether they be money managers, private equity, alongside the regulators, and try to come to an understanding on the data sets that will be used, making sure it's reliable, it's readable across the geographies, I think that would be a hurdle. I think we've done our part in terms, in trying to advance the conversation on that through our work with the One Planet Sovereign Wealth Funds partnership, in coming up with an approach and a methodology for measuring data, for sharing data, which I think has been very well received by the investment community, and we continue to push for that.

Because to us, beyond just putting money, I think people need to understand the importance and the reliability of data to enable us to even more investments in this space.

Anne: We could talk a lot more about this. I know where I'm seeing my Timer, times off, but I wanted to ask you one last question. What is success at COP28 look like for you and Mubadala? Is it around this idea of data and coming up with more of a methodology and principles around that? Or if you could talk a little bit more about that.

Ahmed: The way I think about the success of COP so far, I think a number of things. One of the things that I think is impactful is bringing diverse views around the table and having the tough conversations, but also being pragmatic, because again, we cannot have discussions in silos. We cannot have discussions in isolation, industry on one side, heavy emitters on the other side, regulators on one side. I think we need to come around the table and have these conversations, but beyond having the conversation, I think what is also important, I think is in my view a success of this COP is putting our money where our mouth is as nations, as sovereigns. What the UAE has done with the Altera Fund, putting $30 billion that would mobilize $250 billion in capital towards solving some of the biggest problems of our planet and encouraging investments in the global south, I think is a great win. Is a great win for this nation, but also for everyone on this planet.

Anne: Wonderful. Well, Ahmed, thank you so much for your time today.

Ahmed: Thank you very much.

Anne: Farah, back to you.

Ahmed: Thank you.

[applause]

Farah: What a great discussion. Thank you because it's the perfect segue for the next panel. Please join me in welcoming Maya Hari, CEO of Terrascope and Talal Hassan, founder and CEO of 44.01.

[applause]

Farah: Hello.

Talal: Hi.

Maya: Hi.

Farah: I want to kick this off sort of similar to what we did with Theion, I would like each of you to just give me a little bit about what your companies do and the achievements and the backers that you've had along the way to get you to what you are today. Talal, we can start with you.

Talal: Great, thank you for having us here. My name's Talal. I'm the founder of 44.01, and what we do is we eliminate carbon dioxide. How we do that is we convert it into rock. We have this resource on this planet called peridotite. It's an ultramafic rock, typically sits about 40 kilometers in the subsurface just above the Earth's crust. This rock gets pushed up to the surface in certain parts of this world. We have it in

Europe, we have it in the Americas, in Japan, Australia, South Africa, and one of the largest deposits comes up here in Oman and the UAE.

What we do is, this rock is very reactive with carbon dioxide. As soon as it comes in contact with CO2, it mineralizes the CO2, so the natural reaction converting the CO2 into carbonate minerals. We take this natural reaction and we speed it up with our technology by about a hundred thousand times. The way we do that is we drill into the rock and we inject CO2 mixed in a fluid into the rock and we speed it up in the subsurface so that the CO2 is eliminated permanently forever. We have just announced today that we've started injecting in a project in Fujairah here in the UAE. That announcement came out today. I think it's the first time I'm talking about it.

Farah: Congratulations.

Talal: Thank you.

[applause]

On that project, we partnered with ADNOC and Masdar, so the green electrons are provided by Masdar. On the site, we have solar, plus battery, we should maybe have a conversation later. Then we also have a carbon capture unit on the site. We're pulling CO2 directly out of the air, and we then inject and convert into rock, all decentralized on one site in Fujairah.

Farah: Fantastic. Thank you so much for that. I'm sure we'll talk a bit more about what you do, but Maya, I'd like to come to you and tell us a bit more about Terrascope.

Maya: Thank you for having me. I'm the CEO for Terrascope. Terrascope is essentially a software-as-a-service company. We're very focused on using the power of machine learning to be able to help large enterprises around the world go through their decarbonization journey, end-to-end. What we mean by that is measuring emissions, both at the company level, but also at the level of products or services a company might produce, but much more importantly, to take that measurement and go to the "so what" of it, which is how to actually decarbonize from there.

What are the big hotspots? How do you think about reducing that, what are the technologies that might actually help reduce that, how to sequence that journey through net zero, and ultimately be this guide to large enterprises in this multi-year, maybe multi-decade journey that they have to go through in going to net zero. We believe that the decarbonization journey is never general, it's very specific. It's specific to sectors and it's specific to companies and their supply chains. We actually take the approach of using the technology to go deep into sector-by-sector emissions.

If I step back, we often as an industry talk about energy transition. It's a very important part of the decarbonization journey but actually, there are three journeys that we see the world having to go through. There's the energy transition, there's the land transition, and then there is the material sciences transition. In a way, we help a lot of sectors in the food, ag, retail, consumer product goods, very focused around the land transition to be able to go through that net zero journey.

We're a software company, and we very much think about bringing that layer of precision and data science to pointing to the bridge to cleantech. You might argue that software is not necessarily cleantech, but actually, software can bring the data and I think you talked about data and the importance of that but that data layer to enable the right investments in the right directionality to cleantech. We see ourselves as a bridge. It's not the story of what Telescope does today but we think that over the years, that's the purpose and the role we have to play in bridging between what the data says to actually where the decarbonization technologies will lead to.

Speaker 2: Absolutely, and coming to your point, we have two very different companies on the same panel talking about one specific topic. There's definitely a bridge to be connected here, but I do want to focus on scaling up what that looks like for you. How easy is it to access new funds, whether public-private partnerships are facilitated. There's another visual that I'd like to point out here which is Asia still leads investments in the clean energy sector, largely led by China naturally, but the Middle East is stepping up its effort. Ahmed, you just mentioned the $30 billion that the UAE is committing, so also what can the Middle East do more of to help back you up?

Maya: Yes, I'll give you a quick example of our company but really more commentary widely. Our company is a unique startup that's backed by a corporate. We're actually a young startup but we're a corporate venture. I think there's incredible benefits to being this form of company because we were born out of a very validated need and a use case by the corporate backer for us in our case is a Fortune 500 agri commodities company that knows all the problems that they're going through in their need for decarbonization and net zero.

Therefore, in a way, we have a very validated use case that we started building the company around, but if I step back and talk more generally about investments in this space, one of the observations we have is that the conversation is less about do you need concessionary capital versus non-concessionary capital. The actual discussion should be around, how do you bring capital providers who have traditionally not invested together in a certain stage of a company, but how do you actually get them to evolve their investment philosophies to try non-traditional things?

Why do I say that? Ttechnically, we're a software company, really but you might actually look at this space as-- Traditional VCs may not necessarily know how to think about cleantech in the same models, in the same timeframe of their fund life as they have for non-climate companies. What we find is that you need corporates, you need private equity, and you need VCs to all maybe think about coming together and investing at different times and bringing value.

Farah: Absolutely.

Maya: That's where I see things being different, Geographically, I think there's really interesting opportunity for capital from this region to take a wider view as they are already but also to be able to bring the demand and the supply and the capital and the demand together in one place. I see this also for Japanese capital, so it'll be interesting to see the future world have different leading pools of capital than before.

Farah: Absolutely. Talal, I come to you. What this scaling up look like to you, ease of funding, and public-private partnerships?

Tala: What Maya said really resonated with me. I think you hit the nail on the head, and I'll give an example of that. When you look at our process, what we do with our technology, it's basically oil and gas but in reverse. Rather than pulling hydrocarbons out of the ground, we're putting carbon back in. That means we need to rely on the same supply chains, the same talent, the same partnerships, the same infrastructure, the same equipment, and this is absolutely ideal for partnerships within those sectors.

We learn this on our project here in the UAE working with ADNOC. One of the examples I like to give was we needed well heads on the injection wells and we went out into the market, and we got given a timeline of about six months to deliver these. We call up ADNOC, they say, "Look, come take two out of our warehouse, no problem." We actually ended up building this project in nine months from time of breaking ground to the time of injection. There's no way we could've done that in that speed. It would've taken twice as long if not more if we had done it by ourselves without having these partnerships in place.

Farah: I'm sure the Earthshot Prize also is a helpful boost.

Talal: Absolutely. For those of you who aren't aware, the Earthshot Prize, we were the winners last year of the Fix Our Climate category. It's been really powerful, apart from the capital, the prize that we won, which was a million pounds, which has been helpful. They also help us with communications, and that's how we met and that's how we're here on this panel today, but also with the partnerships, it's been really powerful for us. I honestly believe we wouldn't have had a project up and running here in the UAE in time for COP28 had it not been for the Earthshot Prize.

Farah: I can imagine. So you also see the Middle East, all of your partnerships are here, they're moving in the right direction?

Talal: Absolutely. Yes.

Farah: That's great. Maya, I come back to you, and I cover public markets and I can confidently say that AI was the biggest, if not the biggest theme this year. AI, AI, AI, NVIDIA, ChatGPT, how it was like, but really, it actually does impact what you do as well. We had some really good discussions about its use cases in the cleantech space. Tell us a little bit more about that.

Maya: I think that the power of AI really, in my mind, it's speed. It's being able to automate things from a computational perspective or from a comprehension perspective that in a way would've taken a ton more humans than the technology now offers. This is very exciting because we're also on a clock to be able to solve climate change solution. This has been really good. In our own company, a lot of what we do is we actually apply machine learning to sorting through a ton of data, just like the investment side for decarbonization of a corporate. The very first step to decarbonization, actually, nothing to do with decarbonization, it's a data journey. It's being able to identify and collate a lot of data inside the company and from your supply chain that you've never collated before for any other purpose.

You don't have it sitting in a store that you can apply. In a way, our very first step in our product offering, it ends up being taking unstructured data and converting it into

structured data. We see this repeatedly in every company, and that's the very first step. That was our very first offering around machine learning and AI. Then you realize that nobody's data is perfect. You go through a journey of trying to get more data, but there's always data gaps.

What we're finding is that generative AI is very helpful in being able to fill data gaps with estimations based on benchmarks, based on wider world wisdom. It's relatively easy to do. It's been, for us, a massive unlock in being able to take solutions to market quicker, to bring efficacy and accuracy of solutions to a much higher level, but I encourage us to not think so technically sometimes about AI. We also use AI in the most basic ways, is productivity tool. Our legal team ends up using AI to do a lot of the grunt work around legal, this amazing legal tech now available in terms of tools. Our sales team records every sales call with permission from our customers and is able to immediately have notes that are transcribed.

This is all power of commoditizing AI in really great ways. Great for productivity just on a day-to-day basis, but also great for unlocking cleantech solutions.

Farah: That's amazing. Talal, I want to maybe just look at it a bit more generally and talk about carbon capture and storage solutions. First of all, what is its potential, and second of all, is it a one-size-fits-all or do you think that it's all those different solutions coming together to achieve that one greater goal?

Talal: We typically follow what the IPCC have set out, and what they've said is by 2030, we need to be removing a gigaton of CO2 a year. Just to give all of you an idea of what a gigaton is, that's equivalent to global emissions from air travel alone. That CO2 has to be removed. We know it has to be removed. We come in and we offer a solution which is permanent and produces a carbon credit which is what we call the Gold Standard. It's something which is certain. People know they can buy it and it's absolute certainty that that CO2 cannot be re-released back into the atmosphere.

For us, the bit where it gets interesting is where the CO2 comes from. I think this is probably more pointed towards your question. At the moment, we are using Direct Air Capture on the site here, and Direct Air Capture is a great technology. There's a lot of companies out there doing it. However, it's still nascent, and we expect that technology to grow as with any technology over the coming years. We then have to look at what are the hard-to-abate emissions that we can immediately input into our system. Then we come across things like steel, cement, where today, even here in the UAE, they're already capturing some of those emissions, to try make sure these materials that we use as human beings on a daily basis, which are hard to swap out are decarbonized.

I was just having a conversation with someone prior to this about biogenic CO2, and that's also quite exciting for us. That's something which we see can grow in the region quite well. For us, the source of the CO2, we are CO2 agnostic as long as it's from a emission. For us, the CO2 is quite important to make sure that we truly are decarbonizing and we truly are having a positive impact on the planet, for when we convert that CO2 into rock.

Farah: Excellent. I want to ask both of you about the risks and the challenges in both your fields, but this is towards the end of the panel, so I want to make it positive and ask you also how you're overcoming that, Maya.

Maya: I think you're talking about risk in general of technology and climate. The biggest risk, and this is a challenge in our day-to-day life, every answer in climate tech points to, "If you don't do the right thing, oh my god, it's doom and gloom." It can be quite depressing if you don't keep that positive outlook working in climate tech, but the risk is pointing in the wrong direction, and going down a path that is a rabbit hole, that might not necessarily be the biggest lever of decarbonization. That's often something we talk about inside the company.

Why do we use AI? We're thinking about what are the biggest decarb levers. We always remind ourselves, go back up, and think about what is material. If it is a company and its supply chain, what is material? Rather than solving everything all at once, which is virtually impossible. How do we take the biggest material hotspots that contribute to carbon GHG emissions, and how do you decarbonize that?

If you could take just that and decarbonize that, that's probably the biggest impact we can have. That prioritization around hotspots and keeping materiality in mind is always a constant reminder we give ourselves before we go down many rabbit holes that we can go down every day. That's how we mitigate risk in our world. We're swamped with data all the time, but we always remind ourselves, what's the biggest problem to solve?

Farah: Talal, what about you?

Talal: I guess from our side, the risk would probably be when we first started this journey, it was a bit of a chicken-egg situation where people weren't capturing emissions or weren't doing direct air capture because they didn't know what to do with the CO2. Now we've come in, and we've come up with a solution that can have a home, safe and permanent home for that CO2, and now we need to capitalize people to capture CO2.

For us, that has to rely on incentives, or as we say, either stick or carrots. We've seen this really well, the US has the IRA, which is more of a carrot, so it's tax incentives, to incentivize people to to put CO2 away. The EU have gone with a stick approach where they've said, "Right, look, if you want to import anything into the EU, you're going to be taxed on the carbon footprint."

For us, either one of these or even better, both, could really help catalyze and supercharge carbon removal for us here in the region. That's something which we would like to see, and it's something which would really derisk what we're doing.

Farah: Excellent. Unfortunately, this is all the time we have for our briefing today. Thank you so much for our panelists for your time and your perspective. Thank you to Mubadla Investment Company for making the session possible,, and thank you all for being a great audience. The programming at Bloomberg at COP28 continues kicks off again at 2:00 PM for mainstage events, so make sure you head down the elevator to the ground floor and catch some of that. Thank you so much.

Talal: Thank you.