



## Kitco News Interview Transcript

Recorded on April 22, 2021

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### Michael McCrae

Last month The Metals Company – formerly known as DeepGreen – went public in a \$300 million financing. Is this enough gas in the tank to make deep-sea mining a reality? I'm with CEO Gerard Barron. Gerard, welcome to Kitco.

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### Gerard Barron

Michael, great to be with you today.

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### Michael McCrae

Let's start with the company. What is The Metals Company and how did it come together?

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### Gerard Barron

So, The Metals Company, as you said formerly known as DeepGreen – we've been around over a decade now. And we're focused on one thing, and that's collecting polymetallic nodules from our license areas in the Clarion-Clipperton Zone in the Pacific Ocean.

And the premise is that we're going to need a whole heap more metals as we start moving through this green transition. And we can produce them at a fraction of the environmental and societal impacts by collecting these nodules and turning them into metals compared to the land-based alternative.

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### Michael McCrae

Lots of questions but you have it with you. What's special about nodules? I mean, the sea is a big place. Why are you specifically focused on these formations?

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### Gerard Barron

Yeah, that's a good question. It's a really special resource. And they form in a different way because they literally precipitate the metals that are in solution in the ocean water or in the sediment upon which they sit. And so, this one in my hand would be three to four million years old.

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Nickel is the main revenue driver. There's about 1.4% nickel in this nodule, and 1.1% copper, and about 0.2% cobalt, and about 30% manganese. So, it's very aligned to what base metals we need as we move through this transition away from fossil fuels into electrification.

It has other unique characteristics as well. For example, when we bring them to shore and we turn them into metals, we generate zero tailings and zero waste. And, you know, just on that topic alone, last year, the mining industry was the largest generator of waste.

In fact, there was around 190 billion tons of waste generated. To put that into context, municipal waste was around two billion tons. So, we can collect these nodules and process them and generate no waste and no tailings. So that's a pretty special resource.

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**Michael McCrae**

I know that you've had some studies on this, but can you just talk about: what the potential resources, where these nodules are, and what they would be like for processing?

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**Gerard Barron**

Well, let's think about where they are. They were discovered way back in the 1870s. British explorers wanted to know what lay on the bottom of the ocean. So, they sailed HMS Challenger around the seas for four years. And they discovered, I mean, a number of locations, but there's one area of particular interest. And it's this area known as the CCZ. And the reason why it's of interest is because a little bit to the right are the Rockies and the Andes that of course were covered in nickel and copper and through volcanogenic explosion it means that all these metals ended up in the Pacific Ocean.

And so, as these nodules grew they precipitated those metals and formed these very valuable time-appropriate resources. Now, we're a Canadian company and we have resource statements on two of our license areas. And so, we know that we have around 1.6 billion tons of these on those two blocks.

It's a fun resource because you get to see it. You know, it's two dimensional. You don't have to imagine what's under the ocean floor. Instead we take pictures of it, whereas on land we'd be drilling thousands of holes to try and put together the shape of this ore body. We literally get to see it, right, for thousands of kilometers across the ocean floor.

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**Michael McCrae**

What's the metallurgy like? What is it like extracting nickel from these nodules?

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**Gerard Barron**

Yeah, so there are basically two approaches. Back in the 1970s when they were collecting these nodules under trials, and in fact Kennecott built an onshore processing plant, Kennecott now part of Rio Tinto. They used a process: cupreine, which was mainly focused around the nickel and copper.

We've actually for the last decade been running two onshore processing methodologies. And the first was-- a pure hydromet where we would basically dissolve them in an acid solution. But we decided to park that idea. We've gone with a more conventional pyro- and hydromet combination.

And so basically, we melt them, and that first pyro step sees us with a manganese silicate material, and an alloy or a matte containing all of the nickel, copper, and cobalt. And we then put that through a pretty standard hydromet flowsheet to either produce nickel powders or sulfates. We'll have completed our onshore pilot work for the pyrometallurgy work in the next three or four weeks. We've made good progress there.

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**Michael McCrae**

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I think you've touched on it, but I wanted to step back and then just mention about funding. Because that was a really headline number that came out in March. That was a big announcement regarding the special purpose acquisition. I want you to talk about the funding. But I think you've mentioned it is also just about the metals. You know, there's another headline around this, is that deep-sea mining, what you're targeting, it's really targeted around the electric vehicle material space.

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**Gerard Barron**

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Well, it's certainly very aligned with what the electric vehicle industry is going to need a lot of. And, Michael, it's interesting that in this nodule there are eight parts nickel to one part cobalt. So, you know, as the auto industry, for the time being at least, has pretty all settled in a NMC811 chemistry, then this resource is just perfectly suited to that.

And so, almost half of the revenues will come from the nickel, followed by the manganese, copper, and cobalt. So, you couldn't ask for a much better mixture of base metals, given the environment that we're moving into. But you're right. It was an exciting moment for us to announce that transaction. In total we'll see around \$570 million from the SPAC plus the PIPE. We were originally planning to raise a \$200 million PIPE. But we were heavily over-subscribed and so we took a little bit more.

And the good news about that is it provides us the funding to get to first production. And we're anticipating first production in 2024 which is, you know, not far away in certainly resource development time frames. The good news is this transaction sees us funded to the other side of that.

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**Michael McCrae**

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Now, there is ocean diamond mining. Are the processes that you're looking at similar or how are they different?

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**Gerard Barron**

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Well, diamonds, firstly, are located in much shallower water. But, you're right. There's a lot of diamonds that are being extracted from our oceans from those shallow waters today. But, the methodologies – you should think of diamond mining more as a dredging operation.

And one other thing: one of the challenges of diamond mining offshore is the waste. Because essentially you are literally Hoovering up large areas of ocean floor. These are alluvial areas. And about 2% of them might be diamonds.

So, the other 98% of the material you have to return somewhere. And so sometimes you'll see these operations – where there'll be, you know, quite murky water, plumes surrounding. Whereas if I draw a comparison to what we're focused on, and keep in mind we're only focused on polymetallic nodules, we have no interest in sulfites or seafloor crusts because they really do require mining. Whereas these nodules just lay on the ocean floor. And so, our collectors will, using a jet propulsion system, collect the nodules, separate out the sediment, and then put the nodules into an aerolizer (PH) to be delivered to our production vessel 4,000 meters above.

And then of course we offload them to a transporter and move them to shore for further processing. So, from a waste perspective, at 4,000 meters we can be very efficient. And the good news around the dust or the plume at 4,000 meters and below is that what we're finding is the particles tend to flocculate together, which means they bind together, they become heavier, and they settle quite quickly. And so, you know, we're confident we'll have some, you know, very good news confirming not only our studies around that, but studies from other contractors and institutions who've been focused on this very topic.

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**Michael McCrae**

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Now, we are going to get – there's some marketing, there's some ESG issues – that have come up in the headlines. But I just want to keep it on – you were talking about production. What's the number one technical challenge right now you would really see to kind of making this deep-sea mining viable?

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**Gerard Barron**

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Well, if we cast our mind back 50 years, then there were many-- great industrial names. Lockheed Martin, Mitsubishi, Sumitomo, BP, and Shell were starting to collect nodules. This industry was coming alive. Now, of course, what stopped it was that the world had not agreed who owned the oceans.

But, the good news is a lot of the technical challenges were sorted out 50 years ago. Now, what's happened since then, of course, the offshore oil and gas industry, cable lane, pipe lane, has blossomed and so the technological development in that 50 years has been enormous. In fact, today, there was a news release by a Belgian company, DEME, who've been trialing their seafloor harvester in the CCZ area. And they today announced very successful trials. So, I think the technical challenge is really about scale. Because engineers love solving problems. And if I talk to the off-shore engineers, you know, they say, "Look, of course it's difficult. But, you know, we've been solving much more complex challenges than this. So, we've got this." And when I speak to the onshore engineers, it's pretty all the same, you know?

They see a pathway. All of our small-scale pilot work has been very encouraging. Our onshore pilot work that we're coming to a completion now with has been equally encouraging. So, I think it's really going to be just more around successful implementation.

And then obviously reliability. And that's one thing that has improved enormously. In 50 years we need lots of up time. And so, we're hoping that, you know, that's something that will just continue to improve. And there'll be hurdles, of course there will be. And, you know, we're feeling confident that many of the technical challenges are well in hand now.

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**Michael McCrae**

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People in the mining space are of course familiar with the deep-sea miner Nautilus Mineral which had a lot of challenges and that of course was in the last decade. And it eventually did go bankrupt in 2019. What's different this time that you think deep-sea mining can succeed?

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**Gerard Barron**

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Sure. Well, I always say, Nautilus were like the pioneers who ended up with the arrows in the back. You know, they went out there, blazed a trail. But totally different to our efforts. For example, they were focused on seafloor massive sulfites. That represents an entirely different challenge. Because you really do have to go mining those. You got to you know, there were big machines to turn big rocks into little rocks and pump them to the surface. Then also those seafloor massive sulfites are located in shallower water. And those areas tend to be more productive. So, there's a lot more biomass, more biodiversity in those areas as well.

The other thing is that while Nautilus found some of these systems, they didn't find a lot. So, the size of what they were able to identify was a fraction. I think they ended up with around six million tons of these seafloor massive sulfites.

Now, I've already got 1.6 billion tons identified under our 43-101. And of course, they upgraded in Papua New Guinea. And we all know that some of these developing jurisdictions can be challenging. Governments change. You know, the rules can sometimes be a little bit flexible. In the end I think Nautilus you know, just had a series of events and setbacks. And of course, they were operating during the GFC which meant that financing was challenging. And probably one of the most important factors was that this new demand for the transition away from fossil fuels was only just beginning to take hold.

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Whereas now, there is an enormous amount of focus on the need to make this transition happen, and what the true environmental cost might be of increased metal production. And so, you know, you need a lot of things going your way to get a new industry started. And I get the feeling that, you know, we've got a lot of those things, including the capital markets being open, to allow us to do this transition of course. And so, you know, hopefully our timing is right here, Michael.

**Michael McCrae**

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Remarking on the scramble for EV materials, Cleantech CEO Sam Riggle said OEM investment in nickel miners is inevitable due to the scramble for metals. Japan said it wants to be self-sufficient in battery materials, possibly looking at ocean floor mining. You know, you've mentioned it with the opening of the financial markets. It just seems like there's a lot of partnerships that are available to you in the EV space.

**Gerard Barron**

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No, I think you're right. And, you know, we've had the benefit of speaking to those EV companies for the last two and a half, three years. And so, they're challenged by the availability of raw materials to build their batteries.

They're challenged by the price. And they're challenged by sustainability. Now, this is a new set of problems for the auto industry because they always had a very commanding position in the supply chain. And, you know, we've seen in recent months, car companies have to close their manufacturing facilities because they can't get hold of a simple semiconductor chip.

Now battery metals will be, you know, even more impactful I think. And so, there is no doubt that if you're a major automaker, then you'll have to vertically integrate. Because you can't just push this supply problem onto the supply chain. Because you might find your practice in the queue is, you know, not ideal.

So, you know, we've seen obviously Tesla lead the way with, you know, building their own battery cells. We've now seen some other automakers make some announcements that they plan to lay some bets in a variety of areas. So, you know, and that's exciting news for a company like us that's trying to develop or planning to develop the world's largest battery materials asset. I mean, the opportunity to partner with some of those automakers who need to vertically integrate opens up an enormous amount of flexibility for us.

**Michael McCrae**

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The other players I see in your space are GSR and Lockheed Martin's UK Seabed Resources. Do you cooperate?

**Gerard Barron**

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We encourage, we encourage. We cooperate around issues to do with the regulator. Meaning the, you know, we support, you know, positions that are reasonable – whether it's under standards and guidelines. Generally, you know, we've all got our own strategy. And, you know, we've got a very clearly defined one at The Metals Company. And so, yeah, I'd call us, you know, in a pre-competitive stage. But we're encouraging one another. I probably wouldn't go as far as cooperating.

**Michael McCrae**

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Now, Gerard, the other headline was the signups that were done with the World Wildlife Fund and then that was Google, BMW, and a handful of other companies stating that they were asking for more study of deep-sea mining. You pushed back – strongly – comparing the impact of mining on land versus deep-sea mining. We understand the stories. But kind of on a PR basis, what's a strategy to gain wider acceptance of deep-sea mining? How do you get ahead of this story?

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## **Gerard Barron**

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Well, by awareness. You know, we think that we came out pretty strong against that position because we thought we had to. You know, if the names of companies that we were in dialogue with had been on that list, that would've been a heart-sinking moment.

But they weren't. They were companies that we've never, ever spoken to. And so, you know, to take a public stance like that, you know, I thought it was important that we come back and say, "Hang on. There are some other issues that we all need to be thinking about here. And this is what we're doing about those issues." And so, you know, I think that's the challenge at a wider level as well. Because, you know, if I was to, like, "protect the oceans" is a very easy idea to get behind. I want to protect the oceans. I consider myself an environmentalist.

And if you looked at the terrestrial mining industry and said, "Now we're going to do that in the oceans," you'd go, "That doesn't sound a very good idea at all." But of course, they're nothing alike. You know, we're talking about collecting these nodules off the ocean floor. We're talking about, you know, one of the least densely-populated, lowest-biomass areas on the planet. Like, there is 1,500 times less biomass where we pick these up from than when we're collecting nickel from in Indonesia. And when you start to understand how that impacts climate, because of course those rain forests are our carbon sinks as well.

So, it's an education task. And I think, you know, we're in it for the long game. We invest a lot of money in the environmental science part of it. You know, our boat has been on the water for the last six weeks. This will be our first campaign of 2021.

But there are three more. It arrives back to San Diego, it heads straight out again two weeks later. I mean we're investing – we'll invest \$75 million dollars on an environmental impact study. And so, I think it's just about being transparent. It's about being open. Letting people see the results. I mean we engage scientists from universities and organizations all around the world. Part of the deal is they're free to publish, you know, their findings. And so, yeah, I think, you know, it's a long game. But I think when people start to understand the tangible differences between this resource and the alternative, they're going to get behind us. Because we're a hands down winner.

## **Michael McCrae**

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What's the milestones for The Metals Company over the next 12 months?

## **Gerard Barron**

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By the end of this year we'll have our harvester in the water. And by middle of next year, we aim to have our end-to-end production system being piloted on our license area. So that's a really exciting moment for us.

We also have a lot of commercial conversations underway. You know, we're taking some of these customers with us along the journey of understanding the environmental challenges that we're addressing. And so, obviously the onshore pilot processing work is coming to an end for the pyrometallurgical. We'll shortly go out to tender for some of the pilot processing hydro network. We hope to have an area identified for our first onshore processing plant, where we can ship our nodules to in 2024 to turn them into battery metals.

You know, obviously the geopolitics that are very active in the world today are quite helpful for us because, you know, the world has finally woken up to the fact that China has invested well ahead of the curve and dominates the material supply of battery metals. So, you know, that means governments are saying, "Well, you know, how can we encourage you to locate in our jurisdiction as opposed to someone else's?" So, there is a lot of exciting action happening at The Metals Company over the next year.

And, of course, now that we're moving to a public stage, you know, we have a voice that can be heard, you know? And so that's one of the main reasons why we went down this path. One was to get access to capital, so we could accelerate, you know, the project. And the other was to get a louder voice so we can share this very, very important story.

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**Michael McCrae**

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Gerard, thank you for speaking with Kitco.

**Gerard Barron**

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Hey, Michael, my pleasure.

**Michael McCrae**

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I've been speaking with CEO Gerard Barron. He is with The Metals Company. My name is Michael McCrae. You are watching Kitco Mining.

### **About DeepGreen**

DeepGreen Metals Inc. is a Canadian explorer of lower-impact battery metals from seafloor polymetallic nodules, on a dual mission: (1) supply metals for the clean energy transition with the least possible negative environmental and social impact and (2) accelerate the transition to a circular metal economy. The company through its subsidiaries holds exploration and commercial rights to three polymetallic nodule contract areas in the Clarion Clipperton Zone of the Pacific Ocean regulated by the International Seabed Authority and sponsored by the governments of Nauru, Kiribati and the Kingdom of Tonga. In March 2021, DeepGreen announced that it had entered into a business combination agreement with Sustainable Opportunities Acquisition Corporation (SOAC) to accelerate project development and become a publicly traded company on NASDAQ as 'The Metals Company'. More information is available at [deep.green](http://deep.green).

### **About Sustainable Opportunities Acquisition Corporation**

Sustainable Opportunities Acquisition Corporation is a SPAC formed for the purpose of entering into a business combination with one or more businesses. While the Company may pursue a business combination in any industry, the Company intends to focus its search for a business that exists within industries that benefit from strong Environmental, Social and Governance ("ESG") profiles. While investing in ESG covers a broad range of themes, the Company is focused on evaluating suitable targets that have existing environmental sustainability practices or that may benefit, both operationally and economically, from the founders' and management team's commitment and expertise in executing such practices. For more information, visit [greenspac.com](http://greenspac.com).

### **Important Information About the Proposed Business Combination and Where to Find It**

This communication is being made in respect of a proposed business combination transaction contemplated by the business combination agreement (the "*Business Combination Agreement*"), dated as of March 4, 2021, by and among Sustainable Opportunities Acquisition Corp. ("SOAC"), 1291924 B.C. Unlimited Liability Company, an unlimited liability company existing under the laws of British Columbia, Canada, and DeepGreen Metals Inc., a company existing under the laws of British Columbia, Canada (the "*Company*" or "*DeepGreen*") and other concurrent agreements related thereto (together, the "*Business Combination*"). In connection with the proposed Business Combination, SOAC has filed with the U.S. Securities and Exchange Commission's ("*SEC*") a Registration Statement on Form S-4, including a preliminary proxy statement/prospectus. **SOAC's shareholders and other interested persons are advised to read the preliminary proxy statement/prospectus and, when available, any amendments thereto and the definitive proxy statement/prospectus as well as other documents filed with the SEC in connection with the proposed Business Combination, as these materials will contain important information about DeepGreen, SOAC, and the proposed Business Combination.** When available, the definitive proxy statement/prospectus and other relevant materials for the proposed Business Combination will be mailed to shareholders of SOAC as of a record date to be established for voting on the proposed Business Combination. Shareholders will also be able to obtain copies of the preliminary proxy statement/prospectus, the definitive proxy statement/prospectus, and other documents filed with the SEC that will be incorporated by reference therein, without charge, once available, at the SEC's website at [www.sec.gov](http://www.sec.gov), or by directing a request to: [Investors@soa-corp.com](mailto:Investors@soa-corp.com).

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## Participants in the Solicitation

**SOAC and its directors and executive officers may be deemed participants in the solicitation of proxies from SOAC's shareholders with respect to the Business Combination.** A list of the names of those directors and executive officers and a description of their interests in SOAC will be included in the proxy statement/prospectus for the proposed Business Combination and be available at [www.sec.gov](http://www.sec.gov). Additional information regarding the interests of such participants will be contained in the proxy statement/prospectus for the proposed Business Combination when available.

**DeepGreen and its directors and executive officers may also be deemed to be participants in the solicitation of proxies from the shareholders of SOAC in connection with the proposed Business Combination.** A list of the names of such directors and executive officers and information regarding their interests in the proposed Business Combination will be included in the proxy statement/prospectus for the proposed Business Combination.

## Forward Looking Statements

Certain statements made herein are not historical facts but are forward-looking statements for purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Forward-looking statements generally are accompanied by words such as “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “should,” “would,” “plan,” “predict,” “potential,” “seem,” “seek,” “future,” “outlook” and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, without limitation, SOAC and DeepGreen's expectations with respect to future performance, development of its estimated resources of battery metals, potential regulatory approvals, and anticipated financial impacts and other effects of the proposed Business Combination, the satisfaction of the closing conditions to the proposed Business Combination, the timing of the completion of the proposed Business Combination, and the size and potential growth of current or future markets for the combined company's supply of battery metals. These forward-looking statements involve significant risks and uncertainties that could cause the actual results to differ materially from those discussed in the forward-looking statements. Most of these factors are outside SOAC's and DeepGreen's control and are difficult to predict. Factors that may cause such differences include, but are not limited to: the occurrence of any event, change, or other circumstances that could give rise to the termination of the Business Combination Agreement; the outcome of any legal proceedings that may be instituted against SOAC and DeepGreen following the announcement of the Business Combination Agreement and the transactions contemplated therein; the inability to complete the proposed Business Combination, including due to failure to obtain approval of the shareholders of SOAC and DeepGreen, certain regulatory approvals, or satisfy other conditions to closing in the Business Combination Agreement; the occurrence of any event, change, or other circumstance that could give rise to the termination of the Business Combination Agreement or could otherwise cause the transaction to fail to close; the impact of COVID-19 on DeepGreen's business and/or the ability of the parties to complete the proposed Business Combination; the inability to obtain or maintain the listing of the combined company's shares on NYSE or Nasdaq following the proposed Business Combination; the risk that the proposed Business Combination disrupts current plans and operations as a result of the announcement and consummation of the proposed Business Combination; the ability to recognize the anticipated benefits of the proposed Business Combination, which may be affected by, among other things, the commercial and technical feasibility of seafloor polymetallic nodule mining and processing; the supply and demand for battery metals; the future prices of battery metals; the timing and content of ISA's exploitation regulations that will create the legal and technical framework for exploitation of polymetallic nodules in the Clarion Clipperton Zone; government regulation of deep seabed mining operations and changes in mining laws and regulations; environmental risks; the timing and amount of estimated future production, costs of production, capital expenditures and requirements for additional capital; cash flow provided by operating activities; unanticipated reclamation expenses; claims and limitations on insurance coverage; the uncertainty in mineral resource estimates; the uncertainty in geological, hydrological, metallurgical and geotechnical studies and opinions; infrastructure risks; and dependence on key management personnel and executive officers; and other risks and uncertainties indicated from time to time in the final prospectus of SOAC for its initial public offering and the proxy statement/prospectus relating to the proposed Business Combination, including those under “Risk Factors” therein, and in SOAC's other filings with the SEC. SOAC and DeepGreen caution that the foregoing list of factors is not exclusive. SOAC and DeepGreen caution readers not to place undue reliance upon any forward-looking statements, which speak only as of the date made. SOAC and DeepGreen do not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions, or circumstances on which any such statement is based.

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