

International Council on Mining and Metals' C00 on the four big trends in 2018

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March 26, 2018 – “There’s a lot of those macro metals that are going to very well through that increased focus on the transition to a low carbon future. Cobalt, lithium, these are going to be huge as well, as is nickel.” – states Aidan Davy, C00 and Director of the International Council on Mining and Metals (ICMM), in an interview with InvestorIntel’s Jeff Wareham.

Jeff Wareham: What are you seeing at PDAC this year?

Aidan Davy: It has been a real interesting PDAC. I have been coming to PDAC for about 6-7 years now. I lived with PDAC through the best of times and the worst of times.

Jeff Wareham: Especially the worst.

Aidan Davy: It has been fascinating because I think even when the industry was going through the toughest times, and particularly we are thinking about 2015 still going into 2016, PDAC has remained resolutely kind of optimistic throughout that whole cycle. It still has been very, very different and I think very gratifying to see that there has been much more optimism here than we have had for a couple of years now.

Jeff Wareham: From what I understand you have quite a background in the critical metals and in sustainability. What themes do you see in 2018?

Aidan Davy: Interesting, for 2018, and my background is I am a

sustainability professional. I have worked in this space for about 30 years. The organization I represent we work with 25 companies. They work across continents, across commodities and collectively they represent something like 30% to 50% of global production of major metals. When I look at the trends that I see for the industry there is four big trends that I am seeing as being really important in 2018. One is climate change. It is critically important, both in terms of the risk and the opportunity space. A second one is around the whole issue of contested ownership of resources. Some call it resource nationalism. I tend to avoid that term. That I think is a big, big issue for the sector. The third has got to be the rise in ethical consumer facing companies. The fourth is probably around gender, which is an issue that has been coming for this industry for a while and it is very much here.

Jeff Wareham: Wow. Those are some pretty broad subjects. Let us pick one. What do you think of those trends is going to matter the most in 2018?

Aidan Davy: I think they are all going to be critically important. Let us take the climate trend because that connects to the consumer facing company trend as well. I think historically this industry has been slow to engage on climate change, but in the past decade has really started to engage in a much, much more proactive way. Again, I think the initial entry point around this was very much looking at it through a risk lens. It has been around to, what extent are we contributing to carbon emissions? To what extent can we limit our impact in that space? But, also, to what extent can we make our operations more climate resilient? I think that has been a primary focus. What is changing now is the conversation increasingly is one around, what is the role of this industry in looking at the transition to a low-carbon future? That is very different for the mining and metals industry than oil and gas. Oil and gas is arguably

faced with an existential crisis by the increasing attention around climate change, whereas for this industry there's a huge opportunity.

Jeff Wareham: And what sort of companies do you see benefiting from those opportunities?:

Aidan Davy: There are a whole range of commodities that are going to be critically important in making that transition to a low carbon future. Whether you are talking about the critical metals and some of the rare earth metals. That's essential, fundamental. Then some of the macro metals, for example, copper is a critical part of the solution here. Iron ore is a critical part because if you are building large scale infrastructure around low carbon economy then that's an incredibly important commodity. Things like aluminum, fundamentally important. There's a lot of those macro metals that are going to very well through that increased focus on the transition to a low carbon future. Cobalt, lithium, these are going to be huge as well, as is nickel...to access the complete interview, [click here](#)

Northern Graphite CEO on their patent pending purification technology

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March 23, 2018 – “We were the original new graphite company a number of years ago. We have been at this a little longer than everybody else. As a result of that we have a project that has a

full feasibility study. We have our major environmental permit.” – states Gregory Bowes, CEO and Director of [Northern Graphite Corp.](#) (TSXV: NGC | OTCQX: NGPHF), in an interview with InvestorIntel’s Andy Gaudry.

Andy Gaudry: Thank you very much for coming. How is PDAC treating you this year?

Gregory Bowes: Pretty good. It is a little more upbeat than last year.

Andy Gaudry: That is wonderful. We are talking lithium batteries.

Gregory Bowes: Yes we are.

Andy Gaudry: Can we touch more on that please?

Gregory Bowes: Yes. I think graphite is a little bit underappreciated. We hear a lot about lithium and we hear a lot about cobalt. The price of both of those minerals has appreciated substantially. The third major battery mineral is graphite. Graphite is the anode material in the battery. You cannot have a lithium-ion battery without graphite. By weight there is 10 times more graphite than there is lithium in a lithium-ion battery. Elon Musk himself said it should be called a graphite-nickel battery.

Andy Gaudry: Really? Interesting, I did not hear that. Now to your project, it is quite technologically advanced. Can you please touch on that?

Gregory Bowes: Yes. We were the original new graphite company a number of years ago. We have been at this a little longer than everybody else. As a result of that we have a project that has a full feasibility study. We have our major environmental permit. We could probably be in construction late this year or early

next year. The next step is \$100 million dollars Canadian in financing to build the mine. This is not a junior exploration story. This is a predevelopment story.

Andy Gaudry: That is wonderful. What kind of strategy will you be using moving forward with that technology?

Gregory Bowes: The basic mine itself produces a concentrate. In order for that material to be used in batteries it has to go through various upgrading manufacturing type steps. All of that is currently done in China. A key step is purification and they use hydrofluoric acid, which is a very nasty substance. If you want to produce anode material for batteries in the West you need an alternative process. We filed a patent in January on a proprietary purification process that we developed. The thing that makes that unique is that Hatch Engineering, which is one of the world's preeminent process engineering companies, is the co-inventor on that patent and our technology partner. That is pretty strong third-party endorsement that we have something that has a real chance of being a commercial process that can compete with the Chinese...to access the complete interview, [click here](#)

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Giyani Metals CEO on manganese

for the battery market

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March 22, 2018 – “What we are really interested in here is manganese for the battery market. It is a little bit different than for the steel market.” states Robin Birchall, CEO & Director of [Giyani Metals Corp.](#) (TSXV: WDG), in an interview with InvestorIntel’s Peter Clausi.

Peter Clausi: You are a recent addition to the company I understand.

Robin Birchall: That is right. I joined the company at the back end of last year just before we did a small financing.

Peter Clausi: You raised \$2 million dollars?

Robin Birchall: Yes, just a little bit more than \$2 million. We also took in some cash. We have some holdings, liquid holdings in some other companies. We sold a little bit of that at the same time.

Peter Clausi: Right before joining Giyani you were part of another management team that took a project through to mine production.

Robin Birchall: That is right.

Peter Clausi: Now you have left that to do hopefully the same thing here.

Robin Birchall: Yeah, that is definitely the plan.

Peter Clausi: And our metal of choice?

Robin Birchall: What we are really interested in here is manganese for the battery market. It is a little bit different

than for the steel market. That is something that is taking a bit of education with people to explain.

Peter Clausi: What is it, a different formulation, a different size, different flake?

Robin Birchall: The best way I can explain it is to maybe think about coal. You have thermal coal and coking coal. They are not interchangeable.

Peter Clausi: Right.

Robin Birchall: You have something similar in manganese. You have direct shipping ore that goes to the steel market and then you have high-grade ore, which can be turned into very high purity manganese flake that goes into the cathodes for the batteries. These two things are not very interchangeable.

Peter Clausi: And you have the EMM.

Robin Birchall: So far the indications that we have are very high-grade material that can be used to make EMM.

Peter Clausi: What is next then on the company development path?

Robin Birchall: Right now we have been doing all our budgeting and planning for the field program. We have got our board meeting actually in a couple of days' time where we will approve the budgets and go ahead with the drill program and the geophysics. Then also we have a little bit of metallurgical testing that we are doing at the same time.

Peter Clausi: Okay. Drill program should be done by late summer?

Robin Birchall: We will be a little bit early on that. I think that the drilling program will be going through April so we will start to have results in April and a few more in May. We have

some material that is on site right now. We will have the drill results that will come directly from the drilling. Then we will be doing the metallurgical tests and we will start the metallurgical testing very soon on the stockpile. Then that testing will go a little bit into May and so we will have a series of results in May. Then in June we will probably have the resource.

Peter Clausi: Was this meant to be confirmatory drilling or resource definition?

Robin Birchall: This is resource definition. You have to remember that the overall scale of the deposit we have a pretty good idea of that...to access the complete interview, [click here](#)

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