Marcus Today On The Couch with Greg Hall CEO Alligator Energy talking Uranium and AGE

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**SPEAKERS**

Henry Jennings, Greg Hall

**Henry Jennings** 00:00

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**Henry Jennings** 01:21

Well, welcome to another session of on the couch. My name is Henry Jennings from Marcus Today. And today joining me actually from Zurich is Mr. Greg Hall, the CEO of alligator energy, so I'm really lucky to have Greg joining me on the virtual couch today. It's not too bad in terms of time difference in Zurich at the moment, and for those of you that will recognise alligator energy ag e is the stock code. And it is an ASX listed exploration company focused primarily I guess, and we'll get into that on uranium. And Greg is a very, very experienced operator in the uranium sector. He's been around. I was gonna say a long time, but it's probably doing a slight injustice. Greg, in terms of your, your vintage, but certainly you have been around and exceptionally got a huge amount of experience in the uranium and the nuclear sector. And lots of contacts all over the world as witnessed by the fact I guess that you are at the moment in Europe doing a bit of a tour of some of your old mate. So really looking forward to having a chat with Greg. So welcome, Greg. Thanks very much for coming on the programme.

**Greg Hall** 02:26

Thank you very much, Henry. Nice to be here and look forward to talk.

**Henry Jennings** 02:30

Yeah, it's, it's really great to have you on here. So first of all, let's let's talk about the underlying commodity, which is one of your specialities I guess, tell me about uranium, what's happening at the moment in Uranium?

**Greg Hall** 02:42

Well, Henry, most of your listeners will know that the background has gone on for many years post the tsunami in Japan, which which really put a delay at two new nuclear plants for some time, while people reviewed the industry as a whole. It was flat for quite a while, then I guess the market probably didn't anticipate how much impact that would have. But certainly it took 10 years before there started to be a bit of a turnaround. But there's some interesting things happen in that 10 years. First of all, you had a lot of new technologies emerge in the last 10 to 15 years a small modular reactors and micro reactors. But in particular, for the large reactors that we're all used to seeing and hear about, there's been a lot of innovation and improvement. So the name of the game in the new generation of reactors, generation three plus and Gen four is for passive safety. So instead of such as in the old nuclear power stations, you need backup power to safely shut down. The newer design reactors now have full passive safety, they rely only on gravity and conviction to safely shut down so. So you're seeing finally in our industry, after the first reactors in the 50s and 60s, the second reactors in the 60s, late 60s and 70s, early 80s. And then the third generation coming into the 90s. You're seeing now the innovation start to look at our industry in a different way. In particular, then the other thing that's occurred, of course, in parallel is the emphasis on the impacts of climate change. But even just in particular, just clean power, renewable power, clean power, sustainable power, whatever you like to call it, that started to have an impact. So prior to the cop 26 meetings last year, when many, many countries were feeling the pressure from their populations of having to rationalise and change their power generation techniques. Many countries came out and said, Okay, there's a stable nuclear operation system we have we've been improving the technology and the safety, there is now much better technology going forward. We're now going to revisit any putting nuclear power. So you had the US has for the very first time if you've got both things to both sides of politics supporting nuclear, it's been the Biden administration has put in credit, benefits tax credit benefits to maintain existing nuclear and to help support new modern nuclear. You've seen France totally reverse from phasing from reducing nuclear to now maintaining and increasing with new builds, you've got Finland going to do more builds South Korea doing more builds and sells technology further after which it has been doing in the Middle East. And a raft of other countries doing this. The small modular reactors, which which are quite different design, some of them, they will have an impact going forward, but it's probably about 10 years out, but then impact start. So the first commercial ones will be in the next few years. There's some old design small reactors already in places, for example, Russia, which has floating reactors, which are basically just nuclear vessel reactors, but the modern designs will take some five years to get commercialised. And then you'll start to have another 10 to 15% impact on your ad market from those. So that's been the combination of things. The most recent impact, of course, in the last three months is the war in Ukraine, which is pointed out a situation most people knew, but didn't quite realise was such a big impact, really, from the 80s and 90s, the US and Russia have been working together to to dismantle old nuclear weapons downgrade that highly enriched material into the power station grade and then burn enough reactor. So from 93 onwards, the US was importing enriched uranium product for for fuel fabrication for us reactors from Russia. And it's part of that dismantling of nuclear weapons treaty to bring it forward. So what is meant is that 30% of us utilities were reliant on an enriched uranium product from Russia. Now you've got the situation where the Ukrainian war sanctions on Russia, let's diminish our reliance on Russia, both gas in Europe, and now, uranium from that area. So the US utilities are voluntarily taking less material now over the last few months from Russian source and the sourcing out there. So that's benefiting companies like ours, we are early stage development project, we're probably at least three to four years away from production. There's others, which are 18 months to one, two years away from production. And we are benefiting because nuclear utilities, not just in the US, but in Europe and globally, and now wanting to meet us and say, When can you provide uranium? How can you provide it? What jurisdiction you're in, they're looking for stable jurisdictions to provide uranium. So it looks sorry for taking the time. But that's a sort of a snapshot from that sort of Fukushima day to where we are now. And why there's such an interest in uranium going forward.

**Henry Jennings** 07:51

No, I think it's, I think it's important to set the scene as you say, Greg, because, you know, when you look back at history, when was it nuclear fission energy, etc, was, obviously the 1930s. And here we are 2022. And we're now on the next generation of power stations, which is going to be a whole new leak, I guess, into the safety side of things. So it's, it's taken a long time to realise the vision I guess that those pioneers back in the 30s. So it's an interesting space, I think.

**Greg Hall** 08:23

Now, most certainly so. So you're right, that fishing was realised, way back then. Then the first sustainable reaction in the early 50s. In squash court in Chicago, can you believe just the first sustainable reaction, then the first commercial reactors early in UK and the US, and then ramped up from there? And look, we're in an asymptotic nature. Now, once you get, it's a bit like the year 2000, when you had tech startups, really making breakthroughs in technologies, you've now got startup companies, private fund, privately funded startup companies making breakthroughs in SMR type reactors. And the simple reason is, and you've seen in the rocket business, the space business, these companies almost plan to fail, they say we're going to have failures, let's learn from the failures or we go through into design, etc. And they get to the stage where they really got some bulletproof operations. Now, the word failure a nuclear is not what people want to hear normal, I was gonna say, but I'm just gonna say, developing a technology it's not so much a failure in the whole operation. It's it's just things that they piece by piece, develop the technologies and things don't work and then they get a total system that works. Remembering that all these SMRs have this failsafe technology for passive safety. It's not like Fukushima, Fukushima reactors were 1967 design. Okay, so it's such an old design. So these reactors have along with the technology is the safety technology comes with it.

**Henry Jennings** 09:59

And obviously Fukushima was was on the coast as well, which in retrospect probably wasn't the best place to put it. In an earthquake prone country, these these new generations, they need the same sort of water access than the old ones did?

**Greg Hall** 10:14

No, they're quite different. And there's there's quite a few different designs, so they use it differently. So for example, the new scale reactors SMRs are actually fully immersed in water in an underground fully contained pool. So that's part of their failsafe system, if you'd like you got that natural convection cooling. They still require a recycled water for heat flow and things like that. But because they might be 200 200 megawatt 150 200 megawatt rather than one gigawatt, they don't need the same volume of cooling as a large reactors.

**Henry Jennings** 10:49

And what's all this? I mean, clearly, the the price of uranium has been pushing higher and higher for fee. For years, it was sort of stuck below, you know, 20 $30 a pound. What's that? What's been happening on the price front recently?

**Greg Hall** 11:04

Well, as we saw in the last price run up to then five for 2012, or living really, you you've got two major pricing scenarios. One is the spot price, which is a sale of a parcel of uranium, with about 12 months, and within 12 month delivery. And the other is usually a long term pricing where nuclear utilities really, because we ran, it was only about 5% of their total costs, they can't afford to be without it, they can do long term contracts. And some of the contracts are fixed price, some might be market related. There's different formulas, but they'll do a contract, sign it now first delivery in two to three years delivered for five or seven years, those sort of things. So you've always got a difference in the pricing structure, you'll notice your views, listeners might notice that the spot price has a run up quite often and peaks up and then drops peaks and drops. And that's because you get financial traders coming into the uranium market. And doing that you'll you'll get people buying producers will take the opportunity to buy and hold some stock to back up their production. And utilities will sometimes buy and hold. But the long term underlying price has moves more slowly. At the end of the last month, the long term price moved to between 48 to $50. Us a pound up from in the 30s. So that was a significant jump. We've had the spot price run up to 64, then back down to 55. Now back down to the 40s. In general, over a steady market demand. The long term price should be higher than the spot. Long term implies a guaranteed supply and a premium price is attached to that. And that's the normal scenario. Spot then runs up and down according to immediate demand. And look what most people don't realise there's generally around between 800,000 to a million pounds of spot material traded every week. So it's you get a lot of regurgitation of spot supply between traders financials and things like that.

**Henry Jennings** 13:09

I guess with the advent of the uranium ETF that came from Sprott that that's also driven prices as well?

**Greg Hall** 13:17

You're right the Yellowcake fund was started in the UK. Some years ago, there was a UPS fund which took over and that's now the Sprott ETF. And there's another one out of Kazakhstan now and there's another one we talked about so so they the ideal for them is for for good size investors who want to invest in uranium and the commodity rather than the equities which are still got obviously some risk of getting the production then they can ideally just have a link to price and they've become very popular, you're right.

**Henry Jennings** 13:48

All right, well, let's have enough of the background let's get into the meat and, and the veg here, alligator, where does that fit into the picture?

**Greg Hall** 13:56

So alligator energy was a small expression group founded into that attendance at the end of the last boom, but did have a real expertise base based out of Brisbane real expertise base in the Northern Territory. So they had experienced people experienced in the Ranger uranium mine in that era area there. Plus the alligator rivers exploration had plus a lot of dealings with indigenous groups, and also in North Queensland. So that group initiated and picked up ground in the alligator rivers region did some deals with chemical and some of the major players to come in to some of the projects. And now alligator energy is the second largest footprint in that region. And I only joined the company to earn 15 as a non exec director, became CEO and turn 18. But I've got a long background there too. I was mine manager at Granger for four years in the late 90s and worked in on the marketing side for VRN Rio Tinto on uranium. So this team really developed some new techniques because Ranger and Jeb Luke are virtually at the surface and you can find you uranium surface by a guy who cannot. When you've underneath two to 300 metres of barren sediments, it's much harder to detect. So you're really looking for quite a small ore body maybe only 80 metres wide, underneath 400 metres of rock, you've got to develop some techniques. And that's what I look at it in to really innovative techniques detecting ancient levels of lead on the surface of the sediments at the surface, which were a different type of isotope of lead than would normally occur. And that's because there might be an underlying or what if your only which is, as it decays down ends up as late. So great innovation techniques, lots of smoke, lots of interesting some high grade intersections, small resource of caramel of only about 7 million pound, but haven't hit the big one yet. We're about to start work there, again in Alligator rivers. Because the novolac North package of new tenements, which has less ground cover, we're starting to do look at all the historical geophysics and do some new physics. So that's, that's the history of the company. We're still in Alligator rivers, we still got a large footprint, in fact, when we're doing probably more work there now than we have done for some time. First of all, we have to get into the ground for two years. So so we're really focused there. We also changed strategy a bit we were a pure explorer. Now with myself having a background as a manager uranium operations in uranium marketing, one of our board members, Peter McIntyre, was the managing director on the company extract which found a giant useable uranium deposit in Namibia and took that into early stage production before the Chinese bought it. And, and in our team, our chief operating officer Andrea Maslin Smith, who has got wide experience in exploration, but also as Operations Manager for the Beverly former uranium projects in South Australia for uranium in ISR in situ recovery time. So so we acquired the Samphire uranium project just south of whaler during 2020. So this was before the market ran up. So yes, timing was ideal. But we were looking for an advanced project that we could take forward. It's in situ recovery style at shallow discovered into than 78 by uranium essays, a company then run by Russell buck, and some very interesting work done some early stage evaluation of processing. We're now taking that step forward. And I'll talk about that more. We also have, we've got a wide range of approach in our company. We like Greenfield exploration. So we've got a couple of very experienced consulting geologists working for us. And in particular, we've now picked up ground would you believe it over the Cooper basin over the oil and gas basin in northern South Australia. And that's because the largest Institute leach in situ recovery uranium basins in the world are associated with hydrocarbon basins. So Kazakhstan is on the top of oil and gas, Wyoming and top of gas and coal, Texas on the top of oil and gas. And only one company has drilled a few holes for uranium in the Kuiper no more, they found some narrow band of uranium. But we're now at having a very detailed geological look at that whole basin. We've got a dedicated basin structural geologist doing this work. And we've just recently in atrophic, a Monday a pick up of additional ground around that area. So that's like taking an existing model of uranium that's been producing elsewhere in the world, and could exist here in Australia in this context. We're also looking for additional uranium projects we've been evaluating with an experienced consultant out of Denver. Other projects in the US, so I'm heading there on this trip to talk to a range of people a range of groups. So we're looking for additional returning projects, we can take forward possibly some projects within within certain countries in Africa. And the final thing I'll mention on alligator in summary is the Piedmont nickel cobalt project in northern Italy. Now of course pretty well every broker in Australia looks at me and says, what is management scenario, management retreat expiration scenario...

**Henry Jennings** 19:15

Cross cross my mind Greg I have to say, so I want that site visit.

**Greg Hall** 19:20

So we took the opportunity to pick this up when you're owning was in the doldrums nickel cobalt historical mines stopped dead at the end of World War 217 occurrences of point 5% nickel we've had a very experienced nickel expert ever candidate come and look and he said look, it's so unusual to see this much nickel surface like this. So we again we haven't been able to get on the ground for two years. We did some initial ground truthing into their name. Now we're about to get on with some detailed geophysics, high level plus ground and then we've got drew permits settled we're ready to draw. We're attracting some strategic partner interests because because you could almost say this is non core. However, Europe was changed into years. They want critical minerals, homegrown, if possible, or at least accessible through reliable and sustainable top producers, they reluctant to buy things out of countries, which they did don't don't trust the source of. So there is now support for this style of project and energy minerals out of Europe. So we believe there's value for our shareholders in that.

**Henry Jennings** 20:27

I'm heading to Italy in September, so maybe there's value for me to pop along and could have a little look. So that could be an option. I guess it's interesting, the whole way Europe is changing with this with the Russia and Ukraine war, and that it's critical materials and metals that they need to Greenify I guess, and this is part of that whole. That whole conversation, I guess. Now, the other day, you made an announcement about the big, big lake uranium project. And maybe you could tell us a little bit more about that one.

**Greg Hall** 21:00

Yeah. Well, as I mentioned, we picked up additional ground and this is largely on the work of of dedicated structural sedimentary basin geologists we've recruited, has commenced only a few months ago, along with one of our senior consultants. Essentially, the the model of this is you've got hot granites at depth in the Cooper basin. Everyone will remember the geothermal energy companies that were drilling, they're looking for geothermal power. And that's because you've got radiogenic grants, congenic grants containing uranium and some radiation, generate some heat. And then you've got the sedimentary rocks that have been laid over the top of it, these sedimentary rocks are three four kilometres deep. So it's quite a deep basin. And that's where the oil and gas from old forests gets trapped. And that's what the Cooper's been for many years. But there's a few other things like uranium, especially where you get weathered granted on top of this, this base, and no, granted, it's got a weathering profile, you get hot ground waters, leach out the uranium, and that heat flow drives it up through structures. And at the top, there's 500 metres of sediments, which are the younger age sediments, and they're the same formations that Beverly mine is found in honeymoon mine Sandfire, all of the same sediments. So the it looks like there's potential for the Iranian fluids that have come up, and then deposited out in the sediments. There's been, as I said, drilling the shown narrow bands of uranium. But we've got to see, is there the right sort of channel accumulations, where you could get an economic accumulation of uranium and if there's one, there's bound to be more so. So we we have first mover advantage here, it was a to GIOS, who brought this to us as a model. And thanks to them, we picked it up and took it on. We've now expanding it. And and we're about to put a lot of effort up there with geophysics. We're doing indigenous agreements with the two groups in that area and then getting on the ground drilling. So very exciting Greenfield, if we're able to discover a brand new field, that would be a game changer for us, along with advancing Samphire project in South Australia.

**Henry Jennings** 23:03

It sure sounds like you got a pretty ambitious agenda plan for the next few years. How are you going to fund all this? What's the funding position like for Alligator?

**Greg Hall** 23:14

Well, we're sitting on around 27 million cash. Now we did some capital raisings last year to support the work at Samphire and whale in particular, because we're doing some resource drilling and upgrade work there. And now some process test work and a scoping study. And planning a field leads trial, which is like a pilot plant for in situ recovery. So we wanted to fund that we wanted to fund a big life project and Alligator River soap. So we did two capital raisings last year, along with a dedicated loyalty option to our shareholders, and we bought in around 30 million cash in the last 12 months. So that it's all about making sure shareholders are seeing value from the money they've put in. The secondly, if your share price moves well, and you the markets very supportive, you might take the opportunity to enhance the programme. So for example, if we want to get right into the early stage approvals for the Sapphire project, so we want to spend some time there, we're actually going to expand the footprint of the Sandfire project and do some broader exploration, we want to put some funds in that. Plus we're looking, as I said, at other projects in other jurisdictions, so we're well funded for the activity. We're not taking the next couple of years. But we still want to look for more opportunities to bring into the fall to add value to the company.

**Henry Jennings** 24:32

Sure, what sort of was Samphire? What sort of CapEx is going to be involved in that project over the longer term?

**Greg Hall** 24:39

Look, the the original desktop study we did in late 2020. When we acquired the project is based purely on an inferred resource. So we can't publicly state our estimates of capital or operating costs. What we did say at the time, or we can still say is, they're in a similar mental realm to similar projects. So you've got similar projects such as honeymoon would We just got the saline water that Sandfire has in fact our salinity is a bit higher, Beverly and four mile have better water quality. So our costs will be in line with with that, but we've got shallow deposit. So instead of drilling 120 metres for every production, well we're drilling 60 to 80. So we've been given take, we believe it'll be in the realm of the existing ISR produces Australia we the idea of the enhanced resource to bring a portion of the blackbushe deposit at sandbar and indicated and the the then the metallurgical testing we're doing the chemical testing is we can then do a scoping study and announced those results because once you've got an indicator resource, you can announce them publicly for the ASX. Now that's that's due in the early third quarters the intent to do that.

**Henry Jennings** 25:48

I was gonna say, you know, we're halfway through 2022, which I'm still staggered that the year slipped by. I seem to spend most of it in isolation. But anyway, what what's the programme for the rest of the year and what sort of milestones should we be looking for, for alligator as catalysts for rewritings in the share price, I suppose.

**Greg Hall** 26:07

Look, in particular for Samphire, as I mentioned, we've completed our drilling, we've we've been releasing results, but three, three, lots of results, which show that we've reinforced in particular the higher grade. Point 8% 2.5 2.8% uranium is a very good grade for ISR. We've we've really interpreted the structures and layers there. Well, that's now without consulting geologist for resource enhancement. That data we anticipate towards the end of June, we would hope to have an updated resource maybe early July to get out. We have the answer test workbooks will should come through in July early August. And then we will have the scoping study being compiled off in the third quarter and the announcement of that scoping study. So that will be the first look at what sapphires capable of in terms of producing operation. Meanwhile, we'll get back on the ground drilling there for an exam. Do some extensional geophysics work in Alligator rivers. We're compiling up the historical geophysics. We're undertaking new geophysics and want to get on the ground here for some drilling. Whether we'll be able to get on the ground drilling this year or not. I'm not certain it has taken longer to read longer for the indigenous crews to be comfortable with people coming back into the area with COVID. And we understand that that's fine. So we certainly have meetings planned for late June work programmes for geophysics. We'll announce targets that will come out of that geophysics in the latter part of the year. Big Lake, the the geophysics will be in the we're doing now. But the underlying work will lead to some drilling planning. We're negotiating exploration agreements with indigenous groups to get on the ground in the latter part of this year for the drilling. And with with Piedmont, the geophysics has planned I think for August or September that the biggest issue like every exploration company in this country right now is getting the equipment you need and the manpower you need the specialist manpower. So we had a doofus accompany lined up with all the geophysics tools, we need to be shipped to Italy to do this work to start in July, fell over. We now got it in September. So Zamfara will be the lead news. And then followed by the big lake on the ground work and Piedmont navigator reverse.