BEYOND OIL

The battery play at the top of my buy list

17/6/2021

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The battery play at the top of my buy list

By James Allen

Editor and Publisher, *Exponential Energy Fortunes*

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In the springs that feed the Rio Salado, high up in a volcanic region of the Andes in Argentina, starts one of the most important stories in energy transition today.

Due to the magma chambers lying dormant within the inactive volcanoes, the water comes out of the springs at a hot 40 degrees Celsius.

As it starts to flow downstream, the water interacts with the surrounding rocks that form part of this extremely arid environment. Some rocks even dissolve, in a process called leeching.

The volcanic ash, which contains close to 1,000 milligrams/litre of lithium, spews across the area, some of which seeps into the water.

As the river winds down from the mountains, conditions become very hot and increasingly dry. The mineral-rich water is further concentrated by its interactions with the rocks along the riverbed, the volcanic ash, and from evaporation from the heat.

Source: Wikipedia

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Further downstream, the river feeds lakes that have evaporated so much they've become "*salars*", or the salt flats. (Rio Salado, after all, means "salty river".)

This process of hot spring water flowing through mineral-rich rocks that leeches into the water, where evaporation concentrates it further, could be called the "Lithium Machine".

The Lithium Machine has been rolling 24/7 for thousands and thousands of years.

The water table beneath these *salars* is known as brine, a lithium-rich form of water.

And one of these *salars*, called Tres Quebradas, is home to one of the most exciting lithium mining projects in the world.

Tres Quebradas is in the Lithium Triangle in South America, specifically at the southern end of the triangle in northern Argentina.

Formed over millennia by the interaction between the river, the volcanoes, and the local terrain, the brine at Tres Quebradas – or 3Q – has got phenomenal potential.

In fact, the congruence of factors described above make this forgotten part of the world home to one of the most lucrative opportunities in the world today…

… an opportunity that one company is set to capitalise on.

The local geography and topography is absolutely central to the firm's competitive advantage.

Indeed, to my mind, the producer's 3Q project – which has a very high lithium concentration that is very low in impurities – is *the* best lithium asset that isn't yet in production, anywhere in the world.

That gives it the largest upside with the lowest risk.

Importantly, the project is producing lithium carbonate, one of the dominant lithium chemicals in the market, making it ideal for mass adoption, quickly.

No wonder, then, that the world's biggest electric vehicle (EV) battery manufacturer has recently made a multimillion-dollar investment in the producer.

I think investors should follow the EV battery firm's lead and take their stakes in the producer before its project reaches commercialisation.

Although there are always risks that projects such as this fail to get off the ground, these risks lessen every day as it moves one step closer to completion.

Indeed, I think the company – called Neo Lithium Corp – could be *the* world's next major lithium producer.

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Our recommendation: Neo Lithium Corp (CVE:NLC)

Canada-listed Neo Lithium Corp is a junior miner, which means it's not producing lithium yet but is developing a project.

The established lithium producers outside of China are Albemarle, SQM and Livent.

From the range of junior miners, I believe that Neo Lithium is far and away the best choice.

It has the pre-eminent project in Tres Quebradas; a powerful corporate partnership with the world's largest EV battery firm; it is already far along in its journey to production; but still has enough obstacles to overcome that we can get in at relatively low prices.

For me, it's the perfect balance between risk and reward.

First, though, let's look at exactly what's on offer at the 3Q project in Argentina.

Neo Lithium owns 100% of the *salar*, which is 25km long and 5km wide. This is quite unusual. Most projects such as this are owned by partners or separate groups that control different parts of the operation. That can cause complication, as extracting from one end can affect the resources at the other. Owning the whole asset will make it much easier for Neo Lithium to expand the project, should conditions allow.

According to a report by Ocean Wall, lithium brine deposits are accumulations of saline groundwater that are enriched in dissolved lithium. These are quite common in nature, but there are only select regions in the world that contain brines in closed basins in arid regions – conditions that must be met to extract lithium salts at a profit.

The 3Q project is one of those places.

When mining lithium, drilling is required to access the underground brine deposits, which can contain anything from 200 to 1,600 milligrams per litre (mg/L) of lithium.

The brine is then pumped to the surface and distributed into evaporation ponds.

The brine remains in the evaporation ponds for a period of months or years, depending on the climate, until most of the liquid water content has been removed through evaporation, each pond in the chain having a greater Li concentration.

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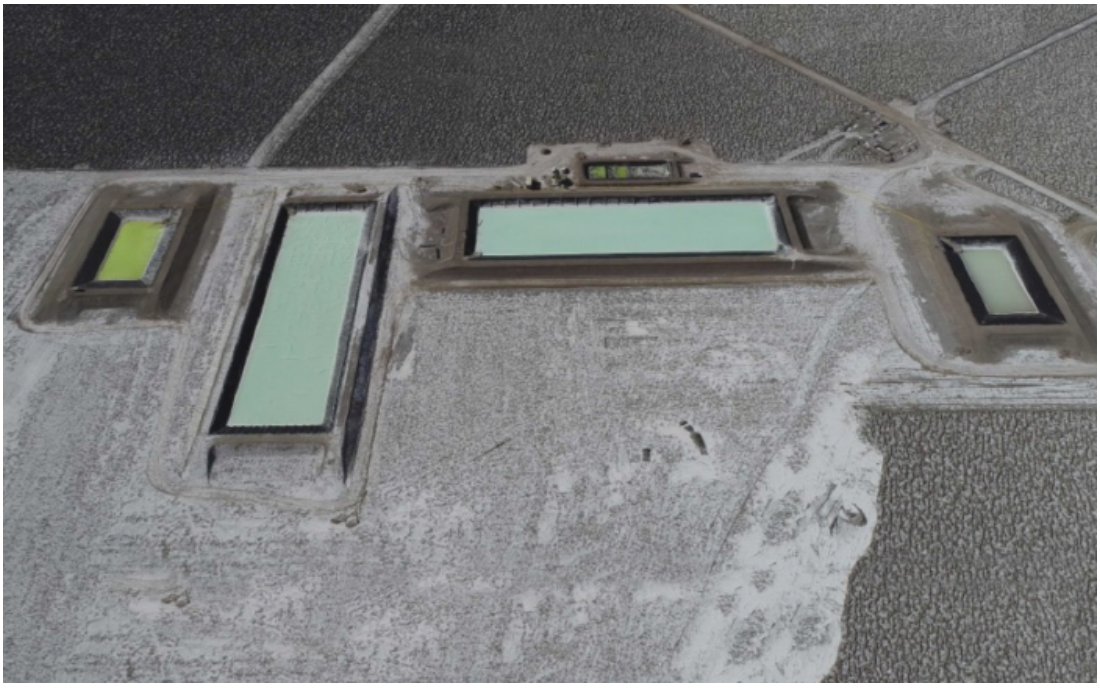
The colour changes as the brine becomes more concentrated, as you can see below.



Source: Neo Lithium Corp

The project Neo Lithium is working on is very promising, to say the least.

Thanks to all the factors described above, it is in the top five largest lithium brine deposits in the world, and in the top three highest lithium brine grades in the world. Finally, it has the lowest combined sulphate and magnesium impurities of any project not yet in production, worldwide.

The highest grade, lowest impurity pre-commercial lithium project

As said above, Neo Lithium is aiming to produce lithium carbonate.

Lithium carbonate is the cheaper of the two main lithium compounds. The other, lithium hydroxide, is the higher performing in battery technologies. But, as always, it's not a straightforward case of better or worse.

In fact, what this probably means is that the premium cost of hydroxide will make it the choice of premium EV manufacturers, with longer range but at a higher price.

Carbonate, meanwhile, looks like it's becoming the choice of the mass market – the everyday car 90% of people will be buying.

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This is likely to be where the biggest demand will come from in terms of volume, and hence why we are targeting its supply through Neo Lithium Corp.

That last point about impurities is especially crucial as we move past the evaporation ponds and into the next stage of the process – refining.

Removing impurities is costly and requires additional processes.

One of Neo Lithium's key advantages is that the very low level of impurities lowers the operating costs of production.

Very low impurity is a critical issue – sulphate and magnesium – they combine with lithium and so they subtract the lithium from the brine, and you can't recover it.

Every project in the world needs to remove them, which costs money.

3Q project is the highest grade *and* the lowest impurity project not yet commercialised, which means it can be put into project at very low operational expenditure.

The grade allows Neo Lithium to build smaller ponds for the same production, so capex is low compared to other projects.

That's what attracted CATL, the world's largest EV battery manufacturer, to partner with Neo Lithium, which I'll get on to in just a moment.

This has all been tested by an independent pre-feasibility study.

The tests and modelling that was undertaken have validated a number of key metrics for the project. The results provide robust support for our investment case.

According to the preliminary feasibility study carried out on the 3Q project in 2019, the 3Q project consists of brine extraction to produce 20,000 tonnes per year of battery-grade lithium carbonate for a 35-year period.

Total lithium reserves (proven *and* probable) are estimated at 1.29 million tonnes of lithium carbonate equivalent (LCE), of which proven reserves make up approximately 328,000 tonnes of LCE, plus probable reserves of approximately 966,000 tonnes of LCE.

The average lithium grade predicted for the production period is 790 mg/litre.

The estimated net present value for the project over its lifetime, according to the CFO Carlos Vicens in 2020, is US$1.2 billion. For reference,the current market capitalisation is just CA$365 million at the time of writing.

Will there be a customer for all that lithium though?

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A partner and a buyer

While it's clear that the electric vehicle megatrend and the coming boom in battery storage applications will increase demand, it's set to be a steady acceleration rather than coming in huge leaps and bounds in the next year or two.

One of the key developments for Neo Lithium was the arrival of CATL as a stakeholder and partner last year.

In September 2020, China's CATL entered into an equity subscription agreement to invest CA$8.5 million in new equity in Neo Lithium, representing an 8% equity stake.

But CATL's role is going to be more than just as a shareholder.

You see, lithium markets operate quite differently to most.

Take gold, for example. Once it's been mined and produced, gold is gold and you are likely to find a buyer. Consumers don't have any particular needs, so you can sell it to pretty much anyone.

With lithium, it's a different story.

Each battery technology and battery maker is slightly different, and as a result has slightly more varied requirements.

That means that battery grade lithium can mean different things to different people.

CATL is involved, then, not just as a shareholder but as a process designer and future customer. The EV maker will be integral to making sure that a precise kind of lithium carbonate comes out of Neo Lithium – and, when it does, it will buy it.

As an investor, strategic partner and future buyer, CATL – the world's biggest battery manufacturer, remember – is certainly manna from heaven for Neo Lithium.

CATL will also aid Neo Lithium in completing the full feasibility study, which is the current focus of the company.

Neo Lithium CEO Waldo Perez points out that, prior to CATL's equity stake, the company already had enough cash to get itself to production – around CA$40 million – but that what it really wanted was a partner, and the sooner the better.

So CATL will boost the process of getting the incredible Tres Quebradas project into production and goes a long way to guaranteeing a willing customer for Neo Lithium's product once it is fully operational.

It's a fantastic sign for a company at this stage in its development, and a resounding endorsement of the project and the company.

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If all goes well, and demand is there, then the picture is looking incredibly promising. Let's take a look at the financials to see why.

The financials

Financially, there are a couple of main things to look at.

The first thing to say is that the cash position is solid, and with CATL's recent stake, it has more than enough to get it to production.

More interesting, perhaps, is the expected future financials of the lithium market.

We know that Neo Lithium is planning on making lithium carbonate, the cheaper of the two main types (hydroxide being the other).

It is cheaper, but the production process is also less costly, so in terms of margin it's quite even.

The pre-feasibility study was done on the basis of Neo Lithium producing 20,000 tonnes of lithium carbonate per year.

In that case, with lithium carbonate prices currently at $13,750/tonne, we can expect annual revenues in the region of $275 million.

The average industry cost per tonne of producing lithium from brine was around $5,600 in 2019 (latest available data).

So, margins for carbonate would usually be above 50%, but with the cost advantages afforded by the high-grade and low-impurity brine deposits at the 3Q lake, I'm very hopeful that Neo Lithium will be able to capture more of that revenue as profit.

With this in mind, I believe that the quality of the deposit, combined with the CATL partnership making production more likely, means that the current market cap of CA$365 million undervalues the company's financial potential, and that over the next few years this could represent a fantastic entry price.

But it won't be plain sailing. Let's take a look at what could go wrong between now and then…

This is a risky investment, no doubt

The primary risks are the nature of the business and Covid-19.

The nature of the business as a junior means that there are still plenty of obstacles to overcome.

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The reason it's valued at just a few hundred million dollars – despite having a project with potentially 1.3 million tonnes of lithium – is that a lot can go wrong in the next 35 years.

Maybe there are problems with financing, with finding customers, with competition, with production, capacity – anything. Until it's churning out 20,000 tonnes of lithium carbonate year after year and delivering it to buyers, shareholders have few guarantees of success. What we are buying is promise and potential, and it's important to remember that.

Meanwhile, Covid-19 remains the primary risk to the company, at least in the short term. Argentina has been hit hard by the pandemic, like everywhere else, and has gone down the stricter route when it comes to restrictions.

When the partnership with CATL was signed, they weren't even allowed to fly in and visit the project, for example.

Finally, there is the risk that miners are scrambling over one another to lead the race to supply the global battery and electric vehicle market.

Such a setup naturally lends itself to oversupply, if for some reason the take up of EVs doesn't keep pace with the supply of lithium.

Judging by Tesla's antics last year, intimating it would start its own lithium mining business, the concern from automakers is in the other direction. They are worried about undersupply.

Both hydroxide and carbonate will be in short supply as demand – from grid-scale energy storage to EVs – is set to go ballistic. I see the future applications of lithium batteries easily outweighing current supply.

In such a world, buying into a prime lithium supplier before it enters production is really an opportunity too good to miss.

That's why I'm recommending you buy Neo Lithium Corp (CVE:NLC).

Please make sure you review the latest advice before purchasing. Click here for the latest portfolio. It's important to keep an eye on the latest updates and the portfolio. If the current price is above the buy-up-to price, wait until it has come back down to buy.

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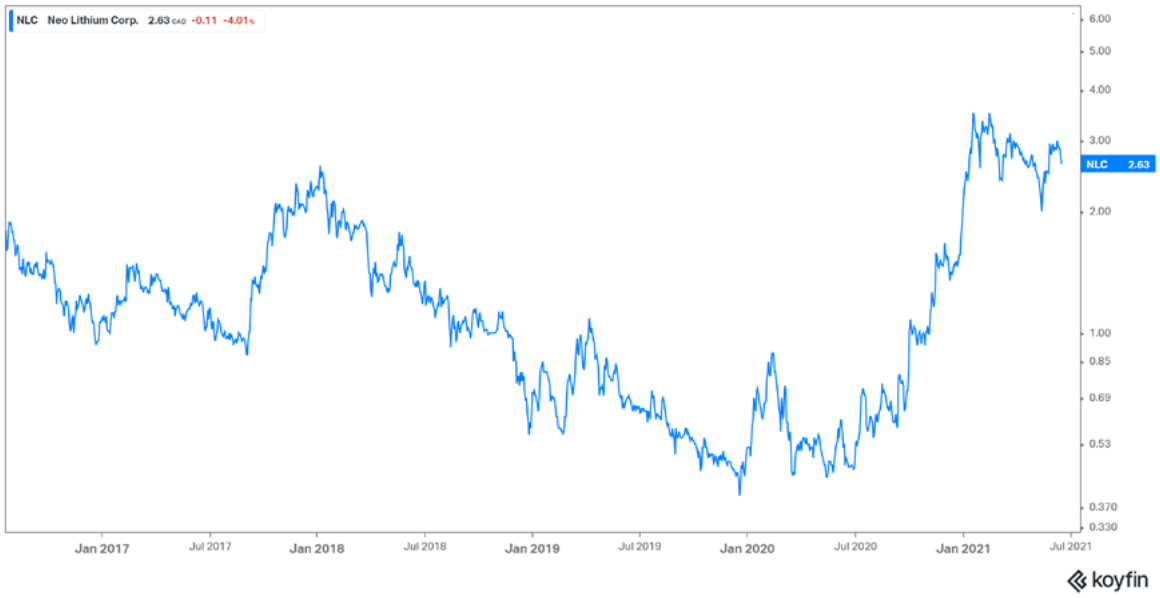

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