



TALGA RESOURCES MANAGING DIRECTOR MARK THOMPSON

Perth-based junior Talga Resources is looking to make its mark in the battery metal space with a vertically integrated business that starts with its large European graphite deposits. Elizabeth Fabri spoke with Talga Resources managing director and founder Mark Thompson about the company's recent success, new technologies in the works, and outlook for the graphene and graphite markets.

Q. You're a Perth-born, self-taught geologist. How did your idea for Talga begin?

Talga Resources was originally Talga Gold, which I founded to test a portfolio of high-grade gold projects in WA's Pilbara and Yilgarn regions in 2010.

Initial gold exploration results were encouraging but not revolutionary, and in looking to grow the company I saw the megatrend of increased electrification and battery demand. This was in 2011.

In looking deeper into the underlying materials, graphite stood out as having a large and incumbent role in many battery technologies, while still flying under the radar.

The potential was to be an early mover, gaining a world class asset that would be impossible in other battery minerals. After reviewing deposits all over the world I found some extremely high-grade deposits in Sweden.

We pegged our first graphite deposits in late 2011 and in early 2012, before moving on the purchase of a Teck subsidiary, which owned a portfolio of assets in north Sweden including the ultra-homogenous and high-grade Vittangi graphite deposit.

Vittangi still remains the world's highest-grade mineral resource of graphite under JORC or NI43-101 codes, and along with our other projects there we now control the largest graphite deposits defined in Europe.

Q. Was vertical integration always the end game?

No. When we started it was a straight forward raw material play, but a metallurgical breakthrough transformed the project.

This led us on the path of developing a new and wholly owned processing technology, making graphene alongside graphite but in an integrated way. Quickly thereafter we found that

potential graphene consumers need fit-for-purpose material, translating into particle engineering and chemistry fit to match manufacturing lines.

So, we created an in-house R&D team and now have a growing portfolio of graphene product technologies and intellectual property.

This level of vertical integration is a major advantage for us and to large end users, and our IP carries over into product lines and offers further value opportunities such as production royalties and licencing.

Q. Why did you establish a subsidiary—Talga Battery Metals AB—for your cobalt projects?

The Teck transaction included what is known as Sweden's largest cobalt deposit, Kiskama.

Being an IOCG system the deposit has some attractions in scale compared to other European deposits that tend to be in small veins.

Kiskama also has copper and gold co-products and extremely high metallurgical recoveries, making it attractive on a numerous levels.

However, our main focus is delivering the graphite-graphene project. As metal projects require extra demand for skills, processes and ways to finance development we decided to proceed with an internal restructure, splitting the assets to enable better resourcing for advancing the battery metals projects.

This includes a dedicated management team being appointed and exploration designed so as to increase value prior to deciding on the best path forward for Talga Battery Metals; a decision which may include options such as a spin out.

Cobalt prices have been off their peaks lately but in any scenario going forward the demand is there, and our potential supply is strategically located.

Q. Take us through the recent quarter highlights.

We announced breakthrough test results from our fully formulated Li-ion battery anode, finding a substantial (about 20 per cent) increase in power and energy. The anodes were prepared in commercial scale pouch cells, showing we can engineer a "super-graphite" to be anode ready.

This offers potential for us to enter the value chain at a much higher level and capture higher margins.

On the graphene front we found that the addition of our Talphene® could make concrete significantly electrically conductive, opening the possibility for heating applications such as snow/ice free roads, footpaths and driveways.

It could also potentially play a role in the dynamic charging of electric vehicles through induction.

Towards the end of the quarter we also completed an \$8.5 million placement providing funds to accelerate the battery grade graphite development, cobalt development and strengthening the balance sheet for advancing graphene developments.

Q. Talga has formed some strategic partnerships and commercial agreements in recent years with the likes of Jaguar, Landrover, University of Cambridge, CSIRO, Bosch, BASF, Heidelberg Cement, Tata and recently Haydale for conductive ink. What has been your strategy for collaboration?

The graphene products strategy is to invest in people, our own IP, and technology to make a prototype of a product and demonstrate how it performs.

This means you bring a lot of know-how and equity to the customer and offer more value in a collaboration, and can speed up the practical development of advanced materials directly with brand name end users.

Q. What is your outlook for the graphite and graphene markets, and where does Talga fit in?

The outlook for natural graphite demand is very strong.

China is cracking down on polluting graphite producers, but at the same time the world using more graphite in batteries, [so the] prices of natural graphite have started to rise strongly, depending on the grade.

Some report China will go into graphite deficit as soon as next year, as Government-legislated electric vehicle production creates overwhelming new demand, stranding much of the rest of world without supply.

Talga is well positioned to take advantage of this having developed, in addition to our graphene additives, breakthrough anode-ready graphite products.

The graphene market is in its infancy but accelerating, as more manufacturers work directly with customers rather than chase retail sales. No one doubts that it has a bright future.

Q. Final thoughts?

Our original thesis in taking Talga into industrial minerals and technology still holds.

I meet industrial conglomerates and global scale automotives regularly now and there is a tsunami of demand coming, emerging from the new market drivers and legislation towards cleaner air.

Likewise in graphene products, where it is earlier days but commercialisation of new breeds of materials is underway.

With our strongly integrated mineral resources, process technology and downstream advanced materials, I feel we have built an Australian business with a global and potentially powerful role in both our commodities and the energy mobility landscape. It is an exciting time.