31 July 2019



ASX:TLG

QUARTERLY ACTIVITIES REVIEW FOR THE PERIOD ENDING 30 JUNE 2019

Talga Resources Ltd ABN 32 138 405 419

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Corporate Information

ASX Codes **TLG** Shares on issue **220.8m** Options (unlisted) **13.6m**

Company Directors

Terry Stinson Non-Executive Chairman

Mark Thompson Managing Director

Grant Mooney Non-Executive Director

Stephen Lowe Non-Executive Director

Ola Mørkved Rinnan Non-Executive Director

Andrew Willis Non-Executive Director Australian advanced materials technology company, Talga Resources Ltd (**ASX:TLG**) ("**Talga**" or "**the Company**") is pleased to report its activities for the quarter ending 30 June 2019.

Talga is building a vertically integrated business with wholly-owned, world-class graphite mineral resources, processing innovations and breakthrough, patented technologies, to produce advanced energy and smart materials at the forefront of the global sustainability shift.

During the June quarter, the Company completed a Pre-Feasibility Study ("PFS") for Talga's wholly-owned, tier 1 high grade Vittangi Graphite Project in north Sweden. The study confirmed the project's planned two stage mining and downstream processing pathway is technically and financially robust, with outstanding economic returns as a high margin vertically integrated producer of coated lithium-ion battery anode, Talnode®-C, for the global battery supply chain.

Highlights of the Vittangi Graphite Project PFS include:

- Pre-tax project NPV₈ of US\$1,056 million and pre-tax IRR of 55%
- 22-year life of mine revenue of US\$4,148 million and net profit before tax US\$3,133 million
- Staged development with initial Stage 1 capital expenditure of US\$27 million and Stage 2 estimated capital expenditure of US\$147 million
- Steady state 19,000 tpa fully coated anode product Talnode®-C via integrated concentrator and anode refinery
- Independently assessed Talnode-C price of US\$11,250/t (Benchmark Mineral Intelligence) at estimated US\$1,852/t production cash cost – delivering high margins
- Stage 1 commencement planned for mid-2020
- PFS based solely on Vittangi's maiden Nunasvaara South deposit Ore Reserve, leaving large upside for future growth

Additional highlights of the June 2019 quarter activities included:

- Initial assay results from drilling of Vittangi's Niska graphite prospect, confirms significant new and wide discovery of high grade extension to the Nunasvaara graphite deposit
- Expansion of Sweden operations to support development
- Project financing and product customer marketing discussions
 progressing well
- Cash balance of A\$7.7 million as at 30 June 2019



Talga Managing Director, Mr Mark Thompson: *"Talga is now making a strong transition into the commercial phase of the global and particularly, European, supply chains focussing on servicing expanding new battery markets and other emerging sustainability technologies and products. To achieve such a financial and technically robust PFS for Vittangi, at a time of higher engagement with potential project partners and offtake customers, is a strong demonstration of the depth of our technical team and global alliances nurtured over the past few years – Talga continues to pursue and progress a number of commercial and financial collaborations and is well positioned to scale up its activities to deliver into future supply contracts."*

NEW BATTERY MATERIALS PROCESSING PATHWAY

During the quarter, pilot metallurgical testing of Vittangi graphite ore produced high concentrate recoveries and purities suitable for lithium ion ("Li-ion") battery anode material products using unique combinations of industry standard crush-grind-flotation processing equipment (see ASX:TLG 10 Apr 2019).

The results open up new and economically improved process pathways, allowing for a staged development from Vittangi as outlined in the Pre-feasibility study ("PFS" or "Study"), released during the period.

In addition, processing of ore samples from Talga's Jalkunen and Raitajärvi graphite projects, also in north Sweden, and employing the same industry standard methods, produced similar results, supporting their future development potential for Li-ion battery anode material.

SWEDISH GRAPHITE ANODE PROJECT

Figure 1. Schematic of Li-ion battery showing application area of graphite anode.



During the period under review, the Company announced highly positive results of the Company's PFS for its 100% owned Vittangi Graphite Project ("Vittangi" or "the Project") in north Sweden (see ASX:TLG 23 May 2019)

The PFS proposes a staged, conventional open-pit mining operation with on-site concentrator and coastal anode refinery to produce Talnode[®]-C, Talga's fully coated engineered graphite anode product, ready for mixing and coating on current collectors in the Li-ion battery production line.

The initial stage is designed as a low capex toll processing operation over 2 years to feed the Stage 1 anode refinery prior to scaling up to steady state full-scale production at Stage 2.

PARAMETER	UNITS	OUTCOME	
Annual ore mining rate	tonnes	100,000	
Average annual production of Talnode-C	tonnes	19,000	
Life of Mine (LOM)	years	22	
Pre-tax NPV ₈ (real)	\$M	\$1,056	
Pre-tax IRR	%	55%	
Capex Stage 1	\$M	\$27	
Capex Stage 2	\$M	\$147	
Payback*	years	1.5	
Talnode-C average price**	\$/t product	\$11,250	
Revenue (LOM)	\$M	\$4,148	
Cash cost of production of Talnode-C	\$/t product	\$1,852	
EBITDA (LOM)	\$M	\$3,254	
Net profit before tax (LOM)	\$M	\$3,133	

Figure 2. Summary financial highlights of PFS. (All in USD)

*From Stage 2 commissioning ** Pricing is based on a Talga commissioned report by Benchmark Mineral Intelligence, a globally recognised leader in research data specialising in independent price assessments of lithium-ion battery raw materials, including graphite anode. The price used is based on Talnode®-C high-performance specifications discounted by 20-30% to allow for long-term offtake pricing and other marketing and agency costs.

The Talnode-C pricing of US\$11,250/t as proposed in the PFS is based on discounting the recommended pricing provided by an independent globally recognised product and market assessor, Benchmark Minerals Intelligence.

Positive project economics are driven by vertical integration, capturing full margins of the anode supply chain, the Project's high resource grade and product performance.

The Project also benefits from its favourable location within the existing regional mining and processing infrastructure of north Sweden, with close access to modern roads, ample water supply, nearby container ports and low-cost, low- CO_2 hydropower.

The Talnode-C pricing of US\$11,250/t as Figure 2. Schematic of the Vittangi mine to anode project.



The Study is underpinned by a maiden Nunasvaara South Ore Reserve of 1.9Mt at 23.5% TGC (Golder UK), representing only 18% of the current global *Indicated* Nunasvaara JORC (2012) Mineral Resources Estimate (MRE) of 10.7Mt @ 25.7% Cg (see ASX:TLG 23 May 2019).

Active graphite anode material for lithium-ion batteries

Talga's fully coated graphite anode product is engineered to be ready for mixing and coating on current collectors in the Li-ion battery production line.

Market qualifications and testing by independent institutes and potential customers over the past 12 months support not only the suitability of Talnode-C for lithium ion batteries but also confirms its performance to be similar or better than highly priced synthetic graphite.

All customer sample tests are subject to non-disclosure agreements at present, but Talga looks forward to sharing more details when new agreements are undertaken and it is commercially possible to do so.

Pathway to anode production

Project permitting and approvals continue to progress with commencement of Stage 1 anode production, including downstream refining and the production of high value fully-coated active anode material, planned for 2020 and steady state production to follow in 2022.



Figure 3. Talga's Dr Fengming Liu preparing and testing Talnode-C at Talga Technologies Ltd (UK)

SPECTACULAR DRILL RESULTS SIGNIFICANTLY EXPAND VITTANGI GRAPHITE DEPOSITS

During the period under review, the first assay results were received from Talga's diamond core drilling program completed at the Niska graphite deposit (see ASX:TLG 4th April 2019 & 5 June 2019), located 1-2km northeast along strike of the global total Nunasvaara Mineral Resource of 12.3Mt @ 25.5% Cg (see ASX:TLG 27 Apr 2017) within the Vittangi project.

Initial results included **135.6m @ 25.8% graphite** ("Cg") from 4.4m in NUN19010 (inc. **21.6m @ 25.9% Cg** from 4.4m and **88.1m @ 29.8%Cg** from 51.9m), **30.2m @ 25.2% Cg** from 15.3m in NUN19003, **33.3m @ 26.3% Cg** from 25.0m NUN19004 and **18.8m @ 27.2% Cg** from 37.7m in NUN19006.

Subsequent to June 30 (see ASX:TLG 3 July 2019), the balance of the assay results returned further exceptionally wide and high grade graphite downhole intercepts including **72.0m @ 29.9% Cg** from 105.5m in NUN19023 (inc. **32.0m @ 41.9% Cg**), **73.0m @ 29.7% Cg** from 112.1m in NUN19026 (inc. **18.0m @ 41.4% Cg**) and **106.4m @ 25.5% Cg** from 24.8m in NUN19015.

Work on defining a maiden JORC-compliant mineral resource estimate for Niska will now commence, along with metallurgical and anode product testwork towards including Niska in future feasibility studies.

CORPORATE AND INVESTOR RELATIONS

Board Appointment

Subsequent to the June quarter end, the Company appointed its second European based Board member, Andrew Willis, as a Non-Executive Director. Mr Willis, an experienced finance executive and investment manager, is the Co-Managing Partner of London based Pallinghurst Group, a leading strategic investor in the global metals and mining sector. The Pallinghurst Group has a particular focus on battery metals and the Company looks to leverage off both Andrew's and Pallinghurst's experience and technical capabilities as Talga looks to develop the Vittangi project.

Kiruna Office

During the period under review, the Company opened a second Swedish office, in Kiruna, strategically positioned near Vittangi, Talga's flagship graphite project, to further support the Company's local stakeholders and project development. The expansion includes the appointment of a Community Relations Manager, Ms Dharma Johansson, a former Business Development Manager (Sustainability and Destination Strategy) for the local investment and tourism organisation, Kiruna Lapland. Further recruitment of staff for the Swedish operation is underway as the project development progresses.

Outreach

During the period under review, senior Talga staff visited graphite facilities in China and Mongolia, prior to re-visiting Japan for meetings following release of the Company's Vittangi Graphite Project PFS.

Talga staff and management presented during the quarter at notable events such as the Benchmark Mineral Intelligence World Tour event in London, the Graphene2019 conference in Rome, the Arctic Business Forum in Rovanemi, Finland and the SGU Mineral forum in Luleå in Sweden. The Benchmark presentation is available on Talga's website.

During the quarter, Talga also exhibited at the 'European Battery Show' in Stuttgart, Germany, and participated in the The Batteries for Electric Vehicle event held at the London Stock Exchange and organised by the UK Department for Business, Energy and Industrial Strategy.

Talga was nominated for the Innovation category of the renowned 'Green Awards' and attended the awards ceremony in Berlin, promoting the Company's conductive concrete graphene product.

Figure 4. Green Awards nomination for "Innovation of the Year" for Talga's conductive concrete.



Tenement Interests

As required by ASX listing rule 5.3.3, refer to Appendix 1 for details of Talga's interests in mining tenements. No new joint ventures or farm-in/farm-out activity occurred during the quarter.

Financial

Following the exercise of options during and subsequent to the period, along with the expiry of unlisted options in June, the Company currently has 220,006,450 quoted ordinary shares and 13,612,963 unlisted options on issue. Talga closed out the 2019 June quarter with A\$7.7 million cash-in-bank.

For further information, visit www.talgaresources.com or contact:

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About Talga

Talga Resources Ltd ("Talga") (ASX: TLG) is an advanced material technology company enabling stronger, lighter and more functional graphene- and graphite-enhanced products for the multi-billion dollar global coatings, battery, construction and carbon composites markets. Talga has significant advantages owing to its 100%-owned unique high grade conductive graphite deposits in north Sweden, a Research and Development test processing facility in Germany and in-house product development and technology. Joint development agreements are underway with a range of international corporations.

No New Information

To the extent that announcement contains references to prior technical information, exploration results and mineral resources; these have been cross referenced to previous market announcements made by the Company. These had been disclosed to JORC 2012 standard. Unless explicitly stated, no new information is contained. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements that assumptions and technical parameters underpinning the relevant market announcement continue to apply and have not materially changed.

Tenement Holdings

Project/Location	Tenements	Interest at end of quarter	Acquired during quarter	Disposed during quarter
Ahmavuoma Project Norrbotten County, Sweden	Ahmavuoma nr 3 Ahmavuoma nr 4 Ahmavuoma nr 5	100% 100% 100%		
Aitik East Project Norrbotten County, Sweden	Suorravaara 2 Suorravaara 3 Suorravaara 4	100% 100% 100%		
Jalkunen Project Norrbotten County, Sweden	Jalkunen nr 1 Kursuvaara Nybrännan nr 2	100% 100% 100%		
Kiskama Project Norrbotten County, Sweden	Kiskama nr 1 Airivaara nr 100	100% 100%		
Lautakoski Project Norrbotten County, Sweden	Jukkasvaara nr 2 Lautakoski nr 2 Lautakoski nr 4 Piipiönjoki nr 1 Suinavaara nr 2 Suinavaara nr 3 Suinavaara nr 4	100% 100% 100% 100% 100% 100%		
Masugnsbyn Project Norrbotten County, Sweden	Masugnsbyn nr 101	100%		
Piteå Project Norrbotten County, Sweden	Gråliden nr 2 Önusträsket nr 2	100% 0%		100%
Raitajärvi Project Norrbotten County, Sweden	Raitajärvi nr 5	100%		
Vittangi Project Norrbotten County, Sweden	Maltosrova nr 3 Nunasvaara nr 2 Vathanvaara nr 101 Vittangi nr 2 Vittangi nr 3 Vittangi nr 4	100% 100% 100% 100% 100% 100%		