Positive Niska Scoping Study Outlines Pathway to Globally Significant Battery Anode Production

Battery anode company Talga Group Ltd ("**Talga**" or "**the Company**") (**ASX:TLG**) is pleased to announce the completion of its scoping study on the Niska South, Niska North and Nunasvaara North graphite resources ("**Niska Scoping Study**" or "**Study**") in northern Sweden.

Key outcomes from the Study demonstrate strong support for a stand-alone mine and anode refinery, with robust economics driven by high graphite resource grade, high anode product yields and vertical integration capturing full margins of the anode value chain.

The Company sees the Study as an important milestone towards adding significant future anode production capacity. The Niska production, planned for 2025 onwards, when combined with the existing Vittangi Anode Project operation, would form the largest natural graphite anode producer in the world and largest anode producer outside China[1].

Cautionary Statements – Scoping Studies

The Niska Scoping Study referred to in this announcement is a preliminary technical and economic study of the potential viability of developing the Niska South, Niska North and Nunasvaara North graphite deposits by constructing an integrated mining and refining operation to produce Talga's anode products for Li-ion batteries. It was completed to an overall +50/-30% accuracy or class 5 estimate in line with best practise and is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves or to provide assurance of an economic development case. Further evaluation work and appropriate studies are required before the Company will be in a position to estimate any ore reserves or to provide any assurance of an economic development case or certainty that the conclusions of the Scoping Study will be realised.

The Scoping Study is based on the material assumptions outlined below. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of outcomes indicated in the Scoping Study, funding in the order of US$1,000 million plus contingencies may be required. Investors should note that there is no certainty that the Company will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company's proportionate ownership of the deposits covered by the Niska Scoping Study. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

More than 98% of the production target referred to in this announcement is based on Indicated Mineral Resources and less than 2% is based on Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Inferred material does not have a material effect on the technical or economic viability of the project.

[1] Benchmark Mineral Intelligence, Anode Market Assessment, November 2020

The Niska Scoping Study is underpinned by a mining study of the Niska South, Niska North and Nunasvaara North graphite deposits of Talga's 100% owned Vittangi graphite project in northern Sweden completed by Golder (UK).

Golder utilised the combined Niska JORC 2012 resources to optimise **in-situ underground mineable mineralisation of 5.1Mt @ 28.7%Cg** for the Study (which excludes resources from the Nunasvaara South deposit, currently progressing separately through detailed feasibility work) at a mining rate of 400,000 tonnes per annum ("tpa").

The Study demonstrates average annual pre-tax free cashflow under steady state base case operation of US$690 million per annum over 14 years life of mine, with estimated average cash cost of US$2,380/t coated anode (Talnode®-C) and graphene (Talphene®) products.

The Project benefits over existing global suppliers in having higher resource grade, higher anode yield, lower production cost, 100% sustainable power and production location proximal to transport infrastructure and customers. Key Niska Scoping Study outcomes include:

- **Positive scoping study supports stand-alone production of ~85,000tpa anode product Talnode®-C and ~8,500tpa Talphene® for silicon anodes using Niska graphite deposits**
- **Niska to add to existing Vittangi Anode Project, towards total >100,000tpa anode production by 2025-26, defining path for Talga to become the largest Li-ion battery anode producer outside China[2]**
- **Favourably located in a tier-1 investment jurisdiction, Sweden, with access to low cost 100% renewable energy supply and proximity to European battery markets**
- **Study show robust stand-alone economic outcomes, *in addition to the existing Vittangi Anode Project*, including pre-tax outcomes of:**
  - **NPV_8 range of US$2.4 to $4.6 billion with base case US$3.5 billion**
  - **Base case IRR of 47% and post-commissioning payback 1.7 years**
  - **Base case free operating cash flow US$690 million per annum under steady state operation**
- **Study based on 14 year mine-life 400,000tpa underground development of in-situ 5.1Mt @ 28.7% graphite with >98% in the Indicated Mineral Resource category**
- **Underground development reduces surface impacts by 75% and decreases LOM operating costs - deposits remain open with significant potential to add further resources, mine-life and scale**
- **Existing relationships with potential strategic partners including Swedish state-owned mining and minerals group LKAB and global trading and investment company Mitsui**
- **Next stage work includes expansion resource drilling and studies to support lodgement of exploitation concession permits by mid-2021**

Whilst the Study has been constrained to a 400,000tpa mining and concentrator throughput towards 85,000tpa Talnode®-C anode production and 8,500tpa of Talphene® production, there are no identified technical restrictions to further increase the throughput rate with additional expansion, subject only to further product validation and purchase agreements underpinning demand. All graphite deposits in the Study remain open along strike and at depth, with extension targets having been defined and awaiting further drilling in early 2021.

The Niska production would add to the existing 19,000tpa Vittangi Anode Project, to take total Talga Group Talnode®-C production to >100,000tpa by 2025-26.

[2] https://www.benchmarkminerals.com/anode-market-assessment/anode-data-analysis/

Figure 1 *Illustrative image of Talga's future anode production refinery.*

The financial performance of the Niska Scoping Study has incorporated changes in processing and mining methodologies compared to the separate 2019 Vittangi Anode Project Pre-feasibility Study that reflect in the capital and operating costs. The proposed Niska development uses underground ore extraction methods which has increased mine capital costs but lowered operating costs over life of mine and significantly reduces surface impact by 75% compared to open pit development. In addition the underground option offers more flexible options for controlling and further increasing production in future if required. Process capital costs were also negatively impacted by current limitations on equipment scale and use of Talga's more sustainable purification process, offset by better long-term environmental and marketing outcomes.

With the benefit of the extended post-2025 project development lead time, it is expected that significant optimisations of processes, equipment and costs will result from enhanced operational design and conditions to be piloted at larger scale and in the commercial Vittangi Anode Project operation from 2023. The Company is also exploring numerous development and operational synergies and opportunities with its growing list of global scale potential partners. It is expected that the monetary benefits of these opportunities will be included in future Niska studies.

Scoping Study Estimated Key Outcomes (All in US$)

The Study was completed to an overall +50/-30% accuracy or class 5 estimate in line with best practise.

PARAMETER	UNITS	OUTCOME
Annual ore mining rate	tonnes	400,000
Average annual production of Talnode®-C	tonnes	84,700
Average annual production of Talphene®	tonnes	8,470
Life of Mine (LOM)	years	14
NPV_8 (real, pre-tax) from Talnode-C price range	$M	$2,430 to $4,650
NPV_8 (real, post-tax) from Talnode-C price range	$M	$1,610 to $3,340
Internal Rate of Return (IRR) (pre-tax, base case)	%	47%
Internal Rate of Return (IRR) (post-tax, base case)	%	37%
Post-commissioning Payback (pre-tax, base case)	years	1.7
Free Cashflow (LOM, base case)	$M	7,605
Talnode®-C base case price (range $7,500 to 11,250/t)	$/t product	$9,375
Talphene® price	$/t product	$15,000
Revenue (LOM, base case)	$M	$11,700
Cash cost	$/t product	$2,380
EBITDA (LOM, base case)	$M	$8,850

Pathway to production

Talga will move to initiate further studies and work with a view to lodge exploitation permit applications for the Niska deposits in mid-2021, and environmental permits for trial mining 25,000t of the Niska South deposit are already approved. Many of the studies, equipment, processes and work are in the process of completion for the Nunasvaara South based DFS which will provide timely and efficient data for the ongoing Niska developments.

At scoping study level, the technical and economic assessment of exploiting the Niska South, Niska North and Nunasvaara North orebodies supports undertaking additional infill and down depth resource extension drilling, which is planned to commence in early 2021. It is envisaged that a feasibility study on the combined Vittangi project graphite resources will be completed in future to support permitting processes for unified development.

Authorised for release by the Board of Directors of Talga Group Ltd.

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Forward-Looking Statements

Statements in this document regarding the Company's business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties, such as estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements.

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About Talga

Talga Group Ltd (ASX:TLG) is building a European battery anode and graphene additives supply chain, to offer advanced materials critical to its customers' innovation and the shift towards a more sustainable world. Vertical integration, including ownership of several high-grade Swedish graphite projects, provides security of supply and creates long-lasting value for stakeholders.

Company website: **www.talgagroup.com**

NISKA EXPANSION

SCOPING STUDY SUMMARY

BATTERY ANODE STRATEGY

Europe is undergoing unprecedented growth in the demand for domestic, sustainable and cost-effective battery production, driven by the move to renewable energy storage and electric vehicles. This is creating new demand for sustainable and locally sourced battery anode materials as cell manufacturers and automotive OEMs look to secure stable raw material supply chains and strive to minimise their carbon footprints.

Talga Group Ltd ("Talga" or "the Company") is building a European battery anode refinery, with an integrated graphite mining operation, using 100% renewable electricity to produce ultra-low emission coated anode for greener lithium-ion ("Li-ion") batteries. Production of Talga's flagship anode product, Talnode®-C, will use unique high-grade natural flake graphite from the Company's wholly-owned Vittangi graphite project near Kiruna in northern Sweden.

The Company's initial planned development, a 19,000 tonnes per annum ("tpa") vertically integrated Li-ion battery anode operation detailed in the Vittangi Anode Project Pre-feasibility Study ("PFS") (**ASX:TLG 23 May 2019**), has moved to a Detailed Feasibility Study stage with delivery of final outcomes expected in March 2021 targeting production in 2023.

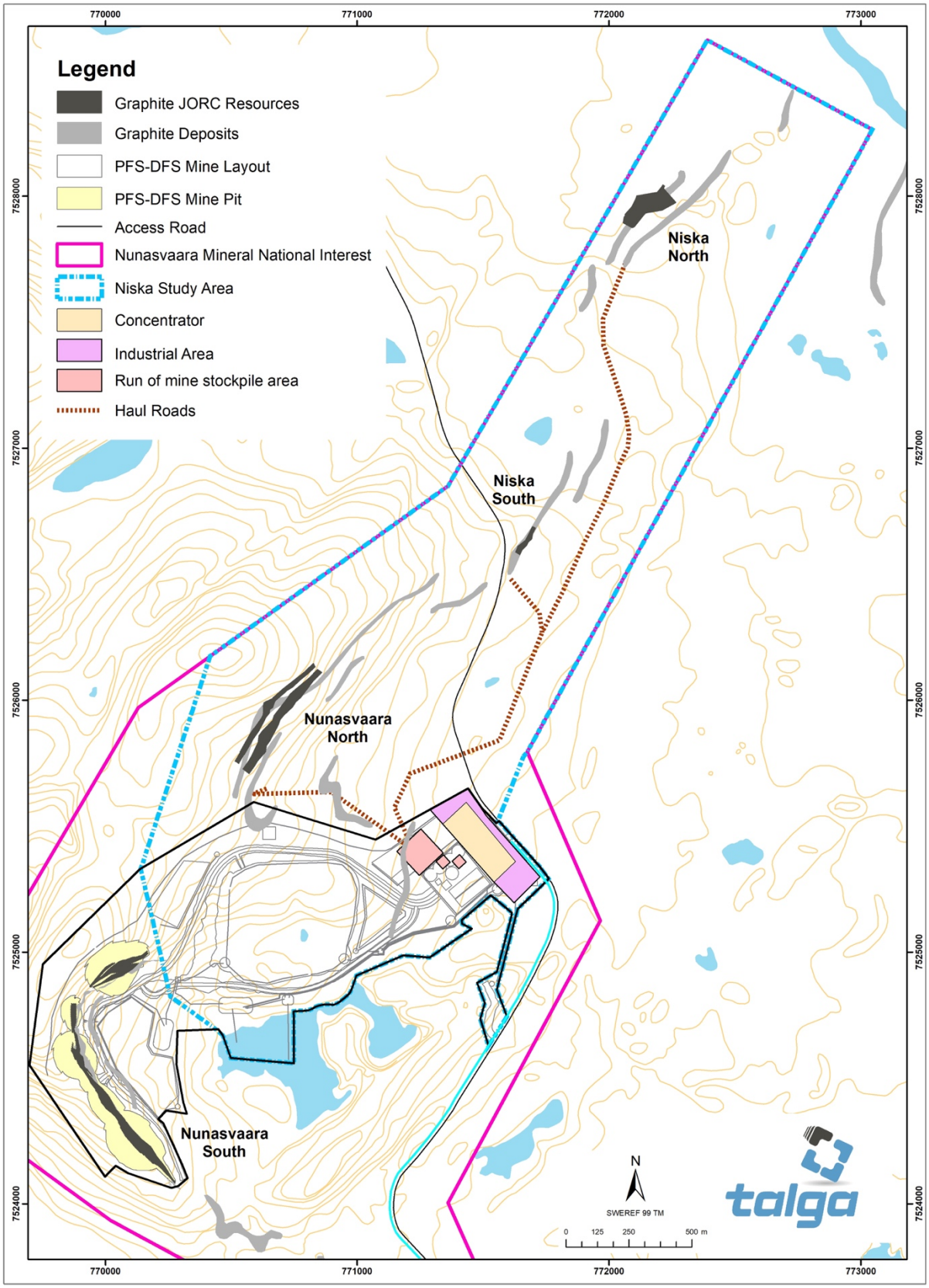
As part of the Company's growth strategy, and as the first step in expanding beyond this initial production base, the Company has completed a preliminary technical and economic study ("Niska Scoping Study" or "Study") of the viability of also developing its Niska South, Niska North and Nunasvaara North graphite deposits ("Niska deposits" or "Project").

The Study benefits from the already completed Vittangi Anode Project PFS that provided the foundations of cost estimates for development. Whilst the Study assumption is that the Vittangi Anode Project will be in production by the time the Niska deposits are developed the Study has also considered a stand-alone operation for completeness.

The Study has been constrained to a 400,000tpa mining and concentrator throughput towards 85,000tpa Talnode®-C anode production and 8,500tpa of Talphene® production, however there are no identified technical restrictions to further increase the throughput rate with additional expansion, subject only to product validation and purchase agreements underpinning demand.

Figure 1 *Illustrative image of Talga's future anode production refinery.*

Figure 2 *Location of Niska Study deposits in relation to Vittangi Anode Project outlined in PFS.*



SCOPING STUDY PARAMETERS AND ASSUMPTIONS

The Niska Scoping Study key parameters and assumptions are set out in Table 1 below. The table should be read in conjunction with the details in the following sections of this announcement and the material assumptions included in Appendix 1.

The Study was completed to an overall +50/-30% accuracy or class 5 estimate in line with best practise for Scoping Studies. All figures provided in this announcement and in Appendix 1 are estimates or approximates, and subject to further definition during Pre-feasibility and Detailed Feasibility stages.

Table 1 *Key Assumption Parameters (All in US$).*

PARAMETER	
Discount Rate (real, pre-tax)	8%
Talnode®-C price (range)	$7,500 to $11,250/t
Talphene® price	$15,000
Processing rate	400,000tpa
Mining dilution	90%
Mining recovery	90%
Life of mine production target (ROM)	5.1Mt
Mine optimisation product price	$4,000
Average in-situ mineable graphite mineralisation grade	28.7%Cg
Lower cut-off grade	11.4%Cg
Concentrate grade to coating plant	>99.9%Cg
Average annual production of Talnode®-C	84,700t
Average annual production of Talphene®	8,470t
Life of Mine (LOM)	14 years
Corporate tax rate	22%
Sweden minerals tax royalty	0.2%
Private royalties (total)	3.0%

Study assumptions related to product prices show the greatest sensitivities. Exchange rates used in the Study are based on current spot prices.

STUDY TEAM AND CONTRIBUTORS

The Study was compiled in-house with the support of independent consultants Golder Associates and Core Resources. The Study strongly benefits from the already completed Vittangi Anode Project PFS where a range of reputable contributors participated towards the reported outcomes. A selection of the Vittangi Anode Project PFS contributors include: Centre Terre et Pierre (CTP), ÅF Consulting, Recruit R&D Co. ltd, Benchmark Mineral Intelligence, GeoVista AB, Sweco Environment AB and Bergskraft Bergslagen AB (**ASX:TLG 23 May 2019**).

LOCATION

The Niska deposits, part of the Vittangi Graphite Project, are located in the County of Norrbotten in northern Sweden and lie within the Nunasvaara Mineral National Interest area. The deposits are situated 10km north west from the town of Vittangi, 20km east of LKAB's iron ore mine and railhead at Svappavaara and are easily accessed via existing highway and road networks.

Sweden has a long standing history of mineral extraction and processing, with a well-educated workforce, significant existing infrastructure and competent logistics throughout the mineral value-chain. Furthermore, Sweden is considered a highly developed resource and investment jurisdiction with the Swedish Government having signalled the high priority of development across every part of the value chain for innovation minerals such as graphite.

GEOLOGY AND MINERAL RESOURCES

The geology of the Vittangi Project area, which hosts the Niska deposits, is dominated by greenstones (basalts to andesites), metasediments (quartzite, schist, marble) and metadolerites which form part of the Vittangi Greenstone Group. The formation of the Vittangi Greenstone Group is restrained to the Paleoproterozoic era, with the graphite mineralisation potentially 1.8-2.0 billion years of age. Stratiform to stratabound graphite mineralisation occurs at Nunasvaara and Niska as two individual, sub-vertical 15-70m wide lithologically continuous units of very fine-grained grey to black graphite rock units containing up to 50% graphitic carbon as highly-crystalline, ultra-fine flakes.

Mineral Resources

The Study utilises the Niska and Nunasvaara North Mineral Resource Estimates ("MRE"), containing 9.0Mt at an average grade of 23.5% Cg, modelled as an **in-situ mineable mineralisation estimate of 5.1Mt @ 28.7%Cg with >98% in the Indicated Mineral Resource category**. The MRE was prepared by a competent person in accordance with the requirements of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition) ("JORC Code"). The balance of <2% is in the Inferred Mineral Resource category.

The Niska MRE, calculated by Simon Coxhell (Geological Consultant), was first published to the Australian Securities Exchange (ASX) on 15 October 2019 (**ASX:TLG 15 October 2019**). This MRE, including JORC Table Sections 1-3, has not changed.

The Nunasvaara North MRE calculated by Albert Thamm (Geological Consultant), was first published to the Australian Securities Exchange (ASX) on 17 September 2020 (**ASX:TLG 17 September 2020**). This MRE, including JORC Table Sections 1-3, has not changed.

Table 2 *Niska and Nunasvaara North Mineral Resource Estimates.*

DEPOSIT	RESOURCE CATEGORY	TONNES	CG [%]	CONTAINED GRAPHITE [TONNES]
Nunasvaara North	Indicated	1,800,000	29.4	529,200
	Inferred	2,600,000	14.8	385,000
	Total	**4,400,000**	**20.8**	**915,200**
Niska North	Indicated	4,160,000	25.8	1,074,528
Niska South	Indicated	480,000	25.8	123,696
	Total	**4,640,000**	**25.8**	**1,198,000**
TOTAL		**9,000,000**	**23.5**	**2,113,200**

Note: 1. Due to rounding totals may not reconcile exactly.
2. Cut-off grade of 10% Cg (graphitic carbon)
3. The Niska graphite MRE was disclosed on 15 October 2019 in accordance with the 2012 JORC Code.
4. The Nunasvaara graphite MRE was disclosed on 17 September 2020 in accordance with the 2012 JORC Code.

MINING

The Study reviewed both open pit and underground development options for the Niska deposits. The review showed that while initial capital costs are higher than an open pit operation, underground mining offers significant advantages in environmental footprint, minimisation of the potential to sterilise undiscovered ore-bodies and the ability to more readily ramp up production in future. Underground mining also offers advantages in operating cost estimates over life of mine and reduces surface impact by 75% compared to open pit development.

Underground Mining

Preliminary geotechnical assessment of the host rock concluded that ground conditions are sufficiently stable for large scale underground production. This will include long hole open stoping ("LHOS"), a form of sub-level stoping, with longitudinal stoping for Nunasvaara North and transverse stoping for Niska North and Niska South. An extraction of 90% and a dilution of 10% were applied in accordance with the proposed mining method.

The mineable tonnage and grade are estimated by applying an economic cut-off to the resource base on product price, realisation costs, mining dilution, plant recoveries and total operating costs. The lower economic cut-off is estimated at 11.4%Cg, with total in-situ mineable mineralisation estimated at 5.1Mt at 28.7%Cg.

Mining optimisation was based on an annual processing rate of 400,000 tonnes as a combined feed to the concentrator from the three resources and provided a Life of Mine ("LOM") of 14 years based on current resources, with no identified restrictions to increasing the throughput rate.

In line with the PFS, the mining optimisation used a nominal price of US$4,000 per tonne purified graphite material and operating costs included purification processing as well as mineral processing.

A maximum design stope size of 30m in length x 15m wide x 25m high is proposed, with uneconomic ore to be left as natural pillars where possible and cemented paste tailings backfill to be used to maximise stope extraction. The analysis indicates that limited ground support will be required for development, however shotcrete support has been factored into the costs for all main development in accordance with Swedish regulations.

Factors to be considered at the next stage of studies include further assessment of the geotechnical stability of underground operations and the hydrogeological impact of underground mining.

Figure 3 *Production Profile – Underground Mining.*

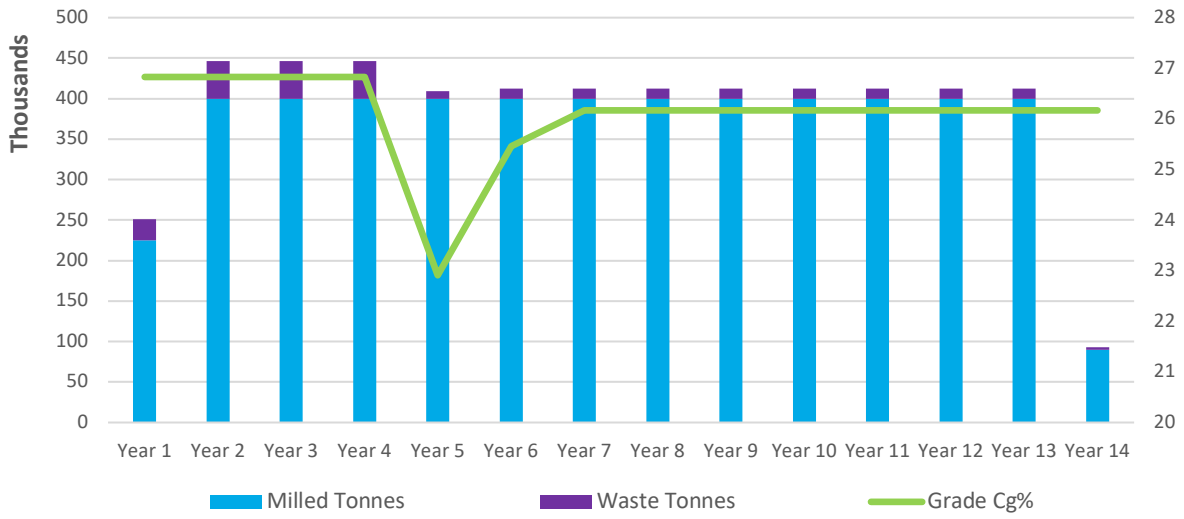


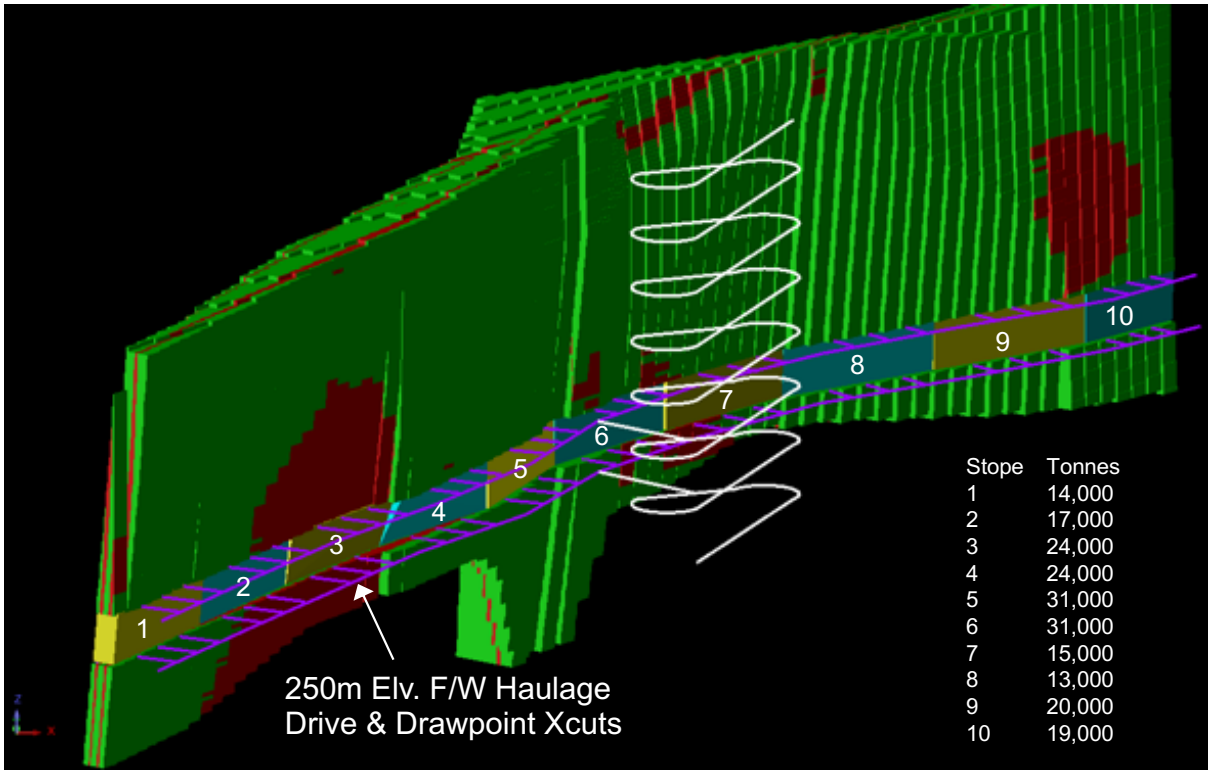
Table 3 *Targets/Input Parameters for Mining Study (All in US$).*

PARAMETERS FOR MINE OPTIMISATION	UNITS	INPUT
Nominal graphite product pricing	$/t	$4,000
Processing rate	Mtpa	0.4
Average ROM Cg grade (diluted)	%Cg	>23.5%
Production	tonnes/annum	>80,000
Primary Purification Grade	%Cg	>99.9%
Graphite recoveries	%	90.4%
Total private and government royalty (mine gate)	%	3.2%

Table 4 *Mining Study Outputs (All in US$).*

OUTPUTS FROM MINE STUDY	UNITS	OUTPUT
Life of Mine	Years	14 years
Mineable Resource	Mt	5.1
In-situ average Mine grade	%Cg	28.7%
Stope Size	Length x Width x Height	30m x 15m x 25m

Figure 4 *3-D Image of Nunasvaara North 8 Level LHOS from Niska underground mining study.*



MINERAL PROCESSING

Ore Processing Test Work

Composite samples prepared from drill core material from the Nunasvaara North and Niska South graphite deposits were selected to achieve a reasonable representation for comminution testing.

The metallurgical response was found to be consistent with that of Nunasvaara South and the purity and physical properties of the graphite concentrates are equal, or possibly superior, to the graphite concentrate produced in the Vittangi Anode Project PFS concentrator testwork programs. Initial indications are that the comminution properties are also similar across the different ore-bodies.

The concentrator processing route selected for the study has therefore been based on the flowsheet for treating Nunasvaara South ore developed during the Vittangi Anode Project PFS and piloted at bulk scale earlier this year (**ASX:TLG 30 January 2020**). This is considered a conservative and technically robust path, however existing variant concentrator process flowsheet options, that could potentially improve the operability of the plant and reduce capital and operating costs, will be further explored in future studies and feasibility work.

Additional modelling and testwork has also been recommended to better refine mineralisation variability models and enable appropriate design allowances for future engineering activities.

Concentrator

The concentrator will operate year-round, where crushed ore is fed through a secondary crusher and to a ball mill until 80% passing 75um. The ground ore is fed to rougher flotation circuit with selective reagents to collect a rougher concentrate in the froth and a gangue is collected in the tailings, which is sent to the thickener. The rougher concentrator is fed to regrinding mills and then further froth flotation cleaning to reduce the gangue minerals and produce a concentrate material.

The cleaner tailings is combined with the rougher tailings in the thickener before being pumped to a filter for dewatering. The dry tails is trucked to a facility where it is stacked and stored above ground. The concentrate is filtered and stored in bags for trucking to the refinery in Luleå.

Figure 5 *Talga concentrate being produced from 60t bulk sample pilot early 2020.*

ANODE PRODUCTION

Purification and Coating

Talga has developed a new graphite concentrate purification process that is more environmentally sustainable than conventional hydrofluoric acid based methods. This proprietary process is designed to remove specific graphite concentrate impurities, and testwork to date confirms that Nunasvaara North and Niska South graphite concentrate respond in a similar way to the Nunasvaara South concentrate, upon which the process has been optimised.

Graphite concentrate will be transported to the anode refinery in the form of moist filter cake and stored in a warehouse prior to being processed. Concentrate recovered from the storage facility will be re-pulped and fed through the various process circuits to remove specific graphite concentrate impurities. The filtrate wash water is collected and treated.

The metallurgical test results for the new graphite concentrate purification process confirmed graphite recovery of >99% from concentrate to final anode products, with total recovery of Talnode®-C from graphite ore being approximately 90%.

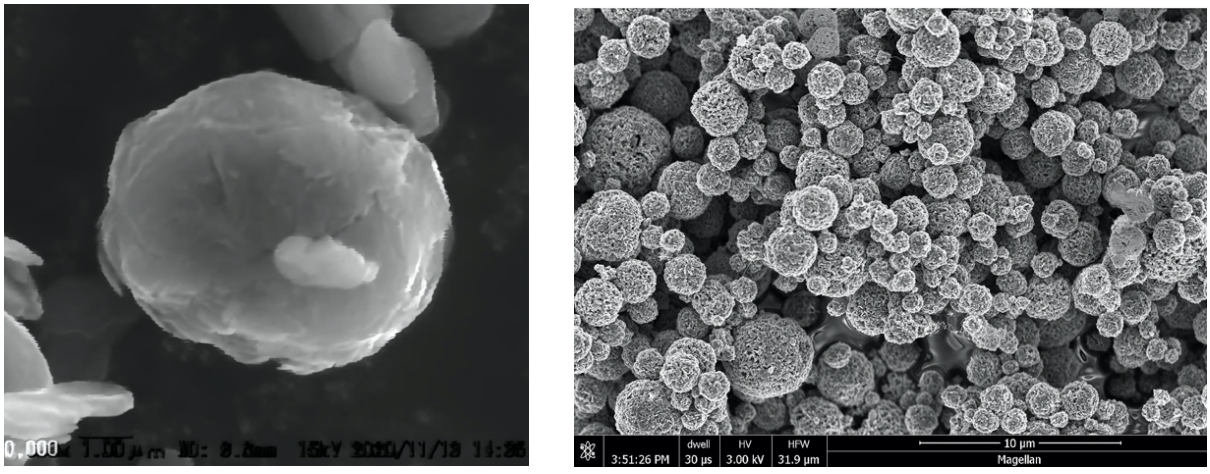
The purified product is dried and proceeds through a range of industry standard and proprietary classifying, spheronising, coating and pyrolysis processes before being packaged and dispatched to customers in powder form.

Talphene® Processing and By-Product

Talga plans for a portion of the purified graphite to be classified using industrial processing technology and scalped off to feed a graphene production circuit. The resulting Talphene® product is planned to be used for production of Talga's silicon anode, Talnode®-Si, as well as other battery and industrial product applications.

The Study's financial model has used a nominal price of US$15,000 per tonne as an internal transfer price for the Talphene® product. The operating cost and capital cost for Talphene® production have been included in the cost estimates and revenue from the sale of the product has been correspondingly accounted for.

Figure 6 *Microscopy images of Talnode®-C (left) and Talnode®-Si incorporating Talphene®(right).*



INFRASTRUCTURE AND LOGISTICS

Both the mining and refinery operations are located in areas well connected to relevant existing infrastructure such as an extensive highway network, a state owned railway, nearby deep-sea ports and accessible low-cost, low-CO_2 hydroelectrical power.

Site Access and Road Transport

The mining operation is located 6km along an existing local unsealed road which connects to the state road network. The proposed anode refinery location sits within an industrial area currently under development near Luleå port, at Hertsöfältet, and connects to the state road network via public roads - all owned and fully maintained by Luleå Municipality.

Road transport will be used to transport concentrate between the mine and the refinery, and to import reagents and consumables to both sites.

Power Supply

The mine will be connected to the regional grid power, requiring a new power line to be added from Svappavaara to the proposed mine substation. The permitting and installation of the new powerline is one of the major items on the critical path to development.

At the anode refinery in Luleå, a connection will be made to the grid that is operated by Luleå Energi who are planning the installation of an additional substation for the new area development near the port facility.

Water Supply and Treatment

Raw water supply to the mine site will comprise recovery from groundwater inflow, pit seepage and recycling. If need be, water can also be supplied via a pump station located at Hosiojärvi Lake. Process water for the refinery will be extracted directly from the local fresh water source, the Luleå River, located approximately 500-1,000m from the refinery site.

Mine pit dewatering will be maintained with pumping to a clearing dam before being used in the process plant for make-up water. All excess water from the mine operation will be treated for extraction of metals and particulates to match or exceed environmental standards.

Product Transport

Products will be packaged and containerised on-site at the anode refinery for distribution to customers. There is easy access to road and rail transport as well as to the Port of Luleå, located right next to the proposed refinery site, and to the Port of Piteå.

OWNERSHIP AND TENURE

Nunasvaara Concession Holders

Vittangi nr 2. is the exploration concession on which the mine will be located and is 100% owned by Talga's Swedish subsidiary. The mineral exploration permits for the Niska deposits were issued by the Mining Inspectorate (Bergsstaten) in accordance with Swedish mineral law (Minerallag (1991: 45) and provides the holder rights to explore for minerals and first right to apply for an exploitation concession (mining lease) to mine identified mineral resources for a 25-year period.

Nunasvaara Landowners and Other Right Holders

The mining operation is on freehold property held by both private individuals and entities with surface rights held by the owners of the property. The area is utilised by landowners for a range of land uses. Within the area there are established indigenous rights to practice reindeer herding during winter with two reindeer herding cooperatives (Sameby) operating in the area.

ENVIRONMENT AND COMMUNITY

Environmental Studies

Talga is planning to apply for the exploitation concession and environmental approval to mine and process graphite at the Niska deposits. The mine parameters outlined in the Study focus on an underground operation to minimise the Project's environmental foot-print and it is intended that operations be designed and operated in such a way that the nearby Natura 2000 area will not be significantly affected.

The environmental studies to date, along with upcoming studies and the completion of the Environmental Impact Assessment, intends to ensure that environmental concerns are integrated into the proposed development, focusing on preventing, minimising, mitigating and/or compensating for possible adverse environmental impacts which may arise due to the proposed development.

The required Environmental Impact Assessment will be compiled to meet the permitting requirements for the Project's mining operation and the expanded anode refinery. The potential need for a Natura 2000 permit will be reviewed and assessed during the preparation of the assessment.

Closure Planning

Talga is committed to international best practices in closure planning and achieving closure outcomes, including undertaking consistent and transparent engagement with stakeholders towards a shared post-closure vision via an integrated mine closure process that considers environmental, social and economic aspects. Project decommissioning, closure and rehabilitation strategies have been developed, with preliminary closure plans to be prepared during the Detailed Feasibility Study and permitting phases of the Project.

GHG Emissions Assessment & Management Strategy

A preliminary Greenhouse Gas Assessment was prepared for the Vittangi Anode Project and a more detailed Life-Cycle Assessment, including greenhouse gas emissions, is currently underway for the production of Talnode®-C. Due in part to northern Sweden's availability of green energy, Talga aims to be able to produce lithium-ion battery anode material with order of magnitudes lower greenhouse gas emissions through its production lifecycle than existing battery anode material.

Stakeholder Engagement

Talga is committed to being a responsible operator and neighbour who creates value for local communities and stakeholders, while maintaining environmental integrity. The Company has been working proactively with stakeholders since exploration commenced in 2011 and Talga has adopted a structured approach to stakeholder engagement under an extensive stakeholder engagement plan, consistent with international best practice.

Positive stakeholder and community relations on all levels - local, regional and national – are key to achieving and maintaining the legal and social licence necessary for the success of the Project and supports the long-term viability of Talga's operations.

Government / EU

Europe's and the European Union's drive to become increasingly self-sufficient in its transition towards carbon-neutrality aligns strongly with Talga's goal to provide low CO_2 battery anode products for greener lithium-ion batteries.

Towards this goal the European union has implemented a number of long and short term research programmes, such as the European Battery Alliance and, where relevant, Talga is lending its active support and participation.

MARKETING

Talga is positioning itself as a European vertically integrated producer to supply low CO_2 anode products to battery manufacturers for production of greener Li-ion batteries.

Since the publication of the Vittangi Anode Project PFS, outlining an initial 19,000tpa production, Talga has been scaling up commercial sample production of its flagship battery anode product, Talnode®-C, for delivery into ongoing customer qualification and validation processes. Talga's battery customer engagements to date total >35, including half of battery manufacturers with planned European gigafactories and a number of the world's largest automotive OEMs.

The proposed increase in Talnode®-C production, as a result of the Niska expansion, is supported by the expressions of interest received under these ongoing battery customer engagements and the strong forecast demand for battery anodes, both globally and in Europe (**ASX:TLG 24 June 2020**).

Global and European Anode Demand[1]

The growth in global Li-ion battery production capacity is set to rise from 494GWh in 2019 to 2,972GWh by 2029. As a result, the demand for graphite anode material is expected to reach just over 3.5 million tonnes by 2029. It is estimated that natural graphite anode accounts for >50% of total demand and it is therefore reasonable to assume that the market for Li-ion batteries will require approximately 1.75Mtpa of natural graphite anode by the end of the decade, nett of processing losses and assuming full utilisation.

Europe is expected to account for 17% of total planned GWh capacity in 2029, up from 5.4% today, making it the fastest growing region for new lithium-ion battery production. Assuming full utilisation the European market will require 595,000 tonnes of coated graphite anode by 2029.

Talga's proposed 104,000tpa of future total Talnode®-C production, across the Vittangi Anode Project and the Niska expansion, is calculated to be approximately 3% of global demand in 2029. This shows ample opportunity for continued product expansion and future growth across Talga's anode business.

Talnode®-C and Talphene® Product Pricing

Contracts are often negotiated between consumers and producers based upon the performance of the anode relative to other materials, and ranges for pricing of the same material can vary greatly.

In the Niska Study, a range of pricing for Talnode®-C was used with the upper extent using pricing from the Vittangi Anode Project PFS (reviewed by independent globally recognised product and market assessors Benchmark Mineral Intelligence) and the lower pricing extent factored and discounted to allow for potential large volume contracts.

Talphene® pricing was factored from Talga's customer feedback and Talnode®-Si marketing to date for feasibility studies underway in the UK. Talga's Talnode®-Si strategy is to produce a silicon composite additive which utilises Talphene®. Currently silicon additives are 1-2% of global anode supply, while it is estimated that 35-40% of all electric vehicles will have some amount of silicon containing graphite anodes by 2026[2].

[1] Benchmark Mineral Intelligence, November 2020: https://www.benchmarkminerals.com/megafactories/assessments/

[2] Lux Research, AABC Europe, January 2020: Li-ion battery innovation roadmap – EV battery future outlook

Figure 7 *Announced European Li-ion battery gigafactories. Source: R. Zenn, Farasis, November 2020.*

FINANCIAL EVALUATION

Financial analysis has been carried out on each of the mining blocks described in the Study, with all being potentially economically viable. The financial analysis confirms strong Project fundamentals at the scoping study stage.

The key financial and physical performance indicators of the Project are outlined in Table 5 below.

Table 5 *Estimated Key Financial and Physical Outcomes (All in US$).*

PARAMETER	UNITS	OUTCOME
Annual ore mining rate	tonnes	400,000
Average annual production of Talnode®-C	tonnes	84,700
Average annual production of Talphene®	tonnes	8,470
Life of Mine (LOM)	years	14
NPV_8 (real, pre-tax) from Talnode-C price range	$M	$2,430 to $4,650
NPV_8 (real, post-tax) from Talnode-C price range	$M	$1,610 to $3,340
Internal Rate of Return (IRR) (pre-tax, base case)	%	47%
Internal Rate of Return (IRR) (post-tax, base case)	%	37%
Post-commissioning Payback (pre-tax, base case)	years	1.7
Free Cashflow (LOM, base case)	$M	7,605
Talnode®-C base case price (range $7,500 to 11,250/t)	$/t product	$9,375
Talphene® price	$/t product	$15,000
Revenue (LOM, base case)	$M	$11,700
Cash cost	$/t product	$2,380
EBITDA (LOM, base case)	$M	$8,850

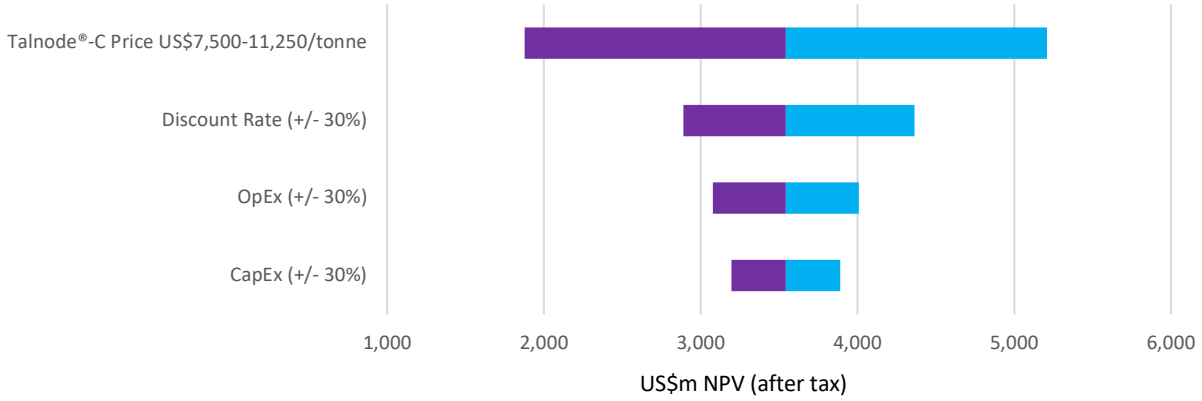
* The upper end of the pricing range is based on a Talga commissioned report by Benchmark Mineral Intelligence prepared for the Vittangi Anode Project PFS. Benchmark Mineral Intelligence has subsequently confirmed the continued validity of its predicted pricing. The lower end of the range was factored and discounted to allow for potential large volume contracts.

** Talphene® pricing was factored from Talga's customer feedback and Talnode-Si marketing to date for feasibility studies underway in UK.

Scoping Study Sensitivities

A financial sensitivity analysis was undertaken to evaluate the potential impact on the Project economics by varying the key parameters of Talnode®-C price, discount rate, operating costs and capital cost. The results of the analysis are shown in Figure 8 and highlight the Project's higher sensitivity to the Talnode®-C price, while being less sensitive to operating and capital costs. The base case discount rate of 8% used in the Study is aligned with the discount rate used in the PFS and was considered prudent and suitable, taking into account the location of the Project.

Figure 8 *Niska Project Sensitivities.*



Cost Estimates

Capital costs have been estimated as detailed in Table 6. The Study has been carried out at a lower level of detail than the PFS and has utilised the cost and schedule estimates developed for the Vittangi Anode Project as the basis of its economic assessment. Indirect costs have been estimated at 43% of direct costs for the concentrator and purification plant and 27% for the coating plant with the USD values in the PFS being factored where appropriate. It has been assumed that buildings are leased under commercial leasing agreements. Where new infrastructure is required these costs have been included as stand-alone cost estimates.

Table 6 *Niska Scoping Study Capital Cost Estimate.*

CAPITAL COST (US$M)		
Mine & Processing	Mining, Crushing & Concentrator	$171
Refinery Plant	Purification	$197
	Coating	$304
Indirect Costs	Purification	$85
	Coating	$83
Infrastructure		$202
Sub-total Mine and Processing Plants		**$1,040**
Contingency		$206
TOTAL		**$1,246**

Funding

The global trend of electrification gathers pace as governments announce bans on internal combustion engines in the near future, reinforcing the forecast increase in demand for Li-ion batteries. With cell manufacturers and automotive OEMs, particularly in Europe, looking to secure stable battery material supply chains and strive to minimise their carbon footprints, a new demand for sustainable and locally sourced anode materials is emerging.

Talga's planned low CO_2 graphite anode production, proximate to the emerging European battery gigafactories and located within a mature, low sovereign risk mining and investment jurisdiction, is well-placed to supply into this new demand.

The shift towards sustainable, co-located battery supply chains has also resulted in various partnership, strategic and commercial models between industry players which continue to evolve and provides a range of funding opportunities.

The Project will most likely be funded via joint venture partnership, however conventional equity and debt are considered additional funding options. In addition, the proposed development of the Niska Project is to occur several years after production is planned to have commenced at the adjacent Vittangi Anode Project, on which a Detailed Feasibility Study is underway and due for completion March 2021. The completed pre-feasibility for the Vittangi Anode Project show gross annual revenue of US$188 million and pre-tax IRR of 55% from steady state production proposed to commence 2023, and is expected to provide part of the funding solution for the Niska Project.

The ultimate funding strategy will based on the negotiations with potential project partners and financiers, and the conditions of the equity capital markets and relative debt financing opportunities, at the time of the final investment decision. Negotiations with potential funding partners have commenced and the Company has formed the view that there are reasonable grounds to assume the likelihood of these funding options to be available to the Company as and when required.

With the assistance of its financial and transaction adviser, Morgan Stanley, the Company is advancing discussions with third parties regarding funding for its progressed Vittangi Anode Project. It is intended these discussions be extended to include Talga's Niska Project.

Talga is in customer engagements, under varying types of agreements, with multiple large battery cell and automotive manufacturers towards purchase agreements. These engagements, whilst not concluded, include some with capability of providing support for the capital needs of the development being met within the development timelines proposed.

Whilst pursuing funding initiatives, Talga will look to optimise and reduce the estimated Project capital and operating costs during future study phases, whilst building the relevant qualified management team to ensure the successful design and construction of the expanded mine and processing facilities.

At the date of this announcement the Company has a market capitalisation of around AU$491 million, cash of approximately AU$12.6 million (as at 30 September 2020), no debt and a proven track record of attracting new capital.

Based on the above, the Company has formed the view that there are reasonable grounds to assume the likelihood of successfully raising finance, sufficient to cover the estimated capital and working capital costs for the Project as and when required. Going forward, the Company will continue to assess all possible commercial mechanisms to determine the optimum financing solution for the Project.

UPSIDE OPPORTUNITIES

The Study represents the starting point for future expansion of Talga's anode production and its Swedish vertically integrated operations. The Company believes there are numerous potential upsides that may result from further studies and investment into the Project capital and operational parameters. This includes the opportunity to increase mine life, production and revenue through a combination of exploration, resource extension and optimisation programs which are either already in progress or planned to commence.

Increased Mine Life and Anode Production

The resource model underpinning the study is limited by drilling. Electromagnetic and geochemical surveys indicate that the deposits extend along strike and geological interpretation indicate that the deposits extend down dip. The compressive strength: compressive stress ratio of the graphite rock mass is high, indicating that mining can continue to depths significantly below the current identified maximum resource depth of 150m. Additional infill and down depth resource extension drilling is recommended towards conversion of graphite exploration targets into mineral resources for a potential increase in Project mine life and/or production.

Additional By-products

The Study has included the production of particular Talphene® products suitable for Talga's silicon anode product, Talnode®-Si, and certain customer polymer composite applications. Further analysis, test work and engineering are required to understand the full potential of graphene by-products and the value these could add to the overall economics of the Project.

Combining Future Studies

Once completed, and subject to the status of the Vittangi Anode Project, the Company will look to undertake a feasibility study combining all of the Vittangi graphite project resources into an expanded Talnode®-C production model to capture the full benefits of economies of scale.

Figure 9 *Li-ion battery pouch cell and cylindrical batteries together with Talga Vittangi graphite core.*

RISK

The following technical risks are considered low and the study heavily benefits from the Pre-feasibility Study completed for the Vittangi Anode Project.

Resource Risk

The Niska production target contains 5.1Mt in-situ mineable graphite mineralisation of which >98% is JORC 2012 Indicated category. Electromagnetic and geotechnical surveys indicate potential additional resources along strike and previously completed drilling indicates the potential for additional resource down dip. The Niska Project is therefore well established as a long life mine development; hence the current portion of inferred resource status presents only a small risk in future. The inferred material does not have a material effect on the technical or economic viability of the project.

Mining Risks

Mining of the Niska deposits will be via conventional drill and blast underground operation and it is assumed that a mining contractor will develop the portal and main ramp to a vertical depth of 60m and subsequent stoping being owner-operated. The well-established mining industry in Sweden ensures good drill and blast and mining contractor availability, mobile and fixed plant supply, mining supplies and operator training. The encouraging geotechnical assessment, which supports low cost LHOS with minimal support, rates the project risk as low. Further optimisation and detailed geotechnical, hydrological or geohydrological studies will be carried out during the next Project stage.

Processing Risks

The mineral processing route selected for the study is based on the flowsheet developed for the Vittangi Anode Project. The flowsheet was successfully piloted at bulk scale earlier this year and is considered a conservative and technically robust path. Additional modelling and testwork has been recommended to further refine mineralisation variability models, enable appropriate design allowances and minimise over-design. Existing variant concentrator process flowsheet options, that could potentially improve plant operability and reduce capital and operating costs, will also be further explored in future studies and feasibility work.

Permitting Risks

Delays in the permitting and approvals process are an inherent risk to all mining and industrial manufacturing projects. Sweden has an established mining industry with a structured permitting process and Talga has previously gained approval for trial mining at its Nunasvaara South deposit, and more recently received environmental approval for a 25,000 tonne trial mine at its Niska South deposit. Whilst the track record speaks to past and current successful permitting approvals, a potential permitting delay for mining of the Niska deposits could impact production schedules and delay customer contracts for the expanded Talnode®-C production. Similarly, a refinery plant permitting delay could pose an impact to Talnode®-C production and product delivery timelines.

Market Risk

The financial outputs assume Talnode®-C customer validation for electric vehicle battery applications. Talga's German test facility has been adapted and scaled to allow Talnode®-C sample production, and electric vehicle customer testing of Talnode®-C is already in progress using sample sizes of up to 100kg. The Company plans to build an electric vehicle anode sample facility ("EVA") capable of producing larger scale pre-production Talnode®-C samples, suited to next stages of customer qualification. Talphene® used in Talnode®-Si products produced by Talga at its European operations has been tested by various customers and positive feedback supports further scale-up to next level of commercial testing. A feasibility study is underway on a stand-alone Talnode®-Si refinery.

COMPETENT PERSONS STATEMENT

The information in this document that relates to metallurgy results is based on information compiled by Martin Phillips, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy (Membership No.108230). Martin Phillips is a full-time employee of Talga Group Ltd. Martin Phillips has sufficient experience, which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which has been undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Martin Phillips consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Niska Mineral Resource estimate was first reported in the Company's announcement dated 15 October 2019 titled 'Talga boosts Swedish graphite project with maiden Niska resource'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcement and that all material assumptions and technical parameters underpinning the Resource estimate in the previous market announcement continue to apply and have not materially changed.

The Nunasvaara Mineral Resource estimate was first reported in the Company's announcement dated 17 September 2020 titled 'Talga Boosts European Natural Graphite Resources'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcement and that all material assumptions and technical parameters underpinning the Resource estimate in the previous market announcement continue to apply and have not materially changed.

The Company first reported the Vittangi Anode Project production targets and forecast financial information referred to in this announcement in accordance with Listing Rules 5.16 and 5.17 in its announcement titled 'Outstanding PFS results support Vittangi graphite development' dated 23 May 2019. The Company confirms that all material assumptions underpinning those production targets and forecast financial information derived from those production targets continue to apply and have not materially changed.

APPENDIX 1 - STUDY PARAMETERS AND MATERIAL ASSUMPTIONS

Material assumptions used in the estimation of the mineable material and associated financial information relating to the Study discussed in this announcement, including consideration of the "modifying factors" under the JORC Code, are set out in the following table:

<table>
<tr><th>MATERIAL ASSUMPTIONS</th><th>COMMENTARY</th></tr>
<tr><td>Study Status</td><td>As part of the Company's growth strategy, the Company has completed a preliminary technical and economic study ("Niska Scoping Study" or "Study") of the viability of also developing its Niska South, Niska North and Nunasvaara North graphite deposits ("Niska deposits" or "Project") in Sweden.

The Study benefits from the already completed Vittangi Anode Project Pre-feasibility Study (published May 2019) that provided the foundations of cost estimates for development.

The Study has been constrained to a 400,000tpa mining and concentrator throughput towards 85,000tpa Talnode®-C anode production and 8,500tpa of Talphene® production, however there are no identified technical restrictions to further increase the throughput rate with additional expansion, subject only to product validation and purchase agreements underpinning demand.

The Study was completed to an overall +50/-30% accuracy or class 5 estimate in line with best practise for Scoping Studies. Study assumptions related to product prices show the greatest sensitivities. Exchange rates used in the Study are based on current spot prices.

The Study was compiled in-house with the support of independent consultants Golder Associates and Core Resources. The Study benefits from the already completed Vittangi Anode Project PFS where a range of reputable contributors participated towards the reported outcomes. A selection of the Vittangi Anode Project PFS contributors include: Centre Terre et Pierre (CTP), ÅF Consulting, Recruit R&D Co. ltd, Benchmark Mineral Intelligence, GeoVista AB, Sweco Environment AB and Bergskraft Bergslagen AB.

Scoping Studies are commonly the initial economic evaluation of a project or deposits undertaken and may be based on a combination of directly gathered project data together with assumptions borrowed from similar deposits or operations to the case envisaged. They are also commonly used by companies for comparative and planning purposes, and reporting the general results of a Scoping Study needs to be undertaken with care to ensure there is no implication that Ore Reserves have been established or that economic development is assured. There is no certainty that the conclusions of the Study can be realised.</td></tr>
<tr><td>Global Mineral Resource</td><td>
<table>
<tr><th>Deposit</th><th>Resource Category</th><th>Tonnes</th><th>Cg [%]</th><th>Contained Graphite [Tonnes]</th></tr>
<tr><td>Nunasvaara North</td><td>Indicated</td><td>1,800,000</td><td>29.4</td><td>529,200</td></tr>
<tr><td></td><td>Inferred</td><td>2,600,000</td><td>14.8</td><td>385,000</td></tr>
<tr><td></td><td>Total</td><td>4,400,000</td><td>20.8</td><td>915,200</td></tr>
<tr><td>Niska North</td><td>Indicated</td><td>4,160,000</td><td>25.8</td><td>1,074,528</td></tr>
<tr><td>Niska South</td><td>Indicated</td><td>480,000</td><td>25.8</td><td>123,696</td></tr>
<tr><td></td><td>Total</td><td>4,640,000</td><td>25.8</td><td>1,198,000</td></tr>
<tr><td>TOTAL</td><td></td><td>9,000,000</td><td>23.5</td><td>2,113,200</td></tr>
</table>
Note: 1. Due to rounding totals may not reconcile exactly.
2. Cut-off grade of 10%Cg (graphitic carbon)
3. The Niska graphite MRE was disclosed on 15 October 2019 in accordance with the 2012 JORC Code.
4. The Nunasvaara graphite MRE was disclosed on 17 September 2020 in accordance with the 2012 JORC Code.
</td></tr>
</table>

MATERIAL ASSUMPTIONS	COMMENTARY

Mineral Resource used for the mining study optimisation

Deposit	Resource Category	Tonnes	Cg [%]	Contained Graphite [Tonnes]
Nunasvaara North	Indicated	1,800,000	29.4	529,200
	Inferred	100,000	27.4	27,400
	Total	**1,900,000**	**29.3**	**556,600**
Niska North	Indicated	4,160,000	25.8	1,074,528
Niska South	Indicated	480,000	25.8	123,696
	Total	**4,640,000**	**25.8**	**1,198,000**
Subtotal	**Indicated**	**6,400,000**	**27.4**	**1,754,600**
Subtotal	**Inferred**	**100,000**	**27.4**	**27,400**
TOTAL		**6,500,000**	**27.4**	**1,782,000**

Note: *1. Due to rounding totals may not reconcile exactly.*
2. Cut-off grade of 10% Cg (graphitic carbon)
3. The Niska graphite MRE was disclosed on 15 October 2019 in accordance with the 2012 JORC Code.
4. The Nunasvaara graphite MRE was disclosed on 27 April 2017 and subsequently updated on 17 September 2020 in accordance with the 2012 JORC Code.

Estimation Methodology

The Nunasvaara North estimate used in the Niska Study was based on all drilling completed to date and all data was validated for collar, survey, lithology and assay accuracy prior to loading into Maptek™ Vulcan Geological Software (Vulcan). Further validation was provided using Vulcan™ three-dimension visualisation (3D). Geological logging and a lower-grade cut-off grade of 10%Cg (graphitic carbon) was used to model/wireframe the graphite horizon and low-grade graphite. No top cuts were applied to the data. Internal dykes which range in thickness from less than 0.2m to over 3m were modelled as a separate domain to ensure mineralisation was not diluted with waste.

Block-model parent block size was 25m x 4m x 10m and the block-models were aligned along the principal strike directions with sub-blocks of 5m x 0.2m x 0.5m. Two major strike directions were used (040º and 140º) to create block models. A three-pass estimation strategy was employed.

Ordinary Kriging ("OK") was used to estimate graphitic carbon ("Cg") for the main graphite horizon, with Inverse Distance Weighting (Power 2) used for estimation of the footwall low-grade graphite horizon and sulphur ("S") for all graphite horizons. The estimation used geological matching of mineralisation (ore or lgore) in the drillhole database and the block-model. Blocks not estimated after the third pass were assigned the mean grade lying within the validated wireframe solids. All of the material is classified as fresh with a mean in-situ bulk density (ISBD) of 2.7t/m3 based on statistical analysis.

For the Niska South and North deposits drill core samples were collected at varying sample intervals based on the graphite mineralisation (ore) domain or waste. Sample data was flagged by domains using wireframe solids for mineralisation. All assay data has been composited to 2m based on domain type and 2m composite samples were used in the estimation with minimum composite sample of length of 1m. Initial statistical analysis was carried to provide geostatistical parameters for domain modelling. All volume modelling, and estimations were carried out using Micromine 3D mining software using an Inverse distance squared (ID2) method.

Two block models were constructed based on the main principal strike direction 40º and 140º. Block models were constructed using geological surfaces as hard boundaries. Parent block sizes 5m x 5m x 5mRL based on

MATERIAL ASSUMPTIONS	COMMENTARY
	quarter the nominal drill hole spacing within an area with sub blocks of 2.5m x 2.5m x 2.5m. Block models were aligned with strike direction. Total Graphitic Carbon (Cg) and Sulphur (S) were estimated as in-situ grades. Both Cg and S were estimated separately. Identical search ellipse orientations and search parameters for Cg and S grade were used for estimation based on a combination of statistical analysis and drill spacing. A single search pass, a minimum of 8 composite samples and maximum of 12 with no more than 4 samples per drill hole was required to estimate a block. Only data belonging to a domain was used to estimate that domain and hard boundaries were used. No top cuts were applied, based on visual review of all data and statistical analysis of the data lying within the hard mineralised boundaries, and is consistent with all previous resource estimates of the Vittangi graphite horizon. Validation of the final resource has been carried out in a number of ways, including: Visually comparing block model estimated grade against drill hole by section, comparison by mineralisation zone, comparing statistically, by domain, wireframe and block model grades versus sample and composite grades.
Resource Classification	A range of criteria has been considered in determining Mineral Resource classification including: • Geological continuity • Data quality • Drill hole spacing • Modelling techniques • Estimation properties including search strategy, number of informing data, average distance of data from blocks and estimation output from the interpolation Resources used in the Niska Study have been assigned Indicated and Inferred status in accordance with the JORC Code. Resources are typically supported by a drill hole spacing not exceeding 50m. Of the resources used in the Niska study production target >98% are classified as Indicated. The results of the validation of the block model shows acceptable correlation of the input data to the estimated grades. The Mineral Resource classifications reflects the views of the Competent Persons and are detailed in the Tables above.
Product Price	The study optimisation product price is based on the product of the concentrate purification plant rather than the coated anode plant. Hence a US$4,000/tonne of concentrate price has been used in the mine optimisation.
Mining and Metallurgical Parameters	To assess the mining options for the Niska South, Niska North and Nunasvaara North mineral resources, Golder and Associates (UK) undertook Whittle optimisations on the Niska South, Niska North and Nunasvaara North global resources within a single block model on an operating cashflow basis only with a provision for sustaining capital commencing in year 3 of the operation and no sustaining capital expenditure in the last year. The optimisation was carried out using an annual processing rate of 400,000 tonnes as a combined feed to the plant from the three resources. The optimisation was based on the product of the concentrate purification plant rather than the coated anode plant. Hence the following costs and price have been used in the optimisation: • Price: US$4,000/tonne of purified concentrate

<table>
<tr><th>MATERIAL ASSUMPTIONS</th><th>COMMENTARY</th></tr>
<tr><td></td><td>

Ore Mining Cost: US$4.48/tonne of ore
Integrated Waste Facility: US$8.22/tonne of ore
Waste Mining Cost: US$2.46/tonne of waste
Processing Cost: US$300.41/tonne of ore feed
Administration Cost: US$16.71/tonne of ore
Realisation Cost: 3.5% of net smelter return

An optimum pit shell for the combined resources, with a revenue factor of 0.60, was selected. A series of push-backs were used to create a preliminary mining schedule to achieve the optimum pit shell selected. The schedule was based on achieving an average yearly head grade of 23.5%Cg and maximum waste:ore strip ratio of 10:1 over the life of mine.

The preliminary open pit mining schedule for the Niska and Nunasvaara North resources indicates a 16-year open pit operation with a further three years of stockpile processing but given the resultant surface impact outcomes an underground option was modelled, with mining factors as below.
</td></tr>
<tr><td>Mining Factors UG</td><td>
The mining operating costs have been calculated, from first principles with backfill, personnel and maintenance costs based on benchmark costs from similar operations.
<table>
<tr><th>Cost</th><th>$/t</th><th>Comments/Source</th></tr>
<tr><td>Mining</td><td>41.62</td><td>First principles and benchmark from similar operations</td></tr>
<tr><td>Processing and Total including Transport to Luleå</td><td>309.56</td><td>Provided by Talga</td></tr>
<tr><td>Admin, Fixed, Manpower, EMP, G & A Total</td><td>12.86</td><td>Benchmark from similar operations</td></tr>
<tr><td>Total</td><td>364.04</td><td></td></tr>
</table>
</td></tr>
<tr><td>Geotechnical Parameters Underground</td><td>
The Nunasvaara and Niska ore-bodies dip sub-vertically, are continuous along strike and vary in width between 16m (Nunasvaara), 30m (Niska South) and 60m (Niska North). The three orebodies are hosted within competent greenstone lithologies.

Using the current understanding of the geometry and rock mass LHOS (long hole open stoping) a form of sub-level stoping is proposed as the most appropriate and cost-effective mining method for the project. This will include longitudinal stoping for Nunasvaara and transverse stoping for the Niska orebodies.

A maximum design stope size of 30m in length x 15m wide x 25m high is proposed with uneconomic ore to be left as natural pillars where possible. Cemented paste tailings backfill will be used to maximise ore extraction.

The analysis, using preliminary level data, indicates the proposed stope size 25m(h) x 15m(w) x 30m (l) falls within the stable, no support regime in the Stability graph (Mathews et al. 1981). There is potential to increase the stope height further and this will be assessed in further studies.

The maximum mining depth is currently 150m (constrained only by current drilling depth). The compressive strength:stress ratio of the graphite ore is high giving a favourable rock stress factor at 150m mining depth. This indicates that mining can continue to depths significantly below 150m.

Sill pillars to be established at 150m intervals. The analysis indicates that limited ground support for development will be required. Shotcrete support
</td></tr>
</table>

MATERIAL ASSUMPTIONS	COMMENTARY
	has, however, been factored into the costs for all main development in accordance with Swedish regulations.
Mine Scheduling UG	The mineable tonnage and grade are estimated by applying an economic cut-off to the resource based on product price, realisation costs, mining dilution, plant recoveries and total operating costs. A production schedule was developed for an underground mining option based on the following criteria: • A mining rate of 400,000tpa, with mining taking place year-round. • The process plant tailings are thickened to be pumped to a backfill plant positioned at a suitable high-level location. The balance will be filtered and transported to the Integrated Waste Facility sites. • Mine access will be via a portal and footwall ramp at each orebody. The ramps will be constructed using a 16% gradient along the straight sections and horizontal curves using 20m curve diameters. This results in an overall 10% gradient for the ramps. • Production material will be blasted once a fortnight by a series of drilled rings with the stopes spaced at 25m vertical intervals, with material extraction by 30 tonne underground haulage trucks using remotely operated 10 tonne LHDs. The trucks will haul material to surface via the ramps and along designated haul roads to the ROM pad at the concentrator crusher station. • The proposed mining development sequence comprising Nunasvaara North first, followed by Niska South and finally Niska North. • A LHOS mining method with several stopes open at any one time to ensure continuity of production. • Mine development infrastructure and fixed and mobile mining equipment to support the required mining rate and mining method. • An extraction of 90% and a dilution of 10% were applied. • Estimated mineable tonnage of 5.1Mt at 28.75%Cg. The stopes will be mined and backfilled in a checkerboard sequence to allow for mining of stopes alongside cured backfilled stopes. Ore below cut-off will be left as natural pillars where possible. This mining method ensures maximum ore extraction and a 90% ore extraction has been provided for in the recoverable resource estimation. Several stopes will be open at any one time to provide flexibility. The resultant UG schedule recovers 5.08Mt at 28.8%Cg.
Mine Design Criteria	The underground mine development assumed a 25m crown pillar, with long hole open stoping and backfill.
Mining Cost	The mining operating costs have been calculated, from first principles with backfill, personnel and maintenance costs based on benchmark costs from similar operations. The study assumes the mining contractor will bear development mining capital costs and Talga will bear production heading capital costs. All costs are determined in the Study on a US$ basis.
Metallurgy	Three composite samples were prepared from drill core material, two (2) from the Niska South graphite deposit and one (1) from the Nunasvaara North area. The samples were selected to achieve a reasonable representation across drill holes, interval depth and variation in observable mineralogy whilst still respecting the rock and particle criteria requirements for ore comminution testing. Initial indications are that the comminution properties are similar

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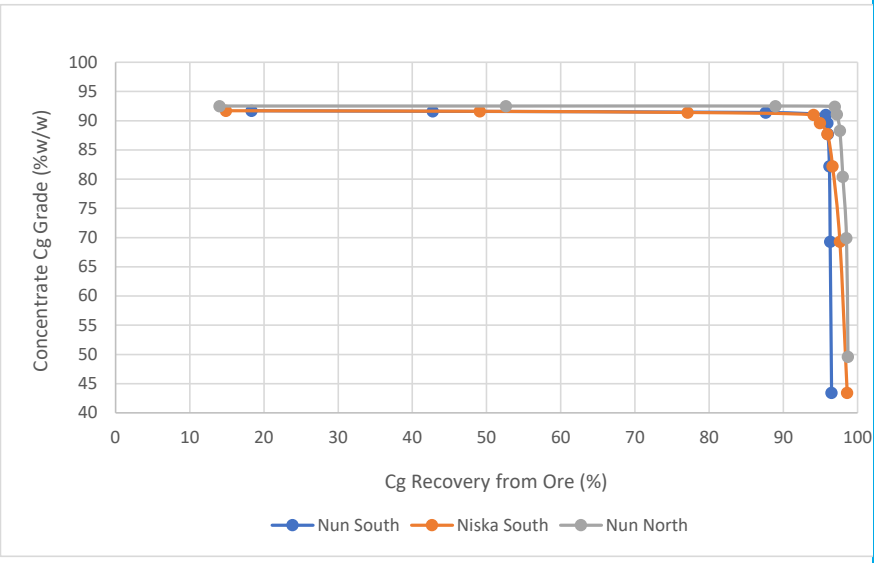
	across the different ore bodies, however additional comminution testwork and modelling work is recommended to further understand any mineralisation variability and enable appropriate design allowances to be incorporated into engineering activities. The metallurgical response of the Niska South and Nunasvaara North composite ore samples was found to be consistent with that of Nunasvaara South material, with the purity and physical properties of the graphite concentrates equal, or better, to the graphite concentrate produced from the Nunasvaara South material in earlier testwork programs. The concentrator processing route, selected for the study, is based on the flowsheet developed for the Vittangi Anode Project and recently piloted at GTK in Finland. The process route is supported and justified by the successful completion of the 60-tonne flotation pilot plant, with the concentrate material generated from this pilot advancing through purification and product coating trials confirming target final product specifications can be met. Comparative Flotation Grade-Recovery Data of the three deposits in the Study is illustrated below.  The graphite concentrate will be transported to the refinery in Bulka Bags in the form of moist filter cake; where it is fed to a chemical leach circuit. The product from the leach circuit will be dried and bagged ready to be transferred to the Talnode-C coating plant or final market. Testwork to date confirms that Niska South and Nunasvaara North concentrate respond in a similar way to Nunasvaara South concentrate upon which the purification process has now been optimised. However, to date only Nunasvaara South concentrate has been tested under the optimal conditions, where a recovery of 99.5% has been achieved. Further testwork is proposed at the next stage of engineering. It is proposed that the drier product is air classified prior to being bagged and transported to the Anode plant, with the classified product being transported off site as feed for a graphene production facility (Talphene®) and production of Talga silicon anode products. Whilst proven technology, the air classification is undergoing further testwork to refine the circuit. The anode plant reflects additional testwork conducted over the last 12 months and includes shaping, coating and pyrolysis. The capital costs have been estimated from equipment selected during the testwork and factored to

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	reflect opportunities to incorporate larger unit process equipment in sections of the design. A final coated anode product of 99.95%Cg is produced.
Processing Cost	Order of magnitude operating costs for the concentrator, purification, spheronisation, coating and pyrolysis process has been estimated per tonne to order of magnitude and have an accuracy consistent with a Class 5 study in the range of +50/-30%.
Infrastructure	Swedish engineering company ÅF developed the infrastructure costs for the 400,000tpa study. Using established Lang Factors in relation to the Nunasvaara PFS study and new estimates where required. Where new facilities, such as powerlines etc. are required these have been excluded from the factored estimate and included as stand-alone items. The permitting and installation of a new 130kV powerline from Svappavaara at an estimated cost of US$11M and a timeline of 3-5 years is one of the major items on the critical path. At Luleå, the majority of the additional site drainage, sewage, power and civil costs associated with the increase in Talnode-C production to ~100,000t of coated anode has been allocated against the purification plant.
Cut-off Parameters UG	The estimated mineable tonnage and grade for Niska South, Niska North and Nunasvaara North was based on an economic cut-off of 11.4%Cg and graphite product price at purification plant of US$4,000/t. The cut-off represents an operational parameter the Company believes is applicable. This is in accordance with the guidelines of Reasonable Prospects for Eventual Economic Extraction ("RPEEE") per the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code 2012).
Capital Cost	The capital costs include owner's project cost and contingency were developed using industry standard Lang factors from the recent PFS study on the Vittangi Anode Project (100,000tpa). The estimate base date is Q4 2020. The scoping study estimate is deemed to have an accuracy of +50/-30%.
Operating Cost	The mining establishment and operating costs were developed by Golder Associates. The process plant operating costs were estimated by Core Resources and Talga. Logistics costs were based on a transport study undertaken for the Vittangi Anode Project PFS.
Environmental	The Niska Project is located in boreal forests of northern Sweden, within the catchment of the Torne-Vittangi River. Baseline studies have been conducted since 2016 and impact assessment studies are underway. The project area lies in the catchment area of the Torne and Kalix river systems, defined as Natura 2000 areas, and baseline studies have identified some high value biodiversity areas in the eastern and northern parts of the Project area. None are impacted directly by mining areas and planned key forest biotypes are able to be avoided and protected and impacts minimised through project design and site selection. The inclusion of underground mining method in the study has identified significant environmental impact reduction opportunities compared to open pit mining methods, significantly reducing surface footprint by 75%, significantly reducing waste rock movement and stockpiling requirements, significantly reducing above ground tailings storage requirement and significantly reducing water impacts, both dewatering and water discharge.

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	The project has been designed to include best practice tailings and environmental management techniques that have been included within the Nunasvaara South mine development, including dry stack tailings disposal and water treatment prior to discharge. The refinery location is currently being assessed with locations within zoned industrial land being considered. Solid and liquid waste characterisation, location studies and impact assessment are currently underway, along with air emission impact assessment.
Social	Talga has adopted a structured approach to stakeholder engagement and consultation to initiate and sustain constructive relationships in a Stakeholder Engagement Plan, which is consistent with international best practice. Talga will perform ongoing engagement throughout the Project as guided by the Stakeholder Engagement Plan. Ongoing engagement will support the long-term viability of the projects by establishing and maintaining good relations with community and using feedback to inform the decision-making processes. Socio-economic baseline data has been collected for the project area and a socio-economic impact assessment of the project is being conducted. Talga continues to engage with the Project affected indigenous peoples and the reindeer herding cooperatives. Talga continues to engage with Talma and Gabna reindeer herding cooperatives to assessing impacts and propose mitigation measures for the Project.
Audits or Reviews	The scoping study has not been subject to external review or audit, however internal components such as the mining study were completed by external contractors. In addition the following risks were identified during the study **Resource Risk:** The Niska deposits contain 6.4Mt of Indicated Resource out of 9.0Mt global total, however the mineable resource used in the production target contained >98% Indicated Resources. Electromagnetic studies indicates potential additional resource along strike and previously completed drilling indicates the potential for additional resource down dip. The Niska Project is therefore well established as a long life mine development; hence the current Inferred Resource portion presents a small risk. The Inferred material does not have a material effect on the technical or economic viability of the project. **Mining Risks:** Mining of the Niska deposits will be via conventional drill and blast underground operation and it is assumed that a mining contractor will develop the portal and main ramp to a vertical depth of 60m and subsequent stoping being owner operated. The well-established mining industry in Sweden ensures good drill and blast and mining contractor availability as well as good mobile and fixed plant supply, mining supplies, back-up service and operator training. Whilst an initial geotechnical assessment supports low cost LHOS with minimal support, rates the project risk as low. Significant importance is, however, is given to comprehensive and accurate geotechnical and geohydrological characteristics of the ore-bodies and host country to ensure accurate and safe underground mine design and cost estimation. Further optimisation and detailed geotechnical, hydrological or geohydrological studies will be carried out during the next stage of the Project to minimise risks associated with underground mining of the Niska deposits. **Processing Risks:** The mineral processing route selected for the study is based on the flowsheet developed for the Vittangi Anode Project. The flowsheets

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	was successfully piloted at bulk scale earlier this year and is considered a conservative and technically robust path. To further refine mineralisation variability models, enable appropriate design allowances and minimise over-design additional modelling and testwork has been recommended, that could potentially improve the operability of the plant and reduce capital and operating costs, will also be further explored in future studies and feasibility work. The chosen purification process has been optimised based on the Nunasvaara South concentrate and testwork to date confirm that Niska South and Nunasvaara North graphite concentrate respond in a similar way. It is proposed that further testwork form part of the next stage of engineering as a matter of continuous optimisation and to demonstrate consistent high purity and electrochemical performance of material generated from all three graphite mineralisations. **Permitting Risks:** Delays in the permitting and approvals process are an inherent risk to all mining and industrial manufacturing projects. Sweden has an established mining industry with a structured permitting process and Talga has previously gained approval for trial mining at its Nunasvaara South deposit and more recently at its Niska South deposit. Whilst the track record speaks to past and current successful permitting approvals a potential permitting delay for mining of the Niska deposits could impact production schedules and delay customer contracts for the expanded Talnode®-C production. Similarly, a delay in permitting of the refinery plant could pose a delay to Talnode®-C production and delivery of the product to customers.
Other	N/A