SCOPING STUDY DEMONSTRATES ROBUST RETURNS FROM VITTANGI GRAPHITE-GRAPHENE PROJECT IN SWEDEN

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Corporate Information

ASX Code	**TLG,TLGO**
Shares on issue	**124.6m**
Options (listed)	**7.74m**
Options (unlisted)	**7.85m**

Company Directors

Keith Coughlan
Non-Executive Chairman

Mark Thompson
Managing Director

Grant Mooney
Non-Executive Director

ASX Code: TLG

Talga Resources Limited (ASX:TLG) ("**Talga**" or "**the Company**") is pleased to announce the completion of its scoping study ("the **Study**") on the Vittangi graphite and graphene project ("**Vittangi**") in northern Sweden (see Fig 6). The Company is extremely encouraged by the results of the Study which confirm low capital expenditure and operating costs with strong potential graphene returns and a short payback period.

Talga Resources Managing Director, Mr Mark Thompson said ***"The outcome of the study strongly supports our ambitions to become a low cost producer of graphite and graphene. Talga has been conservative to ensure that project economics are robust enough to support a range of market circumstances and our low capex and operating cost starting position certainly supports margin insulation. As a combined graphite and graphene operation, the Vittangi project shows high economic performance but importantly, the project is also viable as a stand alone graphite operation."***

Highlights:

- **Vittangi project targeting dual production of ~46,000tpa graphite and ~1,000tpa graphene over approximately 20 years**
- **Project low risk with Capex ~AUD$29m and capex payback 1.4 years including construction**
- **~AUD$84/t feed costs for 2% graphene recovery and ~77% total graphite recovery**
- **Indicative pre-tax NPV in excess of AUD$490m based only on current JORC *Indicated* portion of resource - from surface**
- **Project viable on graphite production alone – graphene a by-product**
- **Economic metrics hoped to become even more robust as graphite and graphene recovery yields increase with future optimisation work**
- **Minimal environmental footprint with low impact single-step comminution technology and metallurgical route tested at R&D and bench-top scales with permitting underway for pilot plant production**
- **Metallurgical work undertaken on fresh rock – samples not subject to naturally elevated graphite purity by virtue of oxidation**
- **Conservative Study numbers - graphene price severely discounted to current type minimum pricing and low-end yields assumed**
- **Study contemplates simple pits to depth. Economics may be significantly improved were shallow resources along ~30km strike proved viable**
- **Results provide confidence and a business case to advance the project towards trial mining, pilot plant design and construction**

FINANCIAL SUMMARY AND ASSUMPTIONS

Following breakthrough metallurgical results[1] earlier this year, the original Vittangi project graphite scoping study (commenced 2013) was expanded to include a dual graphite–graphene production route. Snowden Mining Industry Consultants ("**Snowdens**") was engaged to complete the expanded Study and associated financial modelling. Open pit mine design and scheduling was completed by Entech Mining ("**Entech**"). Independent Metallurgical Operations Pty Ltd ("**IMO**") developed the Study's processing and engineering routes.

Table 1 Key Scoping Study Metrics.

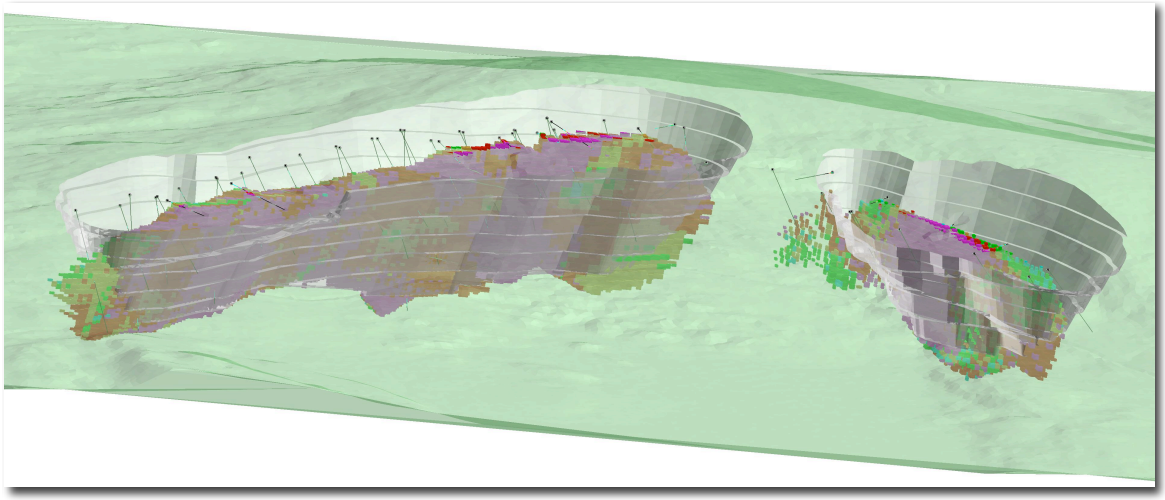
Items		Base Case
Plant throughput	(tpa)	250,000
Diluted Feed Grade	(%)	23.6*
Graphite production	(tpa)	~46,000
Graphene production	(tpa)	~1,000
Life of Mine Strip Ratio	W:O	4:1
Graphite price assumption	(USD$/t)	480
Graphene price assumption	(USD$/t)	55,000
Capital cost	(AUD$m)	29.3
Mine Life	(years)	19.7
Discount Rate	(%)	12
Pre Tax Net Present Value (NPV)**	(AUD$m)	~490
Payback from construction start	(years)	1.4

**Feed grade after mining dilution factors. ** Pre-tax and other impositions but including state and private royalties.*

Mining

The Study utilises the Vittangi projects Nunasvaara deposit JORC 2004 Indicated Resource (estimated in accordance with the guidelines of the JORC Code 2004. See Table 2, Note 1 below and Reference[2]) modelled as an open pit mining operation. Only the Indicated portion of the resource (0-125m depth) was used in the Study which provides a mine life of 19.7 years and final depth strip ratio of around 4:1 including haulage access. The Study pit includes waste and mining dilution factors resulting in 250,000 tonnes per annum ("**tpa**") feed at a grade of 23.6% graphitic carbon ("**Cg**") being delivered to the processing mill as saw-cut whole blocks. The mining costs were developed from information provided by Entech and Snowden and assume industry standard drill-blast extraction for waste and quarry block extraction for ore.

Fig 1 Pit design of Nunasvaara graphite deposit including haul ramps and not allowing for extensions/combinations of the pits.



REFERENCES: ALL REFERENCES ARE LOCATED AT THE END OF THIS ANNOUNCEMENT.

Table 2 Vittangi project's Nunasvaara Mineral Resource (2004) (@10% Cg lower cut-off)

Deposit	JORC Status	Base Case	Grade Cg %
Nunasvaara	**Indicated**	**5,600,000**	**24.6**
Nunasvaara	Inferred	2,000,000	24.0
	Total	7,600,000	24.4

Note 1: The Vittangi graphite project Mineral Resource (Nunasvaara deposit) estimate was first reported in February 2012 and has not been updated to comply with the 2012 JORC Code. The Company is not aware of any new information or data that materially affects the information included in the relevant market releases for this estimate. The Company confirms that all material assumptions and technical parameters underpinning the estimate in the relevant market releases continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented here have not been materially modified.

In light of the positive results from the Study, Talga and its consultants have closely reviewed the parameters of the JORC 2004 estimate and are satisfied with its use in the context of this Study. A further revision of the estimate will be undertaken in order to move the resource to 2012 JORC compliant status in the near future as part of next stage feasibility studies.

Processing

IMO has developed designs for the processing plant based on metallurgical testwork and public domain research carried out by itself and supported by analysis undertaken by Curtin University, CSIRO and the University of Adelaide. The processing plant, assumed to take one year to construct, will use a series of well known steps adopted in other mineral processing industries but in a non-conventional way that specifically suits Nunasvaara-type graphite ore.

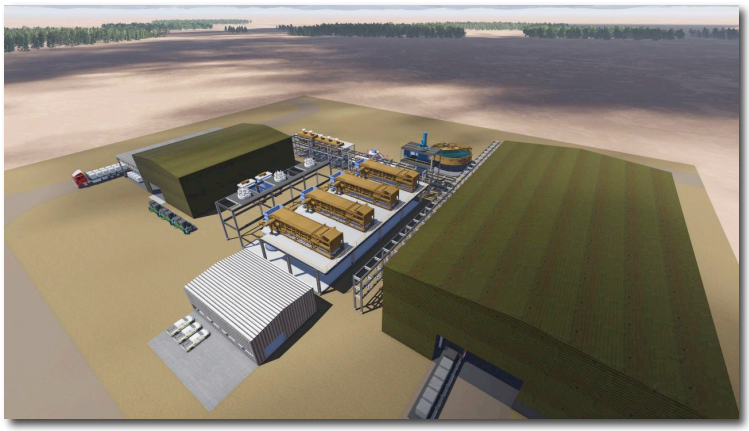
The comminution circuit will incorporate a series of cells that subject whole ore blocks to a wet physio-chemical technique that liberates graphene, graphite and waste products without any primary crushing, grinding or screening.

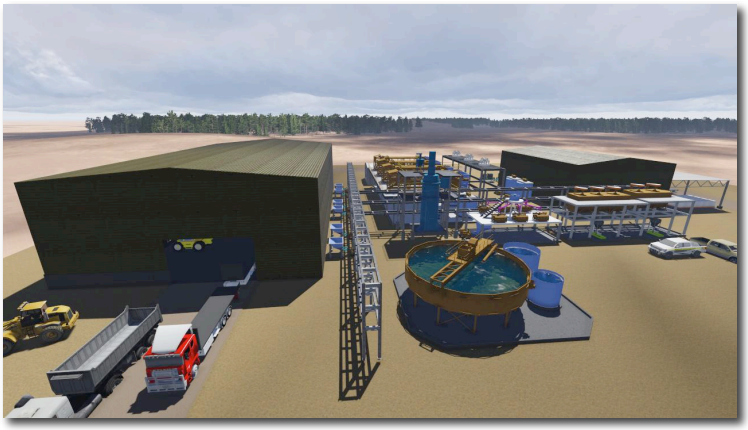
During the comminution stage, both colloidal graphene and particulate graphite will be separated in a single step to form individual recovery streams. The graphene stream will be further filtered, sized and dispersed into specific solutions for bulk transport to meet customer requirements (>99.9%C purity). In-process functionalisation of the graphene is an option to be reviewed in future.

The graphite recovery stream will be subjected to a combination of wet magnetic, gravity and other industry standard processes to produce an ultrafine (-75 micron) graphite concentrate of at least 80-85%C purity to be sealed into bags and containers for transport. The total graphitic carbon recovery used in the Study is 79.3%.

IMO has documented a range of graphene

Fig 2 a/b. Process plant model showing ore blocks entering comminution stage at lower right (a) and below, overview of recovery circuits exposed (b).





recovery yields ("**Yield/s**") during the metallurgical testwork program to date. As expected, early results have been markedly improved upon as process understanding has matured. More recent data shows Yields of approximately 12% against first pass Yields as low as 0.6%. The Study is most sensitive to graphene production Yield and Talga has chosen to use low Yield results (2% effective) to ensure the most conservative Study outcomes.

Recognising that this is the beginning of what will be an iterative metallurgical optimisation process, Talga is strongly encouraged by the fact that the Study NPV jumps to indicative figures of greater than AUD$1 billion when using the median Yield of 6.4% (midpoint of lowest and highest yield results to date) or higher (see Fig 5). With full scale production more than 1.5 years away and further recovery optimisations possible, the future upside for project economics is encouraging. The market for graphene has time to grow as awareness of lower cost bulk supply becomes better known to end users.

Environmental

Talga completed a preliminary environmental and social study at Nunasvaara in 2012 which was undertaken by SRK Consulting (Sweden) AB with the aim to establish an overview of the bio-physical and social environments. Work included testing the quality of the water and soils in the vicinity of the resource and recording local stakeholder values. The Nunasvaara deposit is located in an historic state mining field and the study demonstrated no significant technical impediment to next stage development work. Notwithstanding, the area does have obvious land and cultural value to local stakeholders and these are being assessed as part of the current bulk sample permitting process. More comprehensive stakeholder consultations, along with environmental and social surveys will be undertaken well ahead of government requirements.

Capital Cost

Capital costs for the proposed ~47,000tpa graphite and graphene operation were prepared by IMO and are estimated to be AUD$29.2 million at +/- 30% accuracy. A summary of the capital cost estimate is presented in Table 3. It should be noted that the capital estimate is lower than conventional processing plants due in part to the high grade/smaller scale nature of the operation and the lack of primary crush/grind circuit required for Nunasvaara-type ore comminution.

Table 3 Study capital expenditure estimates

Category	Cost (AUD$m)
Process Plant (Equipment & Labour)	9.25
Site & Plant Infrastructure	7.60
Commissioning, Start-Up, Spares & Miscellaneous	8.39
Total Direct Plant Costs	**25.24**
Construction Facilities	0.25
EPCM	3.79
Total Indirect Plant Costs	**4.04**
Total Plant Costs	**29.28**

Operating Costs

The operating cost estimates are based on contract mining and 90% processing mill availability (see Table 4). Nunasvaara is favourably located 3km from a sealed highway and 20km from rail with direct links to potential customers in Europe. Despite having a binding memorandum of understanding with the port of Luleå for up to 80,000 tonnes per annum of graphite concentrate export, it is more likely that Talga will transport its product via rail to key customers in Europe. To align with market norms the Study however assumes product transport and sales contracts free on board ("**FOB**") at either the European ports of Narvik or Luleå.

Table 4 Study operating expenditure estimates

Category	Cost (AUD$/ tonne of feed)
Processing	61.9
Mining	16.3
Transport	5.6
Total	**83.8**

Snowden has not allowed for shipping, assuming FOB sales contracts, but has applied:

(a) A "sales value" of 95% to the scenarios to account for product logistics and sales.

(b) A "marketing" penalty of 2%, this being commensurate with other commodities for marketing purposes

(c) A resource recovery factor of 97% to account for normal mining losses related to relatively narrow mineralisation and a dilution factor of 3%. Snowden advises that these factors are incorporated in the Entech optimisations, but have been applied here at a high level for modelling purposes.

(d) A "port and loading" cost of $7.50/t product, for costs related to transport.

Pricing

The Study assumes dual production of graphite and graphene and the categorisation of three saleable product streams from Vittangi being:

- Standard ultrafine graphite concentrate (80-85%C purity) ("**SUG**"); and
- Very few layer graphene (99.9%C purity)("**vFLG**"); and
- Micronised high purity graphite (94-97%C purity)("**Micronised**").

Vittangi is primarily a graphite project with unique mineralisation characteristics that enable a processing methodology which liberates constituent minerals down to ultrafine and near-atomic scale. This method is the most suitable way to produce a standard graphite product from Nunasvaara however in the same process it also liberates graphene, essentially as a by-product. In time Talga anticipates selling all of its vFLG (~7,200tpa) into the graphene market however at present it is acknowledged the vFLG market is in its infancy and forecast demand is difficult to rely upon. Talga has taken a conservative approach and assumed that a portion of its vFLG will sell into the graphene market with the balance selling into the Micronised market until sales volume builds.

The Study contemplates sales of ~40,000tpa of SUG, ~1,000tpa of vFLG and ~6,000tpa of Micronised (unsold vFLG) per annum. Table 5 summarises pricing relative to Talga's three product streams. A broad range of pricing data points were referenced and researched to arrive at the assumptions used below.

Table 5 Product and pricing summary

Product	Flake Size	~Length	Graphene Layers	Graphene Thickness (nM)	Purity	Price (US$/t)
SUG	Ultrafine	<75 micron	n/a	n/a	+80%	$480
vFLG	Ultrafine	<10 micron	1-5	2 (max)	99.9%	$55,000
Micronised	Ultrafine	<10 micron	n/a	n/a	94-97%	$1,600

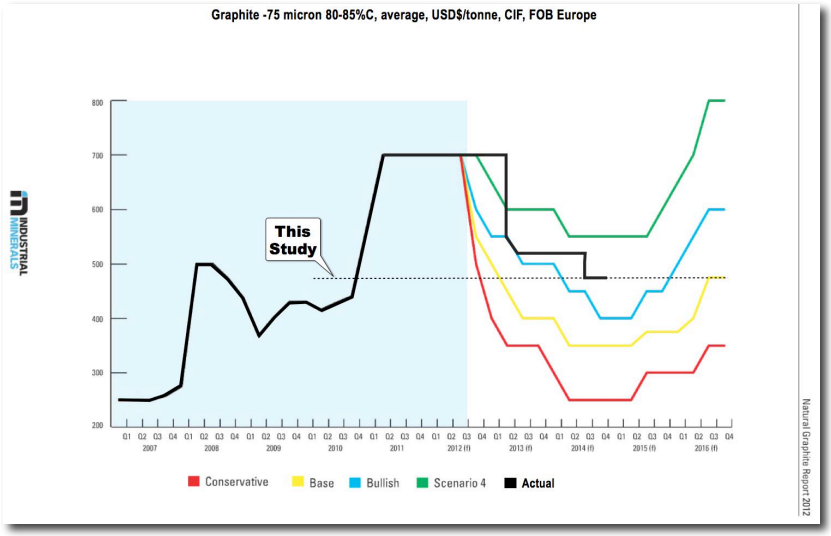
Note: Testwork confirming graphite and graphene specifications above undertaken by IMO in Perth.

SUG Pricing

SUG Study pricing is based on data provided by the Industrial Minerals Natural Graphite report and related subscription database service[3] as well as the Roskill Natural Graphite report[4].

Industrial Minerals forecasts SUG prices projecting along four scenarios (Conservative, Base, Bullish and Scenario 4) and since that time the actual realised price has exceeded the Bullish case in every quarter (see Fig 3). SUG prices currently remain above the 'Bullish' case in advance of what is projected to be higher prices in future

Fig 3 SUG pricing; history and projected. Source Industrial Minerals Data



as the impact of declining Chinese output continues. Industrial Minerals Data[5] highlights that average actual prices of SUG (Ex-China -75 micron 80-85%C FOB, CIF Europe) over the previous 2 years to date is USD$515-610/tonne.

vFLG Pricing

Pricing for vFLG was determined utilising an independent pricing report from Fullerex Limited[6] combined with a matrix of other public and private graphene pricing sources. Fullerex state the average sale value of bulk graphene (predominantly graphene nanoplatelets of >10 layers) is currently USD$100,000/tonne and vFLG (2-5 layers) is being sold between USD$100-$250,000 for order sizes at 1,000kg lots. Separately, Talga has received confirmation from aviation and additive industry end users who state that graphene will need to be at or around USD$60,000/tonne in order for adoption by large scale multi national manufacturers.

Fig 4 Microphotograph of Talga vFLG showing folded layers

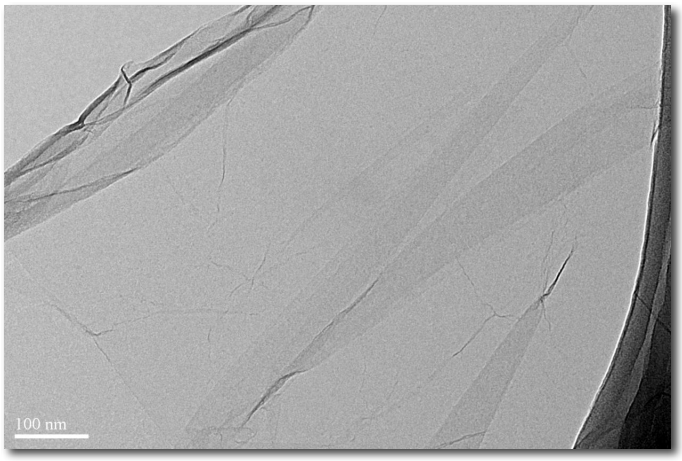
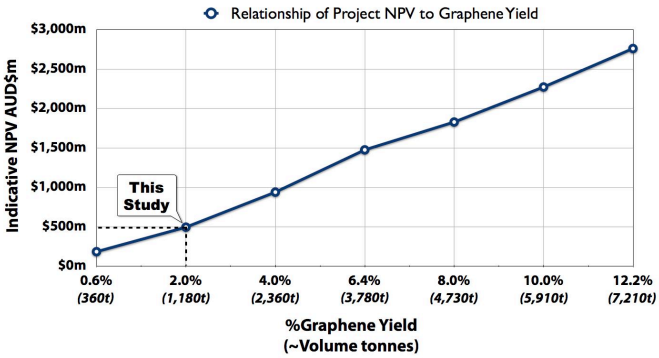


Fig 5 Graph of indicative project NPV (using US$55,000t graphene price) sensitivity to graphene yield/volume.



It is important to note that graphene industry pricing is fairly opaque and many of the pricing precedents are based on research and development sale quantities (i.e. grams rather than kilograms or tonnes). Talga made a graphene sale to a German 3D printing company[7] at a materially greater price than what has been used in the Study, but it too was for a small quantity. Given Talga's focus and point of differentiation revolves around the potential ability to supply bulk quantities, Study pricing for both products, but particularly graphene, has been very conservative. Additionally, as part of Talga's contingency planning, a scenario was run to understand the impact to economics if the Vittangi project produced only graphite (SUG plus unsold vFLG marketed as Micronised graphite). Even this scenario suggests a viable operation with a positive project NPV.

Micronised Graphite Pricing

It is assumed that ~6,000tpa of Talga vFLG production will be marketed and sold into the 94-97% micronised graphite market. Research by Benchmark Mineral Intelligence[8] indicates that USD$1,600 per tonne is the price that is currently being received for sales ex China to Europe of specification that can be met or exceeded by Talga. Purity of >97% and size below 10 micron carries a premium in the marketplace and can command higher values.

Market

According to Benchmark Mineral Intelligence[8], the graphite market has been depressed in 2014 on weak Chinese demand. Domestic Chinese producers continue to feel consolidation / modernisation pressures in the premier graphite regions of Heilongjiang and Shandong and there is much scrutiny around the acids used to produce grades above 95%C. This is likely to cause further supply pressure and some international graphite prices have already responded with increases.

Industrial Minerals highlight[3] that China produces approximately 77% of the worlds natural graphite and the refractories market accounts for 38% of demand. Talga estimates that ~92% by volume of its combined production will sell into what was a 450,000tpa SUG graphite market in 2011. Aside from refractory uses,

ultrafine graphite (SUG) is also used in lubricants, brake linings, foundry facings and myriad industrial products.

Owing to several excellent properties of graphene it is possible to embed the material into a wide range of market applications. Graphene applications requiring single sheet supply are limited to lower volume markets while larger scale graphene applications preferentially require few to very few layered graphene that can be produced in industrial volumes for very low cost. The key markets for vFLG graphene include, but are not limited to, energy storage, flexible electronics, photovoltaics, printed electronics, composites, coatings and paints, lubricants, water treatment and 3D printing (Fullerex[6]). Graphene demand is expected to grow sharply as reliable and lower cost bulk supply comes on stream (2018-2022 projected CAGR 47.1% to US $1.3B/annum)[9].

The micronised graphite market is a separate, specialised market selling very fine ground, and sometimes highly purified graphite powders to niche end users like foundries as well as lubricant and battery manufacturers. This market is estimated to be between 30-40,000tpa a year with the majority of material being consumed by developed economies like Germany, Japan and the USA, Benchmark Mineral Intelligence[10].

For further information, please contact:

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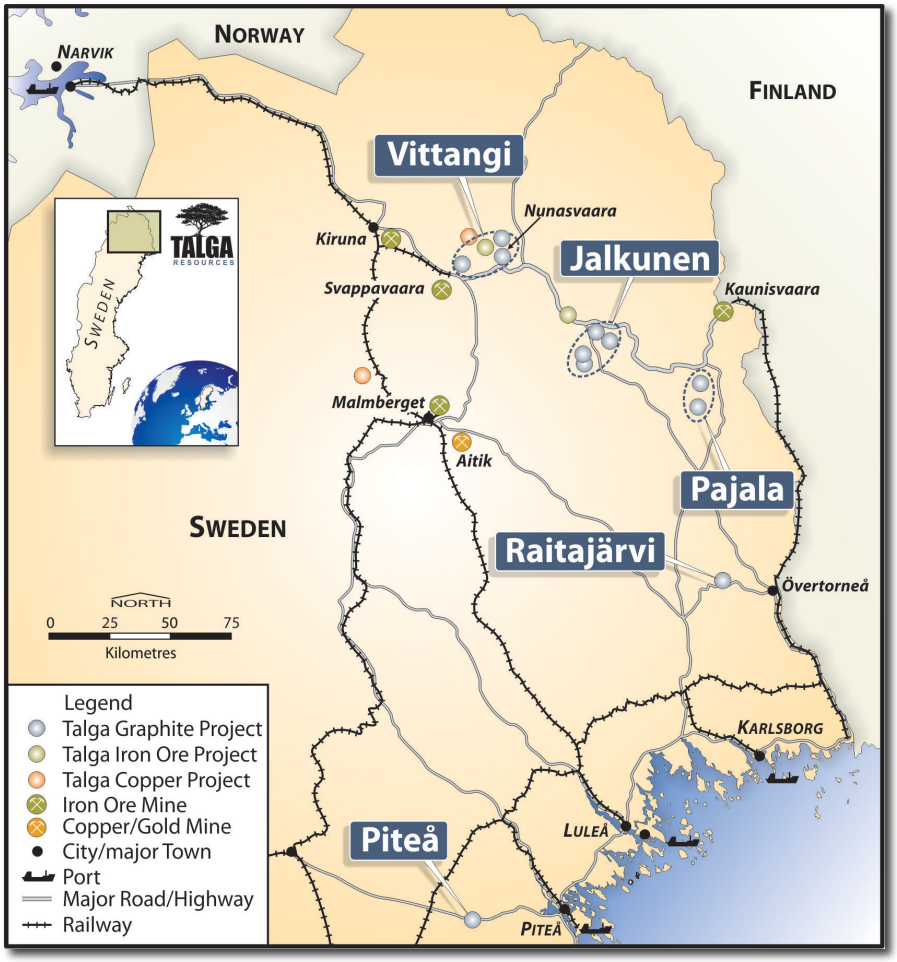
Fig 6. Talga's 100% owned graphite projects in Sweden.



References

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2. ASX Release, 08 November 2012 – "110% Increase in Nunasvaara Graphite Resource".
3. Industrial Minerals - "Natural Graphite Report 2012".
4. Roskills "2012 Natural Graphite report – 8th Edition Industrial Minerals / Natural & Synthetic Graphite: Global industry markets".
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6. Fullerex Limited – "Graphene Pricing Report 2014".
7. ASX Release, 23 July 2014 – "Talga's First Graphene Sale".
8. Benchmark Mineral Intelligence – "Independent Price Analysis for Graphite and Graphene", Simon Moores, 25 September 2014.
9. Research Report AVM075C "Graphene: Technologies, Applications and Markets" Sept 2013 BCC Research.
10. Benchmark Mineral Intelligence – Simon Moores communication 7 October 2014.

Cautionary Statement

The scoping study referred to in this report is based on low level technical and economic assessments, and is insufficient to support estimation and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusion of the scoping study will be realised.

The use of the word "ore" in the context of this report does not support the definition of 'Ore Reserves' as defined by the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". The word 'ore' is used in this report to give an indication of quality and quantity of mineralised material that would be fed to the processing plant and is not to assumed that 'ore' will provide assurance of an economic development case at this stage, or to provide certainty that the conclusion of the scoping study will be realised.

Competent Person's Statement

The information in this report that relates to Exploration Results is based on information compiled and reviewed by Mr Mark Thompson, who is a member of the Australian Institute of Geoscientists. Mr Thompson is an employee of the Company and has sufficient experience which is relevant to the activity which is being 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"). Mr Thompson consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Resource Estimation is based on information compiled and reviewed by Mr Simon Coxhell. Mr Coxhell is a consultant to the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Coxhell has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this document and to the activity which he is undertaking 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"). Mr Coxhell consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Mr. Jeremy Peters, FAusIMM CP (Min, Geo), of Snowden Mining Industry Consultants consents to the issue of this announcement in the form and context in which it appears.

Mr Daryl Evans FAusIMM BSc of Independent Metallurgical Operations Pty Ltd consents to the issue of this announcement in the form and context in which it appears.

ABOUT TALGA

Talga Resources Limited (Talga) (ASX: "TLG") is a diversified mineral explorer and developer with a portfolio of 100% owned graphite, iron, copper/gold projects in Sweden and gold projects in Western Australia.

Graphite

Talga wholly owns multiple advanced and high grade graphite projects in northern Sweden. The immediate focus is to advance these projects towards development, utilising the advantages of established quality infrastructure including power, road, rail and ports. Initially this will entail economic studies on the Nunasvaara and Raitajärvi graphite deposits.

Iron

Talga owns multiple magnetite iron deposits located in the Kiruna mineral district of northern Sweden. The iron deposits are of significant scale and strategic importance, with considerable growth upside based on historic drilling. Talga's strategy is to commercialise these assets to provide funds for the graphite projects.

Gold

Talga owns multiple high grade gold projects located in the Yilgarn and Pilbara regions of Western Australia, which the Company is divesting to focus on the Swedish assets. Additionally the Company owns several copper-gold projects within its Sweden portfolio.