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Talga Group Ltd (TLG)

Best in class Graphite

Recommendation
Buy (unchanged)

Price
1.365
Valuation
2.50 (unchanged)

Risk
Speculative
GICS Sector
Materials
Expected Return

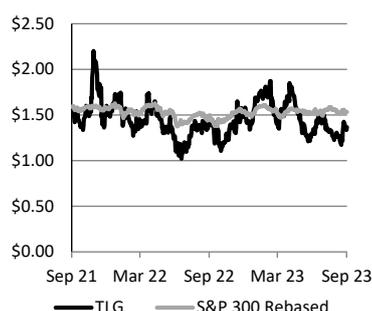
Capital growth	83%
Dividend yield	0%
Total expected return	83%

Company Data & Ratios

Enterprise value	\$452
Market cap	\$492
Issued capital	360m
Free float	93%
Avg. daily val. (52wk)	\$1.4m
12 month price range	\$1.10-\$2.00

Price Performance

	(1m)	(3m)	(12m)
Price (A\$)	1.23	1.27	1.36
Absolute (%)	11.4	7.5	0.4
Rel market (%)	13.2	6.4	-6.2

Absolute Price


SOURCE: IRESS

Talga lowers permitting risks, funding and offtake next

TLG announced in early September that the appeals to its Natura 2000 environmental permit granted by the Swedish Land and Environmental Court had been rejected, thus clearing the main hurdle to development of its Nunasvaara South natural graphite mine. The rejected appeals have until the 28th of September to challenge the decision in the Supreme Court, on grounds of a miscarriage of justice or gross error in law. Pending no further appeals, TLG will be cleared for development. We anticipate the focus will be on early construction works at TLG's Luleå refinery, which recently held a ground turning ceremony, in-line with further debt and product offtake discussions.

Underlying graphite prices slide, battery anodes less so

The decline in spherical graphite seems to have paused briefly at US\$2,200/t (down from US\$3,550/t in Jun-22), whilst underlying fine flake graphite (-100 Mesh) has continued to slide (US\$568/t from US\$830/t in Jan-23). The decline in price has largely been attributed to lower power costs in China and increased capacity in Synthetic graphite manufacturing. Secondary to this, a slowdown in steel demand has impacted demand for graphite electrodes, utilised in electric arc furnaces, which has reverberated back up the supply chain to natural graphite. For natural graphite battery anodes, the look-through is vague, with the spill-over having some impact on lower grade anodes and not necessarily impacting high-grade EV anodes. Pricing for natural graphite anodes is currently only supplied by Benchmark Minerals Intelligence and focuses specifically on the Chinese market.

Investment thesis: Buy (Spec), Valuation \$2.50/sh

We maintain our speculative Buy rating and a \$2.50/sh fully diluted and funded valuation for TLG in this note. Key milestones over the next 12 months which support our thesis for TLG include 1) Binding offtake for ~75% of production to align with debt funding, 2) project funding of ~A\$860m, (BPe 60/40 debt/equity), 3) construction commencement (BPe 1HFY24), and 4) first production (BPe 3QFY25).

Earnings Forecast

Year end 30 June	2022a	2023e	2024e	2025e
Sales (A\$m)	0	0	0	23
EBITDA (A\$m)	-36	-32	-26	-13
NPAT (reported) (A\$m)	-37	-37	-47	-52
NPAT (adjusted) (A\$m)	-37	-37	-47	-52
EPS (adjusted) (eps)	(12.1)	(10.8)	(7.8)	(8.7)
EPS growth (%)	82%	-11%	-28%	12%
PER (x)	0.0 x	0.0 x	0.0 x	0.0 x
FCF Yield (%)	-11%	-5%	-42%	-1%
EV/EBITDA (x)	-13.4 x	-14.0 x	-36.2 x	-78.8 x
Dividend (eps)	-	-	-	-
Yield (%)	0%	0%	0%	0%
Franking (%)	0%	0%	0%	0%
ROE (%)	-110%	-74%	-13%	-17%

SOURCE: BELL POTTER SECURITIES ESTIMATES

Advancing TLG

Luleå Anode Refinery

With TLG breaking ground on the Luleå anode refinery overnight, the focus now shifts to early construction activities ahead of financing and offtake discussions. Stage one of refinery ground works will be conducted by a local contractor and include site clearance, earthworks and installation of roads and utilities. In addition to on-site activity, TLG can now begin procurement for long-lead equipment items. TLG had A\$38.6m in cash at the end of the June-23 quarter, which will support early-stage construction activity. We have estimated the total capital cost for Stage 1 of the Nunasvaara South graphite mine and Luleå Refinery at US\$571m, with the bulk of the expenditure (~48%) going towards the Purification and Coating facilities which would produce ~19,500tpa of battery anode product. Following financing support, we anticipate the majority of activity (and capital) will be focused on advancing the Luleå refinery, as previous trial mining exercises at Nunasvaara South have generated a stockpile of material which can be toll processed through to potentially early CY25.

Figure 1 - Groundbreaking ceremony



SOURCE: COMPANY DATA

Figure 2 - Luleå anode refinery overview



SOURCE: COMPANY DATA

Debt financing

TLG has received €150m in debt funding support from the European Investment Bank (EIB). We estimate TLG will look to secure another ~A\$220-\$260m in debt funding support over the next 6 months to be supported by binding offtake. From recent announcements, TLG appears comfortable with the level of debt interest for the project, however we suspect that this is predicated on binding offtakes for the majority of the 19,500tpa of stage 1 production. TLG currently has two announced offtakes with ACC (Mercedes Benz & Stellantis) and Vercor.

Valuation & Recommendation

Recommendation

We maintain a **Speculative Buy recommendation and a \$2.50/sh Valuation for TLG**. We see TLG's vertically integrated, mine to anode, business model as attractively capturing downstream margins. We have made no changes to our earnings or valuation with this update.

Valuation

We have utilised a sum-of-the-parts discounted cash flow approach to value TLG, combining a discounted present valuation of the Nunasvaara South (Stage 1) and Niska (Stage 2) on a risked basis. We have included a present value for corporate overheads (-\$90m) and nominal value for further exploration (\$50m). To account for dilution, we have assumed a capital raise of A\$342m @ \$1.35/sh, we have not factored in an assumed raise for Stage-2, rather we have risked our valuation to account for the potential of further dilution. We arrive at a risked, diluted + funded valuation for the business at \$2.50/sh.

Table 1 - TLG sum-of-the-parts DCF valuation

Ordinary Shares (basic)	m	361
Options in the money	m	5
Diluted	m	366
<hr/>		
Sum-of-the-parts	A\$m	A\$/sh
Nunasvaara South (Stage 1) - NPV 10%, 90% risked	\$341	\$0.95
Niska (Stage 2) - NPV 10%, 50% risked	\$878	\$2.43
Exploration/ Other	\$50	\$0.14
Corporate overheads	-\$90	\$(0.25)
Subtotal	\$1,179	\$3.27
Net cash (debt)	\$40	\$0.11
Total undiluted	\$1,219	\$3.38
Cash from options	\$5.6	\$0.02
Total diluted (unfunded)	\$1,225	\$3.35
Assumed raise - (\$1.35 x 262m shares)	\$344	628 m
Total diluted + funded	\$1,569	\$2.50

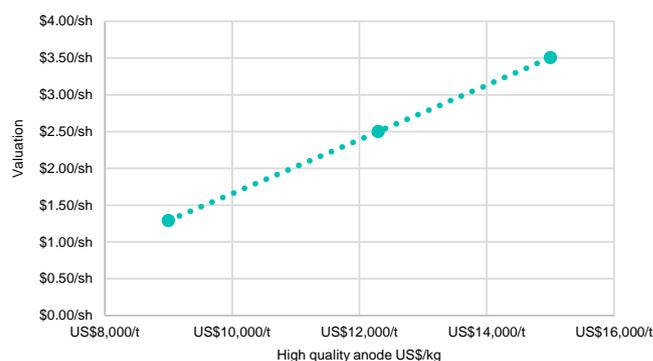
SOURCE: BELL POTTER SECURITIES ESTIMATES

Figure 3 – DCF valuation sensitivity (unfunded)

	Low	Bell Potter	High
Anode price deck	US\$9,000/t	US\$12,295/t	US\$15,000/t
Nunasvaara South (Stage 1) - NPV 10%, 90% risked	32	341	598
Niska (Stage 2) - NPV 10%, 50% risked	428	878	1,252
Other	-40	-40	-40
EV (risked)	420	1,179	1,809
Net debt/(cash) + options	-46	-46	-46
Equity value	\$465m	\$1,225m	\$1,855m
Diluted shares on issue	366m		
Assumed raise - (\$1.35 x 262m shares)	\$344m	628m	
Equity value (diluted & funded) \$/sh	\$1.29/sh	\$2.50/sh	\$3.50/sh
Share price	\$1.35/sh		
Uplift	-4%	86%	160%

SOURCE: BELL POTTER SECURITIES ESTIMATES

Figure 4 - Valuation sensitivity graph (unfunded)



SOURCE: BELL POTTER SECURITIES ESTIMATES

Investment thesis

Recommendation – Speculative Buy \$2.50/sh

Our investment thesis is based on:

1. Natural Graphite in deficit over the next decade as demand outstrips supply

- a. **Demand:** We estimate the demand for batteries in EVs to be 4,632 GWh by 2030 and 14,128 GWh by 2040 (BPe 2022 ~528 GWh). At an average EV basis of 72kWh, this assumes EV sales CAGR of 20% out to 2040, at which point EV's as a proportion of total vehicle sales is roughly 95%. To reach these expectations, we estimate the demand for natural coated spherical purified graphite (CSPG) to expand to 2.4Mt by 2030 and 3.6Mt by 2040 from 2021 levels of ~0.4Mt (BPe 2022 0.63Mt). As graphite makes up ~90% of the volume of the anode, the translation through to anode demand is similar.
- b. **Supply:** We estimate the current supply of natural graphite concentrate at 1.1Mtpa. Furthermore ~70% of natural graphite concentrate supply currently resides in China with greater concentration (~99%) in downstream purification, spheroidization and refining into anode material. A push towards decentralized supply routes for EV manufacturers should support ex-China processing, however we note that the road to market for battery anode material is long and, for most may be an uneconomic one, due to the characteristics of the underlying orebody, processing costs and qualification process. Whilst we have assumed supply additions of ~830ktpa of graphite concentrate to the end of the decade makes its way through to the EV market we view most projects as being inherently risky, with limited commercial studies underpinning production estimates.
- c. **Outlook, pricing and volume:** With both supply and demand considered, we anticipate a growing supply deficit in natural graphite and by extension anode material, supporting prices out to the end of the decade. Anode pricing is currently opaque, with a wide variety in price points dependent upon EV specifications. High-grade synthetic graphite prices (which feed into top tier European EV's) are forecasted by Benchmark Minerals Intelligence to reach US\$20,000/t by 2025.

2. TLG, most advanced, High-grade battery anode business

- a. TLG's core business is the mining and concentrating of graphite at its 100% owned Vittangi mine in Northern Sweden. Graphite concentrate will then be trucked 280km south to Luleå, where further refining, spheroidization, purification and coating produces a battery anode product for direct sales into the European car manufacturing sector.
- b. **Downstream business supported by high-grade, unique deposit –** the unique characteristics of the Vittangi ore-body (being highly-crystalline 100% fine flake graphite) supports the production of premium natural graphite anode material with minimal yield losses (9%) through to a final product. The location of the business (adjacent to hydro-power infrastructure) helps to reduce operating expenses whilst simultaneously minimising environmental impact. TLG's high-quality, low-impurity anode product is suited to high-performance EV's and battery products and is likely to be priced at a premium, similarly to synthetic graphite anodes.
- c. **Nunasvaara, & Luleå Stage 1 –** With the environmental permit approved on 6th April 2022, TLG can advance Stage 1 of its vertically integrated graphite

business. Stage 1 anticipates 19.5ktpa of TLG's patented battery anode material (Talnode-C). We have assumed construction beginning in 2H CY23 with an 18-to-24 month build time, which should see production beginning in 3QFY25 (Mar-25). We have assumed a 12 month ramp up period, to a steady state production level of ~19.5ktpa on average over a 24 year mine life. We have assumed total capital cost of US\$571m (TLG DFS US\$484m) and operating costs of US\$2,647/t Talnode-C, with a LOM sales price for Talnode-C of US\$12,295. We have risked our post tax NPV^{10%} by 10% to arrive at a current equity valuation in AUD (utilising a \$0.74 exchange rate) of A\$341m.

- d. Stage 2 takes capacity to over 100ktpa, of anode production, supported by an underground mining operation of the Niska deposit. For Stage 2, we have assumed production beginning in CY28, with a capital cost of US\$1,353m (TLG Scoping study US\$1,246m), operating costs of US\$2,625/t Talnode-C and LOM sales price for Talnode-C of US\$12,295 and Talphene-Si US\$15,000/t. We have risked our post tax NPV^{10%} by 50% to arrive at a current equity valuation in AUD (utilising a \$0.74 exchange rate) of A\$878m. Advancing through funding, offtake, permitting and the performance of Stage 1, will warrant an unwinding of our risk discount for Stage 2.

3. Ticking the boxes for institutional investors

- a. We believe TLG will appeal to institutional investors for the following reasons:
- i. TLG's vertically integrated mine to anode business model reduces intermediary overheads, whilst attracting premiums for the high-quality product for use in Tier-1 European EV's. Whilst margins may compress over-time with the entrance of additional anode capacity, we see TLG being better positioned to protect margins.
 - ii. TLG boasts a strong management team who have grown the business and are directly aligned with the performance of the shares. CEO Mark Thompson is the largest individual holder on the register with 4% of shares on issue.
 - iii. Proximity to customers, and low-cost hydroelectricity reduces TLG's carbon footprint, appealing to ESG conscious investors as well as auto manufacturers requiring visibility of environmental footprint for components.

Potential catalysts

1. Construction commencement (1HFY24)
2. Binding offtake (Now to 1HFY24)
3. Funding (1HFY24)
4. Production (Stage 1) (BPe 3QFY25)
5. Production (Stage 2) (BPe CY28)

Graphite market

Demand & Supply overview

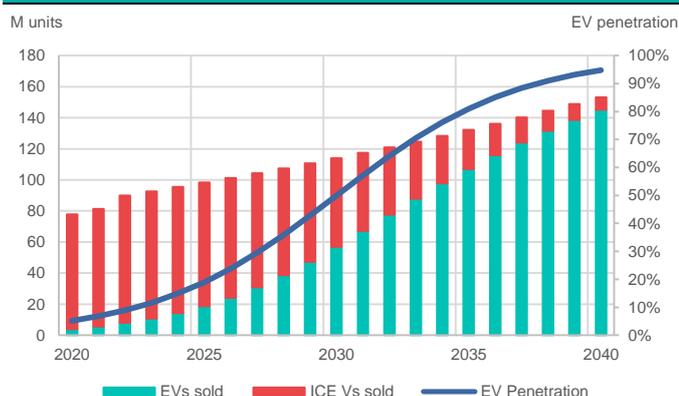
We have provided below our outlook for graphite demand and supply primarily driven from the expansion of EV adoption. For the purpose of this analysis we have begun with an analysis of demand for CSPG from EV adoption, and worked back towards demand for graphite concentrate.

Table 2 - Graphite demand modelling: Light passenger electric vehicles

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040
Global passenger vehicle market													
Passenger vehicle sales	m units	78	81	90	93	95	98	101	104	107	111	114	153
Growth rate	%		4.6%	10.7%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
EV market penetration	%	5%	7%	9%	12%	15%	19%	24%	30%	36%	43%	50%	95%
EV sales	m units	4	6	8	11	14	19	24	31	39	47	57	145
Graphite intensity													
Average kWh capacity per EV	kWh	65	65	66	66	67	67	69	71	74	77	81	97
Market GWh capacity required	GWh	264	364	528	710	949	1,261	1,665	2,185	2,844	3,661	4,632	14,128
Average kg CSPG per kWh	kg / kWh	1.20	1.20	1.20	1.19	1.19	1.18	1.17	1.16	1.14	1.11	1.08	0.96
Total CSPG demand	kt	317	436	632	847	1,128	1,490	1,950	2,526	3,230	4,061	5,002	13,586
Less: Scrap supply	kt	0	0	0	1	2	5	11	23	47	96	190	6,278
Primary CSPG Demand	kt	317	436	631	846	1,125	1,485	1,940	2,504	3,182	3,965	4,812	7,308
Graphite market share													
Natural graphite	%	42%	43%	45%	46%	47%	48%	49%	49%	49%	50%	50%	50%
Synthetic graphite	%	58%	57%	56%	54%	53%	52%	51%	51%	51%	50%	50%	50%
Natural CSPG demand	kt	133	188	281	388	529	713	944	1,231	1,575	1,970	2,397	3,654
Yield - CSPG production	%	52%	53%	53%	54%	55%	55%	56%	57%	58%	59%	60%	68%
Other graphite concentrate demand	kt	600	618	637	656	675	696	716	738	760	783	806	831
Growth rate	%	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Global graphite concentrate demand	kt	854	974	1,163	1,374	1,644	1,982	2,397	2,894	3,474	4,121	4,801	5,456
Natural graphite concentrate supply													
Existing supply	kt	695	914	978	1,075	1,285	1,335	1,282	1,621	1,717	1,570	1,680	3,306
Probable additional supply (staged)	kt	0	0	0	29	165	137	0	249	249	0	0	0
Cumulative additional supply	kt	0	0	0	29	194	330	330	579	828	828	828	828
Total concentrate supply	kt	695	914	978	1,103	1,478	1,665	1,612	2,200	2,545	2,398	2,508	4,134
Supply/ Demand balance													
	kt	-159	-60	-185	-271	-166	-318	-785	-694	-929	-1,723	-2,292	-1,322
As a % of supply													
		23%	7%	19%	25%	11%	19%	49%	32%	37%	72%	91%	32%

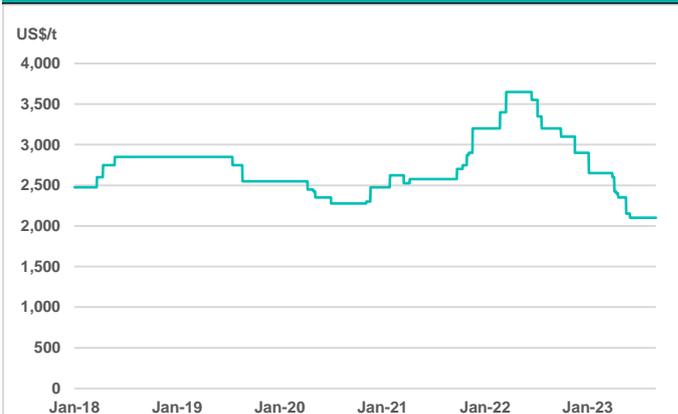
SOURCE: BELL POTTER SECURITIES ESTIMATES, UNITED STATES GEOLOGICAL SURVEY

Figure 5 – Global passenger vehicles & EV take-up



SOURCE: BELL POTTER SECURITIES ESTIMATES

Figure 6 – Spherical graphite 99.95% Cg 15 micron, fob China



SOURCE: BELL POTTER SECURITIES ESTIMATES

Investment risks

Risks include, but are not limited to:

- **Commodity price and exchange rate fluctuations.** The future earnings and valuations of exploration, development and operating resources companies are subject to fluctuations in underlying commodity prices and foreign currency exchange rates.
- **Infrastructure access.** Bulk commodity producers are particularly reliant upon access to transport infrastructure. Access to infrastructure is often subject to contractual agreements, permits, and capacity allocations. Agreements are typically long-term in nature (+10 years). Infrastructure can be subject to outages as a result of weather events or the actions of third party providers.
- **Operating and capital cost fluctuations.** Markets for exploration, development and mining inputs can fluctuate widely and cause significant differences between planned and actual operating and capital costs. Key operating costs are linked to energy and labour markets.
- **Resource growth and mine life extensions.** Future earnings forecasts and valuations may rely upon resource and reserve growth to extend mine lives.
- **Sovereign risks.** Mining companies' assets can be located in countries other than Australia and are subject to the sovereign risks of that country.
- **Regulatory changes risks.** Changes to the regulation of infrastructure and taxation (among other things) can impact the earnings and valuation of mining companies.
- **Environmental risks.** Resources companies are exposed to risks associated with environmental degradation as a result of their exploration and mining processes. Fossil fuel producers (coal) may be particularly exposed to the environmental risks of end markets including the electricity generation and steel production industries.
- **Operating and development risks.** Mining companies' assets are subject to risks associated with their operation and development. Risks for each company can be heightened depending on method of operation (e.g. underground versus open pit mining) or whether it is a single operation company. Development assets can be subject to approvals timelines or weather events, causing delays to commissioning and commercial production.
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- **Funding and capital management risks.** Funding and capital management risks can include access to debt and equity finance, maintaining covenants on debt finance, managing dividend payments, and managing debt repayments.
- **Merger/acquisition risks.** Risks associated with value transferred during merger and acquisition activity.
- **COVID-19 risks:** Mining companies' rely on freedom of movement of workforces, functioning transport routes, reliable logistics services including road, rail, aviation and ports in order to maintain operations and get their products to market. They also rely on liquid, functioning markets to sell their products. Measures being put in place to combat the COVID-19 pandemic are posing risks to these conditions.

Recommendation structure

Buy: Expect >15% total return on a 12 month view. For stocks regarded as 'Speculative' a return of >30% is expected.

Hold: Expect total return between -5% and 15% on a 12 month view

Sell: Expect <-5% total return on a 12 month view

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