

INITIATION OF COVERAGE | PUBLISHED ON 14 APRIL 2023

Graphite developer in Tanzania

EV1 | EVOLUTION ENERGY MINERALS LTD | GRAPHITE | TANZANIA

PRICE	TARGET PRICE	RECOMMENDATION	ANALYST
0.25/sh	0.76/sh (FROM -/sh)	SPECULATIVE BUY (FROM -)	TRENT BARNETT TBARNETT@EUROZHARTLEYS.COM

Brief description

EV1 is developing the coarse flake graphite project in Tanzania (84% EV1, Govt free carried on 16%);

The project is very advanced with a DFS released in March 2023 (capex US\$120m + WC);

The business plan is to

- Initially produce ~57ktpa graphite concentrate;
- In year 2 incorporate a micronized capability (growing to ~8ktpa);
- In year 3, move to toll treat concentrate to take advantage of expandable graphite margins (1.5ktpa growing to 12ktpa);
- At some stage move into CSPG (coated spherical graphite), likely in the USA;

Why we like it

- Large proportion of coarse flake graphite (for industrial use) means the mine is profitable without downstream operation (coarse flake graphite prices are higher than fines);
- The fines (for battery anodes) are uncommitted and have a very low implied opex. This positions the company very well to pursue a low cost battery anode downstream business;
- Management are very experienced in graphite;

Valuation

Our valuation is \$1.10. We assume ~A\$70m of new equity for Chilalo and then nominal value for a proportion of a small CSPG facility in USA. Our valuation also includes 60cps of growth beyond what's envisaged in the DFS & small downstream business. This seems very likely given the industry tailwinds. Removing the growth potential from our valuation, we arrive a 51cps;

We estimate that EV1 enterprise value at 25cps would be ~A\$250m fully financed to production at Chilalo. We assume ~A\$65m EBITDA in FY27 which puts the stock on around 4x currently. Our price target implies the stock can trade to 8.5x FY27 EV/EBITDA, which we view as reasonable given at that time, we expect EV1 to be articulating further earnings growth via expansions or new business;

Key Risks

Key risks are financing, approvals, graphite pricing and meeting offtakes;

Recommendation

We initiate coverage on EV1 with a Speculative Buy recommendation;

Key Catalysts

Drill results - imminent

Renegotiated offtake deadline for first production - CY23

Study on CSPG - tbc

Share Price	0.25	A\$/sh
Price Target	0.76	A\$/sh
Valuation	1.10	A\$/sh

Shares on issue	252	m, dil
Market Capitalisation	63	A\$m
Enterprise Value	53	A\$m
Debt (31 Dec 22a)	0	A\$m
Cash (31 Dec 22a)	10	A\$m

Production F'cast	FY24	FY25	FY26
Mining rate	0	0	375
ktpa concentrate.	0.0	0.0	35.3
ktpa anode.	0.0	0.0	0.0

Assumptions	FY24	FY25	FY26
Concentrate	1615	1615	1615
Micronised	2922	2922	2922
Small Flake -100	1000	1000	1000
BAM/USPG	3500	3500	4000
Expandable	6000	6000	6000
Medium Anode	6000	6000	7500
Premium Anode	11000	11000	12000
AUDUSD	0.71	0.73	0.74

Key Financials	FY24	FY25	FY26
Revenue (A\$m)	0	0	91
EBITDA (A\$m)	-8	-10	40
NPAT (A\$m)	-7	-17	7

Performance



Source: Euroz Hartleys

Chilalo Mine Project

EV1 is developing the Chilalo graphite mine in Tanzania;

The company recently released a DFS. The mine plan is to begin selling a concentrate (sells for ~US\$1.6k/t) and then move production to a micronized product (sells for ~US\$3k/t) and toll treating expandable graphite (sells for US\$6k/t).

The capex to achieve the increase in selling prices described above is minimal - US\$3m for the micronisation and none (due to toll treating) for the expandable graphite. However, the ramp-up to meaningful production from both products is slow.

Figure 2: Reserves and Resources

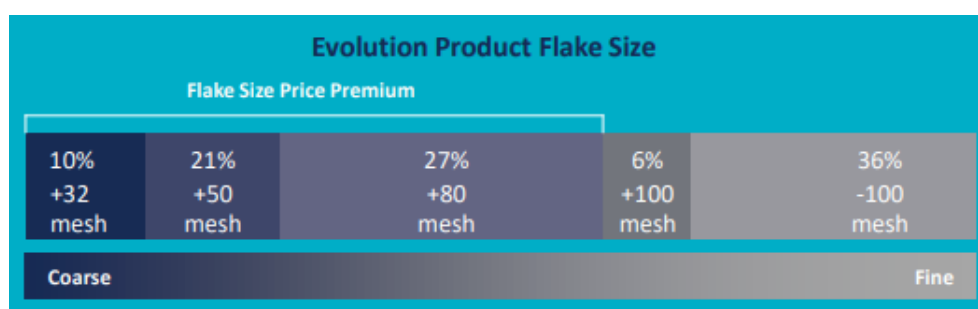
Chilalo Project: Ore Reserve and Mineral Resource Estimate

Domain	Classification	Zone	Million Tonnes (Mt)	TGC (%)	Contained Graphite (Kt)
High-Grade	Probable Reserve	Main	5.3	10.9	576
Total Ore Reserve	Probable Reserve	Main	5.3	10.9	576
High-Grade	Indicated	Main	9.2	10.6	982
		North East	1.0	9.5	100
		All	10.3	10.5	1,082
	Inferred	Main	7.4	9.5	704
		North East	2.3	8.8	205
		All	9.8	9.3	908
Total High-Grade	Indicated + Inferred	All	20.1	9.9	1,991
Low-Grade	Inferred	Main	37.8	3.4	1,282
		North East	9.5	4.1	394
		All	47.3	3.5	1,677
High-Grade + Low-Grade	Indicated + Inferred	All	67.3	5.4	3,667

Mineral Resources are inclusive of Ore Reserves. The Mineral Resource was estimated within constraining wireframe solids using a core high-grade domain defined above a nominal 5% TGC cut-off within a surrounding low-grade zone defined above a nominal 2% TGC cut-off. The resource is quoted from all classified blocks above a lower cut-off of 2% TGC within these wireframe solids. Differences may occur due to rounding.

Source: EV1

Figure 3: Flake Size



Source: EV1

Figure 4: Chilalo DFS (March 2023)

Table 1 – Key DFS outcomes					
Physicals		Unit	DFS		
Mine life		Years	17		
Total plant feed		Mt	8.3		
Annual plant feed		ktpa	500		
Average head grade		TGC %	10.6%		
Average graphite concentrate production ¹		ktpa	52		
Steady state expandable graphite sales ²		ktpa	12		
Steady state micronised graphite sales ²		ktpa	8		
Project Financials		Unit	DFS		
NPV ₈ (post-tax)		US\$M	338		
IRR (post-tax)		%	32%		
Payback period (post-tax)		years	3.3		
Pre-production capital cost (incl. contingency)		US\$M	119.7		
Average annual EBITDA		US\$M	82		
Product Segment Financials	Unit	Concentrate	Expandable graphite	Micronised graphite	Consolidated production ⁴
Average sales price (FOB)	US\$/t	1,614	6,446	2,922	3,047
Operating costs	US\$/t	773 ³	604	435	1,349
Operating margin	US\$/t	841 ³	5,842	2,487	1,698

Source: EV1

Figure 5: Outcrop from Euroz Hartleys Site Visit



Source: Euroz Harleys

Figure 6: Euroz Hartleys Site Visit



Source: Euroz Harleys

Battery Anode Downstream Potential

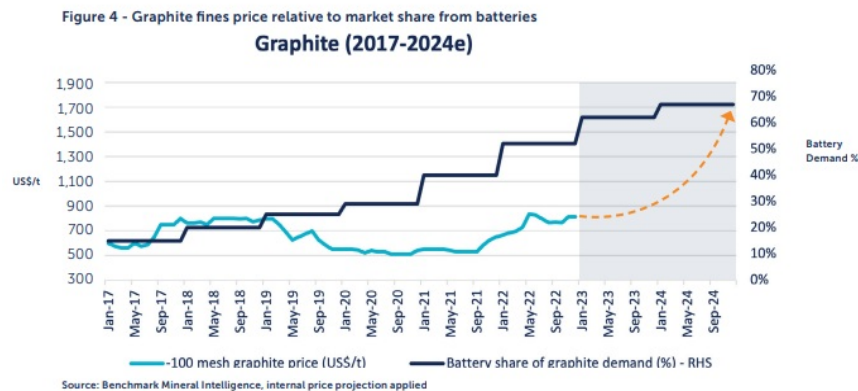
The battery anode downstream strategy is not yet fully articulated by EV1, but we see an obvious pathway given the potential for improved economics. The fines are not under offtake, and hence could be used as feedstock for an integrated operation. The obvious pathway would be for a USA downstream anode facility, similar to SYR.asx. We incorporate a highly speculative NPV14 downstream operation assuming ~6ktpa of anode. This would be a very small facility, but matches the fines production from our Chilalo model.

Industry exposure

EV1 is developing a coarse flake graphite mine. Most of the graphite is heading into the industrial market (expandable graphite). Some of the graphite will be able to head into the battery market, but it is a smaller proportion of production than many other mines.

Most proposed graphite mines are barely economic, because the price of fines is too low to justify an economic return that justifies the inherent risks in mining. We expect fines prices need to rise significantly to incentivise the supply required to meet industry demand. We note that battery use of graphite is due to dominate the market, which in other commodities (lithium, cobalt) was a big catalyst for prices to increase.

Figure 7: Potential catalyst for graphite prices to run - when batteries dominate demand



Source: EV1

Figure 8: Graphite Outlook



Source: EV1

Geographic exposure

The EV1 mine project is in Tanzania.

The customers are currently Chinese.

We believe that a downstream anode production facility is likely in USA

Figure 9: Tanzania



Source: EV1

Peers and Competitors

This is a list of graphite peers on the ASX.

Figure 10: Graphite ASX Stocks

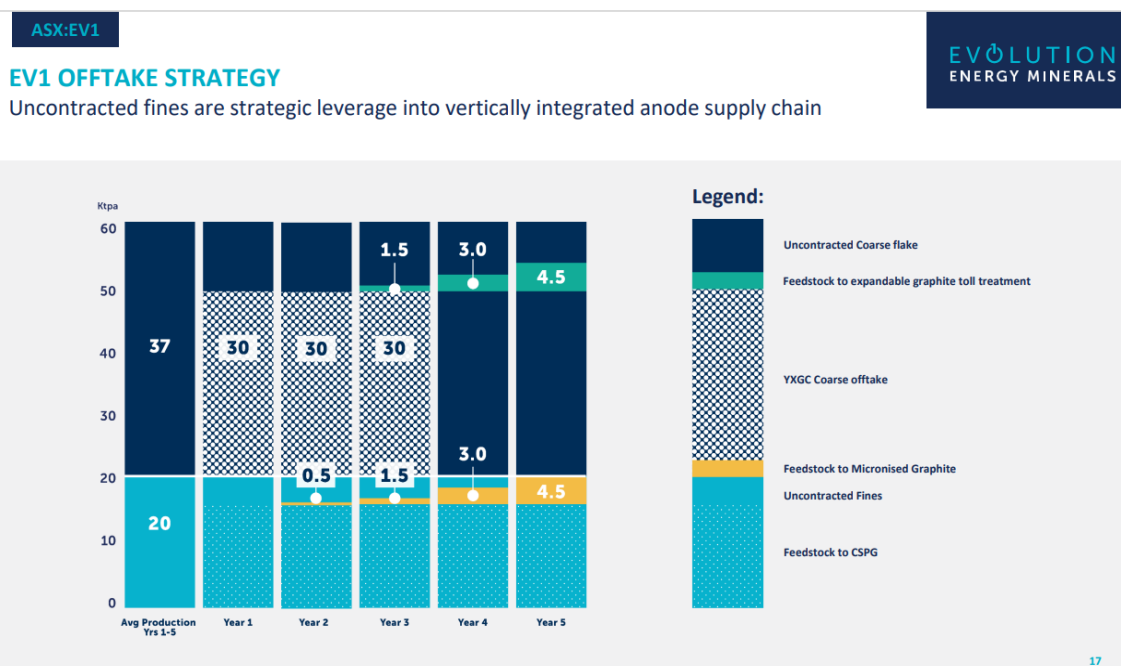
Company	Ticker	Last	Quot. Mkt	Status
ASX Listed				
1. Syrah Resources Limited	SYR	1.615	1,056	Producer / Developer
2. Talga Group Ltd	TLG	1.765	667	Producer / Developer
3. Renascor Resources Limited	RNU	0.23	571	Developer
4. Novonix Limited	NVX	1.07	533	Producer / Synthetic
5. Sovereign Metals Limited	SVM	0.48	231	Developer
6. Magnis Energy Technologies Ltd	MNS	0.24	231	Developer
7. Quantum Graphite Limited	QGL	0.57	182	Developer
8. Black Rock Mining Limited	BKT	0.14	138	Developer
9. Hazer Group Limited	HZR	0.695	107	Synthetic graphite developer
10. Archer Materials Limited	AXE	0.405	106	Graphene
11. Ecograf Limited	EGR	0.185	86	Developer
12. Walkabout Resources Ltd	WKT	0.115	68	Developer
13. Triton Minerals Ltd	TON	0.033	46	Developer
14. Volt Resources Limited	VRC	0.011	43	Developer
15. Evolution Energy Minerals Limited	EV1	0.25	39	Developer
16. Sarytogan Graphite Limited	SGA	0.335	27	Developer
17. Buxton Resources Limited	BUX	0.17	26	Explorer
18. International Graphite Limited	IG6	0.27	22	Developer
19. Evion Group NL	EVG	0.05	18	Developer
20. Castle Minerals Limited	CDT	0.016	17	Explorer
21. Lincoln Minerals Limited	LML	0.016	9	Developer
22. Hexagon Energy Materials Limited	HXG	0.013	7	Developer

Source: IRESS, *Market cap is quoted ordinary shares from IRESS. It does not dilute for options, escrow shares, performance shares, convertible notes, recent placements etc. These can be meaningful adjustments that should be taken into account.

Key suppliers & Customers

EV1 has a binding offtake agreement with Yichang Xincheng Graphite Co Ltd (YXGC), for the sale of 30,000 tpa of coarse flake graphite for a minimum of three years. The market price of flake graphite concentrate under the Offtake Agreement is to be determined by the parties at least 30 days prior to the beginning of each quarter. The offtake is conditional, including first production by 31 March 2024;

Figure 11: Offtake strategy



Source: EV1

Management, Directors and Major Shareholders

Henk Ludik, interim Chairman

Henk Ludik is a mining engineer with a career spanning over 20 years in mining with expertise in engineering, feasibility, mine optimisation, ESG and corporate finance. Mr Ludik has worked on a number of landmark transactions in the resource sector since 2006. Mr Ludik holds a BEng in Mining Engineering, MSc in Oil and Gas Engineering and an MBA.

Phil Hoskins, Managing Director

Mr Hoskins commenced his career at a large international accounting firm and has since gained corporate experience with both Australian and international listed companies. He is a senior executive with broad finance and commercial experience across resources exploration, project development and production as well as large-scale property developments requiring debt and equity financing. Phil has a Bachelor of Commerce, a Graduate Diploma of Applied Finance and is a Chartered Accountant.

Michael Bourguignon, Executive Director

Mr Bourguignon is a project management professional with extensive experience providing strategic direction and leadership in the successful delivery of projects, within the mining industry both in Australia and internationally. Michael was the Project Manager for the construction of Syrah Resources' Balama graphite project in Mozambique, for Glencore's 3.6Mtpa copper concentrate facility at the Mopani Copper Mine in Zambia, and General Manager of the Tiger Resources development team delivering a world-class SX/EW Plant at Kipoi, in the DRC. Euroz Hartleys Limited. All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Hartleys Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Amanda van Dyke, Non-executive director, ARCH nominee

Ms van Dyke is currently the Managing Director of ARCH Sustainable Resources Fund LP. Amanda has over 20 years of experience in commodity markets, first in mining-focused roles at Dundee Securities, Ocean Equities (now Pareto Securities) and GMP Securities, and later as the manager of an UCITS Gold and Precious Metals Fund at South River Asset Management, as well as other multi-asset and fixed income funds. Amanda has raised over US\$500 million in debt and equity related finance for junior mining in her investment banking career in the United Kingdom and Canada and has covered projects worldwide. Amanda has been appointed to the Board as ARCH's nominee.

Major Shareholders

There are two major shareholders. Arch Sustainable Capital (25%) and MVL.asx (25%);.

Financials

Production and Profit and Loss

We assume first production in FY26. Our earnings estimates are significantly lower than the DFS to err on the side of conservatism.

Balance Sheet

We assume significant gearing is available.

Debt

We assume ~A\$160m of debt to finance the mine.

Hedging

We assume there is no hedging or fixed prices.

Cash flow

On our estimates EV1 will generate ~\$50-60m pa of operating cash flow.

Capex requirements

We assume EV1 funds 100% of the capex, but receives only 84% of the earnings (Govt is free carried).

Free cash flow

We assume first free cash flow in FY27, although it is likely that the company will use that free cash flow for further growth.

Dividends

We don't assume any dividends for the foreseeable future.

Equity Issuance

We assume A\$60m of new equity for the concentrator. Further equity may be needed for the downstream business.

FX exposure

EV1 revenue will be in USD. We model costs in USD.

Interest Rate exposure

We expect that EV1 will be able to obtain low cost debt.

Commodity price exposure

EV1 is exposed to graphite prices, both for industrial uses and battery anodes;

Valuation

Our valuation is based on NPV12 with first production in FY26. We dilute for another ~200m shares. We assume speculative value for a proportion of a small downstream operation based on NPV14 but assume it can be internally funded. This gives a EV1 valuation around \$0.51/s.

However, if our base case is achieved, then we see potential for future expansions / acquisitions given the very high industry growth rates. Consequently, we add another 60cps for expansion / growth potential, for a valuation of \$1.10. Our price target is 76cps, given the risks around achieving the assumptions embedded in our valuation.

Risks

The key risks for EV1 (like most mine companies in development) is obtaining the necessary funding to complete the project. Other risks are earnings disappointments given the industry is volatile and earnings can disappoint due to cost overruns, project delays, cost inflation, environmental regulations, plant and mine design mistakes or lower production. Although some earnings disappointments can be short term and are only a timing issue, other disappointments can be materially value destructive and can sometimes overhang stocks for a long period of time (for example metallurgy problems). Such disappointments can be very difficult to predict and share price reactions can be severe and immediate upon disclosure by the company. High financial leverage (if it exists at that time) would add to the problem.

Price Target

Our price target is a weighted average of various scenarios

Figure 12: Price Target

Price Target Methodology	Weighting	Spot	12 mth out
NPV12 Base Case	35%	\$1.10	\$1.21
NPV8 Base Case	5%	\$2.30	\$2.46
NPV12 remove expansion proportion	35%	\$0.51	\$0.57
Net Cash	25%	\$0.04	\$0.04
Risk weighted composite		\$0.69	
12 Months Price Target		\$0.76	
Share price - Last		\$0.250	
12 mth total return (% to 12mth target + dividend)		202%	

Source: Euroz Hartleys

Company disclosures

The companies and securities mentioned in this report, include:

Evolution Energy Minerals Ltd (EV1) | Price 0.25 | Target price 0.76 | Recommendation Speculative Buy;

Price, target price and rating as at 14 April 2023 (not covered)*

Additional disclosures

Euroz Hartleys declares that it has acted as underwriter to, and/or arranged an equity issue in, and/or been engaged in a capital raising during the last year. Euroz Hartleys has received a fee for these services from: Evolution Energy Minerals Ltd (EV1)

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