TIRUPATI GRAPHITE PLC

RELATIVE VALUATION ANALYSIS

05.04.2023

Ticker:	**TGR.L**
Price (p):	**33.3**
Shares in issue (m):	**108.5**
Market cap. (£m):	**36.1**

Introduction

Tirupati Graphite is a miner of flake graphite. It has a number of producing and development-stage assets in Madagascar and Mozambique. The Company listed on the Main Market of the LSE in December 2020, raising £6m gross at a share price of 45p, for a post-new money valuation of £33.6m. Upon listing, Tirupati had a single, small-scale mine in operation: the Sahamamy pilot plant in Madagascar, that had a nameplate capacity of 3 thousand tonnes per annum ('ktpa').

Over the past 28 months, the Company has closed down the Sahamamy pilot plant, and opened two larger mines in Madagascar. The first of these – Vatomina – was opened in 2021. It initially was intended to be a 6 ktpa operation, but was upsized to 12 ktpa. The mine is currently running at 90% of its nameplate capacity. The second mine, a larger 18 ktpa operation at Sahamamy, commenced production in February this year. Production is currently being scaled up, and is expected to achieve 80% of nameplate capacity this quarter.

Tirupati is aiming to increase production on its Vatomina and Sahamamy properties through the rollout of several more modular plants. Management has suggested that these will be 18 ktpa each in size (i.e. replicas of the new Sahamamy plant), although we believe they could be made slightly larger still. In total, the Company intends to ramp up nameplate capacity to 84 ktpa across the two properties, within the next 2-3 years.

Elsewhere in Madagascar, the Company has agreed to acquire three additional mining permits that are located in the vicinity of its existing mines. Management has suggested that these permits could have the potential to add a further two or three 18 ktpa flake graphite mines to Tirupati's production base. Completion of the deal is subject to government approval.

On 1 April – over 20 months after initially announcing that a binding agreement had been signed – Tirupati completed the acquisition of Suni Resources, a subsidiary of ASX-listed Battery Minerals, for a total consideration of A$12.5m (A$10.7m in consideration shares at an average price of 48.3p per share; the balance in cash). Suni Resources owns two large-scale, advanced-stage flake graphite projects in Mozambique.

The Company now boasts two operating mines with a nameplate capacity of 30 ktpa, plus five fully permitted and (near-) construction deposits that could add a further 212 ktpa of capacity within 3 years. Tirupati is now the second largest publicly listed producer of natural graphite outside of China. Moreover, it possesses one of the largest graphite resource bases outside of China: 178 million tonnes ('MT'), at an average grade of 7.8%, for a total graphitic carbon content of 13.9 MT. Despite the phenomenal progress made by the Company in ramping up its production profile and expanding its footprint, its market capitalisation trades at an immense discount to the international peer group of flake graphite developers and producers, relative to said operations and resources.

The objective of this note is simply to carry out relative valuation analysis on Tirupati, on the back of the closing of the Suni Resources acquisition this Monday. We believe that the completed deal has instantly transformed the Company into an international heavyweight in the natural graphite industry: in this note, we attempt to highlight the immense disconnect in value between Tirupati and its peer group, and thus the immediate-term investment opportunity. We do not provide detail and opinion on the global graphite market; nor do we examine the Company' operations, financials, strategy and growth prospects in any depth. It is our intention to publish a full-length initiation note on Tirupati at a later date.

Peer group data

Company	Listing	Price	Shares in issue (m)	Market cap (US$m)	Project	Location	Stage
Armadale Capital	LON:ACP	0.014	588	10	Mahenge Liandu	Tanzania	Post DFS
Black Rock Mining	ASX:BKT	0.145	983	97	Mahenge	Tanzania	Post DFS
EcoGraf	ASX:EGR	0.175	450	54	Epanko	Tanzania	Post DFS
Evolution Energy Minerals	ASX:EV1	0.240	206	34	Chilalo	Tanzania	Post DFS
Magnis Energy Technologies	ASX:MNS	0.240	1,010	165	Nachu	Tanzania	Post DFS
NextSouce Materials	TSE:NEXT	2.300	125	216	Molo	Madagascar	Commissioning
Northern Graphite Corp	CVE:NGC	0.480	121	44	*Multiple*	Canada, Namibia	Producing
Nouveau Monde Graphite	CVE:NOU	6.800	56	285	Matawinie	Canada	Post DFS
Quantum Graphite	ASX:QGL	0.540	337	124	Uley 2	Australia	Post DFS
Renascor Resources	ASX:RNU	0.230	2,539	397	Siviour	Australia	Pre-construction
SRG Mining	CVE:SRG	0.600	114	51	Lola	Guinea	Post DFS
Syrah Resources	ASX:SYR	1.650	672	754	Balama	Mozambique	Producing
Talga Group	ASX:TLG	1.630	361	400	Vittangi	Sweden	Post DFS
Triton Minerals	ASX:TON	0.032	1,383	30	Ancuabe	Mozambique	Updating DFS
Walkabout Resources	ASX:WKT	0.110	631	47	Lindi Jumbo	Tanzania	In construction
MEDIAN:				**180**			
MEAN:				**97**			
Tirupati Graphite	**LON:TGR**	**0.333**	**108**	**45**	***Multiple***	**Madagascar, Mozambique**	**Producing**

Data as at 5 April 2023
GBP / USD : 1.25 AUD / USD : 0.68 CAD / USD : 0.75

Company	Listing	Resource (t) (M+I)*	Grade	TGC** (t) (M+I)	Resource (t) (Inferred)	Grade	TGC** (t) (Inferred)
Armadale Capital	LON:ACP	14,300,000	12.83%	1,835,100	6,100,000	12.60%	768,600
Black Rock Mining	ASX:BKT	113,600,000	8.06%	9,152,900	98,280,000	7.56%	7,430,000
EcoGraf	ASX:EGR	63,100,000	7.64%	4,820,000	65,100,000	7.20%	4,690,000
Evolution Energy Minerals	ASX:EV1	10,300,000	10.50%	1,082,000	9,800,000	9.27%	908,000
Magnis Energy Technologies	ASX:MNS	124,000,000	5.24%	6,500,000	50,000,000	5.80%	2,900,000
NextSouce Materials	TSE:NEXT	100,367,464	6.27%	6,289,257	40,914,721	5.78%	2,365,716
Northern Graphite Corp	CVE:NGC	101,100,000	2.76%	2,795,320	35,900,000	2.87%	1,030,600
Nouveau Monde Graphite	CVE:NOU	130,300,000	4.26%	5,550,000	23,000,000	4.28%	984,000
Quantum Graphite	ASX:QGL	5,000,000	11.20%	560,000	2,200,000	8.91%	196,000
Renascor Resources	ASX:RNU	62,800,000	7.48%	4,700,000	30,700,000	7.17%	2,200,000
SRG Mining	CVE:SRG	53,960,000	3.98%	2,145,600	12,300,000	3.60%	442,500
Syrah Resources	ASX:SYR	261,900,000	13.33%	34,915,000	773,800,000	11.00%	85,118,000
Talga Group	ASX:TLG	31,200,000	22.00%	6,864,600	41,400,000	16.08%	6,659,100
Triton Minerals	ASX:TON	31,100,000	6.91%	2,150,000	15,000,000	5.96%	894,000
Walkabout Resources	ASX:WKT	14,900,000	11.20%	1,669,100	26,900,000	10.55%	2,837,600
MEAN:		**74,528,498**	**8.91%**	**6,068,592**	**82,092,981**	**7.91%**	**7,961,608**
MEDIAN:		**62,800,000**	**7.64%**	**4,700,000**	**30,700,000**	**7.20%**	**2,200,000**
Tirupati Graphite	**LON:TGR**	**88,200,000**	**8.78%**	**7,748,000**	**89,800,000**	**6.89%**	**6,187,800**

Data as at 5 April 2023
*Measured and Indicated **Total graphitic carbon

Company	Listing	Resource (t) (total)*	Grade	TGC** (t) (total)*	Market capitalisation ($) / tonnes of TGC**
Armadale Capital	LON:ACP	20,400,000	12.76%	2,603,700	3.95
Black Rock Mining	ASX:BKT	211,880,000	7.83%	16,582,900	5.84
EcoGraf	ASX:EGR	128,200,000	7.42%	9,510,000	5.64
Evolution Energy Minerals	ASX:EV1	20,100,000	9.90%	1,990,000	16.85
Magnis Energy Technologies	ASX:MNS	174,000,000	5.40%	9,400,000	17.54
NextSouce Materials	TSE:NEXT	141,282,185	6.13%	8,654,973	24.93
Northern Graphite Corp	CVE:NGC	137,000,000	2.79%	3,825,920	11.42
Nouveau Monde Graphite	CVE:NOU	153,300,000	4.26%	6,534,000	43.61
Quantum Graphite	ASX:QGL	7,200,000	10.50%	756,000	163.69
Renascor Resources	ASX:RNU	93,500,000	7.38%	6,900,000	57.56
SRG Mining	CVE:SRG	66,260,000	3.91%	2,588,100	19.79
Syrah Resources	ASX:SYR	1,035,700,000	11.59%	120,033,000	6.29
Talga Group	ASX:TLG	72,600,000	18.63%	13,523,700	29.56
Triton Minerals	ASX:TON	46,100,000	6.60%	3,044,000	9.88
Walkabout Resources	ASX:WKT	41,800,000	10.78%	4,506,700	10.47
MEAN:		**156,621,479**	**8.39%**	**14,030,200**	**28.47**
MEDIAN:		**93,500,000**	**7.42%**	**6,534,000**	**16.85**
Tirupati Graphite	**LON:TGR**	**178,000,000**	**7.83%**	**13,935,800**	**3.24**
				Discount to mean:	**88.6%**
				Discount to median:	**80.8%**
				Upside to parity (mean):	**779.8%**
				Upside to parity (median):	**420.9%**
				TGR share price, at mean:	**292.5p**
				TGR share price, at median:	**173.2p**

Data as at 5 April 2023
*Measured, Indicated and Inferred **Total graphic carbon

Company	Current nameplate production (tpa)	Initial planned production (tpa) (already permitted)	Initial upfront capex required ($m)	Capital intensity ($/t), initial production	Initial capex already invested or secured?	Long-term planned production (tpa) (already permitted)
Armadale Capital	0	60,000	39	643	No	90,000
Black Rock Mining	0	89,000	182	2,045	No	340,000
EcoGraf	0	60,000	89	1,483	No	60,000
Evolution Energy Minerals	0	52,000	120	2,308	No	52,000
Magnis Energy Technologies	0	236,000	364	1,542	No	236,000
NextSouce Materials	0	17,000	29	1,706	Yes	150,000
Northern Graphite Corp	15,000	15,000	NA	NA	Yes	96,000
Nouveau Monde Graphite	0	103,000	361	3,502	No	103,000
Quantum Graphite	0	55,000	54	989	No	55,000
Renascor Resources	0	80,000	82	1,025	Yes	144,000
SRG Mining	0	94,000	185	1,968	No	94,000
Syrah Resources	350,000	240,000	NA	NA	Yes	350,000
Talga Group	0	22,000	104	4,727	No	100,000
Triton Minerals	0	60,000	99	1,657	No	60,000
Walkabout Resources	0	40,000	35	875	Yes	40,000
MEAN:		**81,533**	**134**	**1,882**	**YES: 33%**	**131,333**
MEDIAN:		**60,000**	**99**	**1,657**	**NO: 67%**	**96,000**
Tirupati Graphite	**30,000**	**30,000**	**17**	**563**	**Yes**	**242,000**
			Discount to mean:	**70.1%**		
			Discount to median:	**66.0%**		
			Capital intensity of peer group over TGR (mean):	**+234.6%**		
			Capital intensity of peer group over TGR (median):	**+194.5%**		

Data as at 5 April 2023

<u>Analysis of the Data</u>

The difficulty in valuing graphite miners

It is very difficult to carry out relative valuation analysis when it comes to natural graphite projects. The reason for this is that every deposit is different – in many cases *markedly* – with regards to its composition. As with all other mineral deposits, grade varies widely. The higher the grade of a natural graphite deposit, the higher the *total graphitic carbon* ('TGC') content. However, for natural graphite deposits there are additional, critical dimensions to consider: flake size and distribution, and flake purity.

Natural flake graphite is broadly classified by the size of the flake (measured in microns (µm) – 1/1000th of a millimetre). The largest class of flake, 'jumbo', is >300µm; whilst the smallest class, 'fine', is <100µm.

Certain flake sizes are more suitable for specific applications than other sizes. For example, jumbo and large flake graphite is best suited for the production of expandable graphite, flame retardants, and graphene, to name but a few applications; whilst small flake is preferred for the manufacture of the battery anode material used in lithium ion batteries.

Prices vary significantly for different flake sizes. Generally speaking, the rule of thumb is that the larger the flake size, the higher the price. For example, in 2022, Syrah Resources – the dominant ex-China producer – achieved an average sales price of $661 per tonne for its graphite. The TGC of its flagship mine in Mozambique, namely Balama, is comprised of circa 80% fine flakes. In contrast, Tirupati achieved an average sales price of $833/t in H1 2022 – a premium of 26% to Syrah's average price. Tirupati's Vatomina and Sahamamy deposits in Madagascar are comprised of circa 70% large / jumbo flake.

Both flake size and distribution, and purity, of the deposit also determine the level of processing required to convert the graphite into a saleable product. If the deposit is comprised of a high proportion of large or jumbo flakes, it generally requires a lesser amount of upstream processing. Similarly, if the upstream product is of a high purity (e.g. 96%+), it generally requires a lesser amount of downstream processing.

Suffice to say, the higher proportion of large/jumbo flakes, and the higher the purity of the graphite, the lower the operating costs (owing to a reduced level of necessary upstream and downstream processing).

Consequently, the tables in the previous pages setting out the various advanced-stage natural graphite mining companies, can ever only provide a partially valid reference point for analysing Tirupati's possible valuation.

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Separately, the data in the previous pages demonstrates that there are very few listed graphite producers on Western exchanges. The only established, major scale producer is Syrah Resources. Having commenced production in late 2017, the Balama mine was only able to return its first gross profit in 2022 (and that being a margin of only 12.5%). Flooding the global market with fine flake graphite, thus driving down pricing, forced Syrah to scale back production significantly, so that last year it operated at less than 1/3 of nameplate capacity. This inevitably drove up production costs substantially above what was estimated in the mine's feasibility study.

With regards to the only other listed producer, Northern Graphite Corp: the acquisition of its Lac des Iles graphite mine in Quebec, only completed in May last year. Thus there is very little data to work on.

Accordingly, attempting to use various sales and earnings multiples of the peer group, to assist in calculating a fair value Tirupati, is rather pointless at this stage.

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Constituents of the peer group

We have selected only those companies who are either already in production, or whose flagship projects have completed definitive or bankable feasibility studies ('DFS' / 'BFS') and are construction-ready. That includes being fully permitted by the relevant authorities to begin mining.

All 15 companies of the peer group happen to be listed in either Canada, Australia or the UK. Excluding Tirupati, there are:

- 2 companies in production (*Syrah Resources* and *Northern Graphite Corp*)
- 3 companies fully funded to commence production (*NextSource*, *Renascor*, *Walkabout*)
- 10 companies with a completed DFS / BFS, but still seeking finance to construct their mines

We stress that this valuation exercise for Tirupati and its peers only takes into account their aggregate resource bases. We do not consider sunk capex, and gross cash and debt positions; resources that have not been formally classified; and other assets such as downstream processing operations, exploration licences, investments, etc.

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Analysis of the data

From the data presented on pp.2-5, it should be crystal clear to readers that Tirupati is chronically undervalued in comparison to its peer group – on every metric considered.

Firstly, let us consider resource base. On an absolute basis, at 13.9 million tonnes Tirupati has the third largest TGC content out of the peer group, behind only Syrah and Black Rock.

The average grade of its deposits, at 7.83%, is also in line with the peer group average.

Despite its vast resource base, Tirupati's market capitalisation in only $45m. The mean market capitalisation of the peer group is $180m, and the median is $97m.

This results in an immense valuation disconnect of Tirupati from the peer group, as highlighted in the far right column on p.4.

On a basis of market capitalisation / in-situ TGC content, the peer group trades at an average of $28.47/tonne, and a median of $16.85/tonne.

Tirupati currently trades at $3.24/tonne. That is a discount of 89% to the peer group mean, and of 81% to the median.

Simply to achieve parity with the peer group median, Tirupati's share price would have to increase by 421% from its current level. To match the peer group mean, it would have to increase by 780%.

To achieve parity with:	**Theoretical share price for Tirupati (p)**
Peer group mean valuation of $28.47/tonne	292.5
Peer group median valuation of $16.85/tonne	173.2

[On a separate note, unconnected to relative valuation analysis but still of importance when considering Tirupati's resource base: using an average sales price of $700/t, Tirupati's total resource base carries an in-situ value of approximately $10 billion.]

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Secondly, let us examine capital intensity. In the table on p.5, we have provided detail on the upfront capital expenditure required for each project, as well as the initial nameplate capacity that said capital expenditure would deliver. The fifth column, *Capital intensity ($/t), initial production*, is simply a product of dividing the former by the latter.

Tirupati's total capital expenditure in bringing its first two mines – with a combined nameplate production of 30 ktpa – into production was only circa $17m. That amounts to a capital intensity of $563/t. As the fifth column on p.5 highlights, this figure is again sat a huge discount to the peer group mean and median of $1,882/t and $1,657/t respectively.

To put that into context: on average, the peer group is finding it over three times more expensive to bring a mine online, than Tirupati is. There are a number of reasons for this, not least Tirupati's various proprietary processing technologies, and industry know-how. But for now, we would argue that Tirupati's superiority over the peer group in keeping cost of mine build to a minimum *should* justify a premium valuation rating.

In this light, the disparity in Tirupati's market capitalisation in comparison to the peer group average, is again nonsensical.

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Finally, we turn to current and future production. Tirupati is currently the second largest producer of the 16-strong peer group. Whilst it is highly unlikely that Tirupati will overtake Syrah Resources in annual production (at the very least, for the next 6-7 years), there is also little chance of another member from the peer group overtaking Tirupati, for any extended period of time. Walkabout Resources' Lindi Jumbo 40 ktpa mine is under construction, but it has no concrete plans to grow that production over the medium term. Madagascar peer, NextSource, is only just bringing its first 17 ktpa module online. Renascor is shortly to commence construction at its 80 ktpa Siviour mine in Australia; but we expect Tirupati to bring a further 68 ktpa (at least) of production online shortly after Siviour is commissioned, so that it would regain the No.2 producer spot.

It is also important to highlight the long-term plans of the peer group. Excluding Syrah (which already has a nameplate capacity far too large for the company to handle), only Black Rock Mining has a larger long-term capacity target than Tirupati (see far right column, p.5). However, Black Rock has not secured the $182m capex required just for its first module of 89 ktpa, let alone the additional $328m for the subsequent three modules.

With <£3m gross debt and positive cash flows from its first two operating mines in Madagascar (we estimate $15m of gross profits in the current FY 2023/24) – as well as the aforementioned exceptionally low capital intensity – Tirupati has the opportunity to bring further mines online without recourse to the equity markets. Again, we believe that because of this, Tirupati should be deserving of a substantial premium valuation rating.

Despite having one of the largest and most diversified resource bases of the peer group, by far the lowest capital intensity, and a medium-term nameplate capacity goal that is second only to Syrah, Tirupati's market capitalisation is some 75% lower than the peer group mean of $180m, and 54% lower than the median of $97m.

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Why is Tirupati trading at such an immense discount?

We believe that there have been several reasons that have compounded upon one another, that has resulted in Tirupati's share price drifting from the highs of 150p+ set in June 2021, down to the lows of 25p last month.

1) ***Acquisition of Suni Resources took over 20 months to complete***
   The proposed acquisition of Suni Resources was originally announced in August 2021. Over 20 months passed before the deal was completed last weekend. There were numerous reasons for this that are now inconsequential. However, we believe that increasing uncertainty in the investment community around whether the deal – which was touted by management as being "game-changing" for Tirupati when its share price was at 110p – would actually complete, put the share price under prolonged pressure.

2) ***Operational challenges in Madagascar***
   Both Vatomina and Sahamamy have been constructed from scratch and commissioned by Tirupati in the 28 months since the Company listed. This has been a remarkable feat – especially in light of the activities of the rest of the ex-China natural graphite industry, which collectively has failed to bring a single mine online in the same timeframe. [Tirupati, 2 : Everyone else, 0]

   Graphite mining is evidently an extremely difficult business. Tirupati has faced – and overcome – numerous teething problems during both the construction and production periods of each mine. Severe weather in Madagascar – both in early 2022 and early 2023 – has also hampered operations.

   Without detracting from the significant achievements of management in bringing 30 ktpa of new production online, we would highlight that production guidance set out at IPO (driven by the rollout of additional modules in Madagascar) has slipped somewhat. Again, we believe this has contributed heavily to the steady drift in Tirupati's share price.

3) ***Failure to complete the acquisition of Tirupati Specialty Graphite***
   At IPO, the Company had a binding conditional agreement in place to acquire Tirupati Specialty Graphite ('TSG') for a consideration of £2m, payable in 10 million consideration shares at a price of 20p per share. The agreement is conditional on the Reserve Bank of India giving its approval, given that the deal would be classified as an Overseas Direct Investment and thus fall under The Foreign Exchange Management Act.

   TSG is focused on downstream activities, including speciality graphite and graphene applications. The business had a meticulously planned out commercialisation route at the time of Tirupati's IPO, that we believe the investment community ascribed considerable value to in Tirupati's market cap after listing.

   In July last year, Tirupati announced that the acquisition remained pending as the regulators in India had determined that a new independent valuation report needed to be undertaken. The Company stated that it was considering a number of alternative options to continue with its downstream plans, two of which would *not* result in an outright takeover of TSG by Tirupati.

   We feel that the failure to complete the TSG acquisition has arguably been the most powerful force at work on Tirupati's declining share price.

4) ***The London listing and a UK invest community less attuned to junior mining***
   Given that the writer is one of its active members, it is demoralising to write that the UK investment community simply is less attuned to – and less adept at – valuing junior mining companies than its counterparts in Australia and North America. The fact that the second 'cheapest' constituent of the peer group (based on mkt cap / TGC) is Armadale Capital, the only other UK-listed business – is validation of our view.

5) ***Lack of quality and widely accessibly research coverage***
To our knowledge, only one UK analyst (at the brokerage, Optiva) covers Tirupati, and their research is not easily accessible to all. As far as we are aware, there are no analysts in North America or Australia covering the stock.

As a result of both points 4) and 5), we believe that Tirupati is simply not as well-known within the global investment community as most of its peers are – and it is overseas investors who would most likely drive a sustained rerating of Tirupati's share price.

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We believe that Tirupati should trade at a premium to the peer group

In light of the extreme disconnect between Tirupati's current share price of 33.3p, and the notional share prices of 292.5p and 173.2p were the Company simply trading at parity with the peer group mean and median valuations – we do appreciate that the subheading of this section may seem absurd.

As such, we provide our rationale as to why we feel that Tirupati deserves a premium valuation rating over the international peer group:

1) ***One of only three natural graphite producers on listed exchanges, outside of China***
Successfully bringing a mine online – and critically, ensuring it runs profitably – is a major derisking event for investors, for numerous reasons. Tirupati is the *only* listed graphite player outside of China to have brought a mine online in the past four years (in fact, it has brought two online). Moreover, when compared against the other two producers, Syrah Resources and Northern Graphite Corp, Tirupati boasts the highest gross margin by a comfortable distance.

2) ***Two producing mines reduces operational risk***
The 18 ktpa Sahamamy mine will produce 60% of Tirupati's existing nameplate capacity, whilst the Vatomina mine will produce 40%. Having two mines in operation dramatically reduces financial risk: in the event of fire, flood or other such disaster at one of the plants, only 40% to 60% of Group production / revenue would be lost.

3) ***One of the largest natural graphite resource bases in the Western world***
As we have demonstrated in the preceding pages, Tirupati now boasts one of the largest flake graphite resource bases outside of China, with an in-situ value of circa $10bn. We feel that the sheer scale of the resource justifies a premium valuation rating over the peer group.

4) ***Resource base spread across multiple deposits in two jurisdictions***
On a similar but much larger scale to point 2) above, the fact that Tirupati now has multiple deposits in two countries significantly reduces investment risk (e.g. if one region / nation plunges into crisis, the assets and production in the other regions / nation will remain unaffected).

Out of the peer group, only Northern Graphite Corp has (near-term) production across multiple countries. Again, this status should in our view bestow a premium valuation rating over the peer group.

5) ***Diverse suite of products, owing to differing flake size distributions at different deposits***
The Madagascar deposits are comprised of 70%+ of large and jumbo flake; with the balance made up of small and fine flake. Tirupati's new Mozambique projects on the other hand are comprised of circa 70% fine, small and medium flake.

Once Montepuez – the more advanced of the two assets in Mozambique – comes online, Tirupati will have a broad range of flake graphite products (all in large quantities) to sell. This will assist in diversifying the Company's customer base, which many of its peers may struggle to achieve. The broader the range of end-users for its products, the greater the reduction in risk.

6) ***Clear path to rapidly growing production profile, with construction-ready deposits***
   We believe that subject to financing, Tirupati could bring another two mines online by the end of next year, namely the first 50 ktpa module at Montepuez, and the next 18 ktpa module at Vatomina. Beyond that, it is fully permitted to bring online a second module at Montepuez, a fourth and fifth plant (again, both 18 ktpa) in Madagascar, and a 58 ktpa operation at Balama Central in Mozambique.

   No other company in the peer group has anything remotely similar to these expansion plans, with multiple deposits in two countries at (near-) construction-ready status.

7) ***No requirement to return to equity markets to finance production growth***
   Tirupati has a very modest gross debt position (<£3m). Assuming it achieves 90% of nameplate capacity this financial year, we estimate that the Company will generate $10m to $12m EBITDA at the Group level. We believe that these cash flows could be leveraged to raise up to $30m in debt. Those funds could then be utilised to bring online either the first 50 ktpa module at Montepuez, or two more 18 ktpa modules in Madagascar.

   Only three out of the 13 pre-producers in the peer group have been able to raise sufficient funds that will enable them to complete their initial mine developments.

   Tirupati not only does not have to face the challenge that those remaining ten pre-producers do, in these extremely dfficult global equity markets; but it can continue to expand its production profile through leveraging its cash flows to secure debt finance.

   We consider this to be a key advantage for Tirupati over its competitors. Its shareholders are now in a much more secure position, than are those shareholders of the ten not-yet-funded pre-producers. Needless to say, we believe that Tirupati's positioning in this regard justifies a premium valuation rating over the peer group.

8) ***Exceptionally low capital intensity***
   See p.8 for detail. Tirupati has been able to achieve such an exceptionally low capital intensity for its first two mines, primarily owing to the Company having developed a suite of proprietary technologies for processing flake graphite.

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What could occur to close the valuation disconnect?

We believe that the following actions, events and circumstances could catalyse a rerating of Tirupati's share price up towards fair value:

1) ***Meeting target production for Q1, the first full quarter of operations***
   The current quarter, being Q1 of FY 2023/24, is the first major test of Tirupati's efforts over the past two years in getting Vatomina and Sahamamy into production. It has provided guidance to the market that Vatomina will produce at 90% of nameplate capacity, being 2,700t; and that Sahamamy will produce at 80% of nameplate capacity, being 3,600t.

If in July, the Company were to report that its total production for Q1 was in the targeted range of 6,100t to 6,400t, we feel that the investment community would take great confidence in the quality and reliability of the Madagascar operations. If the Company could *also* report that production costs were tracking back down to $350/t, we believe that there could be a dramatic rerating of the share price.

2) ***Debt funding secured, and announcement of next module in Madagascar***
The next step in the expansion plan – without recourse to the equity markets – would naturally be received very well by the investment community.

3) ***Completion of the acquisition of TSG***
There is evidently substantial latent value in TSG. It is also increasingly apparent, from analysis of the peer group, that vertical integration is a strategy highly favoured by the investment community.

We believe that the Poddar family (the controllers of TSG) would stand to benefit by completing an outright takeover of TSG by Tirupati. It would consolidate their operations, significantly increase their equity holding in the combined listed entity, and provide an easier route to funding for TSG. As a sizeable shareholder in Tirupati, the author of this report would personally be more than happy for Tirupati to pay out significantly more (in consideration shares) than the originally agreed upon £2m, to secure the acquisition of TSG – given the technological advances made by TSG since the binding agreement was signed four and a half years ago.

4) ***Securing a dual listing on the ASX or TSE***
See bottom of p.9, for the two UK-listed constituents in the 16-strong peer group, being by far the 'cheapest' of the group. Were Tirupati's shares to also be listed in Canada or Australia, we are confident that the investment communities of those countries would rapidly drive a substantial rerating of the share price, given the much loftier valuations of their own domestically-listed graphite mining stocks.

5) ***Increasing broker coverage***
We believe that Tirupati is in desperate need of a greater number of analysts covering the stock, who have extensive distribution networks.

More so than any company-specific news flow, however, we believe that the much-touted impending bull run in the graphite market will catalyse increased investor interest in Tirupati. Investors will be looking at the valuations of the international peer group – most of whom are not only *not* in production, but also not even funded to *commence* mine construction – and back at Tirupati's producing mines, immense resource base, and derisory market capitalisation in complete confusion.

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Concluding thoughts

Our theoretical 'fair value' share prices for Tirupati that we set out on p.4 and p.7 should *not* be considered as our definitive share price targets. What those prices *do* demonstrate is how the Company *could* be valued, simply were it to sit in the middle of the valuation range of the international peer group.

As we have attempted to demonstrate in this note, we believe that for numerous reasons, fair value for Tirupati should be *markedly higher* than the aforementioned peer group average-derived share price targets. That would imply an uplift of at least 6x / 500% from the current share price of 33.3p, *just for the Company in its present state.* In any event, we are confident that over the next 12 months, Tirupati's share price will enjoy an aggressive rerating upwards, as the Company becomes more well-known in the international investment community.

Disclosure

The author of this paper, Myles McNulty, is a private investor. He and his family hold ordinary shares in Tirupati Graphite.

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Myles McNulty has no business relationship with Tirupati Graphite or with any other company mentioned in this paper, and has received no compensation from any party for writing it.

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