



GRAPHITE

# TIRUPATI GRAPHITE PLC

Building a Sustainable Global Graphite Operation for  
enabling the Energy and Mobility Transition



Listed in the Main Board of London Stock Exchange

# DISCLAIMER

---

The information contained in this document (the “Presentation”) has been prepared by Tirupati Graphite plc (the “Company”) solely for informational purposes. It has not been fully verified and is subject to material updating, completion, revision, verification and further amendment without notice.

While the information contained herein has been prepared in good faith, neither the Company nor any of its directors, officers, agents, employees or advisers give, have given or have authority to give, any representations or warranties (express or implied) as to, or in relation to, the accuracy, reliability or completeness of the information in this Presentation, or any revision thereof and liability therefore is expressly disclaimed.

Information contained herein does not purport to be complete and is subject to certain qualifications and assumptions and should not be relied upon for the purposes of making an investment in the Company’s securities or entering into any transaction. The information and opinions contained in this Presentation are provided as at the date of this Presentation and are subject to change without notice and, in furnishing the Presentation, the Company does not undertake or agree to any obligation to update or correct this Presentation.

This Presentation has not been approved by an authorised person in accordance with Section 21 of the Financial Services and Markets Act 2000, as amended (“FSMA”). This Presentation does not constitute, or form part of, an offer or invitation to issue, sell or acquire, or the solicitation of an offer to subscribe or purchase, any securities in the Company.

The Company’s securities mentioned herein have not been and will not be, registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”), or under any U.S. State securities laws, and may not be offered or sold in the United States of America or its territories or possessions (the “United States”) unless they are registered under the Securities Act or pursuant to an exemption from or in a transaction not subject to the registration requirements of the Securities Act. Neither this Presentation nor any copy of it may be taken or transmitted into the United States, or distributed, directly or indirectly, in the United States, or to any “US person” as defined in Regulation S under the Securities Act of 1933, including US resident corporations or other entities organised under the laws of the United States or any state thereof or non-U.S. branches or agencies of such corporations or entities. This Presentation is not being made available to persons in Australia, Canada, Japan, the Republic of South Africa or any other jurisdiction in which it may be unlawful to do so and it should not be delivered or distributed, directly or indirectly, into or within any such jurisdictions. Any failure to comply with these restrictions may constitute a violation of the laws of the relevant jurisdiction.

Certain of the information contained in this Presentation has been obtained from published sources prepared by other parties. Certain other information has been extracted from unpublished sources prepared by other parties which have been made available to the Company. The Company has not carried out an independent investigation to verify the accuracy and completeness of such third party information.

This Presentation may contain certain “forward looking statements”. Forward looking statements often use words such as “believe”, “expect”, “estimate”, “intend”, “anticipate” and words of a similar meaning. There are important factors, risks and uncertainties that could cause actual outcomes and results to be materially different. Except as required by law, the Company undertakes no obligation to publicly update or revise any forward looking statements, whether as a result of new information, future events or otherwise. No statement in this Presentation is intended as a profit forecast or profit estimate (unless otherwise stated).

# MISSION & VISION

Multi Asset - Multi Jurisdiction - Sustainable Producer

## Mission

Meeting the global needs for flake graphite, a critical material for energy transition and sustainability, and **to secure the world's needs of this Critical Mineral**. In doing so, contribute to improving the quality of life of the communities we work in, and minimize the impacts of our activities on the environment.

## Near-Term Target

Become **the leading ex-China producer of graphite** for Li-ion batteries and the energy transition, by creating capacities in sync with market growth.

## Medium-Term Target

Produce flake graphite to serve 8% of global flake graphite demand by 2030





# THE OPPORTUNITY

TG is one of the few producers of Natural Flake Graphite a classified critical mineral outside China

## DEMAND



Graphite is the largest material component of a Li-ion battery + has many other applications

Total demand expected to increase 5 times over the next 10 years<sup>1</sup>

## POLICIES



IRA (USA) and CRMA (EU) providing framework for development of ex-China supply chain for e-mobility

Global supply diversity a priority to reduce dependence on one nation, that is imposing restrictions too

## TG A FRONTRUNNER



The only company having consistently reported operational profits since inception (3+ years)

Second company globally to have brought significant new capacity in production ex-China

Expected to be the first amongst peers to be profitable at corporate level



# KEY DIFFERENTIATORS

Natural Flake Graphite is a classified critical mineral in USA, EU, UK and more locations



**Quality Assets  
& Resources**



**Diversified &  
Multi-locational**

Madagascar & Mozambique



**Advanced Proven  
Technologies**

Automated processes, proven  
at large scale



**Experienced  
Team**

>150 years cumulative  
experience in graphite



**Serving across  
sectors**

Small & Large flakes available  
across projects, serve all  
applications



**IRA & CRMA  
compliant materials**

One of the handful producers ex-  
China, a requirement for OEMs to  
get benefits under these policies



**Scaling step  
by step**

Producing commercially,  
supplying across continents  
– USA, Europe, Asia



**Sustainable  
Producer**

Much lower energy  
consumption, lower waste,  
high recovery, moving  
towards renewable energy



**Low CAPEX  
& OPEX**

Established at large scale,  
one of industry lowest due  
to efficient technologies

**30 ktpa**  
Production  
capacity

**45%+**  
Operational  
Margins

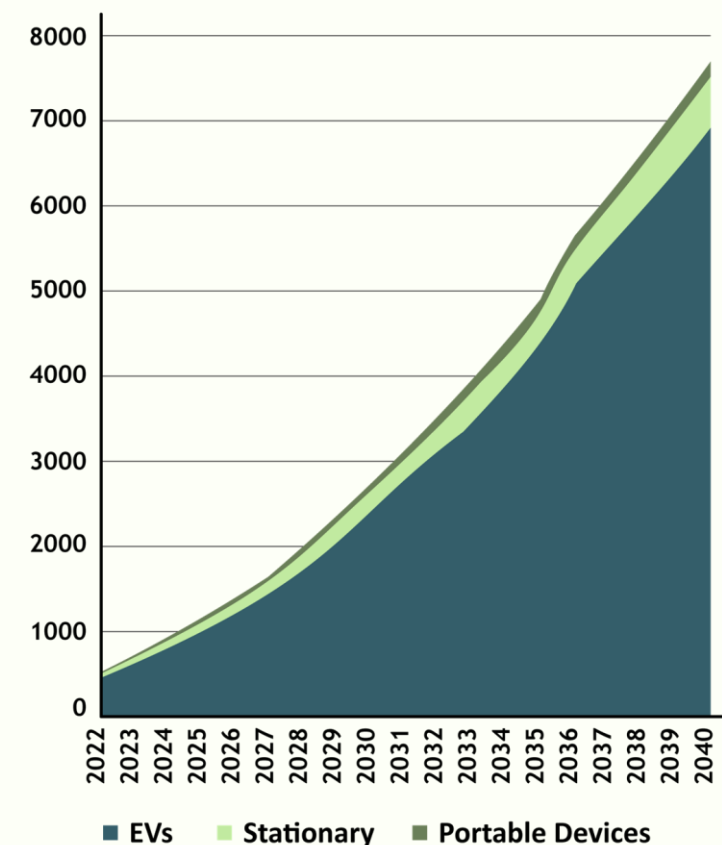
**150+ million**  
tons JORC resource

**Complete**  
Product Basket

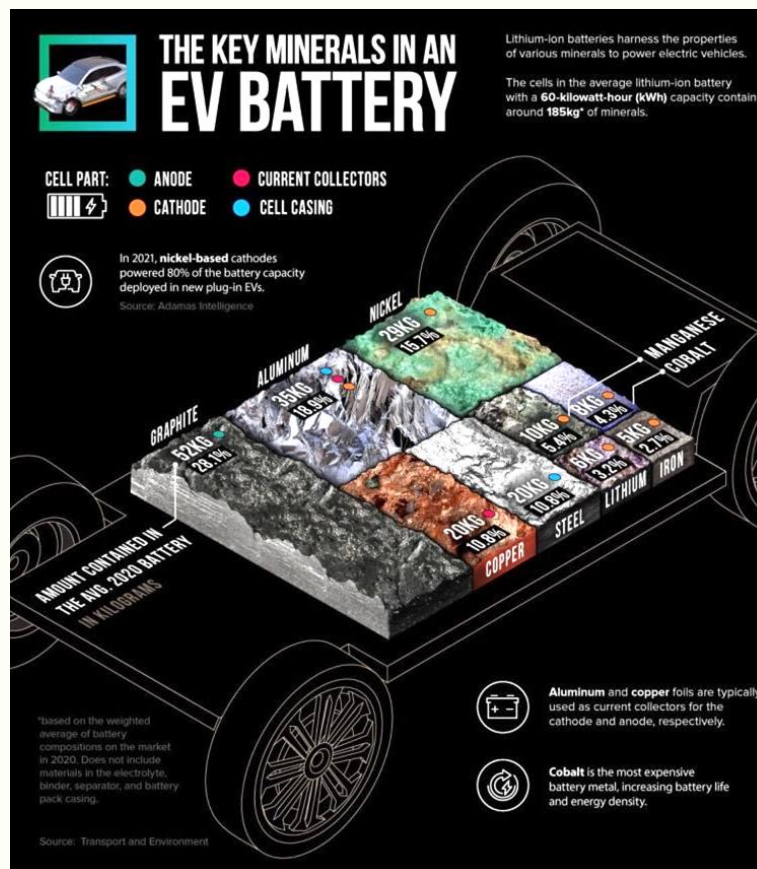
**Ex-China**  
Producing &  
Selling

# GRAPHITE - THE LARGEST BATTERY MATERIAL

## Lithium-ion Battery Capacity (GWh)



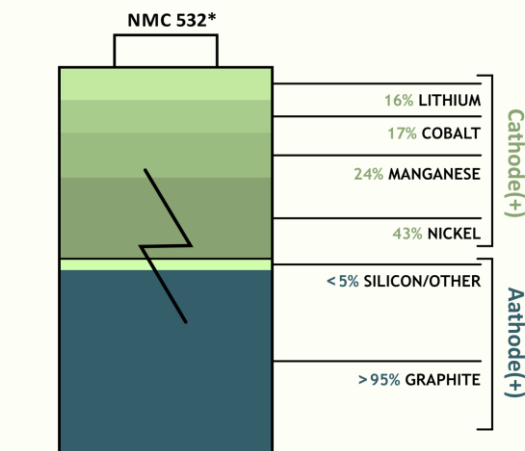
Demand for Lithium-ion batteries expected to grow drastically for EV adoption, being the primary commercial battery technology for EV adoption<sup>1</sup>



Graphite is the largest mineral constituent of a lithium-ion battery by weight

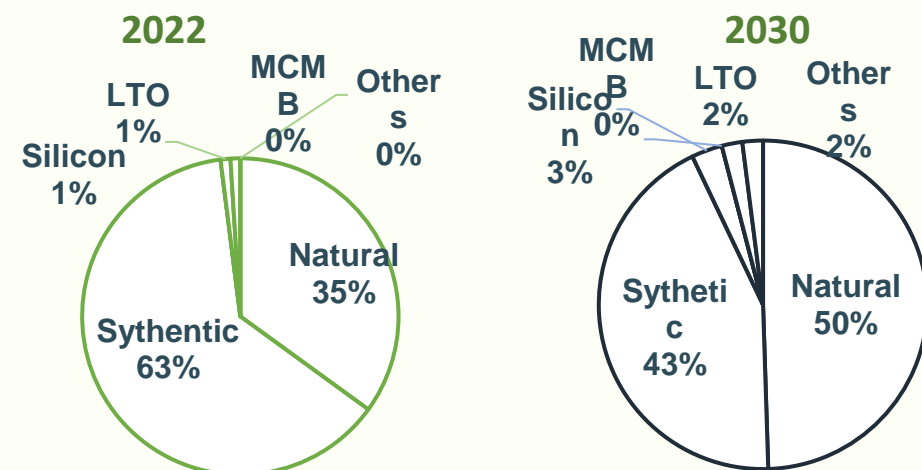
**Graphite is 28%+ wt of a LiB**

>95% of the LiB anode is Graphite<sup>2</sup> GRAPHITE



Data compiled March 30, 2022.  
\* NMC 532 = nickel-manganese-cobalt lithium-ion battery. Percentages listed are approximate.

## Natural Graphite % in Anode<sup>3</sup>

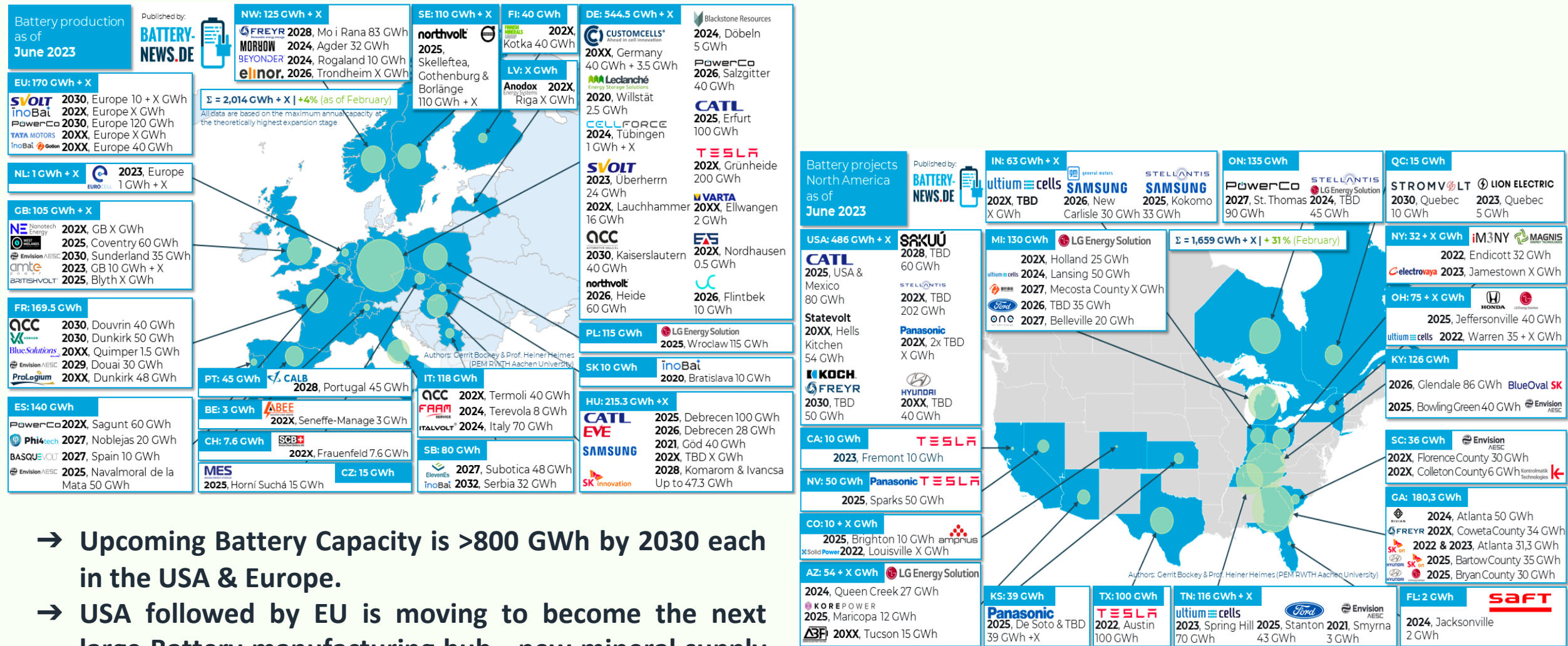


Due to cost & ESG factors, natural graphite % in anode is expected to increase

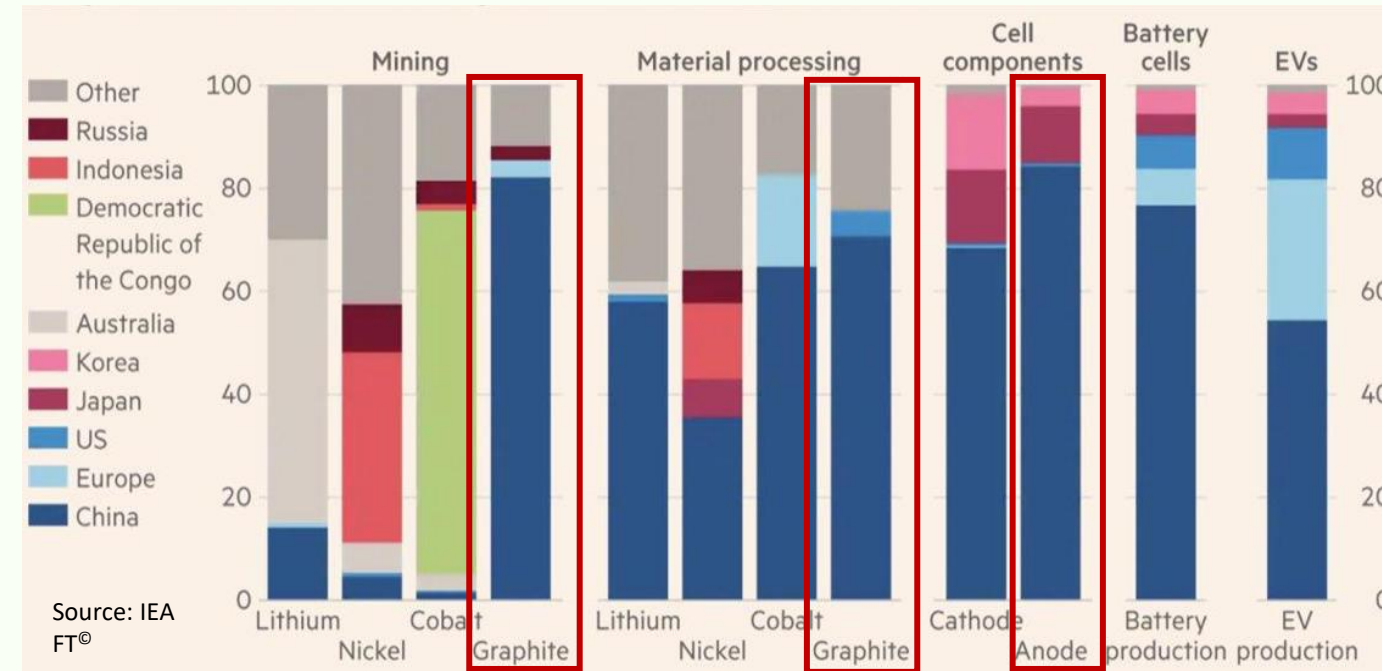


# BATTERY & EV CAPACITY LANDSCAPE

GRAPHITE

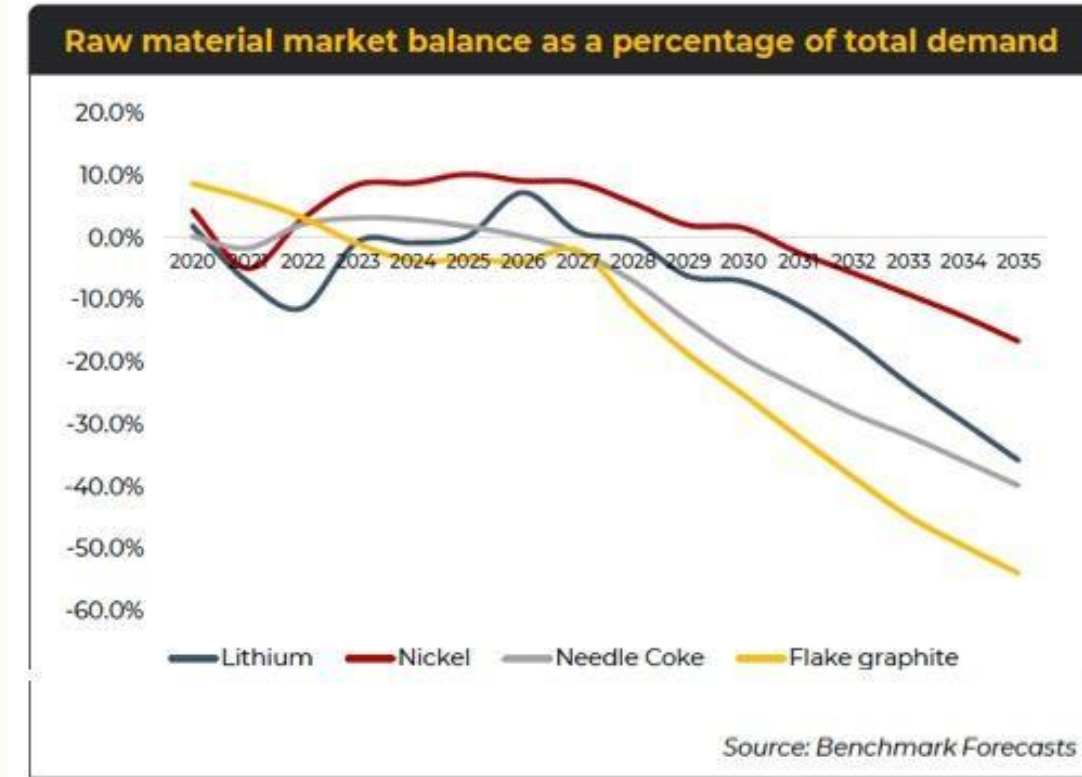


# GRAPHITE SUPPLY DYNAMICS



## Current Supply Chain for Li-ion Batteries:

- China dominates the entire downstream processing value chain for battery minerals to the EV production, with 100% of downstream processing concentrated in China & East Asia
- Strikingly, for the anode, China controls the entire supply chain from mine to anode. Graphite is the only mineral which is fully dominated and controlled by 1 single nation.



Flake Graphite supply is expected to go into deep deficit within a few years



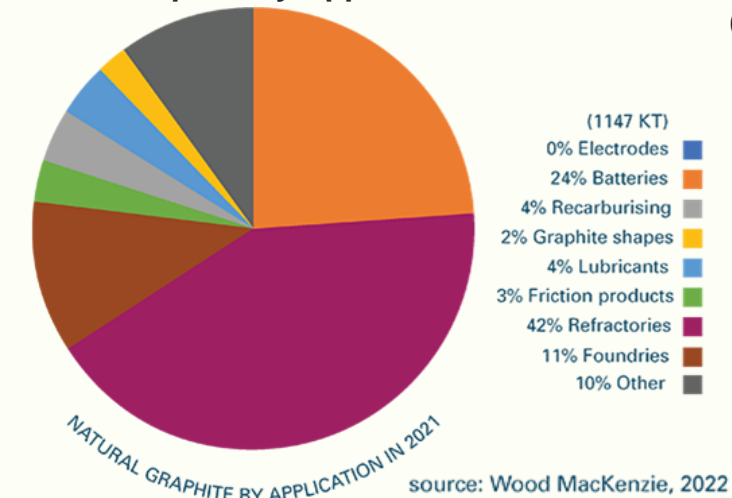
# GRAPHITE - POISED TO DO A LITHIUM



**97 new primary processing units of 56ktpa each required by 2035<sup>1</sup>**

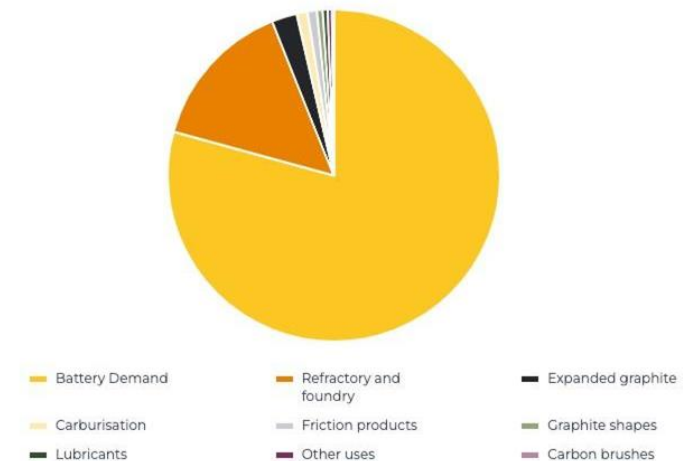
**Total Market Size in 2021 = 1.15mt**

Natural Graphite by Application 2021



Graphite demand by end use in 2030

By 2030, the lithium ion battery market is the largest source of demand for anodes, reaching 79%.



SOURCE: BENCHMARK FLAKE GRAPHITE FORECAST.

# TG AHEAD IN THE RACE

## GESTATION & TIMELINE



- ❖ TG strategy made it a producer just at the right time and in the right size
- ❖ TG is ready to expand with markets

## TECHNOLOGY & KNOW HOW

- ❖ TG has a team with >150 years in the industry.
- ❖ TG started commercial sales from its projects within weeks of start of commissioning
- ❖ Has the ability to set up modular units at its projects both in Madagascar and Mozambique
- ❖ Historically, China, India and Brazil have been the main producers of natural graphite globally, experience is minimal in other locations
- ❖ Flake graphite is a niche mineral, processing and finishing controls require a learning curve

## FINANCIAL PRUDENCE

- ❖ Low CAPEX requirements & C1 level profitability since inception
- ❖ Funding of growth organically and through debt within reach with significant operations at the cusp or profitability.



# MADAGASCAR PROJECTS

Sahamamy 8km<sup>2</sup> mining permit 18,000 tpa capacity operations

Vatomina Project 25km<sup>2</sup> mining permit 12,000 tpa capacity operations

30 to 36ktpa - immediate term. 36 to 90ktpa - grow per market growth

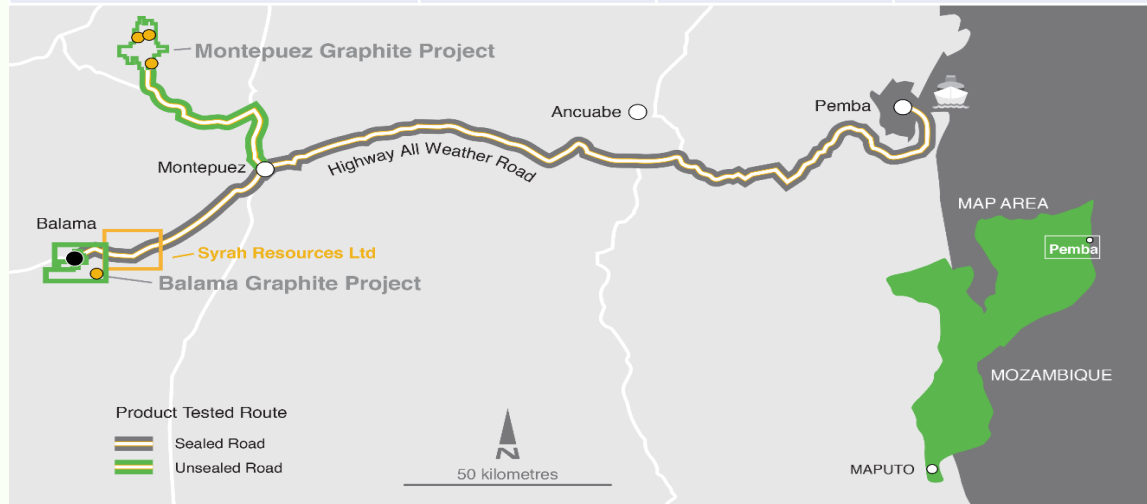




# MOZAMBIQUE PROJECTS - ADDS 12X RESOURCE + SMALL FLAKES

Project	Deposit	Group Total JORC (2012) Mineral Resources		
		Tonnes	TGC	Cont. Graphite
		Mt	%	kt
Montepuez	Elephant	76.9	7.3	5,620
	Buffalo	42.6	9.5	4,050
Balama Central	Lenox	21.9	10.2	2,230
	Byron	11.0	10.2	1,120
<b>Total</b>		<b>152.5</b>	<b>8.5</b>	<b>13,030</b>

Group JORC (2012) Probable Ore Reserves			
Project	Tonnes	TGC	Cont. Graphite
	Mt	%	Mt
Montepuez	19.66	11.06	2.17
Balama Central	42.19	9.27	3.91
<b>Total</b>	<b>61.90</b>	<b>10.10</b>	<b>6.08</b>



- ❖ **158,000tpa Natural Flake Graphite production permits can expand**
- ❖ **TG expects to have firsty 50,000 plant up and running H1 2025**

- ❖ **Complements TG's graphite majority large flake product basket in Madagascar with mix of 60-70% small flakes in Mozambique**

- ❖ **Lays the foundation for TG to capitalise on the visible market opportunities**

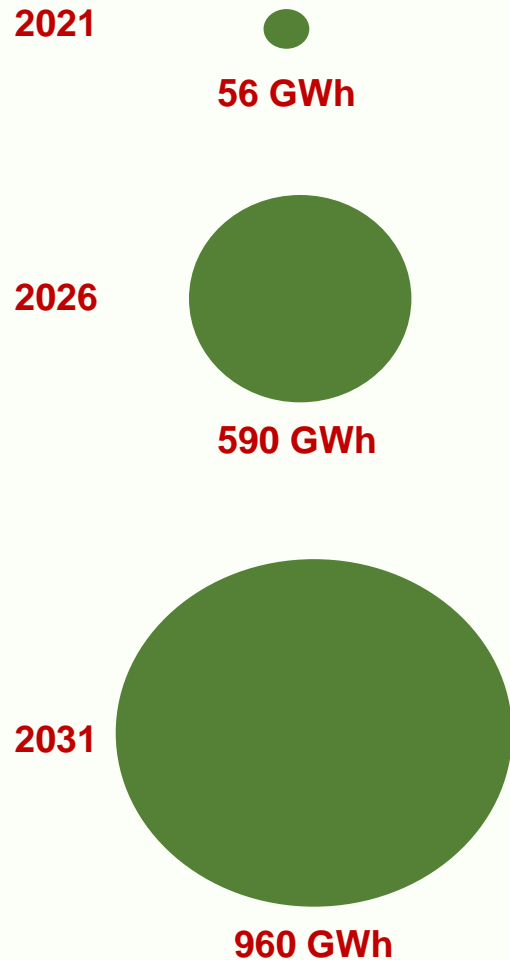
- ❖ **Provides extensive resource to meet long-term customer requirements for EVs**

- ❖ **Adding mineral Resources of 152MT @ 8.5% TGC, Reserves of 62MT @ 10.1% TGC**

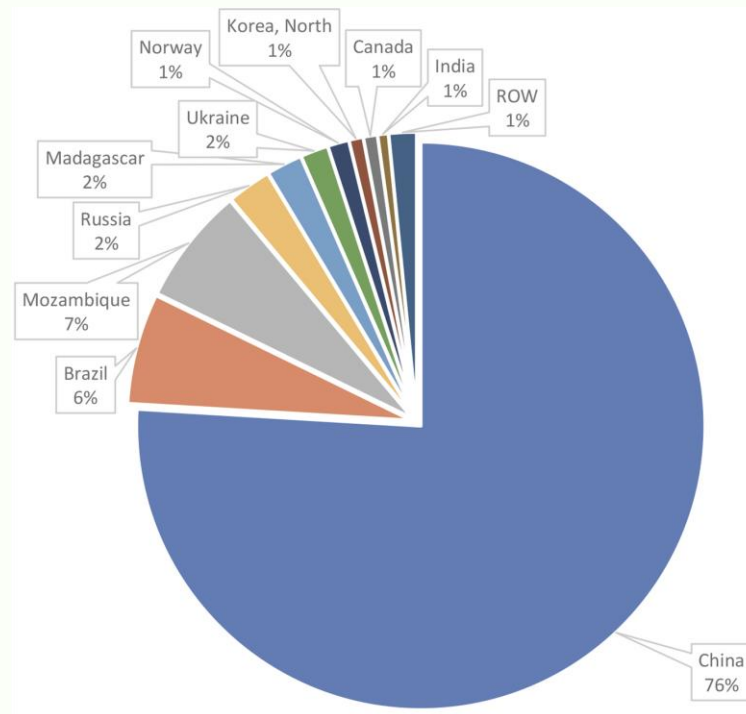
- ❖ **Largest Natural Graphite producing region outside China**

# AIMS TO SERVE 8% OF GLOBAL GRAPHITE DEMAND

## North American Battery Manufacturing Capacity



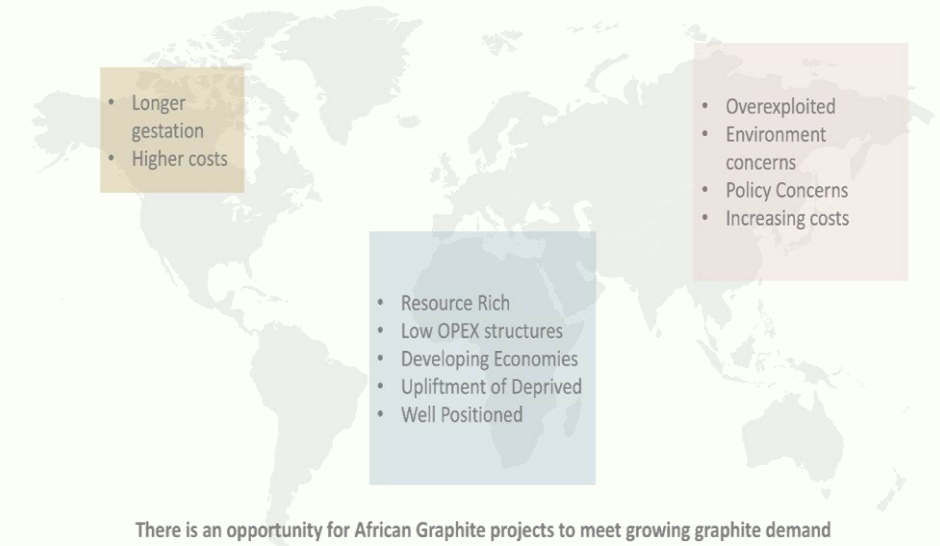
## Locational Distribution of Current Natural Graphite Production Capacity



Source: S&P Global Market Intelligence

**>75% of current produced in China**  
**>5X increase in production required to meet expected demand by 2035**

- Policy benefits driving procurement of critical materials from Ally countries in USA (IRA)
- EU working on supply diversification & security for these critical minerals
- New projects have a long gestation & qualification timeline



There is an opportunity for African Graphite projects to meet growing graphite demand

**TIRUPATI WELL PLACED TO SUPPLY EX-CHINA GRAPHITE FOR MEETING THIS INCREASING DEMAND**

# FINANCIAL STRENGTH

Financial Parameter	Tirupati's Unique Position
CAPEX	Built 30,000 tpa production capacity in Madagascar at total CAPEX of £13.5 million including project infrastructure, exploration and evaluation. This is the lowest CAPEX intensity amongst planned and existing listed peers.
OPEX and BASKET PRICE	Reported OPEX of £321/MT for 4770 tons produced in FY23 and basket price realisation of >£600/MT consistently for 3 years
OPERATING MARGINS	>45% operating margins for FY23, EBIDTA positive at corporate level expected near term.
DEVELOPMENT COSTS	In house exploration and drilling, evaluation and engineering, and development throughout its journey key to its industry lowest cost ecosystem.
DEBT POSITION	Build its stage 1 with equity –no significant debt obligations. With growing operations future investment through debt is visible and preferred
EBITDA	TG is on the brink of being EBITDA positive at the corporate level as it expects to surpass the break even level ramping up production in Q3FY24



# FINANCIAL PERFORMANCE

With operating profits from inception, TG expects to report profitability at corporate level in the near term

Particulars	Units	FY March23	FY March22	FY March21
<b>Total Production</b>	<b>MT</b>	<b>4,770</b>	<b>2,996</b>	<b>1,718</b>
Mining & Processing costs	£	1,512,563	935,604	304,975
Human Resources costs	£	326,783	378,671	228,731
Logistics utilities & plant admin costs	£	368,061	308,278	52,784
(Increase) / Decrease in inventory of inputs	£	(676,058)	(485,357)	(98,407)
<b>Total Costs of Production (Excl. Depreciation)</b>	<b>£</b>	<b>1,531,349</b>	<b>1,137,196</b>	<b>488,083</b>
<b>Cost per MT of Production</b>	<b>£</b>	<b>321</b>	<b>380</b>	<b>284</b>
Total Sales Volume	MT	3,982	2,662	1,857
<b>Total Revenues</b>	<b>£</b>	<b>2,890,010</b>	<b>1,645,308</b>	<b>1,123,426</b>
<b>Average Selling price per MT of Production</b>	<b>US\$ / £ per MT</b>	<b>875 / 726</b>	<b>841 / 618</b>	<b>801 / 605</b>
<b>Gross Profit before Depreciation</b>	<b>£</b>	<b>1,358,661</b>	<b>508,112</b>	<b>635,343</b>
<b>Gross Margin on Sales</b>	<b>%</b>	<b>47%</b>	<b>31%</b>	<b>57%</b>

# TIRUPATI'S GREEN TECHNOLOGIES

## MADAGASCAR

### Energy Efficiency

Free-dig mining with zero-blasting requirement

Reduces mining equipment requirements & fuel consumption

Lean Processing

Reduces energy requirements considerably

Plantations

Established plantations & participated in Madagascan Government plantation initiatives

Water Reuse

Developed tailings dams to recondition water & make re-useable

### Waste Reduction & Reuse

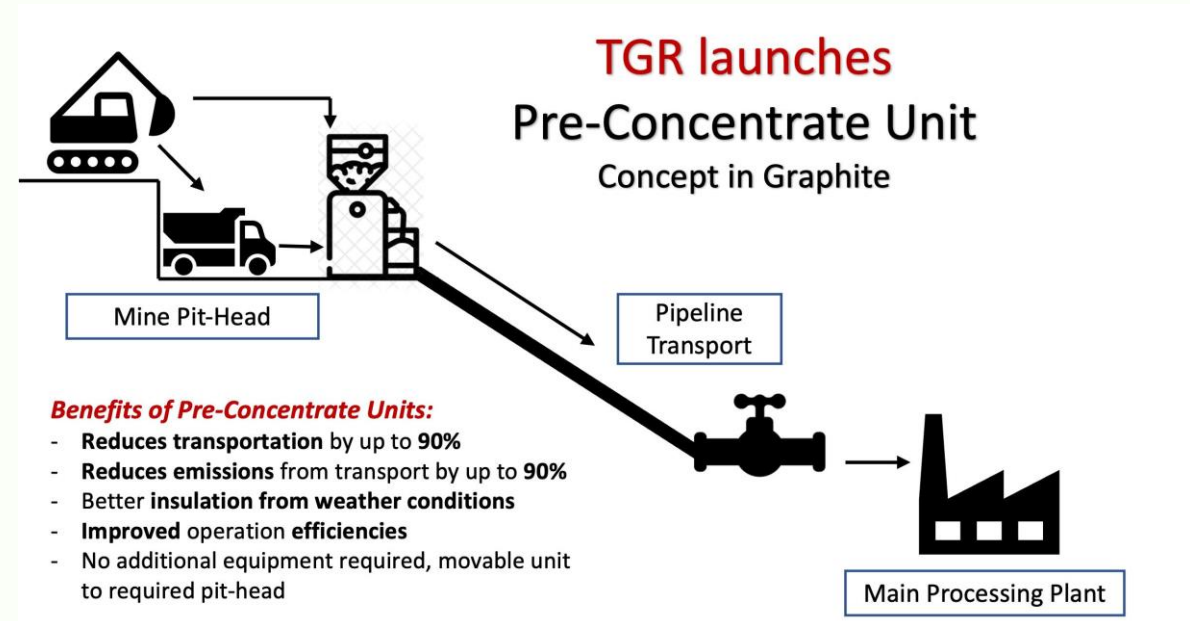
Renewable Energy

Initiated hydropower generation development to meet all electricity requirements

Low Processing Waste

Processing waste reduced by 50% by extracting sand as a by-product -reused as a construction material

## Innovative Processing Technology: PCUs



Sahamamy



- Initial 100Kw hydropower facility operational
- Additional 500 Kw hydropower capacity studies completed for implementation

Vatomina



Further studies for prospects c. 500Kw to be initiated



GRAPHITE

# OUR ESG PROFILE



## CARBON EMISSIONS REDUCTION & MITIGATION

- Natural flake graphite emissions footprint lower than synthetic graphite (over lifecycle)
- Continuous re-planting and seeding of vegetation nurseries and slope stabilisation
- Renewable energy growing as source of project power



## LEADING REPORTING FRAMEWORKS

- Sustainability reporting under GRI standards & UN SDG
- Overseen by sustainability committee comprised of members across the company
- Internal framework adopted for anticipating and mitigating risks across company for ESG components



## TRACEABILITY

- Simple auditable chain of custody with products shipped straight from site
- All processing in-house on site
- Extensive QC/QA systems tailor designed per plant operations
- TQM framework in process



# POLICY DRIVEN, EX-CHINA GRAPHITE A NECESSITY

## USA POLICIES / ACTS TO SECURE & BATTERY SUPPLY CHAIN

**>US\$130B has been deployed for developing battery supply chain by USA**

### 1. Inflation Reduction Act (IRA):

IRA makes new and used EVs more affordable for consumers with tax credits supporting using critical minerals and battery components from the United States and allied nations.

This is driving cell manufacturers to replace their source of these critical raw minerals from China to Ally countries of USA.

Tirupati is one of the very few producers of Natural Flake Graphite outside China, which makes us ready for commercial qualifications.

## EU POLICIES / ACTS TO SECURE BATTERY SUPPLY CHAIN

**The EU has formed a European Battery Alliance to facilitate diversification of the battery supply chain & manufacturing**

### 1. Critical Raw Materials Act (CRMA):

Providing incentives to on-shore raw materials extraction and midstream processing

### 2. Green Deal Industrial Plan

Supporting the scale-up of Europe's manufacturing industries

### 3. Minerals Security Partnership:

14 nations collaborating to improve diversity of supply and security of supply for Critical Minerals

# TIRUPATI'S UNIQUE POSITION



**EX-CHINA INDUSTRY  
LEADING CAPEX & OPEX  
CURRENT PRODUCER**

**ONLY c.£25M INVESTED TO  
DATE**



**POSITIONED  
TO GROW INTO GLOBAL  
UPCOMING DEMAND -  
ALREADY EARNING EX-  
CHINA MARKET SHARE**



**SUSTAINABLE FOCUSED  
ALTERNATIVE SUPPLY  
SOURCE**

**SUSTAINABILITY STRATEGY  
REDUCING OPEX COSTS  
AND INCREASING  
CUSTOMER INTEREST**



**QUALITY ASSETS &  
RESOURCE PROVIDING EX-  
CHINA DIVERSITY  
OF SUPPLY**

- **MADAGASCAR**
- **MOZAMBIQUE**

## EXPANSION PROSPECTS

- ❖ **Madagascar: CURRENT 30,000TPA; TARGETING 84,000TPA CAPACITY**
- ❖ **Mozambique:**  
***MONTEPUEZ - CONSTRUCTION INITIATED & PERMITTED 100,00TPA, OPTMISING STUDIES UNDERWAY***  
***BALAMA CENTRAL - PERMITTED 58,000TPA***

## PROVEN OPERATIONAL TRACK RECORD

- ❖ **DECADES OF GRAPHITE LEADERSHIP & MANAGEMENT EXPERIENCE**
- ❖ **SUCCESSFUL CONSTRUCTION AND COMMISSIONING OF BROWNFIELD AND GREENFIELD PROJECTS**
- ❖ **QUICKLY IMPROVING OPERATIONAL AND FINANCIAL PERFORMANCE OPENING DEBT OPTIONS FOR GROWTH**

## CONTACT

For Enquiries  
[admin@tirupatigraphite.co.uk](mailto:admin@tirupatigraphite.co.uk)  
020 3984 9894

Investor Relations  
FTI CONSULTING  
[Tirupati@fticonsulting.com](mailto:Tirupati@fticonsulting.com)

Financial Advisors:  
Optiva Securities Limited  
020 3137 1904

 @TirupatiUK

 [www.linkedin.com/company/tirupati-graphite/mycompany/](https://www.linkedin.com/company/tirupati-graphite/mycompany/)

 [www.tirupatigraphite.co.uk](http://www.tirupatigraphite.co.uk)



GRAPHITE

# Thank You