

ASX:EV1

**EVOLUTION**  
ENERGY MINERALS

**SUSTAINABLE GRAPHITE  
PRODUCTS  
FOR THE GLOBAL  
GREEN ECONOMY**

February 2022



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## Mineral Resources

The Chilalo Mineral Resource estimate was reported by Evolution in the prospectus dated 28 September 2021, as supplemented by a supplementary prospectus dated 6 October 2021 (collectively, the Prospectus). Evolution confirms that it is not aware of any new information or data that materially affects the Chilalo Mineral Resource estimate included in the Prospectus and that all material assumptions and technical parameters underpinning the Chilalo Mineral Resource estimate in the Prospectus continue to apply and have not materially changed.

## Ore Reserves

The Chilalo Ore Reserve estimate was reported by Evolution in the prospectus dated 28 September 2021, as supplemented by a supplementary prospectus dated 6 October 2021 (collectively, the Prospectus). Evolution confirms that it is not aware of any new information or data that materially affects the Chilalo Ore Reserve estimate included in the Prospectus and that all material assumptions and technical parameters underpinning the Chilalo Ore Reserve estimate in the Prospectus continue to apply and have not materially changed.

## Exploration results

In relation to the exploration results included in this Presentation, the dates of which are referenced, Evolution confirms that it is not aware of any new information or data that materially affects the information included in those announcements.

## Forecast Financial Information

The forecast financial information (and the production target on which such forecast financial information is based) in this Presentation was reported by Evolution in the prospectus dated 28 September 2021, as supplemented by a supplementary prospectus dated 6 October 2021 (collectively, the Prospectus). Evolution confirms that it is not aware of any new information or data that materially affects the forecast financial information included in the Prospectus and that all material assumptions underpinning the forecast financial information (and the production target on which such forecast financial information is based) continue to apply and have not materially changed.

## Acknowledgments

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## SUSTAINABLE GRAPHITE PRODUCTS FOR GLOBAL GREEN ECONOMY



Development-ready Chilalo  
Graphite Project in Tanzania

**58% > 80 Mesh**

World leading flake size  
= highest margins



Targeting sustainable battery anode  
materials without toxic chemicals



Goal to become world's first net  
zero carbon graphite mine



Sustainability focus will drive  
customer and investor interest



Once-in-a-generation  
graphite demand opportunity



Extensive product qualifications will  
result in quality offtakes and  
technology partnerships



Framework agreement  
to provide certainty



Strategic cornerstone investor  
to drive project financing

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## CORPORATE OVERVIEW

**EV1**

ASX Code

**\$72.8M**

Market Cap  
(at \$0.45 per share)

**\$10.7M**

Cash  
(as at 31 Dec '21)

**\$64.7M**

Enterprise Value

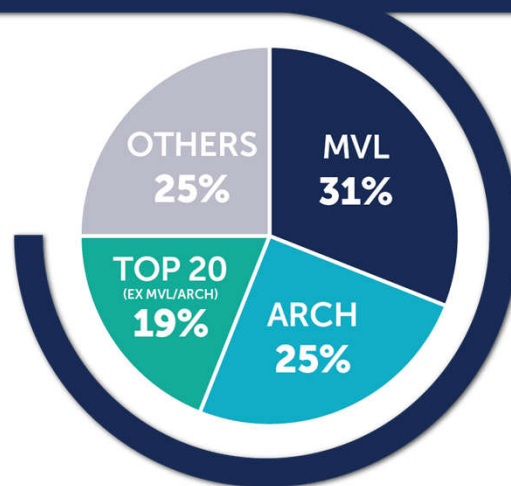
**42.1M**

Unlisted Options  
(\$0.25 exercise)

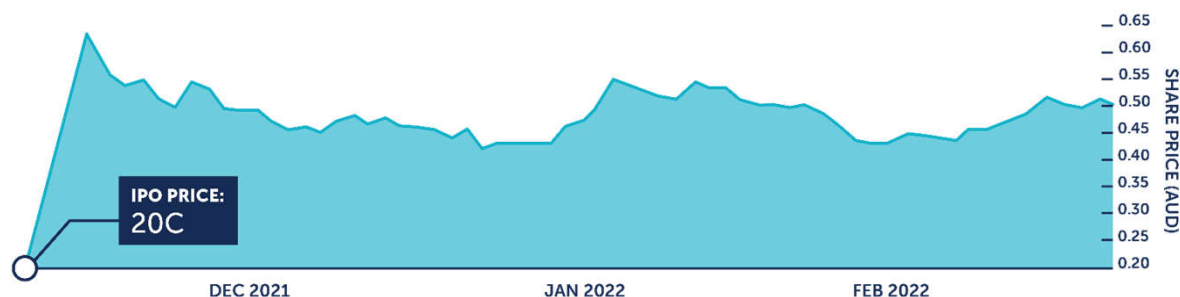
**161.9M**

Shares on Issue

SHARES TIGHTLY HELD WITH  
**TOP 20 OWNING 75%**



## SHARE PRICE SINCE IPO



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## BOARD



**Phil Hoskins**

MANAGING DIRECTOR

Phil is the Executive responsible for the development of Chilalo since 2014. Eight years 'graphite experience.



**Trevor Benson**

NON-EXECUTIVE CHAIRMAN

Trevor was the Executive Chairman for Tanzanian graphite company, Walkabout Resources Ltd and has 6 years' graphite market experience.



**Michael Bourguignon**

EXECUTIVE DIRECTOR

Michael was the Project Manager for the construction of Syrah Resources' Balama graphite project in Mozambique.



**Amanda van Dyke**

NON-EXECUTIVE DIRECTOR

Amanda is currently the MD of the ARCH Sustainable Resources Fund.

## KEY ADVISOR



**Chris Whiteley**

INTERNATIONAL SALES & MARKETING CONSULTANT

Chris has been actively involved in all aspects of graphite marketing and product development for more than 25 years.

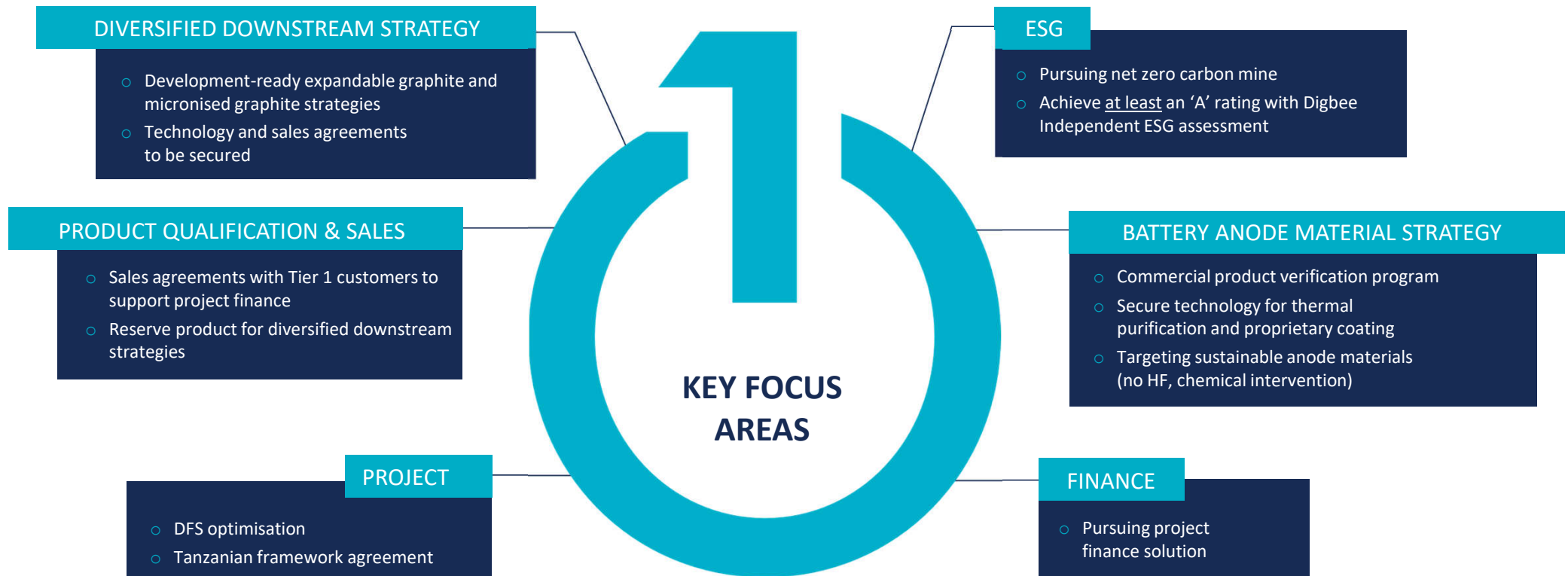


Evolution's vision is to become a vertically integrated company that will only supply sustainably sourced graphite products and battery materials. This will be achieved by combining our unique graphite source with industry-leading technology partners, working closely with customers and producing diversified downstream products in both Tanzania and strategically located manufacturing hubs around the world. Evolution is committed to being global leaders in ESG and ensuring its operations support the push for decarbonisation and the global green economy.



## KEY FOCUS AREAS TO DRIVE VALUE

Evolution targeting FID by H2 2022



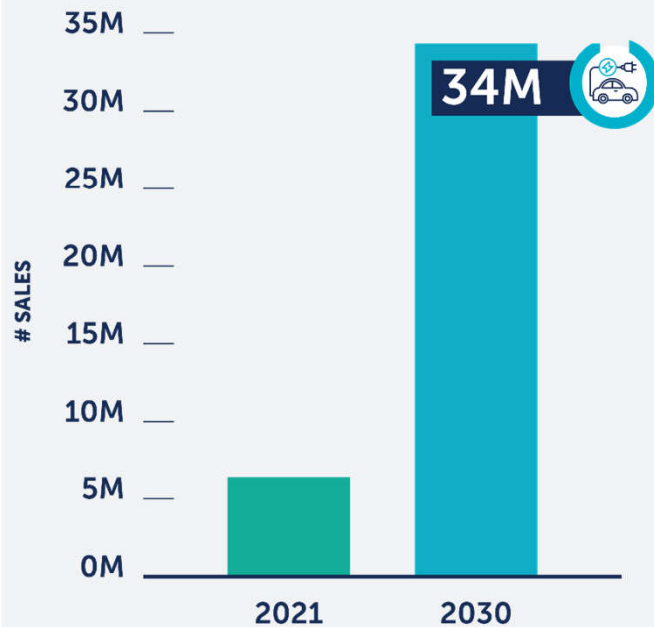
“We forecast battery sector demand for raw material graphite to rise by more than 1,400% between 2020 and 2050. By the end of the forecast period, total graphite demand could be three times the 2021 supply level.”

– Wood Mackenzie Graphite Market 2021 Outlook to 2050



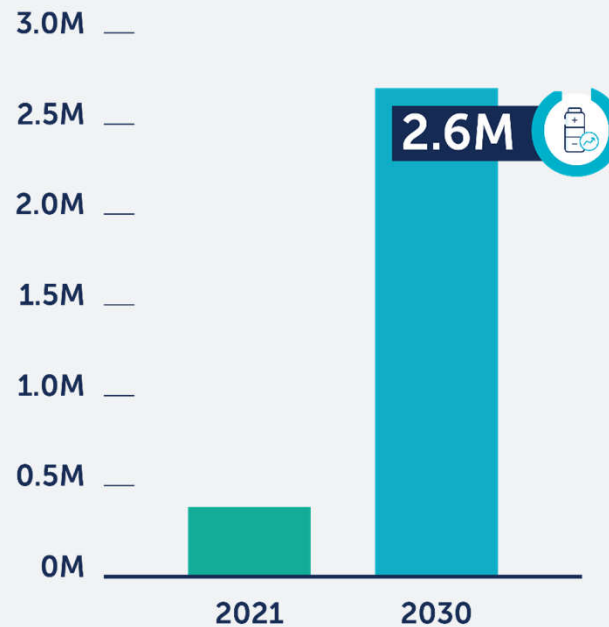
## UNPRECEDENTED DEMAND OPPORTUNITY

EV sales outperforming forecasts as China / EU reaches inflection point

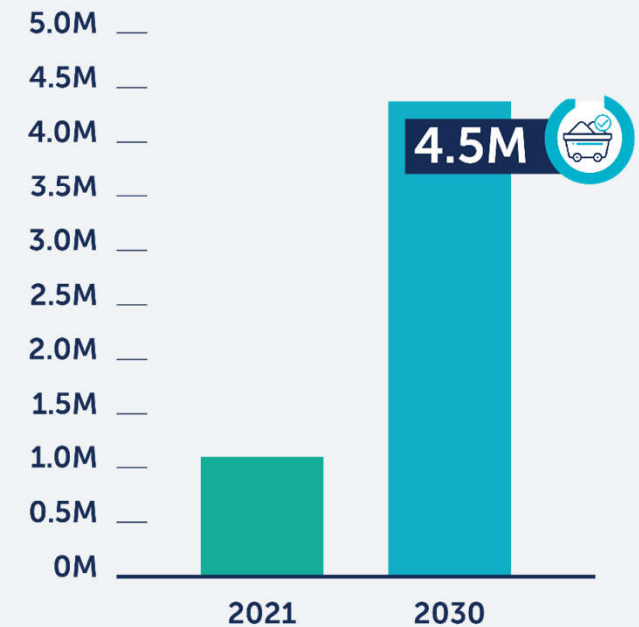
ELECTRIC  
VEHICLES

In 2021, EVs represented 15% and 20% of all vehicles sold in China and Europe respectively.

Source: Bloomberg NEF

LI-ION BATTERY  
DEMAND (MWh)

Source: Benchmark Mineral Intelligence – Q4 2021 Flake Graphite Forecast

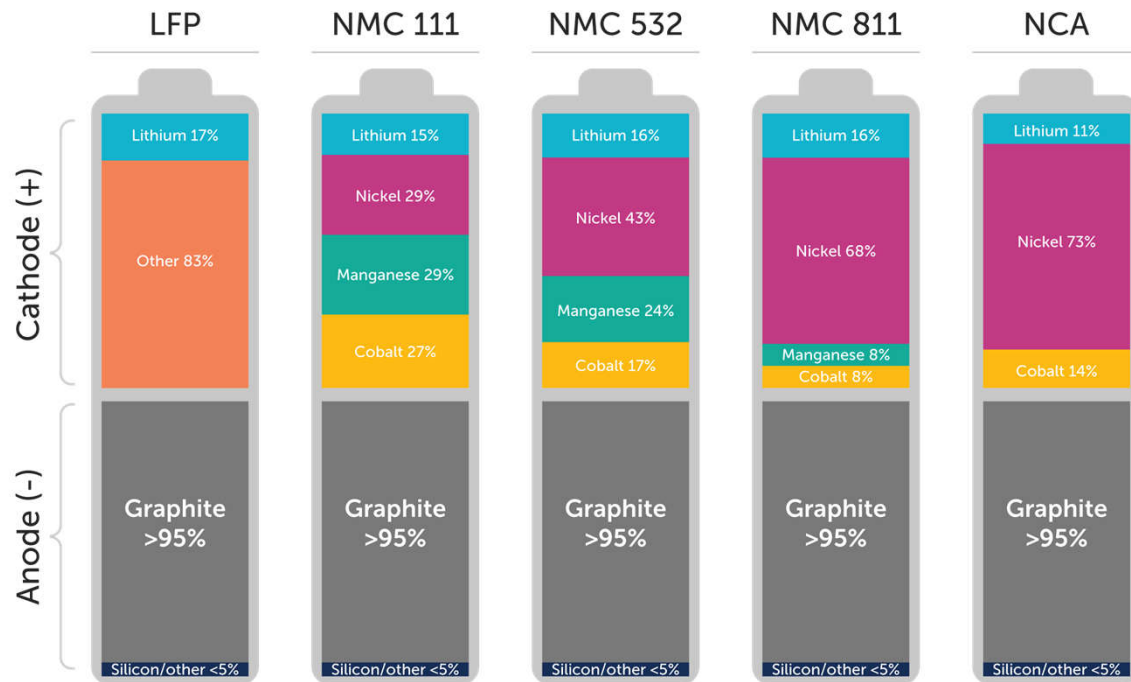
GRAPHITE DEMAND IN  
BATTERIES (Mt)



## GRAPHITE IN LITHIUM-ION BATTERIES

Shift expected towards natural graphite

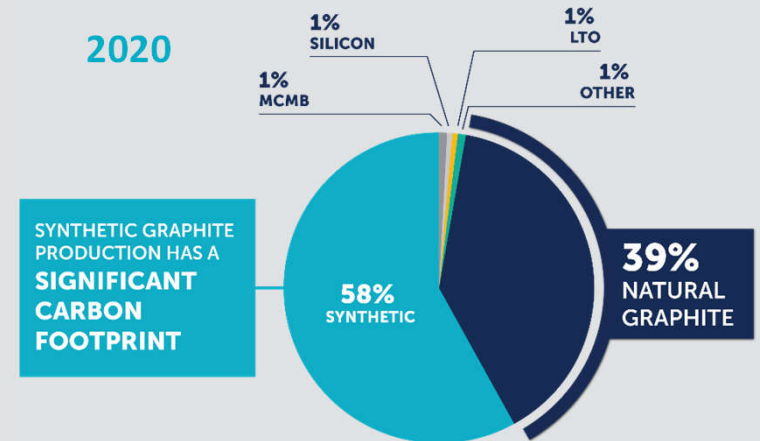
Graphite is the dominant material across all commercial battery technologies



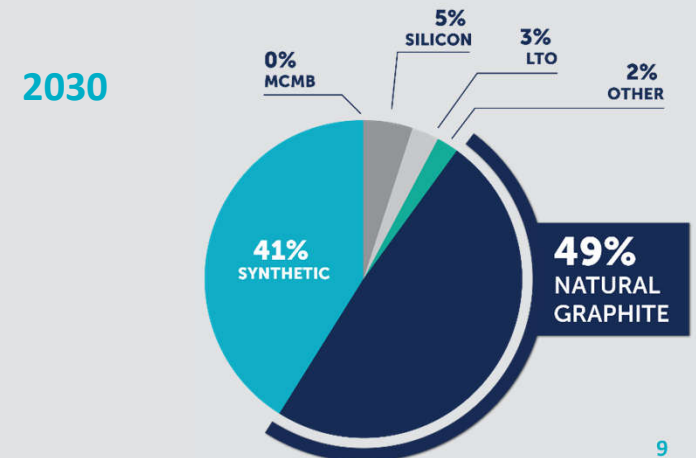
Source: Pallinghurst-Traxys battery analysis. %s represent the proportions of cathode and anode in each battery respectively/ NCA batteries contain 2% aluminium (not shown)

### NATURAL GRAPHITE DEMAND FOR BATTERIES

2020



2030



Source: Benchmark Mineral Intelligence – Q4 2021 Flake Graphite Forecast

## CRITICALITY OF GRAPHITE SUPPLY

Graphite listed as a strategic critical mineral in US, EU, Japan and Australia

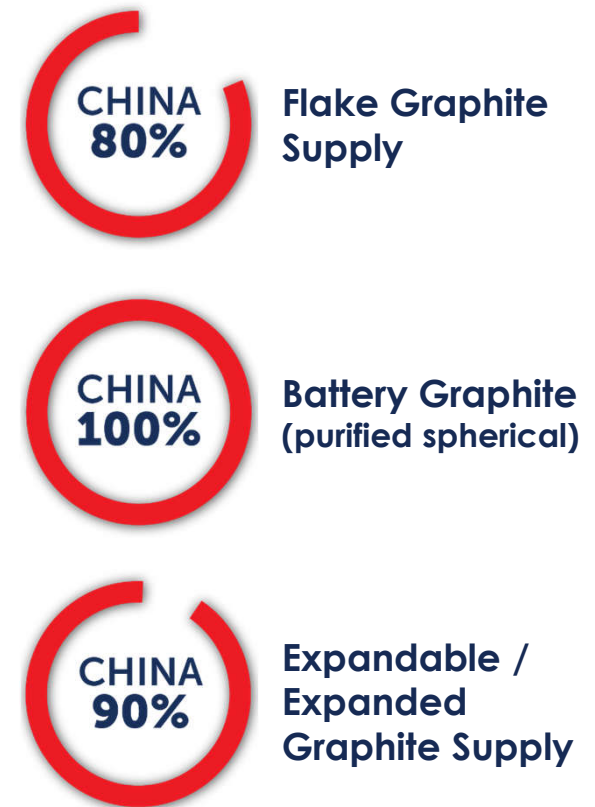
### WHY?

- 1 Due to high concentration of production in one country (China), graphite is recognized as a strategic critical mineral in:

Chinese supply is also under threat as tighter environmental policies resulted in widespread mine closures from the mid-2010's – inspections continue into the 2020's.

- 2 The global decarbonisation requires more graphite than lithium and cobalt combined<sup>1</sup>.

### CHINA DOMINATES GRAPHITE MARKET

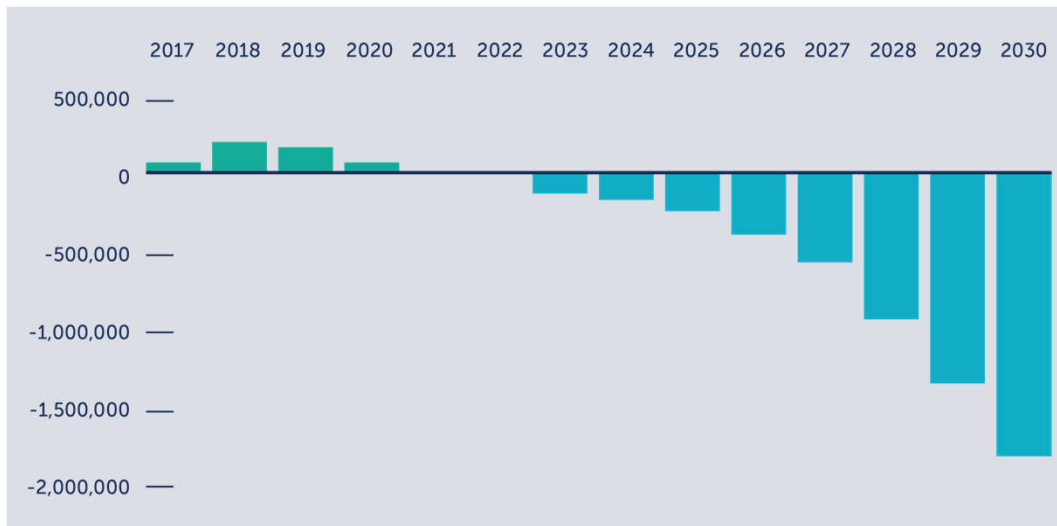


1. Benchmark Mineral Intelligence Jan 2022

## SUPPLY SHORTFALL AND RISING PRICES

Power shortages and environmental shutdowns cause 25% increase in fines price since October 2021

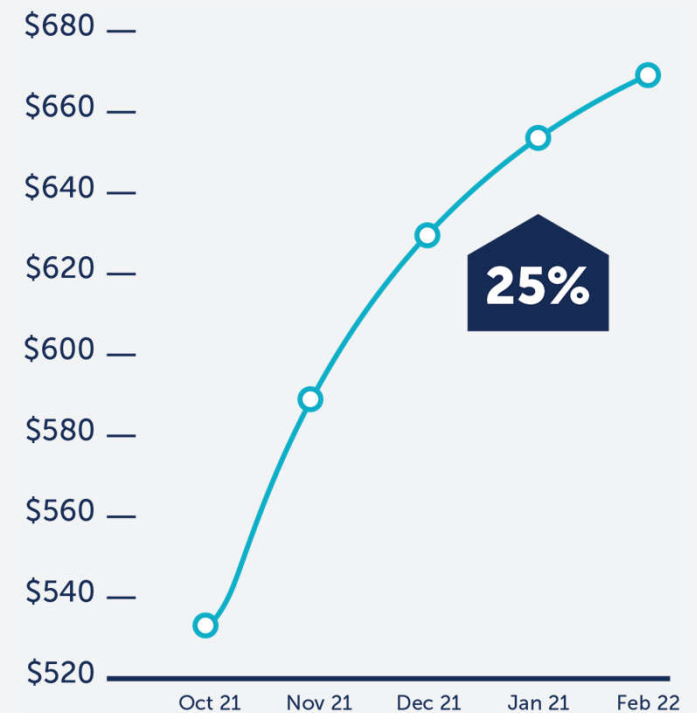
DEFICIT IN NATURAL GRAPHITE PREDICTED FROM 2023



“Demand growth will be such that we have assumed space for four new projects to come online by 2025 in addition to the ramp-up of existing projects and expansions”

Source: Wood Mackenzie Graphite market 2021 outlook to 2050

FINE FLAKE (-100 MESH / -150 MICRON)  
GRAPHITE PRICES (OCT 2021–FEB 2022)



Source: Benchmark Mineral Intelligence Jan 2022

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## CHILALO PROJECT

Coarse flake graphite for high-value applications

### Development ready

DFS, Mining Licence and Environmental Approvals

### High margins

~US\$750/t concentrate margin driven by globally significant flake size

### Value-added margins through vertical integration

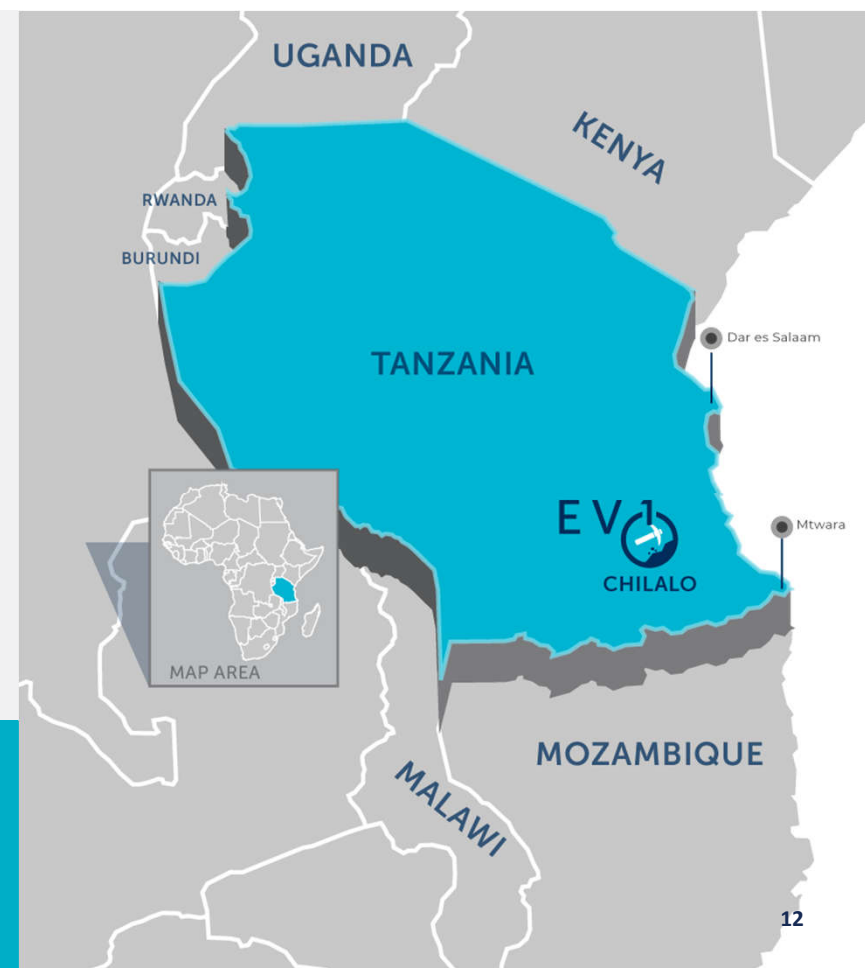
Unique downstream strategy using proven technology

### Sustainability focus

Pursuit of net zero carbon mine among ESG commitments

### Potential for multi-decade mine life expansion

18-year DFS, majority of strike remains undrilled



#### Flake Size Price Premium

#### Evolution Product Flake Size

10% +32	21% +50 mesh	27% +80 mesh	6% +100	36% -100 mesh
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58% +80 mesh

1. Graphex ASX Announcement – 29 January 2020 “DFS confirms Chilalo as high-margin graphite project.”



## DFS OPTIMISATION UNDERWAY

Strong economics to a bankable standard<sup>1</sup>

PHYSICALS	UNIT	2020 DFS
Mine life	years	18
Total plant feed	Mt	8.9
Annual plant feed	ktpa	500
Average head grade	%TGC	10.1%
Average graphite concentrate production	ktpa	50
Steady state expandable graphite sales	ktpa	12
Steady state micronised graphite sales	ktpa	8
PROJECT FINANCIALS	UNIT	2020 DFS
NPV (Post-tax)	US\$M	323
IRR (Post-tax)	%	34%
Post-tax payback period	years	3.4
Pre-production capital cost (incl. 10% contingency and pre-strip)	US\$M	87
Average annual EBITDA	US\$M	73

## OPTIMISATION FOCUSED ON:

Revised mining schedule (expected to reduce operating costs)

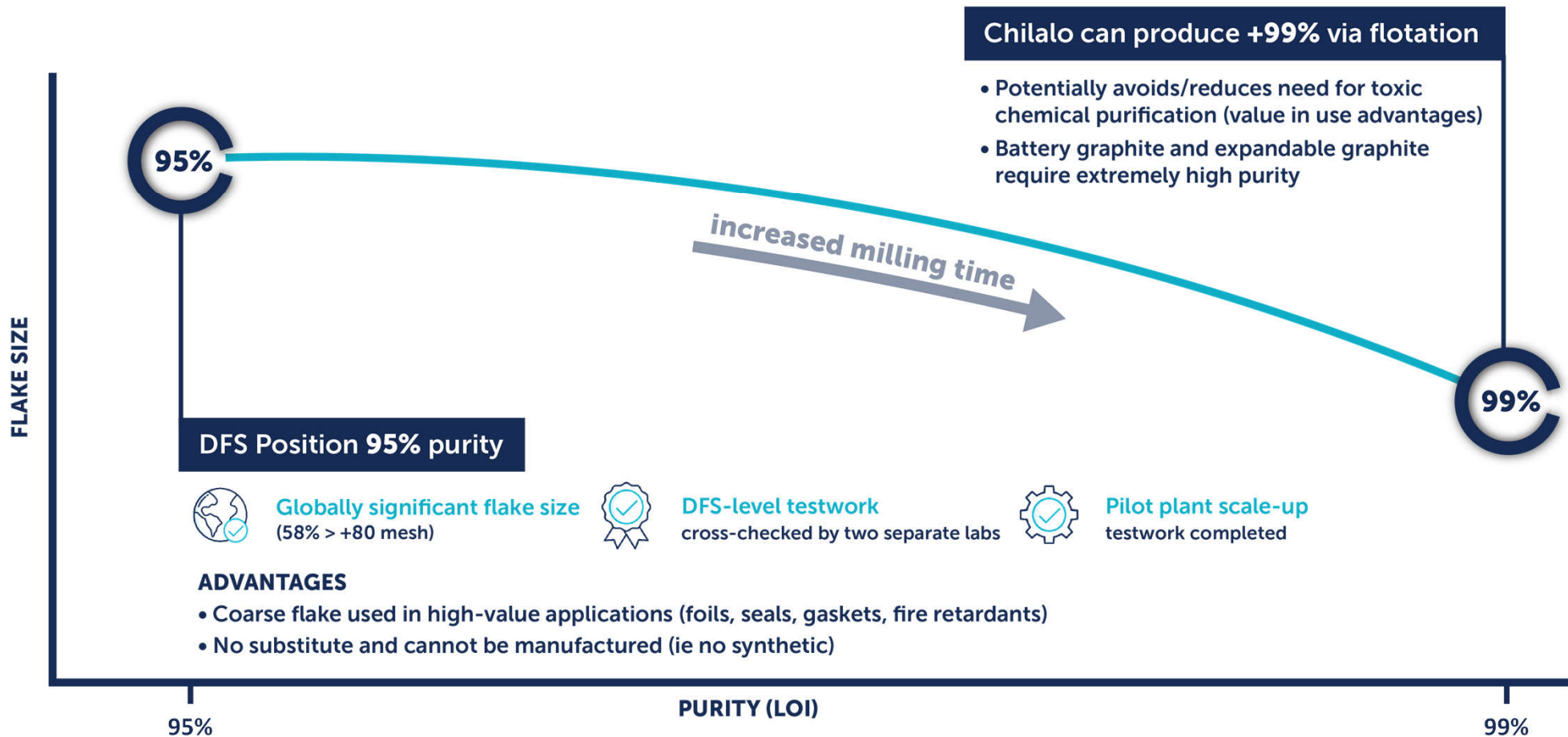
Hybrid solar/diesel power solution (expected to reduce operating costs and carbon footprint)

Investigation of dry stacking of tailings

1. Graphex ASX Announcement – 29 January 2020 “DFS confirms Chillala as high-margin graphite project.” Financial outcomes restated per Evolution prospectus

## PRODUCT QUALITY

Flexibility to produce coarse flake or “high purity green graphite”



## TANZANIA

### RE-EMERGING AS A FAVOURABLE INVESTMENT DESTINATION



**Her Excellency Samia Suluhu Hassan appointed as President in March 2021** (following death of the Late His Excellency John Magufuli)



**Speech on 5 April 2021 by Her Excellency**

- Directed the Tanzania Revenue Authority to stop frustrating businesses
- Ordered a review of regulations and taxes with the objective of encouraging foreign investment
- Urged Government officials to "work hard to regain the trust of international business"



**Subsequently, a noticeable change has taken place in Tanzania**







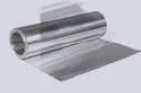



- Several ASX listed companies have obtained required licences and finalised framework agreements with the Tanzanian Government (Strandline Resources, OreCorp, Black Rock Mining)
- BHP invested \$50M in Kabanga Nickel and Barrick acquired \$60M of licences – significant vote of confidence in Tanzania



Evolution has commenced discussions with Tanzanian Government about a **Framework Agreement and Shareholders Agreement** to ensure fiscal certainty

## WELL ADVANCED DIVERSIFIED DOWNSTREAM STRATEGIES

Value added opportunities for all size fractions

	MICRONISED GRAPHITE	EXPANDABLE GRAPHITE
FEEDSTOCK	Fines	Coarse
OPERATING COSTS	US\$383/t	US\$512/t <small>Source: Chilalo DFS</small>
PRICING	US\$1,500–6,000/t	US\$5,000–6,500/t <small>Source: Lone Star Tech Minerals</small>
TARGET MARKETS	 Carbon Brush  Lubricants  Friction  Engine Seals  Plastics	 Fire Retardant  Foil, Gaskets, Seals  Ceramics  Alkaline Battery Mfg.  Plastics & Polymers
PRODUCT DEVELOPMENT	<ul style="list-style-type: none"> <li>High-purity micronised graphite (+99%) for use in alkaline batteries (<b>US\$2,000–\$8,000/t</b>)</li> </ul>	<ul style="list-style-type: none"> <li>Expanded graphite used as conductivity enhancement in LiB cathode (<b>US\$9,000–12,000/t</b>)</li> <li>Graphite foil/paper used in electronics (<b>up to US\$30,000/t</b>)</li> </ul>

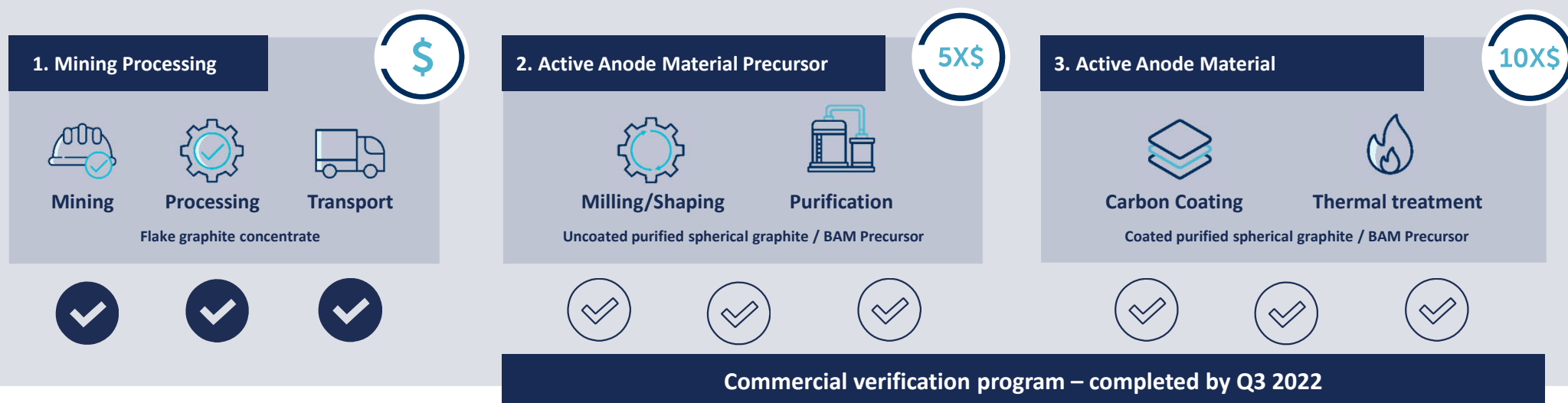
Source: Lone Star Tech Minerals



## SUSTAINABLE BATTERY ANODE MATERIALS

Commercial verification program to avoid toxic chemicals

EV1 INTENDS TO USE COMMERCIALLY PROVEN THERMAL PURIFICATION AND PROPRIETARY COATING TECHNOLOGY



### Challenges Facing Battery Makers

### How EV1's Strategy Addresses These

1. Sustainability of a supply chain that uses HF + other toxic chemicals	EV1 pursuing thermal purification
2. Carbon footprint declaration of supply chain	EV1 pursuing net zero carbon mine + cheap/renewable power sources for BAM processing
3. Traceability	Targeting chain of custody from mine site to battery (access to proprietary coating technology)

The world needs unprecedented levels of graphite to drive decarbonisation for decades to come, but not at any cost. Customers and investors can have confidence in EV1's sustainability commitment because it is embedded in board and management philosophy.





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## ESG AND SUSTAINABILITY

Evolution's commitment to sustainable graphite supply



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### DIGBEE ENDORSED BY NUMEROUS FINANCIERS



### DIGBEE FRAMEWORK COVERS ALL GLOBAL STANDARDS



## REGULATION DRIVING DEMAND

EU initiatives leading the way & forcing a change

### KEY INITIATIVES



#### RESPONSIBLE SOURCING

New mandatory procedures to ensure sustainable and ethical sourcing of raw materials such as graphite.



#### CO<sub>2</sub> FOOTPRINT

All batteries sold in Europe must declare their carbon footprint. Batteries with the highest carbon footprint will be banned in Europe.



#### TRACEABILITY

All raw material used in batteries to be produced according to OECD recognized guidelines for sustainable sourcing. Thanks to blockchain technology, each battery will have a digital passport tracking all components upstream.

### THE EUROPEAN COMMISSION IS GOING TO REQUIRE THAT:

**FROM 1 JULY 2024:** EV batteries must have a “carbon footprint declaration”

**FROM 2026:** EV batteries will have to bear a “carbon intensity performance class label”

**FROM 2027:** EV batteries must comply with “maximum carbon footprint thresholds”

Supported by



Initiative for Responsible Mining Assurance



EU list of Critical Raw Materials & European Raw Materials Alliance



EIB new energy lending policy supporting projects relating to the supply of critical raw materials



European Battery Alliance



## PUBLIC SUSTAINABILITY COMMITMENTS



## MERCEDES-BENZ

“ We have made CO<sub>2</sub> neutral cell production a key requirement for all of our battery cell partners.<sup>1</sup> ”



## BMW

“ The BMW Group is the first automobile company worldwide to become a member of the Initiative for Responsible Mining Assurance (IRMA). The aim is to systematically promote the sustainability of mined materials and adherence to the highest supply chain standards.<sup>2</sup> ”



## EUROPEAN COMMISSION

“ The Commission puts forward a new future-proof regulatory framework on batteries to ensure that only the greenest, best performing and safest batteries make it onto the EU market. This ambitious framework on transparent and ethical sourcing of raw materials, carbon-footprint of batteries, and recycling is an essential element to achieve open strategic autonomy in this critical sector and accelerate our work under the European Battery Alliance.<sup>3</sup> ”

<sup>1</sup> <https://group.mercedes-benz.com/sustainability/climate/ambition-2039-our-path-to-co2-neutrality.html>

<sup>2</sup> <https://www.bmwgroup.com/en/news/general/2020/responsible-mining.html>

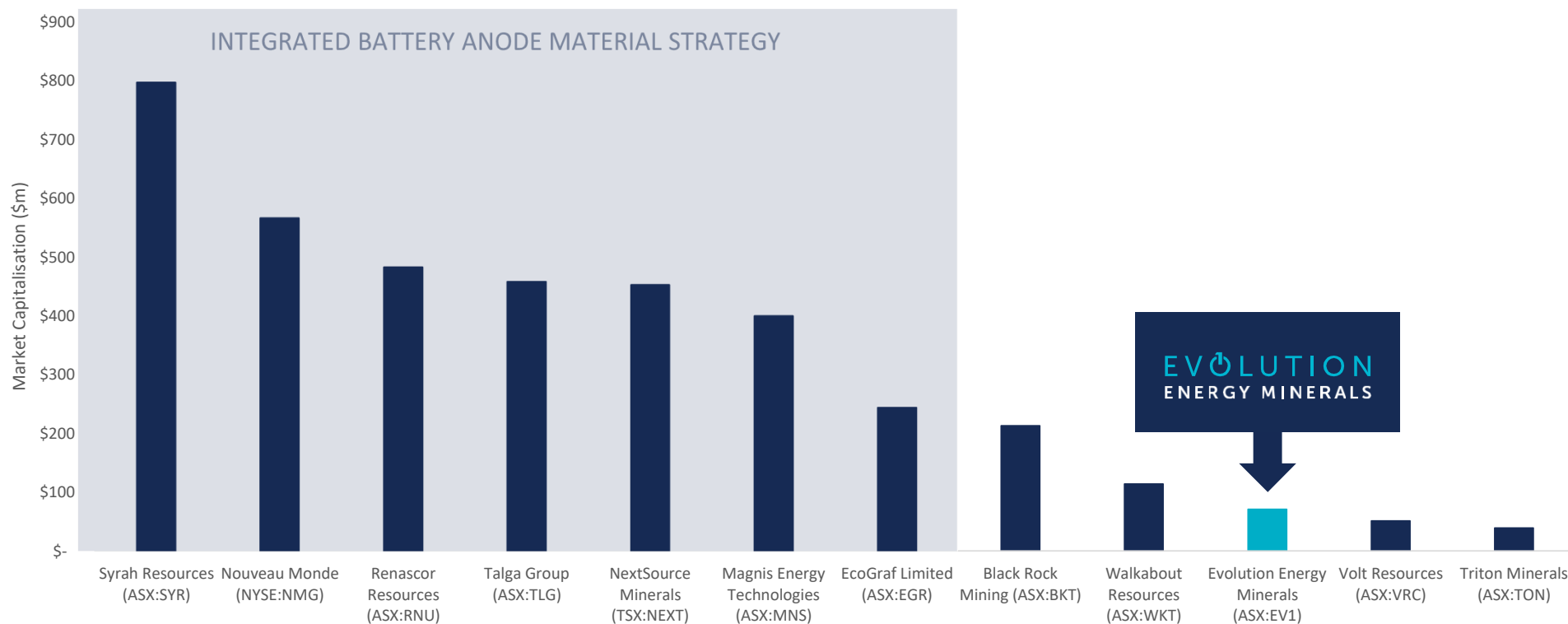
<sup>3</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_2312](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2312)

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## GRAPHITE PEER COMPARISON

Significant discount to graphite peers



As at 22 February 2022 – refer to slide 25 for supporting information

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## VALUE PROPOSITION

High-quality, advanced asset & strategy



### DEVELOPMENT-READY

High-margin graphite project



### COMMERCIAL BATTERY ANODE PROGRAM

with no HF or toxic chemicals



### DIVERSIFIED DOWNSTREAM STRATEGIES

using proven technology



### ESG COMMITMENTS

To drive interest from investors and customers



### ONGOING SUPPORT FROM STRATEGIC CORNERSTONE INVESTOR

To underwrite project financing solution

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# EVOLUTION ENERGY MINERALS

APPENDIX

[ev1minerals.com.au](http://ev1minerals.com.au)



# APPENDIX

## DETAILED GRAPHITE PEER COMPARISON ANALYSIS AND REFERENCES

Ticker	EV1.ASX	MNS.ASX	EGR.ASX	RNU.ASX	WKT.ASX	BKT.ASX	VRC.ASX	TON.ASX	NEXT.TSX
Market Cap (A\$M)	71	401	245	484	114	213	51	39	454
Resource (Mt contained graphite)	2.0	9.4	3.0	6.6	4.5	16.6	22.6	3.0	8.7
Resource (Mt)	20	174	31	87	42	213	461	46	141.3
Resource (% Measured)	-	36%	26%	18%	16%	15%	4%	-	17%
Resource (% Indicated)	51%	35%	42%	46%	20%	40%	34%	67%	54%
Resource (% Inferred)	49%	29%	32%	36%	64%	45%	62%	33%	29%
Resource Grade (TGC%)	9.9%	5.4%	9.9%	7.5%	10.8%	7.8%	4.9%	6.6%	6.13%
Reserve (Mt contained graphite)	0.9	3.6	1.0	3.6	1.0	6.0	5.6	1.5	1.6
Reserve Grade (TGC%)	9.9%	4.8%	8.3%	7.9%	17.9%	8.5%	4.4%	6.2%	7.02%
Stage of graphite development	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	DFS + fully permitted	Development
Downstream graphite business	Expandable and micronised graphite DFS	JV ownership of 2 planned battery plants	Battery Anode Materials DFS	Battery Anode Materials DFS	N/A	N/A	Battery Anode Materials testwork	N/A	Technical Study for Battery Anode Facility
Source	Internal	Website	ASX announcement - 31 July 2017	ASX announcement 4/3/21 and 11/11/19	Website	Website	Website	Presentation - 22 June 2020	Website

1. Market cap as at COB 22 February 2022.
2. Source (unless otherwise stated): Various announcements.

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# EVOLUTION ENERGY MINERALS

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Managing Director

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