



Vertically Integrated Battery Anode Material Developments

ASX: EGR FSE: FMK OTCQX: ECGFF



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Securities Disclaimer

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Forward looking statements

Various statements in this document constitute statements relating to intentions, future acts and events. Such statements are generally classified as “forward looking statements” and involve known and unknown risks, uncertainties and other important factors that could cause those future acts, events and circumstances to differ materially from what is presented or implicitly portrayed herein. The Company gives no assurances that the anticipated results, performance or achievements expressed or implied in these forward-looking statements will be achieved.

Production targets and financial information

Information relating to the Bankable Feasibility Study and Pre-Development Program conducted on the Epanko Graphite Project, including production targets and forecast financial information derived from the production targets, is extracted from ASX announcements dated 21 June 2017 “Updated Bankable Feasibility Study” and 28 April 2023 “Epanko Pre-Development Program Delivers Outstanding Results” available at www.ecograf.com.au and www.asx.com.au. The Company confirms that all material assumptions underpinning the production targets and forecast financial information derived from the production targets set out in the announcements released on 21 June 2017 and 28 April 2023 continue to apply and have not materially changed.

The production targets referred to in this presentation are based on 45% Measured Resources, 38% Indicated Resources and 17% Inferred Resources for an 18-year life of mine. The Measured Resources, Indicated Resources and Inferred Resources underpinning the production target have been prepared by a competent person in accordance with the requirements in Appendix 5A (JORC Code). The Company has used Inferred Mineral Resources as part of the production target. There is a low level of confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The economic feasibility of the Project has been assessed excluding the Inferred material, confirming the use of Inferred mineralisation is not a determining factor in the viability of the Project.

Competent persons

Any information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Andrew Spinks, who is a Member of the Australasian Institute of Mining and Metallurgy included in a list promulgated by the ASX from time to time. Andrew Spinks is a director of EcoGraf Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Andrew Spinks consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

Information in this document that relates to Mineral Resources is based on information compiled by Mr David Williams, a Competent Person, who is a Member of the Australasian Institute of Mining and Metallurgy. David Williams is employed by CSA Global Pty Ltd, an independent consulting company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. David Williams consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

Information in this document that relates to Ore Reserves has been compiled by Mr Steve O’Grady, who is a Member of the Australasian Institute of Mining and Metallurgy. Steve O’Grady is a full-time employee of Intermine Engineering and produced the Mining Reserve estimate based on data and geological information supplied by Mr Williams. Mr O’Grady has sufficient experience which is relevant to the estimation, assessment and evaluation of the economic extraction of the Ore Reserve that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Steve O’Grady consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

Our business, supporting the global transition to clean energy



High Value Vertically Integrated Battery Anode Material

EXTRACT



Duma TanzGraphite Natural Graphite

High quality, long life
Epanko and Merelani-
Arusha Graphite Projects

UPGRADE



EcoGraf HF^{free}TM Battery Anode Material

High performance,
low CO₂ battery
anode material

RECYCLE



Anode Recycling

EcoGrafTM purification
technology with sector
leading ESG credentials



Corporate snapshot

Market capitalisation²

A\$91M

Cash balance¹
at 30 September 2023

A\$34.7M

Shares on issue²

453M

Share Price²

A\$0.20



Stock Exchange Listings

ASX: EGR

Australian Securities
Exchange

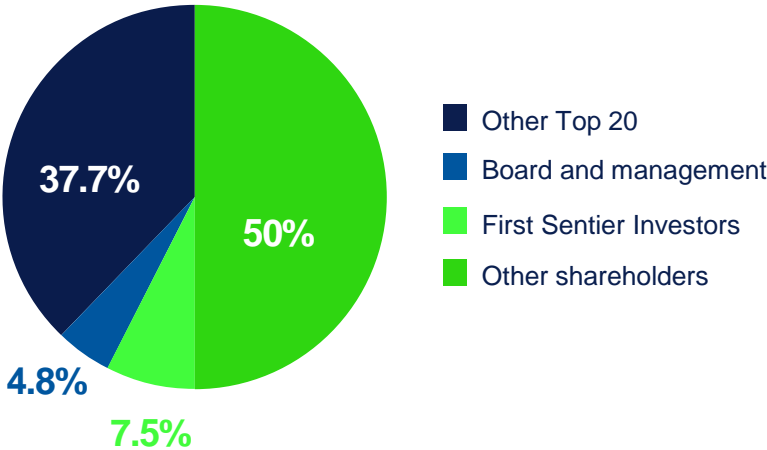
FSE: FMK

Frankfurt Stock Exchange
(Börse Frankfurt)

OTCQX: ECGFF

OTCQX Stock Exchange

Major shareholders²



East African logistics hub supporting BAM supply chain



Critical battery minerals is creating increased cooperation between companies and continents to establish new supply chains

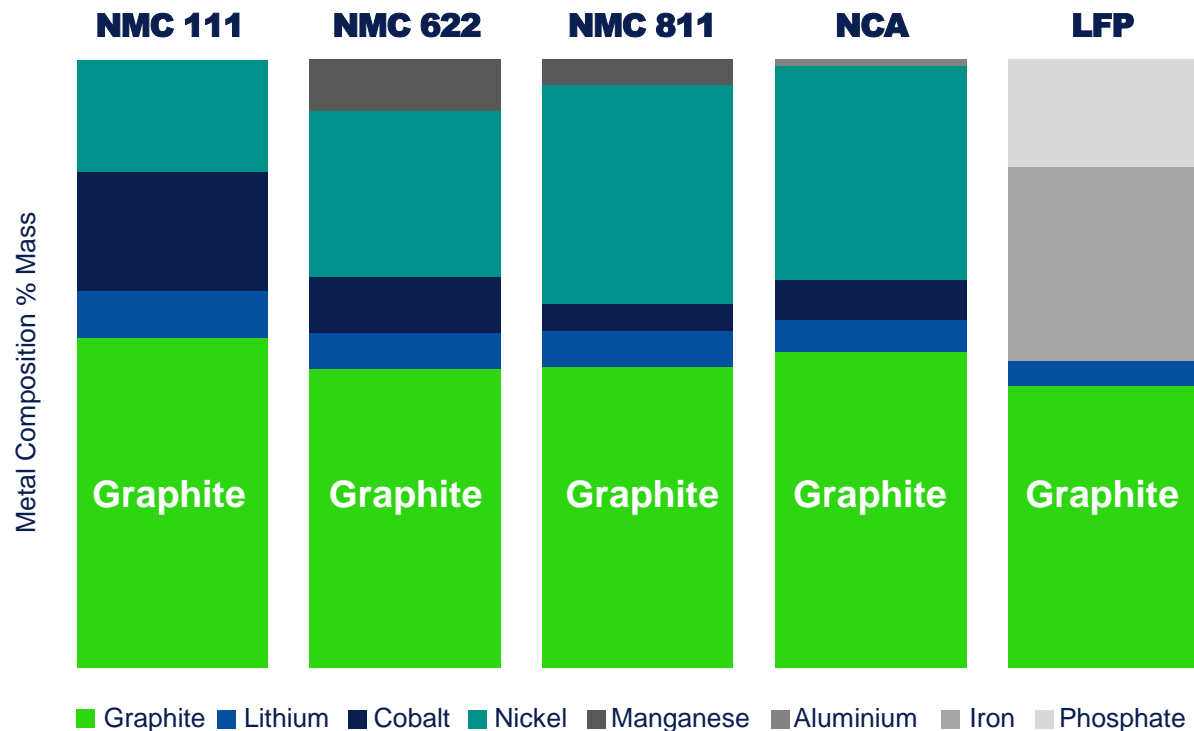
2023 Global Legislation



IRA has pushed development of critical battery minerals under MSP and trade deals



EU Green Deal to support new supply chains in EU



Graphite will continue to dominate as the anode material in lithium-ion batteries

Source : BMI, UBS and company research

Lithium-ion battery to drive strong demand for graphite

1.1kg required per kWh

15-25 wt. %

Anode graphite in a LIB

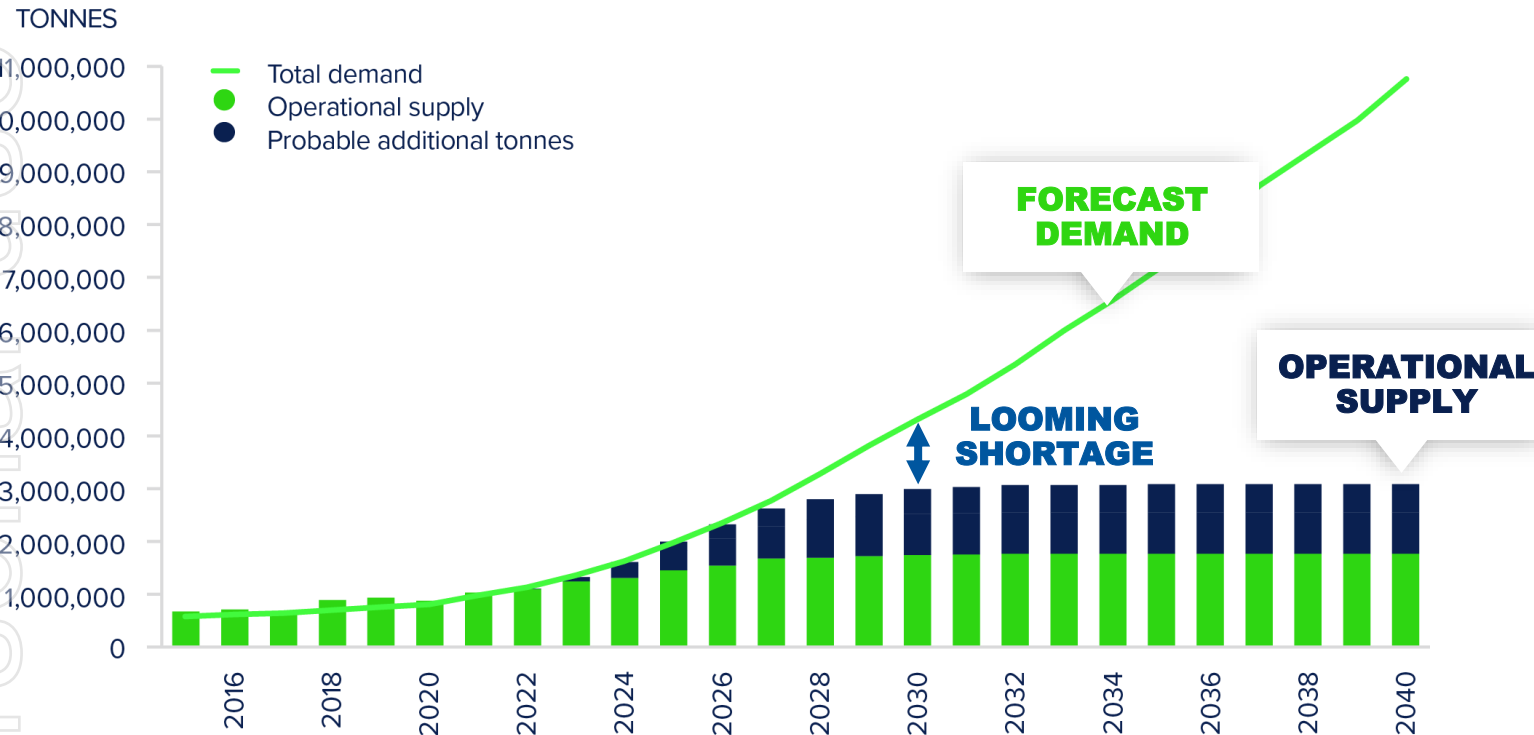
Up to +100 kg

anode material used per EV

Structural shortage looming: demand and supply

EV adoption rates are forecast to increase demand for lithium-ion batteries with BMI forecasting the market to grow at a CAGR of 23.9% over the next 10 years.

- ✓ New markets for EV driving forecast demand above existing and new sources of supply
- ✓ Benchmark Mineral Intelligence forecast that planned capacity and projects in development will not be able to meet forecast demand as soon as 2025



Gigafactories and Raw Materials. Source: Strategy&

1. Strategy& projections based on EV sales figures

Graphite: one of the fastest growing critical minerals

- ✓ Equates an incremental market growth of US\$5.8 billion
- ✓ East Africa will be a key source of new supply for the lithium-ion battery industry

Global natural graphite production



EU Green Deal to support new supply chains in EU



US and EU legislation supports new supply chains

EcoGraf's ESG credentials are aligned to the new climate change policies



EU Green Deal



- **Responsible sourcing**



- **Carbon (CO₂) footprint, performance and durability labelling**



- **Traceability**



- **Recycling and establishing a circular economy**



U.S. DEPARTMENT of STATE

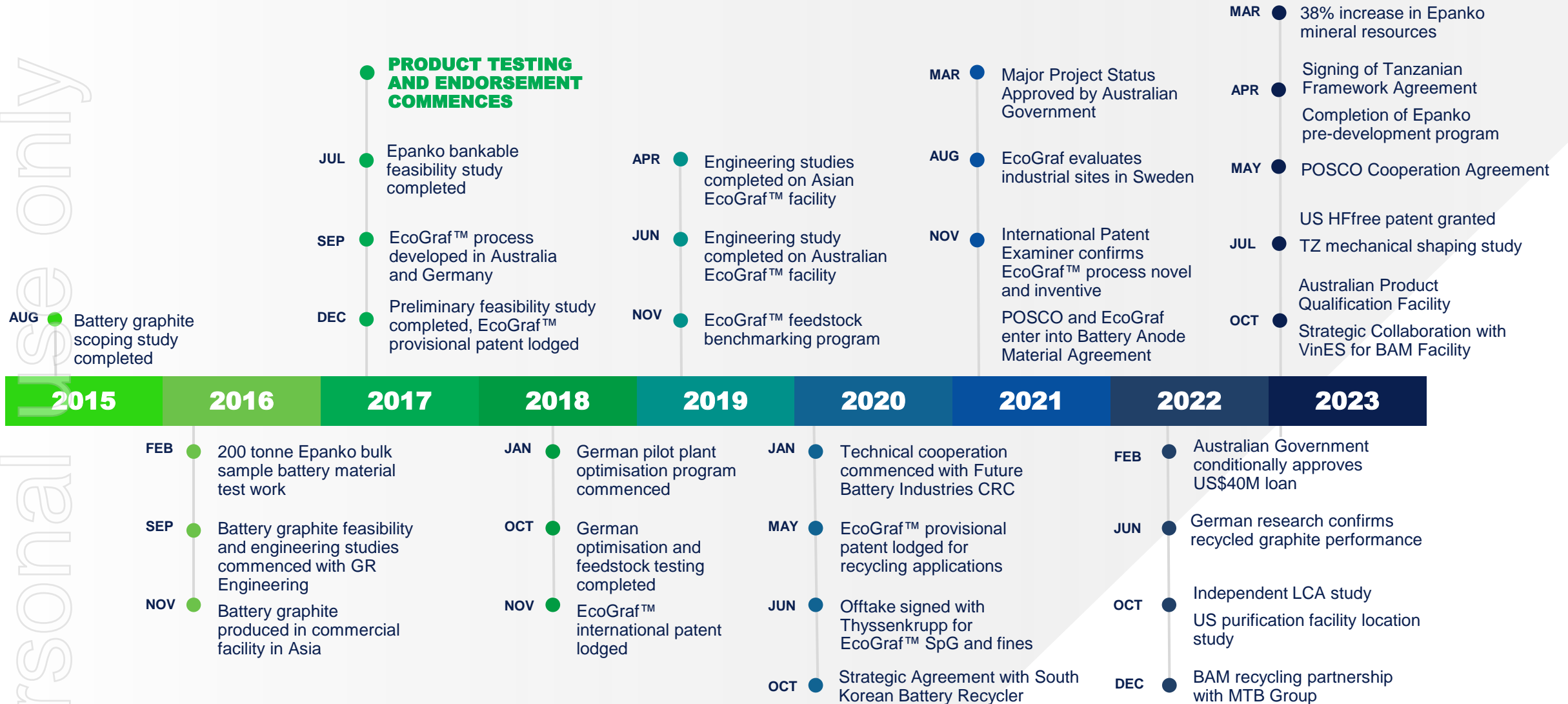
Inflation Reduction Act

- **Credit \$3750:** Critical minerals extracted or processed in the US or free trade partners OR recycled in North America.
- **Credit \$3750:** Battery components must be manufactured or assembled in North America

Minerals Security Partnership

- Critical minerals are produced, processed, and recycled in a manner that supports the ability of countries to realize the full economic development
- Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the United Kingdom, the United States, and the European Commission

Our development history



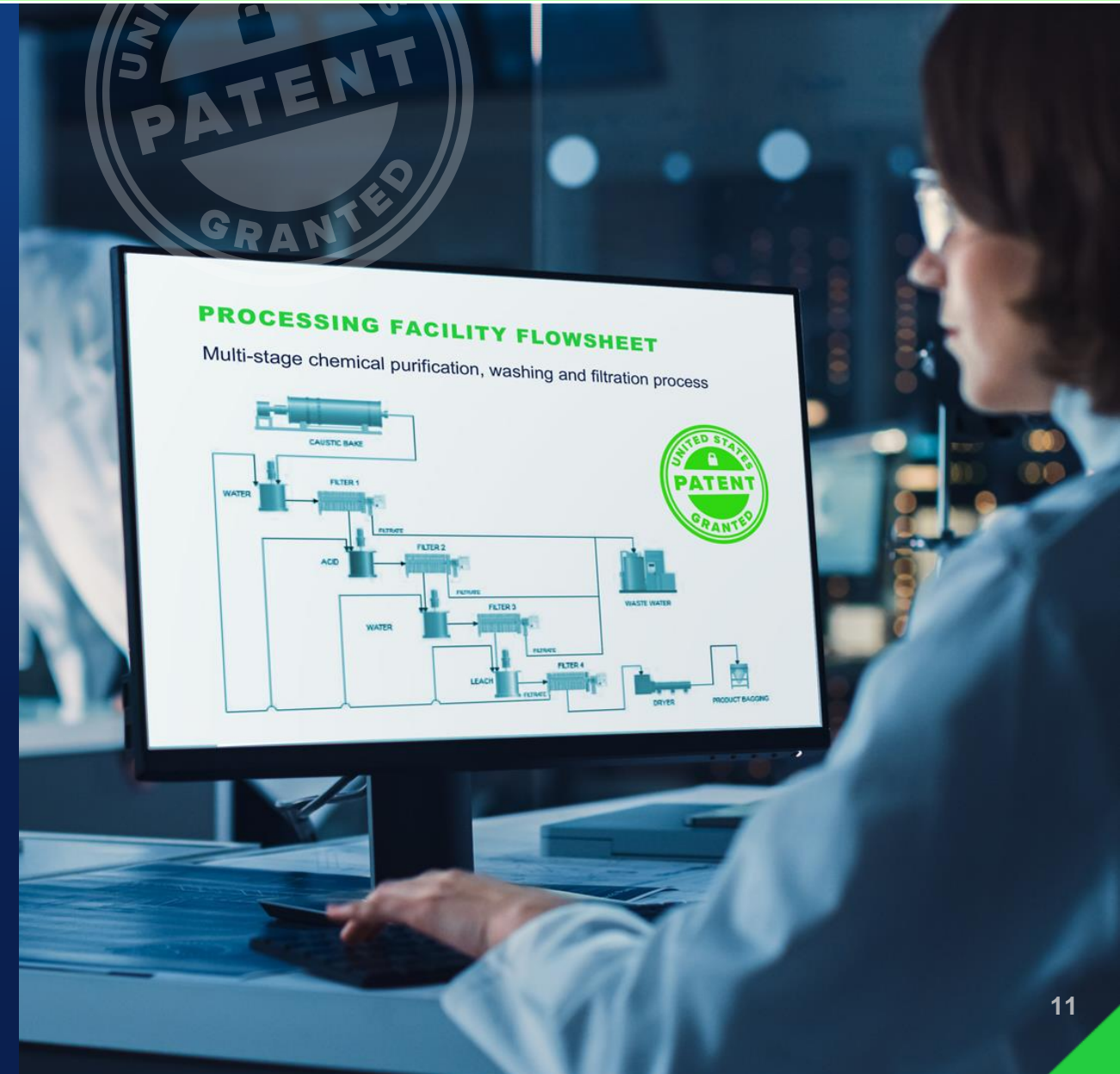
Proprietary processing technology

IP protection - International Examining Authority deems all 25 patent claims novel and inventive

- ✓ Patent granted by US Patent and Trademark Office.
- ✓ Product made (outside of the US) by a patented process (patented in the US), would be an infringement when imported into the US
- ✓ Patent submissions have been lodged by EcoGraf in all key battery markets to protect the IP : EU, Korea, Malaysia, Vietnam, East Africa, South Africa and Australia.
- ✓ Company filed Evidence in Answer lodged with IP Australia to oppositions raised by two parties to the Company's Patent Application 2021261902 "Method of producing purified graphite"
- ✓ Patent covers 'anode recycling'

Proprietary purification process provides cost competitiveness to existing market materials

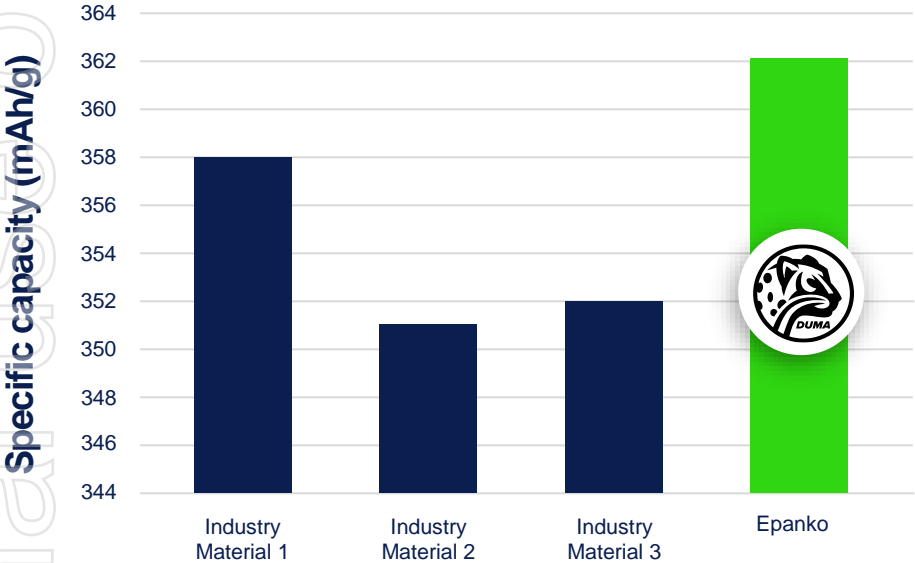
- ✓ High Purity Battery Anode Material - >99.95% achieved
- ✓ >60% yield for maximum efficiency



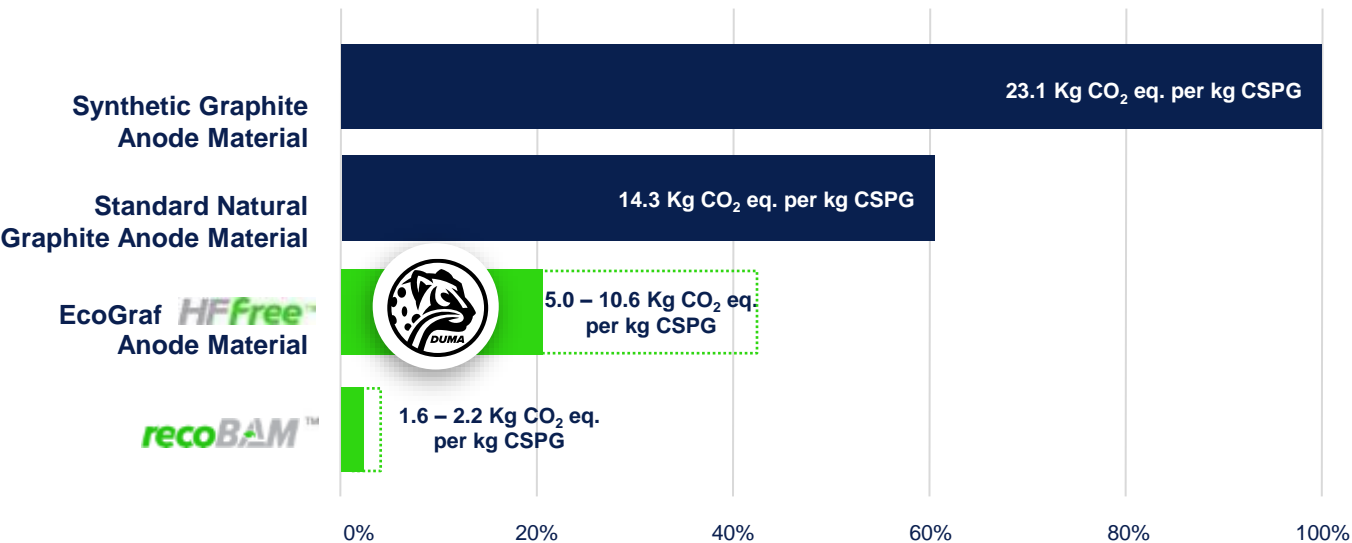
High performance, low emission battery anode material



Superior Energy Storage



Lowest CO₂ footprint



EcoGraf HFfree™ anode material delivers improved battery performance and significantly lower CO₂ footprint



Natural Graphite Projects

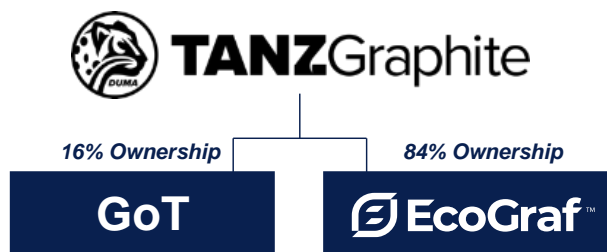
KEY ACTIVITIES

- ✓ Signed framework agreement with Tanzanian Government for Epanko
- ✓ Confirming expansion options and evaluating benefits of in-country micronizing and spheronizing to optimize global supply chain
- ✓ Financing and development

Exceptional geology provides superior performance

EPANKO

- Development ready - project defined and de-risked, commencing at 73,000tpa with potential to significantly expand production to meet market demand¹
- Evaluation of multi-stage expansion of Epanko in progress, targeting 300,000tpa of production
- 2017 bank appointed Independent Engineer's Review completed by SRK Consulting.
- Sector leading ESG credentials with Equator Principles development model



MERELANI-ARUSHA

- Supportive Government with plans for additional development of the Arusha mining sector

Two advanced, high quality, long life Tanzanian natural graphite projects provides supply diversity and scale-up optionality



Attractive financial returns for Epanko

Platform For Potential High Value Future Expansion

Physicals	Unit	2023 Update
NPV (10%, pre tax)	US\$M	348
IRR (pre tax)	%	36
Payback Period (pre tax)	Years	4.25
Pre Production Capital	US\$M	134
EBITDA	US\$M	79

Source: Company announcement dated 28 April 2023

Notes: Pre-production capital is in real terms, unescalated.

NPV and EBITDA are nominal terms. EBITDA is average first 10 years of production post ramp up.

Key Production Metrics

Physicals	Unit	2023 Update
Initial years	Years	18
Strip Ratio	Waste : Ore	0.27
Annual Plant Feed	Ktpa	850
Average Head Grade	TCG %	8.33
Annual Concentrate Production	Ktpa	73

Source: Company announcement dated 28 April 2023

Notes: Annual Plant Feed, Annual Concentrate Production and Product Specifications are for the first 10 years of production while processing oxide ore.

Updated operating costs for Epanko

US\$/t Concentrate	US\$M
Mining Cost	112
Process Plant Cost	211
G&A Cost	56
Total Site Cash Cost to Mine Gate	379
Transport Mine to Port (FOB)	122
Dar es Salaam G&A	7
C1 Cost FOB Dar es Salaam	508

Pre-Development Results

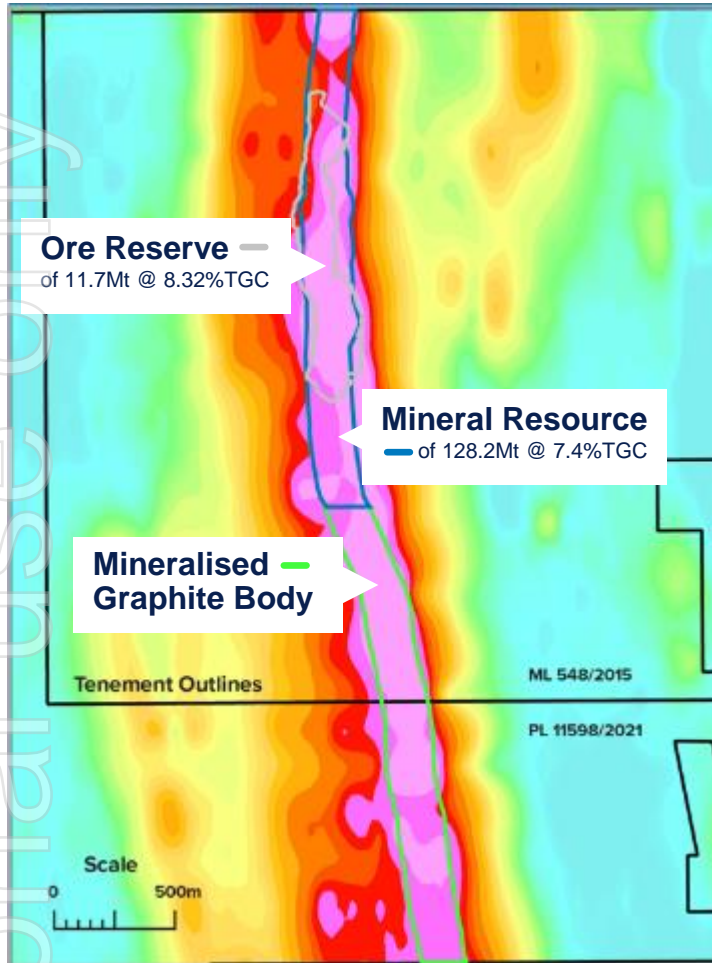
- Reduction in Drill & Blast requirements for oxide material. 80% Free Dig.
- Mine schedule run on 850,000t/year, producing 73,000t concentrate whilst on Oxide ore
- Processing costs updated
 - Optimised reagent consumption
 - Lower oxide crushing and primary milling costs
- Reduced Power costs with grid connection



Source: Company announcement 28 April 2023

Notes : Operating costs are in real terms, Other sustaining costs includes deferred and sustaining capital over the LOM

Duma TanzGraphite natural graphite project



JORC classification	Tonnage (Mt)	Grade (%TGC)	Contained graphite (Mt)
Epanko Mineral Resource estimate >5.5% TGC ¹			
Total (Meas, Ind, Inf)	128.2	7.4	9.5
Epanko Ore Reserve ²			
Proven	5.7	8.4	0.5
Probable	5.9	8.2	0.5
Total	11.7	8.3	1.0

1. Refer to ASX announcement "Epanko Mineral Resource Upgrade", March 2023
2. Refer to ASX announcement "Updated Bankable Feasibility Study", 21 June 2017

Epanko 38% Resource increase supports future expansion to meet growing battery demand with high carbon concentrates

- ✓ Large resource base
- ✓ High carbon concentrates grade 96-98%C
- ✓ Low strip ratios < 0.3:1
- ✓ High Processing Recoveries
- ✓ Exceptional Geology
- ✓ Superior Performance

Epanko's key attribute is its high carbon concentrates through simple flotation requiring less downstream processing due to lower impurities

EcoGraf confirms that it is not aware of any new information or data that materially affects the information included in this presentation. All material assumptions and technical parameters underpinning the estimates in those releases continue to apply and have not materially changed.



HF free™ Battery Anode Material

Key activities

- ✓ Development of product qualification facility in Australia
- ✓ Evaluate BAM facility in Vietnam with VinES and VinFast
- ✓ Formalise strategic partnerships for commercial scale production
- ✓ Evaluate potential development site locations in North America and Europe
- ✓ Advance coatings capability

Global expansion driven by EV demand and legislation to encourage new and more sustainable supply chains

Increased requirement for new supply of battery anode materials following launch of US Mineral Security Partnership (June 2022) and Inflation Reduction Act (August 2022)

- Australian Government grant of A\$2.9m towards a battery anode material product qualification facility
- Product Qualification facility provides product samples and engineering design for single-phase commercial scale development
- Australian Government support for commercial scale development through Major Project status, Project of State Significance status and conditional approval of US\$40m debt financing package
- Strategy to develop multiple production facilities in key global battery markets
- Co-operation Agreement signed with POSCO May 2023
- Signed agreement with VinES to evaluate BAM facility in Vietnam
- Partnership opportunities under discussion with European, North American and Asian battery market participants

The new state-of-the-art processing facilities will manufacture BAM for the global lithium-ion battery markets



EcoGraf's vision is to be a leader in the supply of high performance, sustainably produced battery anode material





EcoGraf Anode Material Recycling

KEY ACTIVITIES

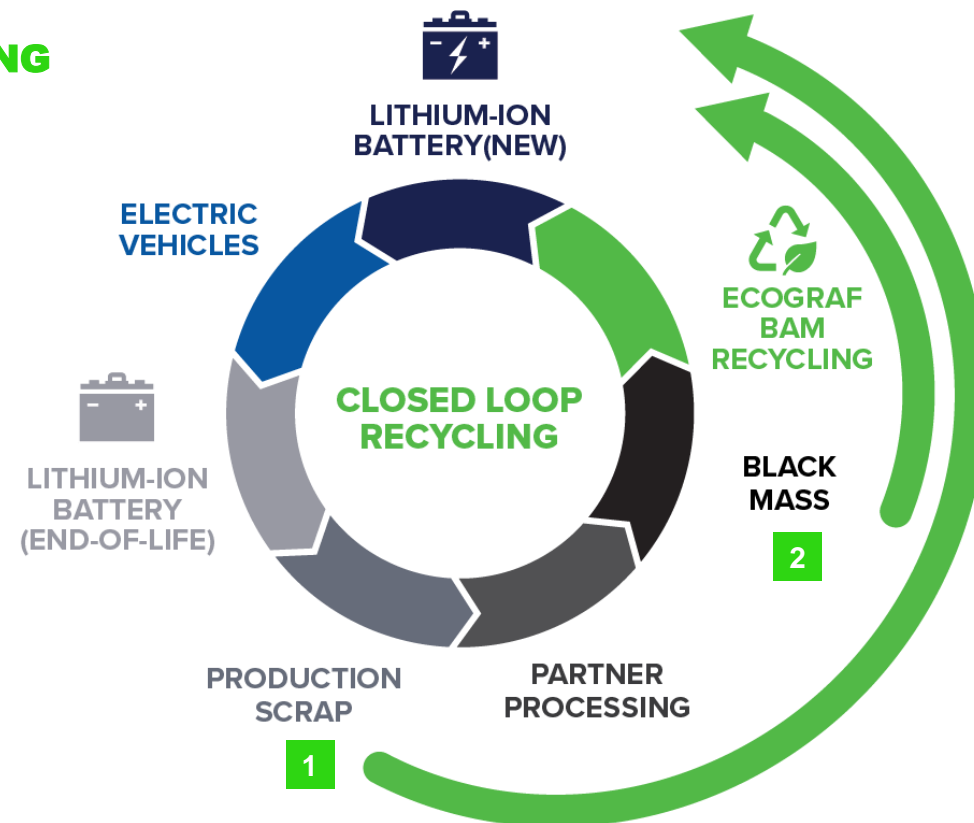
Developing 'Proof of Concept' based on positive results for Production Anode Scrap

Ongoing testing with EV and battery manufacturers

Establish partnerships for pilot plant for product development and qualification processes for recycling and downcycling into industrial markets

ECOGRAF HFFREE™ PURIFICATION SUPPORTS CLOSED LOOP RECYCLING

- **Objective:** Recover battery anode materials to provide customers lower battery costs and CO₂ emissions:
 - 1 Production Anode Scrap:** Priority
 - 2 Leached Black Mass:** Develop under long term partnership
- Increasing efforts given recent EU + US legislation for battery recycling



CURRENT PARTNERS

SungEel HiTech

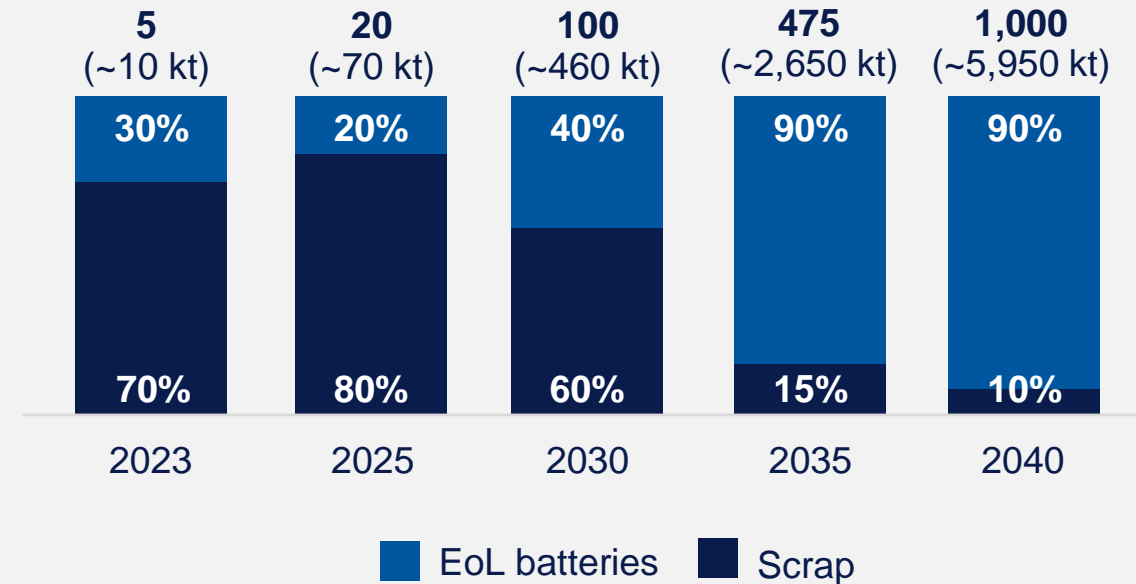


With POSCO

Europe – initially dominated by production anode scrap

- Between 2023 and 2030, gigafactory scrap drives the market
- With scrap rates reducing significantly, it will comprise ~10% of the market in 2040
- ~5,950 kt of end-of-life batteries in 2040 drive the market

Distribution of recyclable material (in GWh, kt)

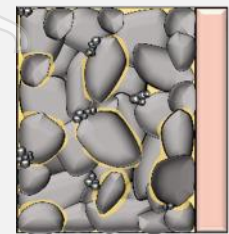


EcoGraf solution for anode scrap recycling



PARTNERS

Anode Electrode Scrap



Graphite + Binders

Cu Foil

Delamination



Sieving + pre-treatment

Copper Product

Graphite Product

PURIFICATION



HF free

Purification

recoBAM

Recycled Anode Material



RAW MATERIALS



TANZGraphite



Natural Flake Graphite

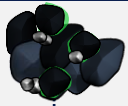
hdBAM

Natural Spheronised Graphite



BATTERY MANUFACTURERS

Blending



Anode Manufacturing



Purification results for anode recycling

Positive results achieved for a range of product samples and customers under CA/NDA's

Results support developing
piloting plant for Production
Anode Electrode Scrap

Carbon Grade after
EcoGraf HFree™
Purification

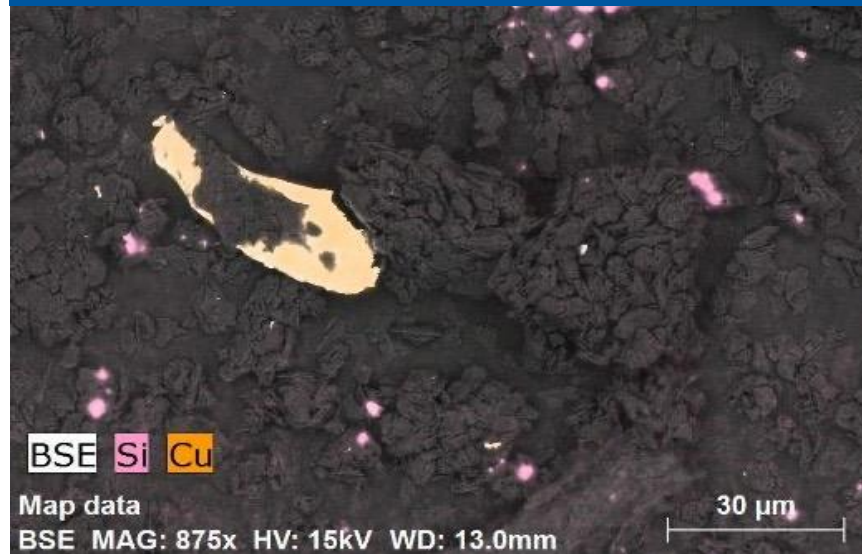
Company	Product	Carbon Grade	High Purity Industrial Market	Li-ion Battery Anode Market (>99.95)
Recycler	End of Life	99.80%	●	
EV	Production Anode Scrap	99.97%		●
EV	Production Anode Scrap	99.92%	●	
Battery	Production Anode Scrap	99.98%		●
Recycler	End of Life	99.50%	●	
Recycler	Production Anode Scrap	99.98%		●
Chemical	End of Life	99.17%	●	
Research	End of Life	99.20%	●	
Recycler	Production Anode Scrap	99.77%	●	
Recycler	End of Life	99.80%	●	

1. Refer to ASX announcement "Lithium-ion Battery Anode Recycling Pilot Plant", 16 August 2021

2. See Appendix C: Anode recycling process detail

Example of successful EcoGraf purification: anode scrap

ANODE SCRAP MATERIAL



→ 98.49% C



*HF*free™

PROCESS

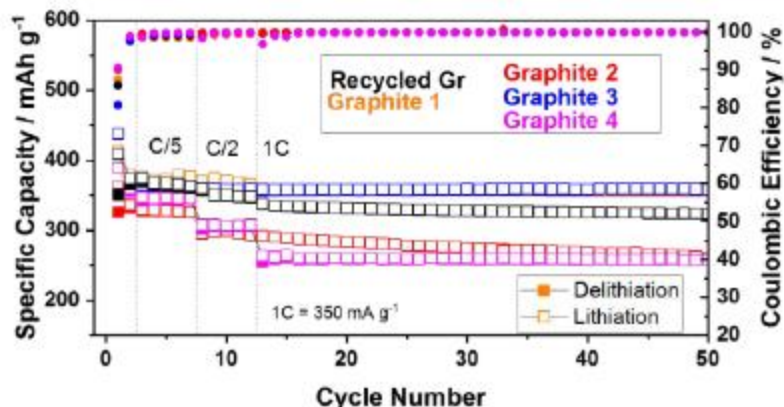


→ 99.95% C

HELMHOLTZ - INSTITUTE : EIT award winning German research program confirms RecoBAM™ matches the electrochemical performance of newly manufactured commercial battery graphite



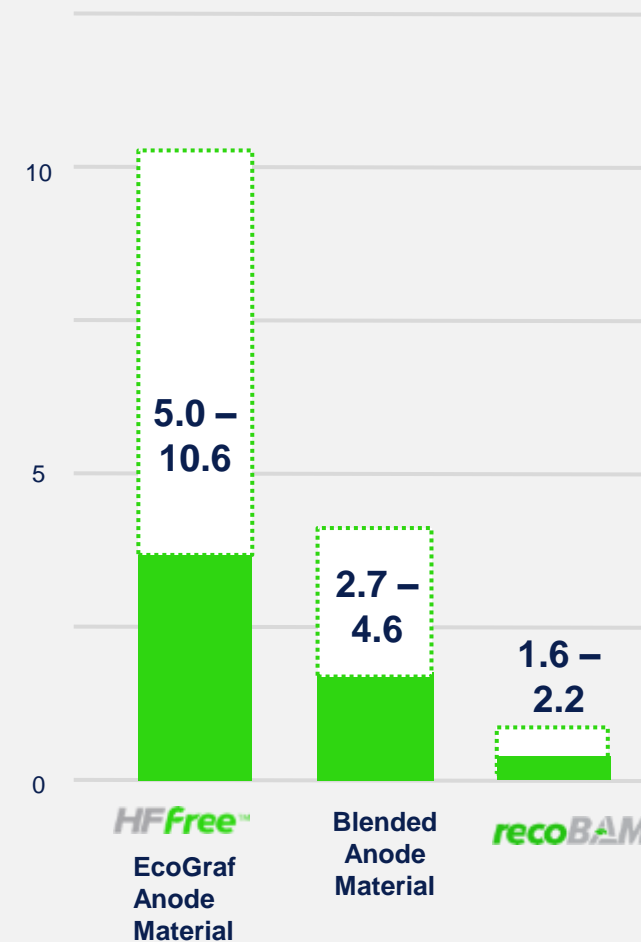
Blending (2:1)
significantly
lowers the CO₂



Electrode contains: **95% recycled graphite** (+3% SBR, 1% CMC, 1% C45)

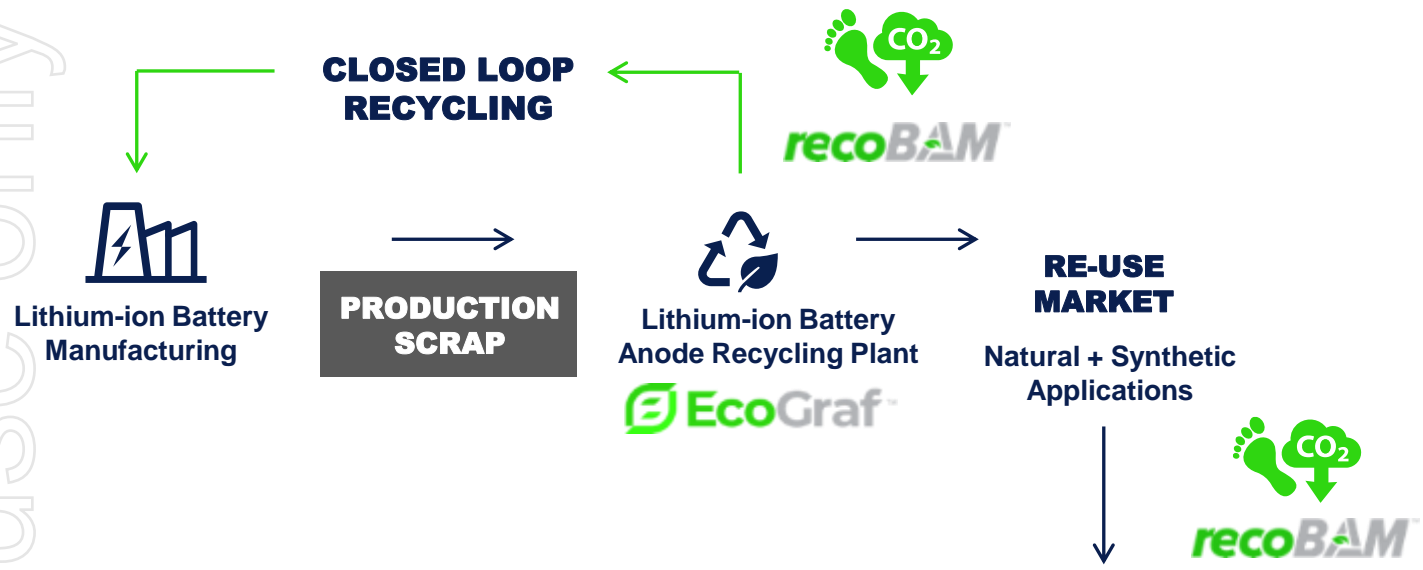
Olutogun *et al.* 2023

Global Warming Potential
Kg CO₂ eq. per kg CSPG



Pilot plant required for anode product qualification

RECYCLING ANODE MATERIAL SUPPORTS THE CIRCULAR ECONOMY



Natural	Synthetic	High Purity Industrial Markets
✓	✓	Alkaline and zinc carbon batteries
✓	-	Friction materials
✓	-	Refractories
-	✓	Carbon additives

FOCUS PRODUCT QUALIFICATION IN HIGH VALUE MARKETS



Near zero carbon footprint for recycled anode

Supported by long standing partnerships



Australian and German Government Support



Memberships and Affiliations



Integrated battery anode material business supporting the global transition to clean energy and e-mobility

- ✓ Over 8 years of technical work programs and extensive product qualification with a range of potential customers
- ✓ Bank due diligence processes undertaken with rigorous reviews of technical and engineering studies
- ✓ Product sales and collaboration with market leading counterparties
- ✓ Production levels matched to market demand with engineering designs to allow rapid expansion
- ✓ Sector leading ESG Credentials
- ✓ Downstream processing strategy centered on producing purified spherical graphite for a market forecast to grow 15x over the next decade
- ✓ Diversified battery anode materials business positioned to support recent EU legislative changes on sustainability and meet US IRA
- ✓ Lithium-ion battery recycling business provides the opportunity to lower battery production costs and reduce carbon emissions from EV manufacturing
- ✓ Anode recycling provides a unique eco-friendly product
- ✓ Strategy to expand production and regionalise additional facilities in Europe, Asia and the US to support increasing demand
- ✓ Planning initiated on purification plant in Europe
- ✓ On-going research and innovation to identify further value adding opportunities using the EcoGraf™ purification process
- ✓ US Patent and Patent submissions providing international protection in US, ASIA & EU

ersonal use only

The future is electric

ASX: EGR FSE: FMK OTCQX: ECGFF

 **EcoGraf™**



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