

11 JULY 2023

### **ASX** ANNOUNCEMENT

**ASX: EGR** 

### **Corporate Presentation**

Diversified battery anode materials company **EcoGraf Limited** (**EcoGraf** or the **Company**) (ASX: **EGR**; FSE:**FMK**; OTCQX: **ECGFF**) is pleased to release a copy of the latest corporate presentation which is preceded by a letter from the Managing Director.

**Dear Fellow Shareholders** 

Over the last few months the Company has made significant progress to advance our vertically integrated HF*free* Battery Anode Materials (BAM) business to provide an alternative supply to major battery markets in the EU, North America and Asia.

In May, we signed a Cooperation Agreement with industrial company, POSCO International Corporation. POSCO wishes to secure reliable BAM for its end consumer, POSCO FUTURE M, a global leading manufacturer of natural graphite anodes for lithium-ion batteries in electric vehicles. The Cooperation Agreement recognises the demand for EcoGraf's BAM with discussions in progress with POSCO and other battery market participants regarding long-term supply agreements.

The signing of the agreement with POSCO is a significant endorsement of the Company's progress and another positive step towards the successful development of Epanko, where the recently completed a Pre-Development Program which delivered a 22% increase in planned initial production to 73,000tpa and an attractive pre-tax ungeared NPV<sub>10</sub> of US\$348m (A\$511m).<sup>1</sup> There is growing recognition within the battery market of a looming natural graphite shortfall and in response, our team is evaluating options for a multi-stage expansion of Epanko, targeting circa 300,000tpa of production.

It was pleasing to announce the 'Notice of Allowance' received from the US Patent and Trademark Office last month. The US Patent provides protection for our processing technology which has significant strategic value, as any products made (outside of the US) by a patented process (patented in the US), would be an infringement when imported into the US. We have also lodged Patent submissions in all key battery markets, including the EU, Korea, Malaysia, Vietnam, East Africa, South Africa and Australia.

Supporting the positive outlook for the Company's graphite project developments are the recent announcements by the EU Commission and the US Government on policies and legislation to support new battery mineral supply chains. The biggest impact arises from release of US Department of Treasury IRA guidance in March on new clean vehicle EV tax credit criteria that will shape future critical mineral supply chains into the US.

planned initial production targeting circa production us\$348m attractive pre-tax ungeared NPV<sub>10</sub> (A\$511m) CO<sup>2</sup> emissions with mechanical shaping in TZ

<sup>1</sup> ASX announcement dated 28 April 2023

EcoGraf Limited 18 Richardson Street West Perth WA 6005

ABN: 15 117 330 757 E: info@ecograf.com.au www.ecograf.com.au Managing Director Andrew Spinks T: +61 8 6424 9002 These new policies provide opportunities for EcoGraf to supply products for the high growth North American and European battery markets much sooner than previously expected but require a greater focus on ensuring qualifying supply chains for these regions. As a result of these positive developments, anode and battery manufacturers are accelerating plans to establish additional capacity to comply with this legislation and in turn EcoGraf is adapting is development strategy to support their demand requirements.

This resulted in a change to our plans for the initial 5,000tpa commercial demonstration BAM Facility in Western Australia, replacing it with a Product Qualification Facility which is expected to be commissioned early next year, while partnering discussions continue under the new legislation with prospective customers on development of a 20-25,000tpa commercial scale BAM Facility.

We've been fortunate to attract on-going support from both State and Commonwealth Governments to facilitate commercialisation of our HF*free* purification processing technology, which positions us strongly for the next phase of development. In May this year we were awarded a \$2.9m Commonwealth Government grant under the Critical Minerals Development Program for our Product Qualification Facility and have conditional approval from Export Finance Australia for an expansion loan of up to US\$40m for our proposed commercial scale Western Australian BAM Facility.

As part of optimising our graphite supply chain to support both industrial and battery markets, we believe there are benefits to undertaking mechanical shaping within an Export Processing Zone in Tanzania and our team is currently completing an evaluation of potential locations. Independent Life Cycle Assessment studies confirm there is a ~20% reduction in  $CO_2$  emissions during the shaping process by using Tanzania's cost-competitive hydro-energy and the country's location provides an efficient logistics export-hub for global graphite markets.

There are very few companies who are evaluating anode recycling, and we are excited by the results achieved. We look forward to advancing this activity as recent results provide significant evidence that anode materials can be recycled which has the impact to lower the cost and reduce the carbon footprint of battery manufacturing.

The next few months will be a period of significant activity for our Company and on behalf of the board and our management team, we are looking forward to realising the significant value of our vertically integrated HF*free* BAM business.

Following this letter, is our latest corporate presentation summarising key aspects of our business.

The future remains electric!

Yours sincerely,

Andrew Spinks Managing Director EcoGraf Limited







### **Corporate Presentation**

Vertically Integrated Anode Materials for the Lithium-ion Battery Market July 2023

ASX: EGR FSE: FMK OTCQX: ECGFF



#### **Securities Disclaimer**

This presentation is for informational purposes only and does not constitute an offer to sell, or solicit to purchase, any securities. Such offer can be made only through proper subscription documentation and only to investors meeting strict suitability requirements. Any failure to comply with these restrictions may constitute a violation of applicable securities laws.

#### **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 in this announcement relating to the Bankable Feasibility Study conducted on the Epanko Graphite Project, including production targets and forecast financial information derived from the production targets, included in this announcement is extracted from an ASX announcement dated 21 June 2017 "Updated Bankable Feasibility Study" 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 announcement released on 21 June 2017 continue to apply and have not materially changed.

The production targets referred to in this announcement are based on 45% Measured Resources, 38% Indicated Resources and 17% Inferred Resources for the 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 or that the 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 David Drabble, who is a Member of the Australasian Institute of Mining and Metallurgy included in a list promulgated by the ASX from time to time. David Drabble 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". David Drabble 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.

**EcoGraf** 

# Vertically Integrated Anode Materials for the Lithium-ion Battery Market



EcoGraf

| Market capitalisation <sup>2</sup><br>A\$78.8M | Cash balance <sup>1</sup><br>at 31 March 2023<br>A\$39.5M        | Shares on issue <sup>2</sup><br>455M  |
|--|--|---|
| Share Price <sup>2</sup>                       | Stock Exchange Listings  | Major shareholders <sup>2</sup>   |
| <b>A\$0.17</b>                                 | ASX: EGR<br>Australian Securities<br>Exchange                    | Conter Top 20   |
| \$0.20<br>0.175                                | <b>FSE: FMK</b><br>Frankfurt Stock Exchange<br>(Börse Frankfurt) | 37.7% Board and management   50% First Sentier Investors   Other shareholders |
| \$0.15<br>May Jun Jul                          | OTCQX: ECGFF<br>OTCQX Stock Exchange                             | 4.8%<br>7.5%  |



#### **Board & Executive Team**

Andrew Spinks

Managing Director

Andrew is a geologist

professional experience

Africa across a range of

He has held a range of

the exploration and

diverse roles, managing

development of projects.

in Australia, Asia and

with over 25 years'

commodities.



Robert Pett Non-Executive Chair

Robert is a mineral economist with over 30 years' experience working in exploration and mining in Australia and Africa. He has overseen the successful exploration. development. operation and financing of projects globally.



John Conidi Non-Executive Director

John is a certified Practicing Accountant with over 20 years' experience developing, acquiring and managing businesses in the technology and healthcare sectors.



Keith Jones Non-Executive Director

Keith is a Chartered Accountant with 40 years experience in the financial markets and resource industry in Australia. He has worked across all levels in the corporate arena and acted as expert and advisor for numerous resource companies.



Karen Logan Joint Company Secretary

Karen is a Chartered Secretary with extensive compliance, capital raising, merger and acquisition. IPO and backdoor listing experience in a diverse range of industries including resources, technology, media, health care and life science.

**Dale Harris** Chief Operating Officer

Dale Harris is an accomplished resource's executive with over 30 years' experience across multiple commodities including almost 20 vears with Rio Tinto as Chief Operating Officer and several General Manager roles.



**Howard Rae** Chief Financial Officer

Howard is a chartered Accountant with over 20 years' experience acquiring developing, financing and operating a range of businesses mining companies across a range of in Australia. Canada. commodities in Africa Asia, Africa and Europe. and overseas.





Chrisjan Van Wyk Epanko Snr Project Manager

Chrisjan is a project manager with over 28 years' experience in the mining and minerals industry and proven expertise leading the delivery of large EPCM/EPC development projects.

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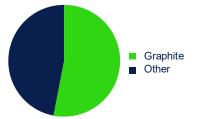
### High growth lithium-ion battery market



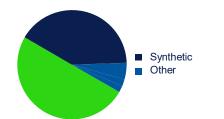
Demand for LiB forecast to grow +30% CAGR over next 10 years



World Bank reports graphite is the key raw material to decarbonise the economy - 53.8%



Natural graphite to increase from 35% to over 50% in anode by 2030





### **Recent achievements**



#### ACHIEVEMENTS: LAST 3 MONTHS

US Patent Allowed

POSCO Signs Cooperation Agreement

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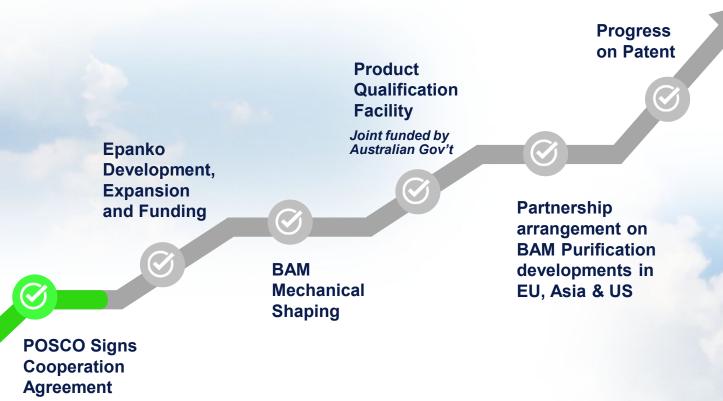
 $\checkmark$ 

- Australian Govt \$2.9m Grant for Product Qualification Facility
- Epanko Pre-Development
  Program with updated CAPEX
  and OPEX
- $\bigotimes$
- 38% Increase in Mineral Resource for Epanko
- Signing Framework Agreement with Tanzanian Government



 $\checkmark$ 

Team expanded with Chemical Processing Expert Appointed to Lead BAM Development



**Shareholder Value Proposition** 

#### **PRICE CATALYSTS - NEWSFLOW**

### East African logistics hub supporting BAM supply chain



**EcoGraf Vertically Integrated Battery Anode Materials Business** 

2023 Global Legislation



EcoGraf

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



EU Green Deal to support new supply chains in EU

### **Our business**

### EcoGraf<sup>®</sup>

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### Vertically integrated battery anode materials business positioned for lithium-ion battery market

|                       | EXTRACT  | UPGRADE   |  |   |
|-----------------------|--|---|--|---|
|                       | Mine   | Mechanical Shaping                                | Purification   | Anode Recycling                                   |
| Asset                 | Epanko Graphite Project<br>Merelani Graphite Project | Tanzania mechanical shaping facility              | Purification IP and technology   | Purification IP, technology<br>and blending       |
| Products              | 96%-98%<br>Graphite Concentrate                      | 96%-98%<br>Micronised and<br>Spheronised Graphite | 99.95%<br>Purified Micronised and<br>Spheronised Graphite                  | 99.95%><br>Battery Anode Material                 |
| Intellectual Property | Operating knowledge                                  | Trade secret and operating knowledge              | Global Patent Pending<br>Trade names<br>• hdBAM,<br>• SuperBAM<br>• EcoCEM | Global Patent Pending<br>Trade names<br>• RecoBAM |
| Initial Capacity      | 73ktpa   | 25ktpa  | Product Qualification<br>Facility (PQF)<br>> 10kg/hr                       | Pilot Plant                                       |
| Target Expansion      | 300ktpa  | -   | 25ktpa   | -   |

### US and EU legislation supports new supply chains

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





#### 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

EcoGraf

- 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

### Tanzania is ready, stable and open for investment



 New President bringing renewed domestic political and social stability

EcoGraf<sup>®</sup>

- Targeting mining to be 10% of GDP by 2025
- Attracting investment from majors inc. BHP and Shell
- Major infrastructure projects bringing power stability and transport improvements



*"We have everything when we talk about green energy..."* 

 Tanzanian President, Samia Suluhu Hassan, Speaking at the World Economic Forum 2023



Agreed to enter into definitive arrangements for the sale and purchase of EcoGraf's battery anode material products for an initial term of ten (10) years from the commencement of production.

| Terms:       | Battery Anode Material          |
|--------------|---------------------------------|
| Year 1 :     | 7,500 – 12,500 tonnes           |
| Years 2-5 :  | 12,500 – 20,000 tonnes per year |
| Years 6-10 : | 20,000 – 40,000 tonnes per year |



#### Agreed to collaborate in relation to the following key areas:

- Development and expansion of the Epanko Graphite Mine.
- Development of the Merelani-Arusha Graphite Project.
- Development of battery anode material micronizing and spheronizing facilities to supply unpurified spherical graphite for purification.
- Development of by-product fines, including EcoGraf's GreenRECARB, an induction and electric arc furnace recarburizer produced from the micronizing and spheronizing process.
- Locating EcoGraf<sup>™</sup> battery anode material processing facilities near planned POSCO FUTURE M anode production developments to ensure logistical and operational efficiencies.
- Technical collaboration on customized purification technologies to de-risk the short-term supply chain risk in South Korea, Europe and North America.
- EcoGraf HF*Free*<sup>™</sup> anode recycling capability.
- Engaging POSCO Intl engineering, construction, financing and investment capabilities.

### Epanko natural flake graphite project





### 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 demand<sup>1</sup>
- 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. SRK review in progress
- 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





### 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          |

### **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<br>Production | Ktpa        | 73          |

Source: Company announcement dated 28 April 2023

Notes: Pre-production capital is in real terms, unescalated. NPV and EPITDA are nominal terms. EBITDA is average first 10 years of production post ramp up. 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<br>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

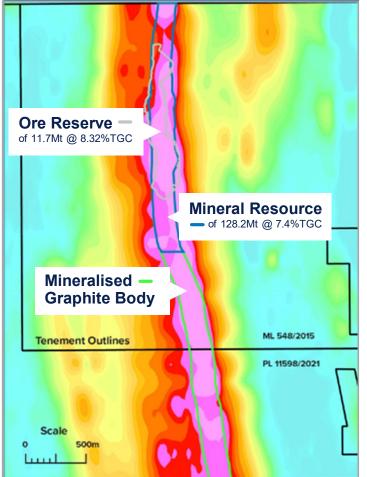


Source: Company announcement 28 April 2023

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<br>(Mt) | Grade<br>(%TGC) | Contained<br>graphite<br>(Mt) |  |
|---|-----------------|-----------------|-------------------------------|--|
| Epanko Mineral Resource estimate >5.5% TGC1 |                 |                 |                               |  |
| Total (Meas, Ind, Inf)                      | 128.2           | 7.4             | 9.5                           |  |
| Epanko Ore Reserve <sup>2</sup>             |                 |                 |                               |  |
| Proven                                      | 5.7             | 8.4             | 0.5                           |  |
| Probable                                    | 5.9             | 8.2             | 0.5                           |  |
|   |                 |                 |                               |  |

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

## 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.

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

Service Large resource base

- High carbon concentrates grade 96-98%C
- Solution Strip Strip
- High Processing Recoveries 96%
- S Exceptional Geology
- Superior Performance



### Significant potential to increase MRE along strike

| Key Mineral Characters         | Epanko                |
|--------------------------------|-----------------------|
| Total MRE                      | 128.2 Mt              |
| Mineral Resource - Grade       | 7.4% TGC              |
| Mineral Resource - Cut-off     | 5.5% TGC              |
| CP Sign-off                    | CSA Global            |
| Density Factor                 | O-1.86/T-2.23/F-2.8   |
| Avg Thickness (m)              | 200m                  |
| Mineral Resource Strike Length | 2.15km                |
| MRE Tonnes per Linear Metre    | 60,000                |
| Undrilled Strike (No MRE)      | 7.35 km               |
| Strip Ratio                    | 0.27:1 (Stage 1)      |
| Distance to Dar Port           | 450km (+ rail option) |



1. Refer to ASX announcement "Epanko Mineral Resource Upgrade", March 2023

2. Refer to ASX announcement "Updated Bankable Feasibility Study", 21 June 2017

### **Proven flowsheet design**



- Process flowsheet based on established industry techniques and equipment
- Detailed process testwork completed:
  - Independent testing conducted
  - Rigorous testing of flowsheet dynamics to produce desirable product properties for both industrial uses and high growth lithium-ion battery markets

| Key operating parameters  |       |        |
|---------------------------|-------|--------|
| Average feed grade        | TGC % | 8.3    |
| Graphite recovery         | %     | 94.7   |
| Average production grade  | %     | 96     |
| Average annual production | tpa   | 73,000 |

|                | Average | e flake distributior | 1            |              |
|----------------|---------|----------------------|--------------|--------------|
| Classification | Micron  | Mesh                 | Distribution | Epanko Grade |
| Jumbo          | +300    | +50                  | 20.34%       | 97.5%        |
| Large          | +180    | +80                  | 31.18%       | 94.5%        |
| Medium         | +150    | -100                 | 13.14%       | 97.4%        |
| Fine           | -150    | -100                 | 35.36%       | 95.9%        |

1. Refer to ASX announcement "Epanko Pre-Development Program Delivers Outstanding Results", 28 April 2023 2. DFS dated 2017

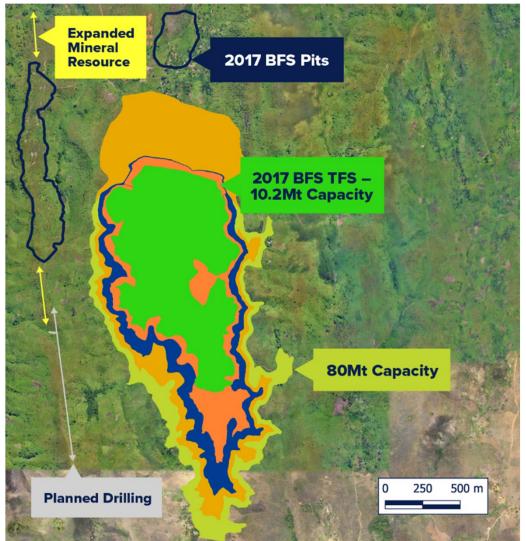


### Tails storage facility expansion capacity



Study confirmed 8-fold increase to +80Mt capacity in tailings storage facility (TSF)

- Significant infrastructure benefit.
- Knight Piésold completed assessment of the expansion capacity for tailings storage in the Epanko valley.
- Study identified multiple options to significantly expand the capacity of the existing tailings storage facility as production ramps-up, delivering flexibility and reduced expansion costs.



### **Tanzania investment in infrastructure**

#### **SUPPORTING THE PROJECT**

- 80km of new paved highway with new bridges
- Significant investment in power infrastructure with new 220KV substation at Ifakara



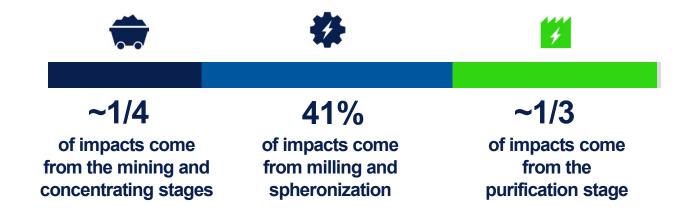
**Eco**Graf

### **BAM** mechanical shaping facility in Tanzania



Location study incorporates the mechanical shaping testwork, engineering and design work programs completed by EcoGraf's battery anode materials team.

- Optimise supply chain logistics efficiencies
- Meetings held with the Tanzanian Government and its key agencies, to consider locations
- Scalable development to produce un-purified spherical graphite
- Independent Life Cycle Assessment (LCA) studies conducted for EcoGraf confirm electricity accounts for 45-55% of CO<sub>2</sub> emissions associated with its battery anode material products



#### MECHANICAL SHAPING FACILITY

EcoGraf<sup>®</sup>

### **Corporate social responsibility**



ESG credentials with Equator Principles development model, satisfying

- International Finance Corporation Performance Standards
- World Bank Group Environmental, Health & Safety Guidelines







#### **Key activities**

- Develop product qualification facility
- 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
- 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
- Partnership opportunities under discussion with European, North American and Asian battery market participants
- Co-operation Agreement signed with POSCO May 2023

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

### **Proprietary processing technology**

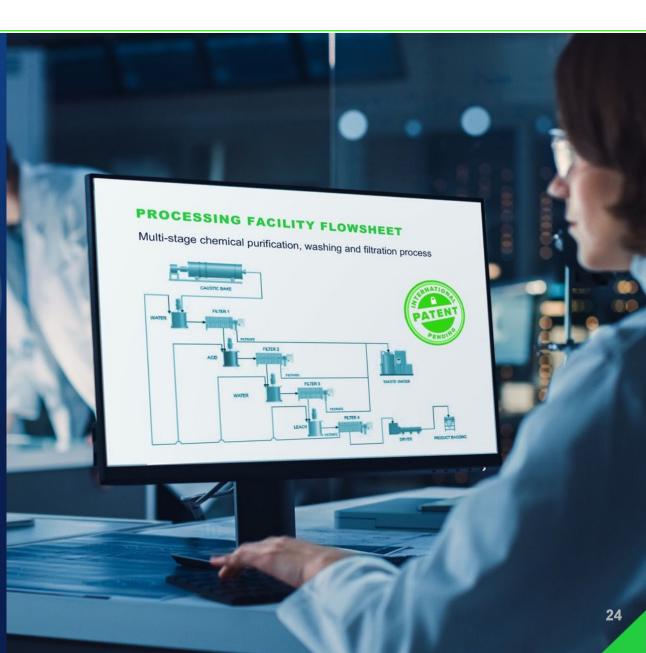


### Patent protection - International Examining Authority deems all 25 patent claims novel and inventive

- 'Notice of Allowance' received from 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

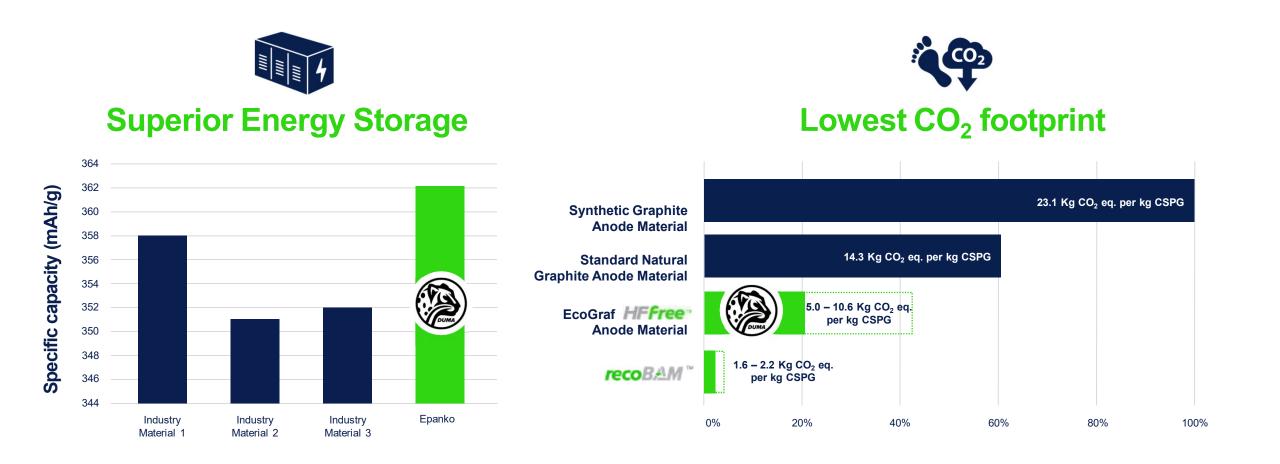
- High Purity Battery Anode Material >99.95% achieved
- 2 >60% yield for maximum efficiency





### Proprietary processing technology and product development for high purity products





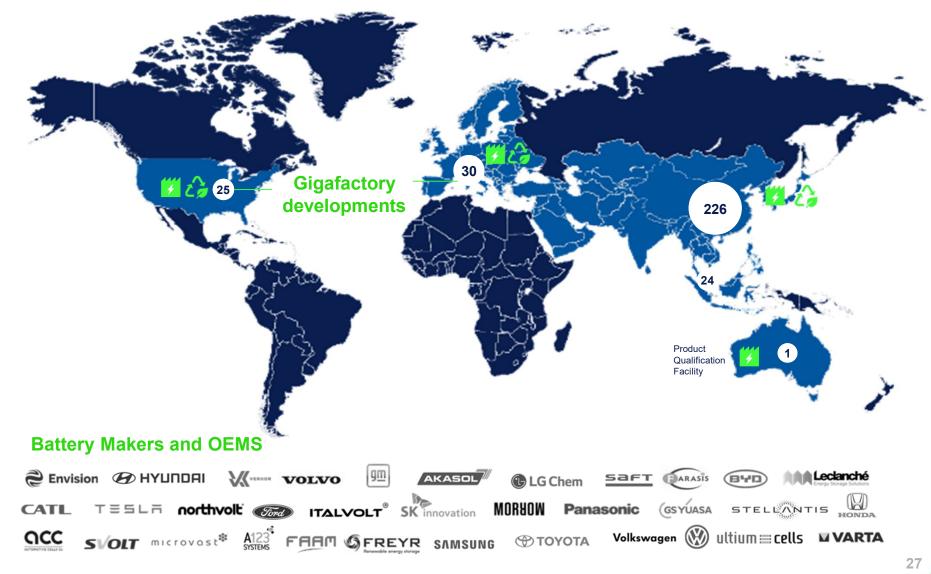
EcoGraf HFfree<sup>™</sup> anode material delivers improved battery performance and significantly lower CO<sub>2</sub> footprint

**Eco**Graf

### Global expansion strategy to meet battery anode demand

Positioning EcoGraf purification and anode recycling capability in regional EV and battery hubs

Purification



EcoGraf

1. Source Benchmark Mineral Intelligence

### RECYCLE

### Full cycle active anode recovery



**C** EcoGraf Anode Material Recycling

#### **KEY ACTIVITIES**

- $\bigotimes$
- 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

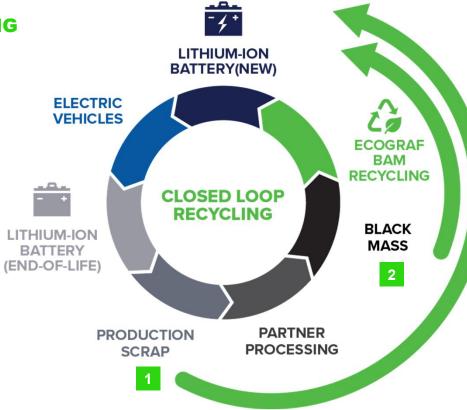
#### ECOGRAF HFFREE™ PURIFICATION SUPPORTS CLOSED LOOP RECYCLING

- **Objective:** Recover battery anode materials to enable customers to lower battery costs and CO<sub>2</sub> 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



**SungEel HiTech** 





**W**ith POSCO

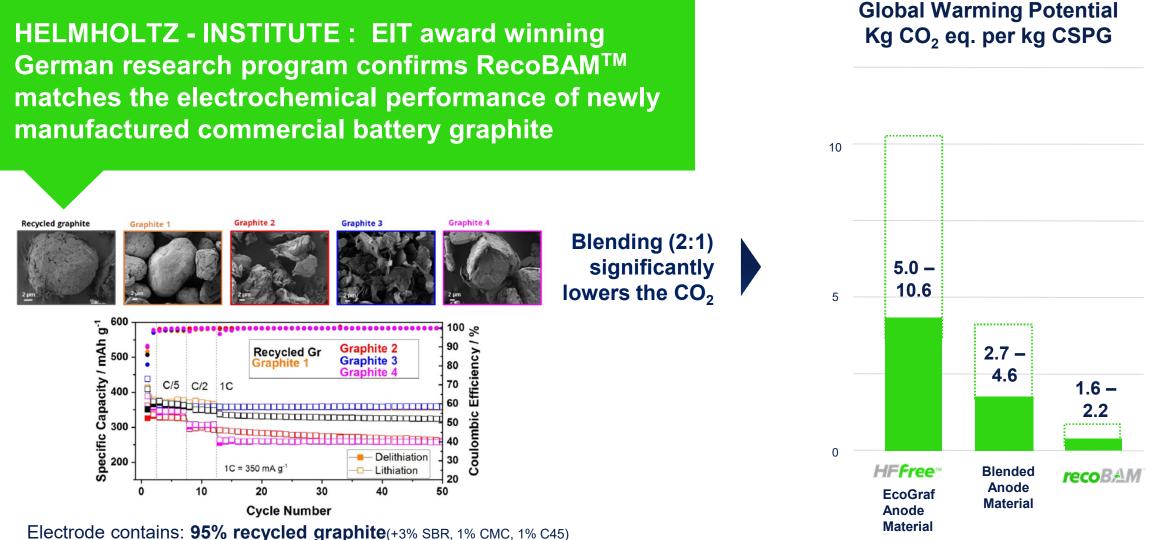


### Positive results achieved for a range of product samples and customers under CA/NDA's

| piloting plant | ort developing<br>for Production<br>ctrode Scrap | Carbon Grade after<br>EcoGraf HFfree™<br>Purification |                                  |   |
|----------------|--|---|----------------------------------|---|
| Company        | Product  | Carbon Grade  | High Purity<br>Industrial Market | Li-ion Battery<br>Anode Market (>99.95) |
| Recycler       | End of Life                                      | 99.80%  | •                                |   |
| EV             | Production Scrap                                 | 99.97%  |                                  | •                                       |
| EV             | Production Scrap                                 | 99.92%  | •                                |   |
| Battery        | Production Scrap                                 | 99.98%  |                                  | •                                       |
| Recycler       | End of Life                                      | 99.50%  | •                                |   |
| Recycler       | Production Scrap                                 | 99.98%  |                                  | •                                       |
| Chemical       | End of Life                                      | 99.17%  | •                                |   |
| Research       | End of Life                                      | 99.20%  | •                                |   |
| Recycler       | Production Scrap                                 | 99.77%  | •                                |   |
| Recycler       | End of Life                                      | 99.80%  | •                                |   |

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

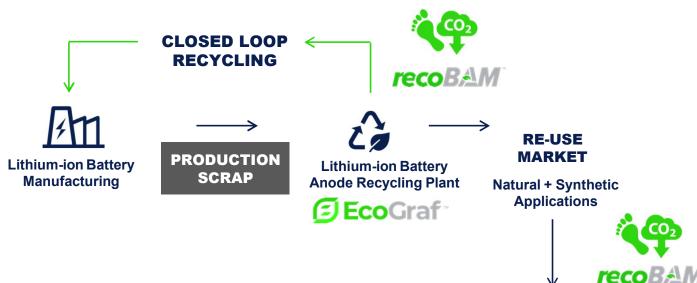
2. See Appendix C: Anode recycling process detail



Olutogun *et al.* Manuscript in preparation

### Pilot plant required for anode product qualification

#### **RECYCLING ANODE MATERIAL SUPPORTS THE CIRCULAR ECONOMY**



| Natural  | Synthetic | High Purity Industrial Markets     |
|----------|-----------|------------------------------------|
| <b>~</b> | ✓         | Alkaline and zinc carbon batteries |
| <b>~</b> | -         | Friction materials                 |
| <b>~</b> | -         | 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**



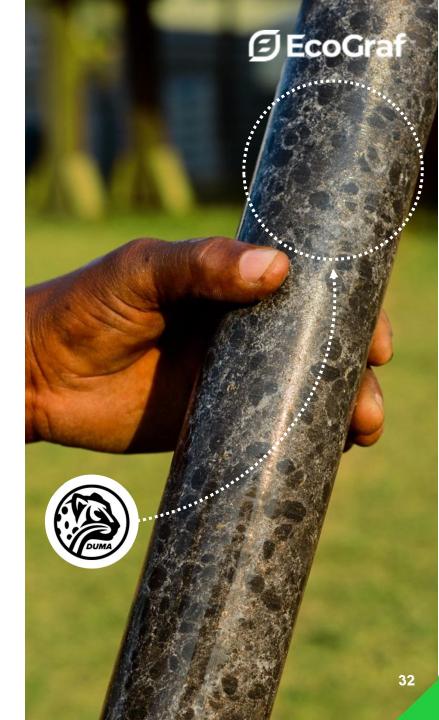


export finance

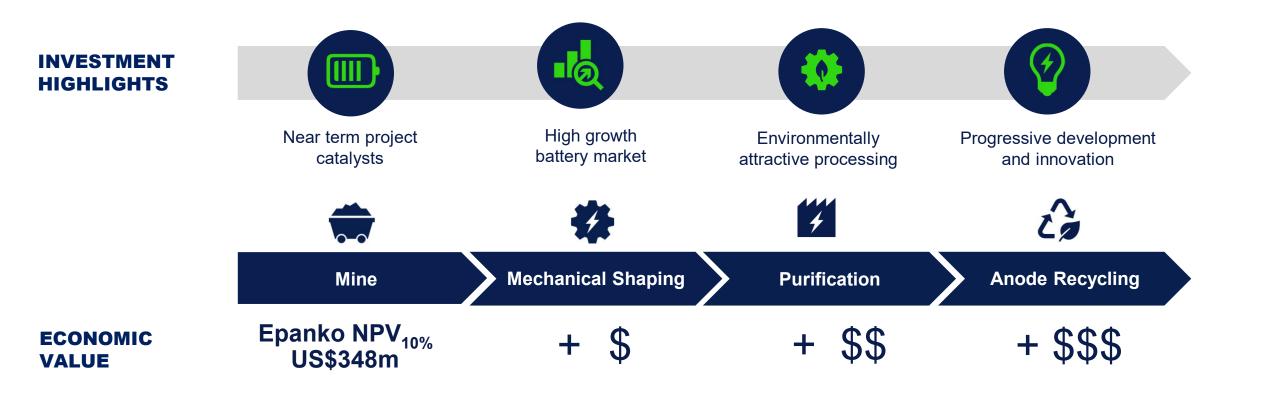
australia







### Value Proposition from Integrated supply chain



Value capture through the entire supply chain with developments and partnerships

EcoGraf<sup>®</sup>

# The future is electric

ASX: EGR FSE: FMK OTCQX: ECGFF



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This announcement is authorised for release by the Board of Directors.

#### For further information, please contact:

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#### About EcoGraf

EcoGraf is building a vertically integrated battery anode materials business to produce high purity graphite products for the lithium-ion battery and advanced manufacturing markets. Over US\$30 million has been invested to date to create a highly attractive graphite mining and mineral processing business.

In Tanzania, the Company is developing the TanzGraphite natural flake graphite business, commencing with the Epanko Graphite Project, to provide a long-term, scalable supply of feedstock for EcoGraf™ battery anode material processing facilities, together with high quality large flake graphite products for specialised industrial applications.

Using its environmentally superior EcoGraf HF*free*<sup>™</sup> purification technology, the Company will upgrade the flake graphite to produce 99.95%C high performance battery anode material to supply electric vehicle, battery and anode manufacturers in Asia, Europe and North America as the world transitions to clean, renewable energy.

Battery recycling is critical to improving supply chain sustainability and the Company's successful application of the EcoGraf<sup>M</sup> purification process to recycle battery anode material provides it with a unique ability to support customers to reduce CO<sub>2</sub> emissions and lower battery costs.

Follow EcoGraf on LinkedIn, Twitter, Facebook and YouTube or sign up to the Company's mailing list for the latest announcements, media releases and market news.

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