

19 OCTOBER 2022

ASX ANNOUNCEMENT

ASX: EGR

## Corporate Presentation

**EcoGraf Limited (EcoGraf or the Company)** (ASX: **EGR**; FSE: **FMK**; OTCQX: **ECGFF**) is pleased to provide a copy of the corporate presentation prepared for customer meetings in Europe and the Batteries Event 2022 held in Lyon, France (<https://batteriesevent.com/>) on 18-21<sup>st</sup> October.

This announcement is authorised for release by Andrew Spinks, Managing Director.

For further information, please contact:

### INVESTORS

**Andrew Spinks**  
Managing Director  
T: +61 8 6424 9002

### MEDIA

**Michael Vaughan**  
Fivemark Partners  
T: +61 422 602 72

### 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 mining and mineral processing graphite 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 the EcoGraf™ battery anode material processing facilities, together with high quality large flake graphite products for industrial applications.

Using a superior, environmentally responsible EcoGraf HFfree™ purification technology, the Company plans to produce high performance battery anode material to support electric vehicle, battery and anode manufacturers in Asia, Europe and North America as the world transitions to clean, renewable energy. In addition, EcoGraf's breakthrough recovery of battery anode material using its EcoGraf™ purification process will enable battery supply chain customers to reduce their 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.



**JOIN OUR MAILING LIST**





## Developing a Vertically Integrated HF*free* Battery Anode Material Business.



Conference Presentation

ASX: EGR FSE: FMK OTCQX: ECGFF

**BATTERIES**  
**EVENT** 2022  
LYON  
FRANCE  
OCT. 18 > OCT. 21

## 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 relation to the feasibility study conducted on the production of battery graphite using the Company’s EcoGraf technology, including production targets and forecast financial information derived from the production targets, included in this document is extracted from an ASX announcement dated 5 December 2017 “Battery Graphite Pilot Plant”, as updated on 17 April 2019 “EcoGraf Delivers Downstream Development” and 5 November 2020 “Completion of EcoGraf™ Processing Facility Development Report”, available at [www.ecograf.com.au](http://www.ecograf.com.au) and [www.asx.com.au](http://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 5 December 2017, as updated on 17 April 2019 and 5 November 2020 continue to apply and have not materially changed.

Information in this document 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 document is extracted from an ASX announcement dated 21 June 2017 “Updated Bankable Feasibility Study” available at [www.ecograf.com.au](http://www.ecograf.com.au) and [www.asx.com.au](http://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.

## 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.

## MEDIA ENQUIRIES AND INVESTOR RELATIONS

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## COMPANY CONTACT

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## Vertically Integrated Battery Anode Material Business

Supporting the  
global transition  
to clean energy

### EXTRACT



TanzGraphite  
Natural Graphite

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

### UPGRADE



EcoGraf HF<sup>free</sup><sup>TM</sup>  
Battery Anode Material

High performance, low CO<sub>2</sub>  
battery anode material

### RECYCLE



Anode Recycling

EcoGraf<sup>TM</sup> purification  
technology with sector leading  
ESG credentials

# Corporate snapshot

Market capitalisation

A\$155M

Cash balance<sup>2</sup>

A\$46.7M

Shares on issue<sup>1</sup>

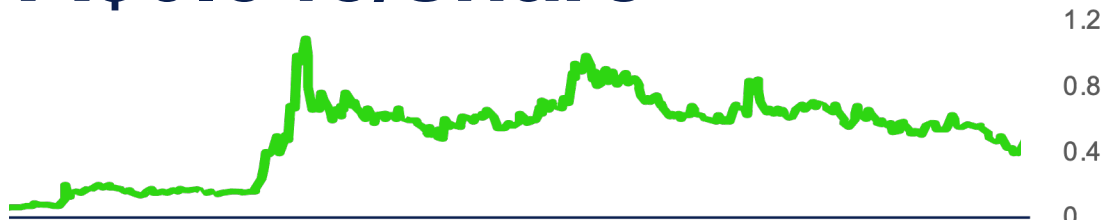
450m

Debt<sup>2</sup>

A\$0M

Share price<sup>4</sup>

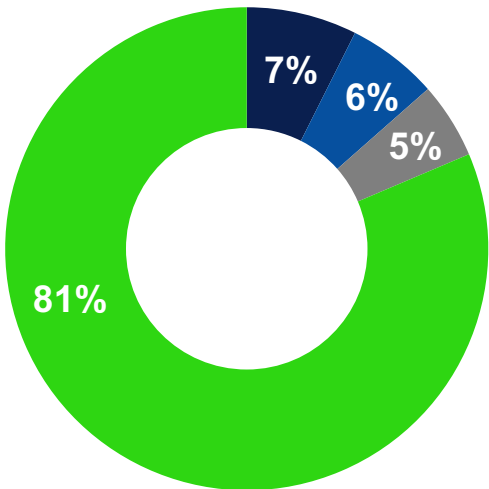
A\$0.345/share



Aug 20

- 1. As at 18 October 2022
- 2. As at 30 June 2022
- 3. As at 18 October 2022
- 4. As at 18 October 2022

Major shareholders<sup>3</sup>



- First Sentier Investor
- Board and management
- Paradice Investment Management
- Other

**ASX: EGR**  
**Börse Frankfurt: FMK**  
**USA OTCQX: ECGFF**

# Our board and management team



**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.



**Andrew Spinks**  
*Managing Director*

Andrew is a geologist with over 25 years' professional experience in Australia, Asia and Africa across a range of commodities. He has held a range of diverse roles, managing the exploration and development of projects.



**John Conidi**  
*Non-Executive Director*

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



**Dale Harris**  
*Chief Operating Officer*

Dale Harris is an accomplished resource's executive with over 30 years' experience across multiple commodities including almost 20 years 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 in Australia, Canada, Asia, Africa and Europe.



**Michael Chan**  
*Executive Manager  
Product Development*

Michael is a Minerals Engineer and Chartered Engineer with 35 years' experience in senior operations, project development and commercial roles with 8 years of graphite/spherical graphite/battery anode material project experience.



**Shaun O'Neill**  
*Executive Manager  
Project Development*

Shaun is a metallurgist with 23 years' experience in operations, project management and commissioning across a range of commodities. He's been responsible for Project Managing the largest lithium hydroxide processing plant in Kwinana.



**Marshall Hestelow**  
*Commercial Manager*

Marshall is an accountant with over 30 years' experience in senior management roles within ASX listed mining companies, that are active both in Australia and internationally.



**Christer Mhingo**  
*Director of TanzGraphite Limited*

Christer is a highly skilled, dynamic and motivated geologist, experienced in working with exploration and mining companies across a range of commodities in Africa and overseas.



**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.

Graphite is the key raw material to decarbonise the economy

Graphite is the major raw material for the transition to clean energy<sup>1</sup>



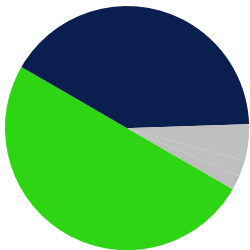
53.8%  
GRAPHITE



+30% PA  
EV SALES

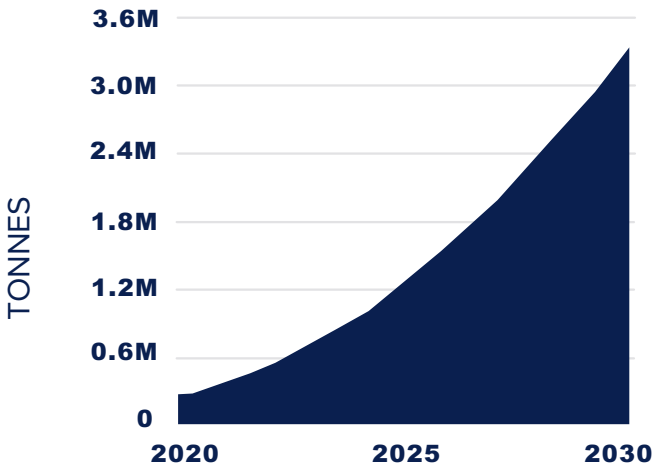
Natural graphite to increase from 35% to over 50% in anode by 2030<sup>3</sup>

+50%  
NATURAL  
GRAPHITE

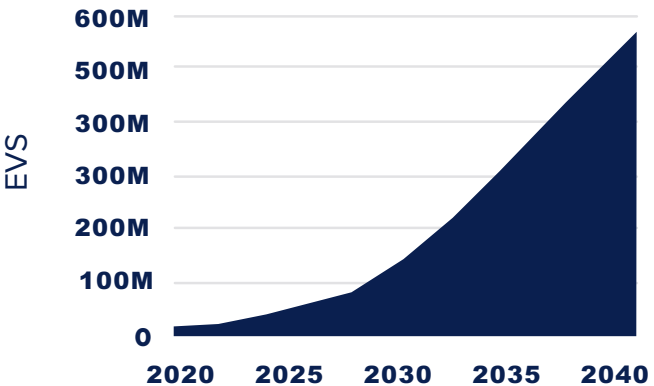


■ Synthetic  
■ Other

ANODE DEMAND<sup>2</sup>

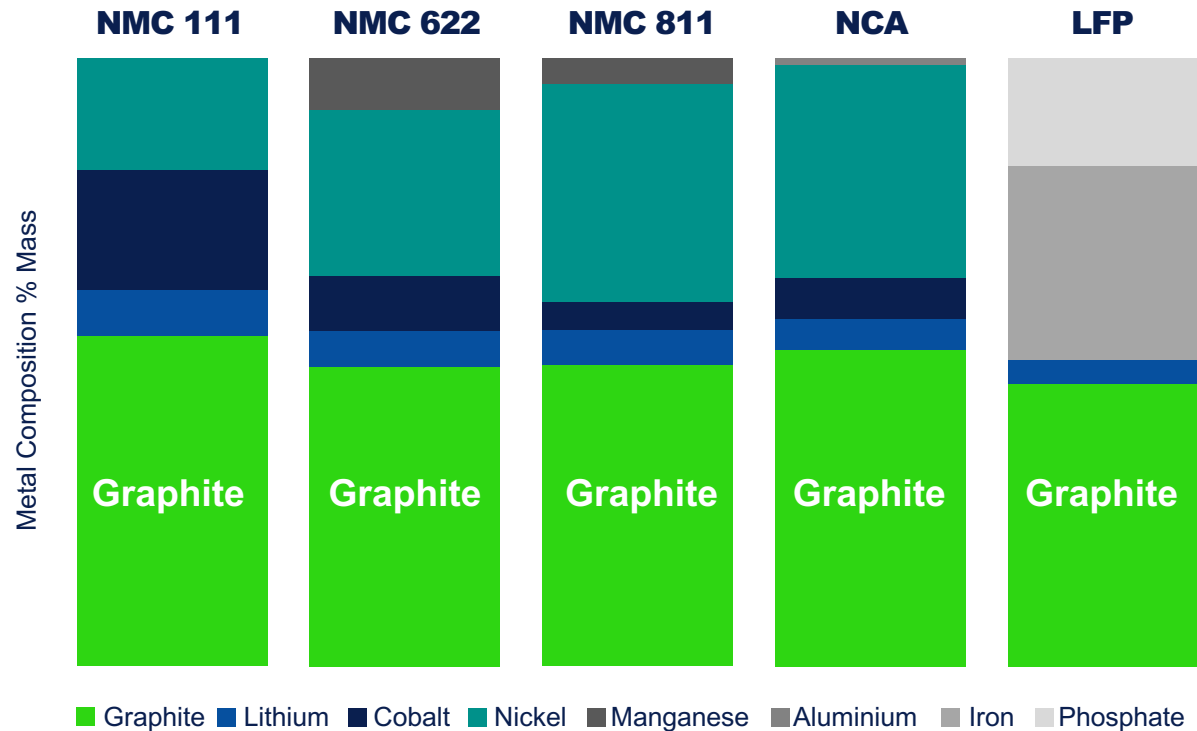


EV DEMAND<sup>3</sup>



1. Source: World Bank. 2. BloombergNEF. 3. Benchmark Minerals Intelligence





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

**Lithium-ion battery to drive strong demand for graphite**

**1.1kg required per kWh**

**50kg – 55kg**

**Natural flake graphite is required per EV**

**27kg of 99.95%**

**High purity battery grade anode material is required per EV**





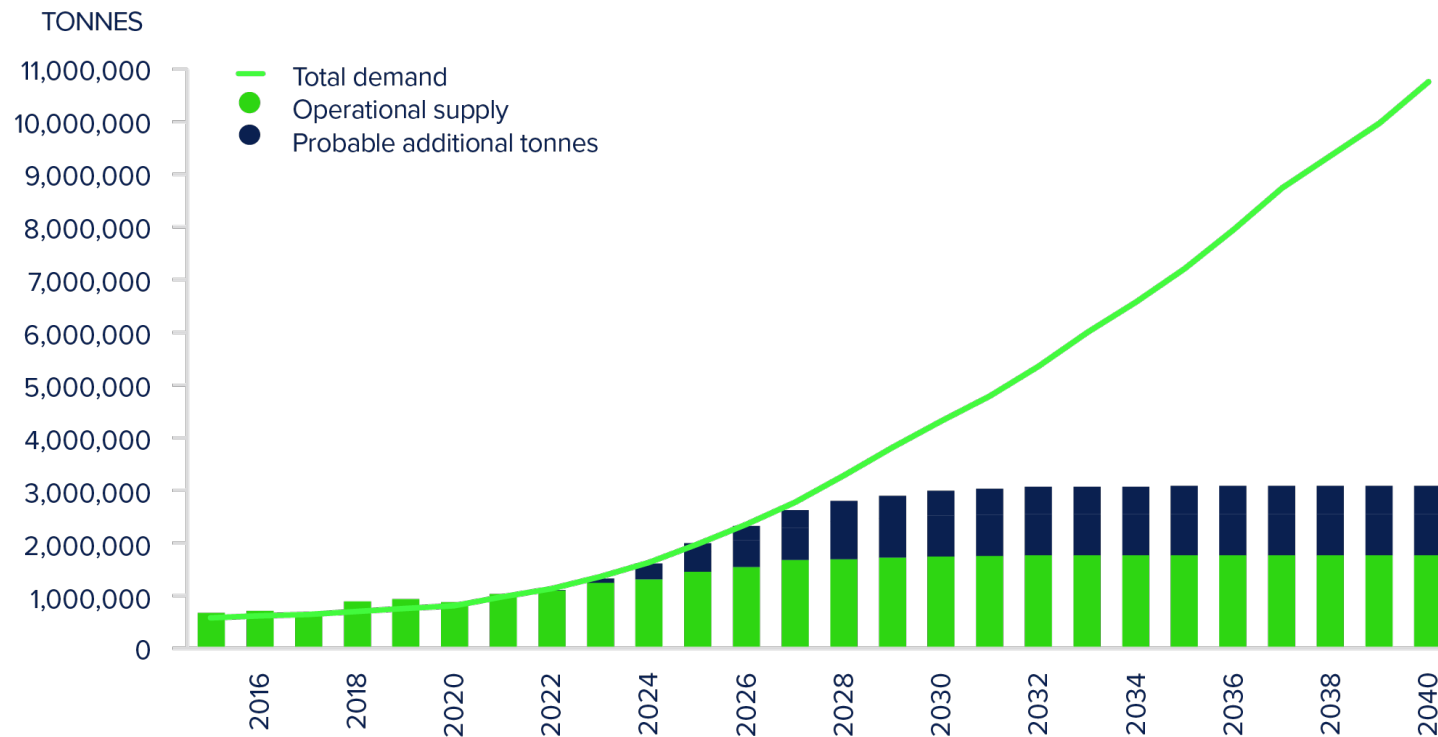
# Structural shortage looming: Demand and Supply

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

## Graphite: one of the fastest growing metals

- ✓ 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



# Localised production supplied by East African logistics hub

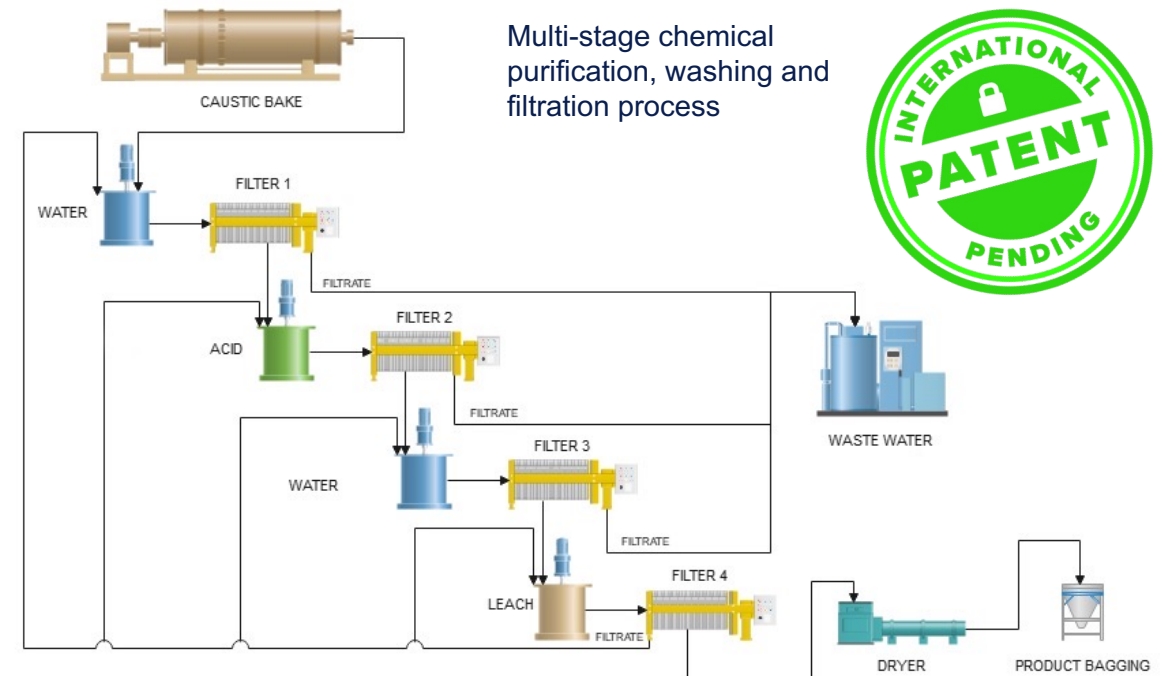


# Unique and environmentally attractive processing technology

Proprietary purification process provides cost competitiveness to existing materials

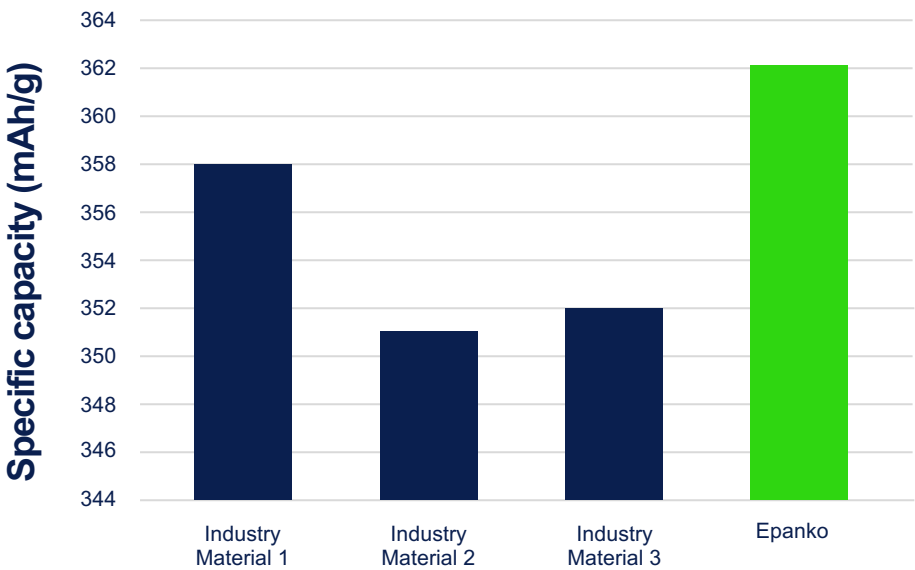
- 1 Eco-friendly + cost effective - No toxic hydrofluoric (HF) acid
- 2 High Purity Battery Anode Material - >99.95% achieved
- 3 >60% yield for maximum efficiency
- 4 75% water reused in operations
- 5 Patent protected - International Examining Authority deems all 25 patent claims novel and inventive

**EcoGraf HFfree™ = Purification process eliminates Hydrofluoric (HF) Acid**

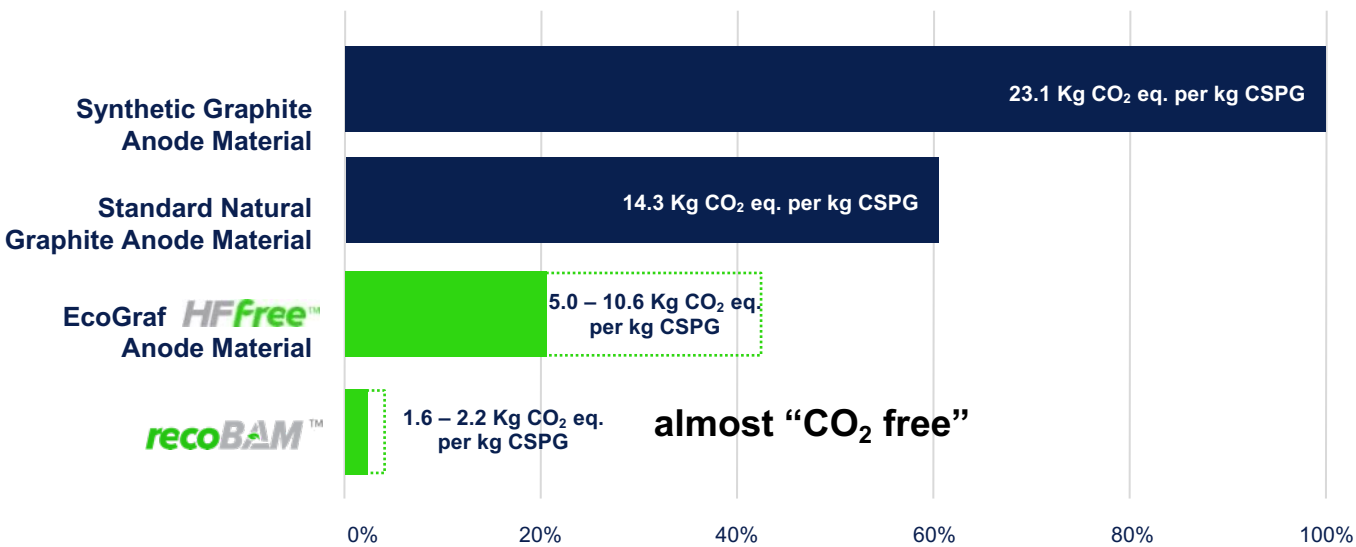


**PROCESSING  
FACILITY FLOW  
DIAGRAM**

## Superior Energy Storage



## Lowest CO<sub>2</sub> footprint



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





EcoGraf's sector leading ESG credentials are aligned to the new energy lending policies that support projects relating to the supply of critical raw materials



**Responsible sourcing**

- ✓ EcoGraf™ HFfree proprietary purification process
- ✓ Epanko developed under Equator Principles



**Carbon (CO<sub>2</sub>) footprint, performance and durability labelling**

- ✓ EcoGraf™ recycling and blending
- ✓ Renewable energy inputs into businesses
- ✓ Implementing low impact mining methods



**Traceability**

- ✓ Implementation of Block Chain technology



**Recycling and establishing a circular economy**

- ✓ EcoGraf™ HFfree proprietary purification process eliminates use of toxic hydrofluoric acid
- ✓ EcoGraf™ recycling enables customers to achieve improved recycling efficiencies

# Epanko Natural Flake Graphite Project

## EXTRACT



## TanzGraphite Natural Graphite Projects

### KEY ACTIVITIES

- ✓ Finalising framework agreement with Tanzanian Government
- ✓ Confirming expansion options and evaluating benefits of in-country micronizing and spheronizing to optimize global supply chain
- ✓ Financing and development 2023

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

## Exceptional geology provides superior performance

### EPANKO

- Development ready - project defined and de-risked, commencing at 60,000tpa with potential to significantly expand production to meet market demand<sup>1</sup>
- Bank appointed Independent Engineer's Review completed by SRK Consulting
- Sector leading ESG credentials with Equator Principles development model, satisfying:
  - ✓ International Finance Corporation Performance Standards
  - ✓ World Bank Group Environmental, Health & Safety Guidelines
- Attractive metallurgy - 99% purity flake graphite potential without additional milling or cleaning stages<sup>2</sup>

### MERELANI-ARUSHA

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



1. Refer to ASX announcement "EcoGraf TanzGraphite Expansion Options to Support Market Growth", 20 May 2022

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

## ✓ Economy growth

# US\$3B+

Direct contribution to the economy over 40+ years through local procurement of goods and services, employment, royalties, taxes and dividends

## ✓ Local employment

# 300 + 4,500 jobs

300 to be directly employed (over 95% of all staff) for 40+ years 4,500 indirect jobs + new industry



## ✓ Community benefits



## ✓ Epanko standards



## ✓ Renewable energy

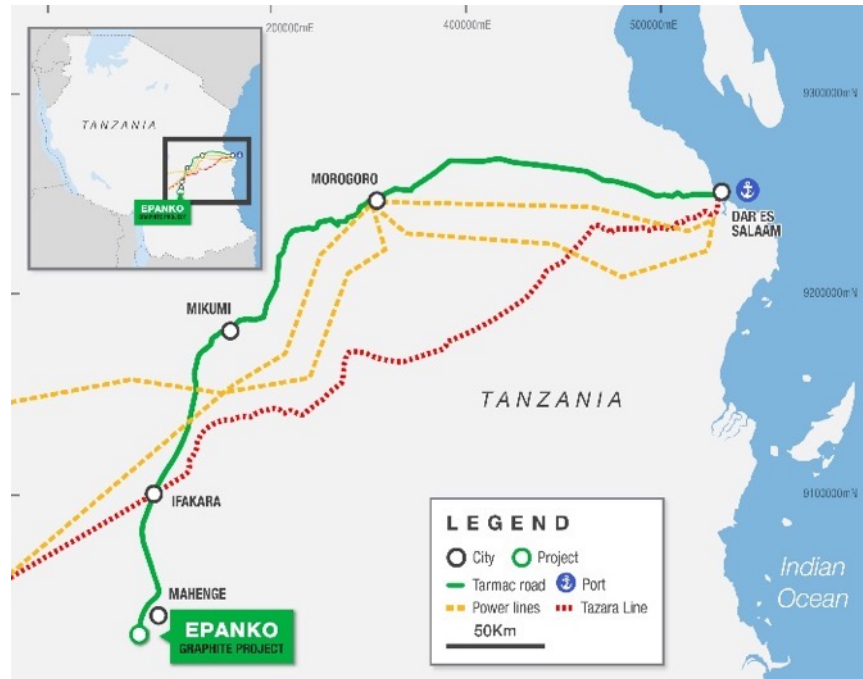
# Transformational financial and social upliftment for the Mahenge region



Strong multiplier effect across the economy, with an estimated US\$9+ billion additional indirect economic benefits over 40+ years

# Epanko natural graphite project

## Established Regional Infrastructure

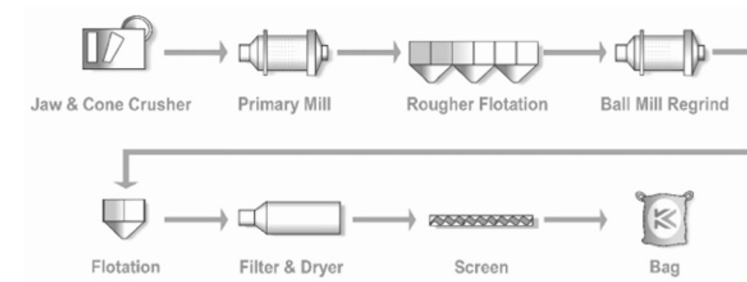


## Export Infrastructure at Dar Es Salaam



## Epanko flexible process flowsheet design

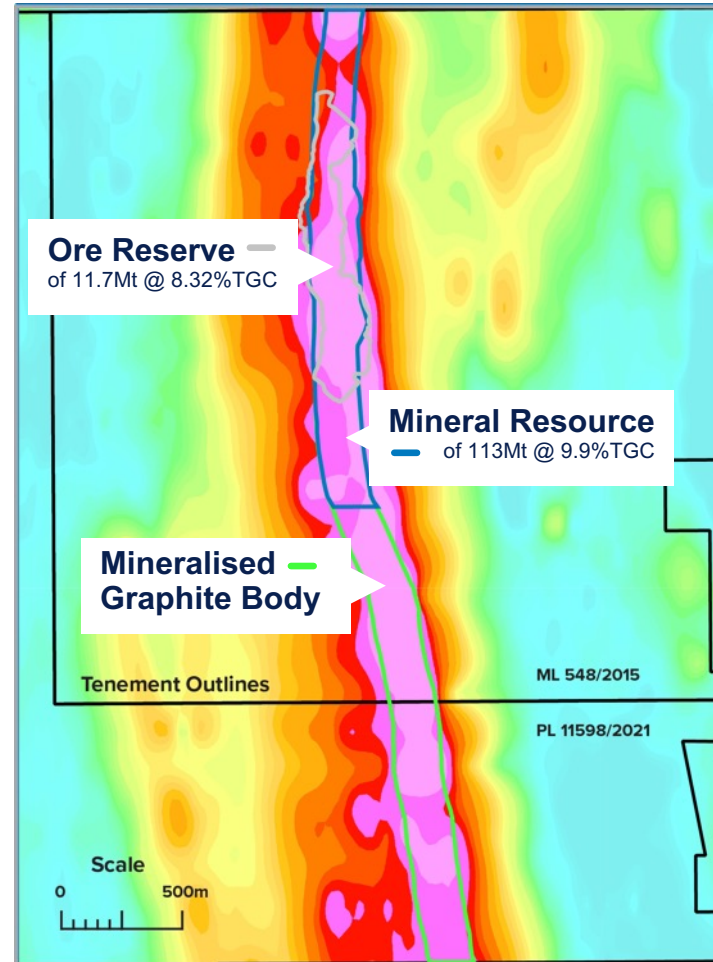
- Process flowsheet based on established industry techniques and equipment
- Independent testwork conducted to support BFS, including 200 tonne bulk sample toll treated through an operating graphite production plant
- Rigorous testing of flowsheet dynamics to produce desirable product properties for both industrial uses and high growth lithium-ion battery markets





**Epanko Resource supports future expansion to meet growing battery demand with high carbon concentrates**

- ✓ Large resource base 113Mt
- ✓ High carbon concentrates grade 96-98%C
- ✓ Low strip ratios 0.4:1
- ✓ High Processing Recoveries 94.7%
- ✓ Exceptional Geology
- ✓ Superior Performance



JORC classification	Tonnage (Mt)	Grade (%TGC)	Contained graphite (Mt)
<b>Merelani-Arusha Mineral Resource estimate &gt;5% TGC<sup>1</sup></b>			
<b>Total</b>	<b>17.7</b>	<b>6.5</b>	<b>1.2</b>

<b>Epanko Mineral Resource estimate &gt;5% TGC<sup>2</sup></b>			
<b>Total (Meas, Ind, Inf)</b>	<b>113.3</b>	<b>7.2</b>	<b>8.2</b>

<b>Epanko Ore Reserve<sup>3</sup></b>			
Proven	5.7	8.4	0.5
Probable	5.9	8.2	0.5
<b>Total</b>	<b>11.7</b>	<b>8.3</b>	<b>1.0</b>

1. Refer to ASX announcement "Merelani Upgrade Paves Way for PFS", 8 September 2015
2. Refer to ASX announcement "Epanko Mineral Resource Upgrade", 31 March 2017
3. 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.**

# Downstream battery anode materials

## UPGRADE



### HF<sup>free</sup>™ Battery Anode Material

#### KEY ACTIVITIES

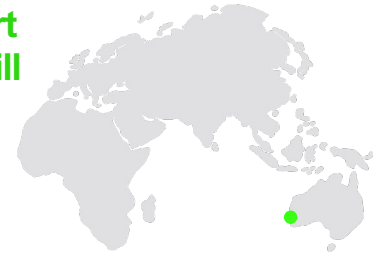
- ✓ Develop product qualification facility
- ✓ Formalise strategic partnerships for global expansion
- ✓ Identify development site locations in North America and Europe
- ✓ Advance development of coatings partnership for European, North American and Asian markets

## GLOBAL EXPANSION DRIVEN BY EV DEMAND AND NEW LEGISLATION

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

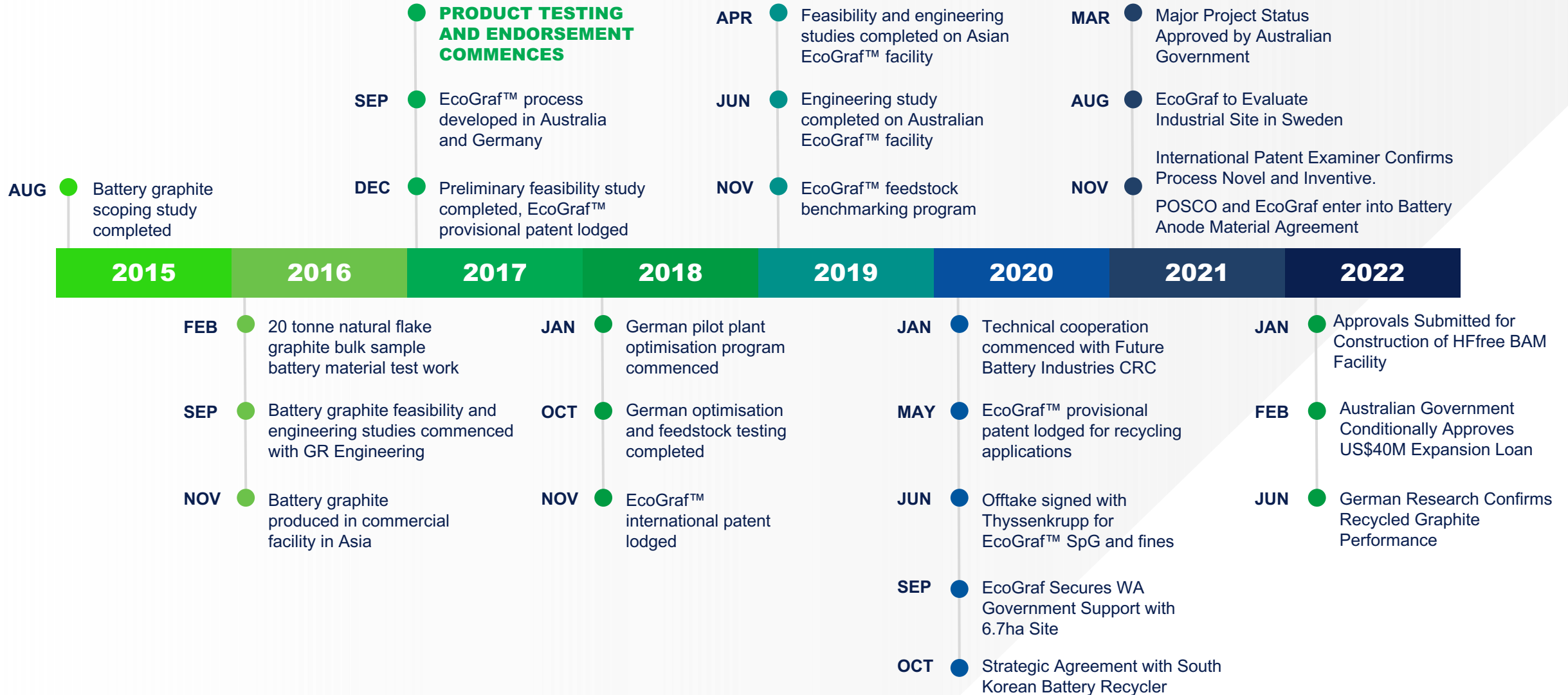
- Qualification facility fully funded and collaboration with ongoing product samples with major Government research facility
- Engineering design to support development of multiple production facilities in key global battery centres
- Partnership approach for European, North American and Asia locations
- Australian Government support for development through Major Project status, Project of State Significance status and conditional approval for US\$40m debt financing

The new state-of-the-art processing facilities will manufacture HF<sup>free</sup> BAM for the global lithium-ion battery markets



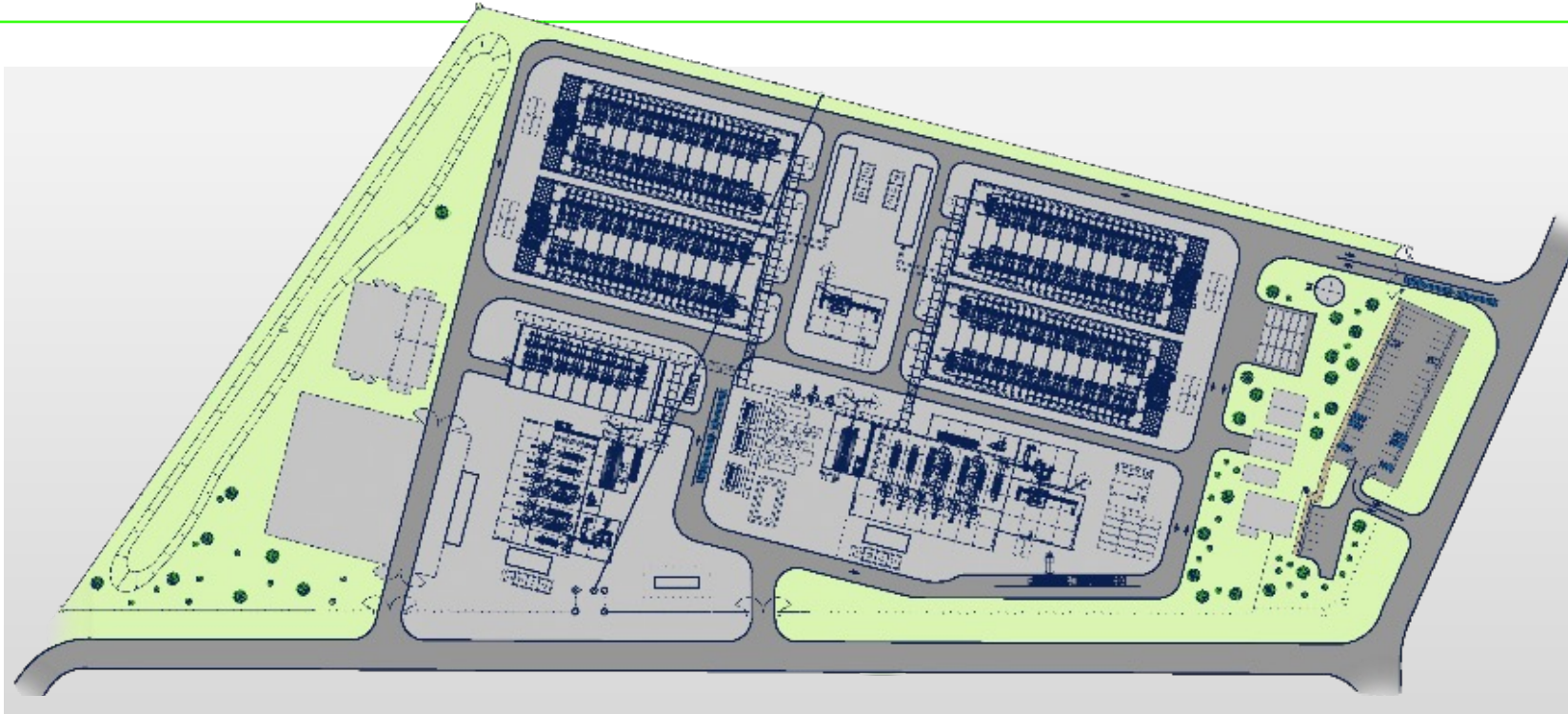
**EcoGraf's vision is to be a world leader in the supply of high performance, sustainably produced battery anode material for electric vehicles**

# Our development history





# Global developments to capture regionalised demand



## Prioritised locations within high growth battery market hubs

- US
- Germany
- Sweden
- France
- South Korea
- Vietnam
- Malaysia
- India



## Anode manufacturing to be co-located regional hubs in high growth battery markets

- 1 EV customers seeking to regionalise supply chains
- 2 Battery anode plant design scalable > 25ktpa and replicated
- 3 Strong government support and incentives for developments in global regions
- 4 Proximity to customers reduces logistics costs
- 5 New global capacity diminishes reliance on Chinese anode supply



## RECYCLE



### EcoGraf Anode Material Recycling

#### KEY ACTIVITIES

- ✓ Ongoing testing with EV and battery manufacturers
- ✓ Establish pilot plant for product development and qualification processes

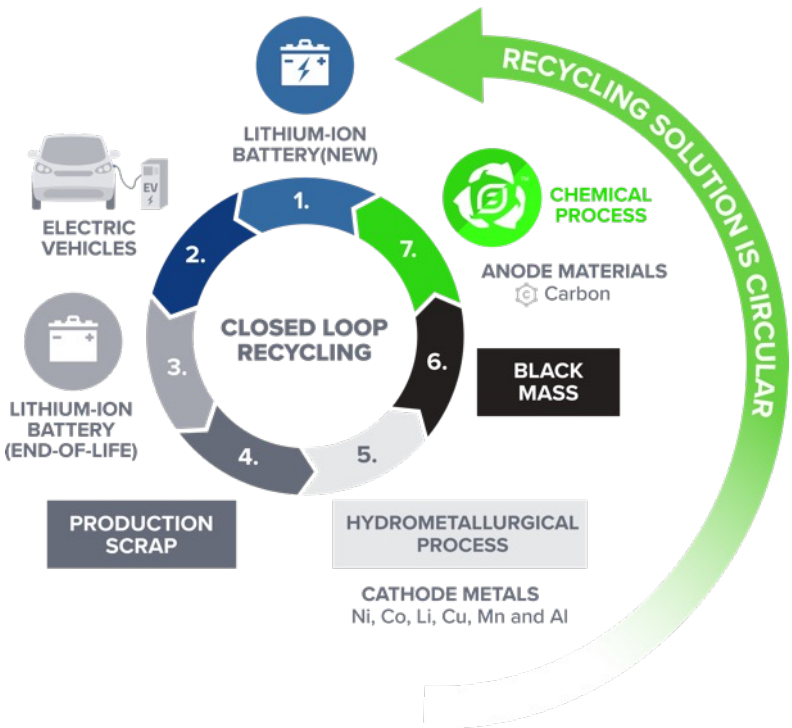
## MARKET OVERVIEW



Battery anode materials are currently not recovered

PRODUCTION SCRAP	Anode material which is a waste product generated from each stage of battery anode manufacturing, cell manufacturing and battery testing
END OF LIFE BLACK MASS	Anode material remaining after hydrometallurgical processes have recovered the high value cathode metals from end-of-life lithium-ion batteries

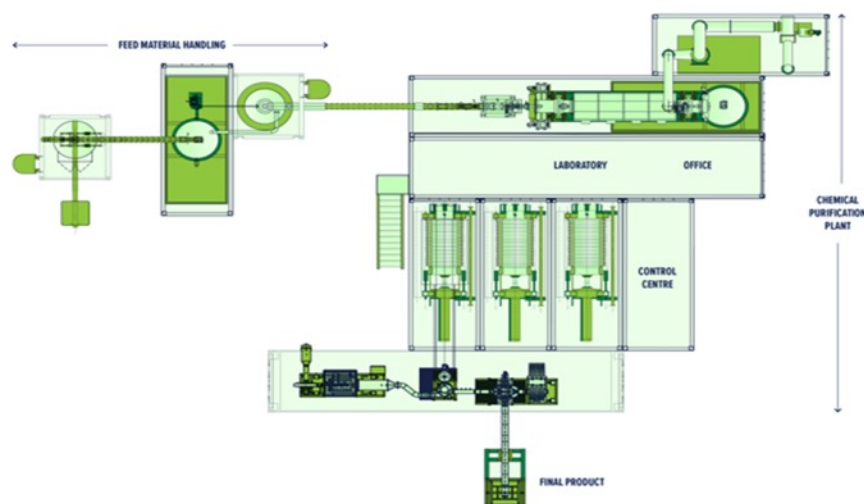
**New legislation requires increasing battery recycling and EcoGraf purification enables customers to recover and re-use anode material, lowering battery costs and CO<sub>2</sub> emissions**



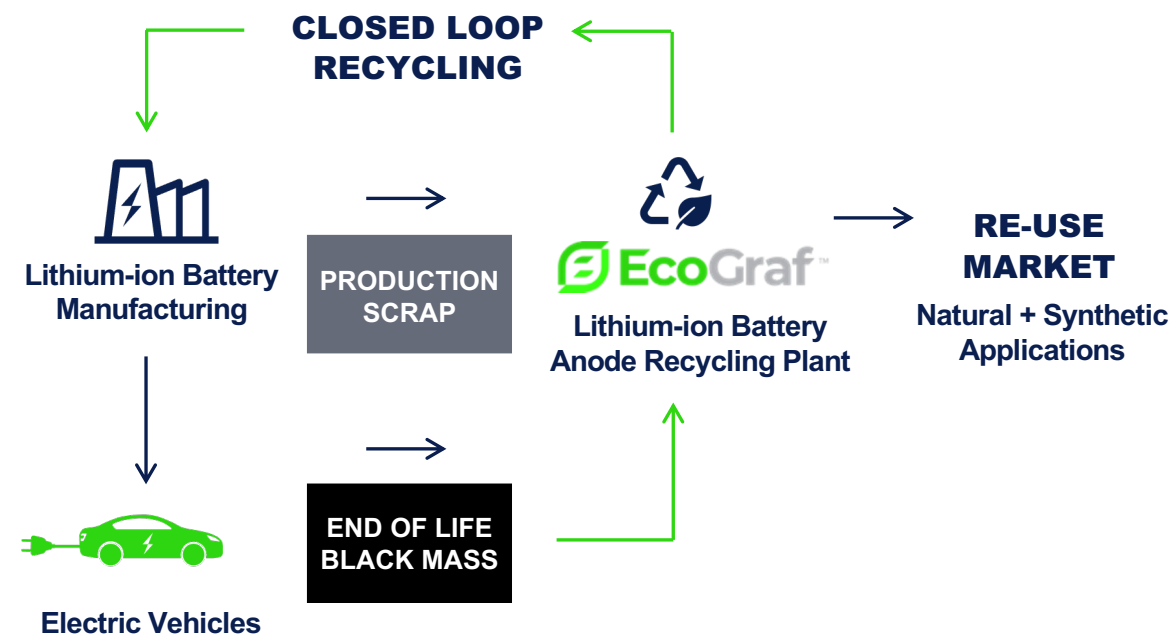
# Next steps - pilot plant to provide larger product sample

## KEY FEATURES OF MODULAR CONTAINERISED PLANT:

- Capacity of 50-100kg/hr
- State-of-the-art-facility utilising EcoGraf™ HF<sub>free</sub> purification process with design providing location flexibility
- Design criteria based on operating at the highest environmental standards and providing process flowsheet flexibility to evaluate various feedstocks
- Plant to provide tailored customer solutions to support new EU battery legislation for increased recycling



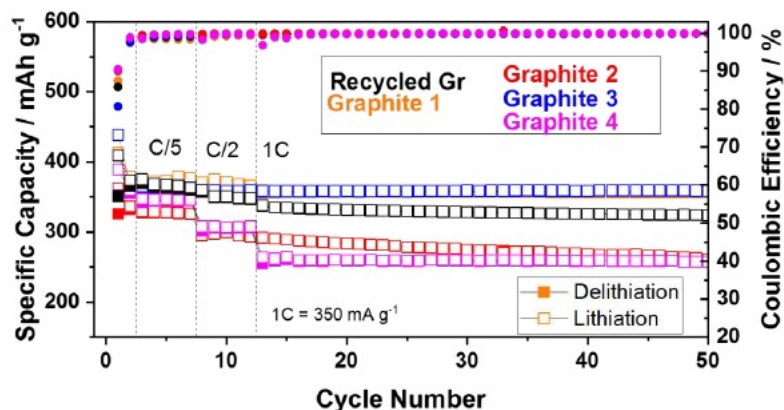
## RECYCLING ANODE MATERIAL



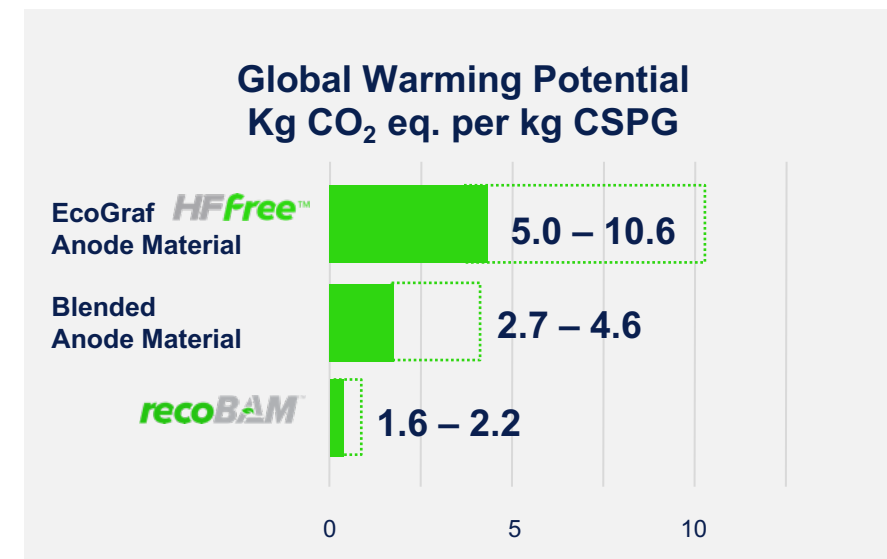
HELMHOLTZ - INSTITUTE : EIT award winning German research program confirms RecoBAM™ matches the electrochemical performance of newly manufactured commercial battery graphite



Blending (2:1)  
significantly  
lowers the CO<sub>2</sub>

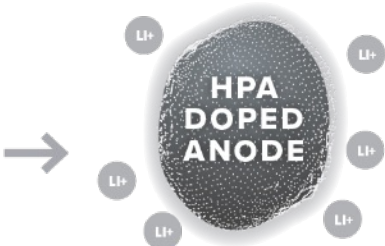
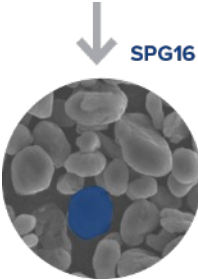


Electrode contains: **95% recycled graphite**(+3% SBR, 1% CMC, 1% C45)





## HFfree BATTERY ANODE MATERIAL PRODUCTS



The Company is also developing enhanced HPA coating techniques to improve battery performance





**Integrated value chain**



**Near term  
project catalysts**



**Environmentally  
attractive processing**



**Global footprint to  
capture regional benefits**



**High growth  
battery market**



**Progressive development  
and innovation**

## **PRODUCT QUALITY**

Demonstrated superior performance of Tanzanian natural graphite through mechanical shaping, purification and electrochemical testing

Independent electrochemical testing by major anode producer confirms Epanko graphite outperforms existing battery anode material from China

## **PROCESSING TECHNOLOGY**

Patent pending EcoGraf HFfree™ purification process

## **PRODUCTION CONSISTENCY**

New international standard flake graphite ore processing, mechanical shaping and purification facilities that satisfy production performance testing by independent engineers appointed by lenders

## **SUSTAINABILITY**

Independent ISO compliant Life Cycle Analysis demonstrates reduction of >92% of existing CO<sub>2</sub> footprint through HFfree purification, hydropower and EcoGraf recycling

Equator Principles Compliance, meeting International Finance Corporation Performance Standards and World Bank Group Environmental, Health and Safety Guidelines

## **FLEXIBILITY**

Capability to produce variable product sizes (typical d50 of 16 micron and 10 micron) for alternative space and energy density specifications

Optimised mine to market supply chain, with Tanzanian logistics hub supporting localised production facilities in Australasia, Europe and North America

## **COST EFFICIENCY**

Cost savings through elimination of environmentally unsustainable hydrofluoric acid, use of clean, renewable energy, centralised transport logistics and HFfree anode material recycling to drive down cradle-to-grave operating costs

# The future is electric

ASX: EGR FSE: FMK OTCQX: ECGFF



 **EcoGraf™**



**JOIN OUR MAILING LIST**

[www.ecograf.com.au](http://www.ecograf.com.au)