

**EPANKO GRAPHITE PROJECT**  
FOUNDED ON SALES TO THE TRADITIONAL MARKETS BUT

**FULLY CHARGED**  
FOR THE **BATTERY**  
**SUPERCYCLE**



**KIBARAN**  
RESOURCES LTD



ASX: **KNL**  
FSE: **FMK**

**RESOURCE RISING STARS CONFERENCE**  
**Presentation**  
**May 2018**

**PREMIUM QUALITY GRAPHITE UNIQUELY TANZANIAN**

# DISCLAIMER



## Securities Disclaimer

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## Forward looking Statements

Various statements in this presentation 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.

The production targets and forecast financial information referred to in this presentation were originally reported by the Company on 21 June 2017 in an announcement titled “Updated Bankable Feasibility Study” and on 5 December 2017. All the material assumptions underpinning those production targets and forecast financial information reported in those previous announcements continue to apply and have not materially changed.

## Competent Person

The information in this report 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 Kibaran Resources 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 the report of the matters based on his information in the form and context in which it appears.

The information in this report 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. Mr Williams 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 the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Ore Reserve has been compiled by Mr Steve O'Grady. Mr O'Grady, who is a Member of the Australasian Institute of Mining and Metallurgy, 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 that is relevant to the estimation, assessment, evaluation and 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, Minerals Resources and Ore Reserves”. Mr O'Grady consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

# OUR VISION



*“To become a high margin producer of premium quality large flake graphite in Tanzania and a long-term stable supplier of graphite for the high growth battery market”*





## Board and Management

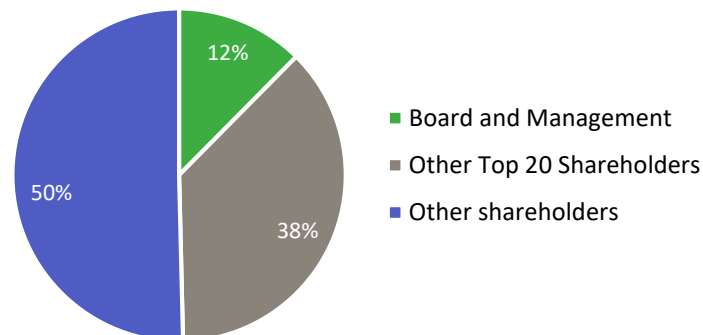
## A strong mix of mining, commercial and graphite experience

Robert Pett (Non-Executive Chairman)	Minerals Economist with over 30 years' experience in developing resources and mines in Australia and Africa. Founding Chairman of Resolute Mining with a strong track record of board governance and leadership in listed companies.
Andrew Spinks (Managing Director)	Geologist with over 25 years' experience. Expertise in exploration, mining and management across a range of commodities and geographies. Former resident of Tanzania at the Golden Pride mine.
Grant Pierce OAM (Executive Director)	Mining engineer with over 25 years' experience, including development of African mines Tulawaka, Golden Pride and Edikan. Awarded Order of Australia Medal in 2003 for social development in rural Tanzania.
Christoph Frey (Non-Executive Director)	German-based graphite industry professional with over 24 years' graphite experience in Russia, Europe, Africa and China. Direct experience in both traditional and evolving graphite markets including the production of spherical graphite.
John Conidi (Non-Executive Director)	Member CPA with 20 years of experience acquiring, developing and managing publicly listed businesses. Significant experience in acquiring and developing technology companies.
Howard Rae (Chief Financial Officer)	Chartered Accountant with over 20 years' experience across the resources industry in Australia, Asia and Africa, focussing on business development and the financing of new mining operations.

## Capital Structure (ASX:KNL, FSE:FMK)

Shares on issue	255.8m
Share price (22 May 2018)	\$0.15
Market capitalisation	\$38.4m
Cash position (31 March 2018)	\$1.1m
Unlisted options (various expiries & exercise prices)	3.05m
Top 20 shareholders	48%

## Supportive Shareholder Base





**EPANKO GRAPHITE PROJECT**



Natural Flake Graphite (NfG)

<b>Production</b>	60ktpa
<b>NPV<sub>10</sub></b>	US\$211m
<b>EBITDA</b>	US\$44.5m



**DOWNSTREAM PRODUCTION FACILITY**

Spherical Graphite (SpG)  
(F) Fines  
(UN) Unpurified  
(P) Purified



<b>Production</b>	20ktpa
<b>NPV<sub>10</sub></b>	US\$145m
<b>EBITDA</b>	US\$30.5m



\*Refer ASX Announcements 21 June 2017 and 5 December 2017.

**Uniquely positioned to develop the Epanko Graphite Project for the global battery market.**

- Bankable Feasibility Study for 60,000tpa graphite mine to World Bank IFC equator principles
- Due diligence completed by bank appointed Independent Engineers
- Debt financing discussions advancing with German, South African and Australian financial institutions
- Offtake and sales agreements secured with blue-chip customers for 100% of production

**Downstream Production Facility to add significant value.**

- Feasibility Study completed for 20,000tpa production of battery graphite
- Major breakthrough with proprietary 'green' purification method
- Product samples meet specifications of leading battery market participants in Asia, Europe and North America
- Phased commercialisation strategy with stage 1 commenced in Germany
- Funding support received from the German Government

# KEY STAKEHOLDERS



- Investors



- Sales and offtake contracts



- German, Australian and African lenders



- Engineering and technical expertise



- Trademarks and branding



## All Key Studies Completed

- Bankable Feasibility Study on 60,000tpa Epanko Graphite Mine
- KfW-IPEX Bank Independent Engineer's Report
- Resettlement Action Plan

## Tanzanian Government Takes Steps to Attract New Investment

- Key focus on achieving industrialisation goals of the Tanzania Development Vision by 2025
- Ambassador's appointed to South Korea and Australia to promote trade and investment links, both indicating strong support for the Epanko development
- Export Processing Zone Authority (EPZA) incentives offered for foreign investment
- Hon. Angellah Kairuki appointed Minister for Minerals
- Mining Commission established with a priority on issuing new mineral titles
- Bank of Tanzania engaged on financing impacts of 2017 legislative changes





- Bank appointed Independent Engineer's Report confirms BFS satisfies IFC Performance Standards for international project financing and meets World Bank Group environmental, health and safety guidelines
- RAP establishes critical project implementation plans and is a pre-requisite for lender credit approval processes
- Early works engineering and construction planning commenced
- Discussions in progress with the Tanzanian Government to confirm implementation arrangements for the Epanko development
- Next steps:
  - finalise project development regulatory framework with the Government
  - finalise construction arrangements
  - prepare submission for the untied loan guarantee ('UFK') from the German Government for the supply of graphite to Kibaran's German customers

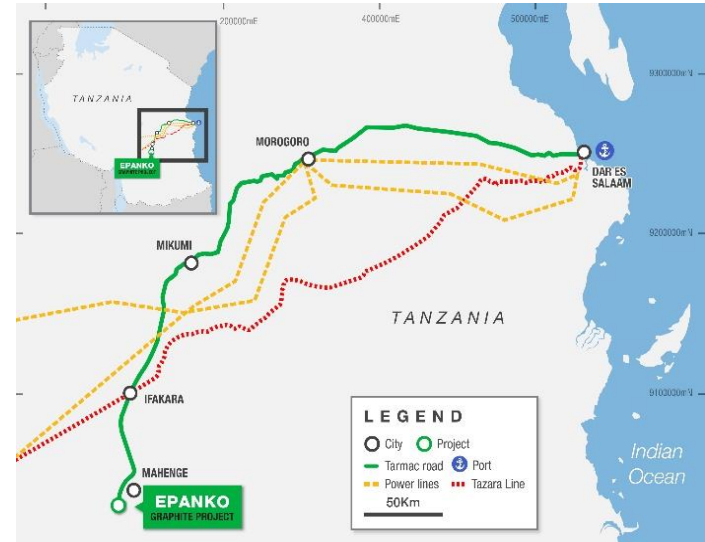




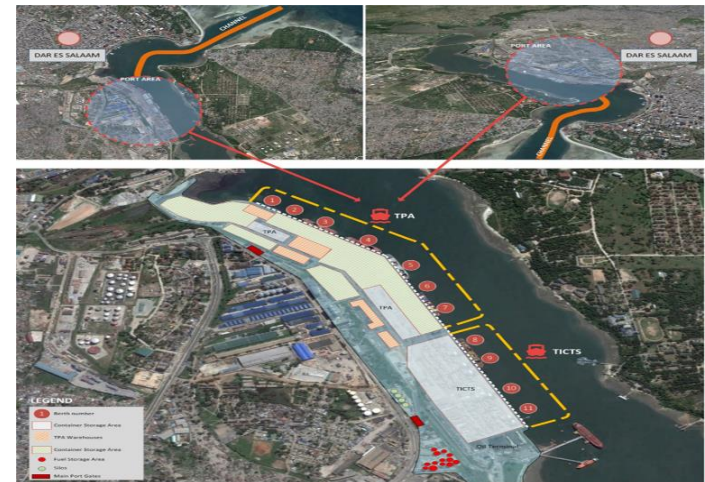


- Existing road access to Mahenge provides an effective logistics solution to Dar es Salaam
  - Construction of bridge across the Kilombero River, linking Ifakara and Ulanga Districts nearing completion and simplifies project logistics
  - Freeway flyover constructed to provide efficient access to Dar es Salaam port
  - Proximity to the Ifakara rail siding presents a cost saving long term strategic logistics option as Epanko production increases
- Product to be exported from the port of Dar es Salaam
- Diesel power for first 2 years of operation prior to connection to grid power at the Ifakara sub station

**Established Regional Infrastructure**



**Export Infrastructure at Dar es Salaam**





- Mineral resource supports potential for depth and strike extensions of the Ore Reserve pit shells
- Mineralisation commences at surface with minimal cover
  - Average LOM strip ratio 0.4:1
- Favourable mineralogy delivers quality and drives robust project economics
  - High proportion of large flake sizes
  - Graphite is easily liberated and delivers high yield
  - Higher carbon grade achieved through simple processing
  - Low levels of in-situ deleterious elements

## *Epanko Mineral Resource Estimate >8% TGC*

JORC Classification	Tonnage (Mt)	Contained Graphite (t)
Measured	7.5	738,900
Indicated	12.8	1,280,000
Inferred	10.4	1,030,600
<b>Total</b>	<b>30.7</b>	<b>3,049,500</b>

## *Epanko Drill Core Rock Texture*



Epanko rocks have undergone extremely high metamorphic pressure and temperature forces that have created unique 'cheetah' like rock textures.





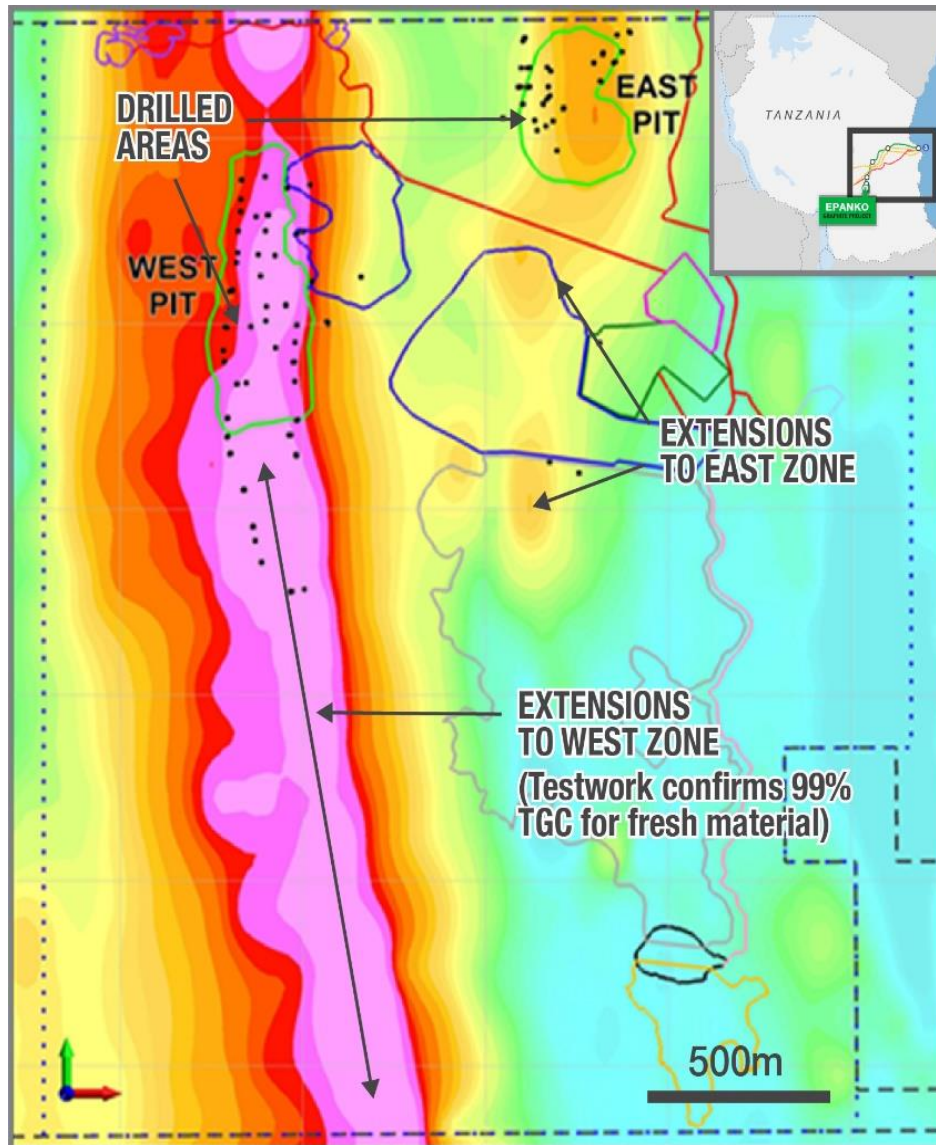
WESTERN ZONE MINERALISATION

PREMIUM QUALITY GRAPHITE UNIQUELY TANZANIAN





# VTEM SHOWS HIGHLY CONDUCTIVE UNDRILLED WESTERN ZONE WITH SIGNIFICANT POTENTIAL



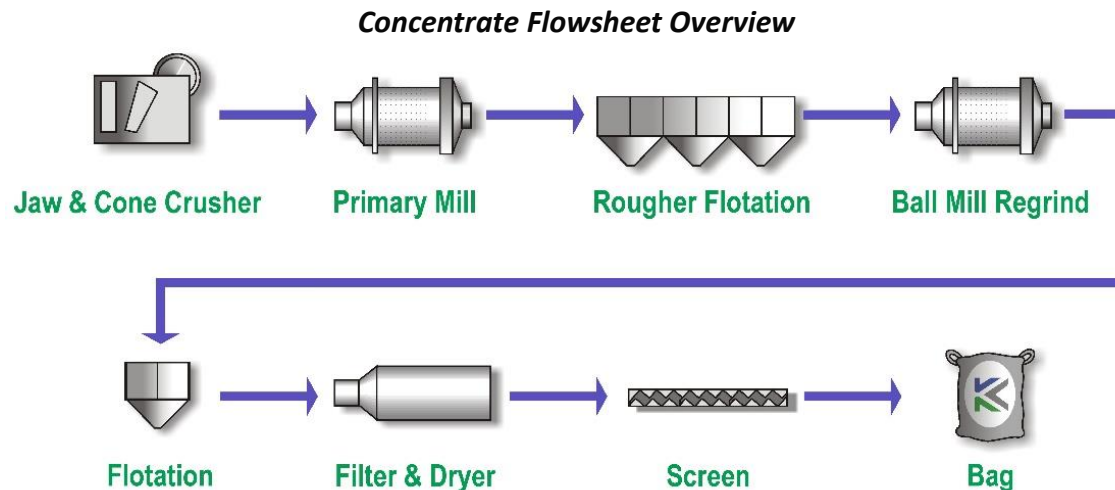
- Significant mineralisation exists outside of the Mineral Resource estimate modelled on an 8% TGC cut-off compared to the 5% TGC cut-off utilised for the Ore Reserve
- High conductivity identified in VTEM survey highlights the potential for the delineation of additional mineralisation along strike and at depth
- Only 1.13km of the 4km strike identified by VTEM survey has been drilled on the West Pit
  - Remains open at depth with the deepest reported graphite intersection at 200m
  - Potential to provide significant tonnages of additional graphite mineralisation



# HIGH GRADE, LARGE FLAKE PROVIDES FLEXIBILITY IN PROCESS FLOWSHEET DESIGN AND PRODUCTS



- Process flowsheet based on established industry processes and equipment
- High level of independent testwork to support BFS including 200t bulk sample
  - Bulk sample was toll treated through an operating graphite production plant
- High level of variability testwork completed
  - Confirmed the potential to produce a 99% carbon concentrate for <150 micron flake from fresh ore
- Increased understanding of flowsheet dynamics to produce desirable properties for both industrial uses and high growth battery markets
  - Epanko has the highest proportion of >150 micron flake and has designed a flowsheet to preserve flake size in this product range



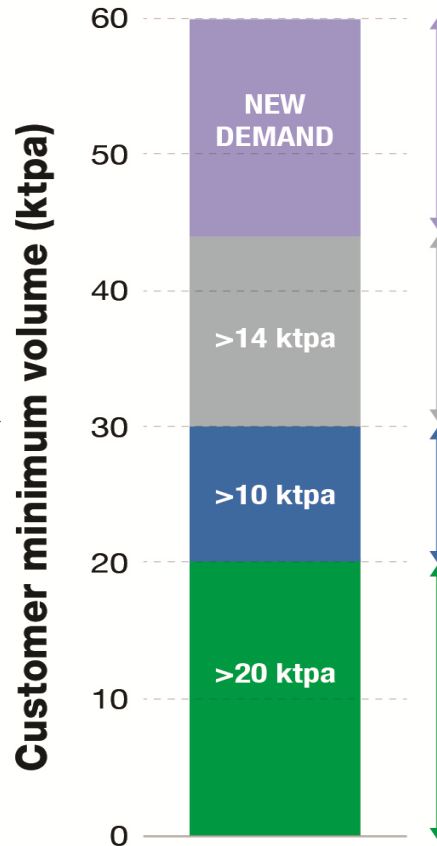
# OFFTAKE AND SALES AGREEMENTS MATCHED TO DEMAND AND POSITIONED FOR GROWTH MARKETS



## Battery Markets



## Traditional Markets



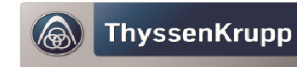
Advanced discussions with existing partners and leading German Carbon Groups



A leading footprint in both industrial and battery graphite markets in Japan and Korea



Established supplier of high value natural graphite products into European markets



Refractory grade graphite into Europe (including Russia, Turkey and Ukraine)



## Graphite Market Has Reached a Major Turning Point

- Chinese Government decision to transition to Electric Vehicles by 2030
- Chinese battery anode manufacturers doubled installed capacity in 2018

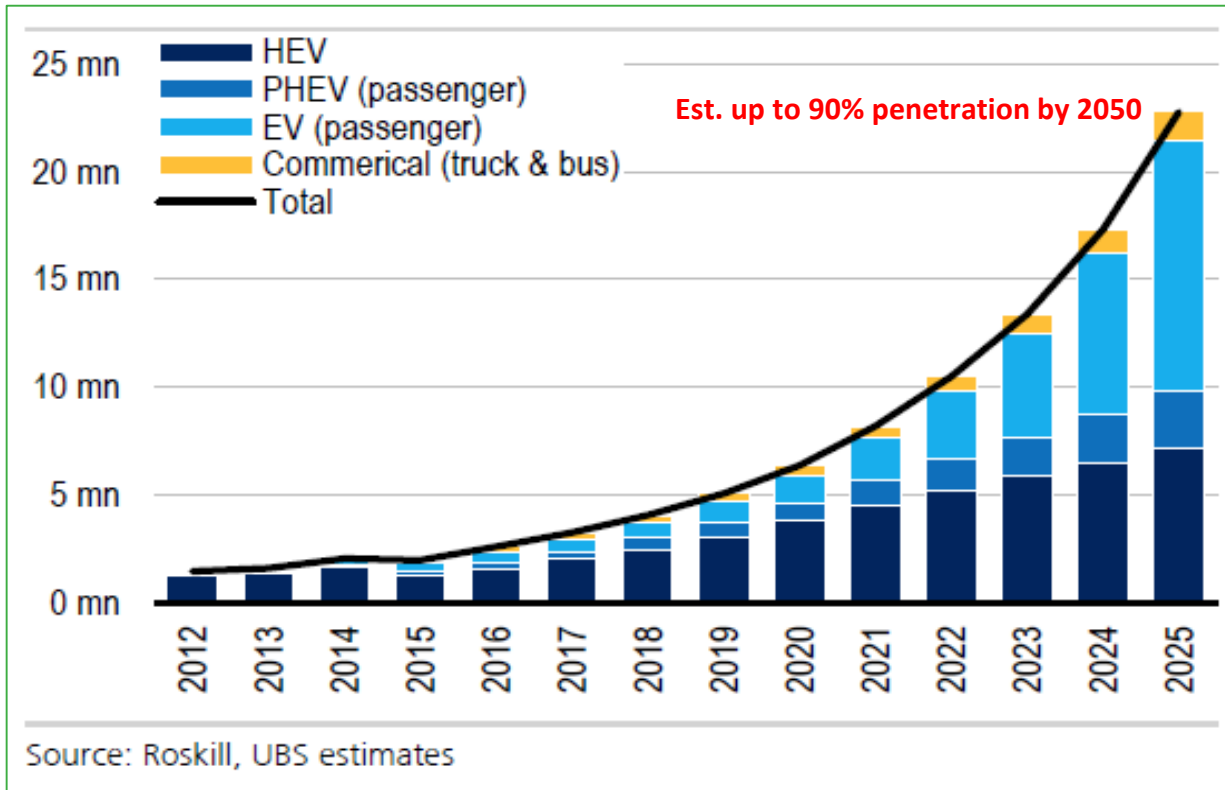
## Positive Outlook for Demand

- Prices for natural flake graphite and battery (spherical) grade graphite have increased significantly (40%)
- Demand by 2020 from Japanese/Korean battery manufacturers to increase 300-400%
- Shortage of large flake and eco-friendly battery graphite
- Restriction in supply due to environmental pressure on producers in China for both natural flake graphite and synthetic graphite
- Increased pressure on the use of hydrofluoric acid (HF) purification processes in China, with some provinces banning the use of HF, currently a key acid used in the purification of battery (spherical) graphite

# GRAPHITE MARKET OUTLOOK (CONTINUED)



EV natural graphite consumption forecast to increase over 700% by 2025 ..... to ~800ktpa<sub>1</sub>



Average EV battery contains ~50kg of graphite, ~55% of which is natural, requiring 55kg of mined graphite to produce 27.5kg SPG

1m EV requires 50-55,000t of mined graphite UBS June 2017

Current EV natural graphite demand ~110ktpa Roskill Feb 2017

96m vehicles sold in 2017

Note 1: 55kg per EV, 22kg per PHEV and 5.5kg per HEV [UBS forecast up to 1.1mtpa]





## GRAPHITE IS THE MAJOR BATTERY COMPONENT

### BATTERY RAW MATERIAL COMPOSITION

47%

GRAPHITE

16%

COBALT

16%

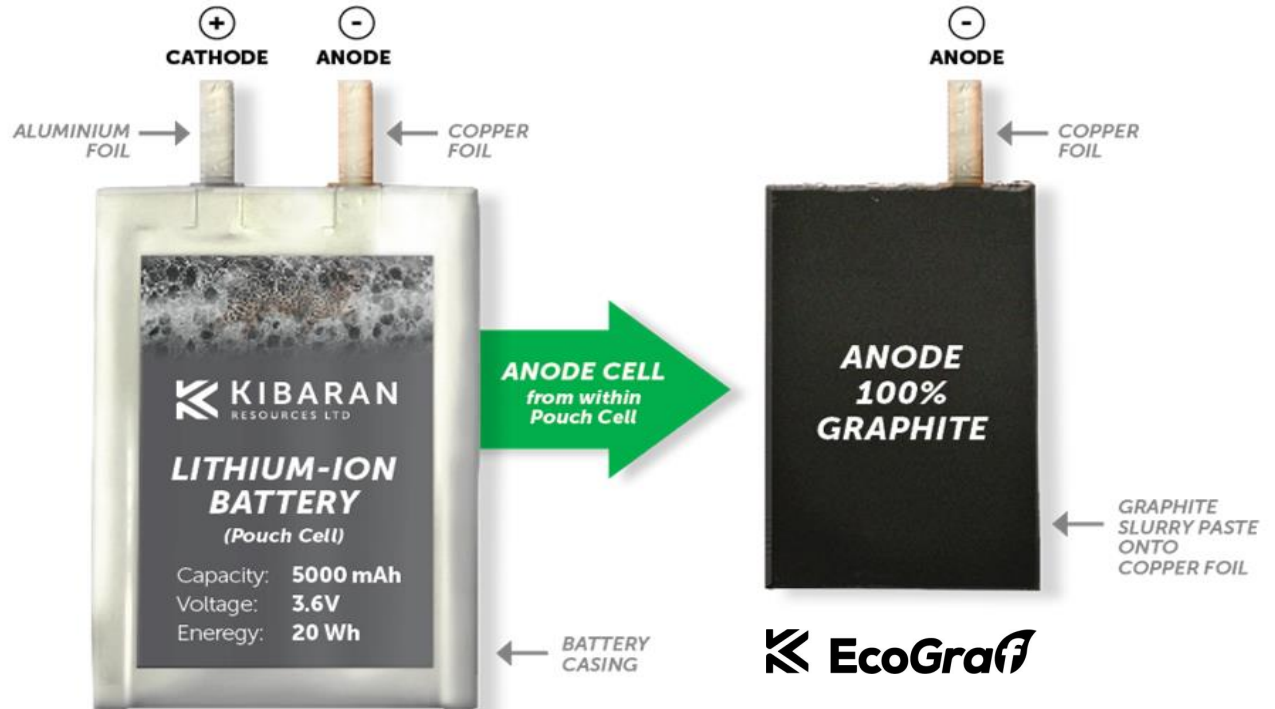
NICKEL

7%

LITHIUM

14%

MANGANESE



- Battery anode produced with Kibaran product sample SPG 14.5 in a leading German research institute



- **Feasibility Study for 20ktpa production of battery graphite – NPV<sub>10</sub> US\$145m**
  - Targeting 30% of market demand outside of China by 2020
- **Major breakthrough with proprietary ‘green’ purification method**
  - No Hydrofluoric (HF) acid required to achieve spherical graphite specification of +99.96%.
  - Provisional patent lodged - supported by trademarks
- **Product qualification**
  - Product samples meet specifications of leading battery manufacturers in Asia and North America
  - First product sample produced via optimised flowsheet
- **Pilot plant test work commenced with phased expansion to meet demand**
  - Evaluation of graphite sources other than Epanko enables early production



**DOWNSTREAM PRODUCTION FACILITY**

Spherical Graphite (SpG)  
 (F) Fines  
 (UN) Unpurified  
 (P) Purified





## GERMAN PILOTING TESTWORK UPDATE

- Preparing product samples for SPG trials customised for end users
- Optimised purification testwork expected to further reduce consumable and energy consumption leading to lower operating costs
- Funding support from the German Government for equipment
- Plans to expand piloting facilities to stage 1 production on schedule with strong interest for the development from Germany
- Application of the new eco-friendly purification process to existing graphite feedstocks from Africa, South America, Europe, India and Asia is underway using the piloting facilities

premium quality graphite uniquely tanzanian

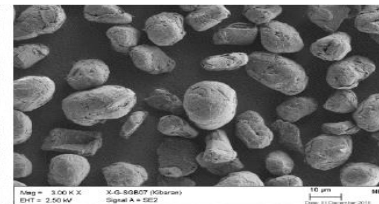
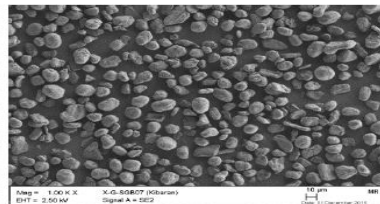
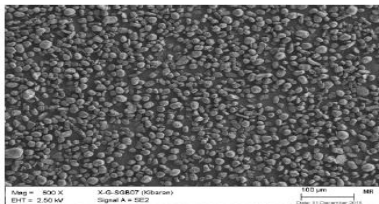




PHASED COMMERCIALISATION STRATEGY

Phase	Battery (Spherical) Graphite	Fines Products
Stage 1 Piloting Test Work Expansion <sup>1</sup>	Epanko + Other existing feedstocks 3,000tpa customers trials and sales	3,000tpa
Stage 2 Commercial Launch	5,000tpa	<5,000tpa
Stage 3 Commercial Expansion	20,000tpa	<20,000tpa

\*Refer ASX Announcement 5 December 2017 and the Company confirms there are no material changes to the assumptions in that release.



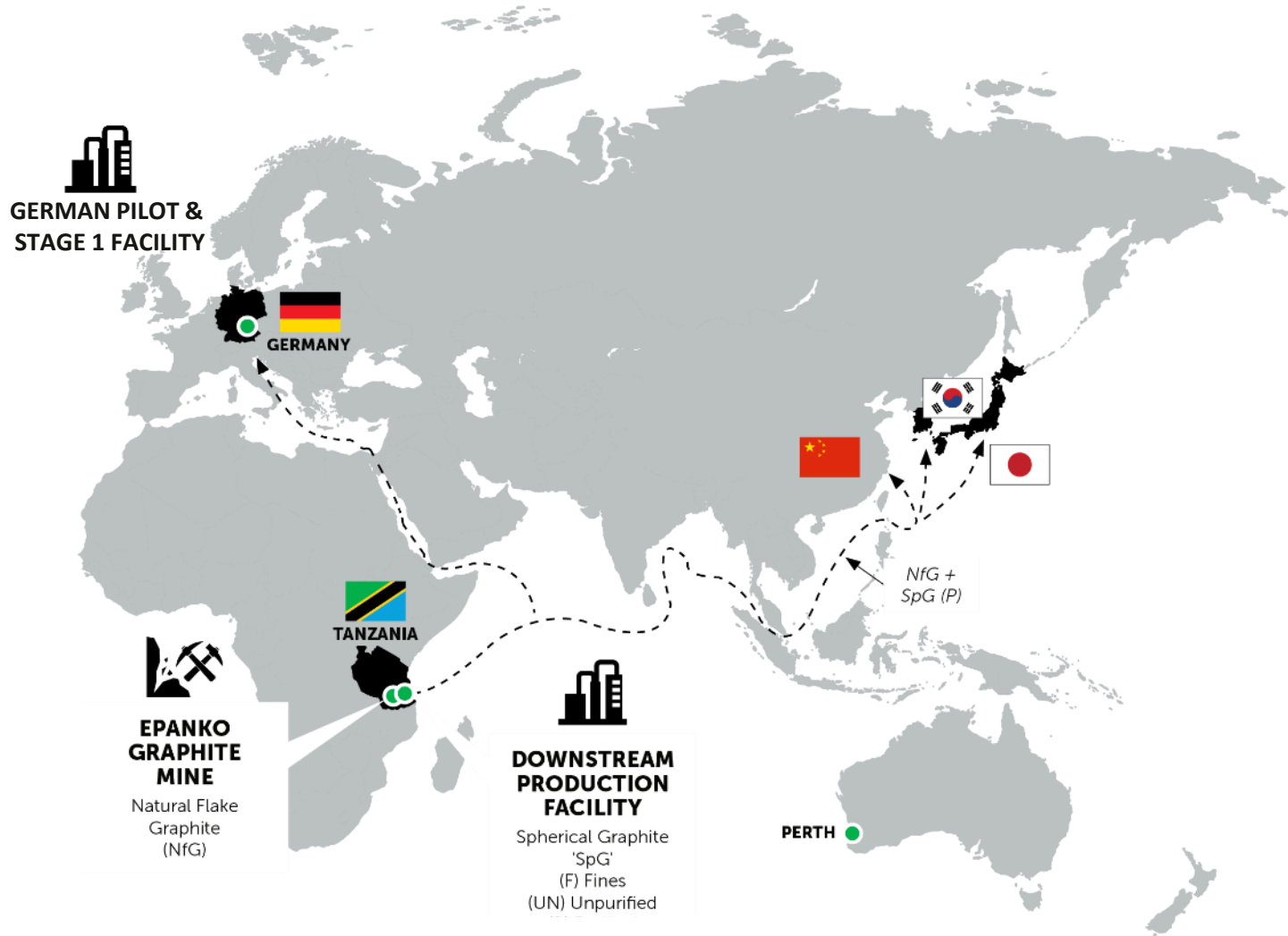
premium quality graphite uniquely tanzanian



# GLOBAL DISTRIBUTION STRATEGY



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## Bridge2Aid

Kibaran is a founding donor to Bridge2Aid Australia which commenced last year. The charity is now up and running, with several Australian volunteer dentists already travelling to Tanzania in May this year.

## Sponsorship of Local Youth – Training & Employment within the Local Community

A screening process was conducted by Kibaran identifying 32 youth in the project’s catchment area and as a result has sponsored 6 youths that have passed the VETA entrance exam to attend VETA in Ifakara for 2 years. VETA is akin to TAFE in Australia. Half of the group are completing fitter/mechanics courses, several are doing carpentry and a others are doing masonry/bricklaying. The intent being to offer them a job when they have completed their course. Employment opportunities within the local community will continue to grow as our project progresses.

## Keep-A-Girl in School

In terms of hygiene and health, the Company donated 12 months’ supply of female hygiene products to every girl at both Nawenge Secondary School and Celina Kombani Secondary School under the banner of Keep- A- Girl-In-School. Feedback from both schools showed an increase in attendance of the girls at school and an increase in academic performance.

## School Donations

The Socks for Schools initiative, coordinated by Mr Mark Ould of Malibu Podiatry in Western Australia and supported by other WA podiatrists, continued this year. The socks were distributed by Kibaran to children in various secondary schools in the Ulanga District along with footballs and netballs. Cement was donated to Ulanga Secondary School to assist with construction of classrooms.

***“Development of Kibaran’s graphite project will be to the benefit of all key stakeholders with genuine and lasting benefits for all the local community”***

- Direct employment and training of over 200 Tanzanians during operations. Multiplier effect is expected to reach 10-15 times
- Over US\$500m will be invested in Tanzania via taxes, royalties, inspection fees, salaries and wages, purchases of goods and services in the first 20 years
- Positive economic and social impacts for the Ulanga District and Morogoro Region





**EPANKO BANKABLE FEASIBILITY  
STUDY - 60KTPA**

**DEBT FINANCING  
& MINE DEVELOPMENT**

**TANZGraphite**

Total pre-tax  
NPV<sub>10</sub> US\$356m  
vs US\$30m KNL  
enterprise value  
*(geared, nominal terms)*

**BATTERY GRAPHITE FEASIBILITY  
STUDY - 20KTPA**

**EcoGrafi**

**PILOT PLANT UNDERWAY IN  
GERMANY**

\*Refer ASX Announcements 21 June 2017 and 5 December 2017.





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