

7 February 2018 ASX Announcement

#### **COMPANY PRESENTATION**

**Kibaran Resources Limited (Kibaran** or the **Company**) (ASX: KNL), is pleased to announce that Managing Director Andrew Spinks is presenting the attached presentation at the 2018 Arlington Predaba and Mining Indaba conferences in Cape Town, South Africa.

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# CAPE TOWN MINING CONFERENCES PRESENTATION

PREMIUM QUALITY GRAPHITE UNIQUELY TANZANIAN





- 5 Our vision
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- 7 Value proposition
- 8 Funding strategy
- 10 Epanko supported by existing infrastructure
- 11 A high quality graphite deposit with scale
- 12 Outlook of Western Zone Ridge Line
- VTEM shows highly conductive undrilled Western Zone with significant potential
- High grade, large flake provides flexibility in process flowsheet design and products
- Offtake and sales agreements matched to demand and positioned for growth markets



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- 23 Community development and engagement
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#### **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 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.

#### **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 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 that the information appears.



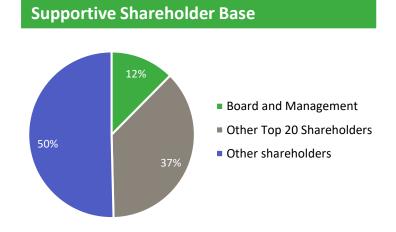
"To become a high margin producer of premium quality large flake graphite in Tanzania and a long-term stable supplier of graphite for the high growth battery market"

#### THE RIGHT TEAM TO ADVANCE EPANKO



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, over 25 years' experience, including development of African mines Tulawaka, Golden Pride and Edikan. Order of Australia Medal 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 financing new mining operations.

Capital Structure (ASX:KNL, FSE:FMK)	
Shares on issue	255.7m
Share price (22 January 2018)	\$0.16
Market capitalisation	\$41m
Cash position (31 December 2017)	\$2.2m
Unlisted options – Various expiries & exercise prices	3.05m
Top 20 shareholders	48%





#### **EPANKO GRAPHITE PROJECT**



Natural Flake Graphite (NfG)

Production NPV EBITDA 60ktpa US\$211m US\$44.5m

#### DOWNSTREAM PRODUCTION FACILITY

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



Production NPV EBITDA 20ktpa US\$151m US\$31.5m

# Kibaran Resources Limited (ASX:KNL) is uniquely positioned to develop its Epanko Graphite Project for the global battery market.

- Bankable Feasibility Study for 60ktpa graphite mine to World Bank IFC equator principles -NPV US\$211
- Due diligence by bank appointed Independent Engineers completed
- Debt financing discussions 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 for 20ktpa production of battery graphite - NPV US\$145
- Major breakthrough with proprietary 'green' purification method
- Product samples meet specifications of leading battery manufacturers in Japan, Korea, China, Germany and USA









- Completed BFS is a key catalyst for lenders, with bank financing demanding the highest technical, social and environmental standards
- KFW IPEX-Bank
- Recently finalised RAP establishes critical project implementation plans and is a pre-requisite for lender credit approval processes
- Debt discussions continuing with KfW, Nedbank, EFIC and commenced with the Tanzanian Government regarding the implementation of the new mining legislation



- establish Tanzanian regulatory framework for the Epanko development
- finalise proposed construction arrangements
- prepare submission for the untied loan guarantee ('UFK') from the German Government for the supply of graphite to Kibaran's German customers
- In parallel with debt program, progressing discussions with strategic equity investors, including sales partners, industry participants and private equity groups





#### **All Funding Documents Completed**

- Bankable Feasibility Study on Epanko Graphite Mine for the production of 60ktpa
- KfW-IPEX Bank Independent Engineers Report
- Resettlement Action Plan

#### **Recent Positive Tanzanian News**

- Regulations supporting recent legislative changes in place
- Splitting of Minerals and Energy Ministry
- Ms Angellah Kairuki appointed Minister for Minerals
- Majority of the new provisions are not expected to impact Epanko given graphite is an industrial mineral product of 96% carbon that will be sold as a final product
- 3% royalty rate remains unchanged for graphite

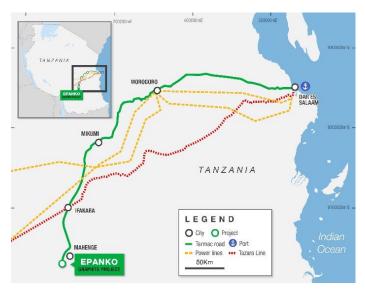


#### EPANKO SUPPORTED BY EXISTING INFRASTRUCTURE



- 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 provides a long term strategic logistics option as Epanko production increases
- Concentrate 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
  - Grid power costs expected to be US\$0.09kwh vs diesel costs of US\$0.30kwh

#### **Established Regional Infrastructure**



Export Infrastructure at Dar es Salaam



#### A HIGH QUALITY GRAPHITE DEPOSIT WITH SCALE



- 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
Total	30.7	3,049,500

#### **Epanko Drill Core Rock Texture**



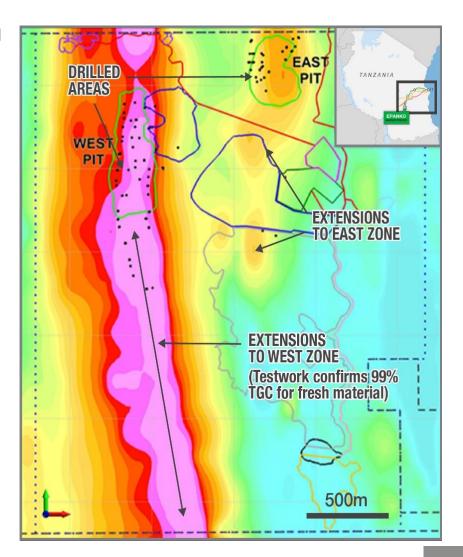
Epanko rocks have undergone extremely high metamorphic pressure and temperature forces that have created unique 'cheetah' like rock textures.

# K OUTLOOK OF WESTERN ZONE RIDGE LINE **WESTERN ZONE MINERALISATION**

## VTEM SHOWS HIGHLY CONDUCTIVE UNDRILLED WESTERN ZONE WITH SIGNIFICANT POTENTIAL



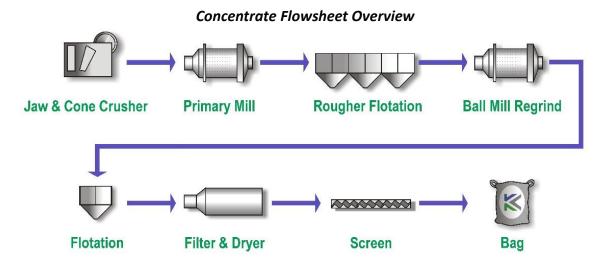
- Significant mineralisation exists outside of the Mineral Resource estimate modelled on an 8% TGC cut-off compared to the 5% TGC cut-off utilised for the Ore Reserve
  - Mineral Resource at lower 5% TGC is 113.3Mt at 7.2%
     TGC grade for 8.1Mt contained graphite
  - Importantly the 7.2% TGC grade under the 5% TGC cutoff above is higher than comparable Tanzanian deposits of relative scale
- 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

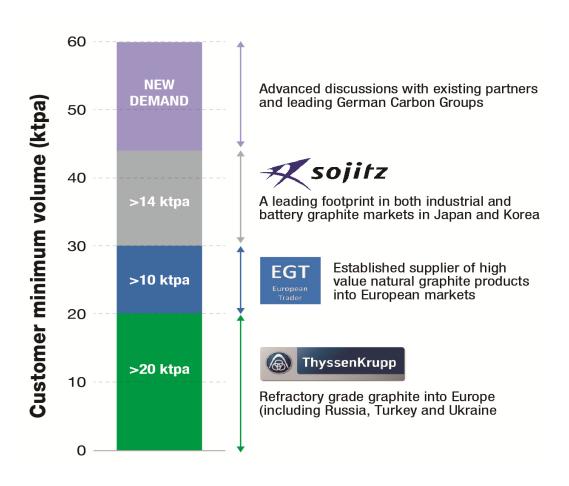


- Process flowsheet based on established industry processes and equipment
- High level of independent testwork to support BFS including 200t bulk sample
  - Bulk sample was toll treated through an operating graphite production plant
- High level of variability testwork completed
  - Confirmed the potential 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 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







#### **Graphite Market Encountered a Major Turning Point**

 Turning point driven by Chinese government decision to go solely Electric Vehicles by 2030.

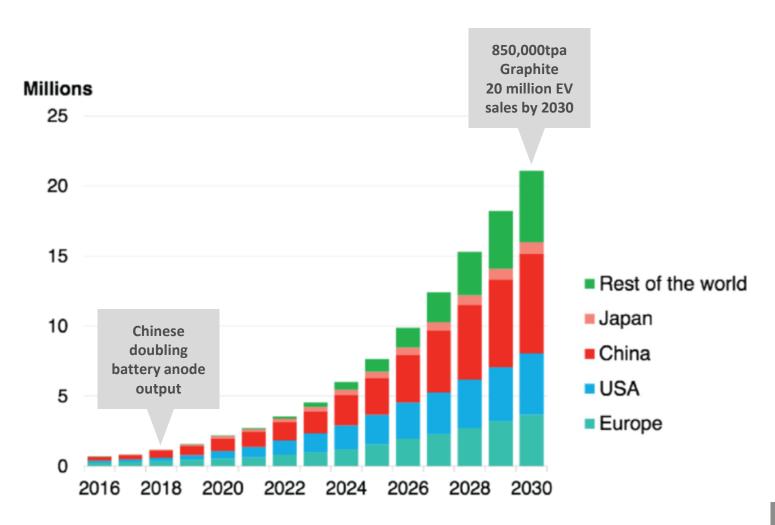
#### **Positive Outlook**

- Prices for natural flake graphite and battery (spherical) grade graphite prices significantly increased.
- Chinese battery anode manufacturers doubling installed capacity in 2018
- Restriction in supply due to environmental pressure producers in China by their Government for both natural flake graphite and synthetic graphite.
- Market shortage of high-quality battery-grade graphite meeting market specifications
- Increased pressure on the use of Hydroflouric (HF) graphite with some provinces banning the use of HF which is the key acid in the current purification method for Battery (Spherical) grade graphite



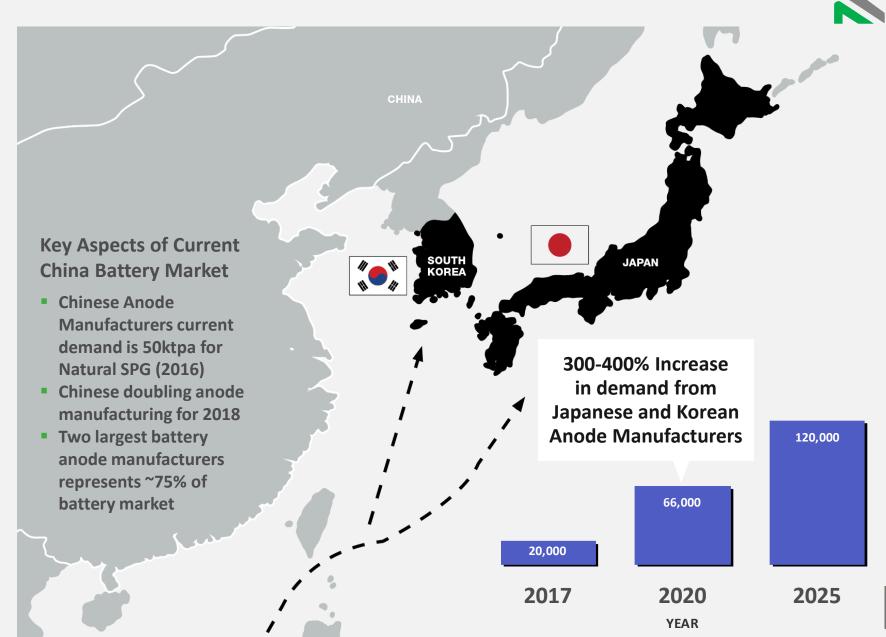


#### Electric Vehicles driving demand for graphite with EV Penetration 35-47% by 2040



(Source : Bloomberg New Energy Report)

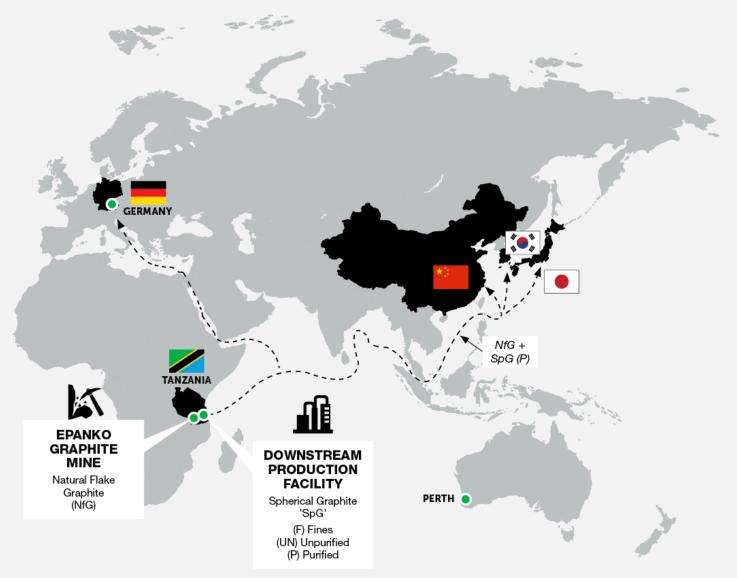
#### POSITIONED FOR THE EXPECTED GROWTH



#### STRATEGIC LOCATION



A global Spherical Graphite mine to market strategy





#### **Key Highlights**

- Feasibility Study for 20ktpa production of battery graphite NPV US\$145
- Major breakthrough with proprietary 'green' purification method. No Hydrofluoric (HF) acid required to achieve Spherical Graphite specification +99.96% Carbon, due to unique mineralogy. Patent lodged and IP secured
- Product samples meet specifications of leading battery manufacturers in Japan, Korea,
   China, Germany and USA
- First product sample produced via optimised flowsheet
- Pilot plant via staged expansion to production and staged growth to meet demand

#### DOWNSTREAM PRODUCTION FACILITY

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



#### BATTERY (SPHERICAL) GRADE GRAPHITE PRODUCED



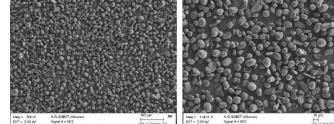
- Kibaran (KNL) produced 2 different types of SPG in a commercial plant in China: SPG 14.5 and SPG 20
- Feed material was -195 produced by flotation from Epanko ore
- SPG-Material was tested by different institutes and potential customers
- Positive feedback by all anode manufacturers
- Basic analytical results of the SPG are as follows:

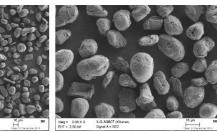
Grade	SPG 14.5	SPG 20
Carbon Content	99.98%	99.98%
Ash	0.02%	0.02%
Moisture	0.10%	0.10%
d10	9.8 micron	12.1 micron
d50	14.8 micron	19.0 micron
d90	22.3 micron	29.2 micron
SSA	$7.8 \text{ m}^2/\text{g}$	6.5 m <sup>2</sup> /g
Tap Density	0.95 g/ml	0.96 g/ml

#### BATTERY ANODE MATERAL



Battery anode produced with SPG 14.5 in a leading German research institute



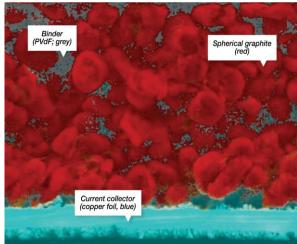






PREMIUM QUALITY GRAPHITE UNIQUELY TANZANIAN

Section through the anode cell showing Epanko Battery (Spherical) Graphite coated on to the anode copper foil



#### COMMUNITY DEVELOPMENT & ENGAGEMENT



#### **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 to Tanzania in May this year. <a href="https://www.bridge2aid.com.au">www.bridge2aid.com.au</a>

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

A screening process was conducted by Kibaran identifying 32 youth in the projects 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, 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**

Socks for Schools initiative, initiated 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"





# EPANKO BANKABLE FEASIBILITY STUDY - 60KTPA

# DEBT FINANCING & MINE DEVELOPMENT

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



# BATTERY GRAPHITE FEASIBILITY STUDY – 20KTPA

BATTERY GRAPHITE PILOT PLANT UNDERWAY IN GERMANY



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