KIBARAN RESOURCES LIMITED | EcoGraf

BUILDING A SUSTAINABLE ECO-FRIENDLY GLOBAL GRAPHITE BUSINESS

Informa Lithium & Battery Metals Conference Presentation

20-21 March 2019, Crown Perth, WA

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The production targets and forecast financial information referred to in this presentation were originally reported to the ASX by the Company on 21 June 2017 and on 5 December 2017. All material assumptions underpinning the production targets and forecast financial information reported in those ASX announcements continue to apply and have not materially changed.

Competent Persons

Information in this presentation 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 this presentation of the matters based on his information in the form and context in which it appears.

Information in this presentation 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 presentation of the matters based on his information in the form and context in which it appears.

Information in this presentation 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, 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”. Steve O'Grady consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

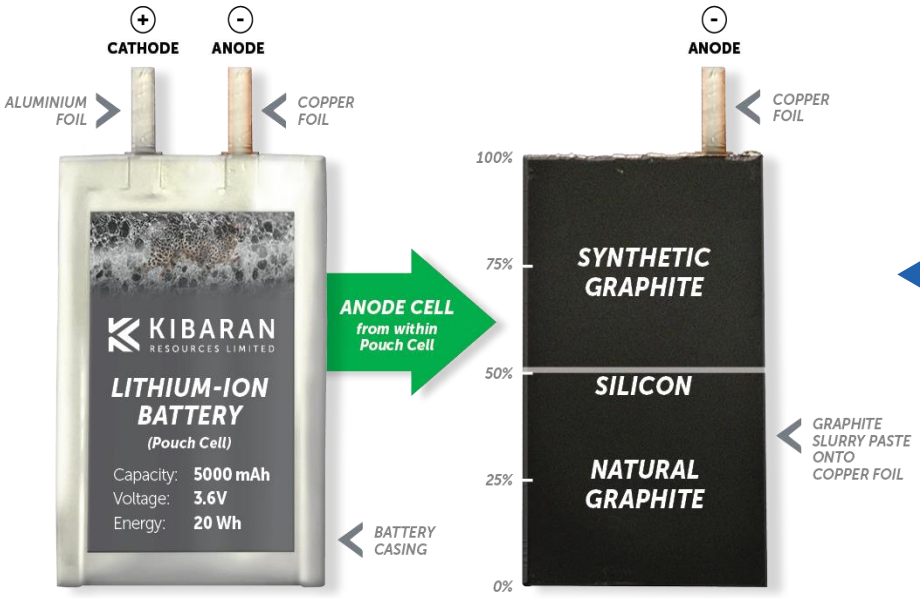
BATTERY MARKET OPPORTUNITY: E-MOBILITY

Graphite is a major component of a Lithium-Ion Battery

40% of EV cost is the electric battery and 70% of the battery cost is the cathode (+ve) and anode (-ve) cells

BATTERY RAW MATERIAL COMPOSITION

- 47% GRAPHITE
- 16% COBALT
- 16% NICKEL
- 7% LITHIUM
- 14% MANGANESE



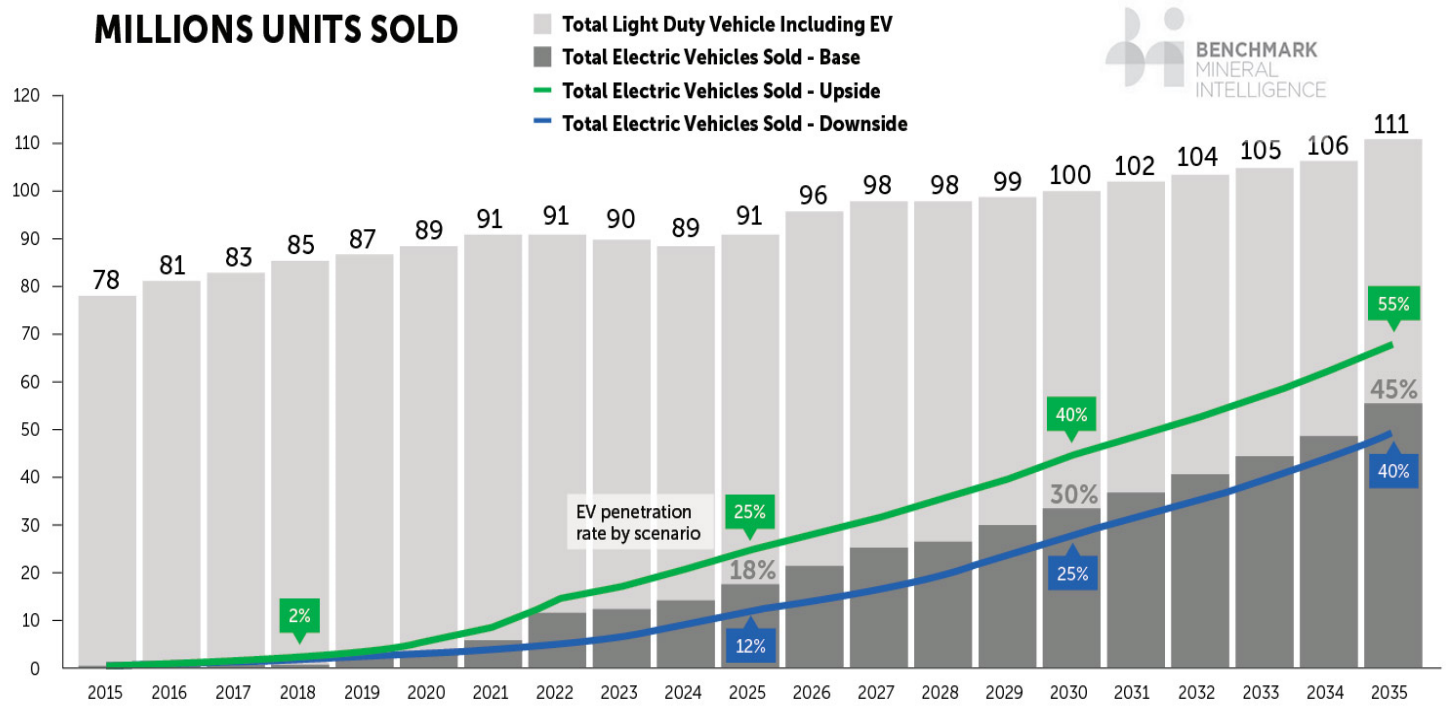
~27kg of natural battery (spherical) graphite will be required per EV

Source: Berlin automobile conference and company reports

INCREASING GRAPHITE DEMAND DRIVEN BY EV SALES

EV penetration rates increasing from 2% in 2018 to 25% by 2025 *Roskill, UBS*

Global expansion of electric vehicle markets forecast to drive a 700% increase in annual natural graphite demand by 2025, *Roskill, UBS*



Source: Benchmark Mineral Intelligence

GERMAN LED EUROPEAN BATTERY ALLIANCE

Source: Bloomberg New Energy and Benchmark Minerals

New capacity of 47 GWh announced to date

Volkswagen alone requires 150 GWh battery capacity by 2025

+ sufficient for 3 million EV's and requiring over 80,000 tonnes of natural battery graphite

NEW GRAPHITE MINING & MANUFACTURING BUSINESS POISED FOR DEVELOPMENT

TANZGraphite EcoGraf

Scalable mining projects for long term supply of graphite products	Value-add manufacturing of battery (spherical) graphite for lithium-ion batteries
Development ready Epanko Graphite Project	Tanzania / Asia / Europe

Total pre-tax NPV_{10} US$356m

(geared, nominal terms)

Shares on issue	Key holders	Financial
Listed 282m F-diluted 284m	Colonial 13% Board 10% Value-on-Gr. 4% GR Engineer. 2%	Share Price - A$0.11 Mkt Cap - A$30.4m

Strong mix of mining, commercial and graphite experience

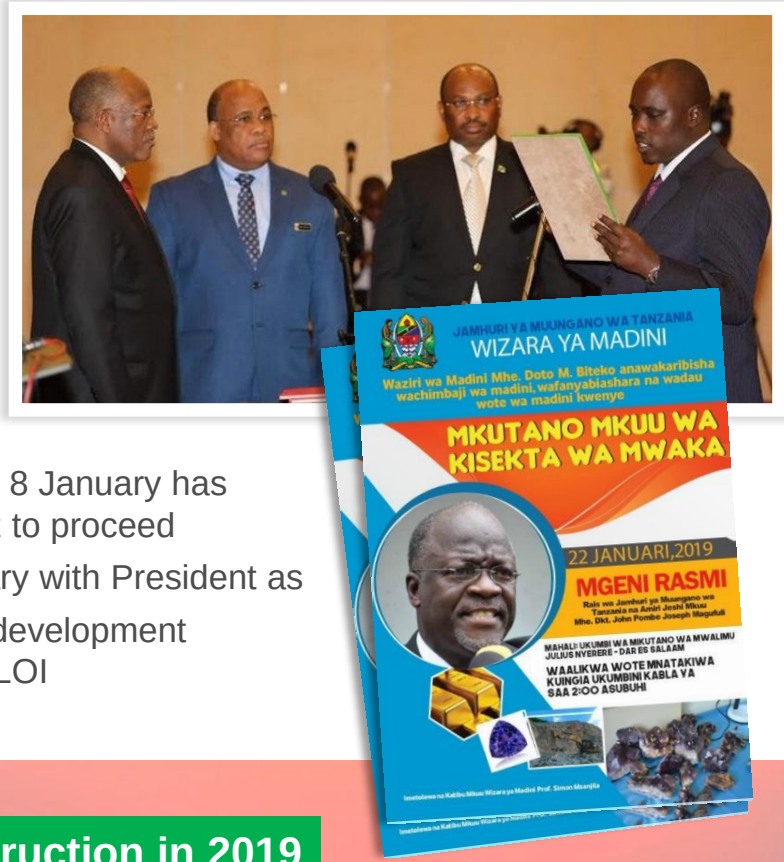
- Kibaran Chairman Robert Pett, Managing Director Andrew Spinks and in-country Project Director Grant Pierce OAM established Tanzania's Golden Pride Mine which was the recipients of the President's Award in Tanzania for environmental excellence.
- German-based non-executive director Christoph Frey (ProGraphite) is a globally recognised graphite expert. Howard Rae, CFO has over 20 years' experience in financing new mining operations.
- Listed on the Australian and German (Frankfurt) stock exchanges

TANZGraphite UPSTREAM GRAPHITE BUSINESS SUMMARY

Epanko Graphite Project	
Description	Natural flake graphite project
Location	Epanko Valley, Mahenge, Ulanga District, Morogoro Region, Southern Tanzania
Status – **ready to construct**	Bankable Feasibility Study completed June 2017 Independent Engineer's Review via KfW and SRK completed August 2017 Financing interest from German and Australian Government lenders
Social and environmental planning	Completed to Equator Principles standards and achieved: • International Finance Corporation Performance Standards • World Bank Group Environmental, Health & Safety Guidelines
Production	Stage 1 is 60,000 tonnes per year of natural flake graphite Scalable development model enables rapid expansion to meet market demand
Construction cost	Stage 1: US$89 million (plus US$20m for grid power connection)
Strong economic returns	US$44.5m pa EBITDA // 38.9% IRR // 3.5yr payback // US$211m pre-tax NPV_{10}
Major international customers	Thyssen Krupp (Germany) and Sojitz Corporation Offtake agreements in place for Stage 1
Employment	200 – 250 Tanzanians (directly) benefitting up to 3,000 family members (indirectly)
Direct economic contribution to Tanzania over first 20 years of operation	**US$850 million** via employment, procurement, income taxes, royalties, fees and dividends (expected operating period is over 40 years)

EPANKO – POSITIVE DEVELOPMENTS EMERGING IN TANZANIA

- Positive environment expected with Barrick agreeing with terms with Tanzania Government on Acacia issue
- Productive meetings with Ministry of Minerals, Mining Commission and Bank of Tanzania
- Key financing issues:
  - International banks and bank accounts
  - Government equity participation
  - Governing law – disputes and adjudication
  - Logistics and export procedures
- Bank of Tanzania confirms offshore financing arrangements continue to be acceptable
- Genuine effort to ensure new mining investment in 2019
  - New Minister of Minerals (Hon. Doto Biteko) appointed 8 January has visited Epanko and confirmed support for development to proceed
  - Ministry organised TZ Mining Conference 22-23 January with President as guest of honour to renew Government push for more development
- Progressing EPC arrangements with GR Engineering under LOI



Planning for construction in 2019

PREMIUM QUALITY GRAPHITE

SIGNIFICANT CONTRIBUTION TO THE TANZANIAN ECONOMY

US$1.01[1]billion in direct contribution to the economy over the first 20 years through local procurement of goods and services, employment, royalties, taxes, dividends and fees

Direct employment of approximately 300 Tanzanians (over 95% of all staff) for 40+ years

4,500 indirect jobs + new industry

Community development via new housing, school, Church, medical dispensary, health insurance, training and positive engagement to build lasting social partnerships

- Direct contribution of **US$1.01[1]**
- Strong multiplier effect across the economy, with an estimated **US$3 billion additional indirect economic benefits**
- New manufacturing technology
- Technological development in fastest growing global tech sector
- New trading and investment relationships with overseas partners
- 64% of economic returns to Tanzania

Note 1: Epanko and EcoGraf

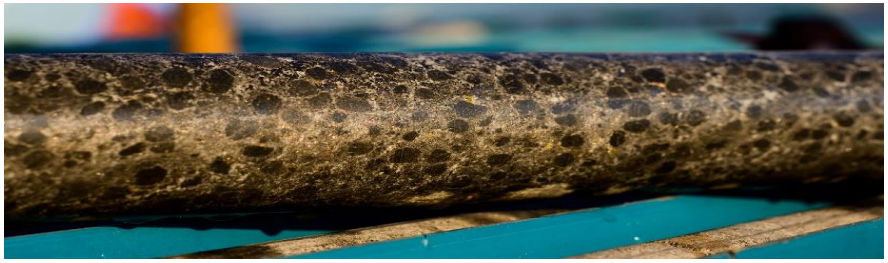
EPANKO A HIGH QUALITY SCALABLE GRAPHITE DEPOSIT

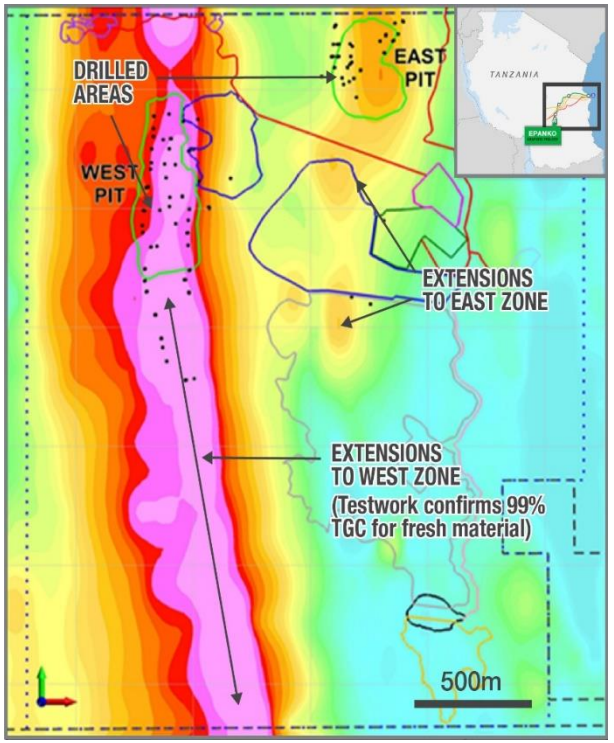
Favourable mineralogy delivers quality and drives robust project economics

- 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**





- Only 1.1km 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

EcoGraf OVERVIEW

Positioned to capitalise on new investment in lithium-ion batteries for e-mobility

Global patent pending over unique eco-friendly purification processing technology	**German pilot plant program successfully completed**	**Testing undertaken by potential customers confirms product quality and performance**
First production facility planned for 2019	**Highly cash generative business model with payback of less than 4 years**	**35% gross margin delivers EBITDA of US$30.5m per annum at 20,000tpa**

EcoGraf DOWNSTREAM GRAPHITE BUSINESS SUMMARY

Manufacture of Purified Spherical Graphite

Description	Production of battery (spherical) graphite for use in lithium-ion batteries
Location	Initially supplying existing Asia-Pacific markets, thereafter new growth in Europe
Status	Feasibility study completed December 2017 German pilot plant program and process optimisation completed January 2019 Product samples distributed to battery anode manufacturers in South Korea, Japan, China, North America and Germany with strong offtake expected
Production	20,000 tonnes per year of spherical graphite, configured to expand with global demand
Construction cost (2017 Study)	5,000tpa: US$25 million 20,000tpa: additional US$41 million
Strong economic returns (Dec 2017)	US$30.5m pa EBITDA // 34.3% IRR // 3yr payback // US$145m pre-tax NPV_{10}

spherical graphite

graphite coated anode

li-ion battery production

BATTERY GRAPHITE SUPPLY CHAIN

100 mesh @ 94-95%C natural flake graphite

Produced through crushing, grinding and flotation

Mechanical grinding and shaping

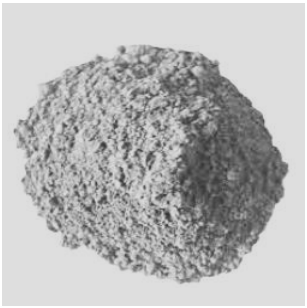
(micronising and spheronising) using standard milling equipment

50%

Unpurified fines bi-product, typically low value

50%

Multi-stage purification, washing and filtration process



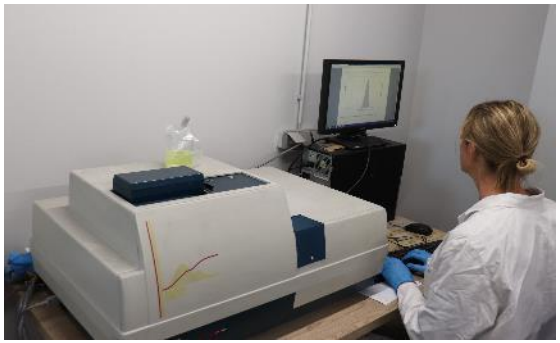
EcoGraf

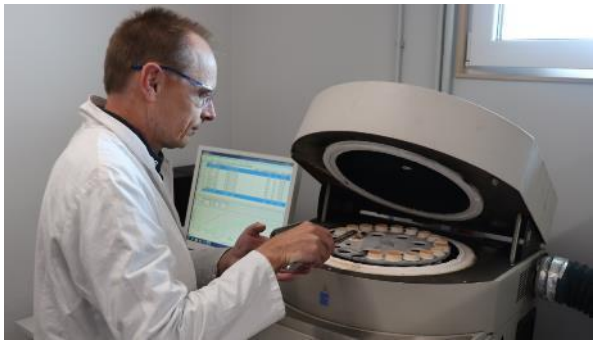
Natural battery graphite

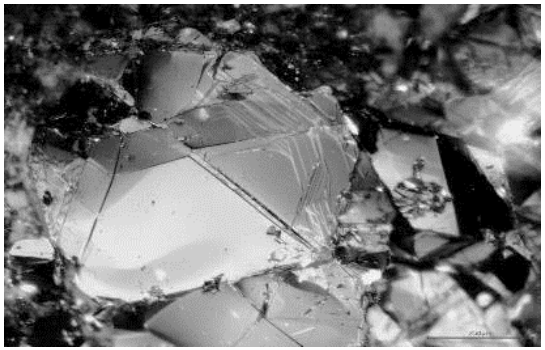
GERMAN PILOT PLANT & OPTIMISATION STUDY

Environmentally sustainable ("green"), hydrofluoric acid (HF) free and cost competitive with existing HF supplies

- Industry leading yields and elimination of highly toxic hydrofluoric acid to deliver a more environmentally sustainable product
- Optimisation study led to further reduction in usage rates resulting in improved operating costs
- Other key achievements:
  - ✓ Treatment of graphite from Kibaran's Epanko Project in Tanzania, including battery (spherical) graphite and fines from spheronization (by-product) produced up to 99.98% carbon
  - ✓ Application of large natural flake graphite samples produced carbon levels above 99.95%
  - ✓ Successful application to 11 other global sources as graphite feedstocks from Europe, Africa, Asia and the Americas.
- Agreement finalised for long-term supply of standard grade graphite (minus 100 mesh at 94% carbon) which will be used as feedstock to support stages 1 and 2 of a stand-alone downstream business







Pilot and laboratory equipment and inspecting graphite samples in the office in Untergriesbach, Germany

EcoGraf PRODUCT SPECIFICATIONS

- ✓ *Battery graphite samples (SpG14.5, 15 and 20) assessed by battery anode manufacturers*
- ✓ *Testing confirms product samples achieve battery anode manufacturers specifications*

Product Specification for Battery Graphite – SPG15

Particle Size		
d10	micron	10.3
d50	micron	15
d90	micron	22.1
Tap density	kg/l	0.98
Surface Area (SSA)	m^2/g	7.4

Carbon	%	99.98
Impurities		
Al	ppm	2.7
Ca	ppm	4.6
Fe	ppm	5.5
Mg	ppm	0.5
S	ppm	5
Si	ppm	15.4
Zr	ppm	0.5

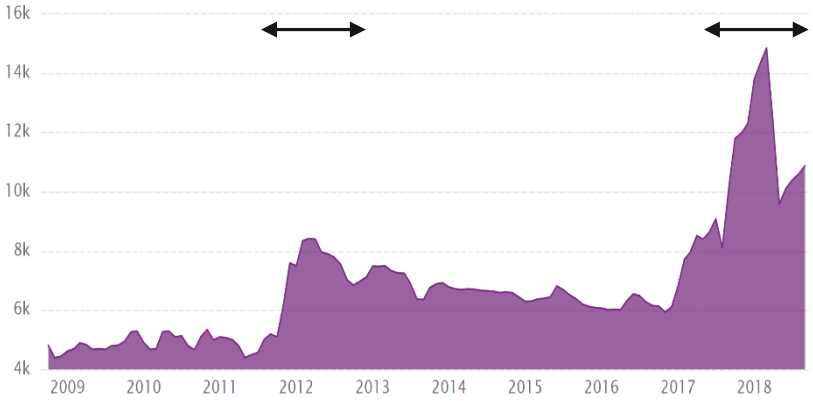
PRODUCT QUALIFICATION PROGRAM

Over 80 graphite samples including various grades of spherical graphite tested successfully by potential customers

	Ore	Flake Conc	High Purity Conc	SPG fines	SPG14.5	SPG15	SPG20	Coated SpG	EcoGraf Purified SPG
Lithium-ion Battery Manufacturers									
South Korea	✓	✓			✓				
Japan	✓	✓	✓		✓	✓	✓		✓
Japan									
China		✓			✓		✓		
Lithium-ion Battery Market Participants									
Germany		✓	✓		✓		✓	✓	✓
Germany		✓	✓		✓		✓	✓	✓
Germany				✓					
US		✓					✓	✓	
Japan		✓							
Germany					✓	✓			

EcoGraf PROVIDES A COMPETITIVE NEW SUPPLY OF BATTERY GRAPHITE TO MEET EX-CHINA DEMAND

Source: Industrial Minerals



China's CN: Market Price (RMB): Monthly Avg: Inorganic Chemical Material: Hydrofluoric Acid 55% from Jan 2006 to Mar 2018

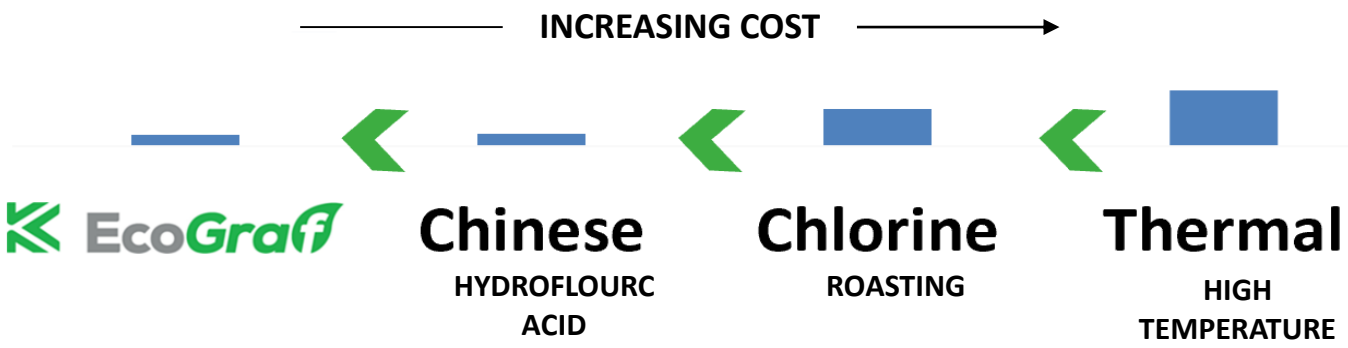
- All battery graphite is presently produced in China using hydrofluoric (HF) acid to achieve 99.95%C with Hubei and Shandong the largest producing areas and increasingly subject to environmental regulation
- HF prices have doubled over past 12 months.
- HF is a major contributor to the cost of Chinese battery graphite production in both input cost and management of fluorine enriched waste residues
- 0.25 tonne of HF is required to produce for 1 tonne of battery graphite.
- Chinese cost of battery graphite is estimated ~ US$2,000 – US$2,400 per tonne

EcoGraf PROVIDES A COMPETITIVE NEW SUPPLY OF BATTERY GRAPHITE TO MEET EX-CHINA DEMAND

EcoGraf advantages to existing supply

BATTERY GRAPHITE	EcoGraf	
Purification grade	>99.98%	>99.95%
Purification of fines	✓	✗
Eliminates use of toxic hydrofluoric acid	✓	✗
Eco-friendly	✓	✗

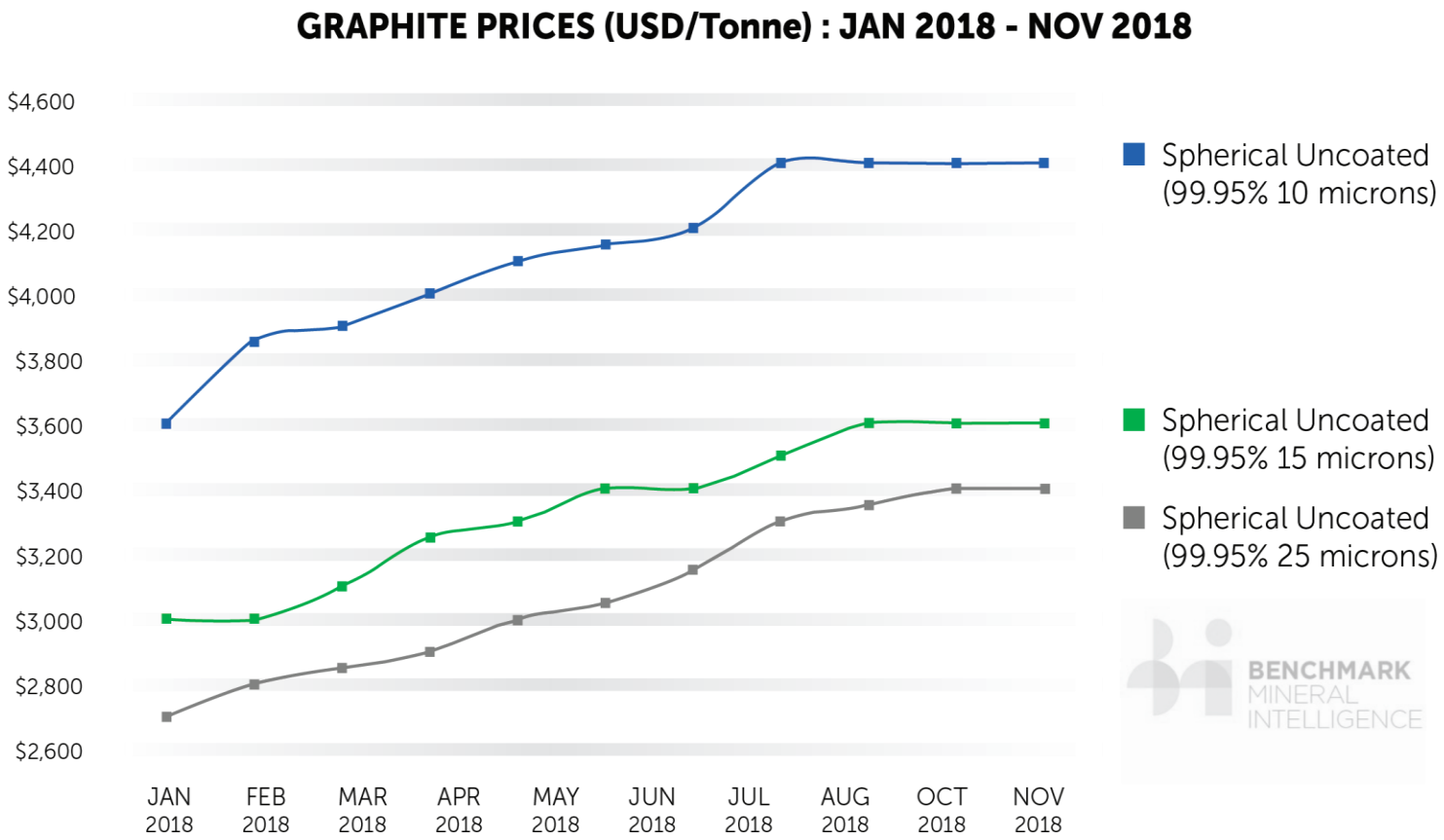
EcoGraf is competitive to existing supply and alternative purification methods



Source: ProGraphite and company reports

GROWING BATTERY DEMAND UNDERPINS HIGHER PRICES

Chinese demand up 39% and exports now expected to break through 100,000 tonnes of battery graphite, dominated by 3 major groups



Source: Benchmark Mineral Intelligence

GRAPHITE VALUE CHAIN

Opportunity to capture downstream processing market value is compelling

Natural Flake Graphite

PRICE RANGE
US$700-2,100/t

TANZGraphite

Development of
Epanko Graphite Mine

Sales in place for
30% of traditional markets in
Europe, Japan and South Korea

Market Value
US$0.7 Billion

thyssenkrupp · EGT Europe · sojitz

Spherical Graphite (Natural Graphite)

PRICE RANGE
US$3,400-4,400/t

EcoGraf

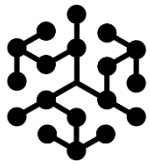
Asia-Pacific and European production

Targeting 25-30% ex-China market

Market Value
US$2.5 Billion

Coated Spherical Graphite Battery Anode Cells

PRICE RANGE
US$5,200-16,000/t



Potential entry into anode market with partnerships.

Market Value
US$8.5 Billion

Source: ProGraphite Presentation IM Conference September 2018

BUILDING A GLOBAL GRAPHITE SUPPLY NETWORK

German EV market to create new raw material demand in Europe

STAGE 2

EcoGraf

EUROPEAN HUB

EUROPE

GERMANY

Demand for battery graphite outside China is increasing 5-fold from 20,000t to over 100,000t by 2020

STAGE 1

ASIA

EcoGraf

ASIA-PACIFIC HUB

AFRICA

TANZANIA

TANZGraphite

EPANKO GRAPHITE PROJECT

SOUTH AMERICA

PERTH

KEY

- Kibaran Offices
- Graphite Producing Continents

TANZGraphite

High quality 40+ year supply of natural flake graphite at Epanko and Merelani in Tanzania

EcoGraf

Unique non-HF purified spherical graphite (*patent pending*)

CATALYSTS TO UNLOCK VALUE

Building a Sustainable Global Graphite Business

UPSTREAM BUSINESS
EPANKO GRAPHITE PROJECT

Natural
Flake
Graphite
(NfG)

Production	60ktpa
NPV_{10}	US$211m
EBITDA	US$44.5m

- ❑ **Project financing**

TANZGraphite

+

DOWNSTREAM BUSINESS
BATTERY GRAPHITE FACILITY

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

Production	20ktpa
NPV_{10}	US$145m
EBITDA	US$30.5m

- ❑ **Strategic partnerships**
- ❑ **Offtake**

EcoGraf

Total pre-tax NPV_{10} US$356m
(geared, nominal terms)

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THANK YOU