BUILDING A SUSTAINABLE MATERIAL SUPPLY FOR THE EV BATTERY MARKET

Annual General Meeting - 29th Nov 2019
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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.
VERTICALLY INTEGRATED BUSINESSES FOR MANUFACTURE OF BATTERY GRAPHITE FOR THE LITHIUM-ION MARKET

**Strong mix of graphite expertise, commercial and project development**

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

<table>
<thead>
<tr>
<th>Shares on issue</th>
<th>Key holders</th>
<th>Financial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed 306m F-diluted 307m</td>
<td>Mitsubishi UFJ Group 12.5%</td>
<td>Cash (1 Oct) – $1.4m</td>
</tr>
<tr>
<td></td>
<td>JP Morgan Nominees 11.8%</td>
<td>Share Price – 9.2c</td>
</tr>
<tr>
<td></td>
<td>Board 10%</td>
<td>Mkt Cap - A$29.9m</td>
</tr>
</tbody>
</table>

Total pre-tax NPV$_{10}$ US$546m and EBITDA US$121.5m (geared, nominal terms)

Manufacturing of battery (spherical) graphite for lithium-ion batteries

Scalable mining projects for long term supply of graphite products

- Australia / Asia / Europe
- Epanko Graphite Project
- Debt Financing Advanced

**EcoGraf**

**TANZGraphite**

Australia / Asia / Europe

Epanko Graphite Project

Debt Financing Advanced

**ASX: KNL**

**FSE: FMK**
2019 HIGHLIGHTS

Milestone year with the first EcoGraf development advancing towards a ‘Final Investment Decision’ and strong Government Support in Tanzania expected to result in financier approvals for Epanko

- Delivered GR Engineering studies for planned purification facilities in Asia and Western Australia.
- Selected and declared Kwinana as preferred site for first facility
- Continued extensive customer product qualification program using new spheronising piloting equipment
- Received WA State Government support and commenced pre-development activities, including engineering, permitting and environmental approvals.
- Debt financing process commenced with potential lenders

2020 Priorities - Complete pre-development activities, secure Final Investment Decision in 1H CY2020 and commence Kwinana construction

- KfW IPEX-Bank mandated for US$40m Epanko debt funding
- Extensive high-level meetings in Tanzania to satisfy financier regulatory requirements
- Commenced US$20m debt funding program with an additional lender for a total project debt funding of US$60 million

2020 Priorities - Secure financial approvals for Epanko debt financing program

Corporate

- Attracted another large institution to the register with Mitsubishi Financial Group
- Resolved all R&D matters and received approval for overseas R&D for a total $8.4m
- Proposed name change to EcoGraf Limited
Global expansion of electric vehicle markets reliant on battery graphite

Battery graphite processed from natural flake graphite into a 99.95% high purity product suitable for anode manufacturing

Natural (Spherical) Graphite per EV
- 54kg of natural graphite feedstock is required to manufacture 27kg of natural (spherical) graphite
- Natural (spherical) graphite used in battery anode is currently only sourced from China
**BATTERY GRAPHITE DEMAND**

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

200 GWh = 4 million EV’s = 100,000t Natural (Spherical Graphite)

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**Battery (GWh)**

- **2015:** 0 GWh
- **2020:** 200 GWh
- **2025:** 800 GWh
- **2030:** 2000 GWh

*Tokyo Olympics (expect Japanese EV’s to be showcased)*
Major investment underway in battery manufacturing for Electric Vehicles

- Currently all German EV’s are reliant on Asian battery anode cells
- German Government announced support for 3 new battery alliances
  - 1 billion euros to preserve the automotive value chain in Germany and Europe
- Raw materials shift into Europe expected from 2023/24
Investment continues in Europe to transition towards renewable energy for vehicle and industrial applications, supporting the shift to new raw material supplies.

Toyota increases EV production and Volkswagen invests €900m to establish a new battery production facility with Northvolt.

Germany will award to three consortia 1 billion euros in funding it earmarked last year to support domestic battery cell production.

CATL hikes investment in German battery plant 1.8 billion euros from a previous plan of 240 million euros to expand output.

By 2030, Daimler aims to have all-electric and plug-in hybrids make up more than half of its car sales.

German government supports second European EV battery consortium with BASF, BMW.

Germany Gov’t announced that it would make 1 billion euros in subsidies available to help enhance and preserve the automotive value chain in Germany and Europe.

VW begins electric makeover as it unveils the ID3. The first cars will be delivered to customers in Europe in the spring of 2020.

Volvo announced that it will become the first car maker to implement global traceability by applying blockchain technology.

Elon Musk confirmed Tesla is going to build Gigafactory 4 in Germany that is expected to be operational by the end of 2021.

VW has announced plans to build 75 variants of electric car and around 60 hybrid vehicle models. By 2029 around 26 million electric cars will be built.

GERMAN GOVERNMENT

“Germany and Europe need to develop and build competitive, innovative and environmentally sustainable battery cells”

VOLVO

“Customers can drive electrified Volvos knowing the material for the batteries has been sourced responsibly”

VOLKSWAGEN

“invest 60 billion euros ($66.12 billion) by 2024 in E-mobility”
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 is a major contributor to the cost of Chinese battery graphite production due to increasing input costs and environmental requirements for the management of fluorine enriched wastes.
- EcoGraf non-HF method is both cost competitive and eco-friendly compared to Chinese products.

**Chinese graphite ore with high quartz (silica) content of 40% (SiO₂).**

*HF is the only acid that will digest high silica remaining in the graphite concentrates.*
BATTERY GRAPHITE BUSINESS SUMMARY

MANUFACTURE OF BATTERY GRAPHITE – WESTERN AUSTRALIA

**Business Description**
Production of spherical graphite in Western Australia using a new eco-friendly process
Initially supplying existing Asian markets, thereafter expanding to meet new European growth

**Key Milestones**
- New eco-friendly purification process developed in 2017
- Feasibility studies undertaken by GR Engineering
- 2 years of pilot plant test work completed in Germany:
  - Process testing and optimisation
  - Successful application of EcoGraf purification process to a range of global feedstock supplies
- Engineering design and costings completed for Western Australia and Asia with Europe to follow
- Global patent pending over unique eco-friendly purification processing technology
- Agreement in place for supply of suitable feedstock based on successful testwork
- Product samples distributed to battery anode manufacturers in South Korea, Japan, China, North America and Germany
- Debt and equity financing process underway to support final investment decision by mid-2020

**Production**
Staged production facility at Kwinana commencing at 5,000tpa, expanding to 20,000tpa by 2022
Additional production facilities planned for Asia and Europe

<table>
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<tr>
<th>Strong Economic Returns</th>
<th>CAPITAL</th>
<th>FINANCIAL RETURNS @ 20,000TPA</th>
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<tr>
<td></td>
<td>5,000tpa</td>
<td>15,000tpa</td>
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<td></td>
<td>Pre-tax NPV\textsubscript{10}</td>
<td>EBITDA</td>
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<tr>
<td>Kwinana, WA</td>
<td>US$22.8m</td>
<td>US$49.2m</td>
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MANUFACTURING PROCESS

Process flowsheet and planned scale-up de-risked through process optimisation, engineering, off the shelf equipment, extensive product qualification and endorsement of customers for eco-friendly products

- 100 mesh @ 94-95%C natural flake graphite
  Produced through crushing, grinding and flotation

Agreements in place to secure feedstock

Off the shelf equipment in use in China

Mechanical grinding and shaping
  Micronising and spheronising using standard milling equipment
  ✔ 50% fines bi-product for sales into various markets
  ✔ Ability to purify fines for sales into higher value market

International patent pending for chemical purification process

Multi-stage chemical purification, washing and filtration process (eliminates HF)

Purified battery (spherical) graphite for sale into lithium-ion battery market

✔ Eco-friendly
✔ Cost effective
✔ Supply diversity

Agreements in place to secure feedstock

Off the shelf equipment in use in China

International patent pending for chemical purification process

Purified battery (spherical) graphite for sale into lithium-ion battery market

✔ Eco-friendly
✔ Cost effective
✔ Supply diversity
Over 3 years of intensive test work and process design to develop a new eco-friendly chemical process that provides a cost competitive alternative to existing Chinese supplies

- Test work performed in Australia and Germany conducting >100 trials using a systematic, scientific method to optimise the purification process with R&D support from the Australian Government
- Evaluation of all leading micronising and spheronising equipment, resulting in improved yields of 45-55%
- Extensive product testing by potential customers in Asia and Europe confirms attractiveness of EcoGraf product as a high quality and cost effective alternative to existing Chinese supply
- EcoGraf effectiveness demonstrated through successful application to 10 existing sources of natural flake graphite from Europe, Africa, Asia and South America
- EcoGraf process suitable for purification of fines (by-products), providing options to generate additional revenues from high purity fine graphite products
- Engineering studies completed to construct facilities in Western Australia and Asia, with Europe to follow
PRODUCT QUALIFICATION

Over 80 graphite product samples, including various grades of spherical graphite, tested successfully by battery anode manufacturers in South Korea and Japan

Product Spec (SpG15)

- Carbon Content: >99.95%
- Moisture: >0.2%
- pH-Value: 6-8

- d10: > 9 micron
- d50: 14.5 – 15.5 micron
- d90: < 25 micron
- Tap Density: >0.93 g/ml
- SSA: < 7 m²/g

- Fe: <15 ppm
- Ni: < 6 ppm
- Zn: < 5 ppm
- Cr: < 5 ppm
- Al: < 10 ppm
- Ca: < 10 ppm
- Cu: < 5 ppm
- S: < 20 ppm
- Si: < 20 ppm

Typical physical properties

- Particle size distribution:
  - d10 = 10 micron
  - d50 = 15 micron
  - d90 = 23 micron
- Tap density: 0.99 kg/l
- Carbon Content: 99.97%
- Moisture: 0.1%

✓ Battery graphite samples (SpG14.5, 15 and 20) tested by battery anode manufacturers

✓ Testing confirms EcoGraf product meets all battery anode manufacturers’ specifications

Typical ICP analysis result of EcoGraf purified spherical graphite sample

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<tr>
<th>Element</th>
<th>Ag</th>
<th>Al</th>
<th>Ba</th>
<th>Bi</th>
<th>Ca</th>
<th>Cd</th>
<th>Co</th>
<th>Cr</th>
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<td>5.2</td>
<td>&gt;0.6</td>
<td>5.9</td>
<td>&gt;0.1</td>
<td>&gt;0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>7.1</td>
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<table>
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<th>Sr</th>
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<th>V</th>
<th>W</th>
<th>Zn</th>
<th>Zr</th>
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<td>ppm</td>
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<td>5</td>
<td>&gt;0.8</td>
<td>&gt;0.6</td>
<td>12</td>
<td>&lt;0.5</td>
<td>&lt;0.4</td>
<td>&lt;0.4</td>
<td>&lt;0.1</td>
<td>&lt;0.5</td>
<td>&lt;0.1</td>
<td>0.9</td>
</tr>
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Battery Results of EcoGraf purified spherical graphite sample

- Discharge Capacity 3rd Cycle: 367 mAh/g
- Discharge Efficiency 1st Cycle: 94.5%
Chinese demand increased 40% in 2018 with rest of world demand to exceed 100,000 tonnes by 2020

**Latest News:**

- Prices increased 20% during 2018

- Benchmark Minerals reports battery graphite exports from China rose 16% from January-July 2019, with battery graphite growing over 200%

**Positive Pricing Outlook:**

- Restriction in Chinese supply due to increasing environmental pressure with fluorine residues

- Limited availability of high-quality battery grade graphite to satisfy customer requirements
Federal and State Government support for new technology and value added manufacturing

- Lead Agency role by WA Government Department of Jobs, Tourism, Science and Innovation – establishing a “Lithium Valley”
- 6.7ha industrial site within Kwinana Industrial Area (KIA)
- Pre-development activities, including engineering, permitting and environmental approvals in progress
- EcoGraf R&D programs totalling A$8m given advance approval by AusIndustry
- Final Investment Decision by mid-2020

Western Australian advantages

- Leveraging Australia’s reputation as a reliable supplier of high-quality industrial products
- KIA emerging as a global hub for value added processing of battery materials
- Direct port access and ready supply of skilled labour, power and key reagents
- Ethical transparency of the battery raw material production supply chain for customers
- Protection of intellectual property rights for additional downstream processing activities (coatings)
KWINANA DEVELOPMENT

Major investment in Europe requiring ethical raw material underway
Ideally situated for transport of product to and from Fremantle Container Terminal and direct access to reagent suppliers, infrastructure services and highly skilled labour.
Expansion to 20,000tpa commences 6 months after initial production
POSITION IN BATTERY SUPPLY CHAIN

Illustration of major market participants in the lithium-ion battery supply chain

Raw Materials

(High quality Purified Spherical Graphite)

Anode Battery Materials

(Coated Spherical Graphite SPG)

Battery Manufacture

OEM - Electric Vehicles

LG Chem
BYD
CATL
Panasonic
Samsung
SAMSUNG SDI
FARASIS
SK Innovation
Freyr
Tesla
FREYR
Renewable energy storage

EcoGraf
Hitachi Chemical
POSCO CHEMTECH
Mitsubishi Chemical
杉杉科技
Shanshan Technology
BTR

GM
BMW
Volkswagen
BMW
HYUNDAI
Volvo
DAIMLER

Illustration of major market participants in the lithium-ion battery supply chain

PREMIUM QUALITY GRAPHITE
# EPANKO GRAPHITE PROJECT

<table>
<thead>
<tr>
<th>Description</th>
<th>Natural flake graphite project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Epanko Valley, Mahenge, Ulanga District, Morogoro Region, Southern Tanzania</td>
</tr>
</tbody>
</table>
| Status – ready to construct | Bankable Feasibility Study completed June 2017  
Independent Engineer’s Due Diligence via KfW and SRK completed August 2017  
Debt financing with German and Australian 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 |
| Strong economic returns | US$44.5m pa EBITDA // 38.9% IRR // 3.5yr payback // US$211m pre-tax NPV<sub>10</sub> |

Committed sales and offtake with major international customers

- Thyssen Krupp (Germany) and Sojitz Corporation (Japan)  
- Offtake agreements in place for Stage 1
SUMMARY & NEXT STEPS

BATTERY GRAPHITE FACILITY

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

<table>
<thead>
<tr>
<th></th>
<th>KWINANA</th>
<th>ASIA</th>
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<tbody>
<tr>
<td>Production</td>
<td>20ktpa</td>
<td>20ktpa</td>
</tr>
<tr>
<td>NPV_{10}</td>
<td>US$141m</td>
<td>US$194m</td>
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<tr>
<td>EBITDA</td>
<td>US$35m</td>
<td>US$42m</td>
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EPANKO GRAPHITE PROJECT

Natural Flake
Graphite (NfG)

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<td>Production</td>
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<tr>
<td>NPV_{10}</td>
<td>US$211m</td>
</tr>
<tr>
<td>EBITDA</td>
<td>US$44.5m</td>
</tr>
</tbody>
</table>

- Sales and offtake arrangements
- Debt financing
- Pre-development activities
- Final Investment Decision expected in 1H CY2020

- Secure financier debt financing approvals on final regulatory matter in Tanzania
EcoGraf

The future is electric.