Thursday, 16 March 2023 ASX Code : LEL

MARKET ANNOUNCEMENT

Burke Graphite Metallurgical Testwork Programme Commences in China

SUMMARY

- Beijing General Research Institute for Mining and Metallurgy Technology Group (BGRIMM) appointed to conduct flowsheet development metallurgical testwork
- ~One tonne of representative metallurgical samples have arrived at the BGRIMM Laboratory in Beijing, China
- BGRIMM's in-house Pilot Plant will be utilised to produce bulk flake concentrate for the next phase Anode development testwork programme to produce Purified Spherical Graphite (PSG) suitable for use in Lithium-ion battery anodes
- Optimised flowsheet developed will be mirrored to produce bulk flake concentrate of +95%TGC which will provide feed material for the Anode development testwork programme
- These works together with the JORC upgrade of the current Burke Deposit (expected March/April 2023) will be used to commence a proposed Engineering Study to assess the viability of establishing a PSG Anode manufacturing facility in Queensland, using Burke graphite as feedstock

Lithium Energy Limited (ASX:LEL) (**Lithium Energy** or the **Company**) is pleased to advise that a comprehensive metallurgical testwork programme has commenced on approximately one1 tonne of representative core samples of graphite recovered from the recently completed infill drilling programme at the Burke Graphite Project located in Queensland, Australia (**Burke Project**).

The Beijing General Research Institute for Mining and Metallurgy Technology Group (**BGRIMM**) in China is a 'Tier 1' research and design institute in mining and metallurgy, providing technical and engineering services in mineral resource development and the utilisation of advanced material technologies, and has extensive experience in developing processing solutions for graphite.

BGRIMM has been engaged to undertake an extensive metallurgical testwork programme on the Burke graphite, including:

- Assessing and optimising flotation conditions;
- Conducting open circuit flowsheet development testwork to optimise the concentrator flowsheet; and
- Conducting closed loop circuit testwork to optimise flowsheet recovery.

William Johnson, Executive Chairman:

> *Following the highly successful infill drilling at Burke, which reported multiple significant intersections of +20% TGC (Graphite), this metallurgical testwork programme is a very important step in the development pathway of the Burke Project. The Company is very pleased to be working with the highly regarded BGRIMM Laboratory in Beijing and we are looking forward to taking the results of this programme into our planned engineering studies for mine, processing and purified spherical graphite manufacturing.*

Photos of Burke Graphite Recovered from Core Drilling, January 2023

The recently completed infill drilling programme[1] on the Burke Tenement included diamond core (metallurgical and geotechnical) holes to provide representative graphite samples for a comprehensive metallurgical, Purified Spherical Graphite (**PSG**) and Anode testwork and development programme. The planned upgrade in the resource classification of the Burke Deposit (expected shortly, in March/April 2023) and the metallurgical and PSG optimisation testwork will support a proposed Engineering Study to assess the viability of establishing a PSG Anode manufacturing facility, using the Burke graphite as feedstock material.

1 Refer LEL ASX Announcements dated 22 February 2023: Update – Infill Drilling Results at Burke Graphite Deposit and 16 February 2023: Significant High Grade Graphite Intercepts Continue at Burke Graphite Deposit

Approximately 1 tonne of representative graphite samples have been delivered to BGRIMM in China where an extensive metallurgical testwork programme will assess all aspects of the Burke graphite to ensure that an optimised flake concentrator flowsheet is developed. The metallurgical testwork results will provide key inputs to the planned Engineering Study, including defining the process design criteria and process plant flowsheet configuration.

BGRIMM will also utilise their in-house Pilot Plant to produce bulk flake concentrate. This Burke graphite flake concentrate will form the feedstock material for a planned Anode development testwork programme to define and optimise the metallurgical and process conditions to produce Purified Spherical Graphite (PSG) suitable for use in Lithium-ion battery anodes.

Burke Graphite Project Background

The Burke Graphite Project (**Burke Project**) comprises two granted Exploration Permits for Minerals (**EPM**) totalling approximately 26 square kilometres located in the Cloncurry region in North Central Queensland, where there is access to well-developed transport infrastructure to an airport at Mt Isa (~122km) and a port in Townsville (~783km).

The Burke EPM 25443 tenement (**Burke Tenement**) is located 125km north of Cloncurry in an established graphite mining province adjacent to the Mt Dromedary Graphite Project held by Novonix Limited (ASX:NVX). The Corella EPM 25696 tenement (**Corella Tenement**) is located 40km west of Cloncurry near the Flinders Highway that links Mt Isa to Townsville. The Corella Tenement located ~150km south of the Burke Tenement.

A Mineral Resource Estimate (**MRE**) for the Burke Tenement previously defined a maiden Inferred Mineral Resource (**Burke Deposit**) of:

- **6.3 million tonnes @ 16.0% TGC** (with a TGC cut-off grade of 5%) for **1,000,000 tonnes** of contained graphite;
- Within the 3ineralisation envelope there is included higher grade material of **2.3 million tonnes @ 20.6% TGC** (with a TGC cut-off grade of 18%) for **464,000 tonnes** of contained graphite which will be investigated further.

Mineral Resource Category	Weathering State	Mt	TGC (%)	Contained Graphite (Mt)	Density (t/m)
Inferred Mineral Resource	Oxide	0.5	14.0	0.1	2.5
	Fresh	5.8	16.2	0.9	2.4
	Total Oxide + Fresh	**6.3**	**16.0**	**1.0**	**2.4**

Note: The Mineral Resource was estimated within constraining wireframe solids defined above a nominal 5% TGC cut-off. The Mineral Resource is reported from all blocks within these wireframe solids. Differences may occur due to rounding.

Refer Grade Tonnage Data in Table 2 of CSA Global Pty Ltd's Burke Graphite Project MRE Technical Summary dated 9 November 2017 (attached as Annexure A of Strike's ASX Announcement dated 13 November 2017: Maiden Mineral Resource Estimate Confirms Burke Project as One of the World's Highest Grade Natural Graphite Deposits

The grades from the Burke Deposit are exceptionally high when compared with most other known graphite deposits globally. The results from the recently completed 36 hole Reverse Circulation (**RC**) (~2,600m) and diamond core (metallurgical and geotechnical) (~700m) drilling programme at the Burke Tenement will be used to upgrade the maiden inferred Mineral Resource for the Burke Deposit from an Inferred to Indicated JORC Mineral Resource category.

In addition to the high-grade nature of the deposit, the Burke Deposit:

- Comprises natural graphite that has been demonstrated to be able to be processed by standard flotation technology to international benchmark product categories. The flotation tests previously conducted have confirmed that a concentrate of purity **in excess of 95%** can be produced using a standard flotation process.[2]
- Contains graphite from which Graphene Nano Platelets (**GNP**) have been successfully extracted direct from the Burke Deposit via Electrochemical Exfoliation (**ECE**).[3] The ECE process is relatively low cost and environmentally friendly compared to other processes, yet it can produce very high purity Graphene products. The ECE process is however not applicable to the vast majority of worldwide graphite deposits as it requires a TGC of over 20% and accordingly the Burke Deposit has potentially significant processing advantages over other graphite deposits.
- Has highly encouraging preliminary results from CSIRO testwork (to determine its suitability for use as a battery anode material), including achieving a purity of 99.94 % TGC, which closely compares to typical industry requirements of +99.95% TGC for lithium-ion battery anode material.[4]
- Is favourably located with well-developed transport infrastructure and logistics and relative to the Lansdown Eco-Industrial Precinct near Townsville in North Queensland, which is emerging as an important precinct for the production of critical materials for battery technologies in Australia.

AUTHORISED FOR RELEASE - FOR FURTHER INFORMATION:

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ABOUT LITHIUM ENERGY LIMITED (ASX:LEL)

Lithium Energy Limited is an ASX listed battery minerals company which is developing its flagship Solaroz Lithium Brine Project in Argentina and the Burke Graphite Project in Queensland. The Solaroz Lithium Project (LEL:90%) comprises 12,000 hectares of highly prospective lithium mineral concessions located strategically within the Salar de Olaroz Basin in South America's "Lithium Triangle" in north-west Argentina. The Solaroz Lithium Project is directly adjacent to or principally surrounded by mineral concessions being developed into production by Allkem Limited (ASX/TSX:AKE) and Lithium Americas Corporation (TSX/NYSE:LAC). The Burke Graphite Project (LEL:100%) contains a high grade graphite deposit and presents an opportunity to participate in the anticipated growth in demand for graphite and graphite related products.

2 Refer SRK ASX Announcement dated 16 October 2017: Test-work confirms the potential suitability of Burke graphite for Lithium-ion battery usage and Graphene production

3 Refer SRK ASX announcement dated 21 April 2017: Jumbo Flake Graphite Confirmed at Burke Graphite Project, Queensland

4 Refer LEL ASX Announcement dated 1 December 2022: Burke Graphite Shows Excellent Lithium-Ion Battery Anode Potential

JORC CODE (2012) COMPETENT PERSON STATEMENTS

Some of the Competent Person(s) named below have been previously engaged by Strike Resources Limited (ASX:SRK) (**Strike**), the former parent company of Lithium Energy Limited (and subsidiaries) that hold the interests in the Burke Graphite Project. Lithium Energy Limited was spun out of Strike into a new ASX listing in May 2021.

(a) The information in this document that relates to Mineral Resources in relation to the Burke Graphite Project is extracted from the following ASX market announcement made by Strike dated:

- 13 November 2017 entitled "Maiden Mineral Resource Estimate Confirms Burke Project as One of the World's Highest-Grade Natural Graphite Deposits".

The information in the original announcement (including the CSA Global MRE Technical Summary in Annexure A) that relates to these Mineral Resources is based on information compiled by Mr Grant Louw under the direction and supervision of Dr Andrew Scogings. Dr Scogings takes overall responsibility for this information. Dr Scogings and Mr Louw are both former employees of CSA Global Pty Ltd, who had been engaged by Strike to provide mineral resource estimate services. Dr Scogings is a Member of AIG and the Australasian Institute of Mining and Metallurgy (**AusIMM**) 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 JORC Code. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (referred to above).

(b) The information in this document that relates to other Exploration Results in relation to the Burke Graphite Project is extracted from the following ASX market announcements released by:

(i) Lithium Energy dated:

- 22 February 2023 entitled "Update - Infill Drilling Results at Burke Graphite Deposit"
- 16 February 2023 entitled "Significant High Grade Graphite Intercepts Continue at Burke Graphite Deposit"
- 9 February 2023 entitled "Burke Graphite Deposit Continues to Deliver Exceptional Drilling Results"
- 3 February 2023 entitled "Multiple Exceptional Drilling Results from Burke Graphite Deposit"
- 27 September 2021 entitled "High Grade Burke Graphite to be Optimised for Lithium Battery Application"
- 9 July 2021 entitled "Graphene from Burke Graphite Project Opens Up Significant Lithium-Ion Battery Opportunity".

(ii) Strike dated:

- 21 April 2017 entitled "Jumbo Flake Graphite Confirmed at Burke Graphite Project, Queensland".
- 13 June 2017 entitled "Extended Intersections of High-Grade Graphite Encountered at Burke Graphite Project".
- 21 June 2017 entitled "Further High-Grade Intersection Encountered at Burke Graphite Project".
- 16 October 2017 entitled "Test-work confirms the potential suitability of Burke graphite for lithium-ion battery usage and Graphene production".
- 13 November 2017 entitled "Maiden Mineral Resource Estimate Confirms Burke Project as One of the World's Highest-Grade Natural Graphite Deposits".
- 26 June 2018 entitled "Burke Graphite Project – New Target Area Identified from Ground Electro-Magnetic Surveys".

The information in the original announcements is based on, and fairly represents, information and supporting documentation prepared and compiled by Mr Peter Smith (BSc (Geophysics) (Sydney) AIG ASEG). Mr Smith is a Member of AIG, a consultant to Strike and also a Director of the Company (since 18 March 2021). Mr Smith has the requisite 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 JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements (referred to above). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements (referred to above).

Lithium Energy's ASX Announcements may be viewed and downloaded from the Company's website: www.lithiumenergy.com.au or the ASX website: www.asx.com.au under ASX code "LEL".

Strike's ASX Announcements may be viewed and downloaded from the Company's website: www.strikeresources.com.au or the ASX website: www.asx.com.au under ASX code "SRK".

FORWARD LOOKING STATEMENTS

This document contains "forward-looking statements" and "forward-looking information", including statements and forecasts which include without limitation, expectations regarding future performance, costs, production levels or rates, mineral reserves and resources, the financial position of Lithium Energy, industry growth and other trend projections. Often, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "is expected", "is expecting", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes", or variations (including negative variations) of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might", or "will" be taken, occur or be achieved. Such information is based on assumptions and judgements of management regarding future events and results. The purpose of forward-looking information is to provide the audience with information about management's expectations and plans. Readers are cautioned that forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Lithium Energy and/or its subsidiaries to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, changes in market conditions, future prices of minerals/commodities, the actual results of current production, development and/or exploration activities, changes in project parameters as plans continue to be refined, variations in grade or recovery rates, plant and/or equipment failure and the possibility of cost overruns.

Forward-looking information and statements are based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date such statements are made, but which may prove to be incorrect. Lithium Energy believes that the assumptions and expectations reflected in such forward-looking statements and information are reasonable. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Lithium Energy does not undertake to update any forward-looking information or statements, except in accordance with applicable securities laws.