

MARKET ANNOUNCEMENT

High Grade Burke Graphite to be Optimised for Lithium Battery Applications

PROJECT HIGHLIGHTS

- Burke Graphite Deposit is one of the highest-grade graphite deposits globally, with a JORC Inferred Mineral Resource Grade of 16% Total Graphitic Carbon (TGC), within which there is a higher grade component 2.3Mt @ 20.6% TGC.
- The deposit's high grade and low impurities make it particularly attractive for use in Lithium-ion batteries.
- In previous test work, the natural flake graphite showed good electrochemical performance even when compared to spheronised synthetic graphite.
- CSIRO has been engaged to undertake spheronisation and purification of Burke natural graphite particles for potential use in Lithium-ion batteries and electrochemical optimisation testwork.
- The ~4 month project will receive funding from the CSIRO Kick-Start Program.
- Upon completion of testwork, Lithium Energy will re-engage with Chinese and Japanese parties who have previously expressed a strong interest in the graphite from the Burke Project.

Lithium Energy Limited (ASX:LEL) (**Lithium Energy** or the **Company**) is pleased to provide an update on proposed activities planned for its Burke Graphite Project (**Burke**) and the Burke tenement (EPM 25443), which contains a JORC Inferred Mineral Resource.

The Burke Deposit

The Burke Graphite Deposit is one of the highest-grade graphite deposits globally, with a JORC Inferred Mineral Resource of **6.3Mt @ 16.0% Total Graphitic Carbon (TGC)** (with a TGC cut-off grade of 5%) for **1,000,000 tonnes** of contained graphite (including a high grade component of 2.3Mt @ 20.6% TGC).



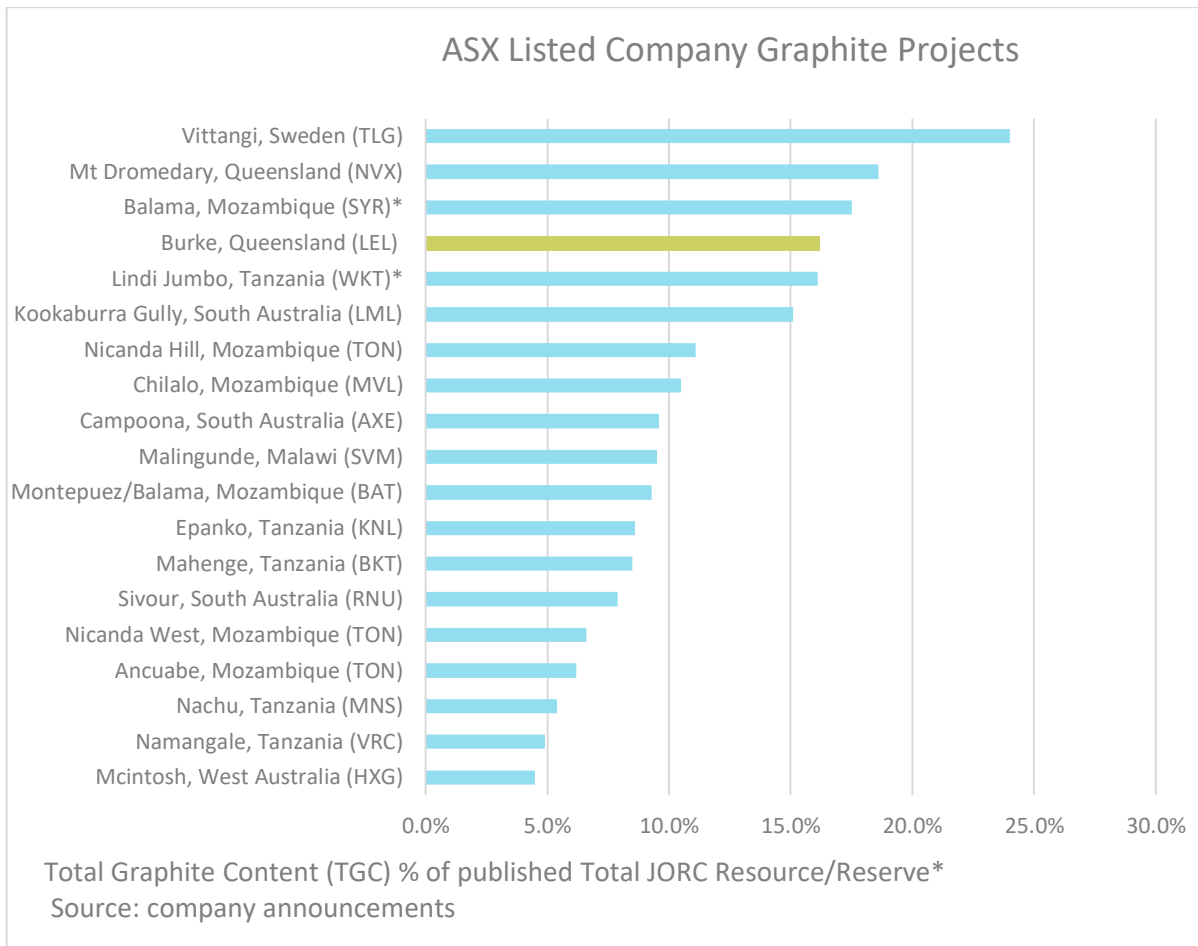


Figure 1. Total Graphite Content (TGC) ASX Listed Company Graphite Projects

(Source: ASX announcements)

Previous Lithium-Ion Testwork

Previous testwork has confirmed that the Burke Graphite Project contains very high grade natural graphite that is able to be processed by standard flotation technology to international benchmark product categories for use in Lithium-ion batteries.¹

Flotation tests previously conducted by Independent Metallurgical Operations Pty Ltd (**IMO**) confirmed that a concentrate of purity **in excess of 95% and up to 99% TGC** can be produced from the Burke Deposit using a standard flotation process.

Australia's national science agency, CSIRO, was then provided the natural graphite flake from the Burke Deposit to determine the suitability of such graphite for use in Lithium-ion batteries.

This work included the fabrication of coin battery cells using Burke graphite into electrodes to determine the influence of flake size on electrode performance.

This testwork showed that the Burke natural graphite demonstrated good performance in a coin cell configuration, compared to synthetic graphite based electrode control electrodes.

Further, and very importantly, the tests resulted in Burke graphite cells showing generally higher levels of capacity compared with control coin cells when repeatedly (50 times) charged and discharged over a 10 hour cycle time.

¹ Refer Strike Resources Limited (ASX:SRK) ASX Announcement dated 16 October 2017: Test-work confirms the potential suitability of Burke graphite for Lithium-ion battery usage and Graphene production

This critical aspect of the Burke graphite electrical storage capacity is highly encouraging and the Company has therefore determined to undertake the further test work required by battery manufacturers seeking to acquire graphite for use in their battery manufacturing operations.

Proposed Further Lithium-Ion Testwork

Lithium Energy is pleased to advise that it has entered into a new Research Agreement with CSIRO to undertake further work, including attempting spheroidisation and purification of Burke natural graphite particles and electrochemical testwork. This spheroidisation of the natural graphite flakes will, through a mechanical process, shape the graphite into 'potato-like' structures with the objective of easier processing of Burke natural graphite flakes into electrode materials to reduce capacity losses and enhance cell efficiency.

This work comprises a key component required to demonstrate to potential graphite purchasers the benefits of the natural flake graphite within the Burke Deposit.

Award of Research Grant to Co Fund Testwork

The research project is made possible by CSIRO Kick-Start, an initiative that provides funding and support for innovative Australian small businesses to access CSIRO's research expertise and capabilities to help grow and develop their business. 50% of the project cost will be co-funded by CSIRO through the Kick-Start Program.

Potential Offtake Partners

The Burke Graphite Project has previously been introduced to a number of major Chinese and Japanese Lithium-ion battery manufacturers and graphite companies.

These parties expressed keen interest in the Burke Deposit and its proposed development. Based upon the positive reception and strong interest in the Burke Project, and with the benefit of the further test work, Lithium Energy will pursue discussions with these previous parties (and other interested parties) with a view to eventually forming binding commercial off-take and development agreements.

Lithium Energy notes that China itself is the world's largest producer and consumer of graphite. However, average graphite grades in China are typically much lower than that of the Burke Deposit and increasing environmental concerns in China are causing companies to look outside of China for stable supplies of high quality graphite concentrate.

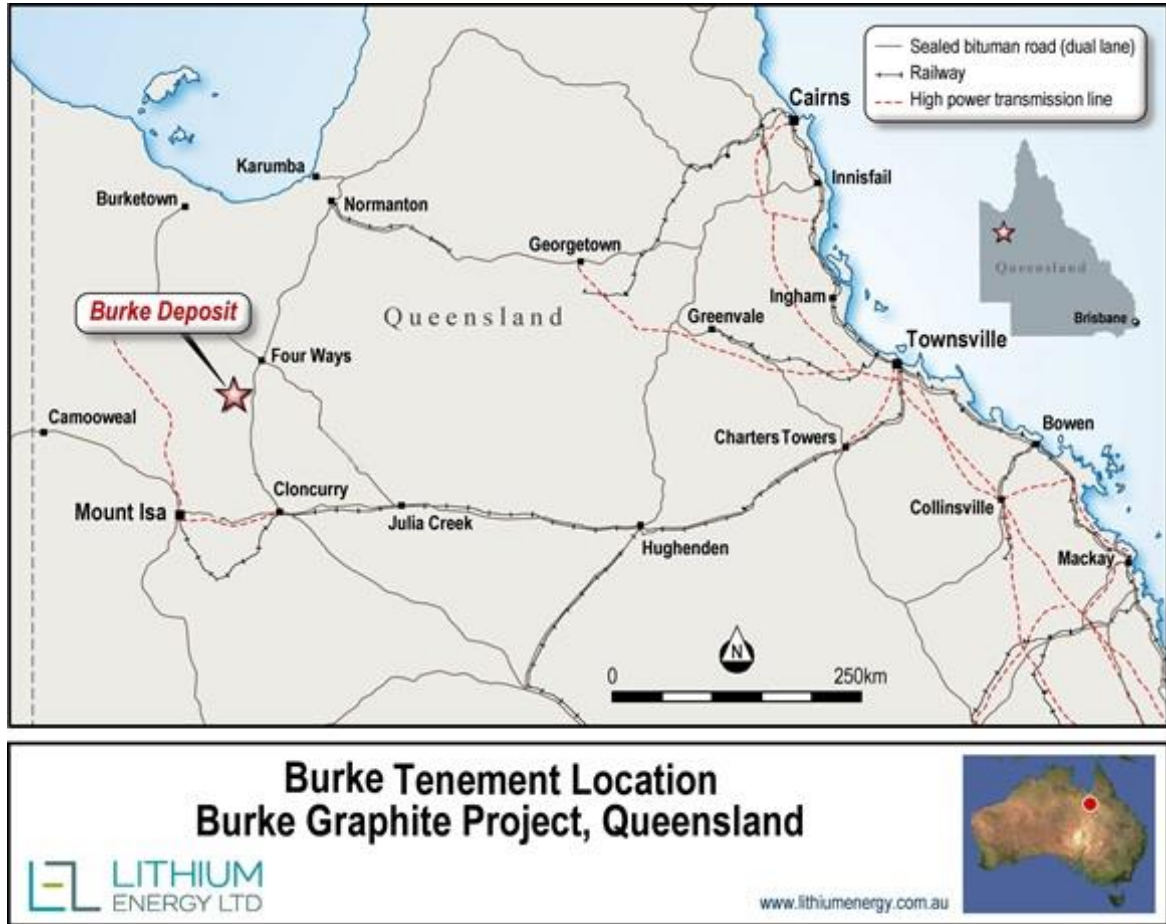


Figure 2: Burke Graphite Project Tenement Locations in North Central Queensland

Burke Deposit Details

The Burke tenement is located in northwest Queensland (125 km north of Cloncurry) and is one of the highest-grade graphite deposits in the world held by an Australian listed company. The Burke Deposit presents the opportunity for Lithium Energy to participate in the anticipated growth in demand for graphite and graphite related products particularly with respect to the production of Lithium-ion batteries where graphite is the largest single component by weight.

A JORC Inferred Mineral Resource has been defined for the Burke Deposit:

- **6.3 million tonnes @ 16.0% Total Graphitic Carbon (TGC)** (with a TGC cut-off grade of 5%) for **1,000,000 tonnes** of contained graphite;
- Within the mineralisation 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

In addition to the exceptionally 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 bench mark product categories. The flotation tests previously conducted by IMO have confirmed that a concentrate of purity **in excess of 95% and up to 99% TGC** can be produced using a standard flotation process.
- Contains graphite from which Graphene Nano Platelets (**GNP**) have been successfully extracted direct from the Burke Deposit via Electrochemical Exfoliation (**ECE**). 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.²
- Is located in the relatively safe and mining friendly jurisdiction of Queensland, Australia with well-developed transport infrastructure and logistics nearby.
- Is potentially amenable to low cost open-pit mining.

AUTHORISED FOR RELEASE - FOR FURTHER INFORMATION:

William Johnson
Executive Chairman

T | (08) 9214 9737

E | cosec@lithiumenergy.com.au

Peter Smith

Executive Director

T | (08) 9214 9737

E | cosec@lithiumenergy.com.au

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 tenements 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 tenements being developed into production by Orocobre Limited (ASX/TSX:ORE) 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. LEL was spun out of Strike Resources Limited (ASX:SRK) via a \$9 million IPO; Strike remains a major (43%) shareholder of the Company.

² Refer LEL ASX announcement dated 9 July 2021: Graphene from Burke Graphite Project Opens Up Significant Lithium-Ion Battery Opportunity

JORC CODE COMPETENT PERSON'S STATEMENTS

Some of the Competent Persons 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 (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 announcement (referred to above).

(b) The information in this document that relates to metallurgical test work results in relation to the Burke Graphite Project is extracted from the following ASX market announcements made by Strike dated:

- 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".

The information in the original announcements that relates to these metallurgical test work matters is based on, and fairly represents, information and supporting documentation prepared by Mr Peter Adamini, BSc (Mineral Science and Chemistry), who is a Member of AusIMM. Mr Adamini is a full-time employee of Independent Metallurgical Operations Pty Ltd, who had been engaged by Strike to provide metallurgical consulting services. Mr Adamini 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).

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

(i) Lithium Energy dated:

- 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).

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 the Company, 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 the Company 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. The Company 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. The Company does not undertake to update any forward-looking information or statements, except in accordance with applicable securities laws.