

9 March 2020

## Karibib Project has Potential to Support Best in Class Carbon Intensity Lithium Hydroxide Production

- Preliminary carbon dioxide assessment for the Phase 1 Project reveals competitive CO<sub>2</sub> intensity versus the industry
- Opportunities identified to reduce CO<sub>2</sub> intensity with the potential to become the best in class within the industry
- Lepidico's process technologies can be leveraged by electric vehicle and lithium-ion battery manufacturers to assist in decarbonisation their supply chains

Lepidico Ltd (ASX:LPD) ("Lepidico" or "Company") is pleased to announce the results of its first carbon intensity assessment for the integrated Karibib Project and Phase 1 Chemical Plant Feasibility Study. The results compare favourably with both existing and planned lithium hydroxide production from brine and spodumene sources. Furthermore this analysis does not take into account the potential to reduce Phase 1 Project carbon intensity from either co-products or by augmenting power from renewable sources. Such opportunities are being evaluated with the objective of this Project producing amongst the lowest CO<sub>2</sub> intensity lithium hydroxide in the industry.

A recent industry report<sup>1</sup> presented estimates for CO<sub>2</sub> intensity of lithium hydroxide produced from two brine operations in South America and one spodumene mine in Western Australia with chemical conversion in China (Table 1). A preliminary CO<sub>2</sub> assessment for the Phase 1 Project Feasibility Study reveals favourable results versus these existing nominal battery grade producers.

Table 1: CO<sub>2</sub> intensity of Lepidico's Phase 1 Project versus brine and spodumene operations

	Chilean Brine*	Argentine Brine	WA spodumene/ China conversion	<b>Lepidico Phase 1 Namibia/UAE</b>
CO <sub>2</sub> Intensity (t CO <sub>2</sub> /t LiOH.H <sub>2</sub> O)	5.0	7.4	14.8	<b>6.5 – 7.0</b>

\* Technical grade not battery quality

<sup>1</sup> The CO<sub>2</sub> Impact of the 2020s Battery Quality Lithium Hydroxide Supply Chain by Jade Cove Partners, Marbex and Minviro, January 2020 (Grant, Deak and Pell)

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It is noteworthy that a number of new spodumene converters are planned to be built in Western Australia, which are predicted to have CO<sub>2</sub> intensity in the range of 8 to 10 t/t.

Attributes that contribute to the competitive CO<sub>2</sub> intensity for Lepidico's integrated Phase 1 Project include: modest strip ratio at the Karibib Project of 3.7 to 1 life-of-mine and just 0.3 to 1 over the first two years; no energy intensive roasting/calcining process; LOH-Max™ low energy intensity lithium hydroxide process; and a carbon credit from by-product amorphous silica, which is planned to be sold as a supplementary cementitious material.

Lepidico has also identified opportunities to materially reduce the CO<sub>2</sub> intensity of the Phase 1 Project. Currently no carbon credit or co-product accounting is assumed for the production of sulphate of potash (SOP), caesium or rubidium or the gypsum rich residue. These products have the potential to significantly reduce the CO<sub>2</sub> intensity for the Project and are being evaluated in the Feasibility Study. Namibian utilities are progressively adding renewable power to the grid with the objective of having 80% of the power generated by renewable sources by 2025. Lepidico is also investigating alternatives for augmenting base load power in both Namibia and Abu Dhabi with competitive tariff solar generation. Mining is a relatively modest Project contributor to carbon intensity, however the use of electric mobile equipment will be evaluated when such options become available. Collectively these opportunities have the potential to make the integrated Phase 1 Project amongst the lowest CO<sub>2</sub> intensity lithium hydroxide producer in the industry.

Sustainability is a major trend that is going to continue to shape the lithium industry into the future. Lepidico remains committed to sustainable development and is fundamentally well positioned through its assets, including its technologies, people and systems to have industry leading ESG credentials. Having a low carbon intensity along with a clear strategy for continual improvement in reducing emissions is integral to this.

#### **Further Information**

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The information in this report that relates to the Helikon 1 and Rubicon MRE is based on information compiled by Vanessa O'Toole who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which she 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". Vanessa O'Toole is an employee of Snowden Mining Industry Consultants Pty Ltd and consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Exploration Results is based on information compiled by Mr Tom Dukovcic, who is an employee of the Company and a member of the Australian Institute of Geoscientists and who has sufficient experience relevant to the styles of mineralisation and the types of deposit under consideration, and to the activity that has been undertaken, 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". Mr Dukovcic consents to the inclusion in this report of information compiled by him in the form and context in which it appears.

### **About Lepidico Ltd**

Lepidico Ltd is an ASX-listed Company focused on exploration, development and production of lithium chemicals. Lepidico owns the technology to a metallurgical process that has successfully produced lithium carbonate from non-conventional sources, specifically lithium-rich mica minerals including lepidolite and zinnwaldite. The L-Max® Process has the potential to complement the lithium market by adding low-cost lithium carbonate supply from alternative sources. More recently Lepidico has added LOH-Max™ to its technology base, which produces lithium hydroxide from lithium sulphate without by-product sodium sulphate. The Company is currently conducting a Feasibility Study for a 5,000 tonne per annum (LCE) capacity Phase 1 lithium chemical plant, targeting commercial production for 2021. Work is currently being undertaken to incorporate LOH-Max™ into the Phase 1 Plant Project engineering. Feed to the Phase 1 Plant is planned to be sourced from the Karibib Lithium Project in Namibia, 80% owned by Lepidico where a predominantly Measured and Indicated Mineral Resource of 11.24 Mt grading 0.43% Li<sub>2</sub>O, (including Measured Resources of 2.20 Mt @ 0.57% Li<sub>2</sub>O, Indicated Resources of 6.66 Mt @ 0.38% Li<sub>2</sub>O and Inferred Resources of 2.37 Mt @ 0.43%, at a 0.15% Li<sub>2</sub>O cut-off) is estimated (ASX announcement of 30 January 2020).

### **Forward-looking Statements**

All statements other than statements of historical fact included in this release including, without limitation, statements regarding future plans and objectives of Lepidico, are forward-looking statements. Forward-looking statements can be identified by words such as "anticipate", "believe", "could", "estimate", "expect", "future", "intend", "may", "opportunity", "plan", "potential", "project", "seek", "will" and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that are expected to take place. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, its directors and management of Lepidico that could cause Lepidico's actual results to differ materially from the results expressed or anticipated in these statements.

The Company cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this release will actually occur and investors are cautioned not to place any reliance on these forward-looking statements. Lepidico does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this release, except where required by applicable law and stock exchange listing requirements.