

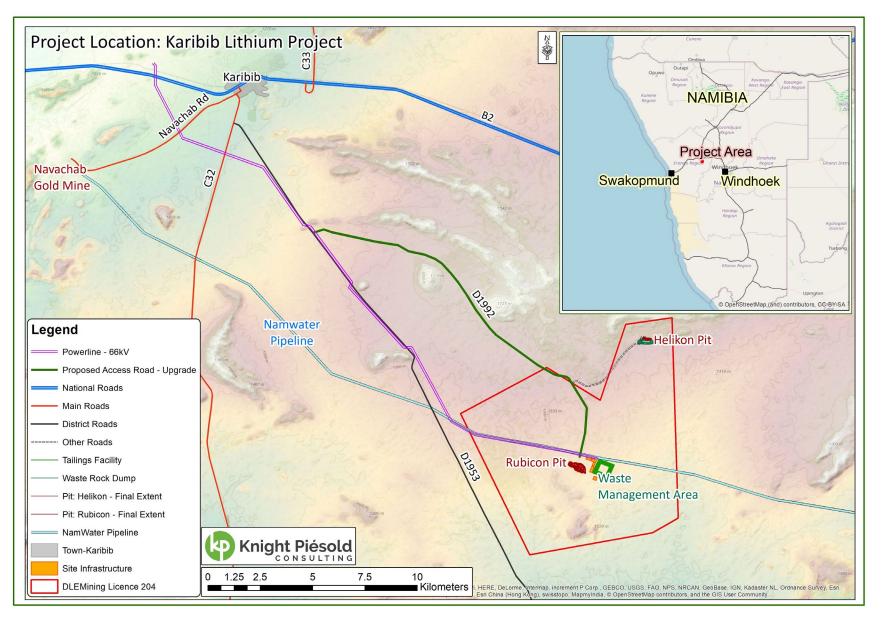
# Developing a Sustainable Lithium Chemical Business on Lepidolite Resources

- Lepidico's (ASX: LPD) strategic objective is to develop a sustainable vertically integrated lithium business that commercialises its proprietary technologies and provides above average returns from mine to battery grade lithium chemical production.
- Phase 1 Project Definitive Feasibility Study completed May 2020 for:
  - redevelopment of two mines within the 80% owned Karibib Project (KP) in Namibia and the design of a new flotation plant to produce a lepidolite concentrate for export to...
  - ...the chemical conversion plant in Abu Dhabi that employs Lepidico's clean-tech process technologies, L-Max® and LOH-Max®, which together manufacture lithium hydroxide along with valuable by-products;
  - attractive economics include a 31% Internal Rate of Return and NPV<sub>8%</sub> of US\$221 million (A\$340 million) ungeared, based on a 14 year production life; and
  - strategic caesium and rubidium high value products plus bulk by-products collectively give aggregate production on a total lithium equivalent basis of 7,060tpa LCE.
- Market capitalisation of c. A\$41 million and A\$4.5M cash at 17 November 2020.





### **Karibib Project, Namibia: Overview**



Fully permitted Project under Granted 68km<sup>2</sup> Mining Licence

Water extraction licence & 85% recycling of process water

Brownfield redevelopment of Rubicon & Helikon mines

Construction of new small scale 60,000tpa concentrator

Direct access to excellent existing regional infrastructure

New 25km line for grid power

+1,000km² land position prospective for lithium, caesium rubidium & gold

**LEPIDICO** 

### **Reserves & Resources**

#### Ore Reserve Estimate Rubicon & Helikon 1 deposits

Ore Category	Mt	Li <sub>2</sub> 0 %	Rb %	Cs ppm	Ta ppm	K %
Proved	1.93	0.59	0.28	410	50	2.10
Probable	4.79	0.41	0.21	290	40	1.99
Total Ore	6.72	0.46	0.23	320	50	2.02

#### Mineral Resource Estimate 0.15% cut-off for Rubicon & Helikon 1

Deposit	Resource Category	Tonnes (M)	Li <sub>2</sub> 0 (%)	Rb (%)	Cs (ppm)	Ta (ppm)	K (%)
Rubicon	Measured	2.20	0.57	0.27	389	51	2.14
	Indicated	6.66	0.38	0.22	274	42	2.06
+ Helikon 1	Inferred	0.17	0.70	0.29	1100	150	2.18
TICIIKOTI I	Total	9.04	0.43	0.23	318	46	2.08
Helikon2#	Inferred	0.216	0.56				
Helikon3#	Inferred	0.295	0.48				
Helikon4#	Inferred	1.510	0.38				
Helikon5#	Inferred	0.179	0.31				
Global	Measured	2.20	0.57	0.27	389	51	2.14
	Indicated	6.66	0.38	0.22	274	42	2.06
	Inferred	2.37	0.43				
	Total	11.24	0.43				

### **Unique source of Critical Minerals**

JORC Code (2012) compliant Ore Reserve estimate for lithium, rubidium, caesium & potassium

76% conversion of M&I Resources to Reserves for a 14-year project life

Inferred Resource potential supports expansion potential or Phase 2 Project development

Mineral Resource estimates in progress for lepidolite surface stockpiles

Ore exposed at surface and deposits pre-stripped by historical mining

Strip ratio just 0.5 to 1 for the first 2 years and 3.8 to 1 LoM

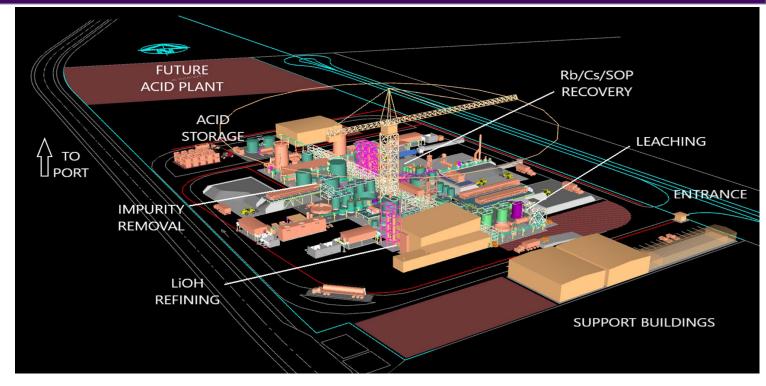
Most mine development work complete including haul road to Helikon 1 & water supply

### **Karibib Concentrator – conventional flotation**



### **L-Max**<sup>®</sup> - chemical conversion solution for Li-mica minerals

- ✓ Patents Australia, Europe, Japan & US patent protection received; The Australian Patent Office declared L-Max<sup>®</sup> to be "novel, inventive, industry applicable and patentable"
- ✓ L-Max® efficiently leaches and refines lithium from less contested mineral sources, lithium micas and phosphates
- ✓ L-Max® utilises common use, inexpensive reagents, is energy efficient & has straightforward OH&S characteristics



- ✓ L-Max® utilises conventional equipment & operates at atmospheric pressure and modest temperature
- ✓ High value by-products, Cs and Rb; and bulk by-products potassium sulphate fertiliser (SOP), amorphous silica and gypsum residue; with zero-waste potential
- ✓ Scalable technology: scoping study design parameters for a larger Phase 2 Plant indicates significant reduction in already competitive capital intensity¹: US\$10,500/t after credits @ 20,000tpa LCE



### LOH-Max<sup>®</sup>

# Enhanced solution for LiOH.H<sub>2</sub>O from mined sources<sup>1</sup>

- ✓ Patent provisional patent lodged early 2019; national patent phase started August 2020
- ✓ **Application** in mined lithium sources that employ sulfur-based chemistry in conversion; includes Spodumene
- ✓ Recovery +4% to c. 91% versus conventional Spodumene process; +1,000tpa LiOH at nominal 20,000tpa rate
- ✓ CapEx US\$52M reduction (14%) on 20,000tpa LCE reference case Spodumene converter on simplified flowsheet
- ✓ OpEx reduced by US\$8M pa versus reference Spodumene converter case on lower power and reagent consumption
- ✓ CO<sub>2</sub> intensity reduced on lower energy intensity and lower logistics CO<sub>2</sub> footprint
- ✓ Value enhanced by +US\$100M per 20,000tpa LiOH.H<sub>2</sub>O over 10-years
- ✓ Waste benign gypsum/alunite waste
- ✓ Risk reduced as sodium sulphate not produced; a potential fatal flaw for conventional plants if disposal required
- ✓ Ownership 100% owned by Lepidico; royalty sharing arrangement with original developers for third party licenses



# **Phase 1 Project Definitive Feasibility Study**

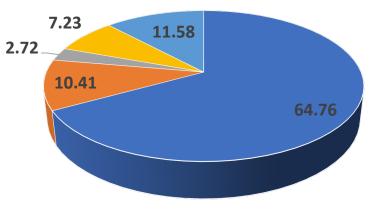
Key Results	Unit	Value
Post-Tax NPV <sub>8</sub>	US\$M	221
Post-Tax NPV <sub>0</sub>	US\$M	521
Project IRR (Real terms)	%	31
Project Payback (from start of production)	Years	3
Lithium Hydroxide <sup>1</sup>	tpa	4,879
Rubidium Sulphate <sup>1</sup>	tpa	1,542
Caesium Formate <sup>1</sup>	tpa	246
C1 cash cost (by-product LCE basis)	US\$/t LCE	1,656
AISC (by-product LCE basis)	US\$/t LCE	3,221
Average Annual Free Cash Flow (post ramp-up) <sup>2</sup>	US\$M	49
Lithium Hydroxide Price: average/long term	US\$/t	13,669 / 12,910

<sup>&</sup>lt;sup>1</sup> High value products at steady state operation. <sup>2</sup>Cash flows based on Benchmark Mineral Intelligence Q1 2020 LiOH price forecast.

# **Capital Cost Summary**

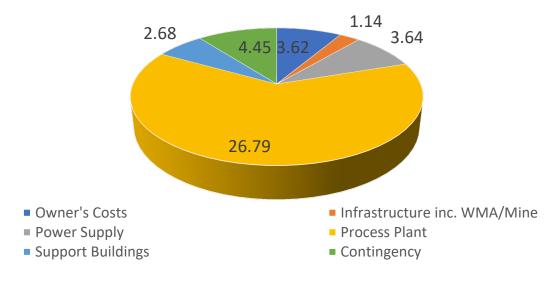
Pre-production Capital	\$M
Karibib Project	37.9
Chemical Plant	85.1
Contingency (13%)	16.0
Total Pre-production	139.0
Working capital	16.0
Leasing value	5.5

#### Chemical Plant Pre-production Capital



■ Chemical Plant direct ■ EPCM ■ Support Buildings ■ Owner's Costs ■ Contingency

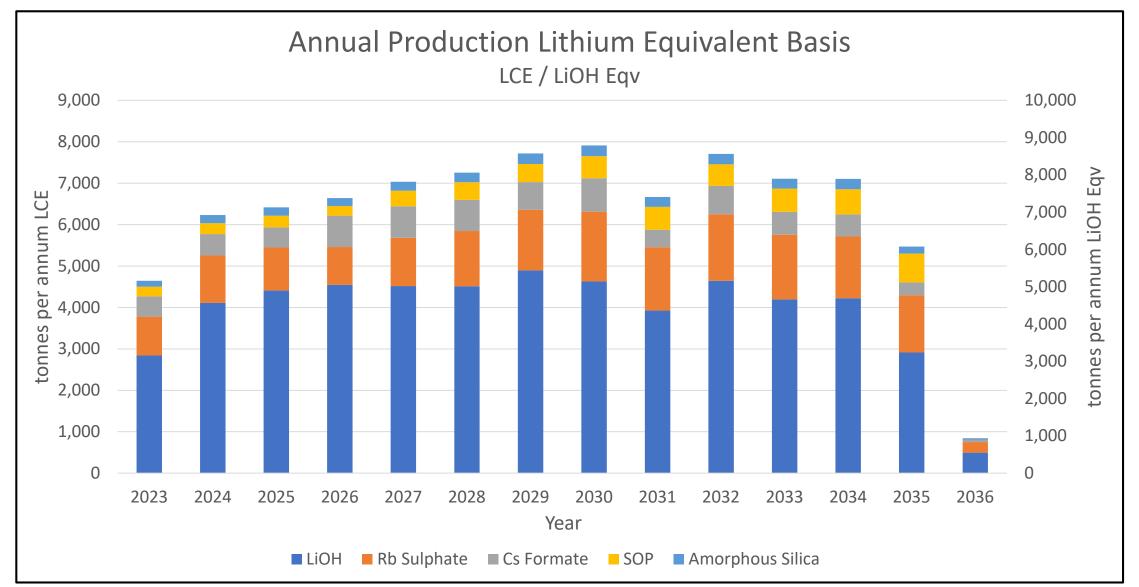
#### Karibib Project Pre-production Capital



Sustaining Capital – Life of Project	\$M
Karibib Project	14.2
Chemical Plant	8.7
Acid Plant	15.6
Total Sustaining	38.5

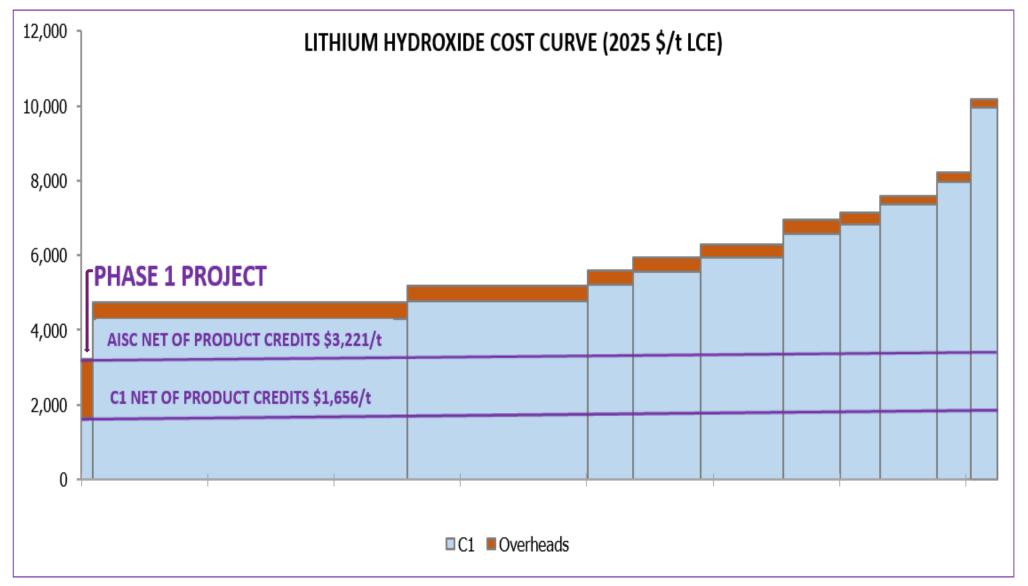


### **Life of Mine Production**





## **Low All in Sustaining Costs**

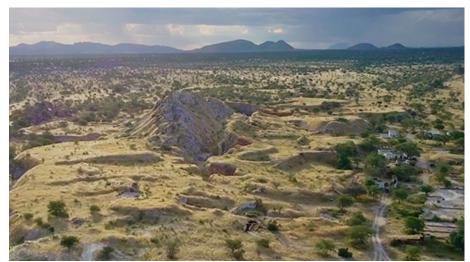




# Lepidico's LiOH to satisfy supply chain ESG needs

### Battery chemical sustainability & traceability drive to intensify

- ✓ Carbon intensity 5-7t/t CO₂/LiOH.H₂O (Scope 1 & 2 est) similar to brine & lower than spodumene sourced chemicals
- ✓ Other emissions & pollutants negligible; main emission low grade steam
- ✓ Water intensity 50-60L/kg, 30% Namibia/70% UAE, with 85% of concentrator water recycled
- ✓ Land use intensity c. 800 Ha on predominantly industrial land; mine closure plan to return land to agricultural use
- ✓ Biodiversity ESIA identifies no material impacts at Karibib; UAE operations located within designated industrial park
- ✓ Industrial waste generation no TSF required, benign mine and concentrator waste co-disposed, no sodium sulphate generated from converter, opportunity for zero-waste chemical plant
- ✓ Social impacts creation of 115 direct jobs and +800 indirect in Namibia; 119 jobs in UAE; no relocation requirement









### **Transitioning to Development & Implementation**

- ✓ Karibib Project ESIA completed; aligned with Equator Principles & IFC Performance Standards
- ✓ Karibib Project fully permitted
- ✓ Abu Dhabi permitting, including ESIA & land lease due for completion Q1 2021
- ✓ LOI with BASF for Lithium hydroxide monohydrate offtake; samples produced for prospective customers
- ✓ NDAs with 3 prospective customers of caesium and rubidium; constructive discussions progressing.
- ✓ Mandate letter signed with the United States International Development Finance Corporation (DFC); due diligence commencing to evaluate for DFC debt financing of the Phase 1 Namibian operations and working capital
- ✓ Discussions are also taking place regards securing non-equity based funding for a Phase 1 early works program with the objective of bringing the Project onto a fast track
- ✓ Lion's Head Global Partners (LHGP) advising on debt finance from other Development Financing Institutions (DFIs) and commercials lenders; due diligences ongoing
- ✓ EPCM tender process started for both the Karibib concentrator and Abu Dhabi chemical plant, with contractor screening completed and proposals sought from qualified contractors

### Important Notice

This presentation has been prepared by the management of Lepidico Ltd (the 'Company') for the benefit of brokers, analysts and investors and not as specific advice to any particular party or person.

The information is based on publicly available information, internally developed data and other external sources. No independent verification of those sources has been undertaken and where any opinion is expressed in this document it is based on the assumptions and limitations mentioned herein and is an expression of present opinion only. No warranties or representations can be made as to the origin, validity, accuracy, completeness, currency or reliability of the information. The Company disclaims and excludes all liability (to the extent permitted by law), for losses, claims, damages, demands, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance by any person on any of it.

Where the Company expresses or implies an expectation or belief as to the success of future exploration and the economic viability of future projects, such expectation or belief is based on management's current predictions, assumptions and projections. However, such forecasts are subject to risks, uncertainties and other factors which could cause actual results to differ materially from future results expressed, projected or implied by such forecasts. Such risks include, but are not limited to, exploration success, commodity price volatility, future changes to mineral resource estimates, changes to assumptions for capital and operating costs as well as political and operational risks and governmental regulation outcomes. For more detail of risks and other factors, refer to the Company's other Australian Securities Exchange announcements and filings. The Company does not have any obligation to advise any person if it becomes aware of any inaccuracy in, or omission from, any forecast or to update such forecast.

#### 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. Forward-looking statements can be identified by words such as "anticipate", "believe", "could", "estimate", "expect", "future", "intend", "may", "opportunity", "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.

#### **Competent Person Statement**

The information in this report that relates to the Helikon 1 and Rubicon Ore Reserve estimates is extracted from an ASX Announcement dated 28 May 2020 ("Definitive Feasibility Study Delivers Compelling Phase 1 Project Results") and was completed in accordance with the guidelines of 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 announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

The information in this report that relates to the Rubicon and Helikon 1 Mineral Resource estimates is extracted from an ASX Announcement dated 30 January 2020 ("Updated Mineral Resource Estimates for Helikon 1 and Rubicon") and was completed in accordance with the guidelines of 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 announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

The information in this report that relates to the Helikon 2 - Helikon 5 Mineral Resource estimates is extracted from an ASX Announcement dated 16 July 2019 ("Drilling Starts at the Karibib Lithium Project") and was completed in accordance with the guidelines of 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 announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

Creative Resources Leadership
Website: www.lepidico.com

Contact us: info@lepidico.com

