LEPIDICO

Sustainable Lithium from micas

Fastmarkets Lithium Supply & Battery Raw Materials 2023
Corporate Update & Lepidolite Deep Dive

June 2023

Disclaimer

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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

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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 arec autioned 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 ASX Announcements dated 30 January 2020 ("Updated Mineral Resource Estimates for Helikon 1 and Rubicon") and 12 March 2021 ("Karibib Mineral Resource expanded"), which 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 for and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

Lepidico is

the global leader in sustainable lithium mica processing; differentiated by technologies that deliver quality products and have excellent environmental & social credentials, Lepidico is set to capture an early-mover advantage in the current lithium cycle.

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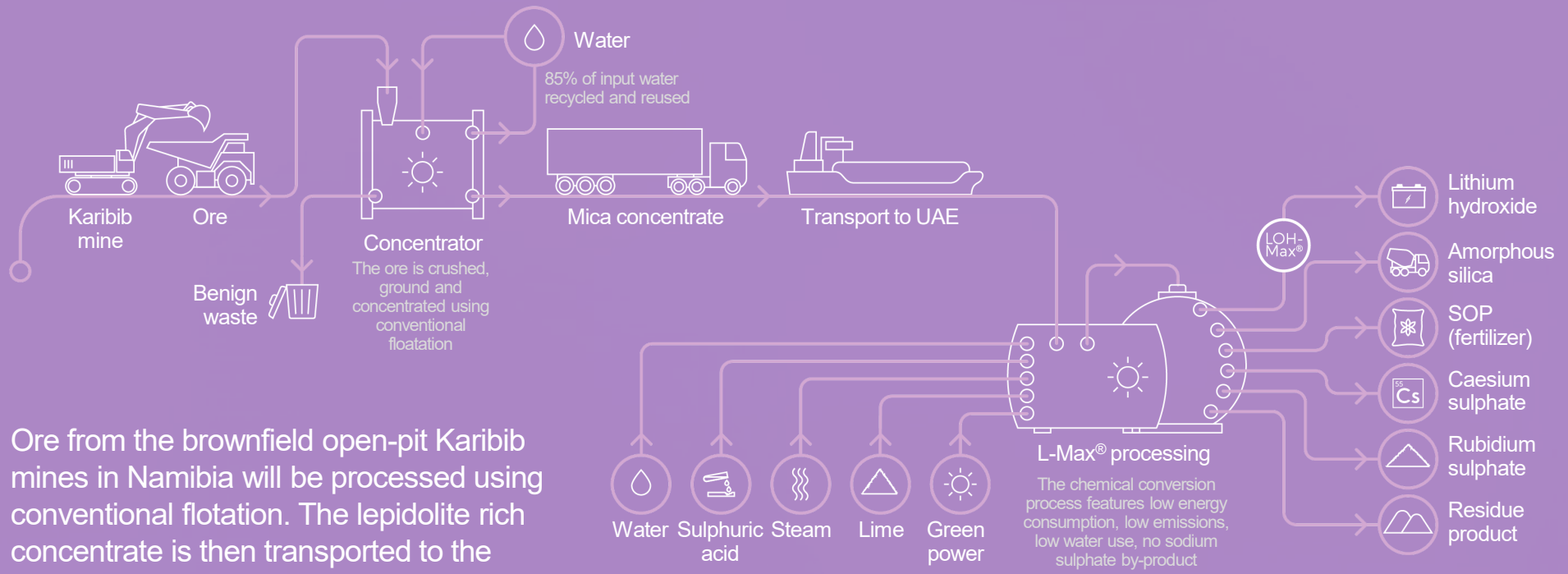
Phase 1: vertically integrated from mine to fine chemical production



Ore from the brownfield open-pit Karibib mines in Namibia will be processed using conventional flotation. The lepidolite rich concentrate is then transported to the UAE for conversion using our patented technologies. The lithium hydroxide will then be shipped to customers of Traxys under a binding offtake agreement.

Our technologies

L-Max®

The conversion solution for li-mica minerals

L-Max® utilises common use, inexpensive reagents, is energy efficient and utilises conventional equipment operated at atmospheric pressure and modest temperature

By-products include: Critical Minerals caesium and rubidium; potassium sulphate fertiliser (SOP); amorphous silica; and a gypsum rich residue

Sustainable; greenhouse gas emissions are c. 25% lower than a typical equivalent integrated spodumene operation and can be best in industry when green H2 is used; and no solid process waste is generated

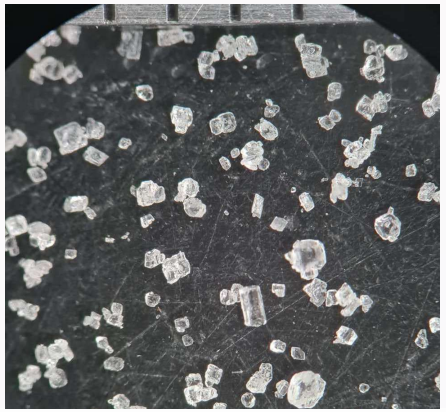
Scale-up from pilot to Phase 1 is just c.200x for 5,000tpa LiOH; this will substantially mitigate scale-up risk to large scale, Phase 2 commercial production

Scalable; scoping study for a Phase 2 plant contemplates output of 10,000t to 20,000t pa LCE

Our technologies

LOH-Max®

A more sustainable lithium hydroxide solution



Large cubic shaped clean crystals d_{50} ~320 µm

- LOH-Max® has broad application including spodumene conversion; it produces high purity lithium hydroxide with excellent morphology from lithium sulphate without generating undesirable sodium sulphate
- Material reductions for conventional spodumene converters in both capital cost – estimated at more than US$50 million for 20,000tpa of lithium hydroxide – and operating costs should be achieved using LOH-Max®
- Metallurgical recovery enhanced, with an estimated +4% increase in lithium recovery versus conventional spodumene processing
- Modest energy consumption supports low greenhouse gas emissions
- Benign gypsum rich residue – when combined with L-Max® – may be used as a construction or agricultural product

L-Max® Amenability

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20 deposits successfully tested globally spanning the suite of Li-mica/phosphate species

High lithium extraction rates achieved by L-Max® from 2.5% to +4.0% Li_2O concentrates

Lepidolite

$K(Li,Al)_3(Al,Si,Rb,Cs)_4O_{10}(F,OH)_2$

Zinnwaldite

$KLiFeAl(AlSi_3)O_{10}(F,OH)_2$

Polylithionite

$KLi_2AlSi_4O_{10}(F,OH)_2$

Lithium muscovite

$K(Li,Al)_2(AlSi_3O_{10})(F,OH)_2$

Amblygonite/ Montebrasite

$(Li,Na)AlPO_4(F,OH)$

Micas are a commercially proven source of lithium at scale in China, albeit via roasting

References to “lepidolite” often misleading > zinnwaldite & other Li-mica minerals common

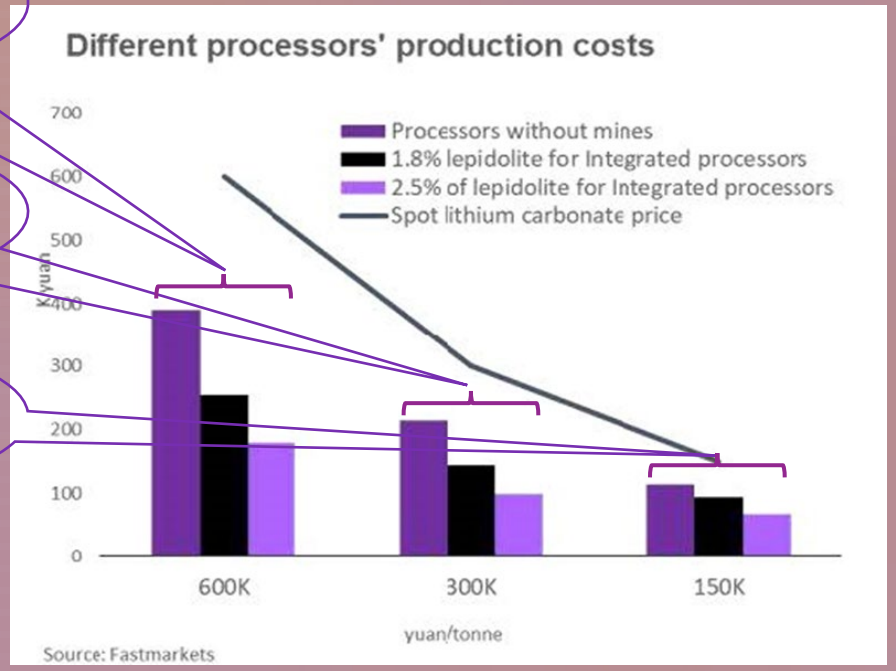
China's "lepidolite" LCE production accelerating

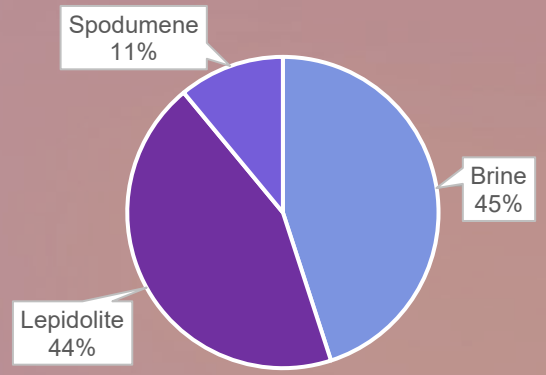
- China's lepidolite production based in LCE of c. 90,000 t accounted for 12.2% of global lithium production in 2022
- Almost all "lepidolite" LCE from 5 separate sources is used in the li-ion sector despite quality challenges
- Pricing adjustment mechanism of the government supports lepidolite producers when prices fall
- Lepidolite concentrate*: 2.0-2.5% Li_2O, quoted at US$1,064/mt
  1.5-2.0% Li_2O, quoted at US$742/mt

Cost c.US$25,000-55,000/mt @ US$84,000/mt LCE

Cost c.US$15,000-35,000/mt @ US$42,000/mt LCE

Cost c.US$10,000-15,000/mt @ US$21,000/mt LCE





Source: Fastmarkets, May 2023; *Shanghai Metals Market, 12 June inc VAT

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Mineral processing

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Beneficiation steps

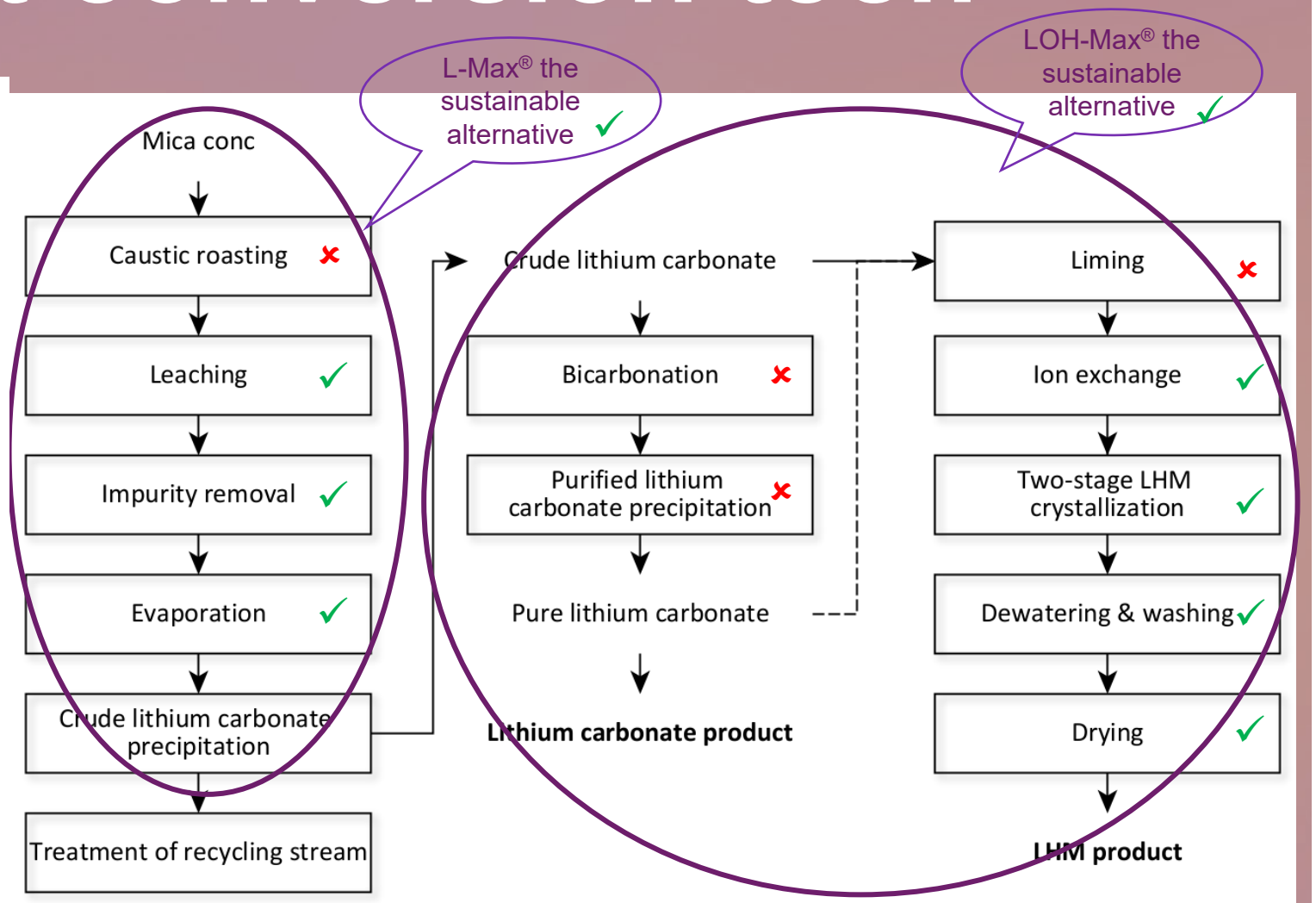
- Lithium mica concentrate is generally obtained by crushing, grinding and flotation
- Flotation schemes for mica are simple
- Magnetic separation may be useful in the case of zinnwaldite (Fe, Mn)
- Alkaline and earth alkaline elements such as K, Rb (and Cs) are typically elevated
- The higher the lithium the higher the fluorine content

	Spodumene	Mica
Head grade (wt.-% Li_2O)	1.0 to 2.0	0.3 to 0.9
Material fineness		
Crushing	Jaw crusher	Jaw crusher
Ore sorting	Possibly	NA
DMS	Possibly	NA
Grinding	Ball mill	Ball mill
Magnetic separation	applicable	applicable
Flotation	applicable	applicable
Final conc. grades (wt.-% Li_2O)	5.5 to 7.5 %	1.3 to 4.5%

Source: Dorfner Anzaplan GmbH, March 2023

Incumbent conversion tech

- Caustic roasting to convert mica at 800-1,000°C
- Water leaching to extract lithium
- Low Si & Al levels in the PLS due to selective extraction of lithium
- 1st removal of Ca, Mg & Mn
- 2nd removal of mica specific impurities: F, (K, Na), (Rb, Cs)
- Various options for fluoride removal
- Heavy metals removed by ion-exchange
- Recycling of Ca & Na sulphates reduces fresh reagent consumption
- 1st product is lithium carbonate
- Additional conversion yields the lithium hydroxide monohydrate



Source: Dorfner Anzaplan GmbH, March 2023, Lepidico

PLS Pregnant Liquor Solution; LHM Lithium Hydroxide Monohydrate

Technology comparison

	China Spodumene	China Lepidolite	Lepidico L-Max/LOH-Max
Li2O of Ores	1.0-1.4%	0.2%-0.45%	0.2-1.0% (avg 0.4%)
Li2O% of Concentrate	5.5-6.0%	1.5-3.0%	2.5-4.0%
Recovery of Ore Concentration	65-75%	60-70%	75-90%
Mine waste	Moderate strip WA mines	High strip (+20:1)	2.8:1 strip
Recovery of Conversion	83-88%	75-80% (rotary kiln is about 75%)	88-90%
Sodium sulphate	Yes	Recycled	No
By-products - converter	No	Work in progress	SOP, Cs, Rb, silica
Tailing/residue - converter	6t/t LCE > construction	Much higher	Gypsum rich product
Process - temperature	Pyromet – c.1,100°C	Pyromet – c. 900°C	Hydromet - 120°C
GHG emissions	10-15t CO_2e/t LCE	High CO_2e/t LCE	8-10t > 3t CO_2e/t LCE
Other emissions/waste	No	Fluoride, effluent - heavy metals	Steam
Li quality	Battery grade	Some need purification: K, Na, SO_4^{2-}	Battery grade

Source: Fastmarkets, Dorfner Anzaplan GmbH, Lepidico

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Our Phase 1 project

Namibia

- Brownfield re-development of Rubicon & Helikon mines
- Ore Reserve 9.4Mt @ 0.43% Li_2O, 278ppm Cs, 0.21% Rb & 2.0% K; LOM strip ration 2.8:1
- Processing of tails, waste dumps & in-situ ores
- Fully permitted: Granted 68km^2 Mining Licence
- Construction of 60,000tpa output concentrator
- Access to excellent existing regional infrastructure; 27km power line spur required
- Water rights in place to support 2x expansion
- Mine closure plan will allow these previously abandoned mine sites to be rehabilitated and returned to agricultural use

Timo Ipangelwa

General Manager
Operations Namibia

Our Phase 1 project

UAE

- Located in Khalifa Port Free Trade Zone, Abu Dhabi – no corporate tax and duties; 100% foreign ownership allowed
- 25-year land lease agreement signed 2021
- Abu Dhabi ESIA complete and environmental permit to construct in place
- Exceptional existing shared infrastructure through “plug and play” approach
- Stable and affordable energy, and other bulk consumables locally available
- Commercial green H2 and ammonia supply being fast-tracked for 2025-’26

Hans Daniels

General Manager
Operations UAE

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Our Phase 1 project

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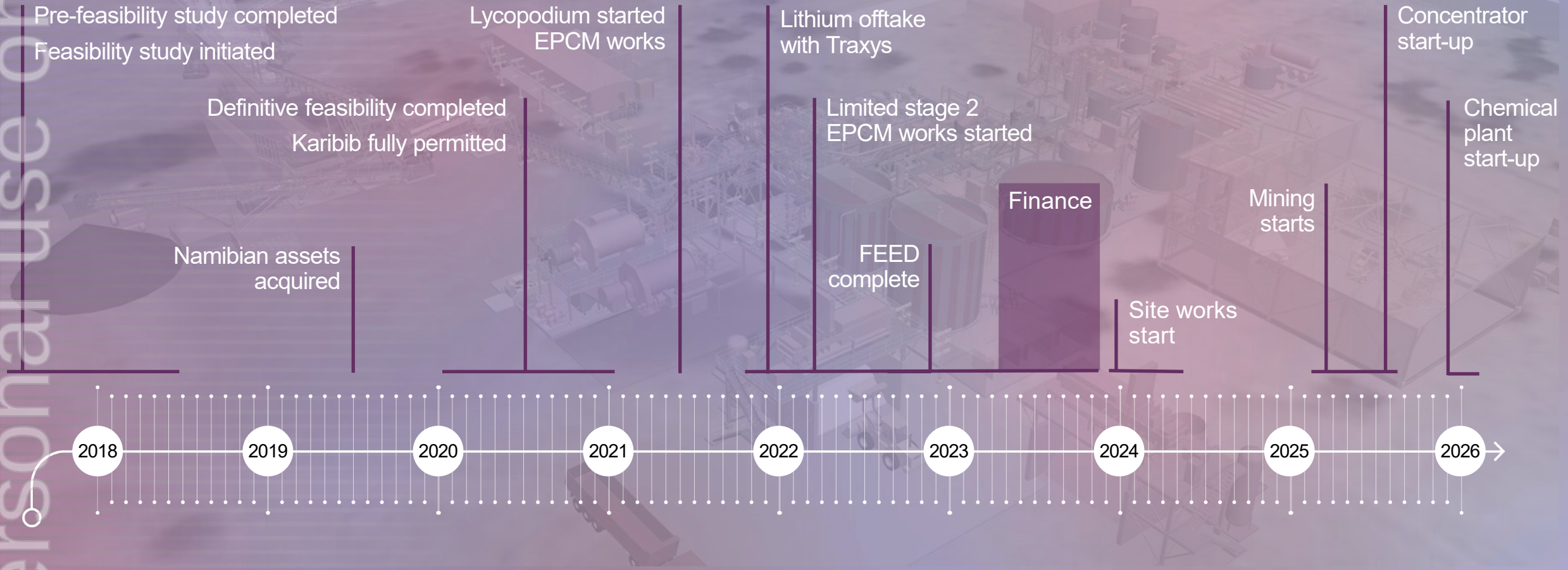

Phase 1 fundamentals[1]

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Construction cost: Nov 2022
(inc. contingency)
US$266m

Post tax
NPV_8
US$530m
NPV_0
US$1,187m
IRR **42%**

Project payback
(from start of production)
3 years

Operating costs
([4]by-product LCE basis)
C1 cash cost
US$/t 7,100
AISC
US$/t 11,500

Average annual free cash flow[3]
(post ramp-up)
US$92m

Lithium hydroxide production[2]
4,350 tpa

Sulphate of potash production[2]
6,900 tpa

Caesium sulphate production[2]
235 tpa

Bulk by-products =>
Zero solid converter waste

Project life
19 years

[1] *ASX Announcement 22 November 2022: Phase 1 Economics Updated & Improved.*
[2] *Products at steady state operation expressed as a salt.*
[3] *Cash flows based on Benchmark Mineral Intelligence Q3 2022 LiOH price forecast.*
[4] *By-products include: SOP, caesium sulphate, silica and disposal cost associated with gypsum.*

Lithium cost curve: evolution

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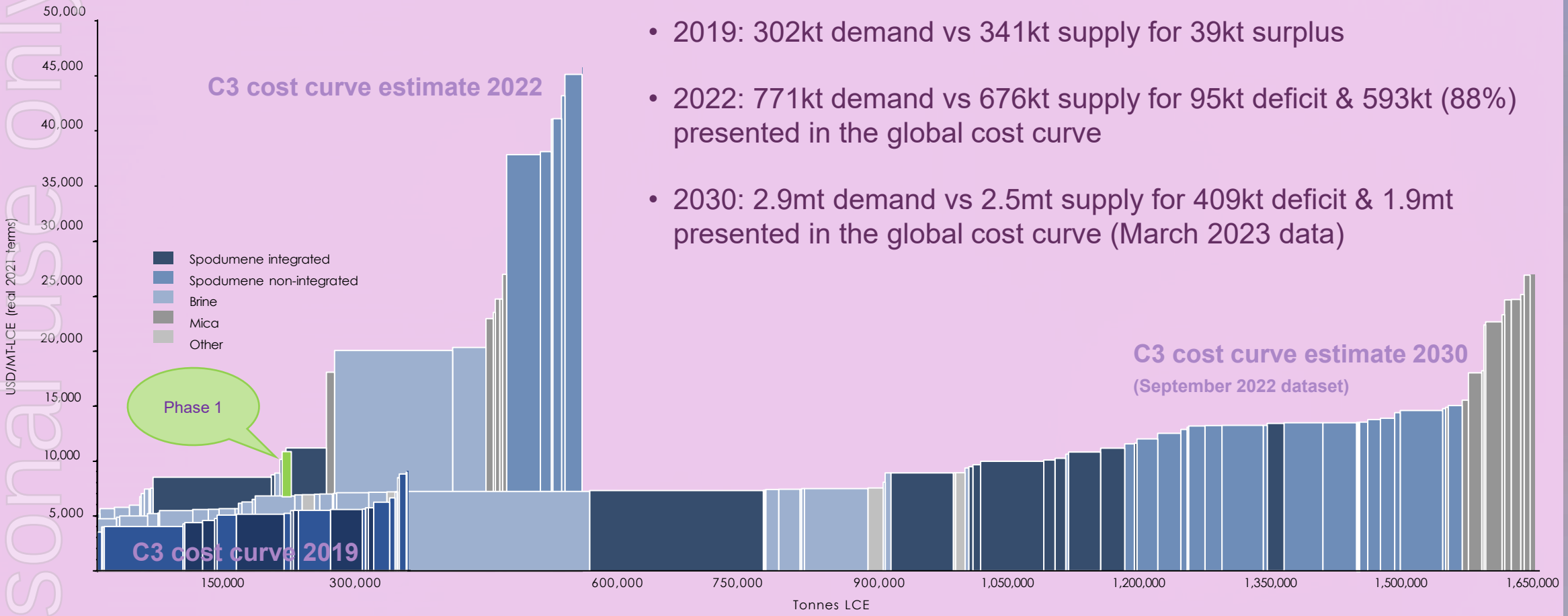
Supply & Demand: March 2023 forecasts

- 2019: 302kt demand vs 341kt supply for 39kt surplus
- 2022: 771kt demand vs 676kt supply for 95kt deficit & 593kt (88%) presented in the global cost curve
- 2030: 2.9mt demand vs 2.5mt supply for 409kt deficit & 1.9mt presented in the global cost curve (March 2023 data)



Data source: Benchmark Mineral Inteligence, March 2023 supply-demand; September 2022 cost curves

ESG excellence

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Water intensity

- 33m^3/t LCE, 44% allocation to LiOH
- 20% Namibia/80% UAE for first 5 years
- 85% of concentrator water recycled

Competitive carbon intensity

- GHD reported “low” chemical plant emissions intensity vs other LiOH plants
- 8.8tCO_2-e/t LiOH.H_2O (10.0tCO_2-e/t LCE) for integrated project Scope 1 & 2 emissions – 90% in chemical plant, 10% mine & concentrator
- Renewable power and green hydrogen can lower emissions to just 3.0tCO_2-e/t LCE

Biodiversity

- ESIAs identify no material impacts

Land use intensity

- 962Ha integrated project on predominantly industrial land
- Mine closure plan to return land to agricultural use
- No TSF required
- No sodium sulphate produced
- UAE zero solid process waste

Governance

- Experienced board of directors with complementary skills
- All Namibian leadership team
- Diversity – top 5% on ASX[1]
- Sustainability & best practice ESG integrated with strategic planning

Social

- Zero harm H&S track record
- Creation of 115 direct jobs and +800 indirect jobs in Namibia
- Creation of 119 direct jobs in UAE
- Water supply to local farmers
- Community maternity clinic built

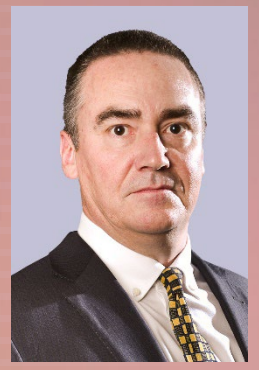
Benedicta Uris
General Manager Sustainability

[1] *ellect, gender equality rating: https://www.ellect.biz/*

Partnerships and financing

Sustainable long-term relationships being established with all stakeholder groups to underpin growth strategy

Shontel Norgate
CFO



David Hall
General Manager
Marketing & IR

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Offtakes

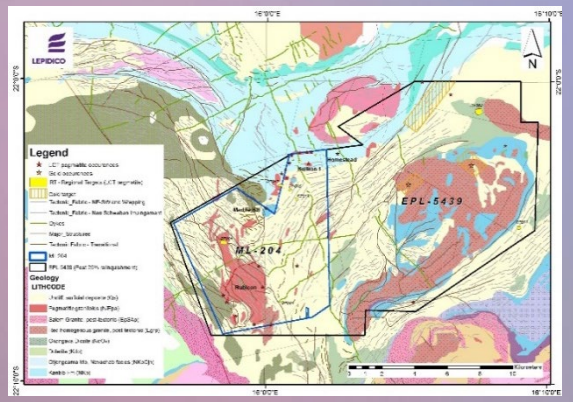
- Lithium Hydroxide – **binding offtake agreement signed** December 2021 with Traxys for 35,000t over 7 years, includes sales-marketing, trade finance and logistics
  - Terms sheets in advanced negotiation for back-to-back agreements into the EV supply chain
- Caesium – binding term sheets in advanced negotiation with multiple consumers; Traxys acting as agent
- Rubidium – supply discussions ongoing with multiple groups
- Strong demand for all bulk products – SOP, silica & gypsum – for use in UAE construction & environmental applications

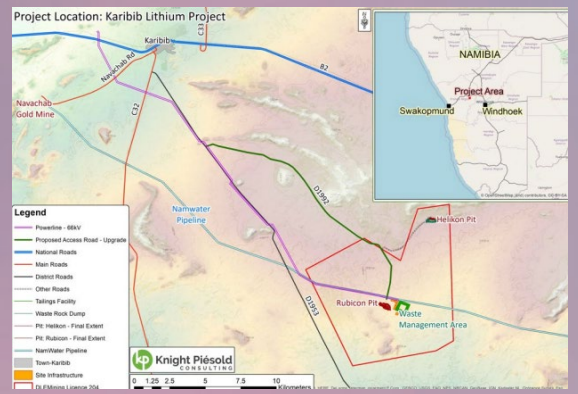
Finance

- Formal mandate signed October 2020 with the U.S. Government's International Development Finance Corporation for Karibib debt
- Abu Dhabi state organisation collaboration on the KEZAD chemical plant under consideration for UAE equity & debt
- Strategic partner process managed by Jefferies continues with multiple parties engaged
- Integrated Phase 1 funding structure & stakeholders on the legal due diligence critical path and a priority for resolution
- Cash at 31 March 2023 $15 million

Options for growth

- Helikon 2-4 drilling to continue to extend Phase 1 life to +20 years
- New Karibib lepidolite targets to be drilled in 2023 for Phase 2; 234km^2 under license
- Excellent established infrastructure and water permit in place at Karibib for 2x expansion
- Phase 2 concentrate supply discussions ongoing from third-party Li-mica deposits
- Phase 2 site selection scoping study due September Q 2023; Namibia, UAE, USA





- Capital efficient Karibib concentrator expansion leverages Phase 1 investment
- Globally, 20 lithium mica & phosphate deposits successfully tested for L-Max® amenability
- Royalty revenues from licensing of our proprietary tech to partners; one of these deals has already been completed

Tom Dukovcic
GM Geology

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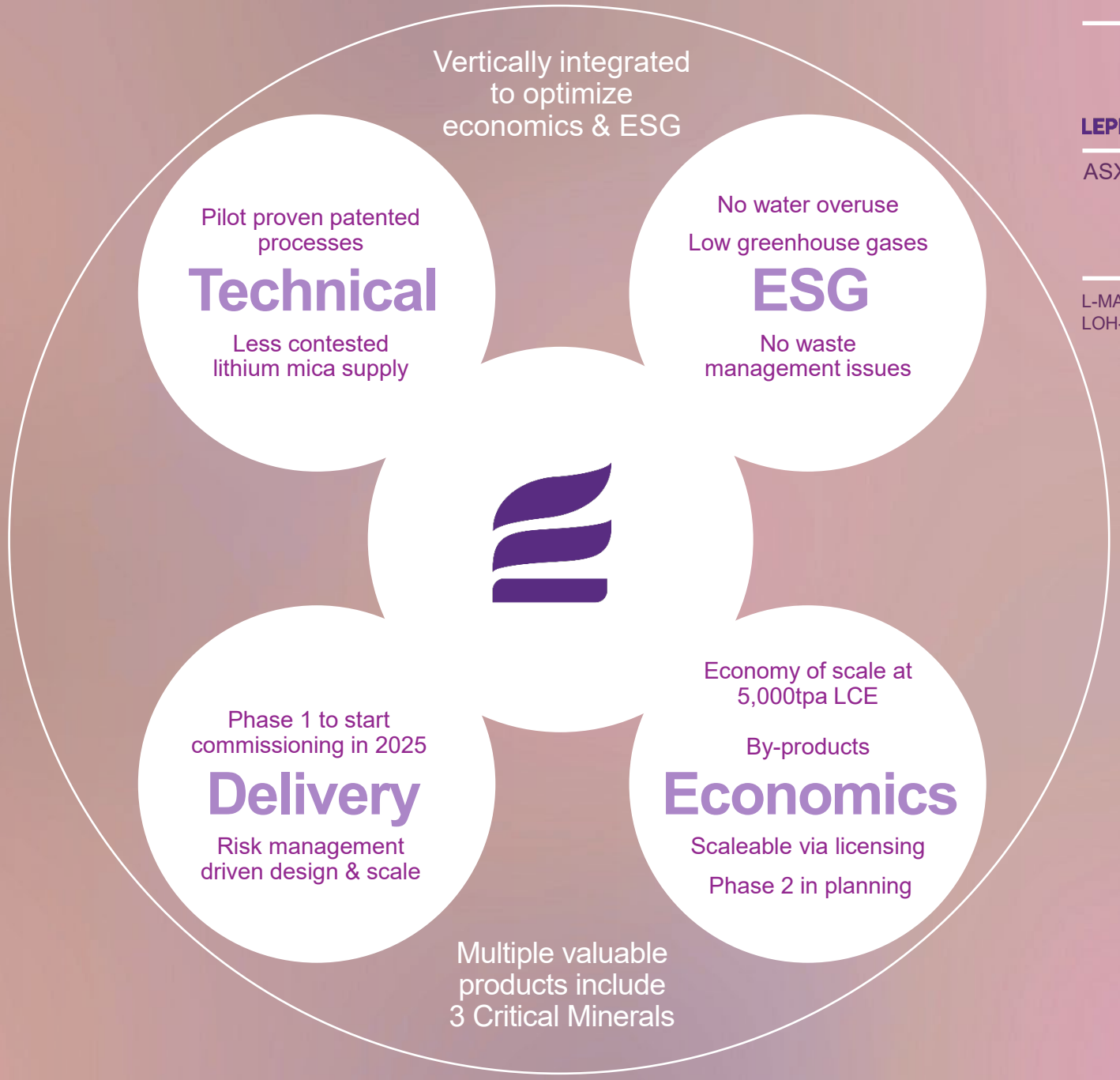
Near-term drivers/catalysts

- ✓ Chemical plant control estimate & revised Phase 1 economics complete November 2022; concentrator FEED complete
- ✓ Binding lithium offtake in place with Traxys
- ✓ Acid supply agreement secured for Phase 1
- ✓ Phase 1 mine life extended to 19 years (March 2023)
- ❑ back-to-back agreements with lithium and caesium consumers targeted for mid-2023
- ❑ Abu Dhabi & DFC debt commitments from Sept Q 2023
- ❑ Strategic partner process well advanced; multiple opportunities
- ❑ Phase 2 Mineral Resource expansion program targeting high-grade additions at Helikon 2-5 & regional targets, 2H 2023
- ❑ Climate Strategy under development for COP28, Nov/Dec 2023

Investment highlights

Lepidico: developing a sustainable global market for lithium mica concentrates



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