



LEPIDICO

# Sustainable Lithium from micras

Mining Indaba Update

February 2024



# Disclaimer

## IMPORTANT INFORMATION

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 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.

## 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 form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.



LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

# Lepidico is...

- ...the global leader in sustainable lithium mica processing.
- ...differentiated by process technologies that deliver quality products and have excellent environmental & social credentials.
- ...fully permitted, has completed FEED & is now arranging finance to transition to construction.



LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

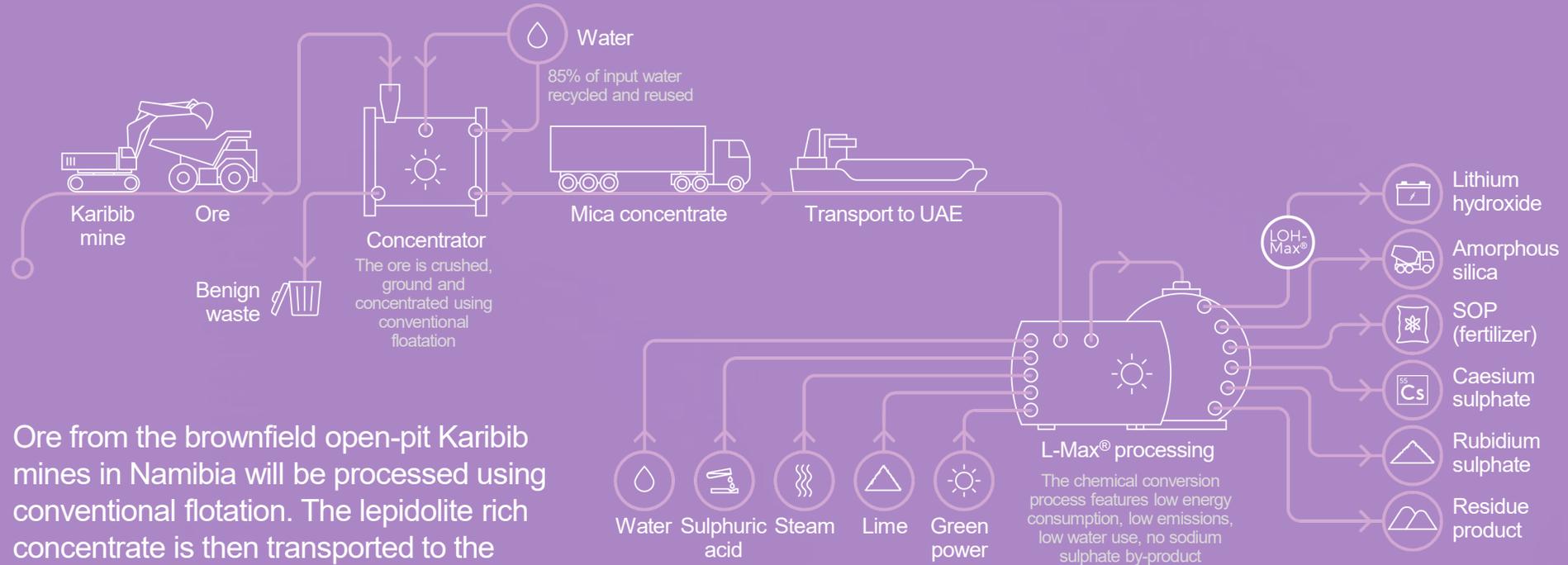


LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

## 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 Khalifa Economic Zones Abu Dhabi (KEZAD) for conversion using our patented technologies. The lithium hydroxide will then be shipped to customers of Traxys under a binding offtake agreement.



LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

Our Phase 1 project

# Namibia

- US\$63M brownfield re-development of Rubicon/Helikon mines & new concentrator
- Ore Reserve 9.4Mt @ 0.43% Li<sub>2</sub>O, 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<sup>2</sup> 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 rehabilitation of previously abandoned mine sites and their return to agricultural use



Timo Ipangelwa

General Manager  
Operations Namibia

Karibib Concentrator

- FEED completed
- Mine shovel ready



---

## Our Phase 1 project

# UAE

- US\$203M chemical plant located in the KEZAD Free Zone – 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
- Detailed Planning Approval & Environmental Permit to Construct granted



---

## Hans Daniels

General Manager  
Operations UAE

### UAE Chemical Plant:

- FEED Completed
- Infrastructure Installed
- Key Permits in Place



# ESG excellence: climate goal net-zero 2050

## Water intensity

- 33m<sup>3</sup>/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<sub>2</sub>-e/t LiOH.H<sub>2</sub>O 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<sub>2</sub>-e/t LCE
- By-product carbon credits

## Biodiversity

- ESAs 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<sup>1</sup>
- 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

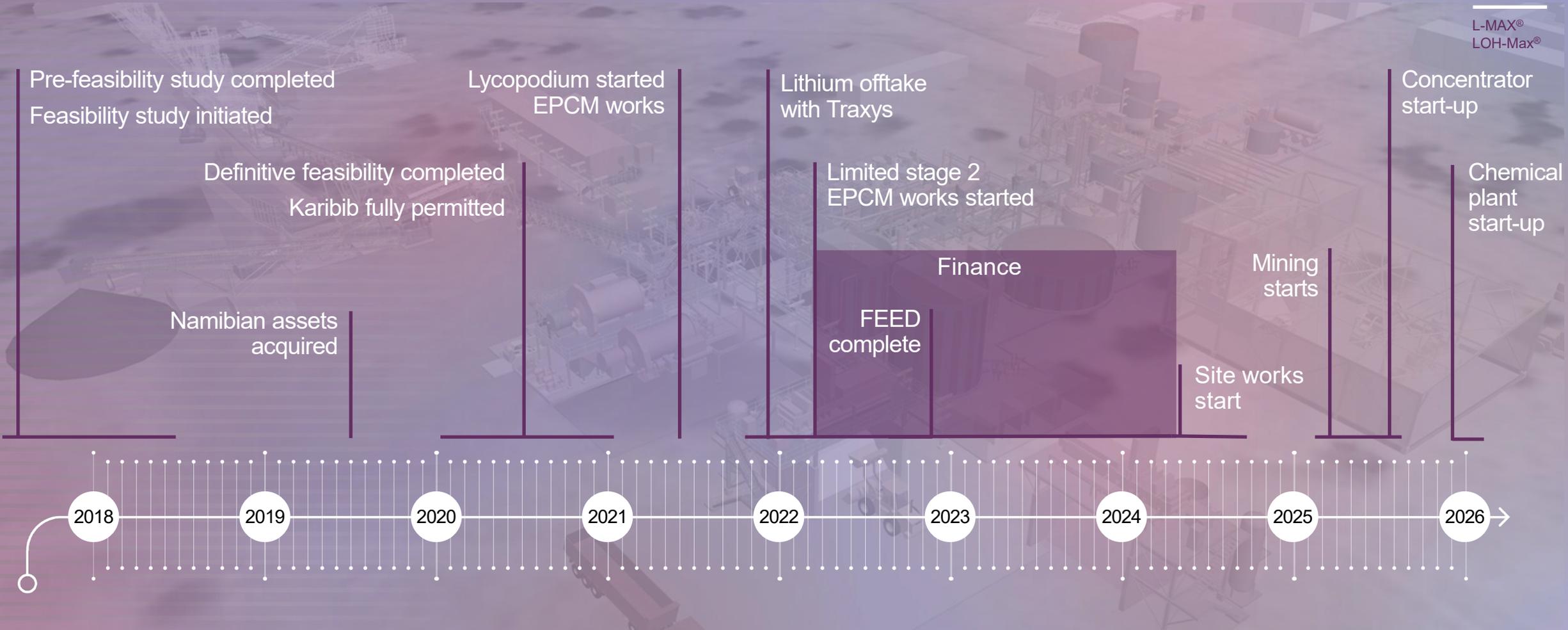


**Benedicta Uris**

General Manager Sustainability

<sup>1</sup> ellect, gender equality rating: <https://www.ellect.biz/>

# Our Phase 1 project



# Phase 1 fundamentals<sup>1</sup>

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

Post tax  
NPV<sub>8</sub>  
**US\$457m**  
IRR  
**25%**

Project  
payback  
(from start of production)  
**3 years**

Operating  
costs  
(<sup>4</sup> after by-product credits LCE  
basis)  
C1 cash cost  
**US\$/t 5,891**  
AISC  
**US\$/t 8,730**

Average  
annual free  
cash flow<sup>3</sup>  
(post ramp-up)  
**US\$1,150m**

Lithium  
hydroxide  
production<sup>2</sup>  
**4,350 tpa**

Sulphate  
of potash  
production<sup>2</sup>  
**6,900 tpa**

Caesium  
sulphate  
production<sup>2</sup>  
**235 tpa**

Bulk by-  
products =>  
**Zero solid  
converter  
waste**

Project life  
**19 years**

<sup>1</sup> ASX Announcement 30 October 2023: Phase 1 Economics Updated Operating Costs and Long-Term Margins Improved.

<sup>2</sup> Products at steady state operation expressed as a salt.

<sup>3</sup> Cash flows based on Benchmark Mineral Intelligence Q3 2023 LiOH price forecast. Undiscounted free cash flow prior to debt service.

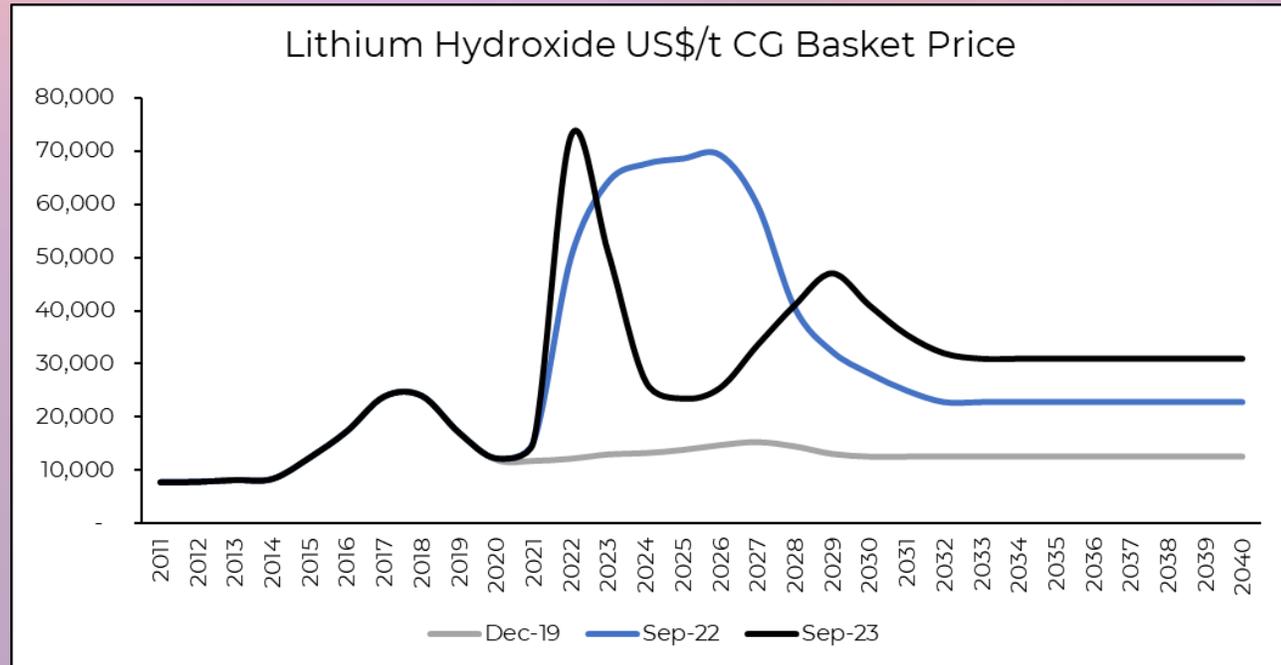
<sup>4</sup> By-products include: SOP, caesium sulphate, silica and disposal cost associated with gypsum.

# Lithium Hydroxide Market Price

- Spot and contract lithium chemical prices have been particularly volatile over the past five years, causing price forecasts to evolve rapidly with material variances occurring, sometimes quarter-on-quarter, across the length of the curve, evidenced by the chart below.

- Variances in nearer term price forecasts have the greatest impact on project NPVs.

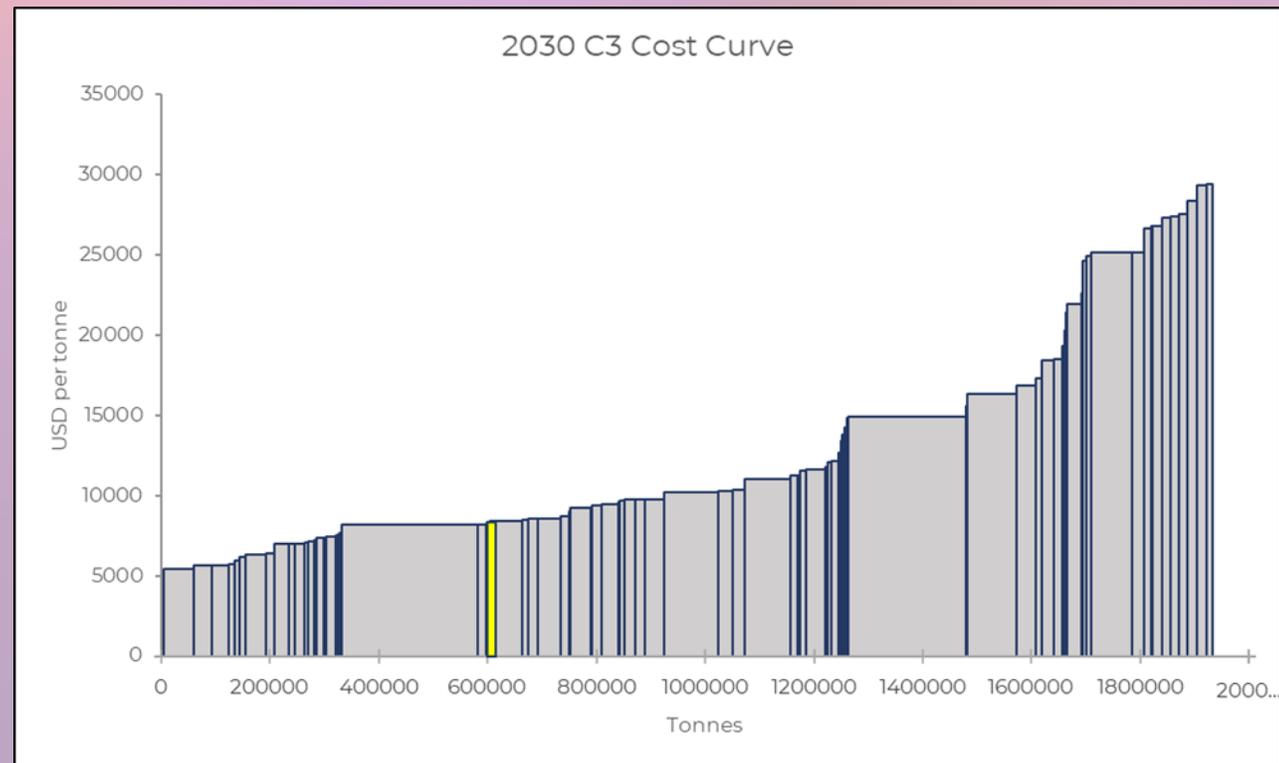
- The rising trend in long term prices has led to cash operating margins materially expanding, enhancing the economic robustness of the integrated project.



Source: BMI forecast data

# Project Cost Curve

- The integrated Phase 1 Project is positioned in the second quartile of the global AISC curve for 2030 after by-product credits.
- 2022 & 2023 cost curves indicate that the marginal cost of production was over US\$30,000/t LCE.
- At prevailing prices of <US\$15,000/t some high-cost lithium production has been curtailed.
- Marginal cost of production in 2030 forecast to be c.US\$30,000/t LCE, which provides fundamental support for the latest BMI long-term price forecast of US\$28,980/t LCE real (US\$30,980/t lithium hydroxide).



Source: BMI data after by-product credits September 2023, Lepidico Phase 1 Project (yellow column)

# Lepidolite Market

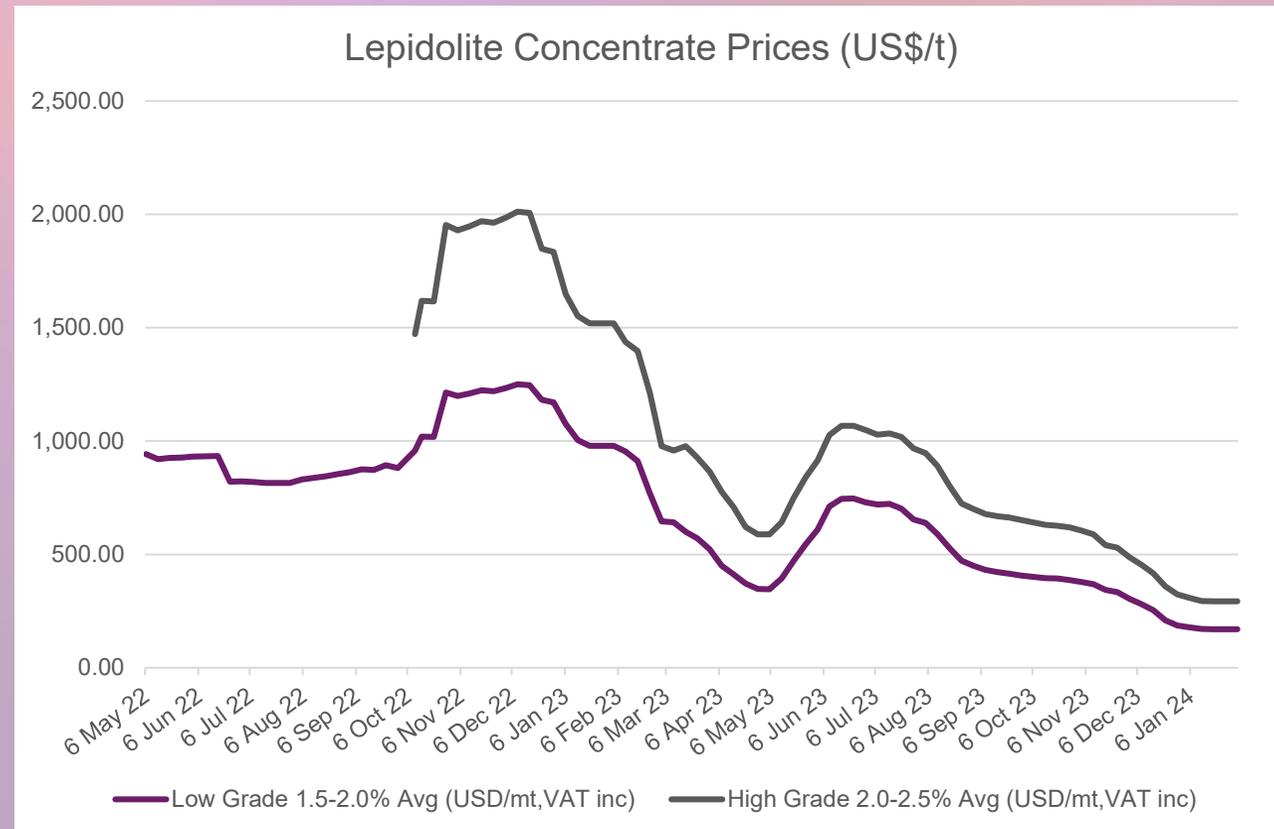


LEPIDICO

ASX:LPD

A market for lithium mica concentrates developed in 2022 following expansion of lithium mica processing in China. Lithium micas are now an established mainstream source of lithium.

- Chinese domestically sourced lithium in 2022:
  - 44% Lithium micas
  - 45% Brine
  - 11% Spodumene
- Chinese domestic lithium mica concentrate average grade is now less than 2.0% Li<sub>2</sub>O
- Lepidico's concentrate is projected to grade between 2.5-3.5%Li<sub>2</sub>O (LOM)
- Active marketing has generated significant interest in Lepidico's high grade concentrate and stockpiles

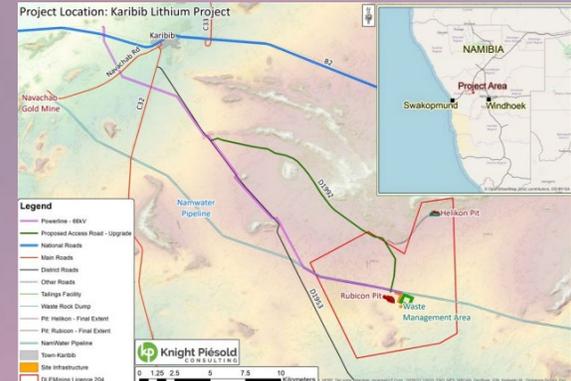
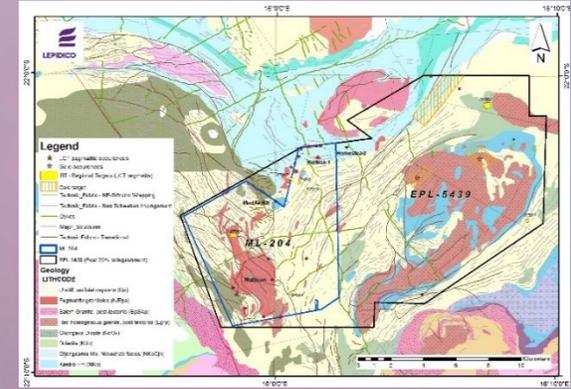


Source: SMM data

L-MAX®  
LOH-Max®

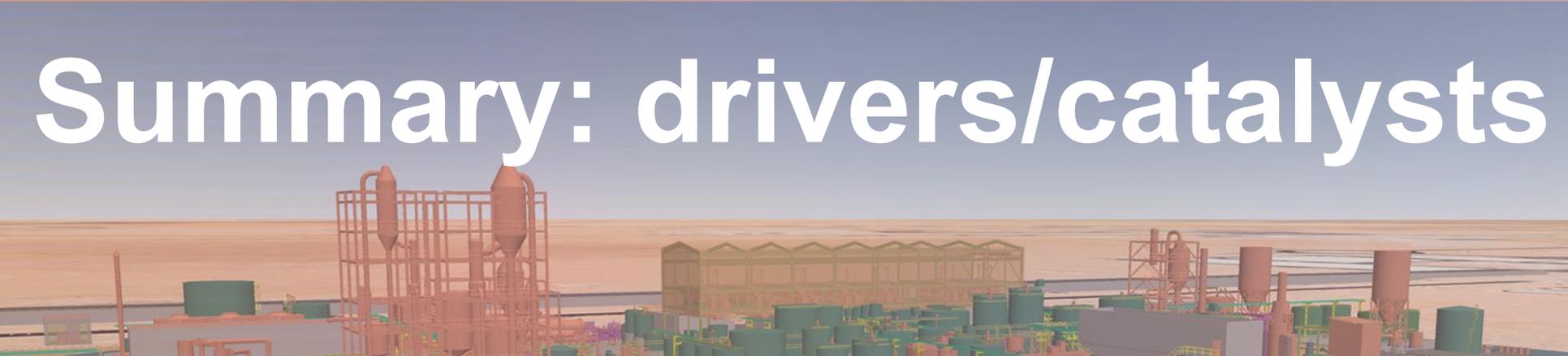
# Options for growth

- Helikon 2-4 drilling continues, to extend Phase 1 life to +20 years
- New Karibib lepidolite targets drill ready within 234km<sup>2</sup> license area
- 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 identified Namibia, UAE & US sites
- Capital efficient Karibib concentrator expansion leverages Phase 1 investment
- Globally, 20 lithium mica & phosphate deposits successfully tested for L-Max<sup>®</sup> amenability
- Royalty revenues from licensing of our proprietary tech to partners; one of these deals has already been completed



Tom Dukovic  
GM Geology

# Summary: drivers/catalysts



- ✓ Phase 1 FEED & control estimates completed November 2022
- ✓ Experienced Executive Management team in place
- ✓ Project Economics revised October 2023 with attractive investment fundamentals
- ✓ Binding lithium offtake for 100% of production in place with Traxys
- ✓ Acid supply agreement secured
- ✓ Operating mine life extended to 19 years (March 2023)
- ✓ Independent technical, environmental & social due diligence complete for core Karibib lender
- ✓ Sustainability & Climate Strategy developed for launch at COP28, Dubai Nov/Dec 2023

- ❑ Strategic partner process continues with strong support shown by UAE state organisations; process is moving forward with both public & private sector involvement; site visits to Namibia completed
- ❑ DFC/lender legal due diligence to resume once UAE structure agreed
- ❑ Alternative sequential development strategy advancing in parallel for construction of the mine-concentrator to expedite the pathway to production; reduced upfront funding requirement
- ❑ Offtake term sheets prioritised for high quality 2.5-3.5% Li<sub>2</sub>O Karibib concentrate; term sheet agreed with converter for beneficiated stockpiles 1.0-1.4% Li<sub>2</sub>O
- ❑ Top priority – complete full finance solution & move to construction
- ❑ Back-to-back agreements with lithium and caesium consumers under negotiation; SOP, silica and gypsum residue fully committed under LOIs

# Supplementary Information

# Sustainability Strategy on a Page

Alignment

UN Sustainable Development Goals; International Council on Mining & Metals principles; Taskforce on Climate-related Financial Disclosures; & Intergovernmental Panel on Climate Change

Our Purpose

Commitment to Critical Minerals for a healthier planet

We Achieve This By

Minimizing environmental impact through efficiencies, behaviour change, & decreasing reliance on resources

Ensuring the safety & well-being of employees, contractors & the community  
Driving diversity, equity, inclusion & respect for human rights

Active board oversight & engagement, supported by world-class policies & standards, transparent reporting & proactive stakeholder engagement

Contributing to the development of a low carbon economy through technology, innovation and sustainable mining

Pillars & Action Areas

## PLANET

Energy & Climate Change

Water

Waste

Rehabilitation & Closure

## PEOPLE

Health & Safety

Diversity, Equity & Inclusion

Human Rights

Communities

## PARTNERSHIPS & PROCESSES

Ethics

Corporate Governance

Stakeholder Engagement

Reporting

## PROSPERITY

Economic Return

Technology

Research & Development

Sustainability Excellence

Our Values

### Integrity

We Operate with **Integrity** – we are accountable and own the responsibility to do the right thing, always

### Collaboration

We **Collaborate** – through leadership and teamwork we forge partnerships for a greater good

### Resilience

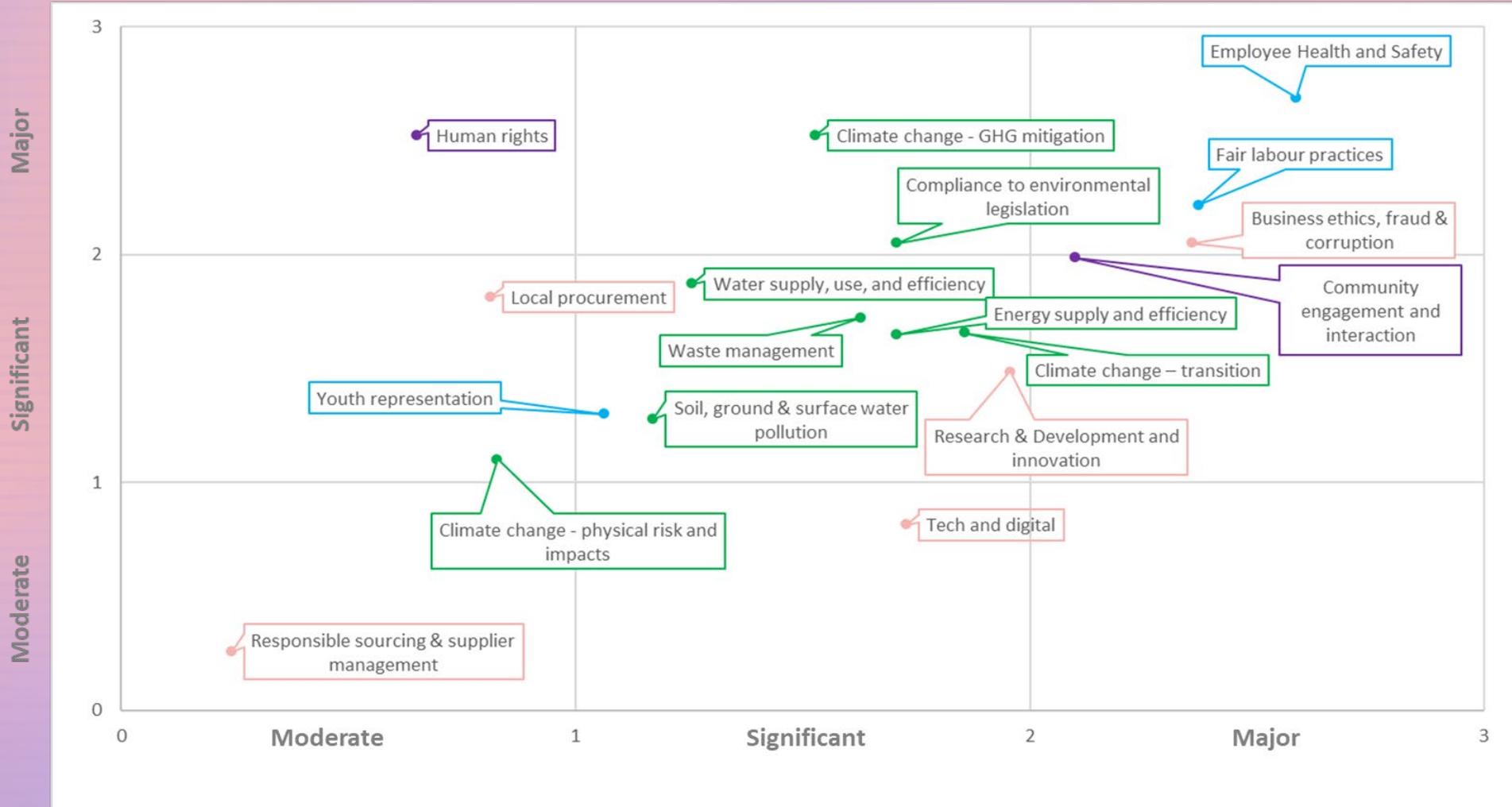
We are **Resilient** – we are determined to thrive and deliver best results

# Starting the Journey – Materiality Matrix

Materiality assessment undertaken to identify & prioritise the sustainability topics of greatest impact to the business & greatest importance to Lepidico's stakeholders – which informed our strategy focus

## Importance to Stakeholders

(e.g., regulators, local government, end consumers, customers, banks, suppliers and employees, and communities)



## Impact to the business

(e.g., in terms of growth, cost or risk)

**Key**  
 Social  
 Environment  
 Human Capital  
 Governance

# Climate Change & Energy Summary



## Commitments

- We will follow a Paris Agreement aligned decarbonization pathway which is compatible with a 1.5 degree temperature scenario in our own operations
- We will support decarbonization of other value chains by providing innovative, low carbon lithium solutions, which promote increased electrification
- We will implement operational level adaptation solutions and support host communities to adapt to the physical impacts of climate change

## Goals

- 2050 Goal: Net zero

## Targets (2035)

- 30% renewable electricity use at Karibib & UAE operations
- 6% scope 1 GHG emissions reductions
- Set scope 3 GHG emissions reduction targets
- Review & update all targets 1 year after operation startup

## Targets (2040)

- 60% renewable electricity at UAE operations
- Renewable power at Karibib up to the max allowed by the Electricity Control Board (or 60%)
- 40% scope 1 GHG emissions reductions

## Targets (2050)

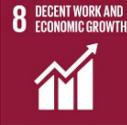
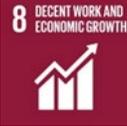
- 95% GHG emissions reductions
- 5% offsets for net zero

## KPIs

- Scope 1, 2 and 3 greenhouse gas (GHG) emissions (tonnes CO<sub>2</sub>e)
- GHG emissions intensity (tonnes CO<sub>2</sub>e per unit of lithium produced)
- GHG emissions abated (tonnes CO<sub>2</sub>e)

- Energy usage (broken down by fuel type) (GJ)
- Renewable energy generated and purchased (kWh)
- Energy efficiency (GJ per unit of lithium produced)
- Adaptation guideline and plans

# Other Key Action Areas: Commitments, Goals and Targets

Action Area	Commitments	Goals	Targets
<b>Water</b> 	<ul style="list-style-type: none"> <li>We will implement water stewardship practices to reduce freshwater withdrawals &amp; ensure adverse water quality impacts on local &amp; regional water resources are avoided</li> <li>We will implement strong and transparent water governance &amp; collaborate with stakeholders at a catchment level</li> </ul>	<ul style="list-style-type: none"> <li>Minimal freshwater withdrawals</li> <li>Zero discharges to the environment</li> </ul>	<ul style="list-style-type: none"> <li>Align water reporting with the ICMM water reporting guidance</li> <li>Achieve zero uncontrolled water discharges</li> </ul>
<b>Waste</b> 	<ul style="list-style-type: none"> <li>We will actively manage mineral &amp; non-mineral waste by applying the mitigation hierarchy &amp; actively pursue partnerships to increase recycling &amp; minimize environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>Zero mineral waste to landfill</li> <li>Responsibly manage waste facilities &amp; waste rock dumps</li> </ul>	<ul style="list-style-type: none"> <li>Develop baseline for a target to be set by 2030 for reduction in landfill waste</li> <li>Group waste management standard &amp; plans aligned to the Global Industry Standard on Tailings and Waste Management (GISTM)</li> </ul>
<b>Health &amp; Safety</b> 	<ul style="list-style-type: none"> <li>We will pursue continual improvement in physical &amp; psychological health &amp; safety performance with the aim of zero harm</li> </ul>	<ul style="list-style-type: none"> <li>Zero Lost Time Injuries</li> </ul>	<ul style="list-style-type: none"> <li>Year-on-year reduction of recordable injury frequency</li> </ul>
<b>Diversity, Equity &amp; Inclusion</b> 	<ul style="list-style-type: none"> <li>We will respect human rights, create an inclusive workplace where all voices are heard &amp; all cultures, customs &amp; values respected</li> <li>We will work to improve the experiences of all workers &amp; eradicate discrimination, harassment, &amp; assault of any kind in our workplace</li> </ul>	<ul style="list-style-type: none"> <li>An inclusive, psychologically safe &amp; diverse workplace, respect for the rights of all workers</li> </ul>	<ul style="list-style-type: none"> <li>40% of women in senior leadership by 2030</li> </ul>
<b>Communities</b>  	<ul style="list-style-type: none"> <li>We will implement inclusive approaches with local communities to identify their development priorities</li> <li>We will support in developing resilience &amp; prosperity to our host communities, beyond the life of our mines</li> </ul>	<ul style="list-style-type: none"> <li>Engage host communities &amp; support local employment, procurement, education &amp; skills to leave a positive legacy</li> </ul>	<ul style="list-style-type: none"> <li>20 % of procurement from host communities</li> <li>10% of host community employment</li> <li>CSR commitments TBA</li> </ul>



LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

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



LEPIDICO

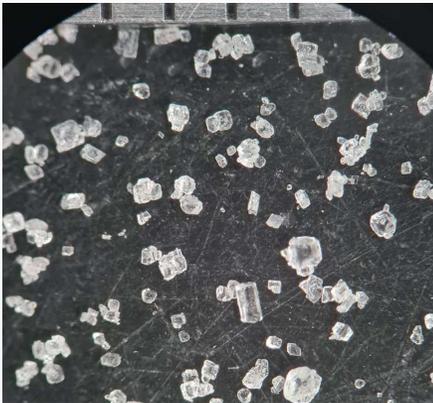
ASX:LPD

L-MAX®  
LOH-Max®

Our technologies

# LOH-Max®

A more sustainable  
lithium hydroxide solution



Large cubic shaped clean  
crystals  $d_{50} \sim 320 \mu\text{m}$

---

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<sup>®</sup> Amenability

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

High lithium extraction rates achieved by L-Max<sup>®</sup> from 2.5% to +4.0% Li<sub>2</sub>O concentrates



**Lepidolite**



**Zinnwaldite**



**Polylithionite**



**Lithium muscovite**



**Amblygonite/  
Montebrasite**



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

# Pilot trials: 43% Australian R&D tax refund, \$5.7M

2015 Western Australia lepidolite

2017 Zimbabwe lepidolite tails

- Glass reactors employed
- 5kg/hr



2019 Portugal lepidolite-amblygonite, 15kg/hr



2022 Namibia lepidolite-lithium muscovite-amblygonite, 32 kg/hr



2023 Cornwall polyolithionite-zinnwaldite, being developed by Cornish Lithium Ltd under license



LEPIDICO

ASX:LPD

L-MAX®  
LOH-Max®

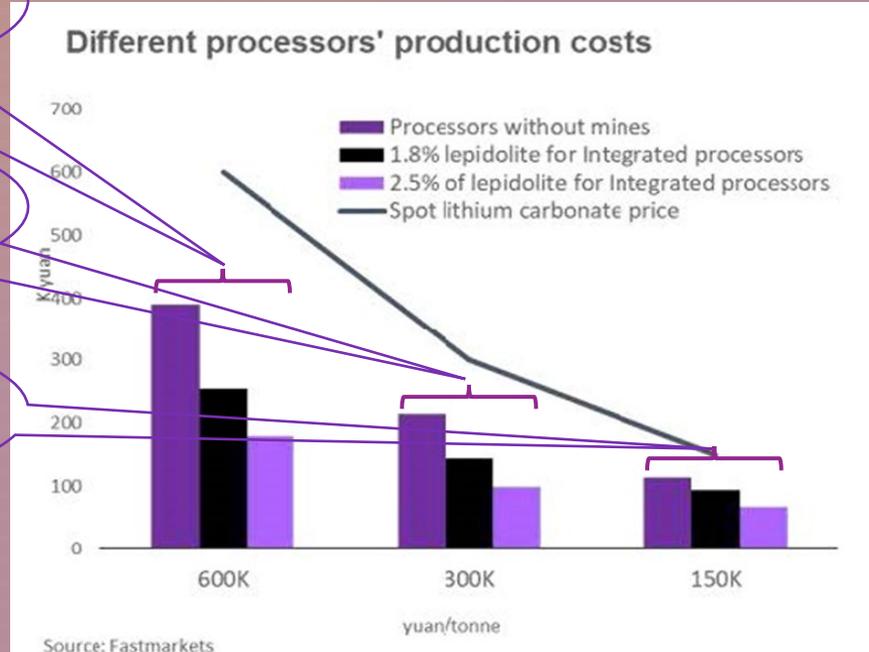
# China's "lepidolite" LCE production accelerating

- 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<sub>2</sub>O, quoted at US\$1,064/mt  
1.5-2.0% Li<sub>2</sub>O, quoted at US\$742/mt

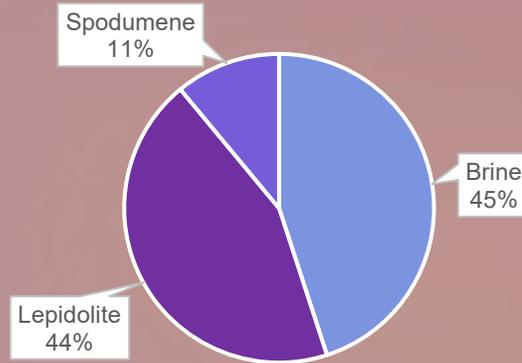
Cost c.US\$25,000-55,000/mt @ US\$84,000/mt LCE

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

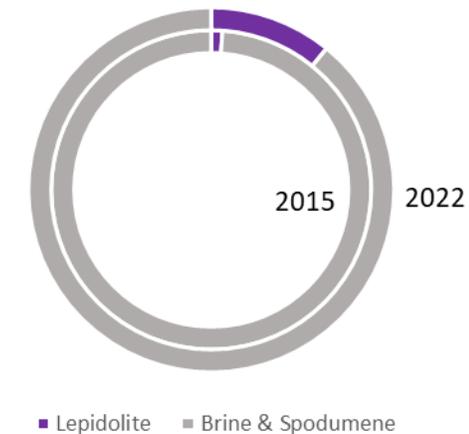
Cost c.US\$10,000-15,000/mt @ US\$21,000/mt LCE



2022 China's domestic mine supply breakdown, LCE



Lepidolite LCE production worldwide



# Mineral processing

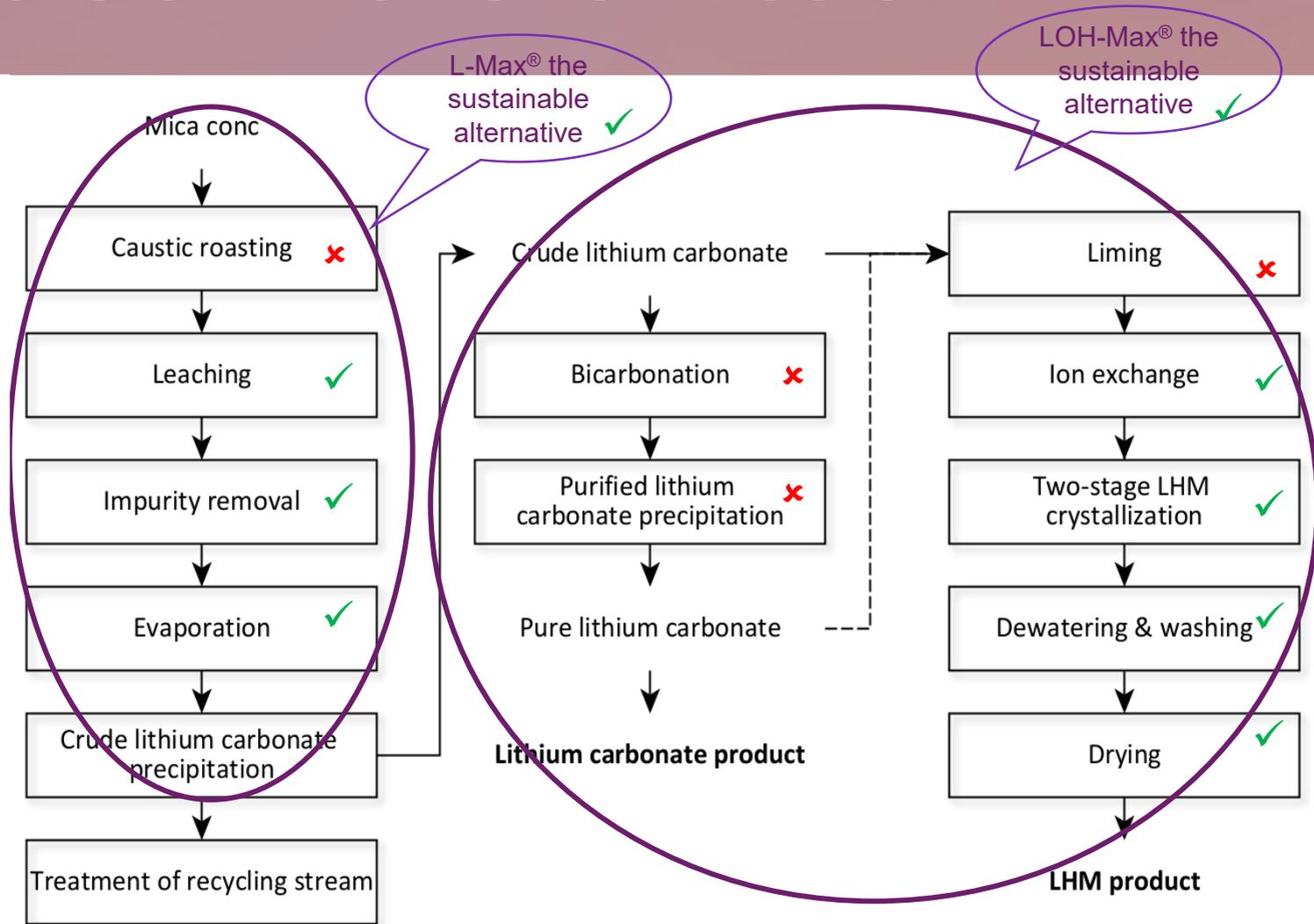
## Beneficiation steps

- 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
<b>Head grade (wt.-% Li<sub>2</sub>O)</b>	1.0 to 2.0	0.3 to 0.9
<b>Material fineness</b>		
<b>Crushing</b>	Jaw crusher	Jaw crusher
<b>Ore sorting</b>	Possibly	NA
<b>DMS</b>	Possibly	NA
<b>Grinding</b>	Ball mill	Ball mill
<b>Magnetic separation</b>	applicable	applicable
<b>Flotation</b>	applicable	applicable
<b>Final conc. grades (wt.-% Li<sub>2</sub>O)</b>	5.5 to 7.5 %	1.3 to 4.5%

# 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
- 1<sup>st</sup> removal of Ca, Mg & Mn
- 2<sup>nd</sup> 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
- 1<sup>st</sup> 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
Li <sub>2</sub> O of Ores	1.0-1.4%	0.2%-0.45%	0.2-1.0% (avg 0.4%)
Li <sub>2</sub> O% 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 > disposal quotas	Gypsum rich product
Process - temperature	Pyromet – c.1,100°C	Pyromet – c. 900°C	Hydromet - 120°C
GHG emissions	10-15t CO <sub>2</sub> e/t LCE	High +15t CO <sub>2</sub> e/t LCE	8-10t > 3t CO <sub>2</sub> e/t LCE
Other emissions/waste	No	Fluoride, effluent - heavy metals	Steam
Li quality	Battery grade	Some need purification: K, Na, SO <sub>4</sub> <sup>2-</sup>	Battery grade

Source: Fastmarkets, Dorfner Anzplan GmbH, Lepidico



**Mine: shovel ready**



**Concentrator: FEED completed**

# Namibian Leadership 4 Namibia



LEPIDICO

ASX:LPD

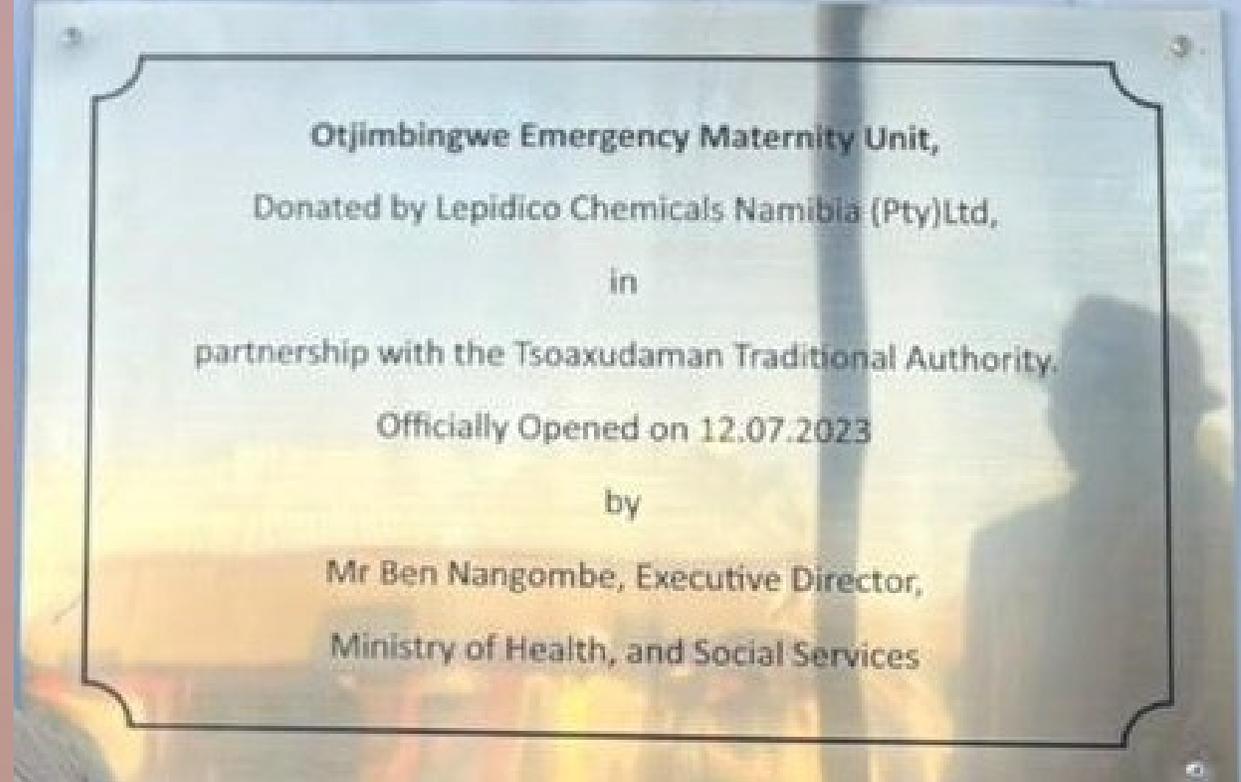
L-MAX®  
LOH-Max®



# Chemical Plant: FEED completed

Infrastructure installed, key permits in place

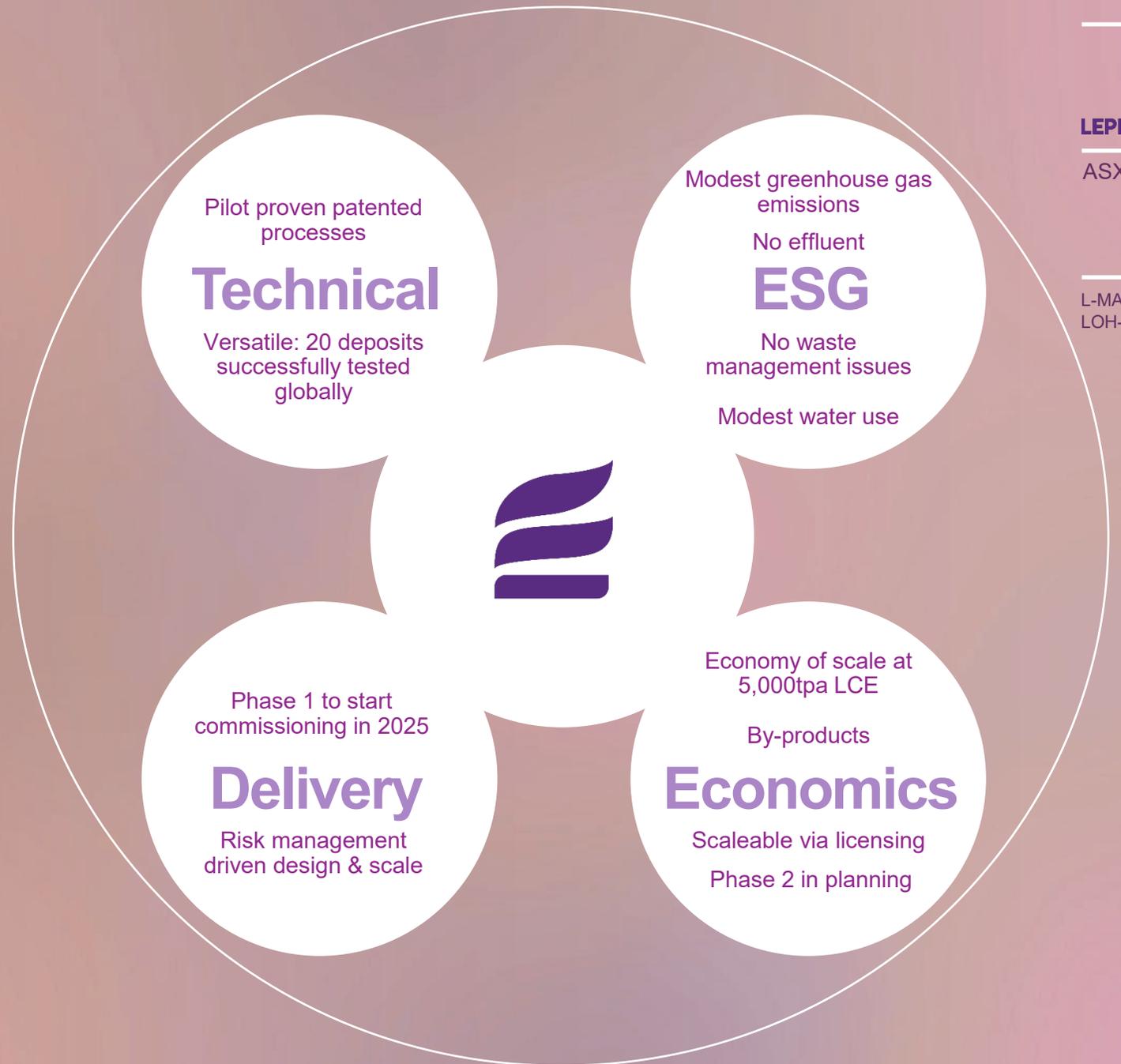




- ✓ Maternity Unit: consultative process with community and government led to design development
- ✓ Design approved for rollout in other remote locations
- ✓ Serves a community with 900 women of childbearing age, with 13 births per month, which is 90km by road (60km on dirt) from the regional hospital
- ✓ Government focus on reducing infant and maternal mortality rates
- ✓ Facility also planned to be used for pre & post-natal care

# Investment highlights

Lepidico: Critical Minerals for a healthier global community and planet



**Thank you**