

THE GLOBAL LEADER IN SUSTAINABLE LITHIUM MICA PROCESSING

Corporate Update

April/May 2022



LEPIDICO



THE FUNDAMENTALS:

VERTICALLY INTEGRATED FROM MINE TO LITHIUM CHEMICAL

Lepidico's tech-focused, pilot-proven, ESG-led business model delivers lithium from far less contested mineral sources, with first delivery due in 2024

Market

ASX

Ticker

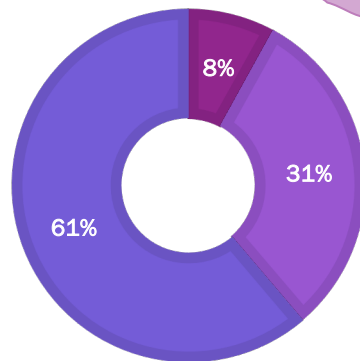
LPD

Market Cap

A\$253m
(share price A4.0c)
(at 20 April 2022)

Cash

A\$7.3m
(no debt)
(at 31 March 2022)



- Board and Management
- Top 40 Public shareholders
- Balance

Corporate Office,
Toronto, Canada

Phase 1 Chemical
Plant, Abu Dhabi, UAE

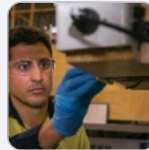
Karibib Project, Namibia
Phase 1 Mines &
Concentrator

Pilot Plant & Registered Office,
Perth, Australia

Corporate Timeline

2019

- ✓ LOH-Max® provisional patent application
- ✓ Acquisition of TSX-V listed Desert Lion Energy & Karibib assets
- ✓ Pilot Plant confirms viability of L-Max® technology
- ✓ First L-Max® patent protection received



2021

- ✓ EPCM contract awarded
- ✓ First product offtake agreement
- ✓ Demonstration Plant operational



2023-2024

- Karibib mining
- Karibib concentrator ore commissioning
- Chemical Plant commissioning starts
- Phase 2 Feasibility Study starts
- Commercial production

2017

- ✓ Pre-Feasibility Study complete
- ✓ Phase 1 Feasibility Study starts

2013-2015

- ✓ 2013 L-Max® process concept
- ✓ 2014 Provisional patent application
- ✓ First continuous lab trials 2015

2020

- ✓ Inaugural Ore Reserve estimates for Rubicon and Helicon announced
- ✓ World's only Ore Reserve estimate for "Critical Minerals" Cs & Rb
- ✓ Phase 1 Project DFS completed
- ✓ Namibia ESIA & ESMP completed to IFC Standards
- ✓ Mandate letter with DFC

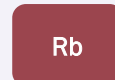
2022

- ✓ Executive Team Recruited
- Front End Engineering & Design to complete
- By-product offtakes
- Phase 1 full funding package
- Construction starts



2018

- ✓ L-Max® Pilot Plant development
- ✓ Provisional patent application for Cs & Rb separation process



2016

- ✓ ASX listing
- ✓ Company name change to Lepidico Ltd
- ✓ PFS starts



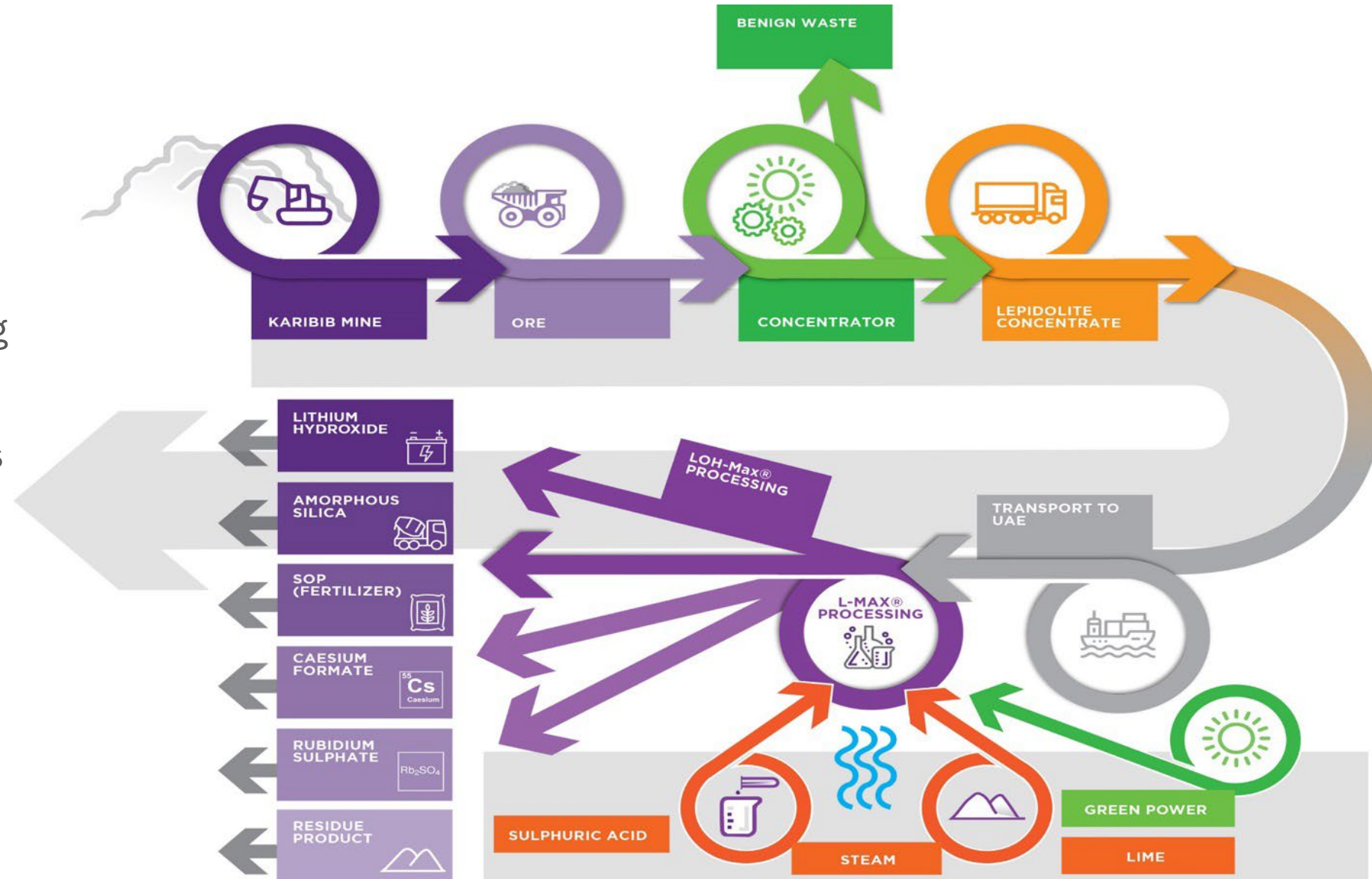
Legend

- ✓ Achieved
- Target

THIS IS WHAT WE DO: FROM MINE TO MARKET – a low carbon value chain

When operations come on stream in 2024, lithium mica ore mined and concentrated in Namibia will be shipped as concentrate for processing in the UAE.

Our patented technologies transform the concentrate into lithium hydroxide - or carbonate - as well as in-demand strategic chemicals, caesium and SOP - and other saleable outputs.



OUR TECHNOLOGIES & ESG



LEPIDICO



L-Max[®] – the conversion solution for Li-mica minerals

- **Innovation:** efficiently leaches and refines lithium from less contested lithium micas and phosphates
- **Patents:** Australia, Europe, Japan & US patent protection received for this Lepidico owned technology
- **Sustainable:** utilises common use, inexpensive reagents; conventional equipment; operates at atmospheric pressure and modest temperatures; is energy efficient; and has modest emissions
- **High value:** as well as caesium-rubidium by-products, L-Max[®] also delivers potassium sulphate fertiliser (SOP), amorphous silica and gypsum residues; with zero-solid waste potential
- **Scalable:** Pilot proven; Demonstration Plant now operational; scale up to 5,000tpa LCE Phase 1 c.200 to 1; larger Phase 2 Plant 10,000 to 20,000tpa



LOH-Max[®] - a more sustainable Lithium Hydroxide solution¹

- **Patent** – provisional patent lodged early 2019; international patent phase started August 2020; national and regional phases started September 2021
- **Broad application** – in lithium mineral conversion that employs sulfur-based chemistry; includes Spodumene
- **Recovery enhanced** – +4% versus conventional Spodumene process; +1,000tpa LiOH at nominal 20,000tpa rate
- **CapEx reduced** – by US\$52M (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
- **CO₂ reduced** – lower Scope 1, 2 and 3 emissions versus conventional processing
- **Value enhanced** – by +US\$100M per 20,000tpa LiOH.H₂O over 10-years
- **Waste** – benign gypsum/alunite waste
- **Risk reduced** – 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



¹ ASX Announcement: LOH-Max[®] process technology acquisition & improvements, 29 October 2020

Caesium - a much needed new supply source

- **Market** – c.2,000-2,200tpa globally on a Cs metal basis
- **Pollucite** – global Reserves of this traditional source of Cs materially depleted in 2018-19; lepidolite is the next best source of Cs
- **Deficit** – consumers advise 1 of just 2 size producers is ceasing Cs chemical production in 2022, leaving a single supplier; a c.40% deficit looms
- **Sustainable applications** – Cs based catalysts used in chemical manufacture; reduce melting point & therefore energy consumption & enhances yields
- **Patents** – provisional patent lodged 2018 for Cs & Rb extraction process from mica minerals, national phase started 2020; Cs-Rb-K ternary catalyst material refining process provisional patent lodged 2021
- **Cs chemicals** – sulphate, hydroxide and carbonate represent a large part of the industrial market; Lepidico's proprietary processes refine Cs_2SO_4 , which can be converted to CsOH & in turn Cs_2CO_3 via CO_2 sequestration
- **Sustainable processes** – an L-Max[®] residue stream is the feed for these hydrometallurgical processes which employ conventional equipment, operate at atmospheric pressure and low temperature



Environmental excellence through technology

- **Competitive carbon intensity** – GHD reported “low” chemical plant emissions intensity vs other LiOH plants; 8.8tCO₂-e/t LiOH.H₂O (10.0tCO₂-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 3.0tCO₂-e/t LCE
- **Other emissions & pollutants** – negligible
- **Water intensity** – 33m³/t LCE, 44% allocation to LiOH; 20% Namibia/80% UAE for first 5 years, with 85% of concentrator water recycled
- **Land use intensity** – 962Ha integrated project on predominantly industrial land; mine closure plan to return land to agricultural use; Category B designation
- **Biodiversity** – ESIs identifies no material impacts at Karibib & UAE operations are located within a 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 solid waste chemical plant





Social Responsibility & Governance

Health & Safety

- Lost Time Injury & Total Recordable Incidents Frequency Rates 0 > zero harm
- More than 154,000 hours worked with no Recordable Incidents since records began in 2016



Social

- **Creation of 115 direct jobs and +800 indirect jobs in Namibia**
- 119 new direct jobs in the UAE
- No relocation requirement
- Water supply to local farmers
- Medical equipment donation



Governance

- Experienced Board of Directors with complementary skills
- Sustainability & best practice ESG integrated with strategic planning
- **Talented Operations Executives appointed April '22: GM Op's Namibia, GM Op's UAE & GM Sustainability**



LEPIDICO

OUR PHASE 1 PROJECT

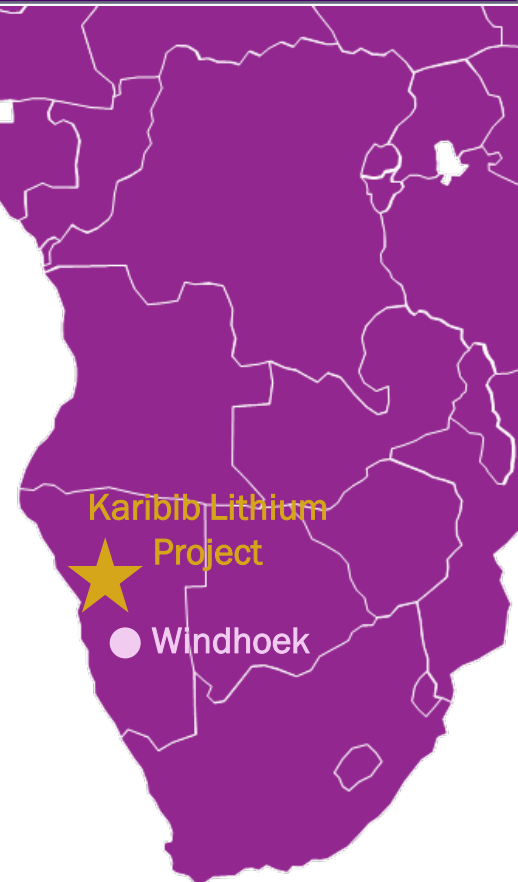
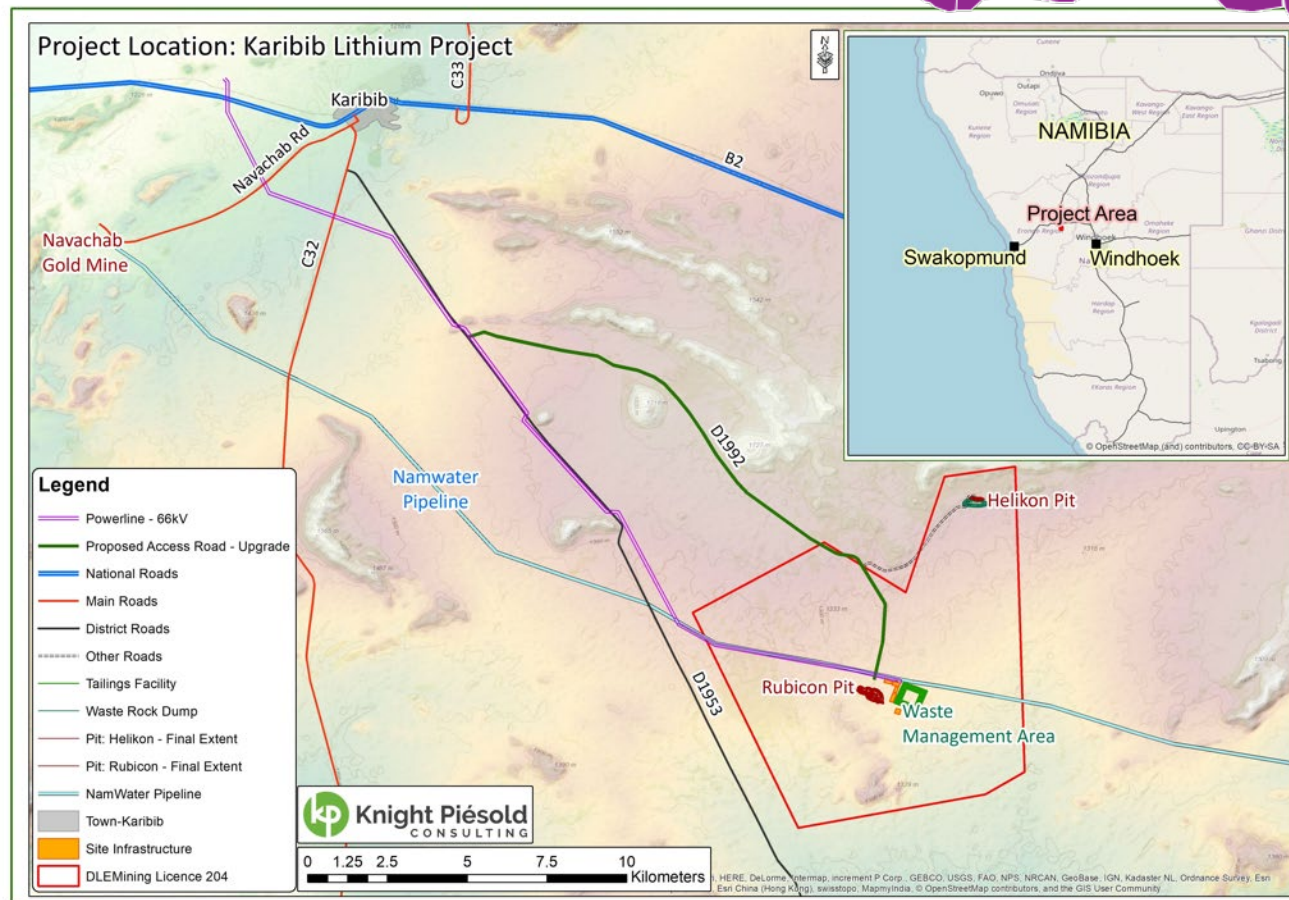


LEPIDICO



Karibib Project, Namibia

- Brownfield re-development of Rubicon & Helikon mines
- Fully permitted: Granted 68km² Mining Licence
- Water extraction licence given - 85% of process water will be recycled
- Construction of new small-scale 60,000tpa concentrator
- Direct access to excellent existing regional infrastructure
- New 25km line for grid power
- Large ground position prospective for lithium, caesium, rubidium & gold



Exploration: Mineral Resource expansion drilling and regional programs resumed January 2022
– results pending, to extend Phase 1 life & support the Phase 2 Project Scoping Study

RESERVES & RESOURCES: Unique source of Critical Minerals

Ore Reserve Estimate¹ Rubicon & Helikon 1 deposits

Reserve Category	Tonnes (M)	Li ₂ O (%)	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 Reserves	6.79	0.46	0.23	320	50	2.02

- JORC Code (2012) compliant Ore Reserve estimate for lithium, rubidium, caesium & potassium
- 76% conversion of Measured & Indicated Resources to Reserves for a 14-year project life
- Inferred Resource potential supports expansion potential or Phase 2 Project development
- 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 Life of Mine
- Most mine development work complete including haul road to Helikon 1 & water supply

Karibib Project Global Mineral Resources²

Deposit	Resource Category	Tonnes (M)	Li ₂ O (%)	Rb (%)	Cs (ppm)	Ta (ppm)	K (%)	Cut-off (% Li ₂ O)
Rubicon & Helikon 1 ³	Measured	2.2	0.56	0.27	389	51	2.14	0.15
	Indicated	6.66	0.38	0.20	274	42	2.07	0.15
	Inferred	0.17	0.7	0.29	1100	150	2.18	0.15
Helikon 2, 3, 4 & 5 ⁴	Inferred	2.2	0.41					0.20
Rubicon tailings ⁵	Indicated	0.07	0.99	0.42	538	60		0.00
Rubicon & Helikon stockpiles ⁵	Inferred	0.57	0.79					0.00
Global	Measured	2.2	0.57	0.27	389	51	2.14	
	Indicated	6.73	0.39	0.21	277	42		
	Inferred	2.94	0.5					
	Total	11.87	0.45					

¹ ASX Announcement: DFS Delivers Compelling Phase 1 Project Results, 28 May 2020

² Resources are inclusive of Ore Reserves

³ ASX announcement dated 30 January 2020: Updated Mineral Resource Estimates for Helikon 1 and Rubicon

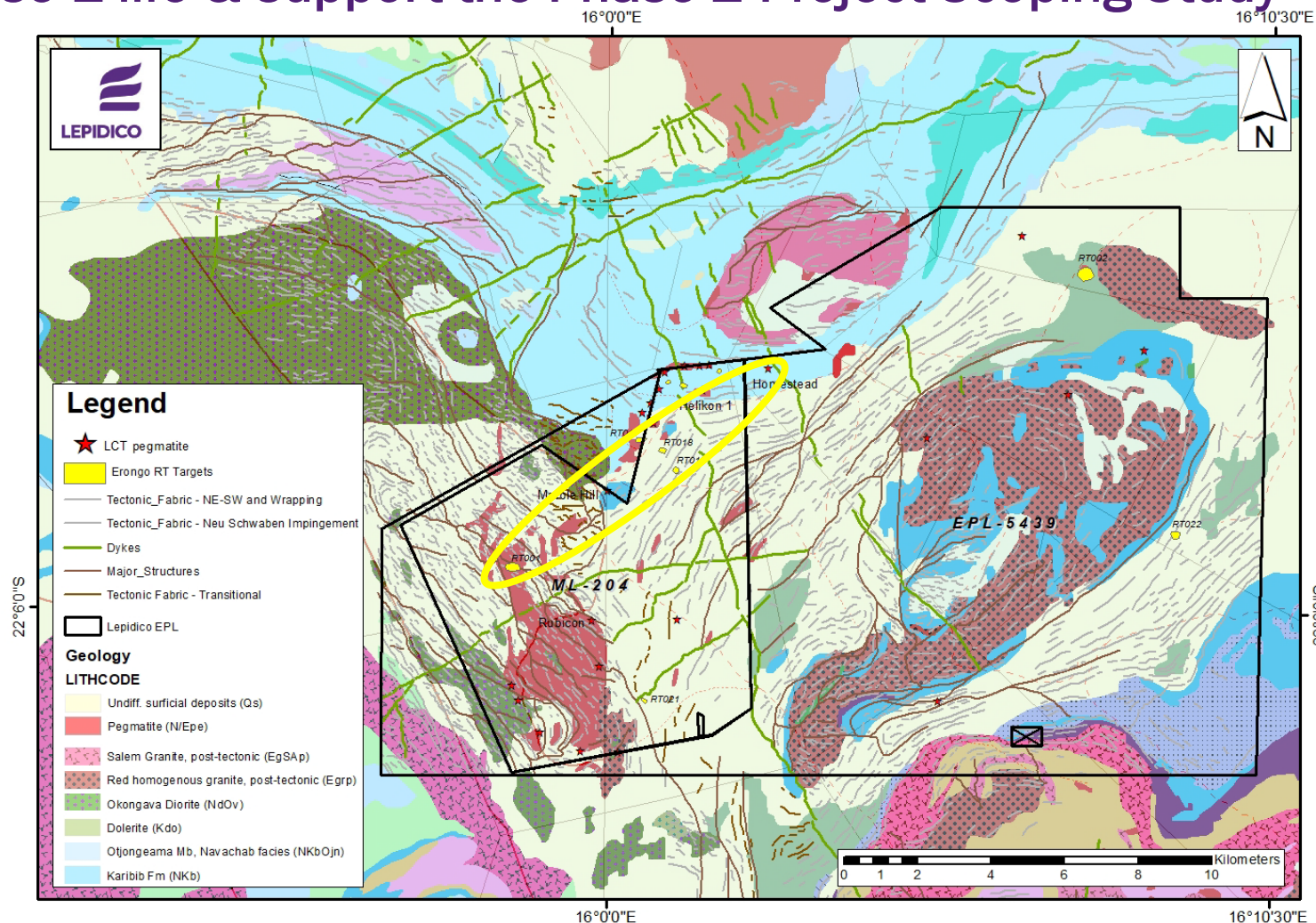
⁴ ASX announcement dated 16 July 2019: Drilling starts at the Karibib Lithium Project

⁵ ASX announcement dated 12 March 2021: Karibib Mineral Resources Expanded



Mineral Resource expansion drilling and regional programs resumed January 2022 – results pending, to extend Phase 1 life & support the Phase 2 Project Scoping Study

- Drilling Helikon 3-4 started January 2022; broad pegmatite intervals intersected, assays imminent
- Drilling Regional Targets 1 & 18 started May 2022
- Drilling Homestead lepidolite outcrop from mid-May 2022
- Objective 1: convert Inferred Mineral Resources to Measured-Indicated & extend Phase 1 life to +20 years
- Objective 2: delineate new Mineral Resources to support a Phase 2 of similar size to Phase 1 by end-2022 & a larger Phase 2 up to 20,000tpa LCE by end 2023



Karibib Concentrator – conventional flotation, small footprint

- Lycopodium started EPCM works May 2021
- Final FEED June Quarter 2022
- Limited Stage 2 EPCM works started March 2022
- Site works start September Quarter 2022
- Mining starts second half 2023
- Concentrator commissioning end-2023



Phase 1 Chemical Conversion Plant – Abu Dhabi

- Lycopodium started EPCM works May 2021
- 25 year land lease agreement October 2021
- FEED to complete July 2022
- Construction start September quarter 2022
- Chemical plant commissioning first half 2024

- Located in Khalifa Port Free Trade Zone, Abu Dhabi – no corporate tax and duties; 100% foreign ownership allowed
- Existing infrastructure available through “plug and play” approach
- Abu Dhabi ESIA complete and environmental permit to construct in place
- 25-year land lease agreement signed
- Green H₂ supply being evaluated

Phase 1 Project Definitive Feasibility Study¹



Construction Cost
(Inc. 13% contingency)
US\$139M



Post Tax
NPV₈ of US\$221M
NPV₀ of US\$521M
IRR of 31%



Project Payback
(from start of production)
3 years



Operating Costs
(by-product LCE basis)
C1 Cash Cost US\$/t 1,656
ASIC US\$/t3,221



Average Annual
Free Cash Flow³
(post ramp-up)
US\$49M



Lithium Hydroxide
Production²
4,879 tpa



Sulfate of Potash
Production²
12,000 tpa



Caesium Sulfate
Production²
240 tpa



Total LCE
All Products²
7,060 tpa



Project Life
14 years

¹ ASX Announcement 28 May 2020: DFS delivers compelling Phase 1 Project results.

² By-products at steady state operation expressed as a salt.

³ Cash flows based on Benchmark Mineral Intelligence Q1 2020 LiOH price forecast (US\$12,910/t long term).



Finance & Offtakes

- **Lithium Hydroxide** – binding term sheet signed December 2021 with Traxys for 35,000t over 7 years, includes sales-marketing, trade finance and logistics
- **Caesium** – binding term sheets being negotiated with multiple consumers for sulphate, with Traxys as agent
- **Bulk Products** – 150% of annual SOP under MOU; strong demand for silica; gypsum MOU under negotiation
- **Testing** – samples of all products have been dispatched for customer assessment; Demonstration Plant being run now to generate additional samples & for product development
- **Debt Finance** – formal mandate signed with the U.S. International Development Finance Corporation for Karibib; commercial lenders engaged for UAE debt; due diligence advanced; commitments targeted September Q 2022
- **Strategic Partner** – under evaluation
- **Prepayment/Streaming** – under evaluation



LEPIDICO

IN SUMMARY



LEPIDICO

TRANSITIONING TO PRODUCTION: PROGRESS POISED TO DELIVER



Critical Minerals

We have 6.7Mt in Reserves containing lithium, caesium & rubidium



Feasibility Study Complete

Competitive costs and enhanced margins from by-product revenues



Demo-Plant Proven Technologies

Our patented L-MAX® and LOH-MAX® processes produce high quality chemicals hydro-metallurgically



Strong ESG Credentials

CO₂, water and land use intensities low, & we aim to make these best-in-class



Strategic Collaboration

First technology licence sold to Cornish Lithium Ltd



Experienced Management

Track record in project development, & sustainable operation



Key Phase 1 Approvals in Place

Mining Licence, all environmental permits to construct & land lease secured



Debt Financing

Formal mandate signed with U.S. Development Finance Corp; due diligence well advanced



Offtake Commitments

Binding agreement for LiOH; caesium commitments 2022; SOP strong demand



Development Work Started May 2021

Lycopodium EPCM contractor, FEED well advanced, target implementation start September Quarter 2022



LEPIDICO

Commitment to the Future

LITHIUM MARKET



LEPIDICO

Push & Pull Policies Are Creating Tailwinds for Electric Vehicles...

United States

Up to \$7,500 grants for BEV purchases
10 states have set targets for 100% zero-emissions vehicles by 2050

United Kingdom

£1,500 for BEVs priced <£32,000
ICE new sales ban effective 2030

Norway

BEVs are not subject to an import tax or the 25% VAT on motor vehicles
ICE new sales ban effective 2025

China

Up to ¥22,500 (~\$3,500) grant for BEVs
Targeting 20% EV sales by 2025

France

Up to €6,000 for BEVs priced <€45,000
€2,000 for BEVs priced €45,000-€60,000
ICE new sales ban effective 2040

Spain

Up to €4,500 grant for EVs
ICE sales ban effective 2040

Germany

€9,000 grant on the purchase of BEVs priced below €40,000
ICE new sales ban effective 2030

Italy

€6,000 BEV purchase incentive +€4,000 if an ICE vehicle is scrapped
Targeting 30% EV penetration by 2030

Automotive Manufacturers Have Identified Electric Vehicle Targets



January 28, 2021 – General Motors is working with the Environmental Defense Fund to develop an **all-electric vision** and **eliminate tailpipe emissions from new light-duty vehicles by 2035**

DAIMLER

December 2, 2021 – Daimler will invest **over €60 billion into battery electric vehicles** between 2022 and 2026 as they plan to go **all electric by the end of the decade**



March 2, 2021 – Volvo Cars is committed to become a leader in the fast-growing premium electric car market and **plans to become a fully electric car company by 2030**



July 12, 2021 – **Fully-electric vehicles will account for at least half of the sales of the BMW Group by 2030**



March 19, 2021 – Volkswagen announced goal of becoming **balance sheet CO₂ neutral by 2050**

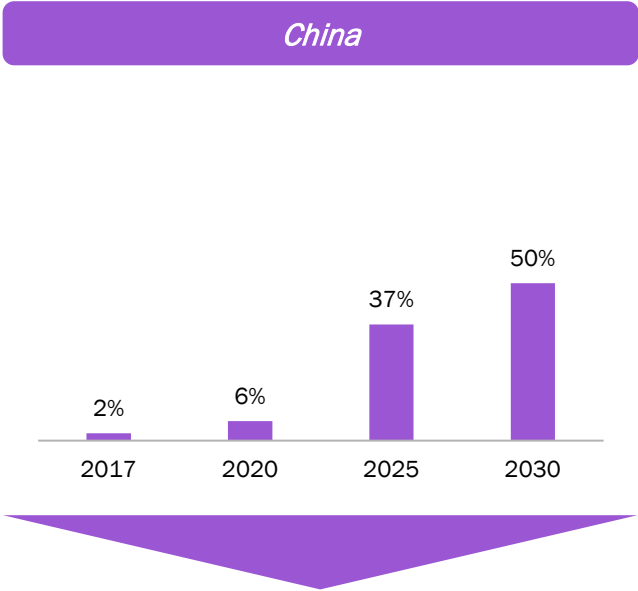
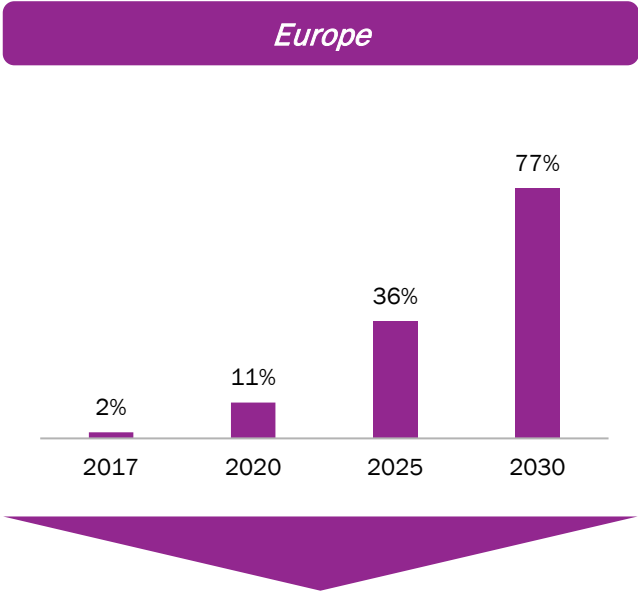
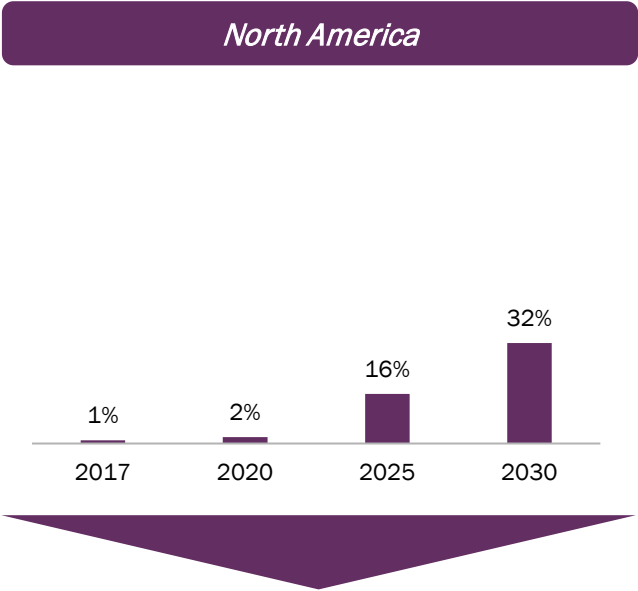


December 15, 2021 – Toyota plans to **increase U.S. sales of electrified vehicles to 70% by 2030** and become **carbon neutral by 2050**

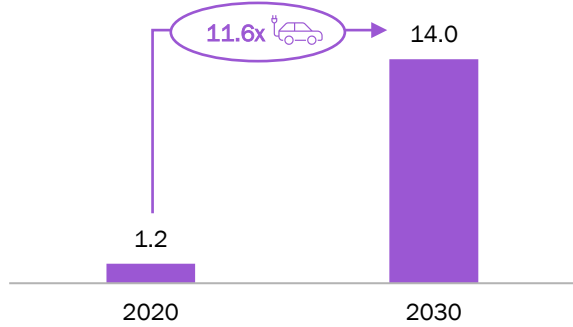
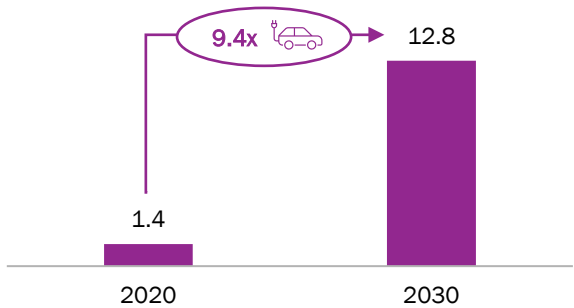
...Driving Significant Ramp-Up in Electric Vehicle Penetration Globally

Personal use only

Electric Vehicle Penetration



Electric Vehicle Sales (millions)



Secular Changes in EV Adoption Will Transform Demand for Battery Materials

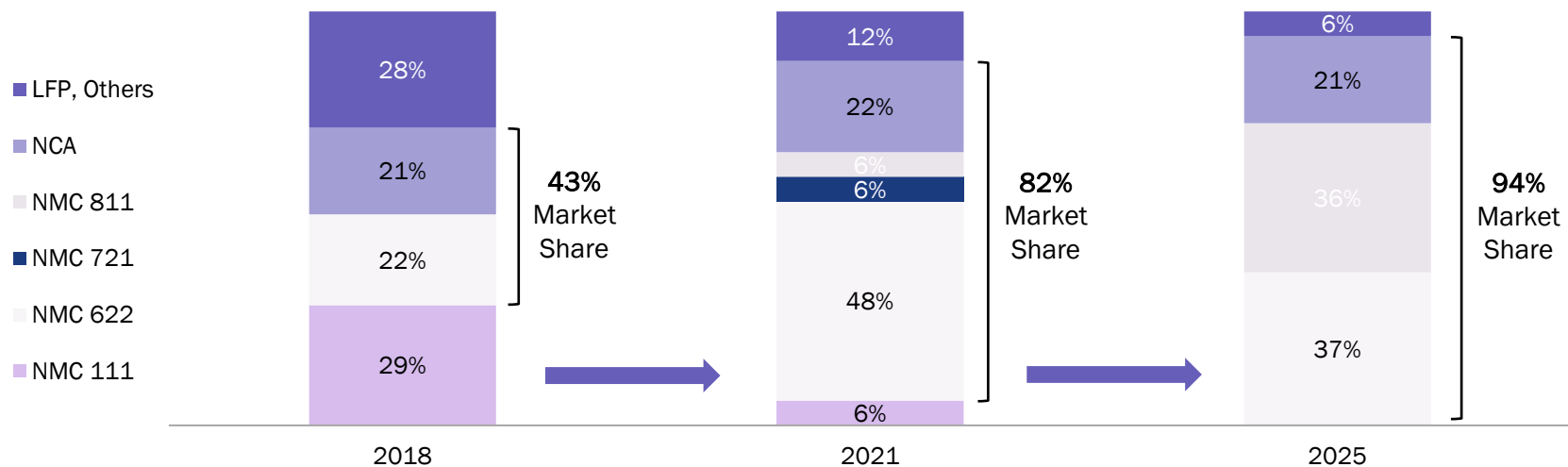
Source: Jefferies Equity Research.

Lithium Is THE Critical Component

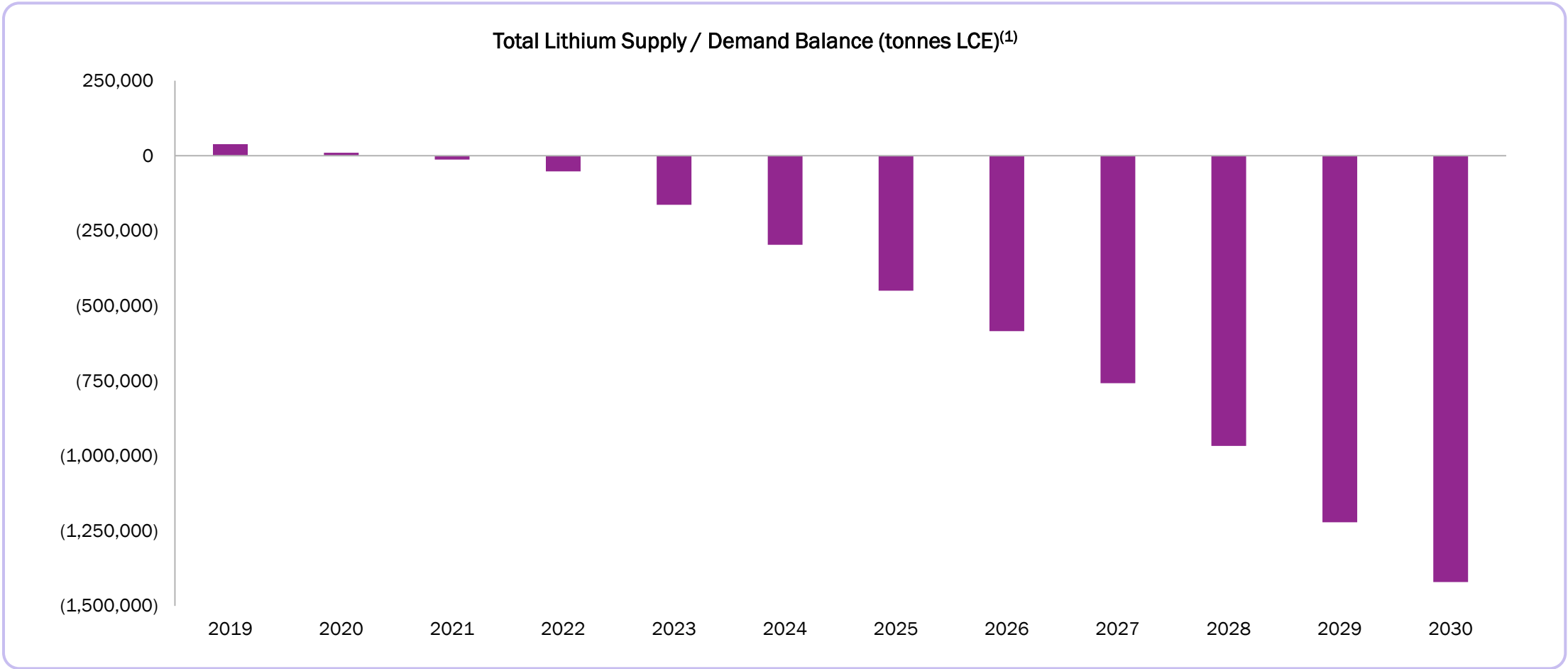
Lithium Is the Constant Input Across All Types of EV Batteries

Cathode Material	Lithium	Copper	Nickel	Manganese	Cobalt	Graphite
NCA	✓	✓	✓		✓	✓
NCA+	✓	✓	✓		✓	✓
NMC 333	✓	✓	✓	✓	✓	✓
NMC 532	✓	✓	✓	✓	✓	✓
NMC 622	✓	✓	✓	✓	✓	✓
NMC 811	✓	✓	✓	✓	✓	✓
LFP	✓	✓				✓
LMO	✓	✓		✓		✓

LiOH expected to take dominant share (90%+) in lithium battery cathode chemistries by 2025



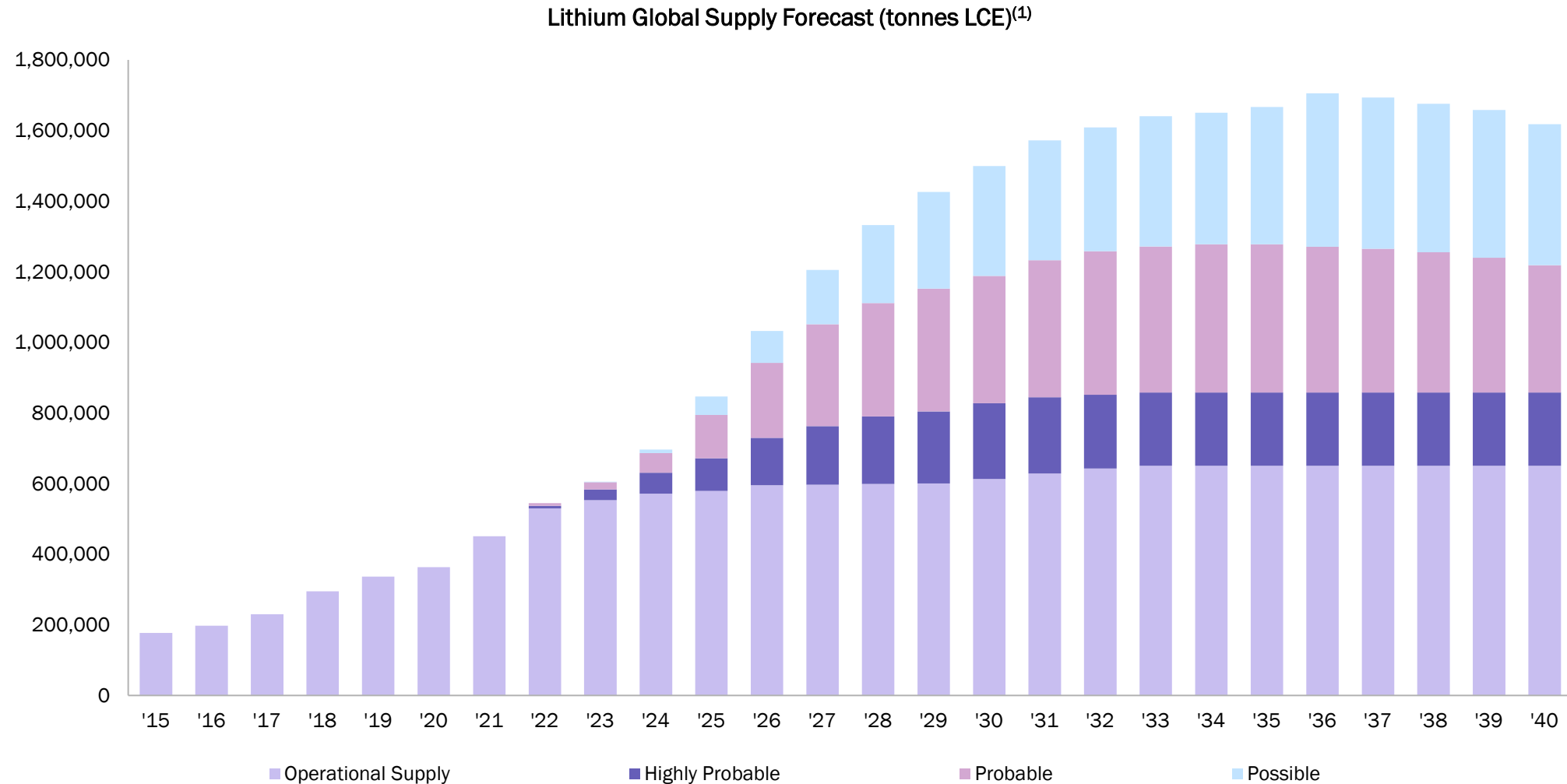
Strong Fundamentals...



The market for lithium chemicals is forecasted to be in a supply deficit from 2022 onwards

(1) Source: Benchmark Mineral Index.

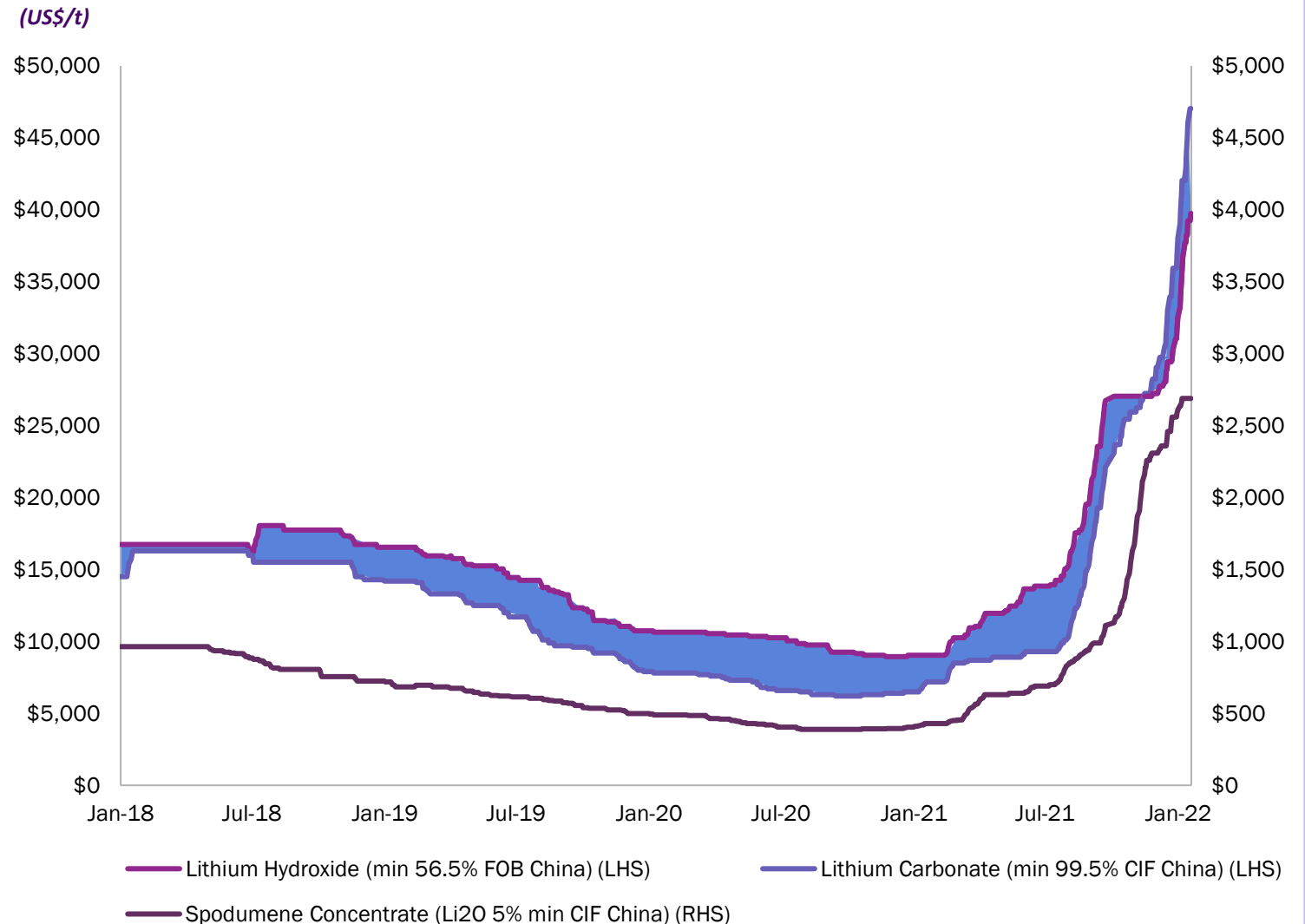
...Underpinned by Project Uncertainty and Long Lead-times



(1) Source: Benchmark Mineral Index.

Lithium Industry Pricing Mechanisms

- Since September 2021, prices of both lithium hydroxide and lithium carbonate prices have exceeded 2018 levels
- Primarily driven by the sharp surge in domestic Chinese lithium carbonate market
- Tight market supply combined with rapidly increasing EV demand is expected to maintain elevated prices in 2022



Lithium Supply Chain

Lepidico's value chain focus

Typical Project IRR

EXTRACTION

CHEMICAL PROCESSING

CATHODE / ANODE
PRODUCTION

CELL
MANUFACTURING

APPLICATION

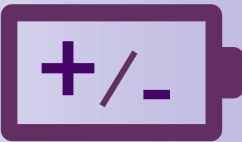
15% - 40%

10% - 15%

15% - 25%

10% - 20%

5% - 15%



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.



ersonal use only



Creative Resources Leadership

Website: www.lepidico.com

Contact us: Info@lepidico.com