

Green Battery Materials



Disclaimer

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Financial data:

All figures in this document are in Australian dollars (AUD) unless stated otherwise.

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Investment risk:

An investment in securities in Neometals is subject to investment and other known and unknown risks, some of which are beyond the control of Neometals. The Company does not guarantee any particular rate of return or the performance of Neometals. Investors should have regard to the risk factors outlined in this document.

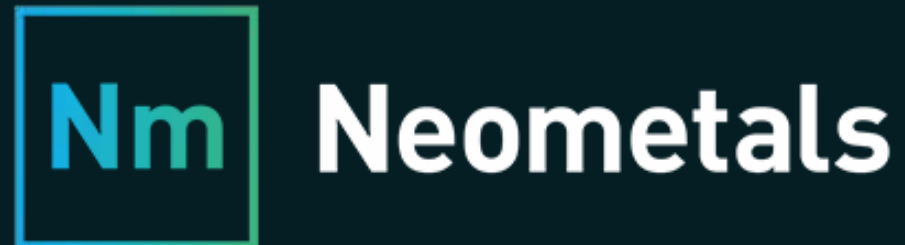
Compliance Statement:

The information in this document that relates to Exploration Results, the Mineral Resource Estimate and the Ore Reserve Estimate for the Barrambie VTM Project has been extracted from ASX Releases set out below, which are available at www.neometals.com.au

17/04/2018	Updated Barrambie Mineral Resource Update
11/07/2018	Barrambie Test Work Produces +90% Purity Titanium Slag at High Recoveries
22/12/2020	Barrambie Flowsheet Breakthrough
3/11/2022	Barrambie - Successful Commercial Smelting Trials For Barrambie
17/11/2022	Robust Outcomes From Barrambie Titanium Project PFS

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that in the case of estimates of Mineral Resources or Ore Reserves all material assumptions and technical parameters underpinning the estimates in the market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements.

Executive Summary



Neometals is an emerging, sustainable battery materials producer.



3 business units supporting energy transition in the EV / ESS supply chains:

Li-ion Battery Recycling (Ni/Co)
Vanadium Recovery
Lithium Chemicals



Underpinned by proprietary, green, processing technologies

13 Granted Patents
56 Patents Pending



ESG commitment. Recycling and recovery minimise reliance on mined materials and reduce carbon footprint



Focus on continuous development and innovative commercialisation with strong partners













Strong, growing team with track-record of value creation, project execution and shareholder return.

Green Battery Materials Portfolio

- Focus on Europe and North America
- Emerging as World's 2nd and 3rd biggest battery producing regions

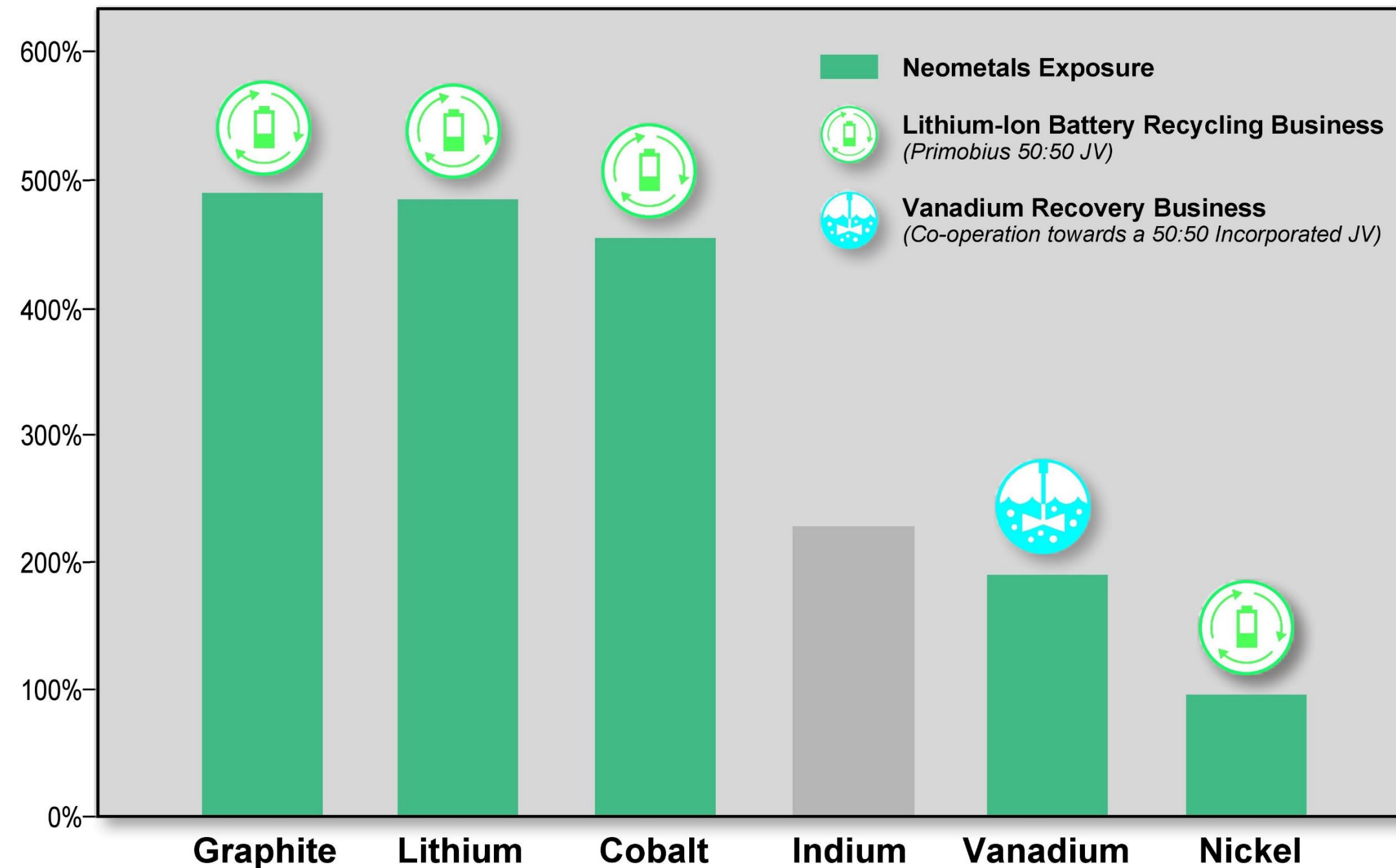


Core Battery Materials Business Snapshot

Business Unit	Lithium-ion Battery Recycling 	Vanadium Recovery 	Lithium Chemicals 
	50:50 Incorporated JV Primobius	50:50 Incorporated JV	Reed Advanced Materials ("RAM") 70:30 Incorporated JV
Business Unit Partners	SMS group	Critical Metals	MINERAL RESOURCES
	Mercedes-Benz	SSAB	30%
Project Development Partners	STELCO ITOCHU	H2green steel	Co-operation Agreement for 50:50 Incorporated JV with RAM
Key Regions of Focus	  	 	 
Underpinned by proprietary, sustainable processing technologies that recover battery materials			

Unparalleled exposure to energy transition commodities

2050 Annual Demand from Energy Technologies as Percentage of 2018 Production



Source: World Bank Group

Experienced & Growing Team



Steven Cole
Chair



Chris Reed
Managing Director /
CEO



Dr Natalia Streltsova



Doug Ritchie



Dr Jennifer Purdie



Les Guthrie



Jason Carone
Company Secretary /
CFO



Paul Wallwork
GM – Marketing and
Product
Development



Merrill Gray
Head of Recycling



Michael Tamlin
Head of Lithium



Darren Townsend
Head of Vanadium



Casper Adson
EGM – Titanium



Giuliano Giordani
Financial Controller



Jeremy Mcmanus
GM – Investor
Relations and
Intellectual Property



Scott Robertson
GM – Corporate
Development



Kylee Millen
Project Manager -
Recycling



Michael Prassas
Commercial
Manager



Kausar Shah
Project Manager –
Lithium



Gavin Beer
GM – Lithium
Processing



Irena Ivanova
GM – Evaluation
Studies



Eric Taarland
GM – Vanadium
Marketing



Seppo Karvonen
Country Manager



Greg Hudson
GM – Geology



Pablo Carabajal
Manager - Finance



Felicia Bradley
Marketing &
Communications



Anél Joubert
Manager - ESG



Adam Farghaly
Technical Manager



Matthew Carter
Manager - Data



Dirk Kotzee
Manager – Project
Services



David Robinson
GM – Metallurgy and
R&D



Rihanna Vanin
Project Engineer



Thomas Heinzle
Project Engineer



Campbell Kenny
Business Analyst



Owen Casey
Senior Project
Geologist

Corporate Dashboard

NEOMETALS HAS SIGNIFICANTLY OUTPERFORMED THE ASX200
A\$82M RETURNED VIA DIVIDENDS AND BUY BACKS IN THE LAST ~5 YEARS

ASX: NMT	OTC:RDRUY		
Shares on Issue ⁽¹⁾	m	552.7	
Share Price	A\$	0.62	
Market capitalisation	A\$m	343	
Cash (31-Dec-22)	A\$m	42.0	
Debt	A\$m	-	
Investments (31-Dec-22) ⁽²⁾	A\$m	29.4	

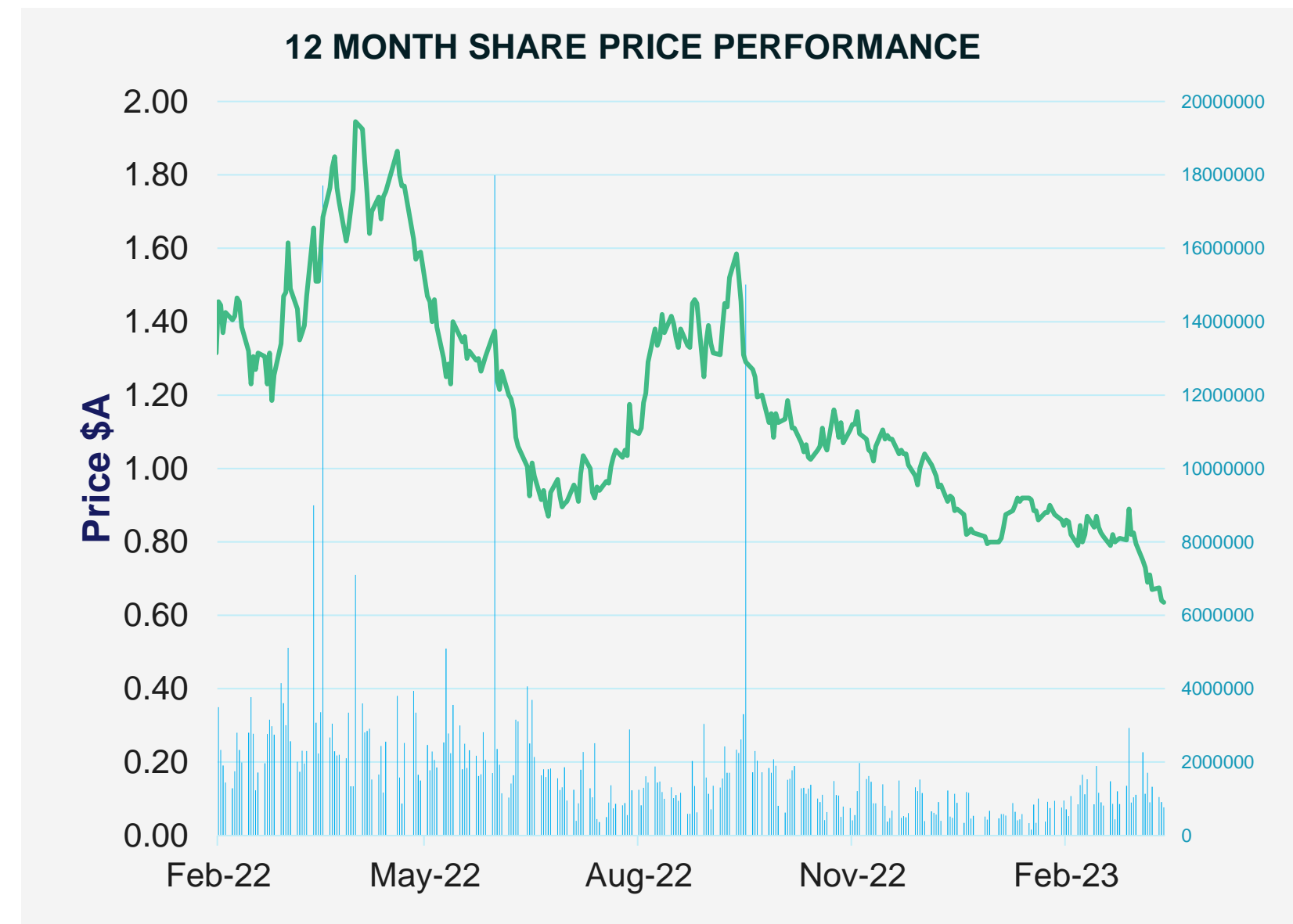
MAJOR SHAREHOLDERS	
David Reed	6.2%
The Vanguard Group, Inc.	2.3%
Top 20	40%
No of Shareholders	~14,442

Notes: Market data as at 15 March 2023 (unless otherwise noted)

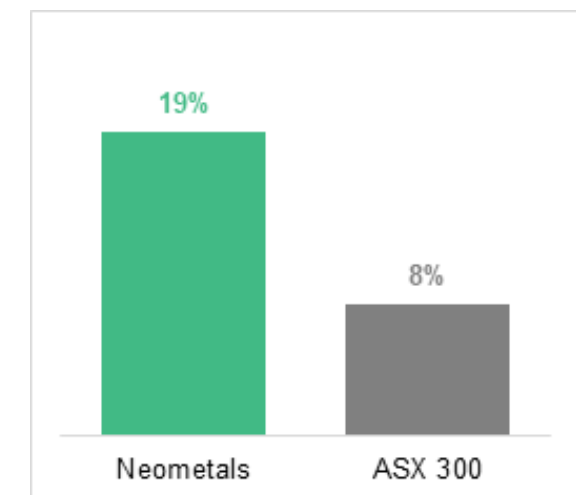
⁽¹⁾ Excludes 12.6M performance rights

⁽²⁾ Receivables and investments

⁽³⁾ Sourced from Bloomberg (as at 31 December 2022) assumes dividends re-invested



5-Year TSR⁽³⁾



Sustainability



Neometals is committed to optimising finite resources with circular practices to benefit society and the environment for a sustainable future

- Focus on production of sustainable battery materials - reducing reliance on new mined materials.
- Commercialising internationally recognised award-winning sustainable processing technologies
- Transparent sustainability reporting to GRI, SASB, TCFD
- Neometals’ 3rd annual sustainability report released in September 2022





Lithium-ion Battery (LiB) Recycling

Intellectual Property Holding Company
50% Neometals / 50% SMS group

Primobius GmbH – Commercialisation
Incorporated 50:50 JV with SMS group

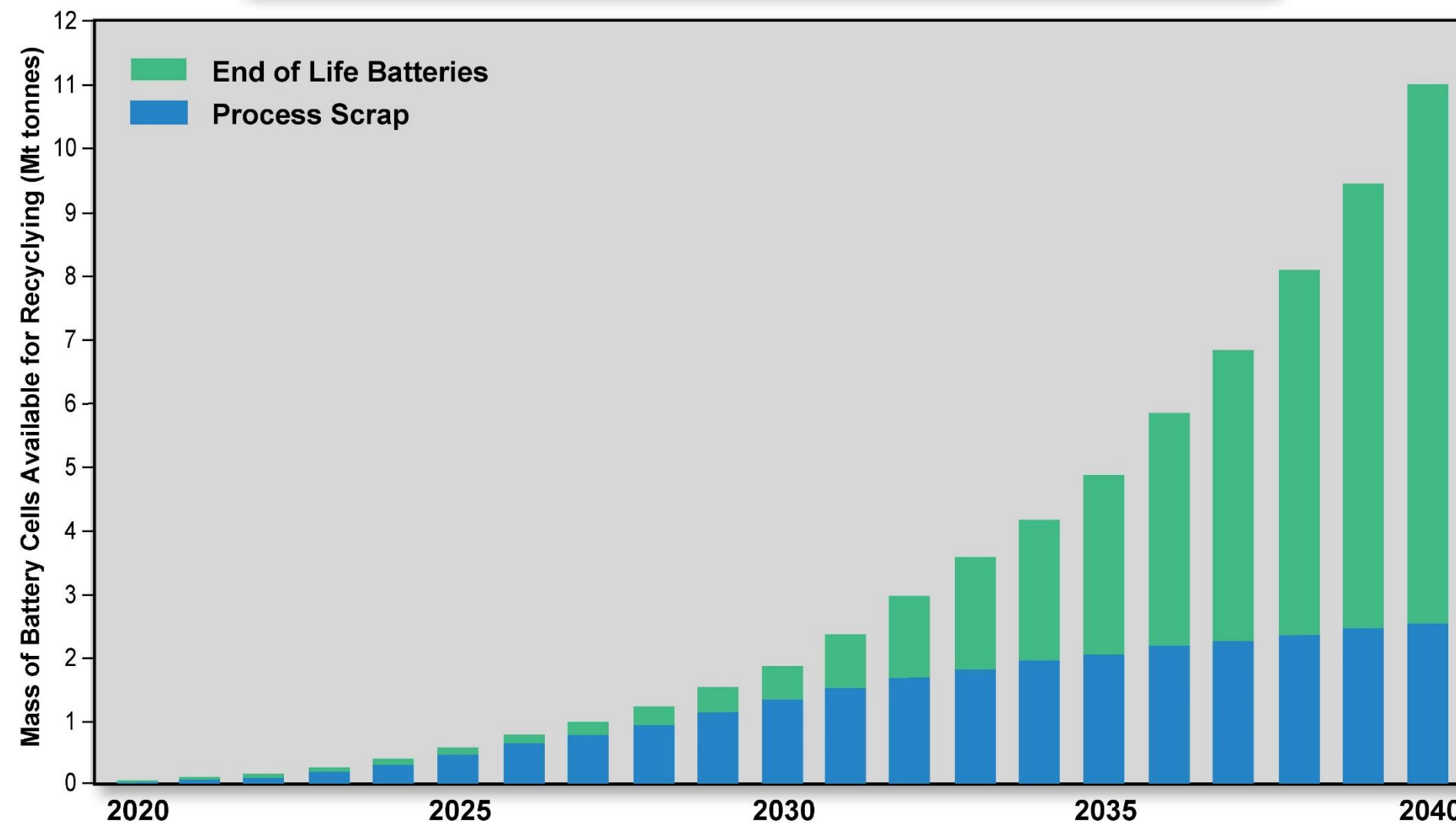
Primobius
Battery recycling without limits



Aim is to be leading provider of recycling solutions to OEMs

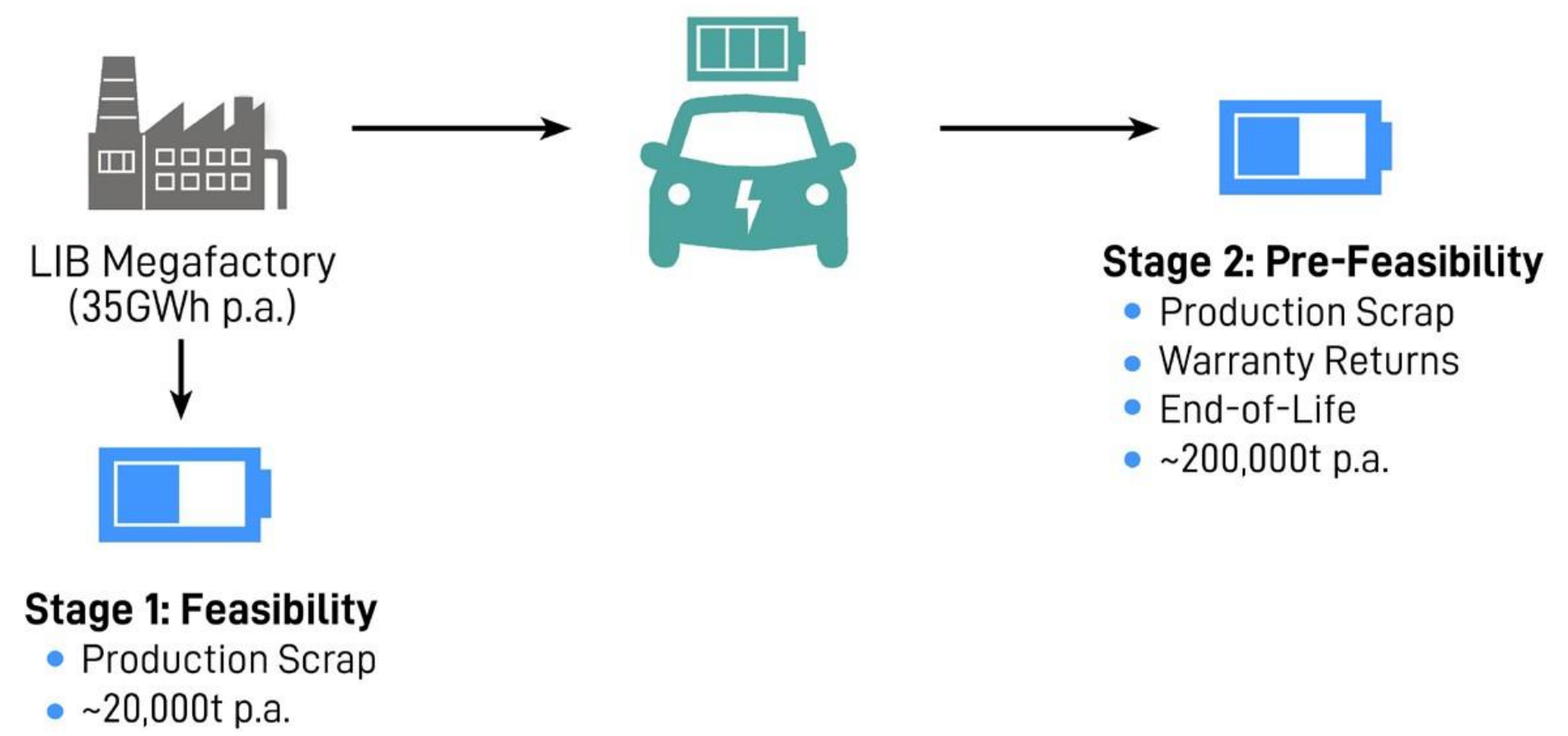
OUR SCALABLE PLANT SOLUTIONS ADDRESS GROWING VOLUMES OF PRODUCTION SCRAP AND END-OF-LIFE BATTERIES

Global Battery Volume Available for Recycling



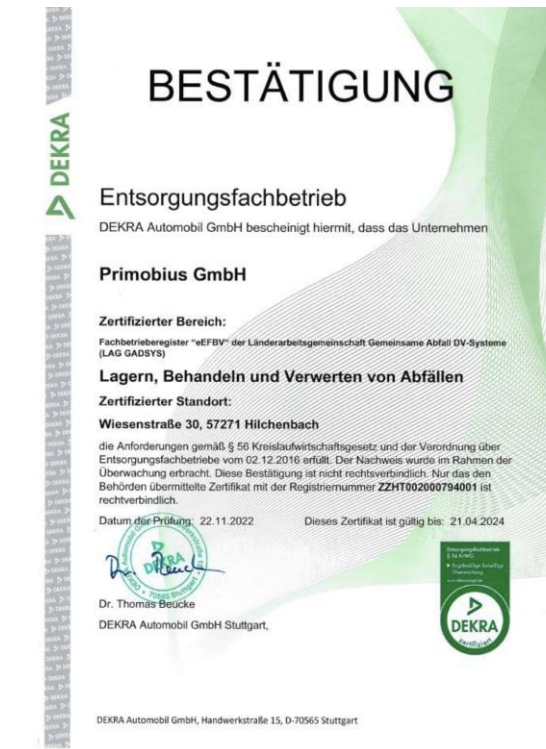
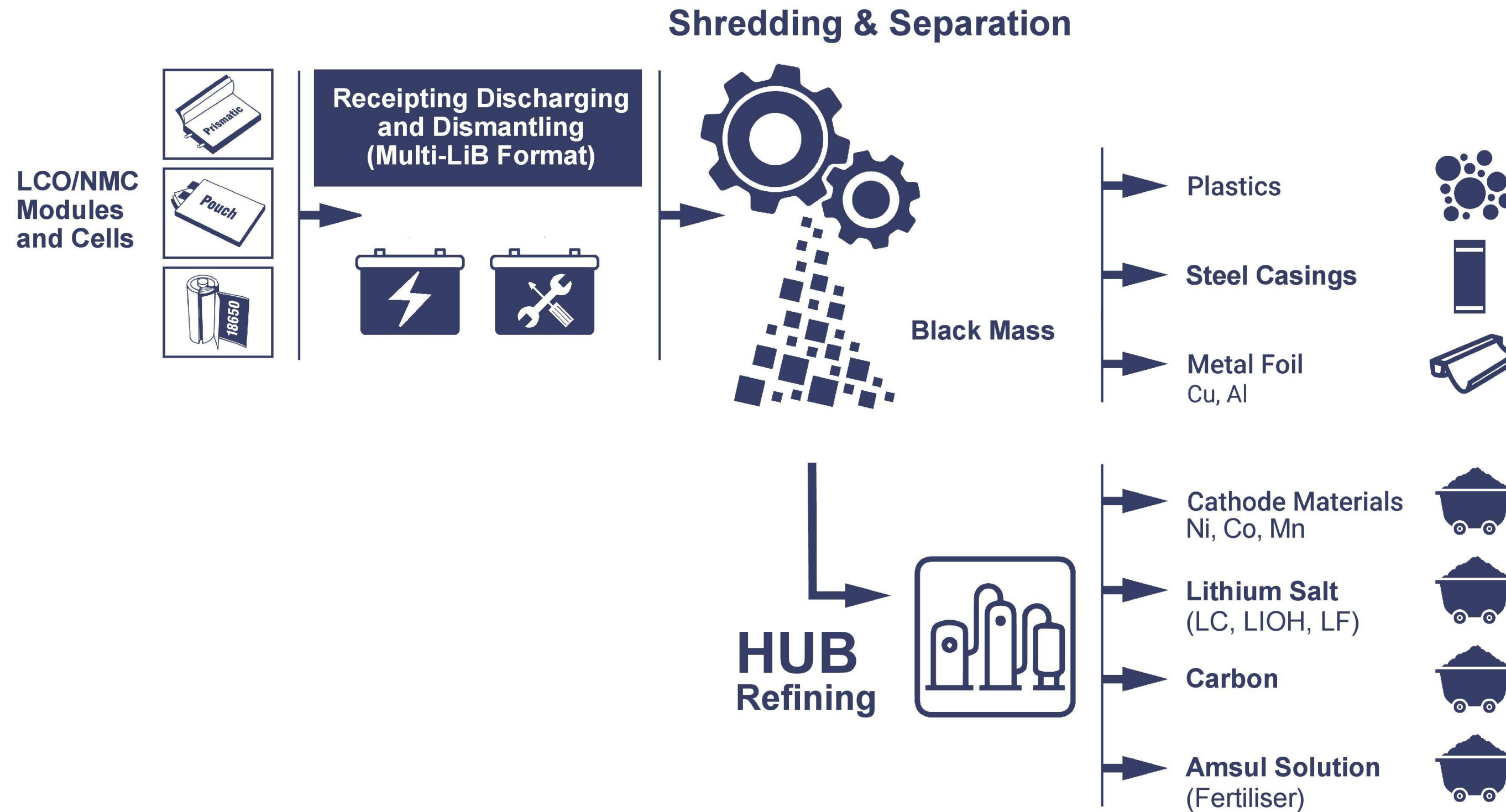
Source: Benchmark Minerals Intelligence (Dec. 2022), Battery Density - NMT Management (4t/MWh)

Aim is to be Recycler of Choice for Cellmakers & Car Makers



Our scleable patent-pending recycling technology

1. PRIMOBIUS' FULLY CERTIFIED DISPOSAL SERVICE IN HILCHENBACH, GERMANY SERVICES ALL OEM SUPPLY CHAINS
2. PRIMOBIUS' AWARD-WINNING TECHNOLOGY WILL DELIVER BATTERY MATERIALS WITH LOWEST CARBON FOOTPRINT

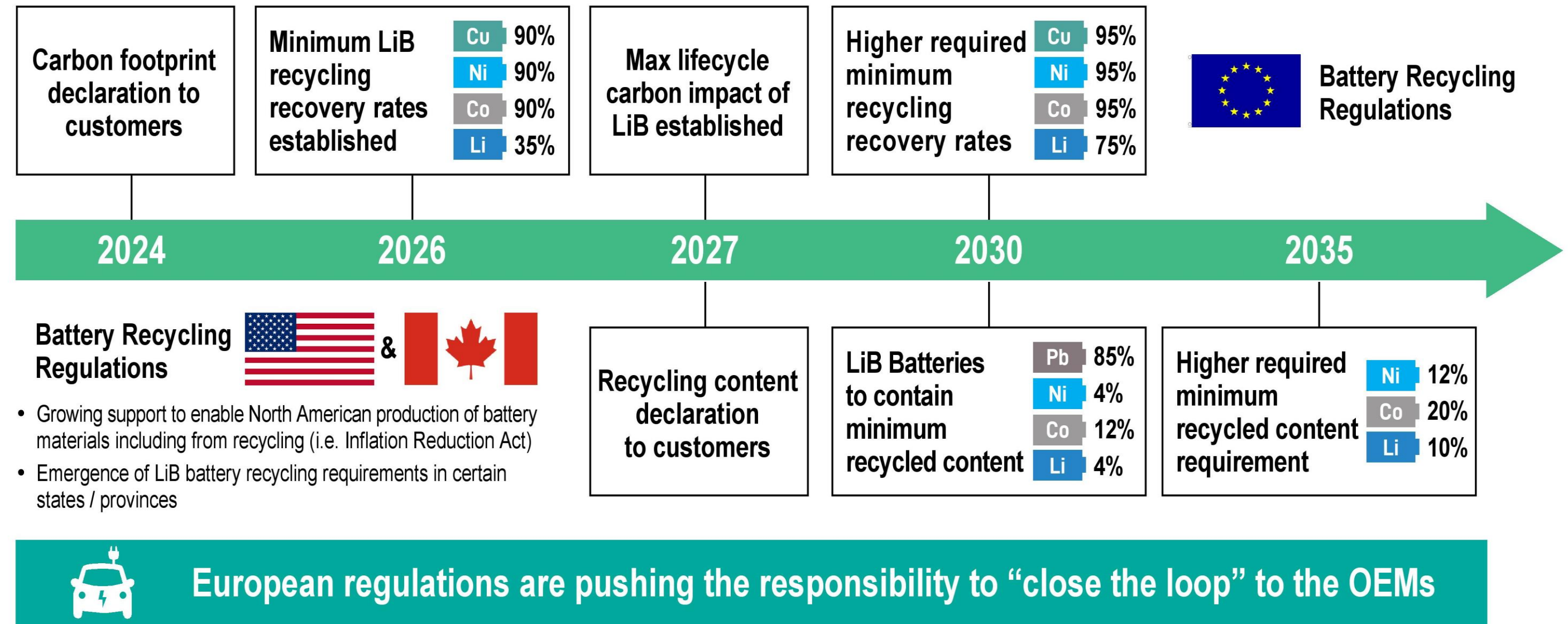




European Regulation Driving Automakers to “Close the Loop”

AIM TO BE THE FIRST TO BE FULLY COMPLIANT WITH ALL EU BATTERY REGULATIONS FOR LIB RECYCLING, ON TRACK FOR 2026

Total Recovery	Current 2023
Copper	87.4%
Nickel	84.4 %
Cobalt	82.3 %
Lithium	83.5 %



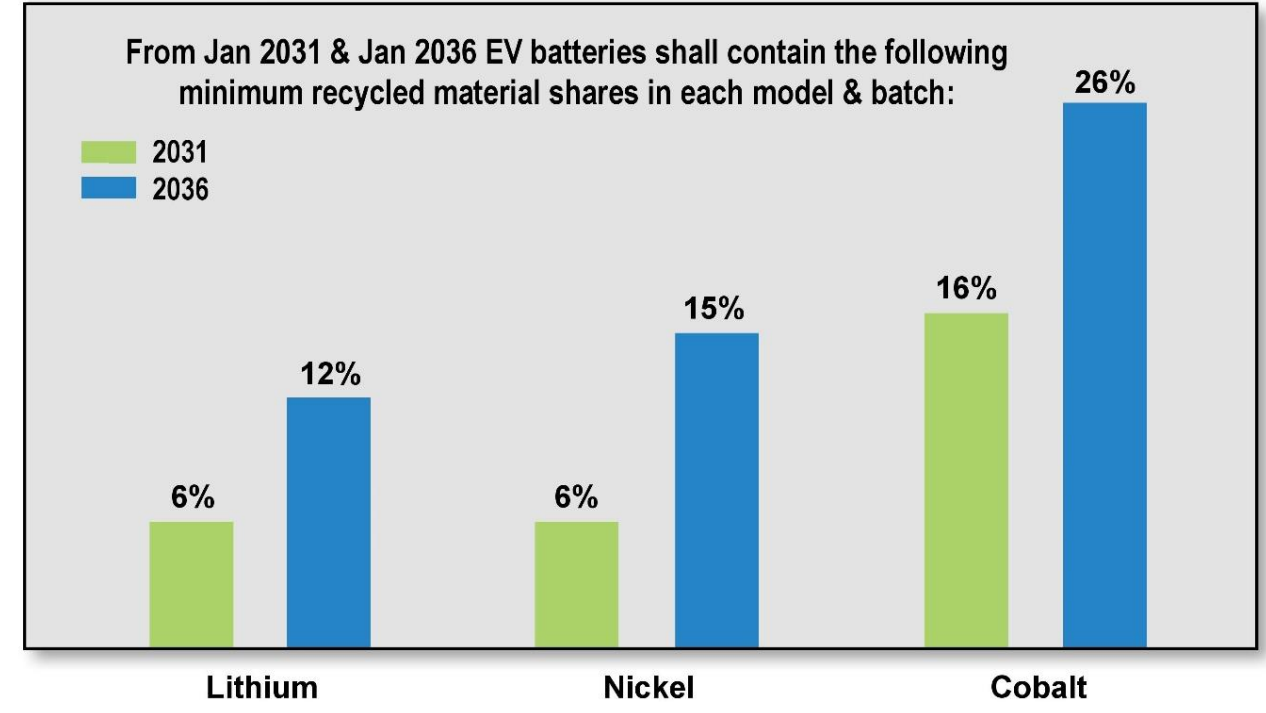
Source: European Commission, FCAB

Source: European commission, FCAB

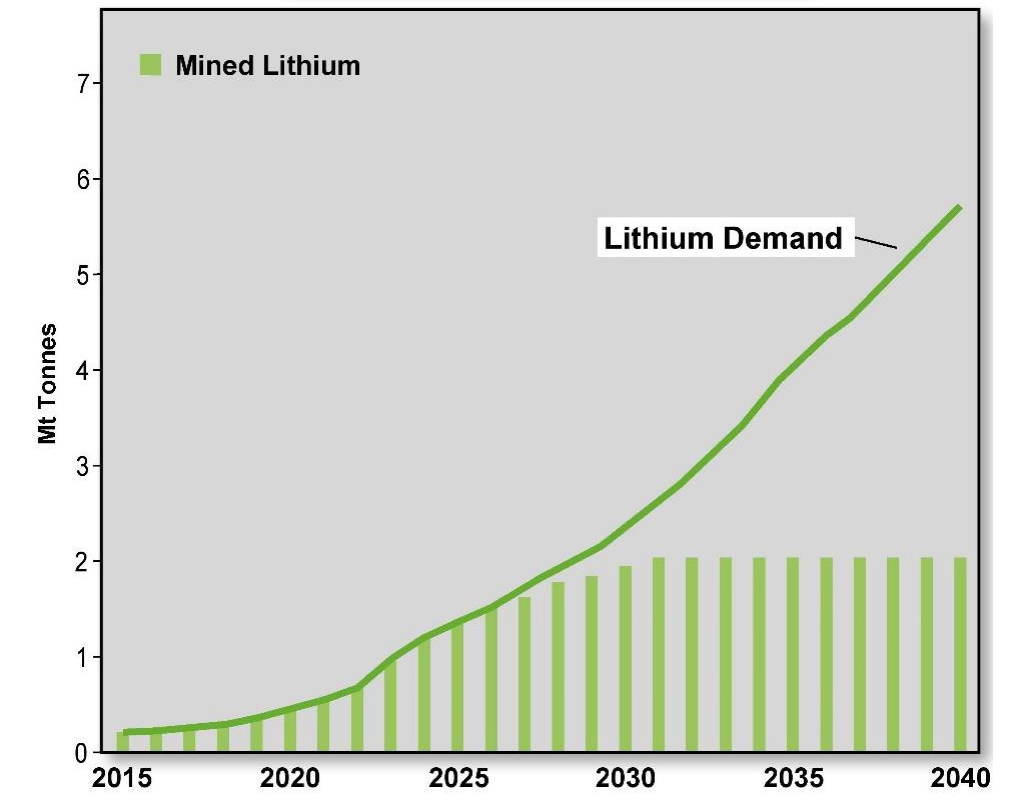


Recycling = resilient raw material supply chains

EU Mandatory Recycling Content

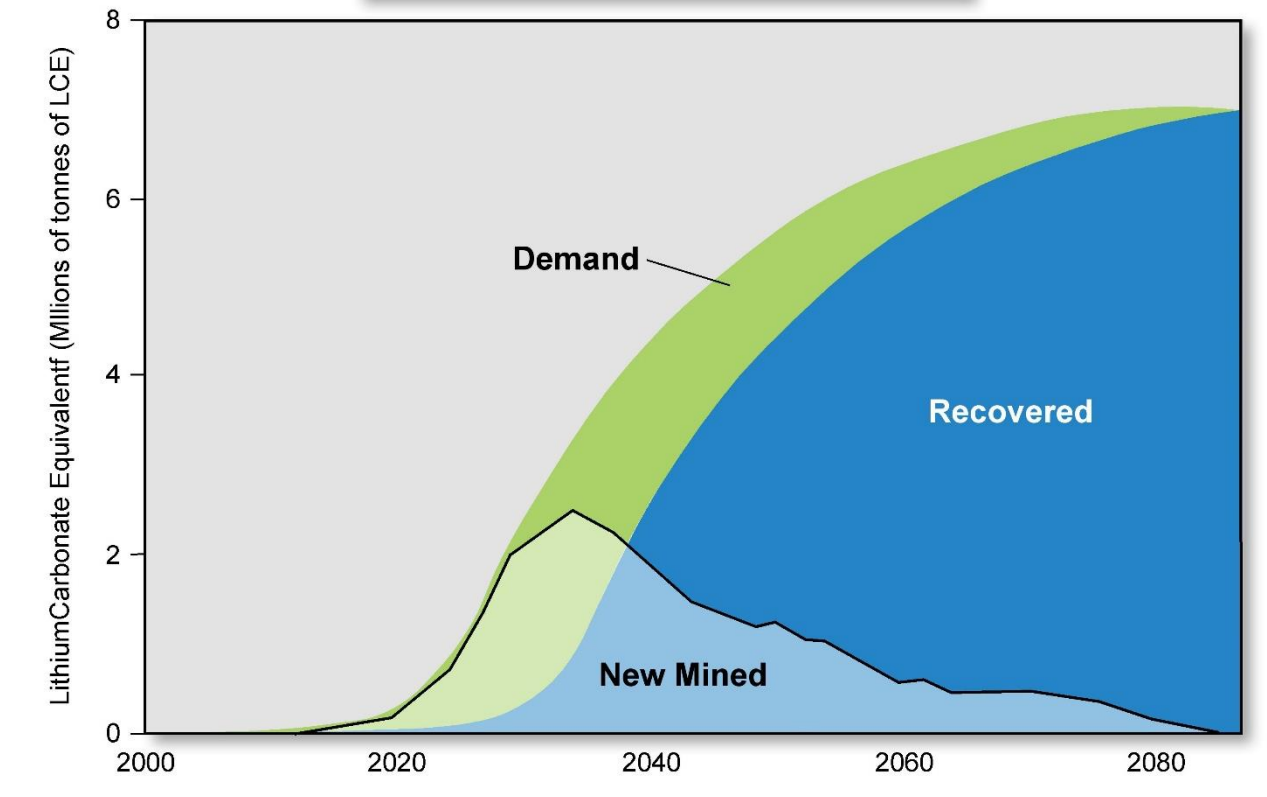


Lithium Market Balance



Source: Benchmark Minerals Intelligence (2022)

Impact of Recovered Material

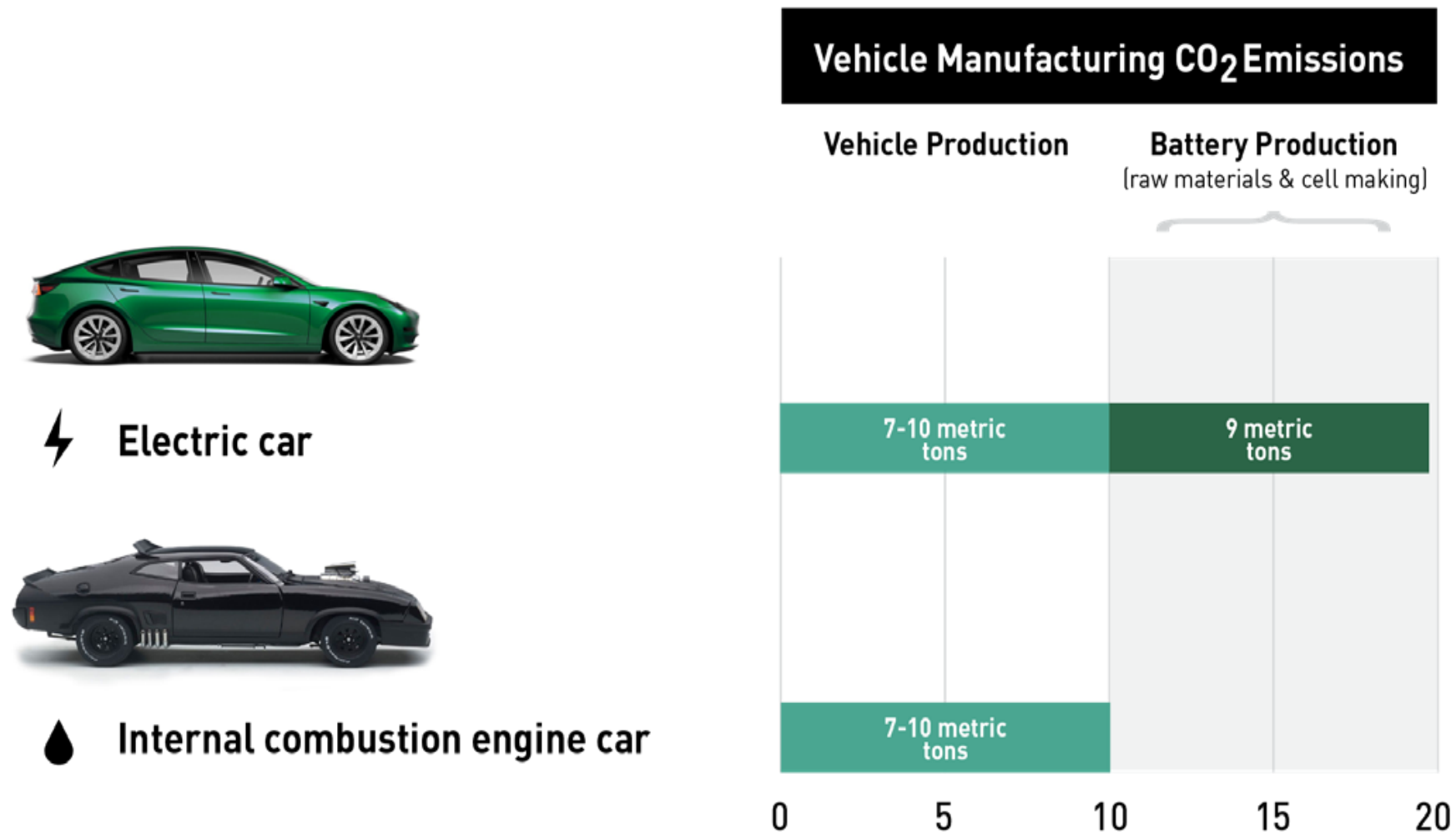


Source: Argonne NL - Presented by Linda Gaines at IMLB2022



Recycling = lowest carbon footprint raw materials

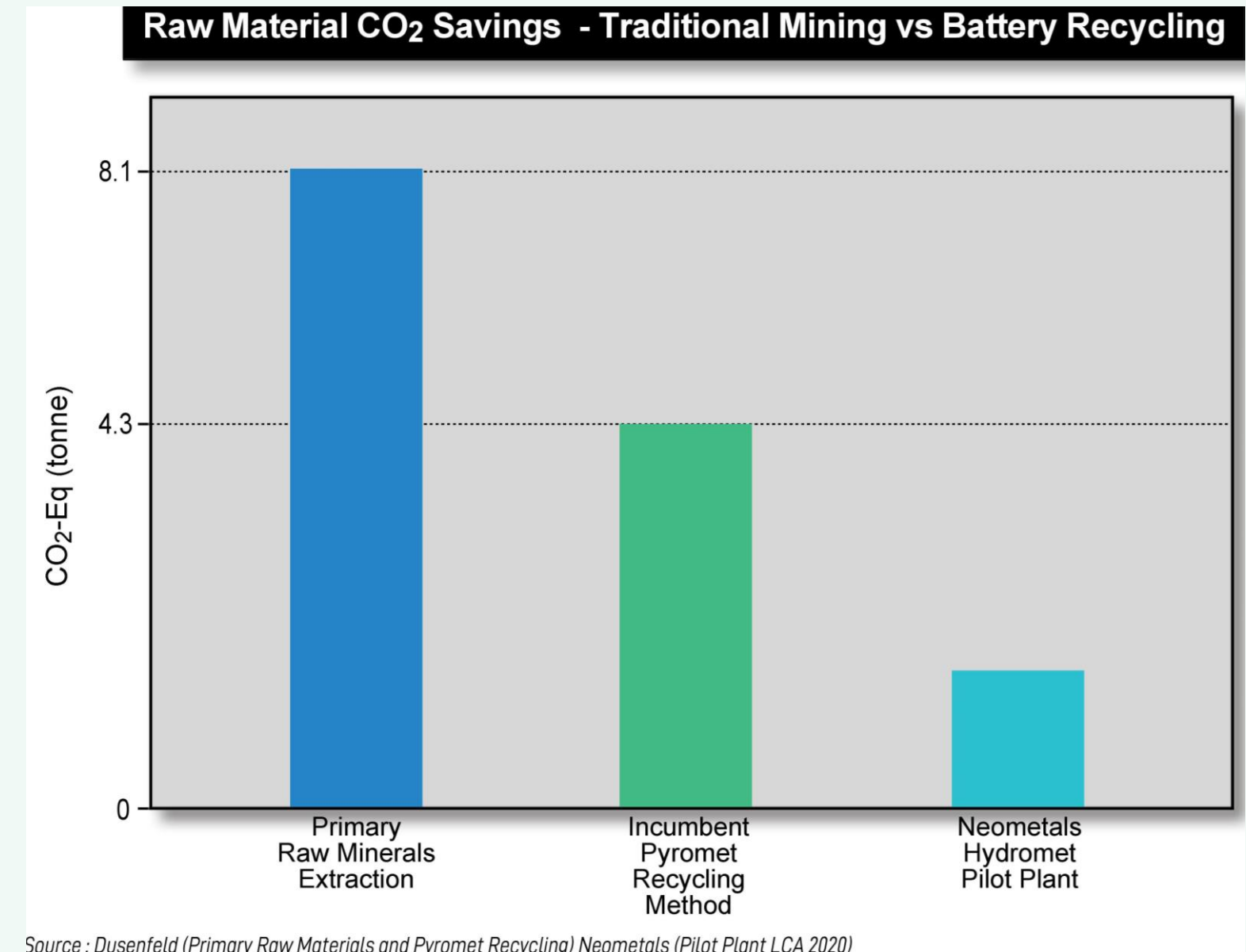
OUR PROCESSING TECHNOLOGY REDUCES THE CO2 FOOTPRINT BY >80% VS MINED RAW MATERIALS



⚡ Electric car



💧 Internal combustion engine car



Source: Dusenfeld (Primary Raw Materials and Pyromet Recycling) Neometals (Pilot Plant LCA 2020)

Source: Dusenfeld



Primobius equipment solutions backed by SMS group

SMS IS A 140 YEAR-OLD LEADING GERMAN PLANT BUILDER, 14,500 EMPLOYEES IN 95 SITES AROUND THE WORLD, PRODUCTION FACILITIES IN EUROPE, NORTH AMERICAN, INDIA AND CHINA

Primobius

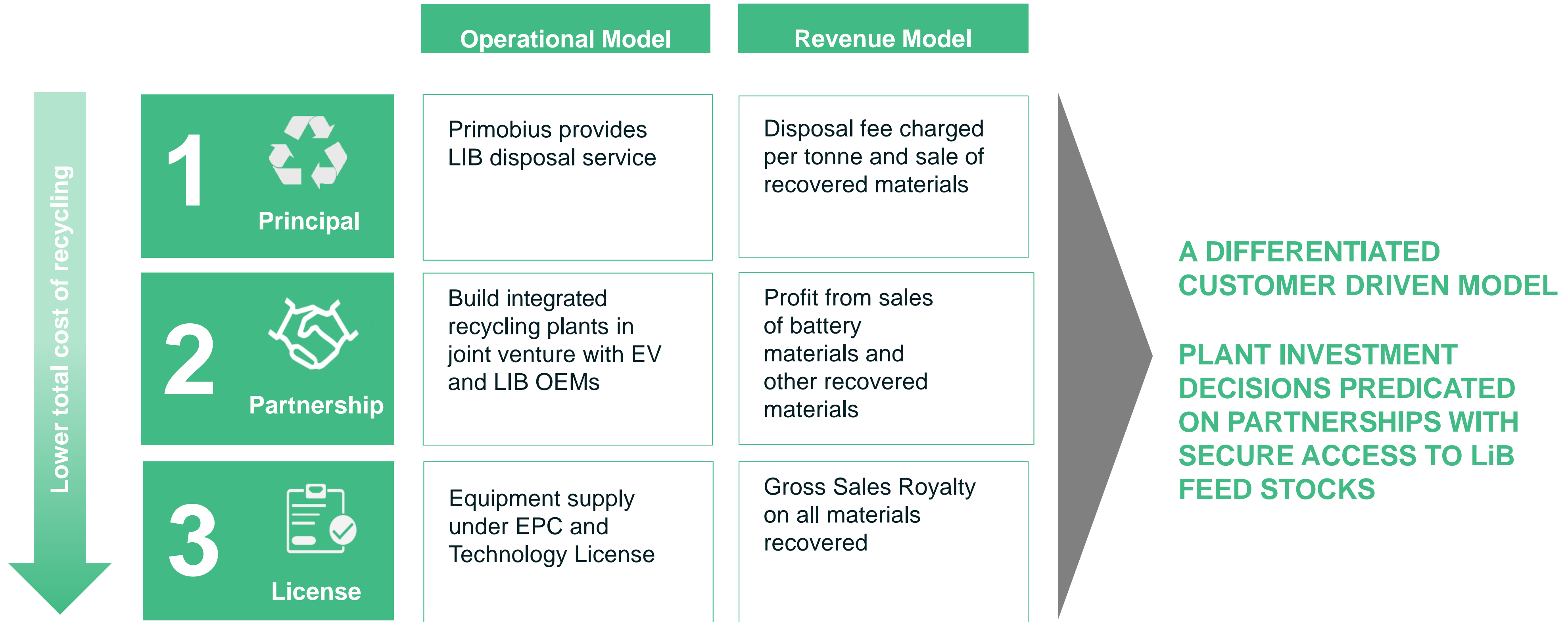
Battery recycling without limits

SMS group





Our flexible business models deliver lowest total cost of recycling





Commercial Pipeline*



Primobius
Battery recycling without limits

Capacity: 10tpd Spoke
Plant type: Shredding
Products: Black Mass
Business Model: Principal

STELCO
The Steel Company of Canada

Capacity: 50tpd Integrated
Plant type: Shredding/Refining
Products: Black Mass and BGMS⁽¹⁾
Business Model: License & JV Option



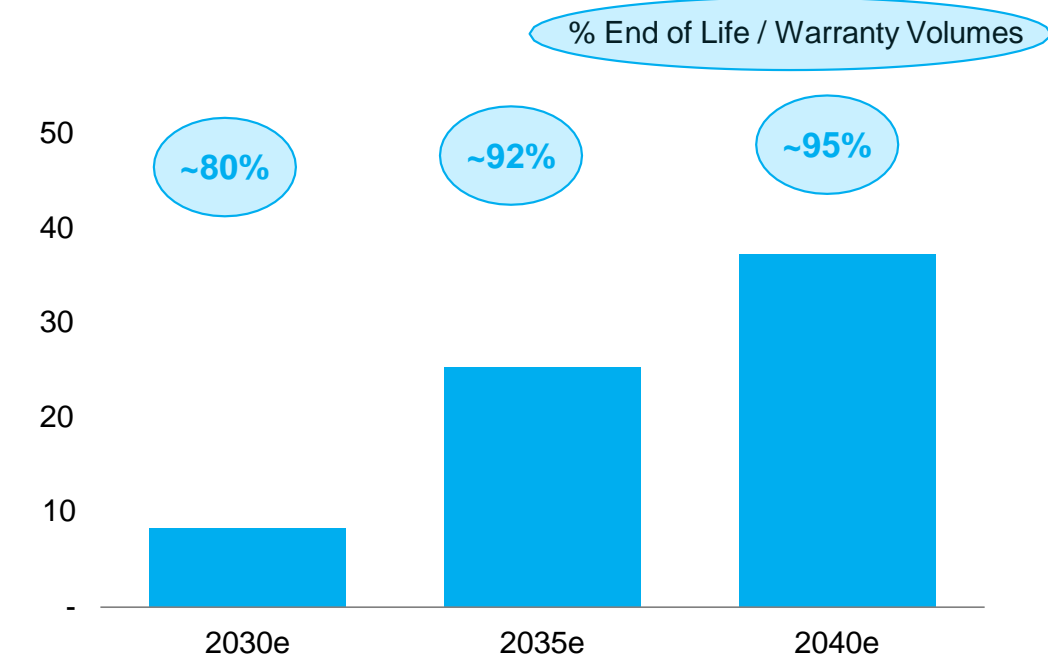
Capacity: 10tpd Integrated
Plant type: Shredding/Refining
Products: Black Mass and BGMS⁽¹⁾
Business Model: Limited Royalty-Free R&D License

Primobius
Battery recycling without limits

“Greenfields”

Capacity: 50tpd Integrated
Plant type: Shredding/Refining
Products: Black Mass and BGMS⁽¹⁾
Business Model: Principal / JV

Total Addressable Market (US\$bn)



Economies of scale and access to feed key to the success of LiB battery recyclers scale-up

Source: RBCe. NCM battery recycling North America and Europe.

*Subject to Customer, Primobius and Neometals Board Approvals

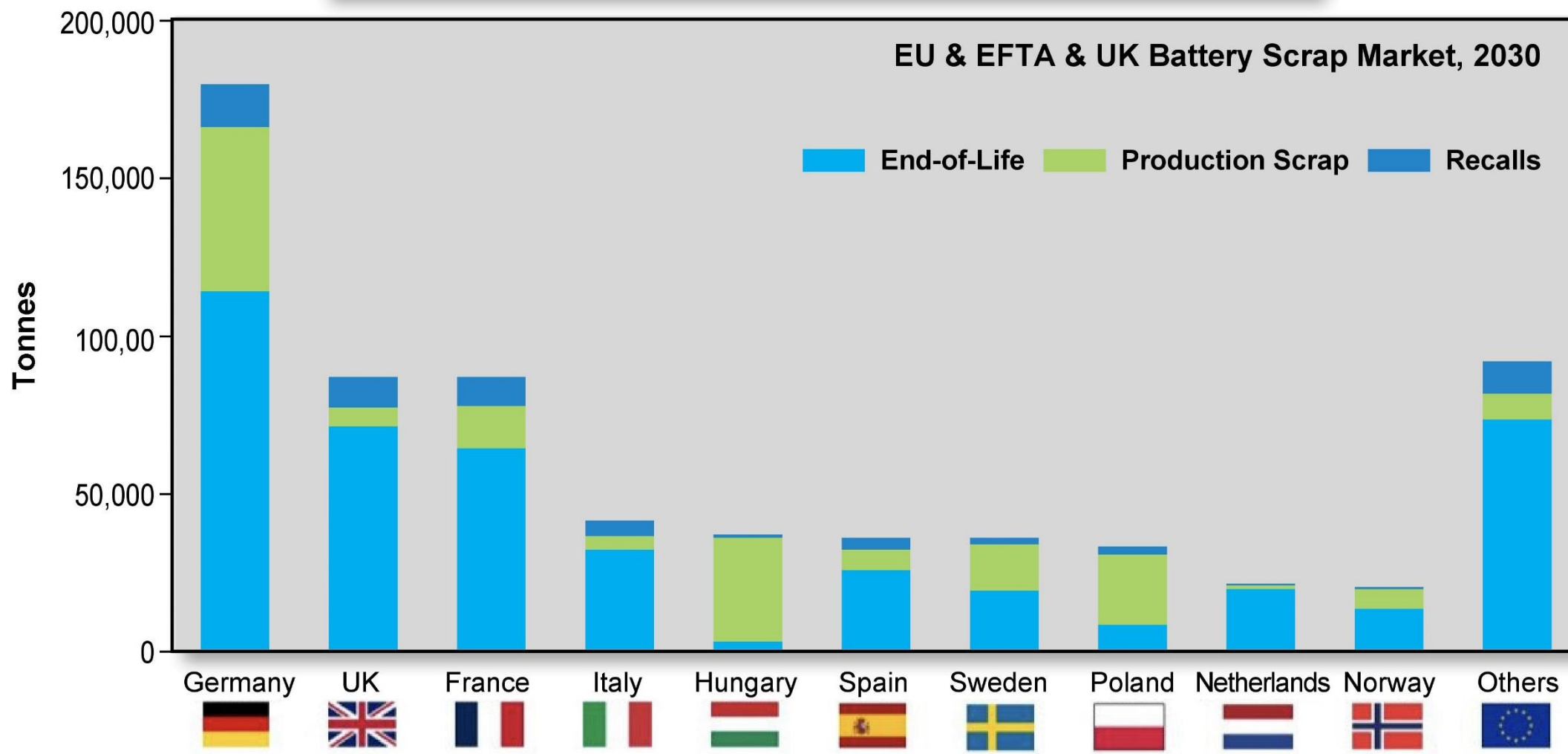
1. BGMS = Battery Grade Metal Sulphates



Hilchenbach Spoke – establishing market share in EU

RAMPING UP TO LICENCED CAPACITY <10tpd IN SEPQ 2023, SECURED BASELOAD FEED FORCY 2023 FROM GERMAN OEM SUPPLY CHAIN

European Battery Scrap Availability Forecast to Reach 704,000 Tonnes by 2030, Led by End-of-Life EVs

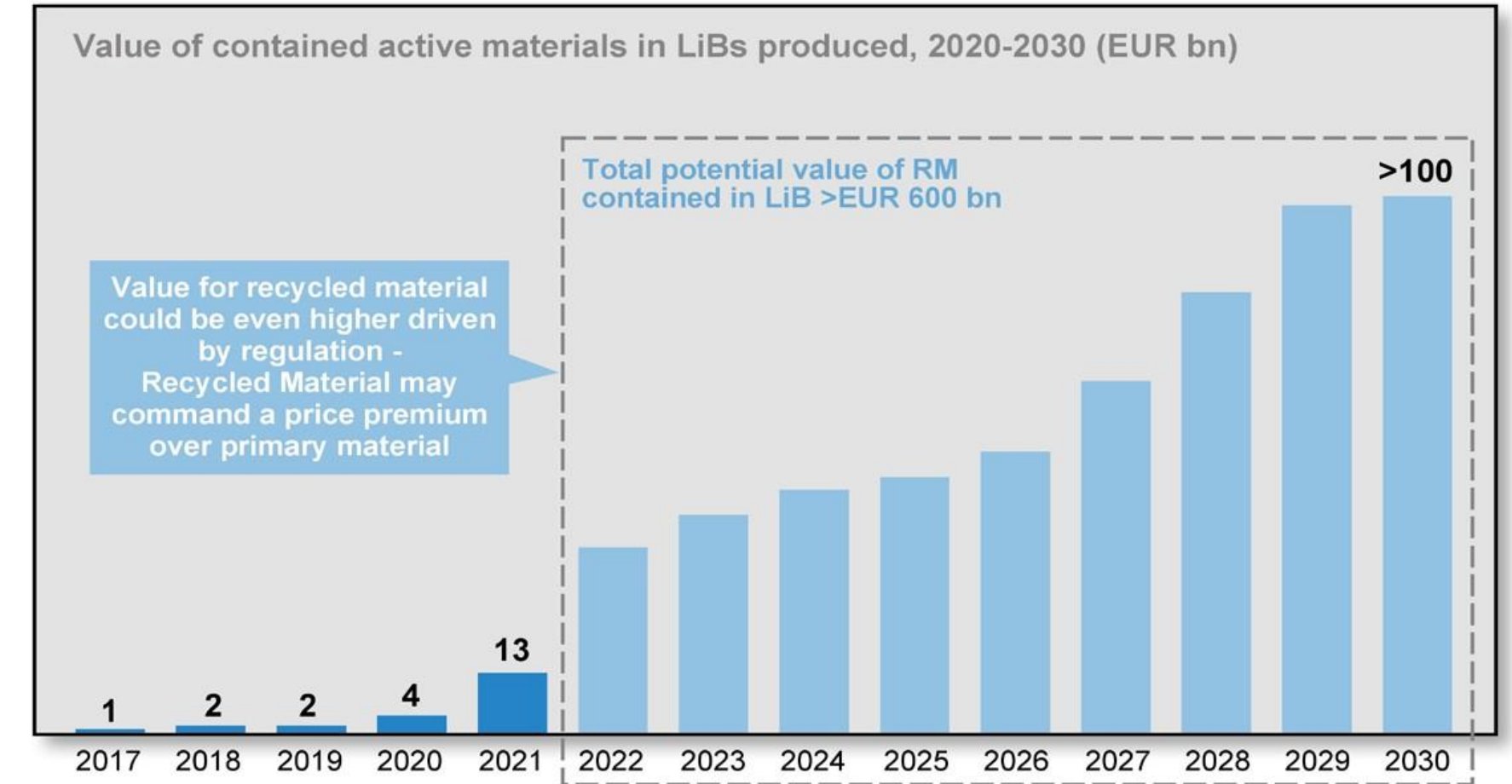


Source: RhoMotion

* Excludes ESS which we forecast 36,000 of scrap material in EU & EFTA & UK in 2030

Recycling Will Become a Significant Profit Pool

Batteries produced in the last 5 years contain Recycled Material in excess of EUR 20 bn & could exceed EUR 600 bn until 2030



Note: Only battery production since 2017 considered, 2022 average spot market prices limited to Li, Ni, Co, Mn
Source: Roland Berger Integrated LiB Demand and Supply Model



Partnership with Mercedes-Benz

COOPERATION AGREEMENT WITH MERCEDES-BENZ



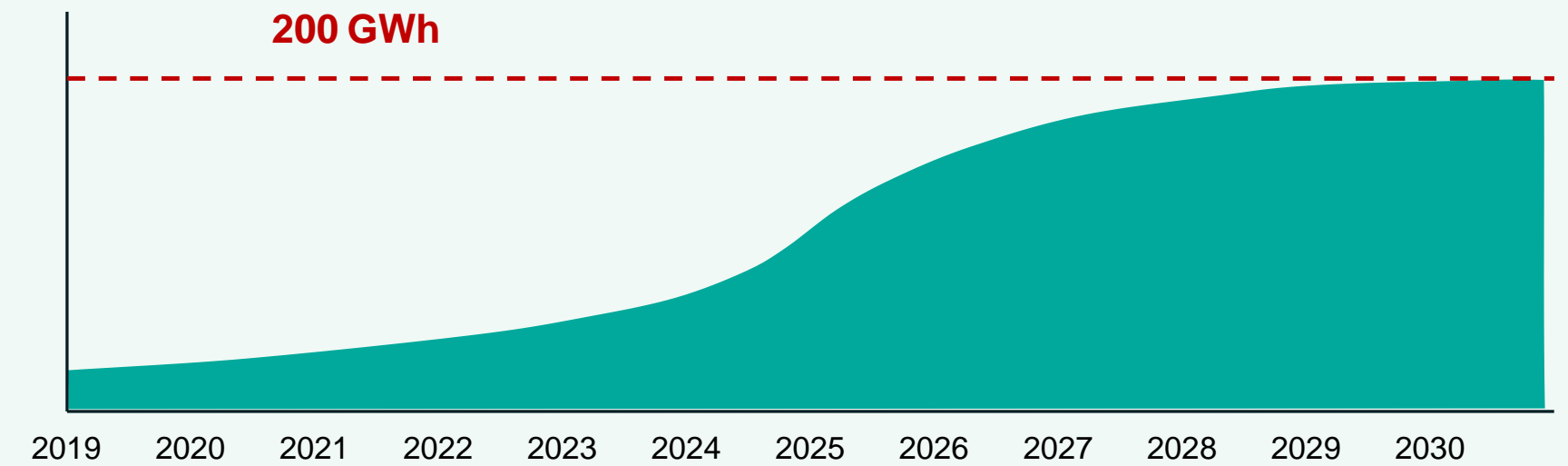
Partnership

- Cooperation agreement between Mercedes-Benz recycling subsidiary and Primobius
- Cooperation agreement follows partnership for designing and constructing a 2,500tpa Recycling Plant located in Kuppenheim, Germany
- Long-term collaboration to recycle next generation cell formats and chemistries
- Strong validation of the Primobius technology

*For further information, refer to ASX release dated 13 May 2022 – “Primobius executes Co-operation Agreement with Mercedes Benz”

**Source: Mercedes-Benz Strategy Update: electric drive, July 2021

MERCEDES-BENZ TARGET CELL PRODUCTION**



Key Illustrative Assumptions

- ~10 year battery life
- ~4.5MWh to tonne of battery

POTENTIAL MERCEDES-BENZ EOL LIB RECYCLING REQUIREMENTS BY 2040



900ktpa of batteries

Potential EOL recycling requirement by 2040 with additional volumes potentially available from production scrap



~50 x 50tpd OR 5 x 500tpd Plants

Required to process*

*Based on Neometals assumptions.



Partnership with Stelco

TECHNOLOGY LICENSE AND JV OPTION ($\leq 50\%$) WITH STELCO IN NORTH AMERICA*



Partnership

in North America

- Recycling venture to offer a holistic end-of-life vehicle recycling solution in North America with the ability to secure large feedstock volumes
- Stelco will be responsible for supply of LiB feedstock and the securing of sites for plants
- Exclusively licensed to Stelco in North America except right to recycle for German OEMs has been retained
- Primobius has an option to acquire 25–50% of the equity in Stelco's recycling SPV
- Non election would lead to a 10% royalty on gross revenue earned from the use of the technology⁽¹⁾

STELCO IS POSITIONED TO BE A LEADER IN THE ELECTRIC VEHICLE CIRCULAR ECONOMY

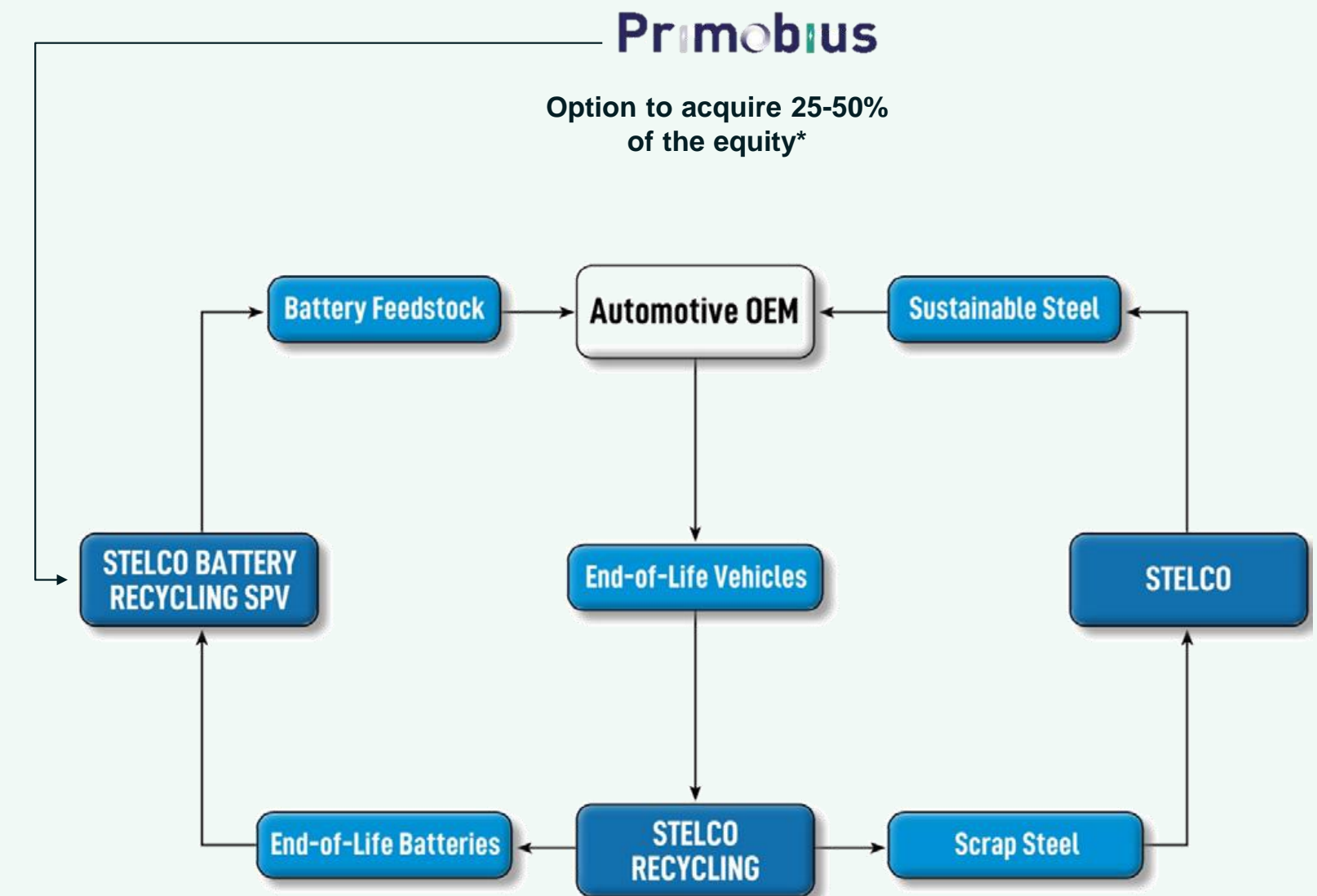


Diagram showing relationship between Stelco and the Electric Vehicle (Automotive OEM) value chain

*For full details refer to Neometals ASX release dated 31 December 2021 titled "Primobius to Enter North America with Stelco for Recycling of Electric Vehicle Batteries"

(1) Scope for reductions in the royalty rate depending on IRRs generated, and a minimum royalty fee in cases of stalled recycling production.



Primobius Greenfields Integrated Refinery - Germany

EVALUATION OF A FUTURE INTEGRATED OPERATION IN GERMANY

- Staged Engineering and Cost Study (“ECS”) will deliver Operating & Capital Costs for a 50 tpd (~20,000 tpa) integrated operation covering:
 - Inbound LIB storage
 - Discharging and Disassembly of modules
 - Shredding and Separation
 - Hydrometallurgical Refinery
- The Spoke and Hub are Primobius’ products which it can deploy under different business models
- Provides template for potential customers to integrate and re-estimate, tailored to their sites
- Kaiserslautern is a potential site in an existing industrial estate

New “Gigafactories” Being Built in Germany

1. Tesla
Grünheide,
up to 250 GWh

5. CATL
Erfurt, 14 GWh
from 2022, later
up to 24 GWh

2. Microvast
Ludwigsfelde,
up to 6 GWh

6. SVOLT
Überherrn, 6 GWh
by 2023, later
up to 24 GWh

3. Farasis
Ludwigsfelde,
8-10 GWh from
2022, later
up to 16 GWh

7. ACC
Kaiserslautern,
from 2023, gradual
commissioning of
individual units, up
to a total of 24 GWh

4. VW & Northolt
Salzgitter,
up to 24 GWh
from 2024



Source: en:former

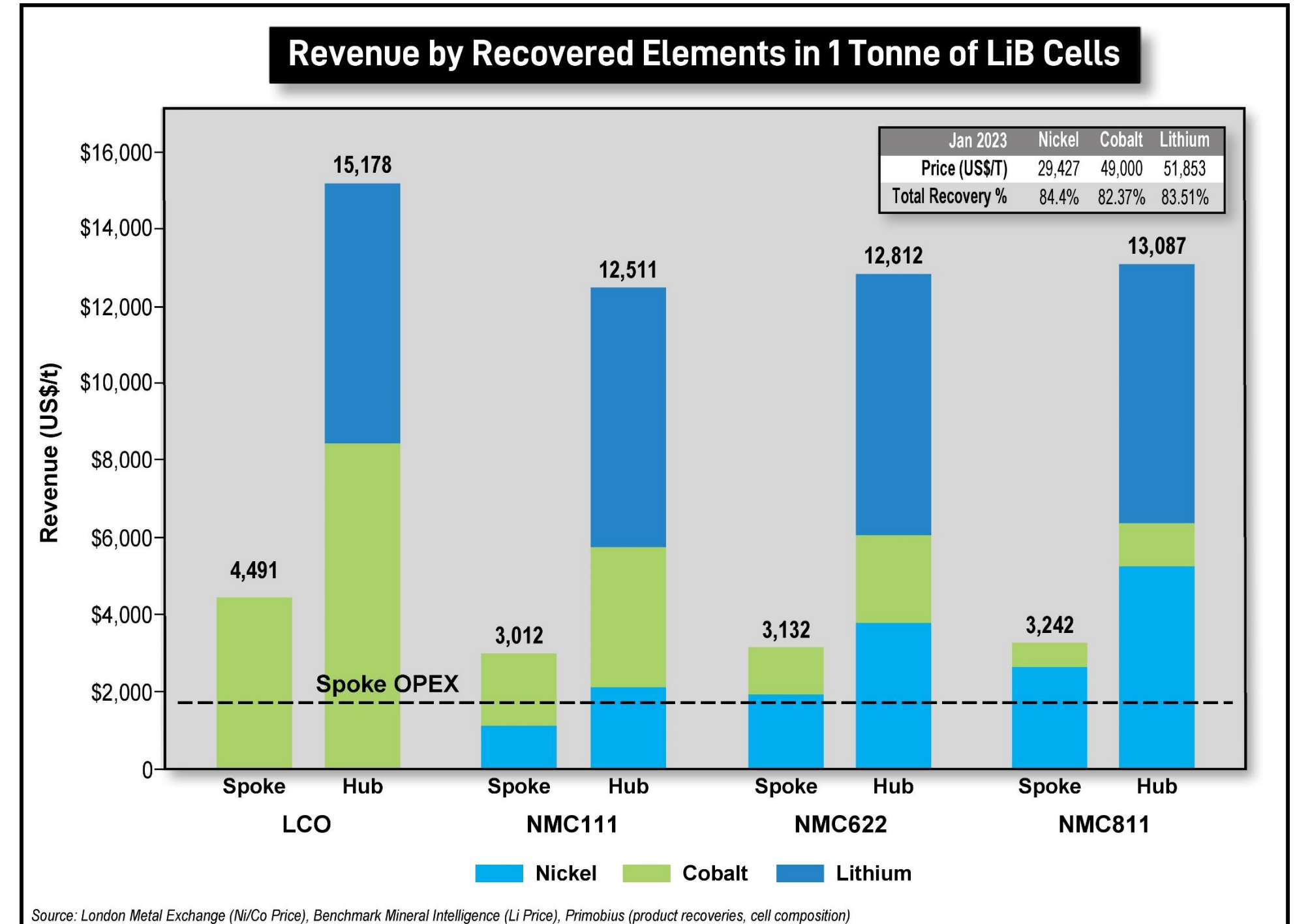
Robust Economics Across Key Battery Chemistries

- Disclosed capital costs include land, plant, buildings, plant and equipment, installation, infrastructure, pre-production, EPC costs and contingency
- New design includes Europe's first integrated module discharge and disassembly operation – provides futureproof flexibility to handle any mix of production scrap, warranty return or EOL arisings
- Hub Engineering Cost Study Results expected JunQ 2023

Primobius Spoke ECS Outputs	
Annual Throughput (Feed)	21 ktpa
Annual Production (Black Mass)	7,130 tpa
Operating Cost per tonne of feed	US\$1,400/t ⁽¹⁾
Capital Costs (incl 20% contingency)	US\$104m

*For further information, refer to ASX release dated 13 September 2022 – “Primobius – 50tpd Spoke Engineering Cost Study Results” and the assumptions set out therein.

1. Assumes 1:1 USD:Euro FX





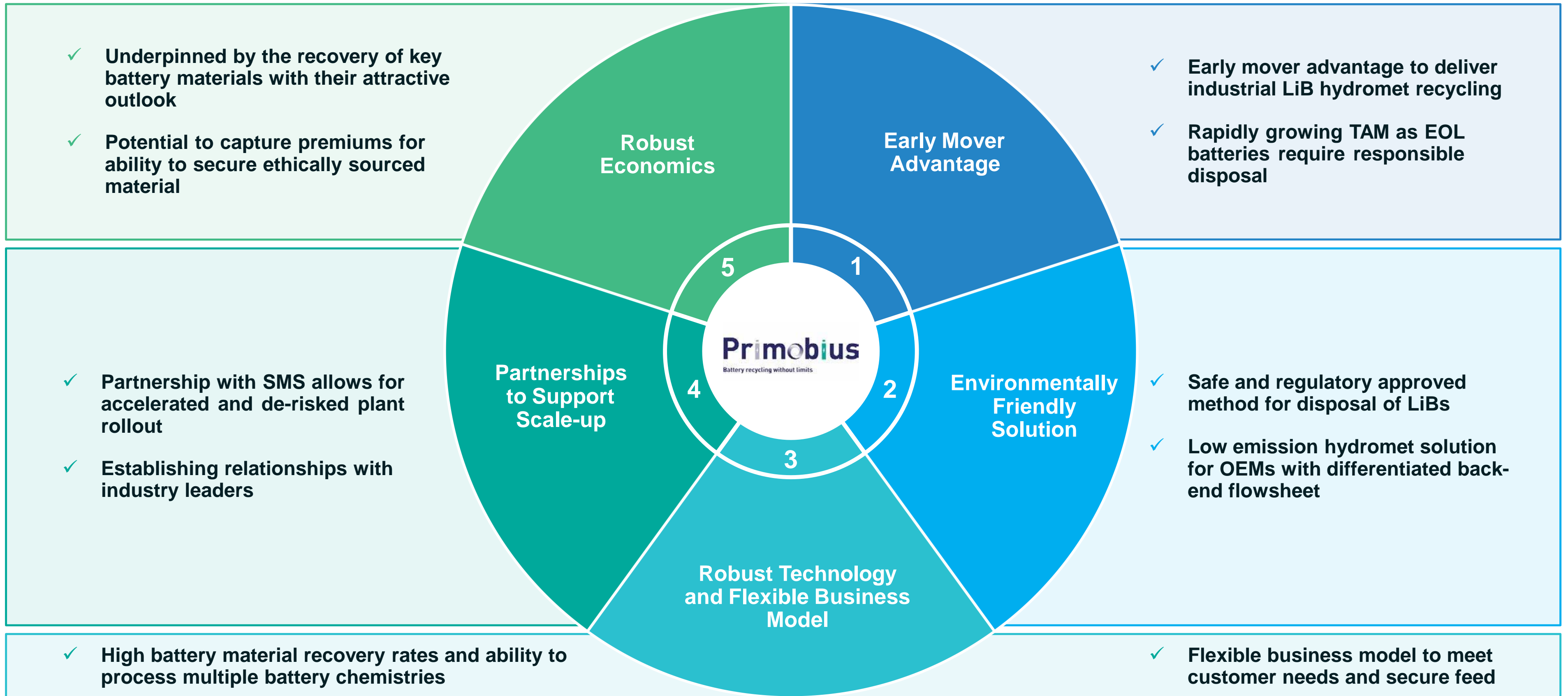
Indicative Timeline – LiB Recycling



*Subject to Customer Award/Primobius and Neometals Approvals



Unique Positioning for Rapid Growth





Vanadium Recovery

Vanadium Recovery Process Technology
100% Neometals

Vanadium Recovery Project 1 - Finland
50:50 Incorporated JV with Critical Metals Ltd,
Recycling Industries Scandinavia AB (“RISAB”)

Vanadium Market Background



MAIN FINISHED VANADIUM PRODUCTS

Vanadium (V) is a silvery-grey transition metal that has two main finished vanadium products:

Vanadium pentoxide (V₂O₅)



- Vanadium pentoxide can be utilized in steel applications as well as other applications such as non-ferrous alloys, chemicals and vanadium redox flow batteries
- Higher-purity forms of vanadium pentoxide are also supplied, albeit in smaller quantities and typically commands a pricing premium

Ferrovanadium (FeV)



- Ferrovanadium is an alloy of vanadium and iron, with vanadium content between 35-85%
- Vanadium is added to regular carbon steel mainly as ferrovanadium
- Even in small quantities, it can increase tensile strength, increase high-temperature strength and increase a grain refining and dispersion hardening effect in tempering steel

Source: Vanitec

VANADIUM CONSUMPTION



Vanadium redox flow batteries (VRFBs)

- Vanadium pentoxide is used in VRFBs with need for high-purity (>99%) product to improve battery efficiency and lifetime



Steel

- Ferrovanadium is a necessary ingredient for carbon steel production
- Used in steel manufacturing in the form of ferrovanadium or vanadium-nitrogen alloys to increase strength (high-strength low-alloy steel or full alloy steels)



Aerospace alloy

- Vanadium-aluminium master alloys, which are used in the production of titanium alloys
- Needed especially in aerospace industry



Chemical catalyst

- Catalysts used in medical, glass, and pigments (smaller volume and specialized markets)

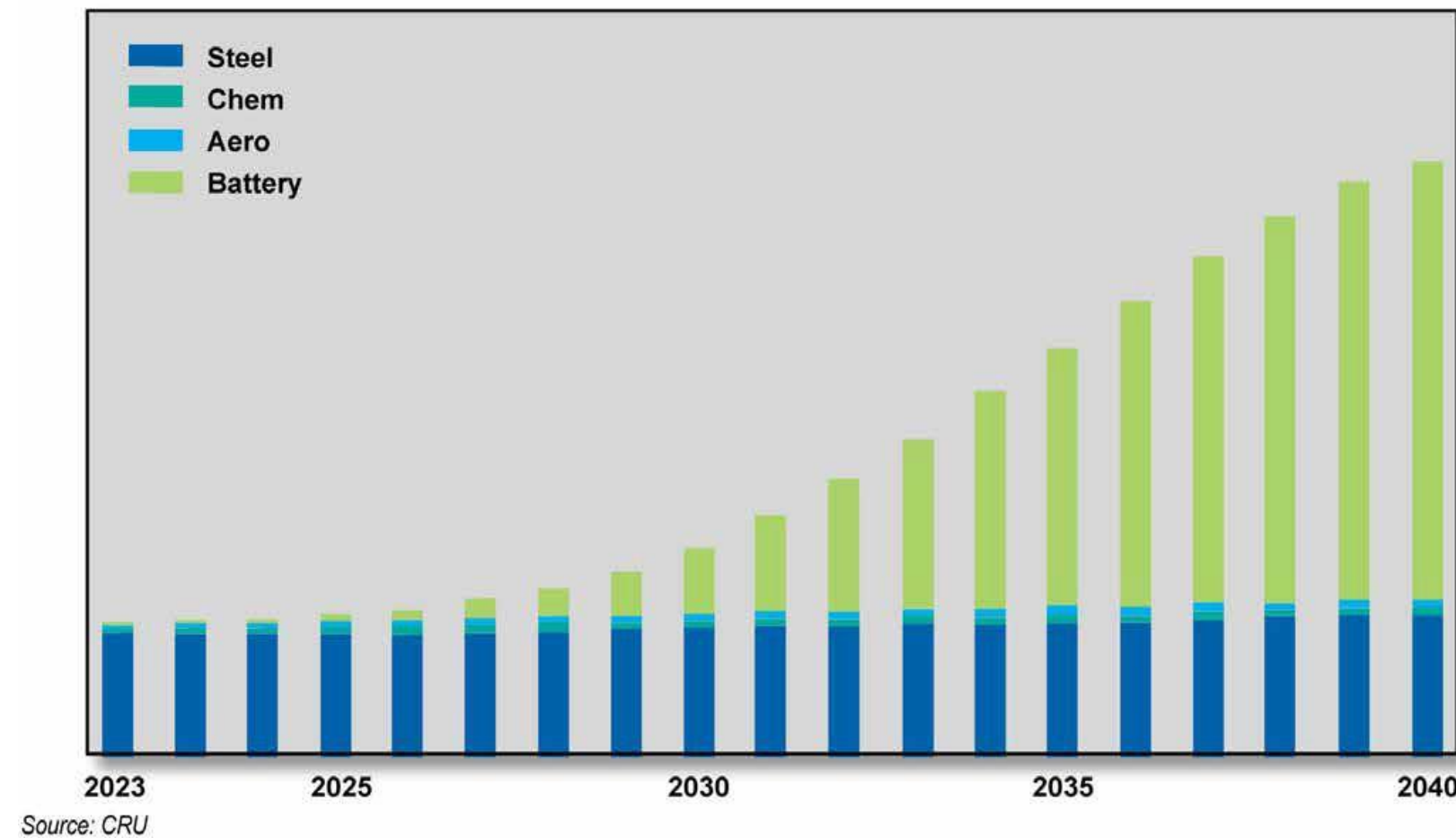


Growth Market Supported by Energy Transition

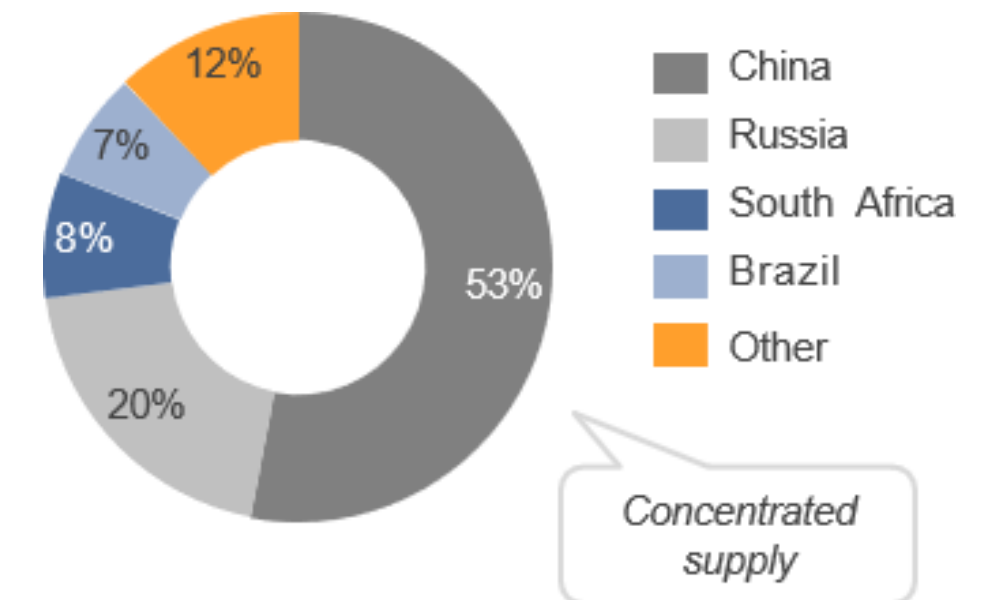
MARKET DYNAMICS

- Vanadium consumption is primarily anchored to steel production with demand from energy storage (vanadium redox flow batteries) becoming dominant use next decade
- Once in operation, RISAB will supply c. 3% of the global vanadium supply (2027) and it will be the only European vanadium producer
- VRP1 aims to be largest producer of high-purity V₂O₅ for the production of electrolyte for VRFBs
- Given the current geopolitical environment and a push to reduce reliance on China, European prices are expected to continue to remain stable¹

VANADIUM DEMAND BY END USE, 2023-2040



CURRENT PRODUCTION BY COUNTRY



Sources: Wood Mackenzie 2022, Vanitec
 1) Based on CRU market study as of January 2023

Extracting Vanadium from Industrial By-products



INTRODUCTION TO THE FINNISH VANADIUM RECOVERY PROJECT (“VRP1”)

PLANT LOCATION AND KEY INFORMATION

-  Location: **Tahkoluoto Port, City of Pori, Finland**
-  Average annual revenue: **~200M USD (post-ramp-up)**
-  Capital cost: **~314M USD**
-  Operating cost: **US\$4.19/lb V₂O₅ (lowest quartile)**
-  Construction timeline: **H2 2023 – H2 2025**
-  Slag secured: **10 years 2m tonnes minimum** (stockpiled plus first right to purchase additional volumes from SSAB’s future production)
-  Throughput: up to **300k tonnes p.a.**
-  Annual production: **~9k tonnes V₂O₅**



 **Selected stakeholders:**

BETOLAR  **Neometals**  **AFRY**

SSAB  **SWECO**  **MINVIRO**

COMPANY DESCRIPTION AND BACKGROUND

- RISAB (“Company”) is established by two green battery materials and technology companies Critical Metals and Neometals.
- The Company will build and operate a plant which will recover vanadium from steel production side stream and process it into high-purity vanadium that is used e.g. in greener steel and energy storage applications (the “Project” or “VRP1”)
- Currently the raw material (slag) is secured for 10-year term
- The final investment decision is subject to finance. RISAB has leading Nordic investment banks managing the equity and debt financing process.

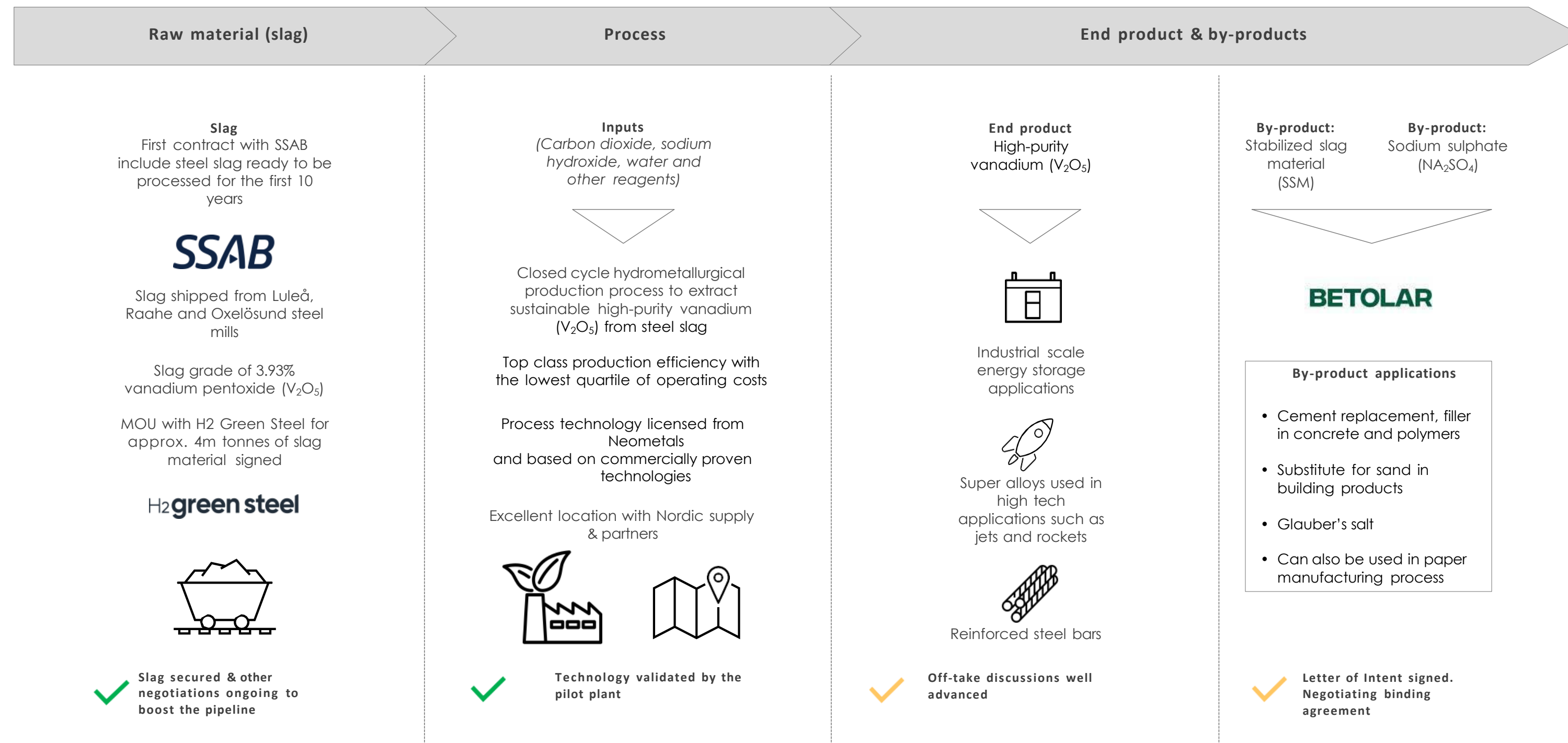


For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results



Carbon Negative* Production Process to Extract Vanadium from Steel Slag

CLOSED CYCLE VANADIUM PRODUCTION PROCESS



*For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results

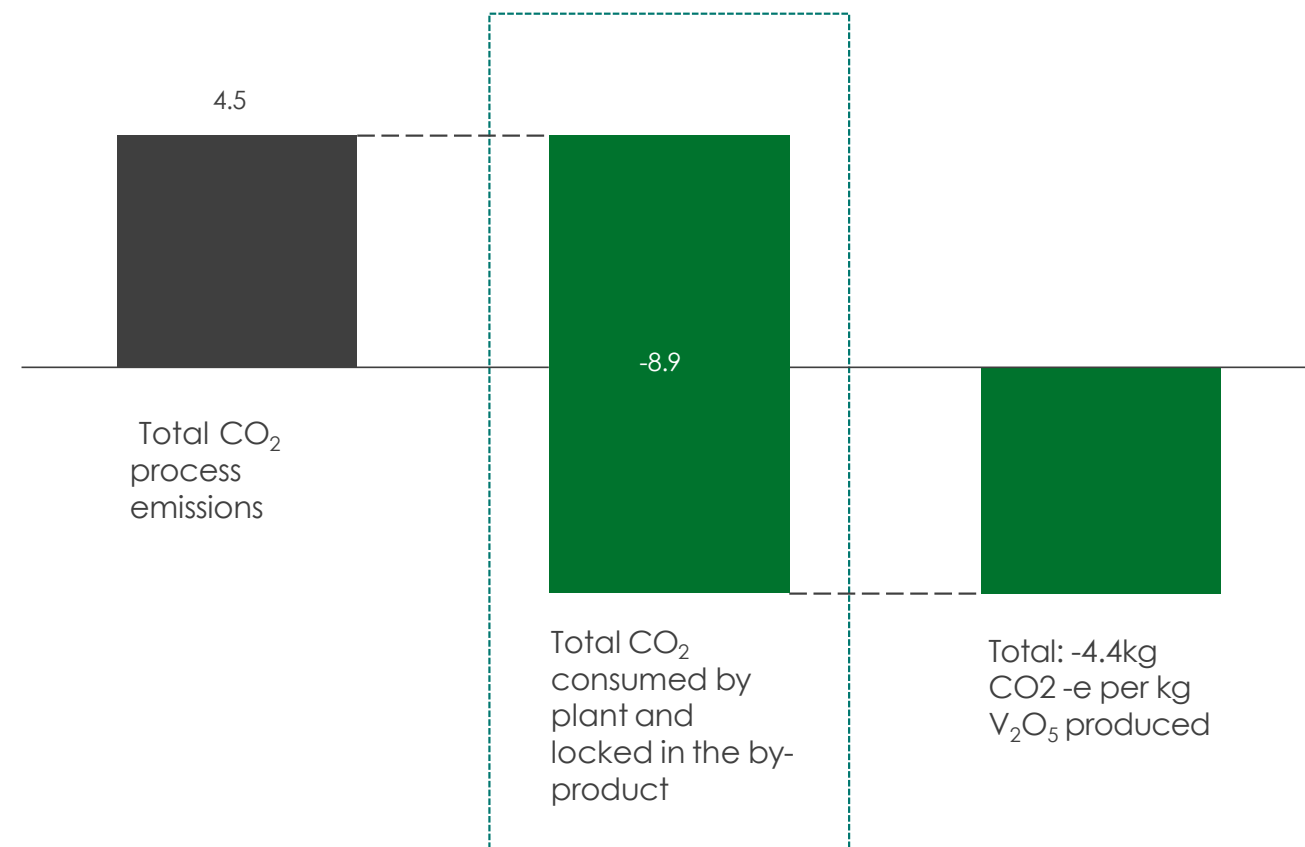


RISAB – Promoting Circular Economics

RISAB will be amongst the largest CO₂ consumers in Finland promoting circular economics

CARBON FOOTPRINT*

kg CO₂-e per kg CO₂ V₂O₅ produced



The company will be one of the largest consumers of CO₂ in Finland annually and will source its CO₂ from industrial processes

Sources: Internal image based on data from Minviro

1) CO₂ emissions are related to e.g. electricity, steam boiler, transport and consumption of other materials

*For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results








CLOSED CYCLE PRODUCTION PROCESS PROMOTING THE CIRCULAR ECONOMY

	<ul style="list-style-type: none"> Existing slag from steel production facilities reused / recycled 	
	<ul style="list-style-type: none"> Low emission and low temperature hydrometallurgical process All process water recycled Minimal impacts on biodiversity Renewable energy utilized 	
	<ul style="list-style-type: none"> Applications include e.g., vanadium redox flow batteries and steel strengthening steel applications Potential positive scope 3 emissions impact 	
	<ul style="list-style-type: none"> By-products reuse Utilized e.g. in the production of a low-carbon cement 	

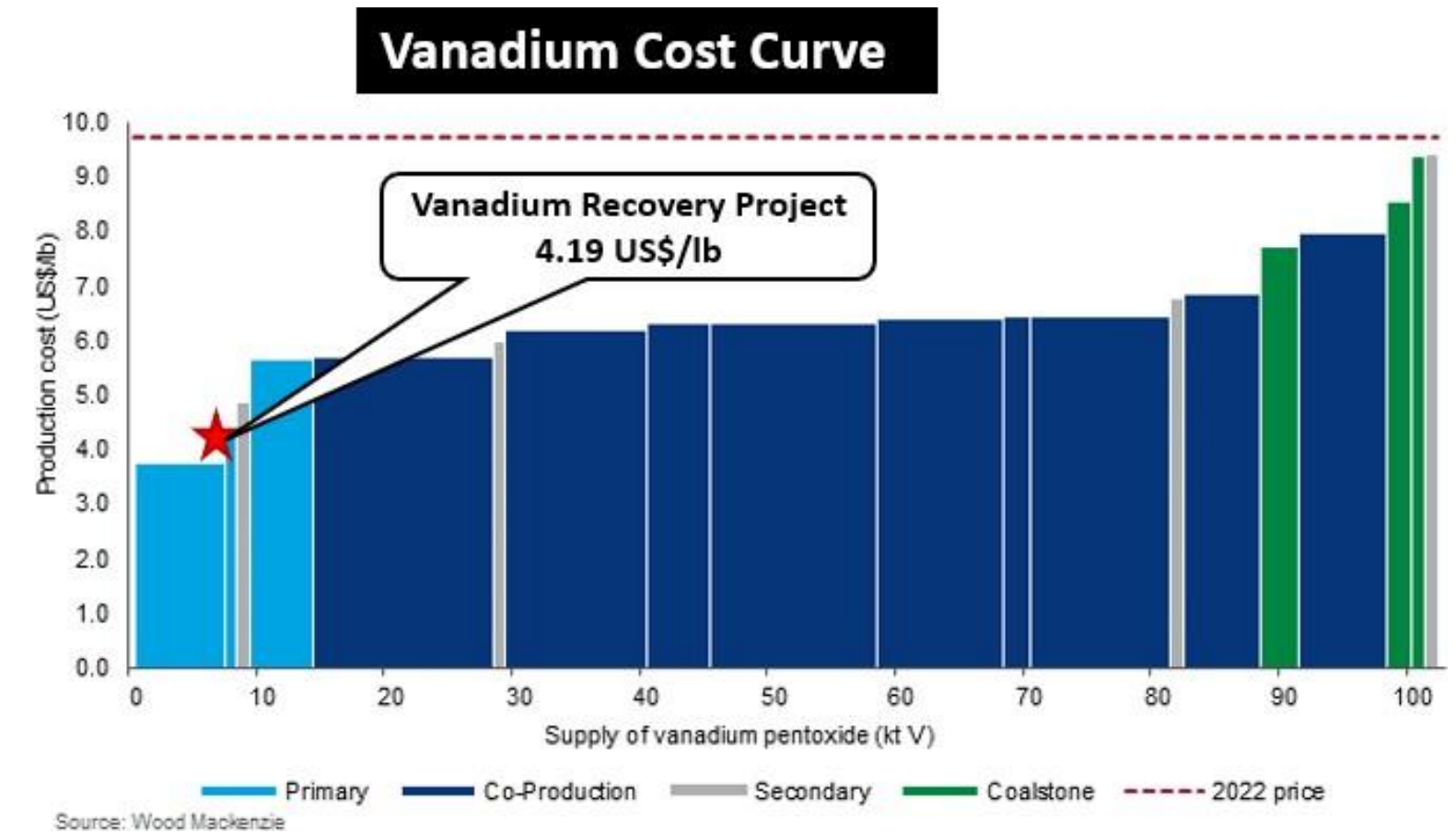
Circular element

Feasibility Study



<p>THROUGHPUT RATE</p>  <p>300,000dtpa</p>	<p>PRODUCTS</p>  <p>19.1M lbs p.a. high purity zero carbon V_2O_5</p>	<p>OPEX (excl. royalty)</p>  <p>US\$4.19/lb</p>	
<p>CAPITAL COSTS</p>  <p>US\$314.4M</p>	<p>NPV₁₀*</p>  <p>US\$323M</p>	<p>IRR*</p>  <p>24.8%</p>	<p>SIMPLE PAYBACK</p>  <p>5.7 years</p>

* Pre tax

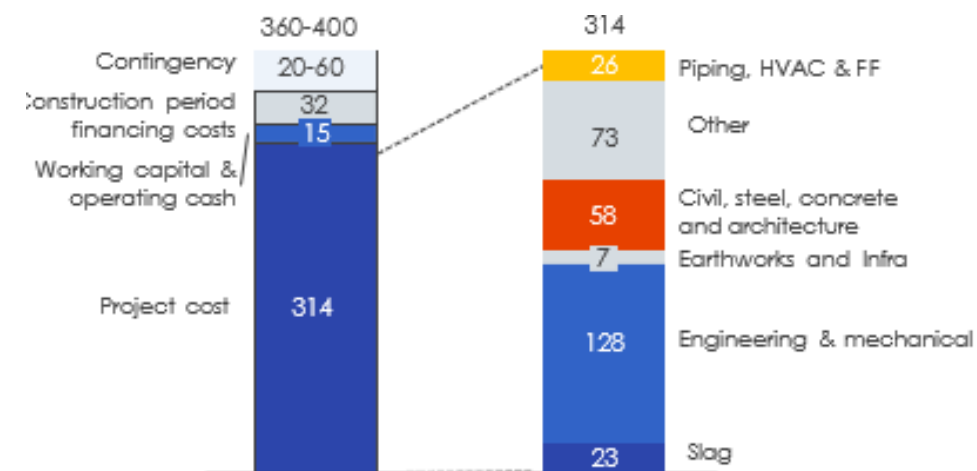


For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results



Funding Structure and Strategy

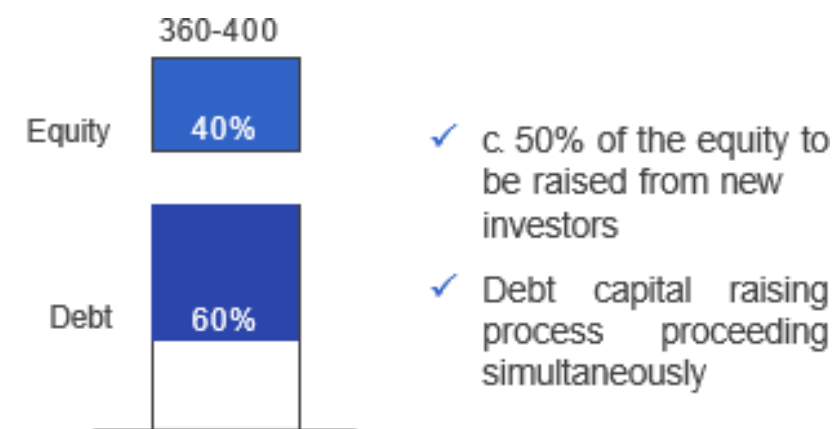
ESTIMATED PROJECT COST (MEUR)



*Additional buffer for extra contingency, working capital needs and general corporate matters

- Total estimated construction cost of the plant 360-400 MEUR includes initial working capital and cash buffer reserves
- Capital cost estimate from Sweco feasibility study (ACE Class 3 Study) for 300k tpa facility
- ACE Class 3 Engineering Cost Study by Sweco was reviewed by independent expert, Behre Dolbear Australia

ESTIMATED PROJECT COST (MEUR)



1) 1.12 USD/EUR fx rate assumed

- Target to fund 60% of total project cost with debt
- Target to fund 40% of total project cost with equity
- Neometals and Critical Metals maintain the right to finance their current ownership share of the Company

For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results

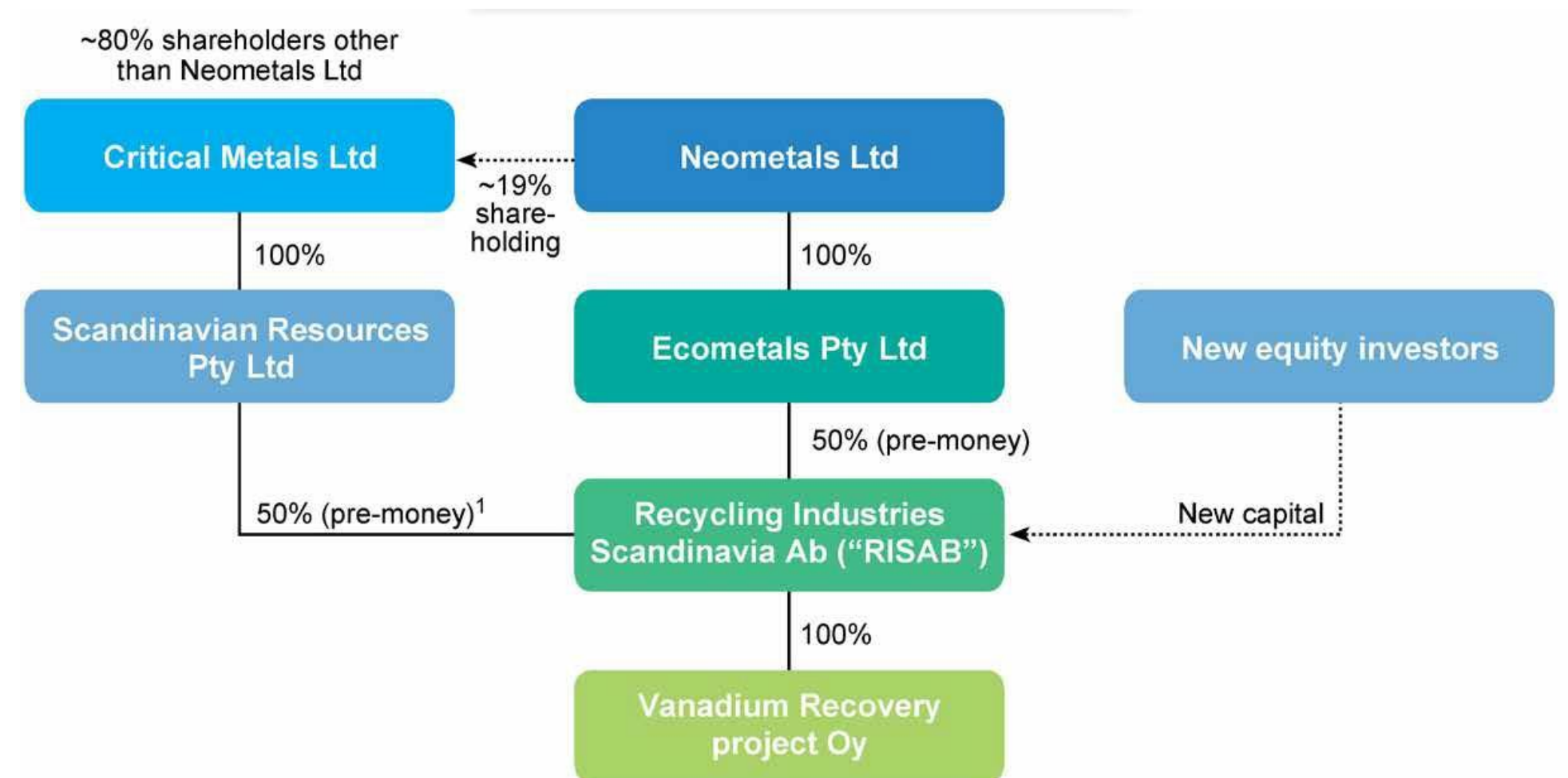
FY23 Workflow



NEXT STEPS

- Work with equipment vendors and engineering firms to continue advancing project engineering
- Procure vanadium product and calcium carbonate by-product offtake agreements
- Procure new equity investors into RISAB and credit approved term sheets for debt financing to enable consideration of financial investment decision by 30 June 2023

VRP CORPORATE STRUCTURE



¹. Assumes Critical contributes A\$3M on or before 31 March 2023



Key People – Experienced Team Onboard

Johanna Lamminen
CEO



- Highly experienced business leader and board professional
- Experience includes CEO of Gasum, CEO and CFO of Danske Bank Finland, CFO and deputy CEO of Evli and board member of Pohjolan Voima and ETLA
- Doctor of Science in industrial management



Darren Townsend
COO



- Mining Engineer with 25+ years development, mining and corporate experience including managing ASX and TSX listed companies
- Chief Development Officer, Neometals, a minerals and advanced materials company



Damian Hicks
Business Development



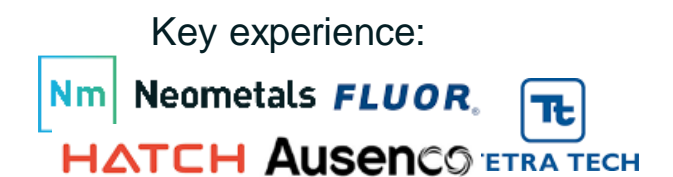
- Strong background in the circular economy, resource extraction, use, reuse, and recycling
- Executive Director of Critical Metals, Kiruna Iron, ASX listed Hannans Ltd and Chairman of advisory firm Corporate Board Services



Irena Ivanova
GM – Project Development



- Chemical Engineer with extensive expertise in process design, technology implementation, project and engineering management and team development
- General Manager – Evaluation Studies, Neometals, a minerals and advanced materials company





Indicative Timeline – Vanadium Recovery

KEY MILESTONES

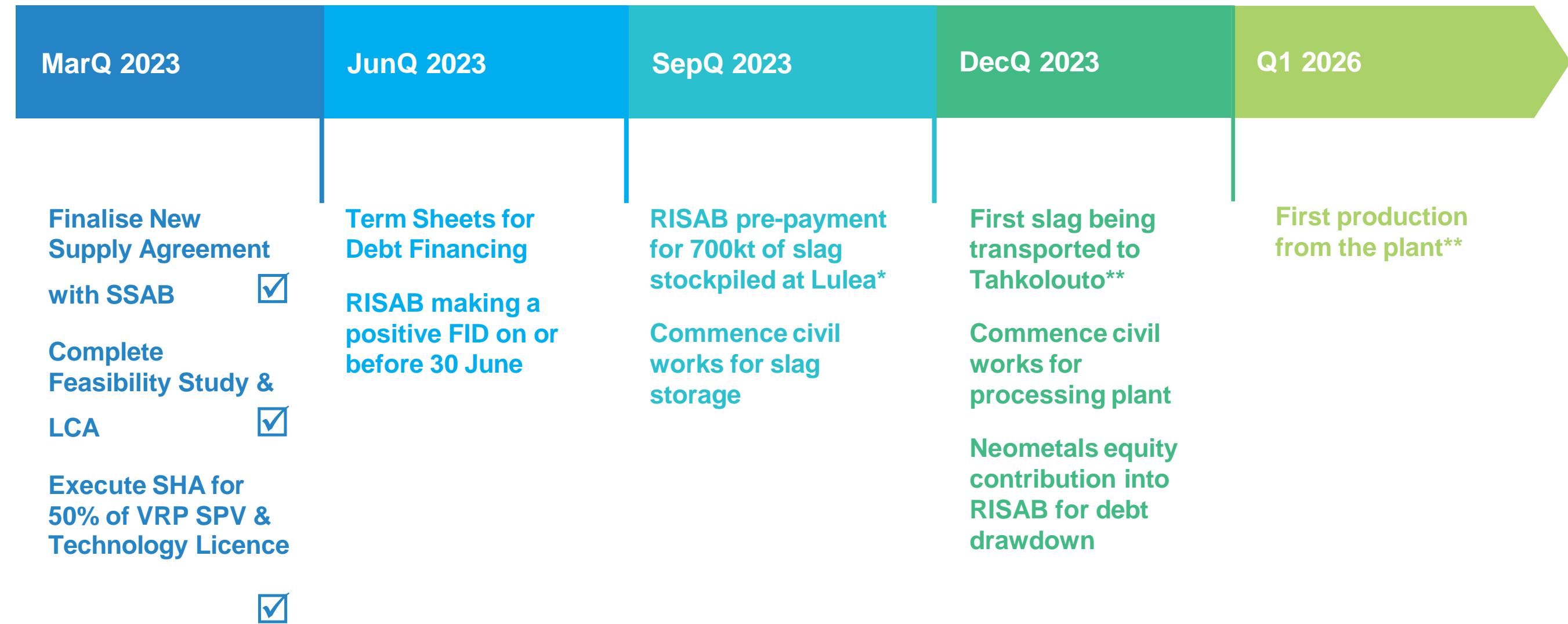
- ✓  **Lease agreement with the city of Pori**

Signed lease agreement with the city of Pori for the VRP plant to be situated in Tahkolouoto
- ✓  **Operational and environmental permit**

Permit to start operations from the Regional State Administrative Agency received
- ✓  **Feasibility study on vanadium applications**

Third party study confirming that produced vanadium pentoxide is suitable for vanadium flow redox battery technology and production
- ✓ **SSAB** **Contracts with SSAB and**
BETOLAR **Letter of Intent with Betolar**

Signed Letter of Intent for by-product and binding Slag Supply Agreement



* Pre-payment to be paid within 72 hours after the Buyer's Positive Investment Decision

** Subject to FID, approvals and finance



Investment Case – Highlights

SUPPLY CONSTRAINED CRITICAL BATTERY MINERALS WITHOUT MINING RISK





Lithium Chemicals

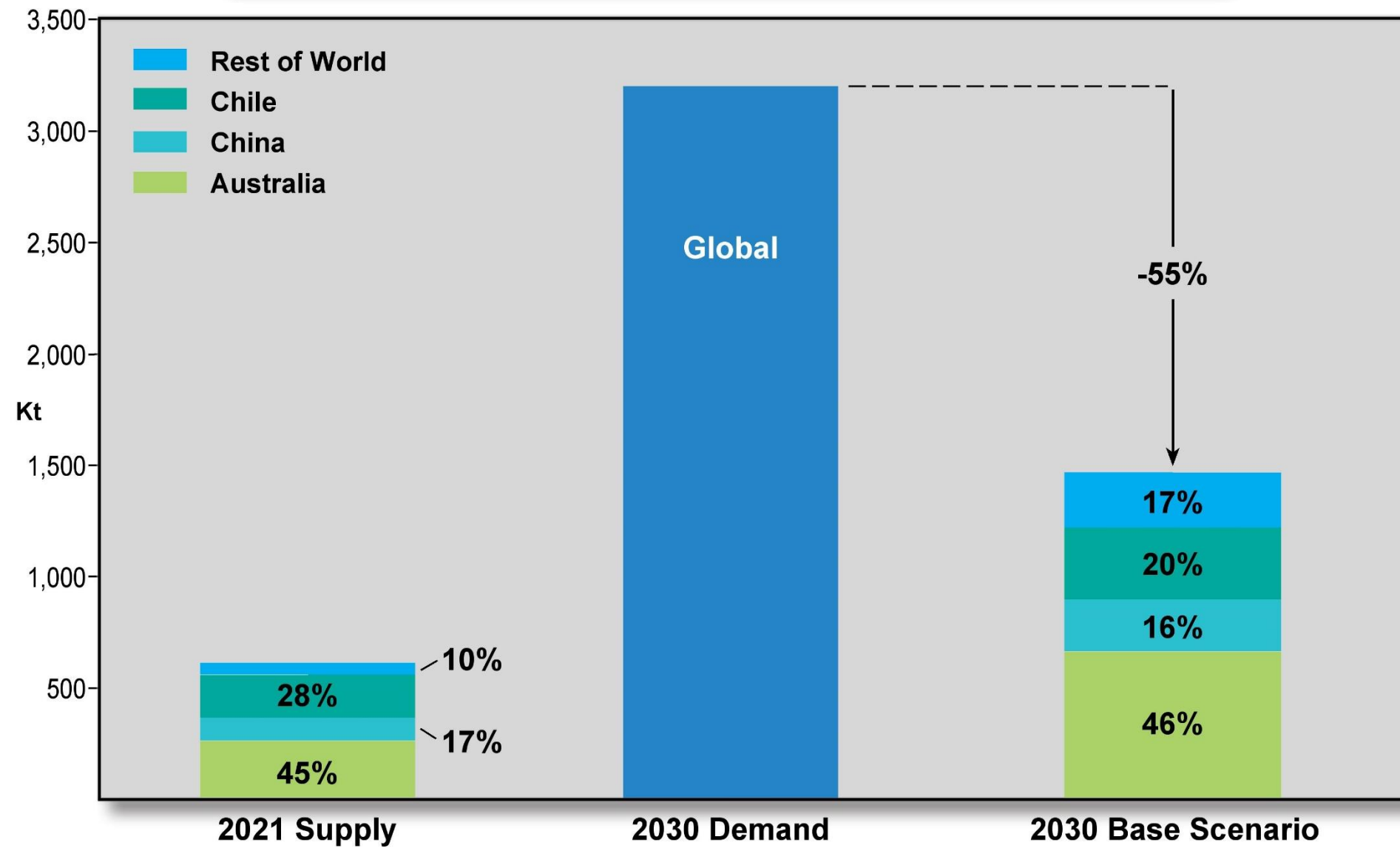
ELi[®] Processing Technology
Reed Advanced Materials (“RAM”)
70% Neometals / 30% Mineral Resources Ltd

Lithium Chemicals Project - Portugal
Co-funding evaluation of 50:50 JV with Bondalti Chemicals SA using ELi[®]
Process



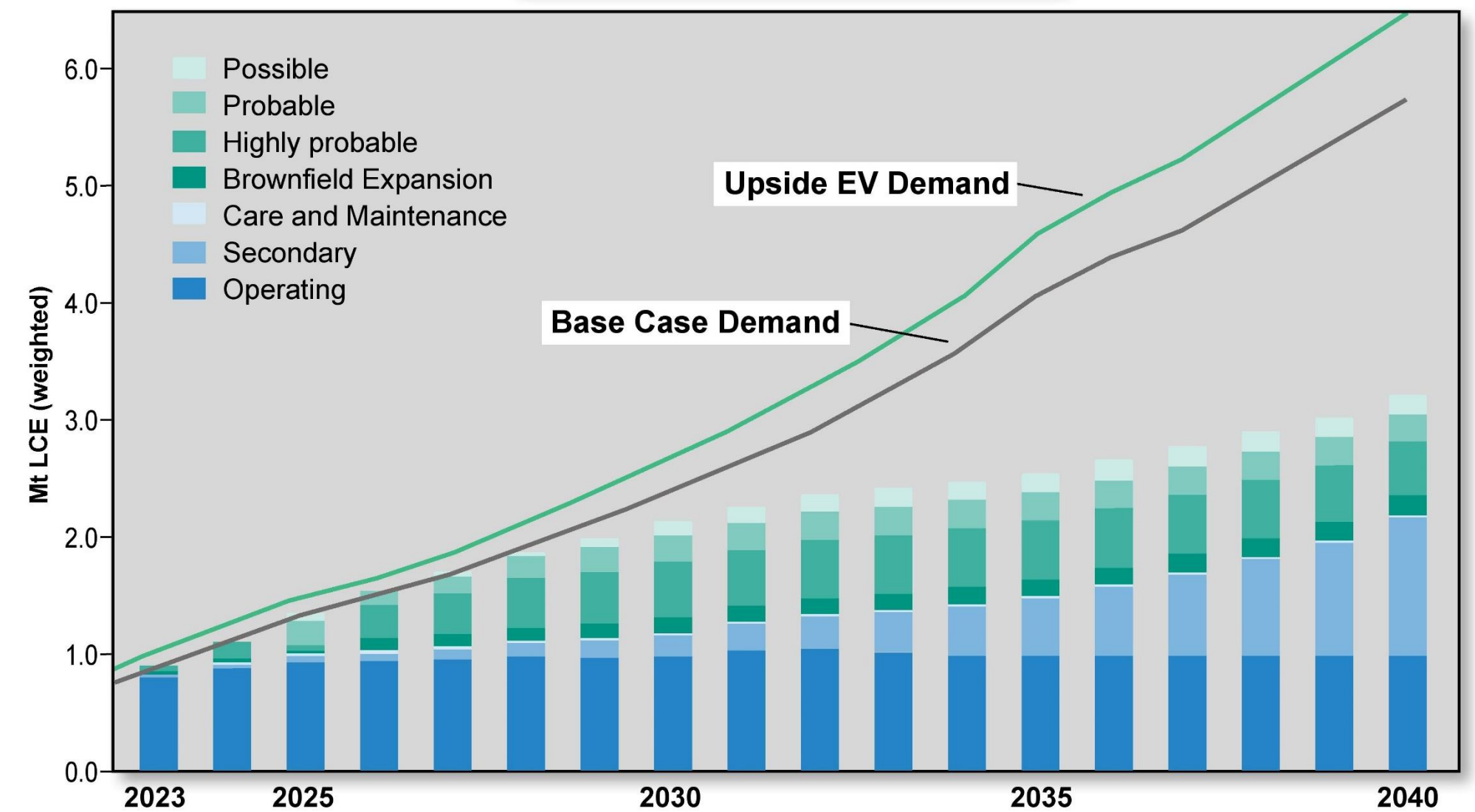
Seriously where is the lithium going to come from?

Lithium Carbonate Global Equivalent Demand



Source: McKinsey MineSpans, 2022

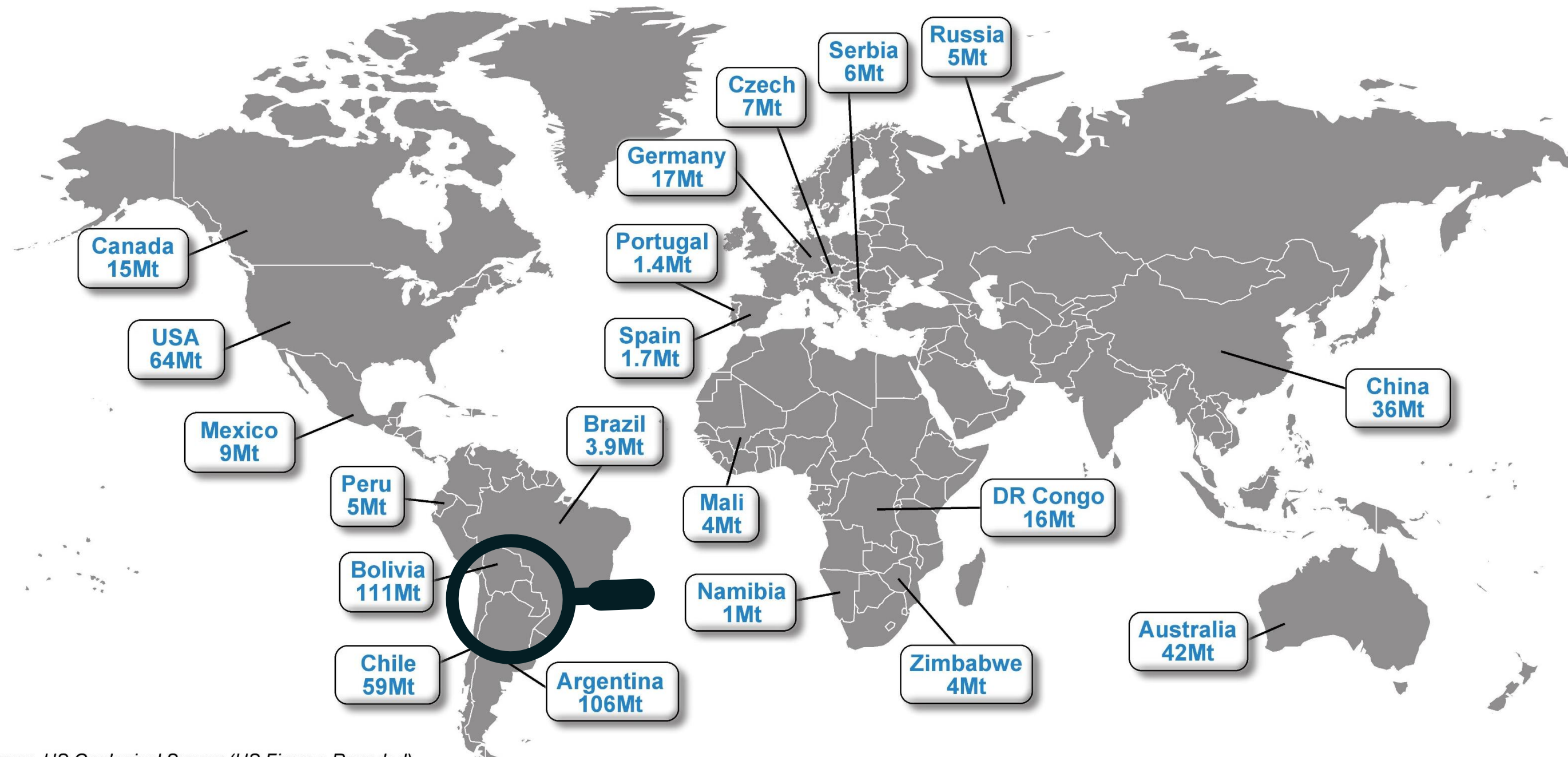
Lithium Market Balance



Source: Benchmark Minerals Intelligence (2022)

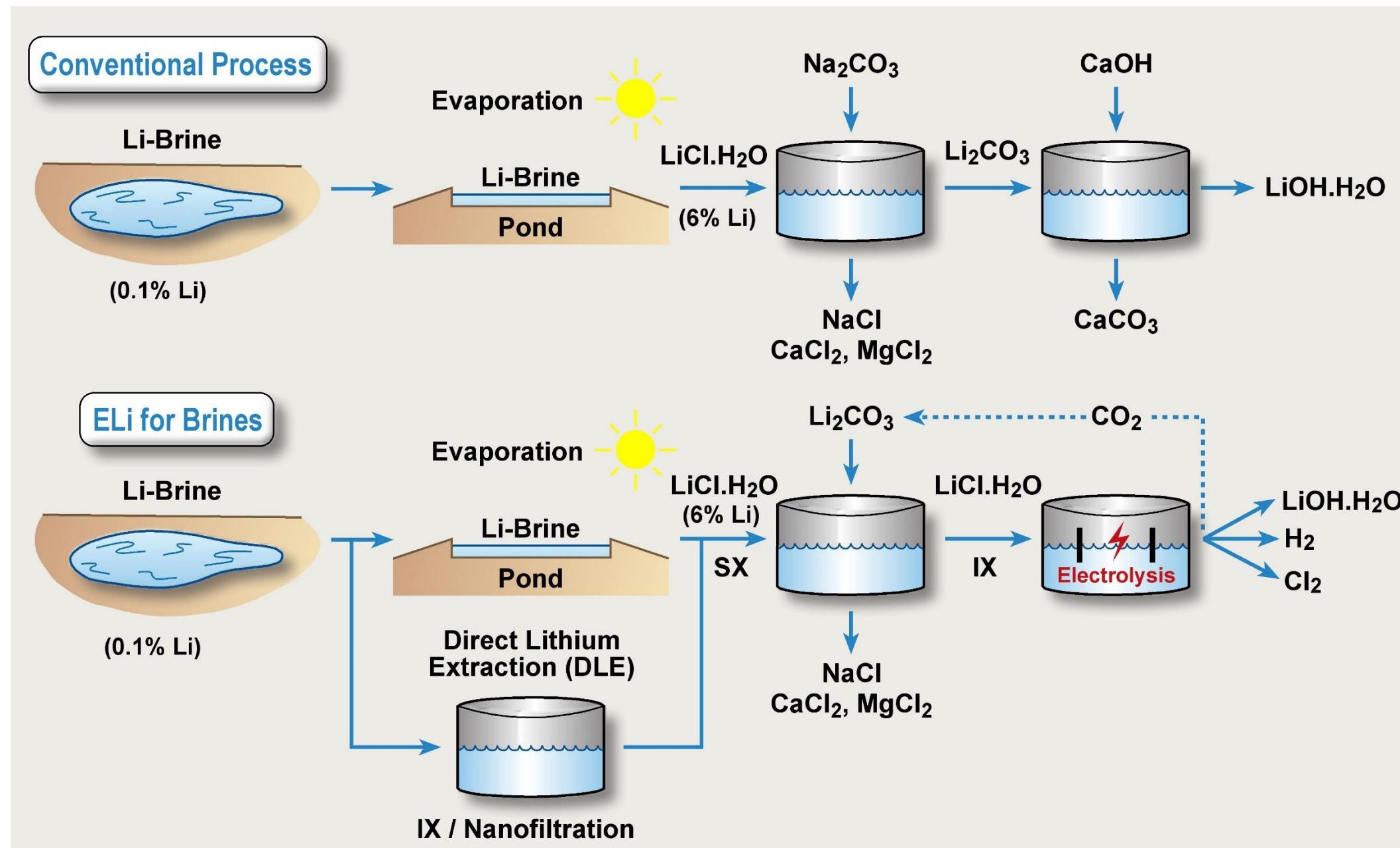
Must be brine + 60% of global lithium in brine deposits

World Resources in 2022 of Contained Tonnes of Lithium Carbonate Equivalent (LCE)



Source: US Geological Survey (US Figures Rounded)

Our process converts aqueous LiCl (salar concentrate) into LiOH using electricity (and own reagents)



“LIQUID SPODUMENE”

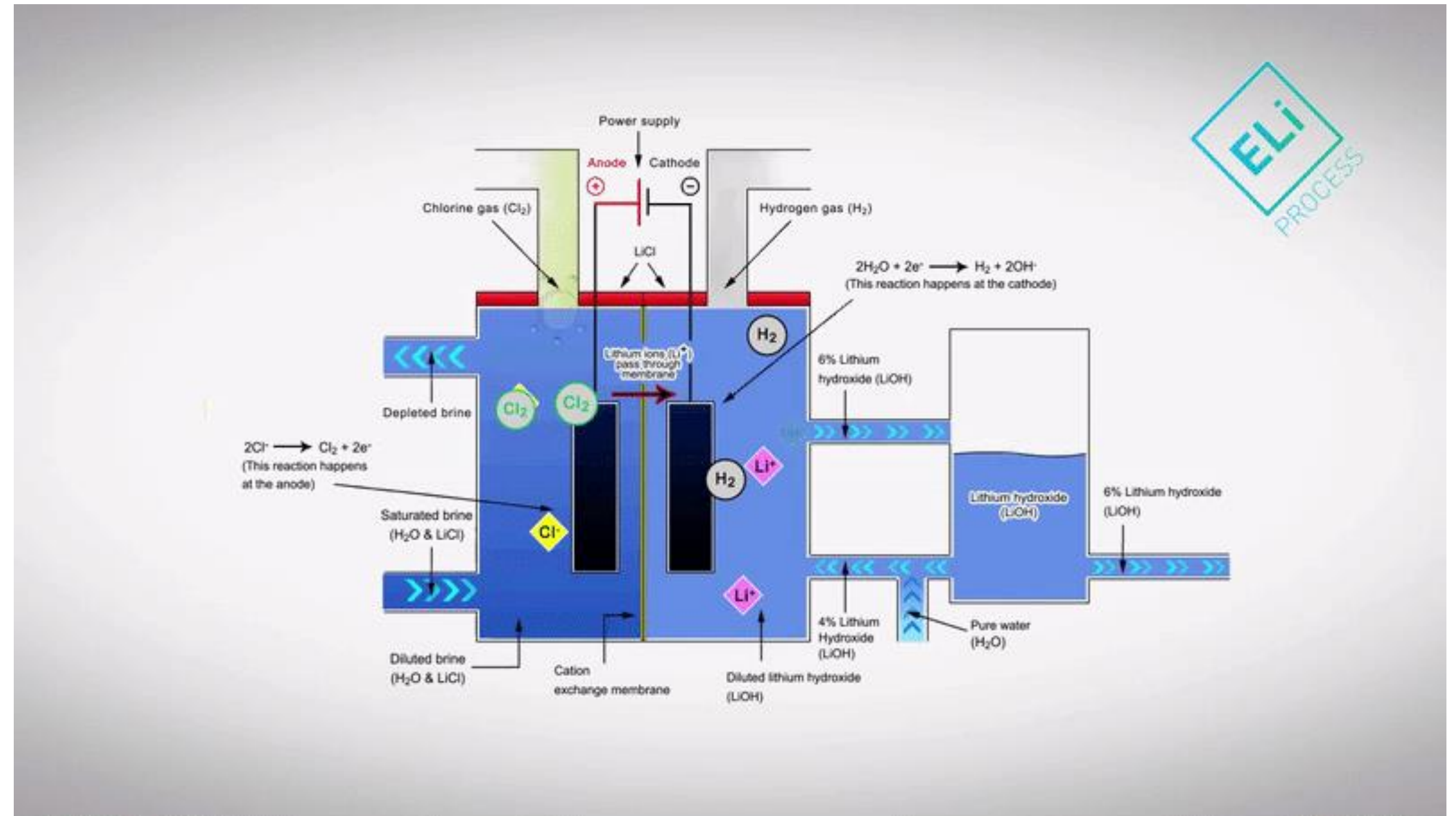
1t of Aqueous LiCl (6% Li)

contains the lithium equivalent of

2t of SC6 Spodumene Concentrate (6% Li₂O)

What is ELi[®]?

- “ELi” is short for **E**lectrolytic **L**ithium.
- The +100yr old Chlor-alkali process uses electricity to split sodium salt (NaCl) into caustic soda (NaOH) and chlorine gas (plus hydrogen!)
 - Modern technology, proven chlor-alkali equipment packages available “off the shelf”
- We created a purification flowsheet to make LiCl pure enough for electrolysis using conventional equipment
- Initially produced low-cost, high-purity LiOH production from HCl leaching of spodumene (Li₂O) then tested major SA brine deposits
- Brine LiCl + ELi potentially the lowest-cost, lowest-carbon, highest purity Lithium Hydroxide
- 13 Granted Patents in all major lithium producing countries



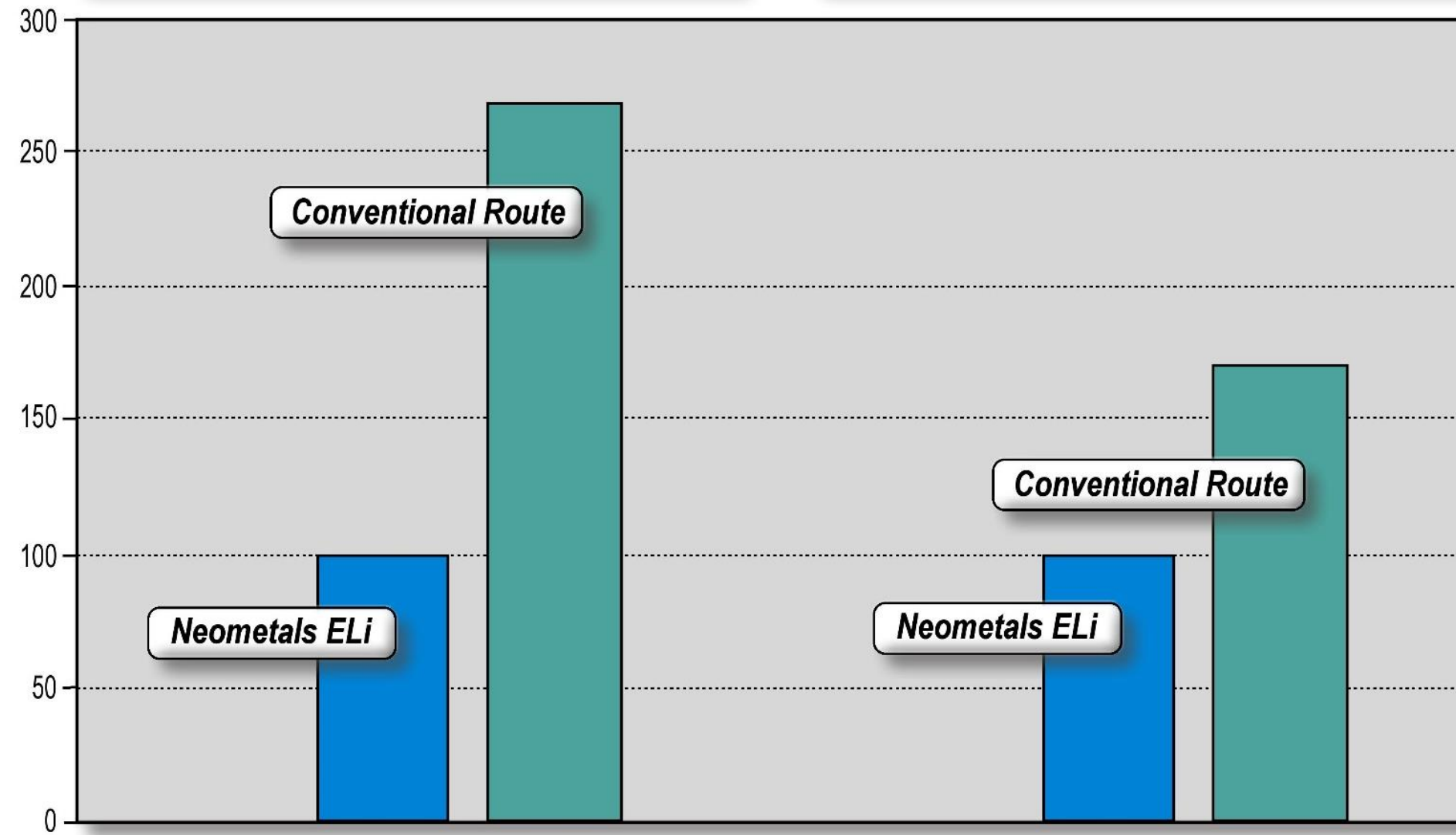
Membrane Electrolysis Step



Operating & Capital Cost Advantages – updating April '23

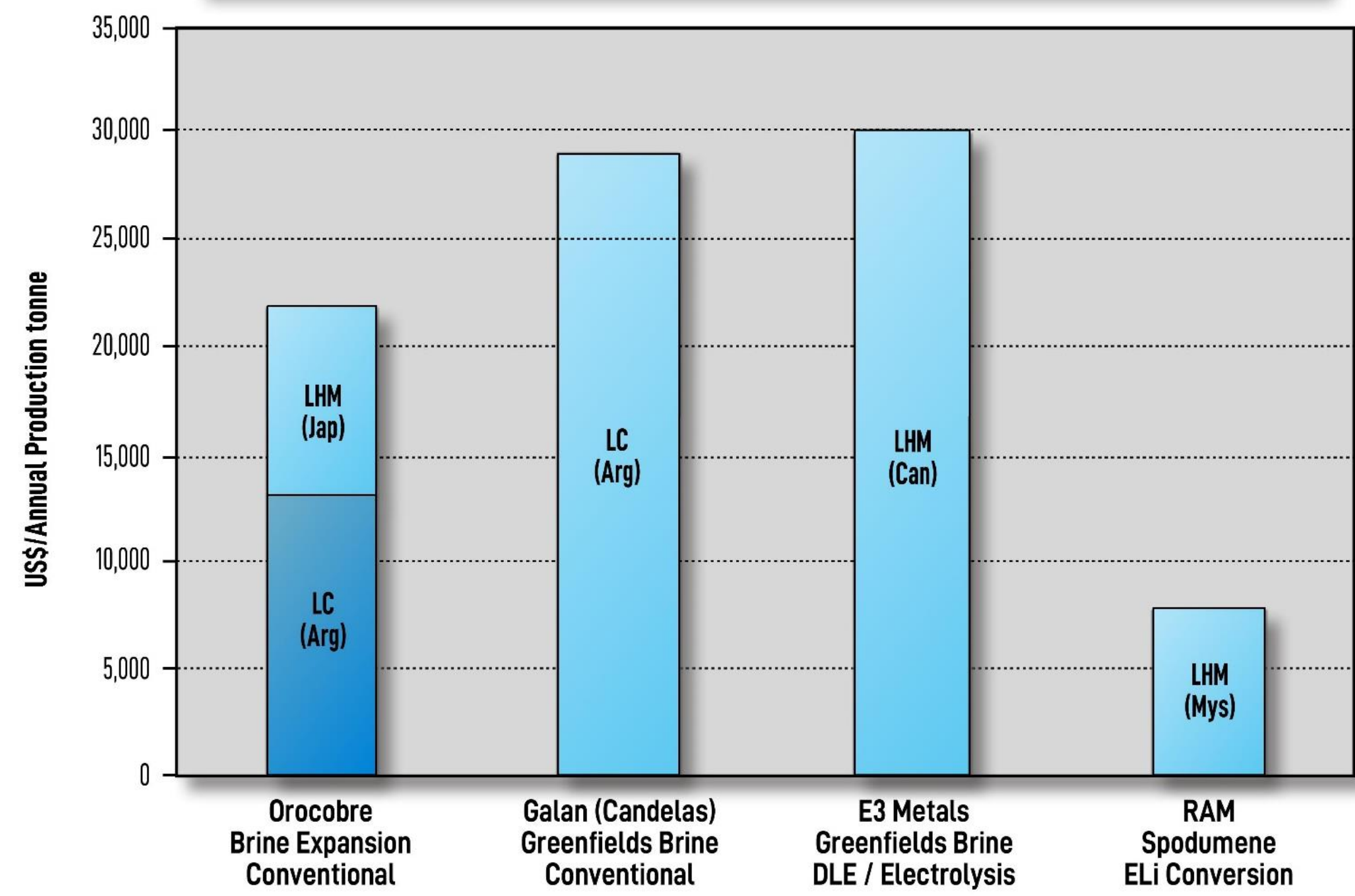
Relative LiOH Conversion Costs from LiCl Brine
(US\$ per tonne LiOH.H₂O) - Argentina basis
ELi Process = Base 100

Relative LiOH Conversion Costs from Spodumene Leach Solution
(US\$ per tonne LiOH.H₂O) - Malaysia basis
ELi Process = Base 100



Source: Neometals Management, Exyte Class 3 Engineering Cost Study (2016)

Capital Efficiency (US\$/production tonne LHM per annum)



Eliminate bulk reagents – create and use own lithium carb

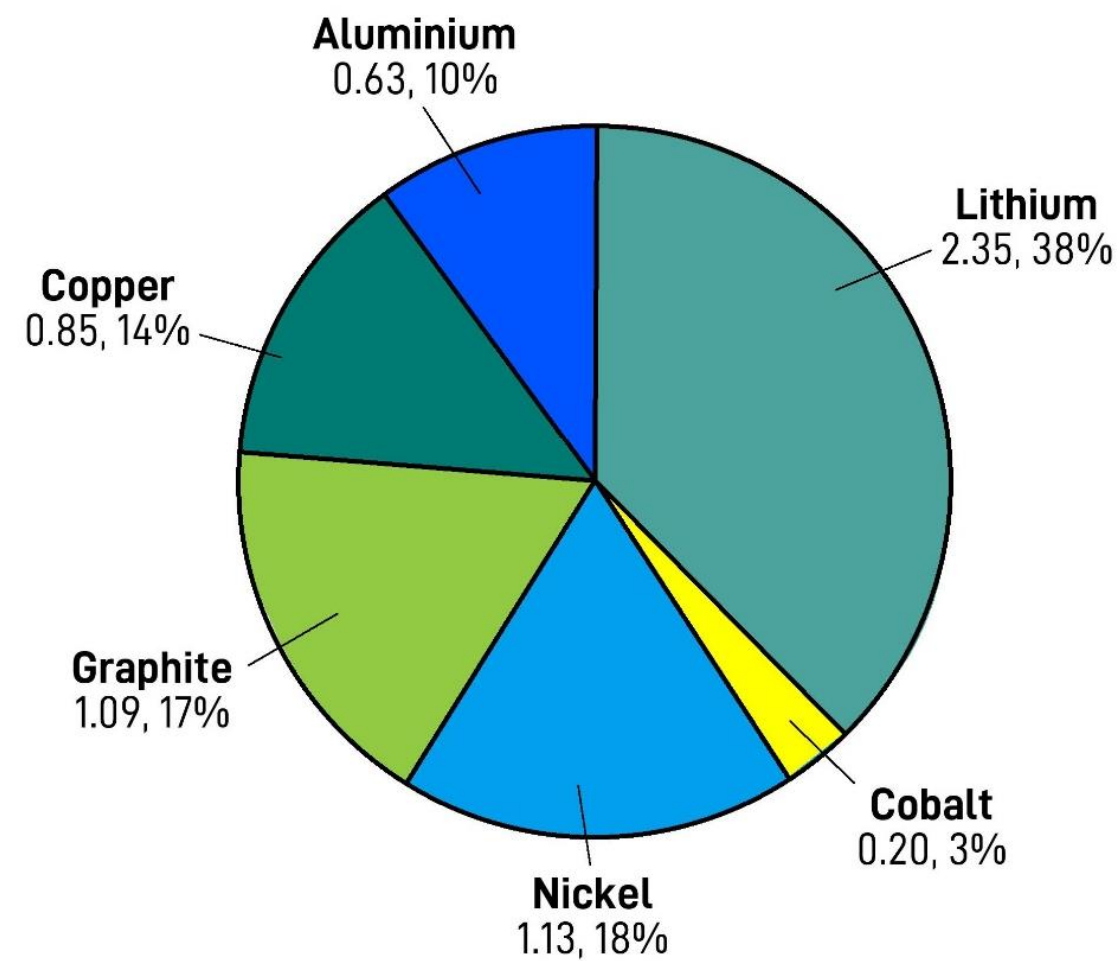
- Use of solvent extraction, ion exchange and internal recycling results in minimal reagent consumption and circuit top-up
- Decoupled from bulk reagent availability, market disturbances and transport costs
- Proposed sites leverage attractive energy supply options

Process	Our Process	Conventional	
	RAM	Brine	Hard Rock
Bulk Lime	No	Yes	Yes
Bulk Soda Ash	Minimal	Yes	Yes
Power	Yes	Yes	Yes
Gas/oil	Yes	Yes	Yes
Acid	Recycled	Low	Yes



Surest way to reduce to LiB CO₂ footprint is more brine lithium

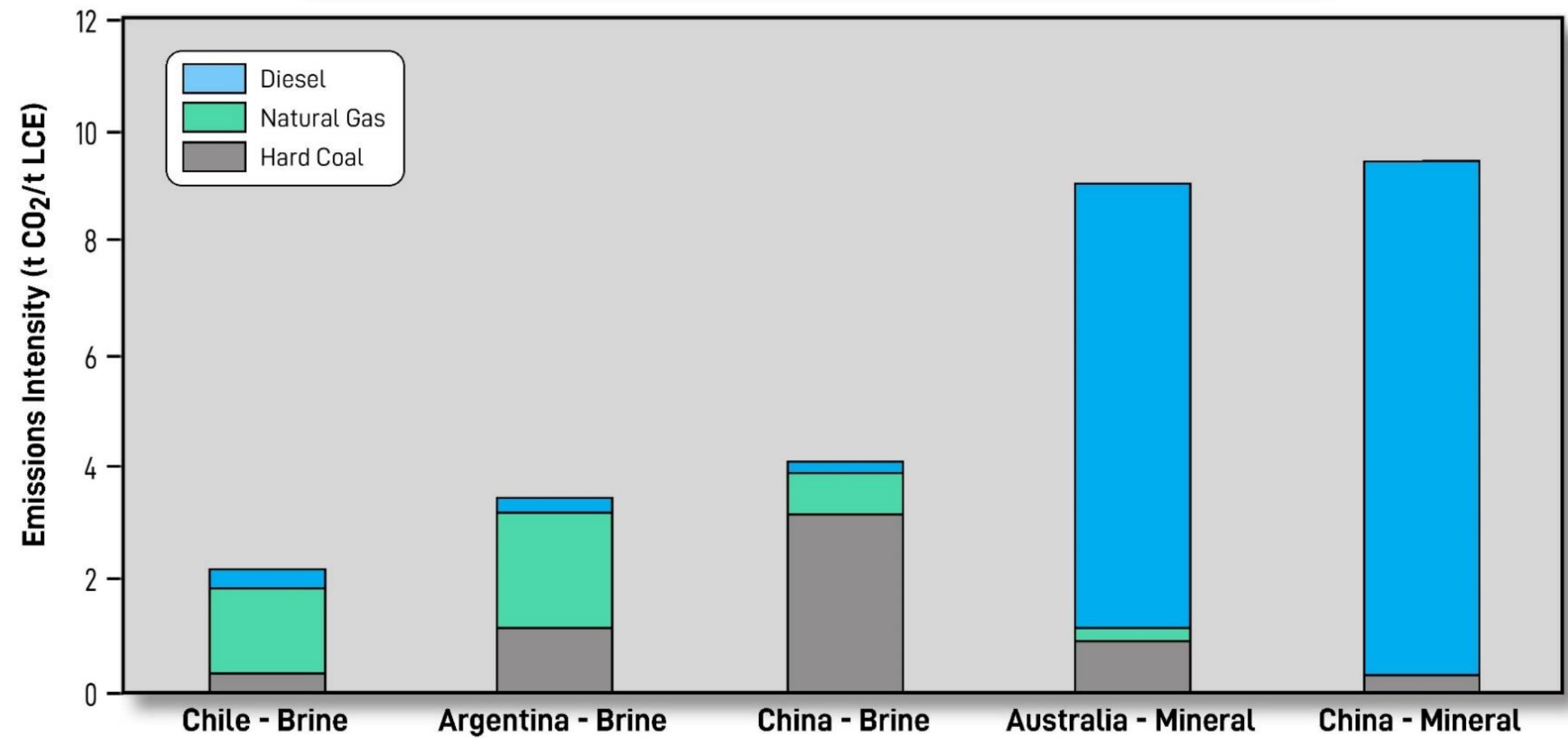
CO₂ Footprint of Battery Components (kg CO₂e/kg of NMC811 Batteries)



Source: Carbon footprint - SQM Benchmark World TourWest June 2020
Battery composition - Neometals Managment

Graph excludes plastics, electrolyte and binder
CO₂ footprints are for metals, not salt equivalents

Emissions Intensity of Lithium Production 2020



Source: Roskill

Commercialise in EU with Bondalti

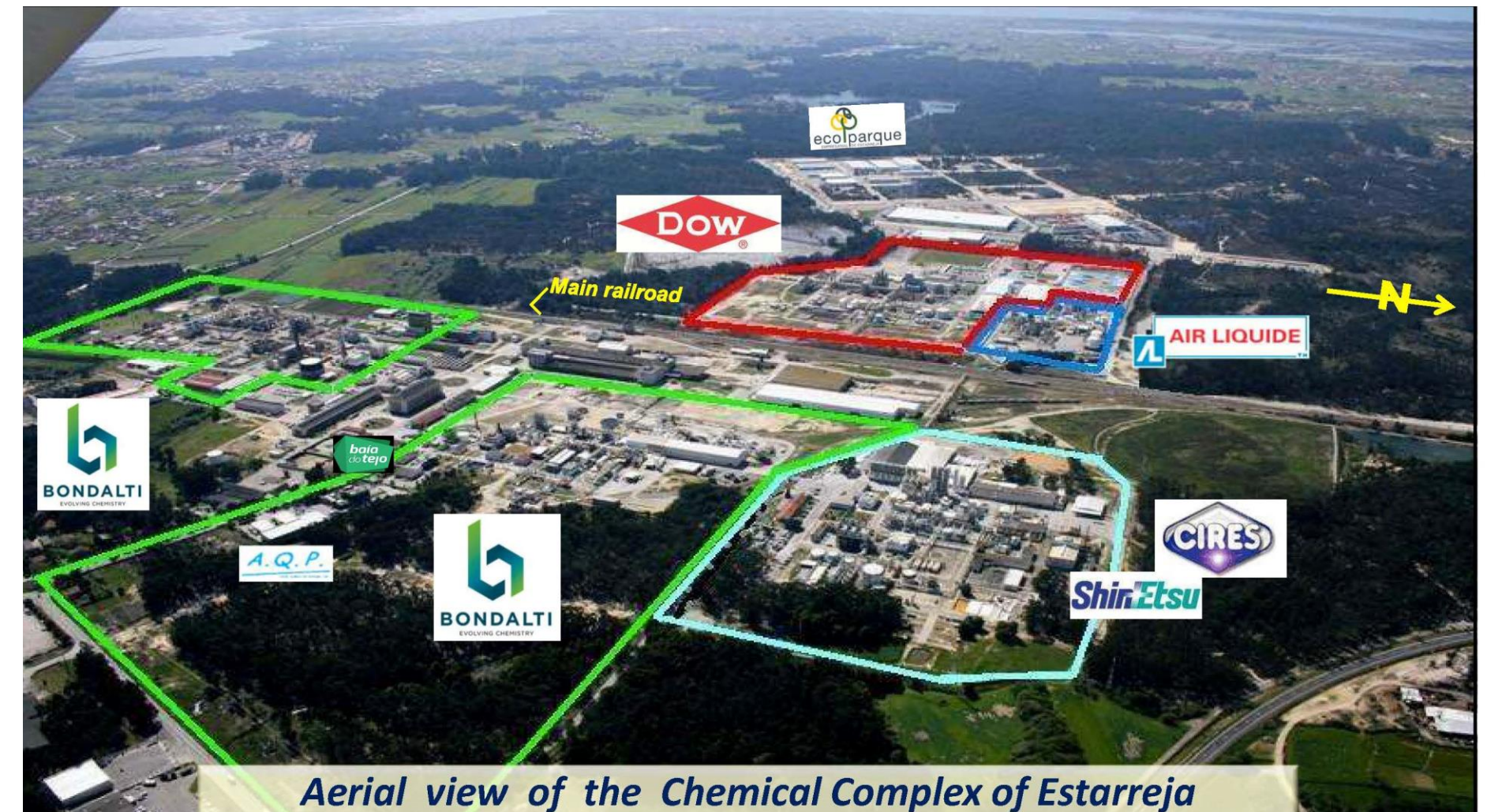
Leverage Bondalti's strong experience in chlor-alkali extensive infrastructure enables fast-track evaluation and piloting at their Estarreja chemical site.

Bondalti:

- Largest Portuguese chemical producer - based in the Estarreja chemical cluster
- Seeking entry into LiOH production using its chlor-alkali process infrastructure
- Production synergy for ELi[®] to ship H₂ and Cl₂ by-products "over the fence"
- Experienced and competent industrial operator of same type of chlor-alkali plant used for ELi[®]

Cooperation*:

- Binding cooperation to pilot ELi[®] and evaluate future 50:50 JV to produce LiOH for European auto value-chain
- RAM would issue the JV a royalty free license to the technology
- Equal co-funding on pilot and evaluation activities



*For further information, refer to ASX release dated 13th December 2021 – "Agreement to Commercialise ELi Lithium Process in EU"

Business Plan: Merchant LiCl Conversion in the EU

1

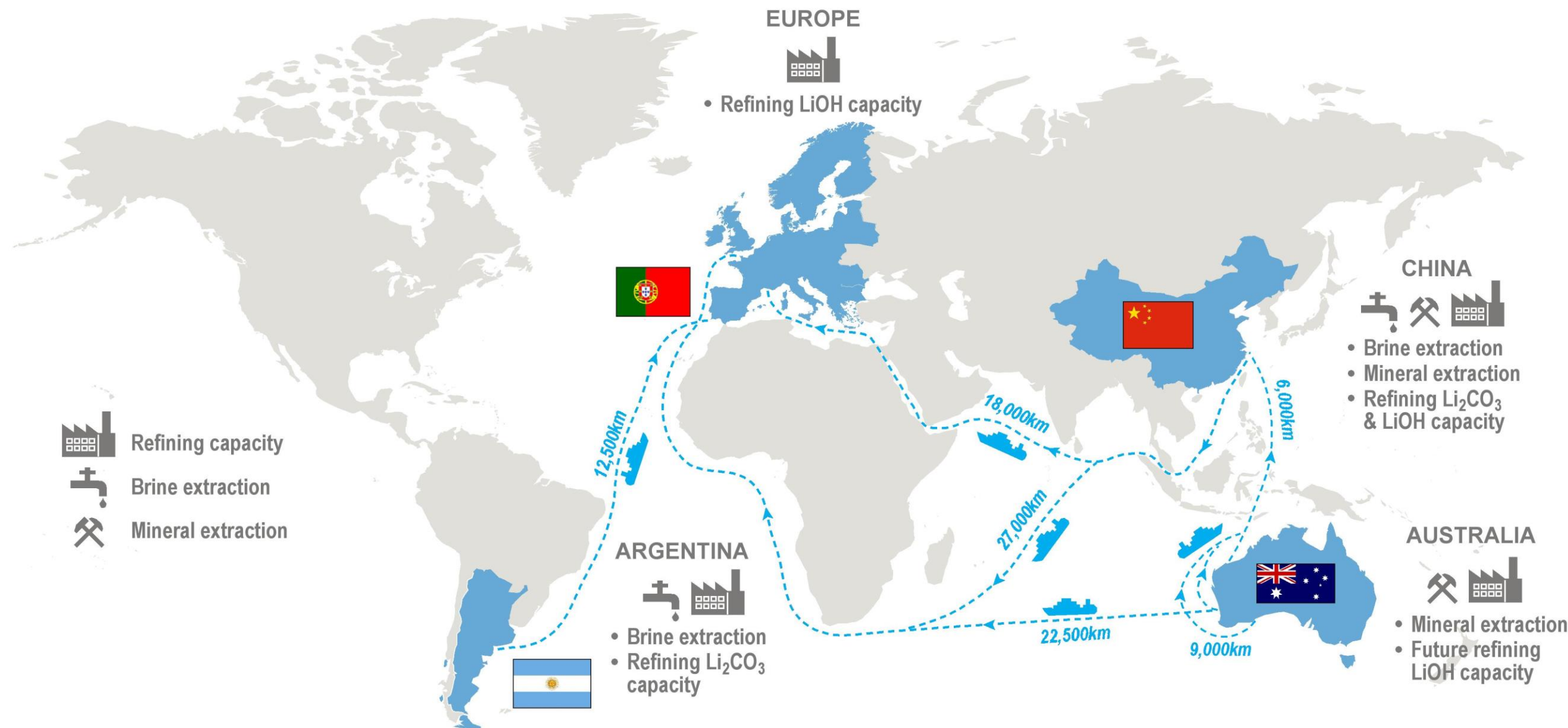
Buy/Toll Process lithium chloride from Argentina/Chile

2

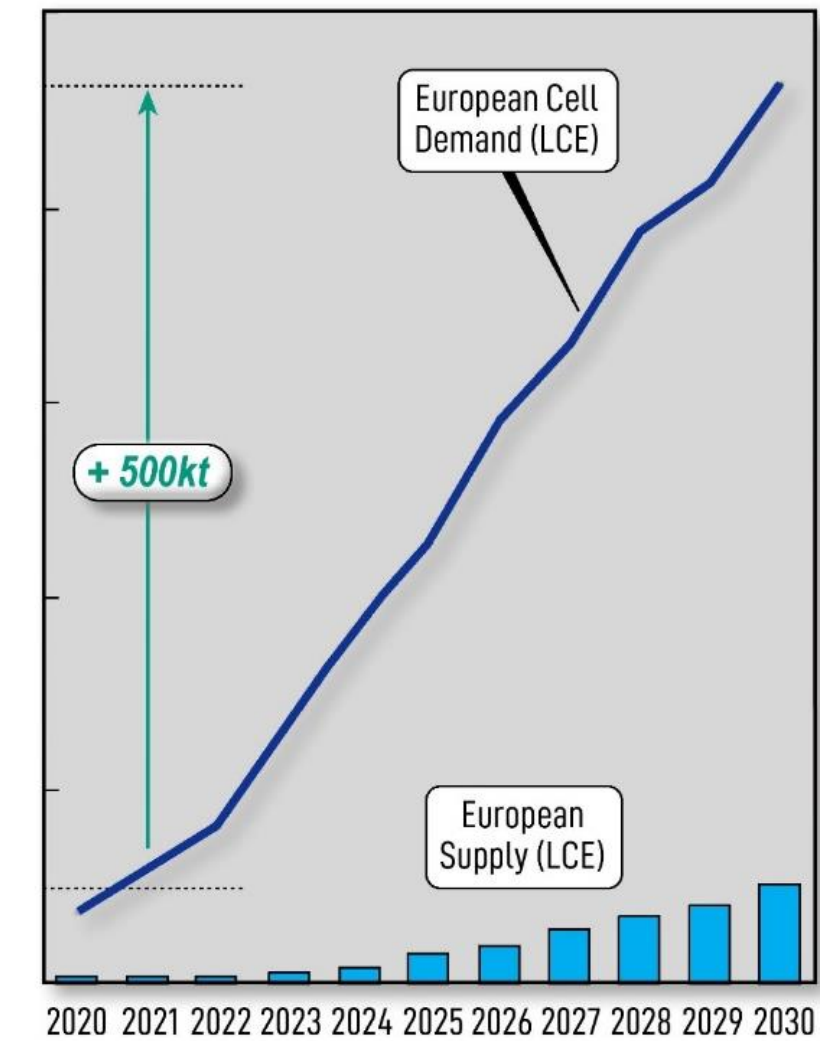
ELi[®] purification and conversion to LiOH in Portugal

3

Offtake to European EV supply chain



Source: Roskill



Source: Benchmark Forecasts

Neometals Lithium Chemicals Team



Michael Tamlin – Chief Operating Officer (Project Sponsor)

Mike has over 35 years experience in metals industries covering lithium, tantalum, vanadium, base metals, industrial minerals and chemicals in Australia, China, South America and Canada. He has a strong track record in maximising commercial performance, developing and implementing strategy and brings experience in the development of lithium projects, lithium supply negotiation, lithium markets and management at executive level. Mike holds B. App. Sc in Metallurgy.



Dr David Robinson – General Manager, Metallurgy R&D (Pilot, Process Development)

Dave has more than 20 years industry experience. He is currently responsible for managing: i) metallurgy programs targeting flowsheet development and optimisation, ii) project technology development and associated research programs and iii) group intellectual property management. Dave most recently spent 12 years managing CSIRO hydrometallurgical research and related industry liaison. Prior to CSIRO, he spent several years at Anglo American/Anglo Platinum working at and supporting numerous operations including being responsible for PGM refining technology development and application at the Rustenburg PMR. Dave holds a Ph.D., M.Sc., B.Sc. (Hons) and M.B.A.



Kausar Shah – Senior Process Engineer

Kausar has worked across several major engineering consultancies, operations and laboratories within front end project and flowsheet development through to implementation (construction through to commissioning) phases primarily in the battery minerals space. He is currently responsible for providing engineering and management expertise which includes support research and project/process development, design reviews across all engineering outcomes, engagement of vendors and coordinating the communication of technical outcomes to the project and leadership teams. Kausar holds a Bachelor of Chemical Engineering (Hons).

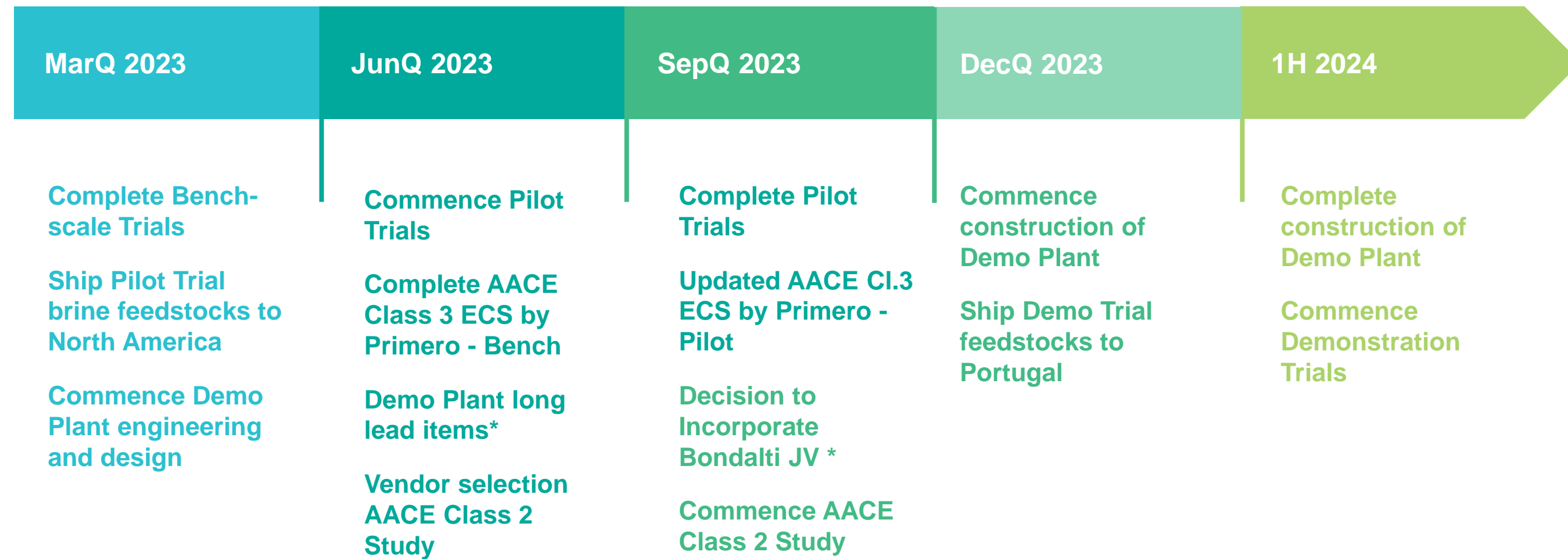


Dirk Kotzee – Senior Project Engineer (Project Controls)

Dirk has over 30 years experience across chemicals, smelting, minerals processing, oil and gas and mining. His key skills include contracts and contract management, business processes and systems, project controls, safety and quality. Dirk has provided project controls services in the coordination of lithium refinery feasibility studies, battery recycling flowsheet commercialisation and a vanadium recovery study. Dirk has previously worked in senior project roles for Woodside Petroleum, Rio Tinto, BHP in Australia and Africa and holds BSc. Mechanical Engineering (Materials), MBA, Project Management Diploma and Lead Auditor ISO 9001:2015, Pr. Eng. and MIEAust



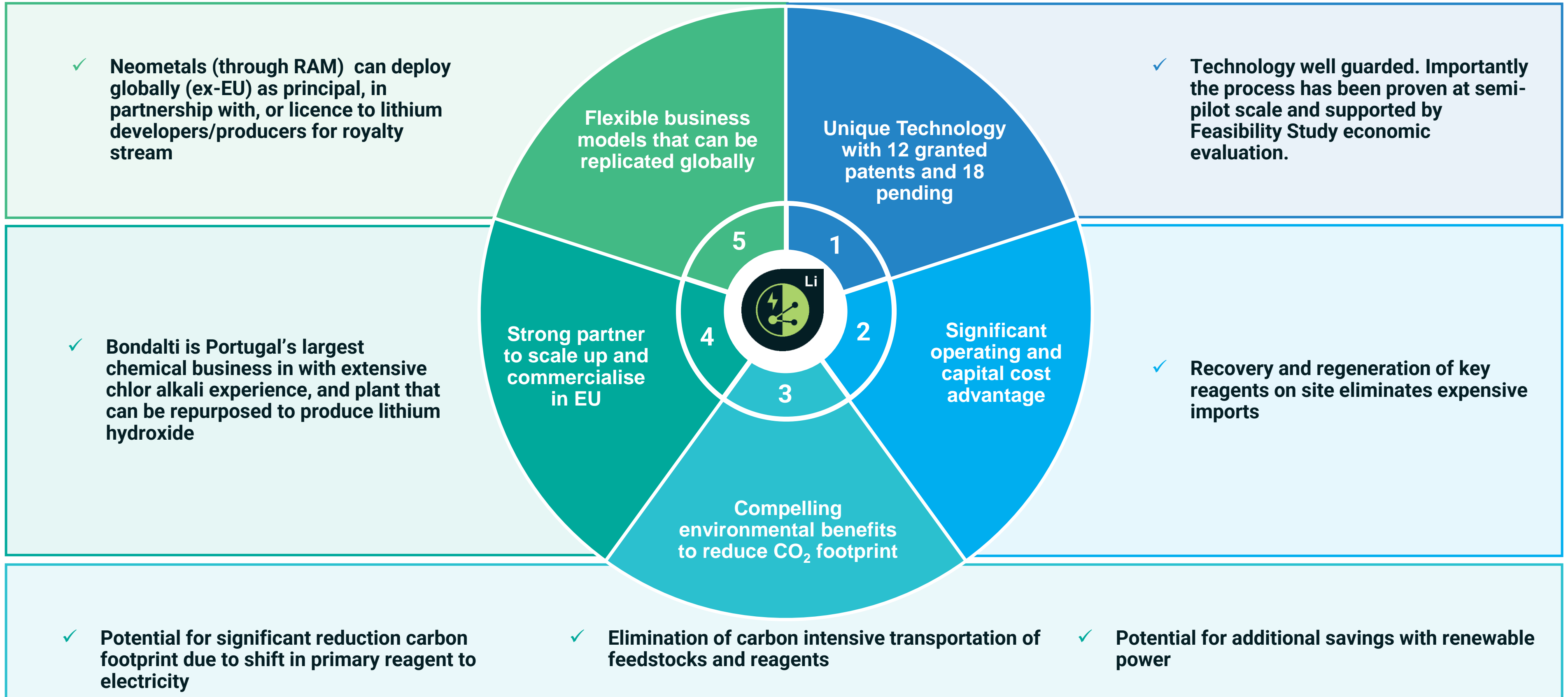
Indicative Timeline - Lithium Chemicals



*Subject to Steering Committee Approvals



Investment Case – Lithium Chemicals

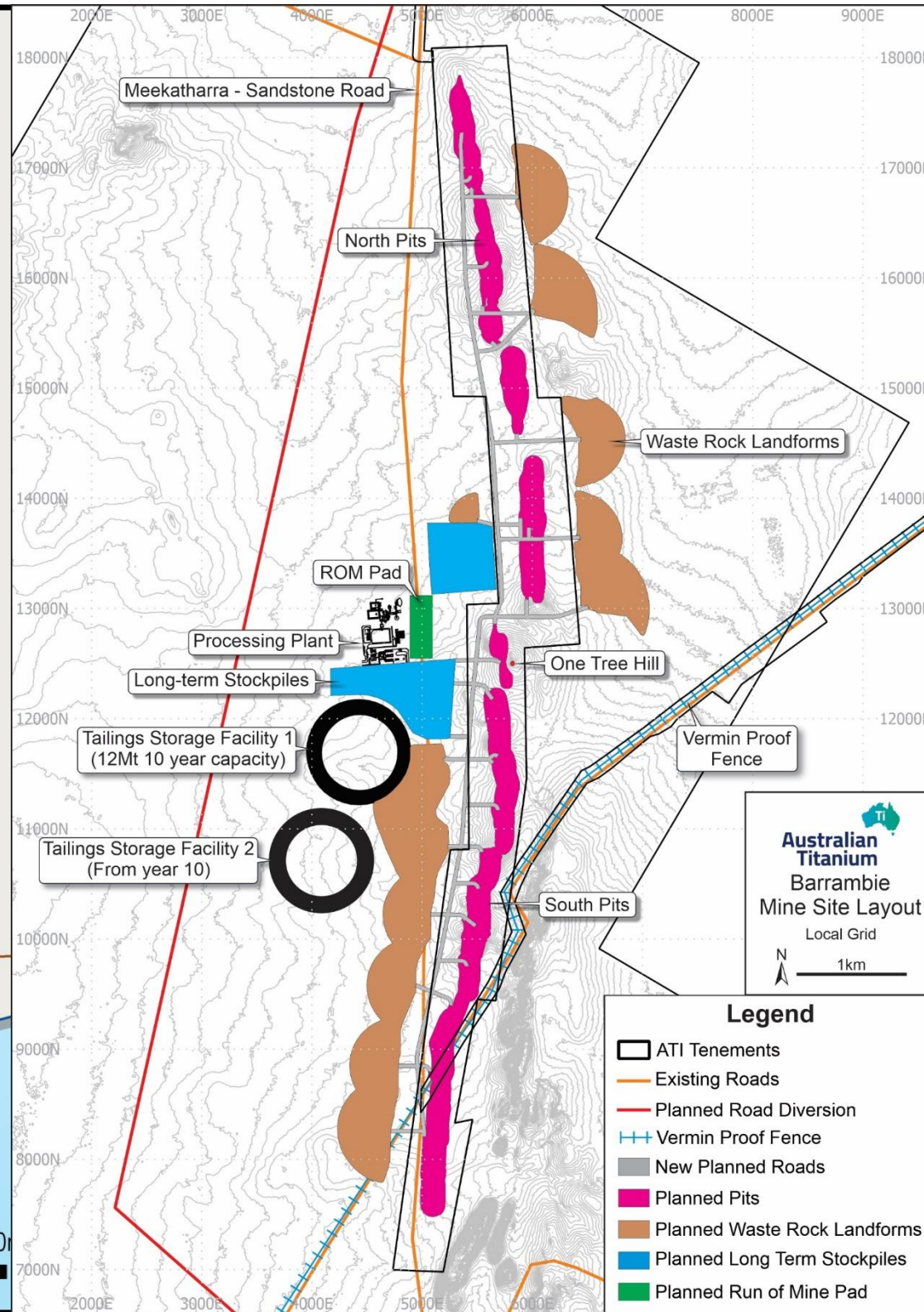




Barrambie Titanium and Vanadium

Barrambie Titanium and Vanadium Project
100% Neometals

Barrambie: Sunrise for the Sleeping Giant



- One of the highest-grade hard rock titanium assets globally
- 100% owned in Tier 1 jurisdiction
- Granted mining lease and mining approval to extract approximately 1.2Mtpa of mineralisation
- Environmental approval secured in 2012 to mine and construct a 3.2 Mtpa processing plant. Implementation timeframe extension application underway.
- Attracted strong partner to optimise value realisation
- Successful commercial scale trial to demonstrate value in use to end users

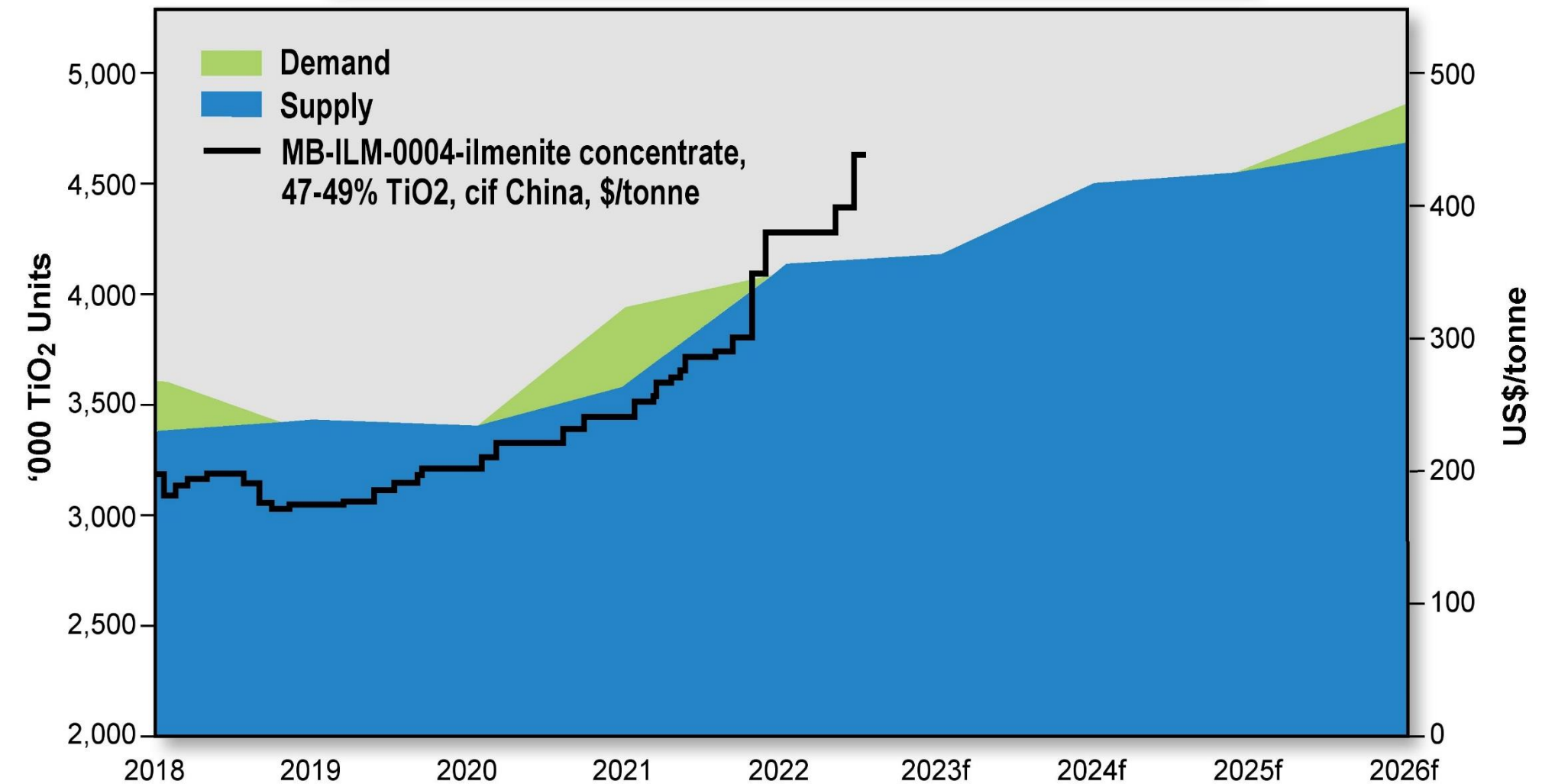
Need & Opportunity

China is half of the global titanium pigment production and is shifting to the more sustainable chloride process

World supply of quality chloride feedstocks is in decline, with prices steadily increasing for the last 5 years

- Chloride pigment production requires high-grade feedstocks such as ilmenite, rutile and titanium slags
- Primary mineral sands (rutile, ilmenite) deposits are being depleted
- Neometals is working with Chinese partners to realise value from production¹

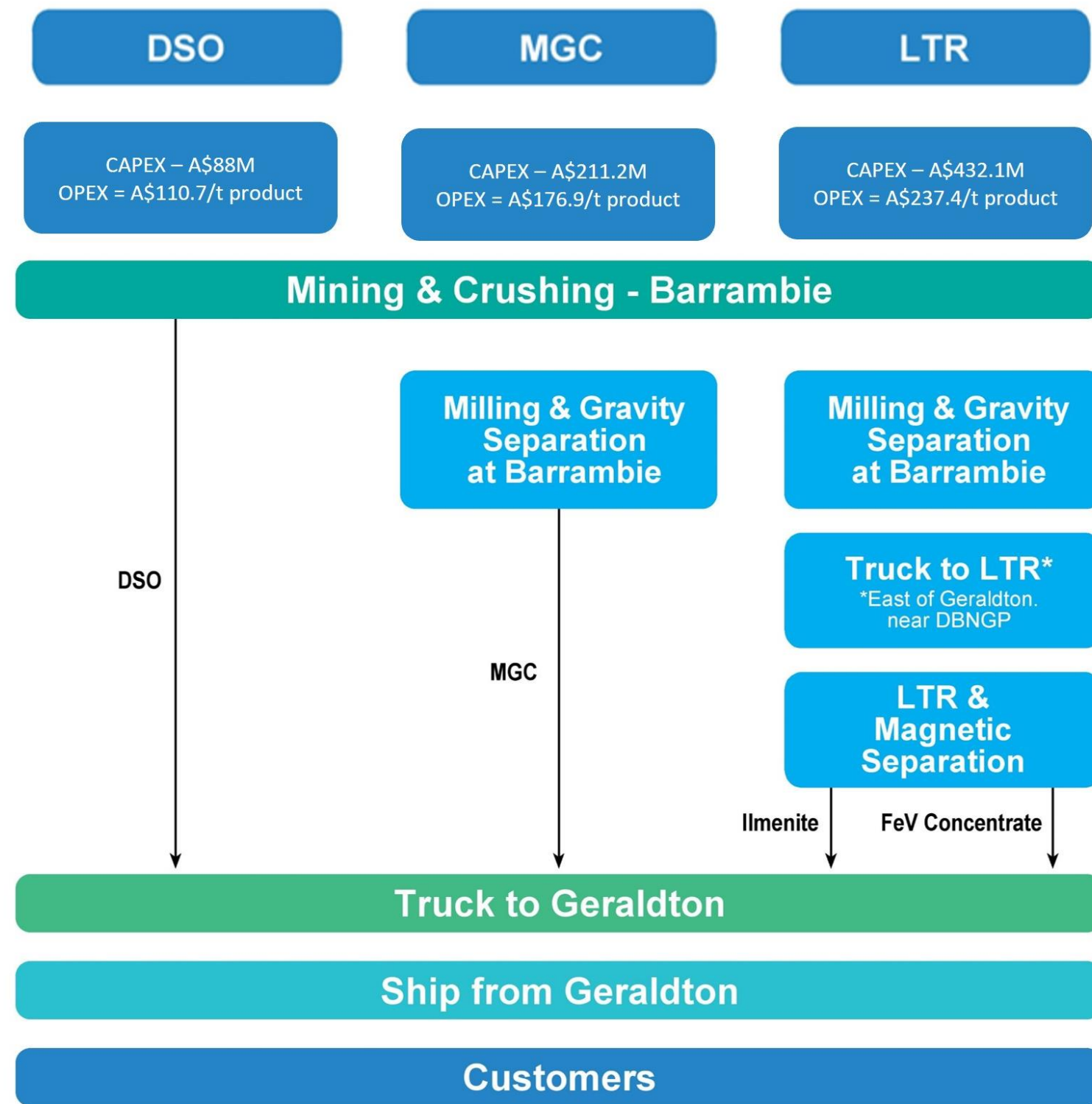
Chloride Feedstock Supply Demand Balance and Ilmenite Price



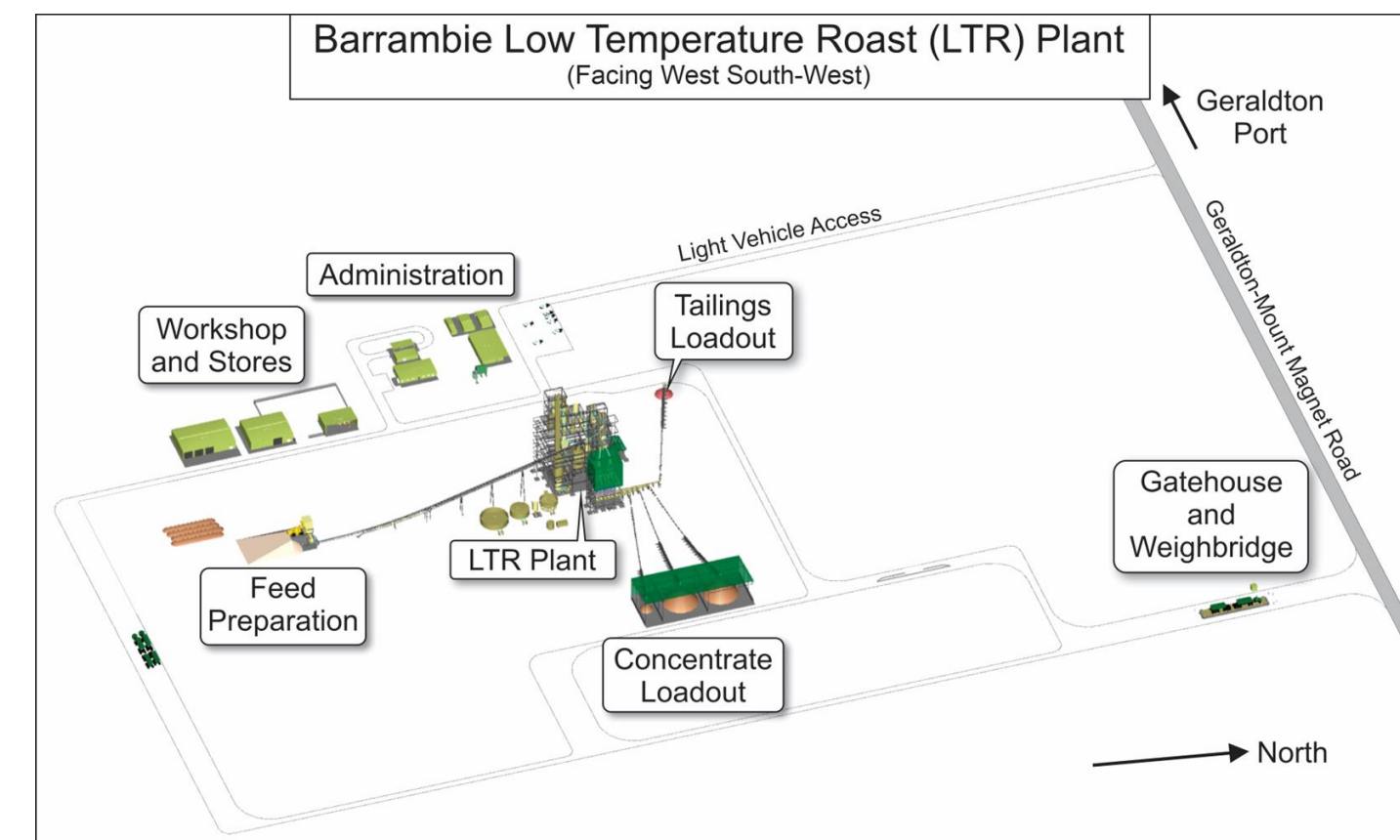
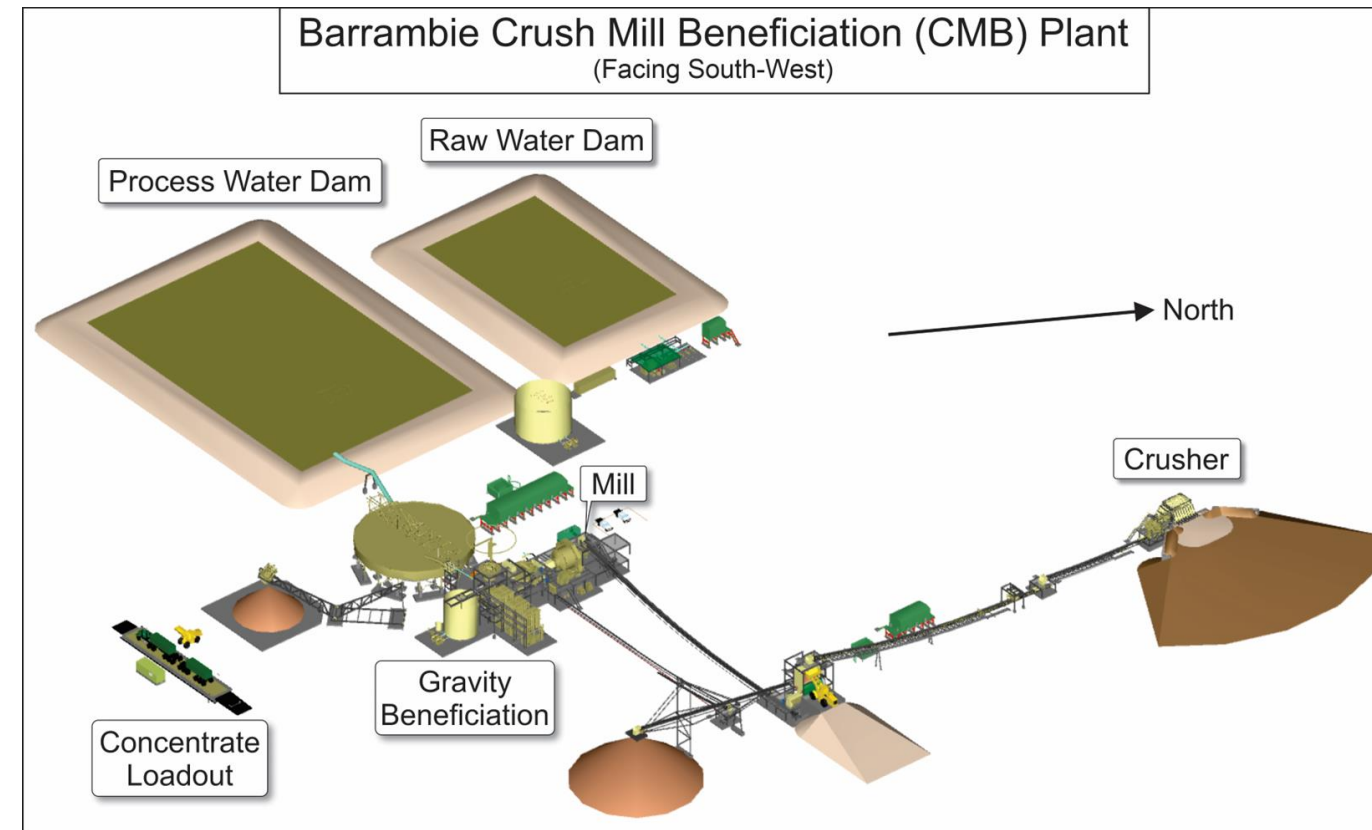
Source: TZMI, Titanium Feedstock Price Forecast, Issue 3, 2022 and Fastmarkets

1. For full details of commercial partnerships via MOU refer to:
 Neometals ASX release dated 16th April 2021 titled "Barrambie - MOU for Cornerstone Concentrate Offtake" and
 Neometals ASX release dated 4th October 2021 titled "MOU for JV to develop Barrambie"

The Solution: Pathways to Commercialise



*Dampier to Bunbury Natural Gas Pipeline



For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

Robust PFS Results

MINERAL RESOURCE*



280.1Mt
@ 9.18% TiO₂

ORE RESERVE**



44.5Mt
@ 18.7% TiO₂

PROCESSING PLANT



First 10 years:
Ilmenite 522ktpa
Middling ilmenite 57ktpa
Iron-vanadium conc. 402ktpa

PROJECT LIFE***



21 Years

OPEX



AUD\$237.4
/t products

PAYBACK



5.67 years

CAPITAL COSTS



AUD\$432.1M****

PRE TAX NPV₁₀



AUD\$391M*****

FREE CASH FLOW*****

Total
AUD\$1,665M
First 10 years
AUD\$136M pa

* refer to Table 2 ** probable *** years of processing plant operation **** USD: AUD 0.6419 ***** at US\$400/t Ilmenite
at US\$300/t Middling ilmenite at US\$85/t Iron-vanadium conc. ***** free cashflow is pre-tax and undiscounted

- The PFS confirms 'value-in-use' for Barrambie's product basket and supports dialogue with potential offtake partner Jiuxing

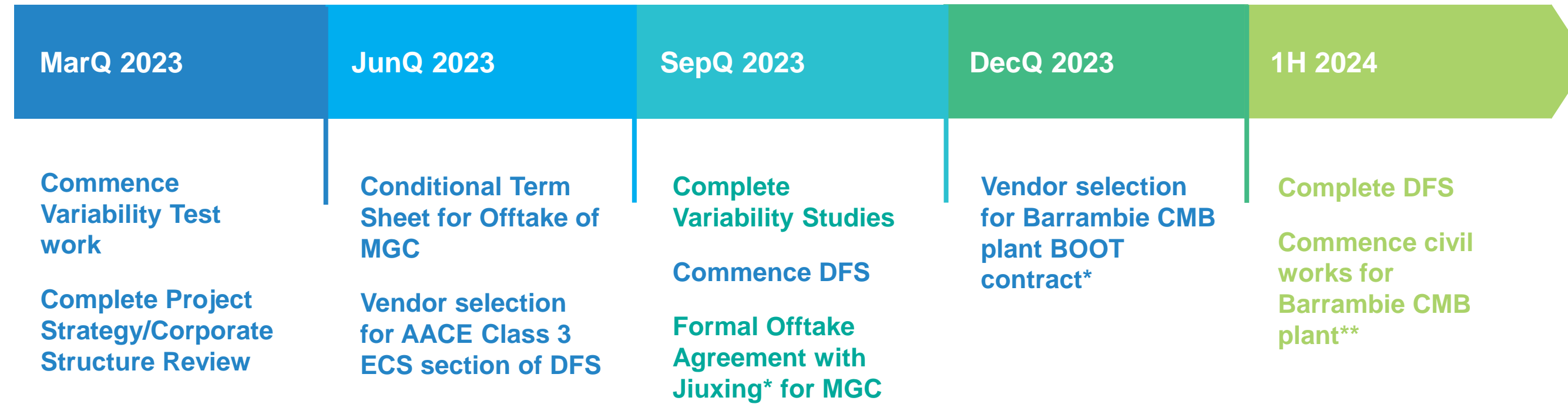
For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"



Jiuxing Titanium MOU - MGC/Ilmenite Offtake

- Jiuxing Titanium Minerals (Liaoning) Co. Ltd is the largest chloride-grade titanium slag producer in China.
- Current non-binding MOU for 800,000t of MGC or 500,000 tpa Ilmenite (if LTR development)
- Offtake Agreement guiding principles:
 - 800,000 wmt of Mixed Gravity Concentrate (MGC)
 - Price = Chinese ilmenite (37-39% TiO₂, FerroAlloyNet.com) + 10%, subject to floor price to be agreed (Aus CPI indexed)
 - 500,000 wmt of Ilmenite (LTR)
 - Price = Mozambique ilmenite (52% TiO₂ min, Asian Metal) + 10%, subject to floor price to be agreed (Aus CPI indexed)
- Term 10 years.

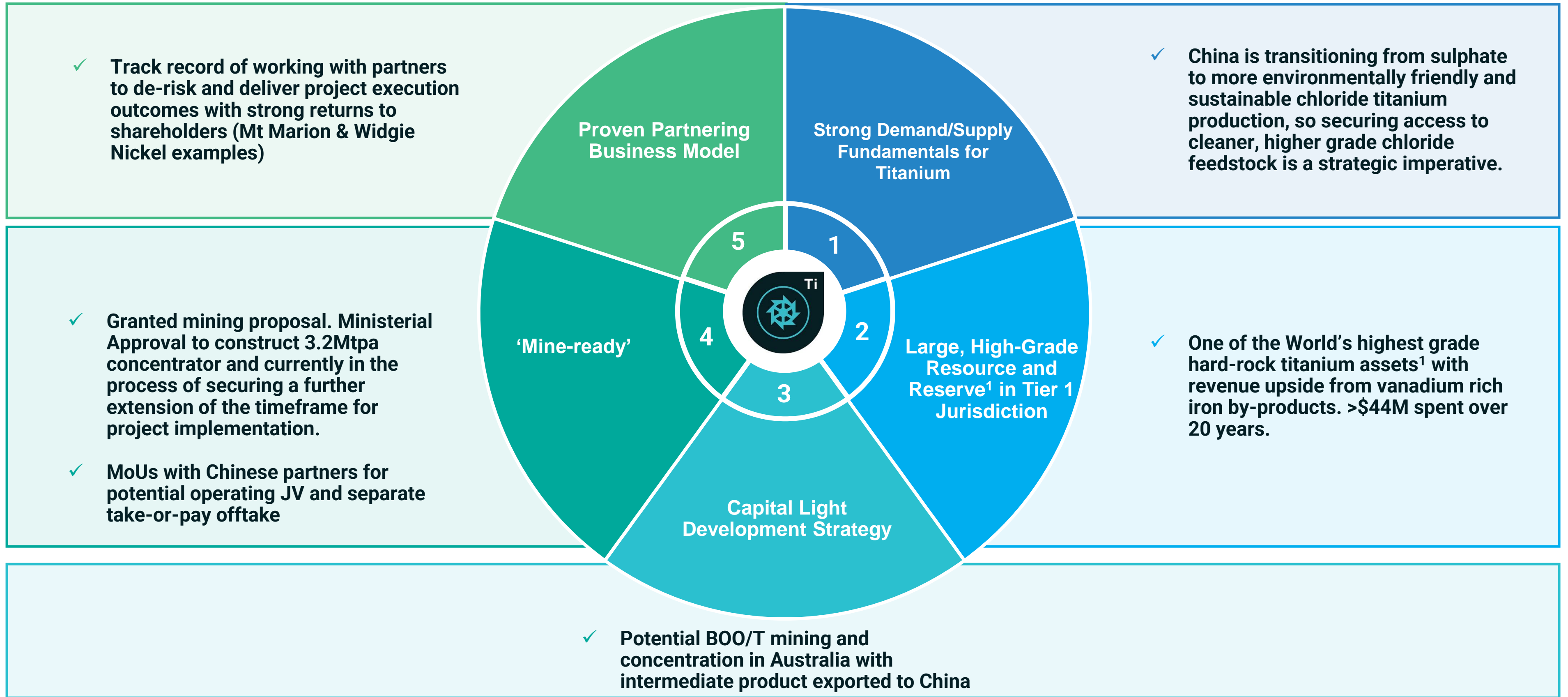
Indicative Timeline - Barrambie



*Subject to Board Approval

** Subject to extension of timeline for Ministerial Statement 911 to construct project

Investment Case



1. For full details refer to Neometals ASX release dated 17th April 2018 titled "Updated Barrambie Mineral Resource Estimate" and Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

Company Highlights

Neometals is an attractive investment at the forefront of the low carbon production of battery materials via recycling



Growing portfolio of **ESG-aligned, sustainable** battery materials businesses with near-term decision points



Proprietary green processing technologies underpin low-cost, low-carbon product



Clear **strategy** to commercialise with proven partnering business model



Strong balance sheet, fully funded to key investment decisions



Strong team with **track record** and commitment to **green circular economy** principles



Strong organic **growth** potential (size and scale) from pipeline of opportunities to deploy as principal, partner or technology licensor – whatever customer needs

Thank you.

Barrambie Mineral Resource and Ore Reserve Estimate

Global Mineral Resource as at 17 April 2018¹

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
Total	280.1	9.18	0.44

High Grade V₂O₅ Mineral Resource (at 0.5% V₂O₅ cut-off)²

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
Total	64.9	16.90	0.82

High TiO₂ Mineral Resource (14% TiO₂ cut-off)²

	Tonnes (M)	TiO ₂ (%)	V ₂ O ₅ (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
Total	53.6	21.17	0.63

- (1) Based on Cut-off grades of ≥10% TiO₂ or ≥0.2% V₂O₅
 (2) The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block model volume but using different cut-off grades

Barrambie Titanium Ore Reserve Estimate - November 2022^{**}

Ore Reserve Category	Ore Tonnes (Mt)	TiO ₂ (%)	V ₂ O ₅ (%)	Fe ₂ O ₃ (%)
Probable	44.5	18.7	0.61	44.1

Cut-off is based on net value (revenue minus selling, processing, administration and incremental ore mining costs) >\$0/t on a diluted block-by-block basis from the parameters used in the pit optimisation. Ore Reserves reported are within the Mineral Resource estimates. This relates roughly to a 10% TiO₂ cut-off.

*For full details refer to Neometals ASX release dated 17th April 2018 titled "Updated Barrambie Mineral Resource Estimate"

**For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"