ENABLING GREEN LITHIUM PRODUCTION IN THE EU

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Frankfurt: R9R

Authorised for release by Christopher Reed,
Managing Director of Neometals Ltd

Neometals

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EXECUTIVE SUMMARY

“Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future”

- Innovative ASX-listed project developer
- Focus - integrated minerals/materials for EV and ESS sectors to decarbonise the supply-chain
- Pivoting away from hard-rock mining to circular, sustainable materials recovery
- 3 core projects co-funded with partners – all reaching FID’s in 2022
- Management team with strong track-record of identifying early-stage opportunities, de-risking project development via partnership and delivering returns to shareholders

SUSTAINABILITY

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

All projects, particularly EU, focused on materials for decarbonisation and the clean energy revolution

Further – to support domestic supply chain resilience and increasing the lifetime of ethical resources

Genuine ESG conviction – core business to support resilience and adaptability

All projects align with corporate purpose and sustainability objectives, 2nd year of ESG reporting

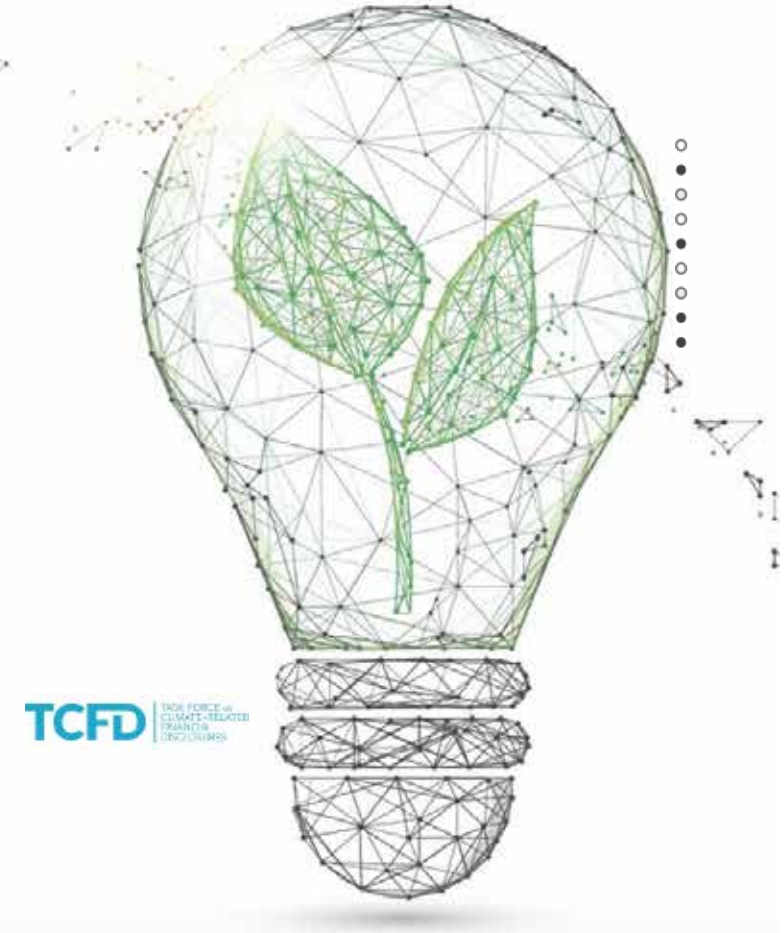
United Nations Global Compact

GOALS

IRMA MEMBER

EUROPEAN BATTERY ALLIANCE EBA250

TCFD



OPERATIONAL FOCUS ON ADVANCED PROJECTS

Lithium-Ion Battery Recycling Project
(Feasibility / Demo Plant Stage, 50:50 Incorporated JV)

Vanadium Recovery Project
(Pre-Feasibility Stage, joint co-operation towards a 50:50 Incorporated JV)

Barrambie Titanium and Vanadium Project
(Pilot-stage, 100% NMT, MOU for 50:50 Operating JV);

ELi Lithium Project
(Pilot-stage, IP 70% NMT Co-Operation Agreement for 50:50 Operating JV);

CORPORATE DASHBOARD

ASX: NMT OTC:RDRUY		
Shares on Issue[1]	m	548.4
Share Price (2-Dec-21)	A$	1.12
Market cap (2-Dec-21)	A$m	616
Cash (30-Sep-21)[2]	A$m	83.5
Debt	A$m	-
Investments (30-Sep-21)[3]	A$m	38.7

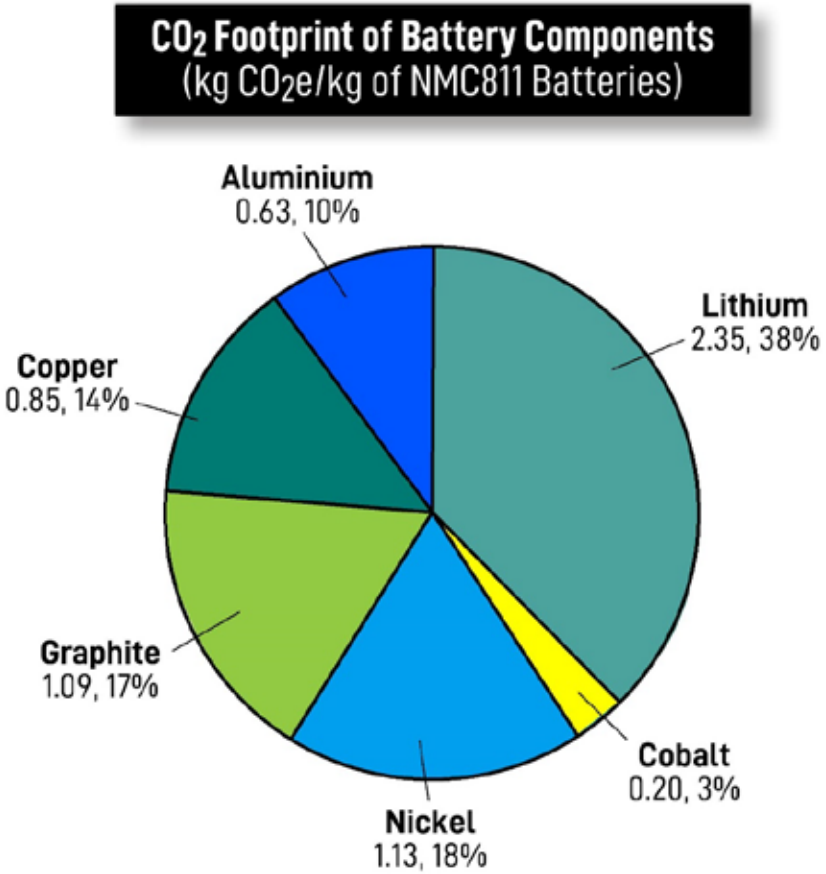
Major Shareholders (26-Nov-21)	
David Reed (Non-Executive Director)	6.9%
Clearstream/Deutsche Börse	2.9%
Top 20	34.8%
No of Shareholders	~11,010

Note 1: Excludes 10.26M performance rights.
Note 2: incl A$4.2M restricted term deposits
Note 3: Loan receivables and investments

WHY WE STILL LOVE LITHIUM

IT'S THE ONLY NON-SUBSTITUTABLE ELEMENT OF THE LITHIUM-ION BATTERY…NATURALLY

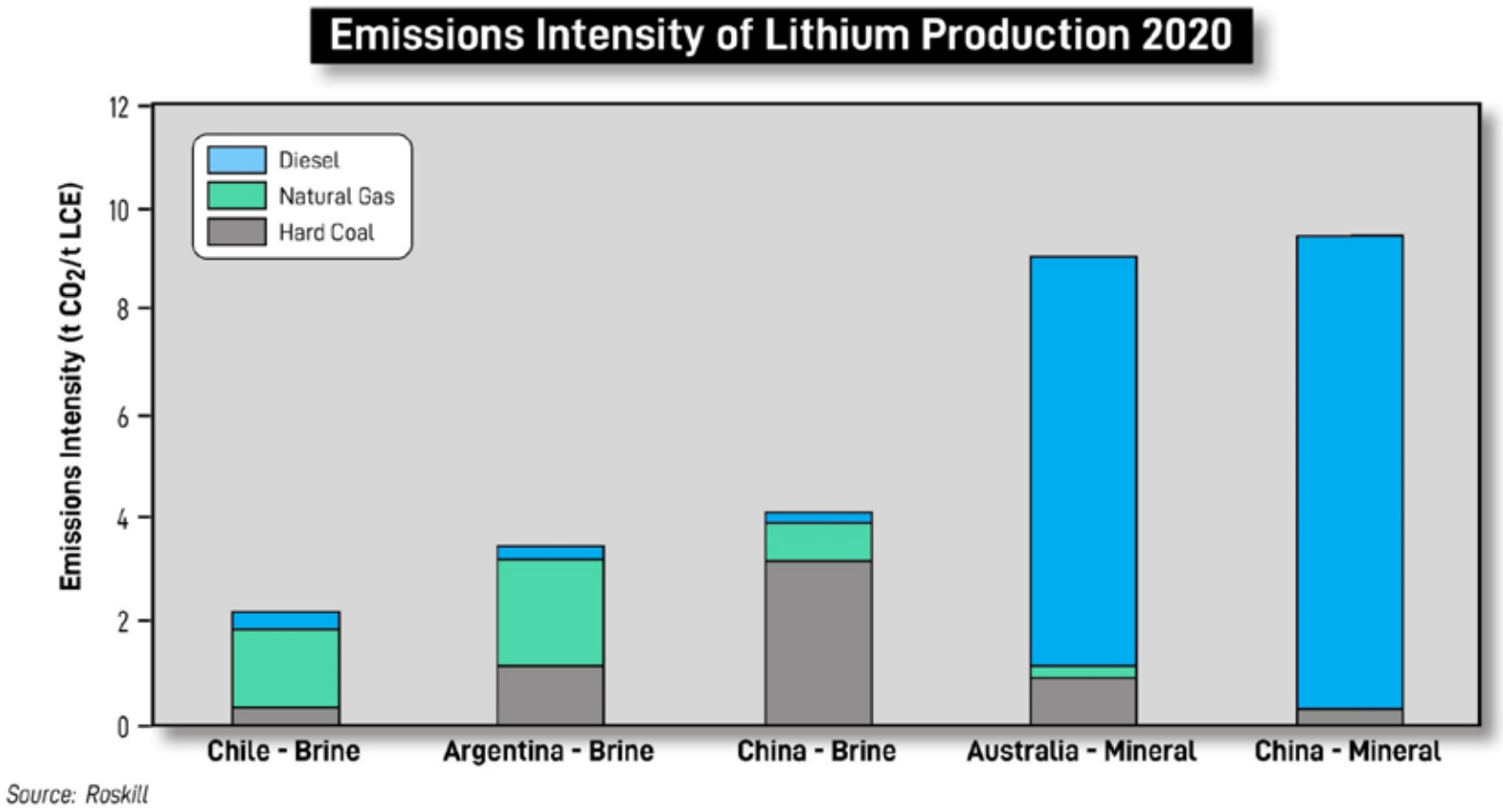
HOWEVER LITHIUM IS LARGEST CONTRIBUTOR TO LIB CO_2 FOOTPRINT



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

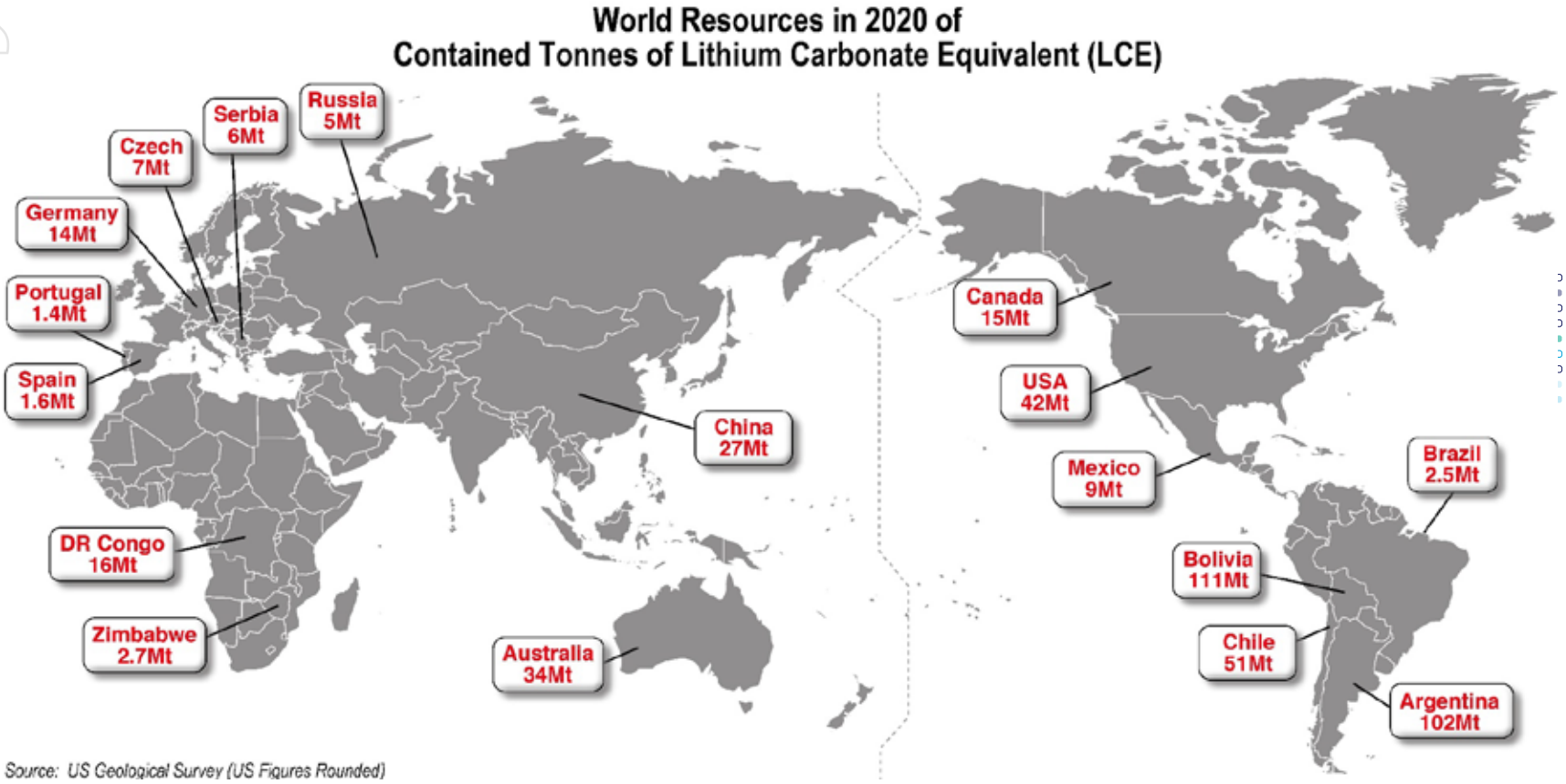
Graph excludes plastics, electrolyte and binder
CO_2 footprints are for metals, not salt equivalents

NEED MORE BRINE PRODUCTION TO LOWER CO_2 FOOTPRINT



Source: Roskill

70% OF GLOBAL LITHIUM RESOURCES ARE IN BRINE DEPOSITS



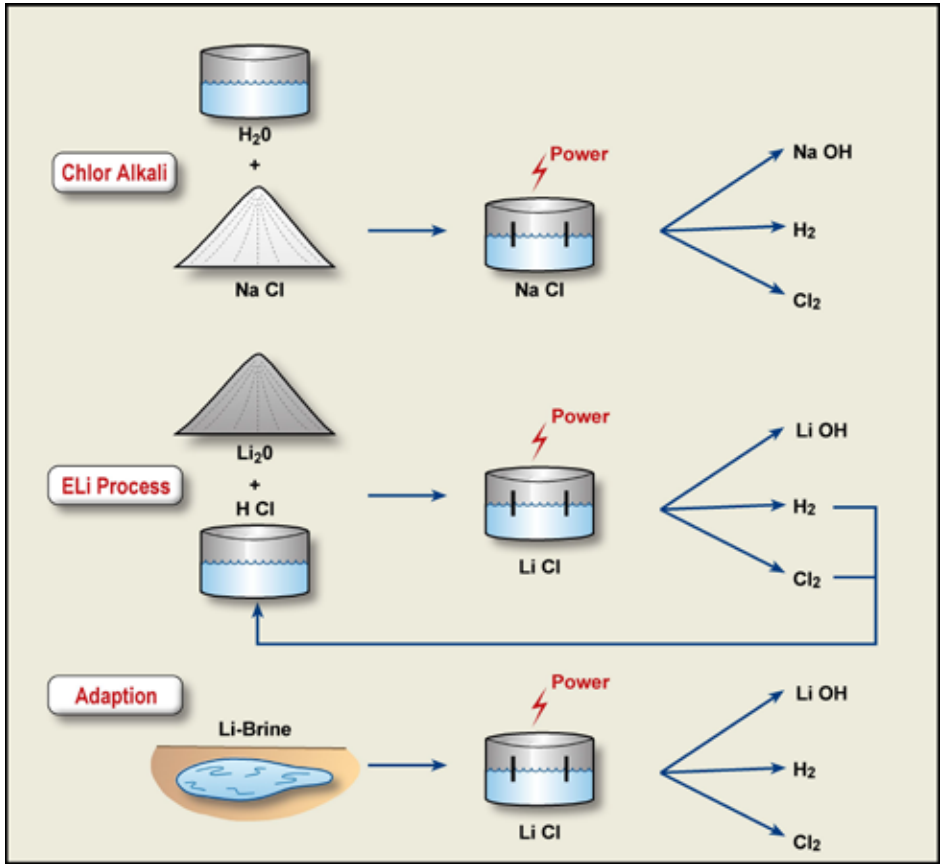
ELi® LITHIUM PROCESS

REED ADVANCED MATERIALS PTY LTD

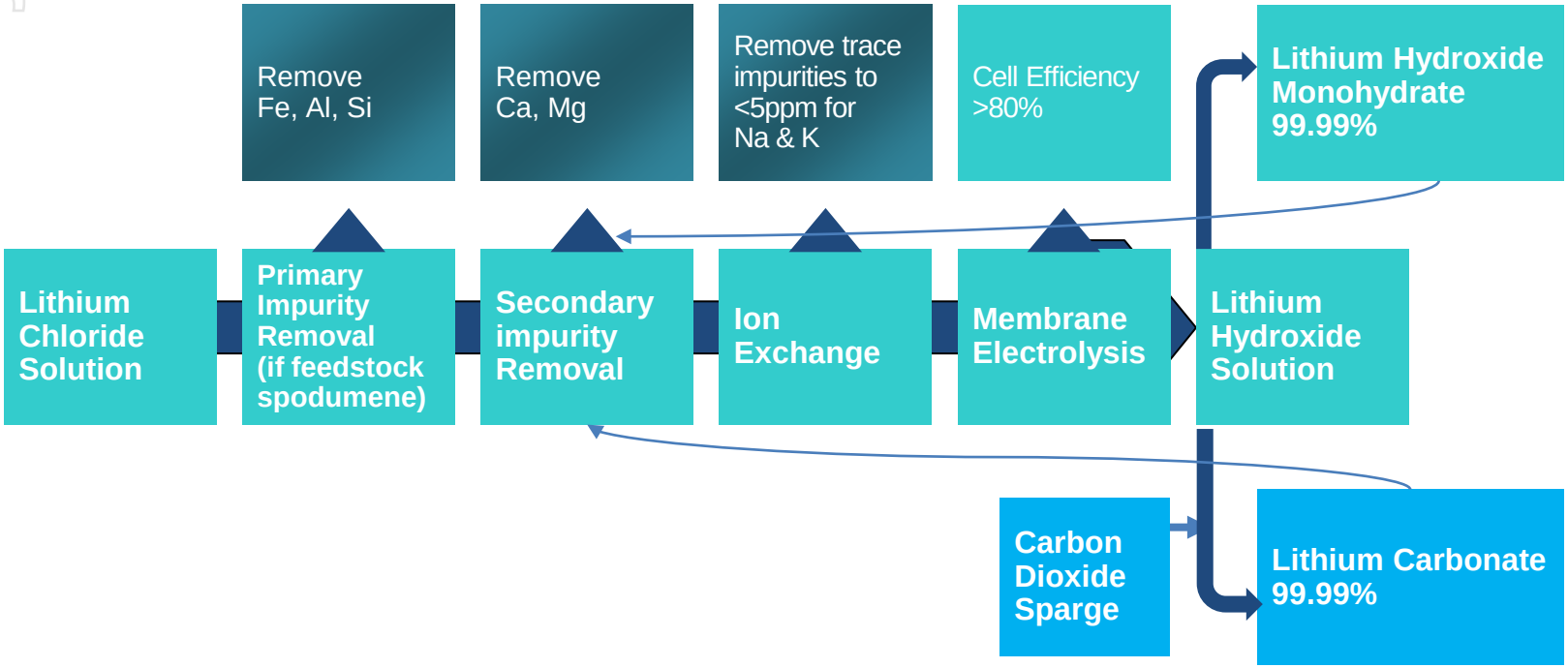
70:30 Incorporated JV with Mineral Resources Ltd

WHAT IS ELI?

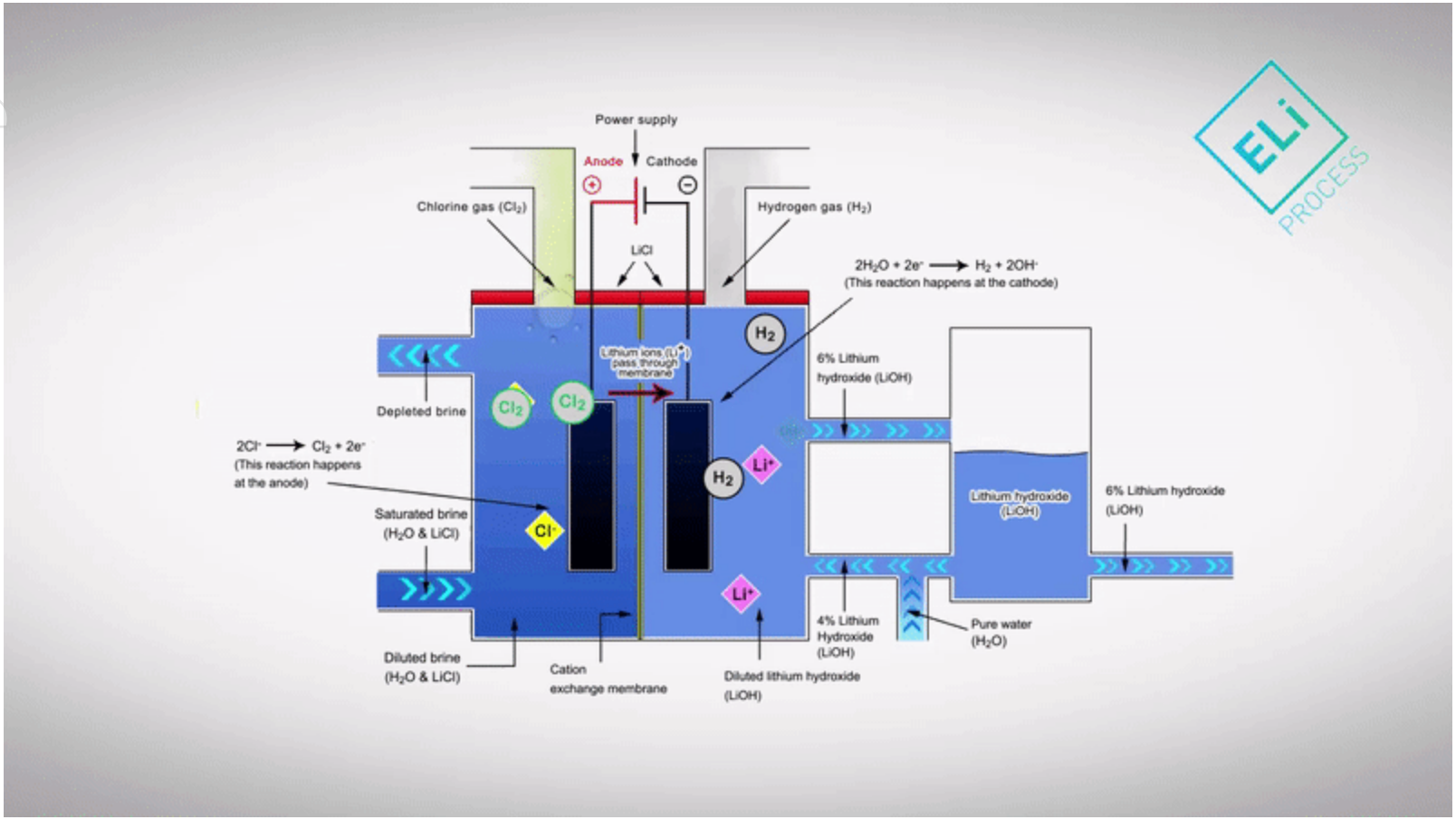
- “ELi” is short for electrolytic lithium.
- +100yr old Chlor-alkali process uses electricity to split sodium salt (NaCl) into caustic soda (NaOH) and chlorine gas (plus hydrogen!)
- We created purification flowsheet to make LiCl pure enough for electrolyis
- Primarily for low-cost LiOH production from HCl leaching of spodumene (Li_2O)
- Brine producers can produce LiCl at much lower cost
- Brine LiCl + ELi potentially the lowest-cost, lowest-carbon, highest purity Lithium



RAM's PROPRIETARY ELI PROCESS



ELi® ELECTROLYSIS STAGE



https://www.neometals.com.au/our-projects/long-term-projects/eli-process-technology/

LOW REAGENT USE

		Conventional	
Process	**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

- Use of solvent extraction and ion exchange and 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

UNIQUE SELLING POINTS

Capex differential: lower capex for ELi process than conventional process plants based on 2016 Class 3 Engineering Cost Study ("ECS")
Cash operating cost advantage replaces chemical treatment with soda ash for purification and caustic soda for hydroxide production.
Exceptional product purity due to inverse relationship with brine purity and electrolysis costs (ie better brine purification = less power used)
Reduced reagent consumption (no bulk lime, no bulk soda ash)**:**

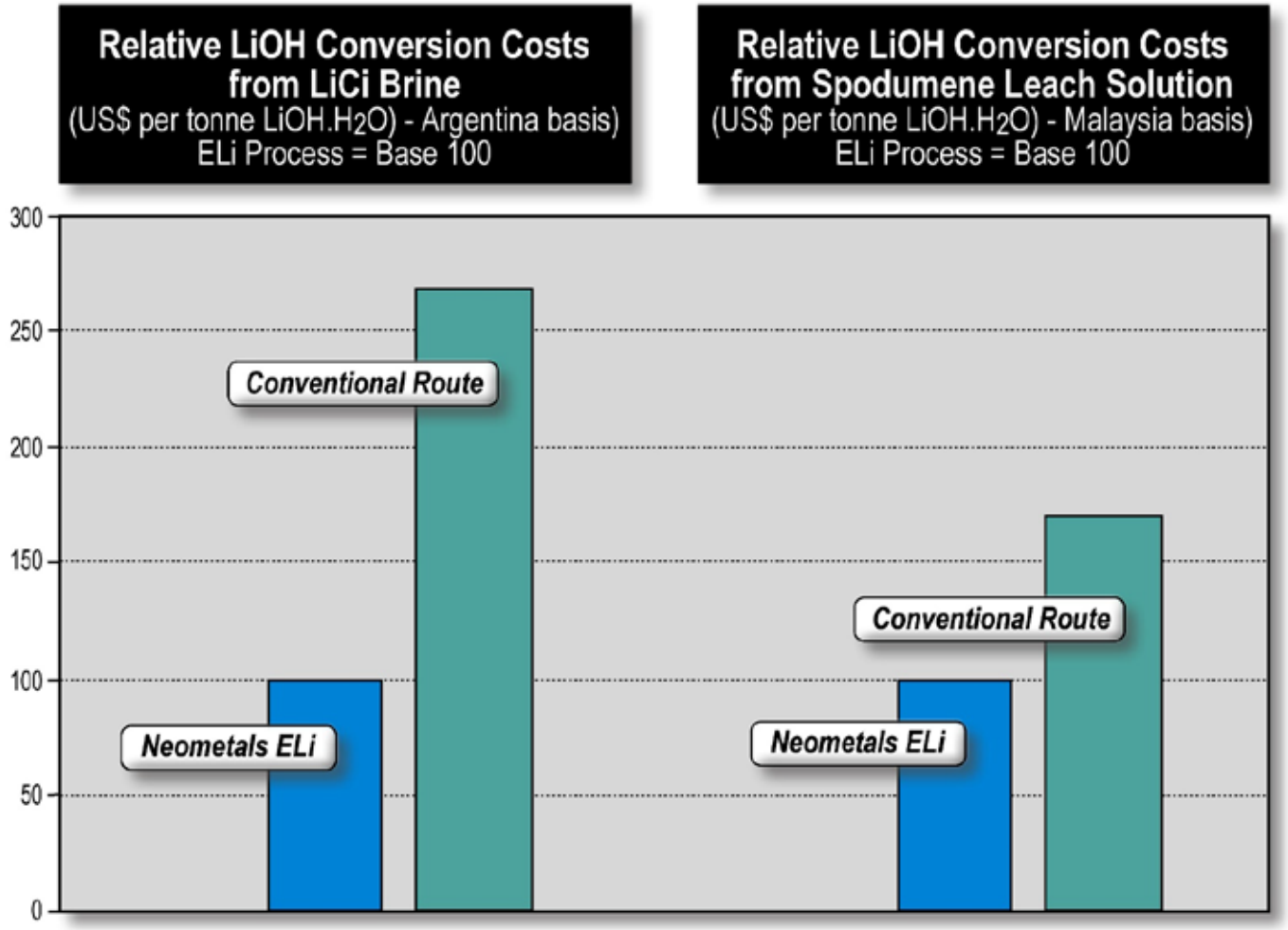
- Reduced logistic costs
- No bulk lime eliminates the poor greenhouse environmental impact of burning lime
- Insulates from reagent cost movement and supply/demand issues

Low environmental impact when coupled with use of renewable electricity is compatible with "green EV" principles
Scalability and modularity for expanding production capacity
Reduced implementation risk through integration of proven, off the shelf vendor process equipment

IP Summary

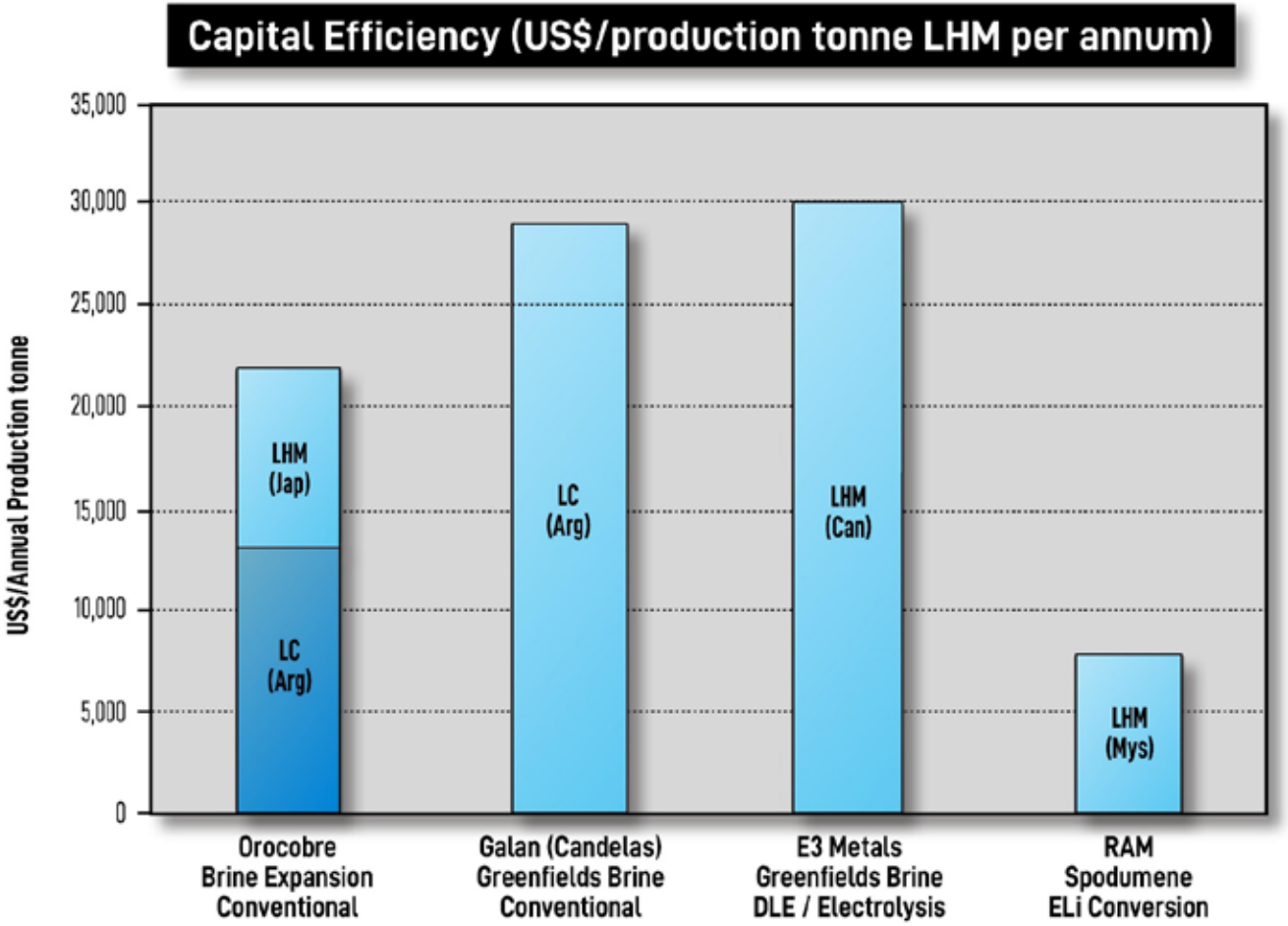
- International PCT filed
- 11 Granted National phase patents covering hard rock and brine producing countries
- 18 National phase patents pending covering remainder of countries with major resources

OPERATING COST COMPARISON



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

CAPITAL COST COMPARISON



Please see slide 27 for the calculations and data sources

BONDALTI CO-OPERATION AGREEMENT

CO-FUNDING EVALUATION TO FORM 50:50 INCORPORATED JV WITH RAM TO COMMERCIALISE ELi® IN EU

BONDALTI CHEMICALS, S.A.

- Private (family-owned) Grupo Jose de Mello company based in Portugal
  - Focus on chlor-alkali chemical and aniline production
  - Largest Portuguese chemical producer
  - Production base in Estarreja chemical cluster (Dow Chemical etc)
- Operating Profits €1.26B, Assets €2.3B, Employees +10,000
- Bondalti is seeking entry into LiOH production using chlor-alkali process infrastructure and experience and based adjacent to its Estarreja operations
- Production synergy for ELi® to ship H_2 and Cl_2 by-products "over the fence" Bondalti chlor-alkali production already supplies adjacent Dow MDI production facility
- Experienced and competent industrial operator of the same type of chlor-alkali plant used for ELi®
- Potential for RAM to have 50% equity in EU LiOH special purpose vehicle and to use as principal or licence ELi® to third-party operator and developers outside EU

GOAL: LOW-CARBON LiOH IN EU

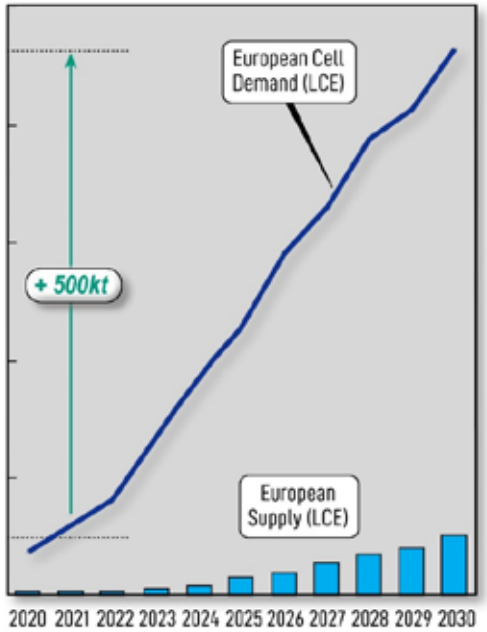
1 Buy/Toll Process lithium chloride from Argentina/Chile

- Conventional solar evaporation to remove Na, K, Mg, Ca
- Produces an impure concentrated lithium chloride brine that is suitable for lithium hydroxide manufacturing with ELi

2 ELi® purification and conversion to LiOH in Portugal

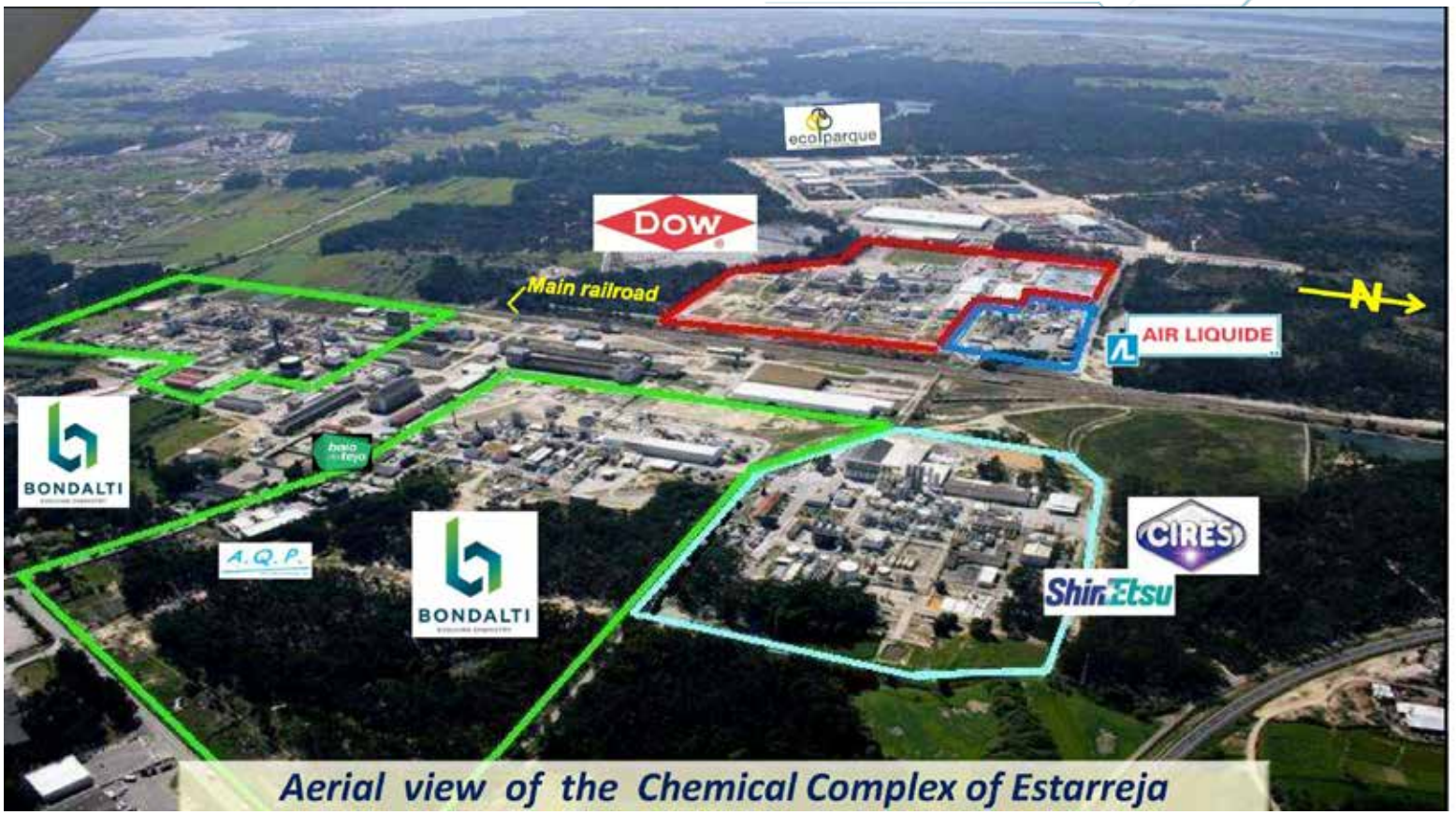
- Conventional conversion of lithium chloride to lithium hydroxide is an industry-standard route but uses sodium carbonate and sodium hydroxide (high carbon footprint materials)
- ELi process uses low carbon electricity from renewable sources to make low carbon lithium hydroxide

3 Offtake to European EV supply chain



Source: Benchmark Forecasts

BONDALTI – ESTARREJA, PORTUGAL



Aerial view of the Chemical Complex of Estarreja

COOPERATION AGREEMENT KEY TERMS

- Binding Co-operation agreement under which RAM and Bondalti will dedicate means and resources to evaluate the feasibility (technical, economic and financial) to construct and operate a Refinery to commercially deploy the ELi® Process for the generation of lithium hydroxide for future European automotive applications.
- RAM and Bondalti will form a steering committee with equal representation from both parties to oversee the evaluation activities. The parties will each be responsible for 50% of the total costs of conducting the evaluation activities.
- Pursuant to the Co-operation, the parties will construct and operate a pilot plant in Portugal, and if satisfied with the results of the pilot plant, complete an AACE Class 2 FEED Study for a Refinery in Estarreja. After completed the FEED Study, the parties will make a decision as to whether they wish proceed with establishing a commercial Refinery operation, and thereby establish JVCo. RAM will provide JVCo with a royalty free licence to use the ELi® Process in the Refinery operation.
- If JVCo is established, Bondalti will undertake to identify project debt funding for JVCo on best available terms and identify/apply for appropriate European Union subsidies.
- The Co-operation establishes a framework of key principles and terms for the incorporated JVCo, to be set up and owned 50:50 between RAM and Bondalti, if the evaluation activities are successful.
- For the duration of the Co-operation, the parties have agreed to deal exclusively with each other in relation to the application of electrolysis technology for the production of lithium chemicals in the area of the European Patent Convention countries.
- The Co-operation terminates on 30 September 2023 or such other date as the parties may agree in writing.

EVALUATION ACTIVITIES

* Subject to Steering Committee approvals

NEOMETALS TEAM MEMBERS

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.

Matthew Read – General Manager Lithium Projects (Project Engineer)

Matthew has more than 20 years of resources industry experience, having held a variety of project and commercial roles at companies including Tianqi Lithium Australia, Roy Hill and BHP. Most recently, Matthew spent two years as Head of Projects for Tianqi, overseeing the development of its lithium hydroxide facility in Kwinana, Western Australia. Matthew holds a Bachelor Science (Materials Science), Bachelor of Engineering (Chemical) and a Master of Business Administration.

Gavin Beer – General Manager Process & Metallurgy (Process Development)

Gavin is a metallurgist with over 30 years of experience in operational and technical roles.

His extensive experience through multiple commodities around the world has been gained through various roles, the most recent being General Manager Metallurgy of Peak Resources Limited,

Gavin has also run a successful consultancy since 2012 specialising in flowsheet development and optimisation for rare earths, niobium and lithium technology metals.

THANK YOU

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neometals.com.au

CAPITAL EFFICIENCY OF SELECT LITHIUM PROJECTS

Company/ Feedstock/ Process Flowsheet	Product	CAPEX US$ million	Production TPA	Capital Efficiency (US$/TPA LCE)	Capital Efficiency (US$/TPA LHM)	Process	Product	CAPEX US$ million	Production TPA	Capital Efficiency (US$/TPA LHM)	Source
Orocobre Ltd (ASX:ORE) Brownfields Expansion Conventional Brine	Lithium Carbonate	330	25,000	13,200	13,200	Carbonate Conversion	Lithium Hydroxide	86.4	10,000	8,640	ASX Announcement, 13 November 2020 Titled "AGM Presentation"
Galan Lithium Ltd (ASX:GLL) Greenfields Brine Conventional	Lithium Carbonate	408	14,000	29,143	33,117						ASX Announcement, 30 November 2021 Titled "Excellent PEA Results for Candelas Project"
E3 Metals Corp (TSX:EMTC) Greenfields Brine Direct Lithium Extraction (DLE)/Electrolysis	Lithium Hydroxide	602	20,000		30,100						E3 Metals Corp, Press Release 16 November 2020 Titled "E3 Metals Announces Positive Preliminary Economic Assessment Results for its Clearwater Lithium Project"
Neometals (via RAM) Greenfields Spodumene ELi Conversion	Lithium Hydroxide	158	20,000		7,900						ASX Announcement 11 July 2016 Titled "Positive Lithium Downstream Processing Feasibility Results"

1 tonne Lithium hydroxide monohydrate = 0.88 tonnes LCE