MoU with Rio Tinto for ELi Process

Highlights

- Non-binding MoU executed with a subsidiary of Rio Tinto to discuss and explore opportunities to collaborate in relation to potential validation of the ELi Process™ Technology ("**ELi**").
- Rio Tinto and RAM intend to explore opportunities for RAM to complete optimisation test work and to update the process design criteria for a pilot/demonstration scale plant.
- Subject to further agreement, Rio Tinto and RAM may seek to undertake trials to test ELi in a real application.
- ELi potentially delivers users a step-change reduction in operating costs to convert lithium chloride brines to lithium hydroxide (or carbonate) as a result of the significant reduction in bulk reagents required compared to the conventional chemical precipitation process.
- RAM successfully tested Rio Tinto's Rincon brines in purification and 1,000hr electrolysis pilot trials in 2023 and 2024 respectively, producing high-purity lithium hydroxide monohydrate crystals[1].

Neometals Ltd (ASX: NMT) ("**Neometals**" or "**the Company**"), and leading mining services provider Mineral Resources Limited (ASX:MIN) ("**MIN**") are pleased to announce that their 70:30 co-owned company, Reed Advanced Materials Pty Ltd ("**RAM**") has entered into a non-binding Memorandum of Understanding ("**MoU**") with the Rio Tinto Group (via Livent USA Corp.) ("**Rio Tinto**"). RAM is the holding company for ELi.

The MoU marks an important milestone in the development of ELi, which uses electricity to convert lithium chloride solutions into lithium hydroxide in a conventional chlor-alkali cell, replacing the need for large volumes of bulk chemical reagents required in the industry-standard, chemical precipitation process. ELi has the potential to deliver users a step-change in operating costs versus industry standard chemical precipitation.

Next steps may include optimisation test work, updating the process design criteria and subject to agreement by Rio Tinto, completion of detailed design and cost estimation for a demonstration scale plant in Argentina.

Neometals Managing Director, Chris Reed, says:

"*We are naturally excited to collaborate with Rio Tinto to explore the potential to bring this technology closer to market. Rio Tinto is a global leader in energy transition commodities with scale, development capabilities and financial strength. We are confident ELi can be an ideal complement to Rio Tinto's direct lithium extraction (DLE) technologies to further enhance the value of their Tier 1 portfolio.*"

[1] *For full details refer to Neometals ASX announcement dated 12th November 2024 and titled "Final Pilot Trial Results".*

Under the MoU, Rio Tinto and RAM expect to discuss and explore opportunities to collaborate in relation to potential validation of the Eli including in relation to:

- the potential for Rio Tinto to fund optimisation test work and process design updates. Collaboration on further engineering or cost estimation activities will be subject to further agreement.
- the establishment of a framework agreement pursuant to which Rio Tinto can assess the performance of ELi through extended testing to Technology Readiness Level 7 through future trials; and
- the potential for an evaluation licence which would be subject to negotiation and execution of a separate agreement.

If considered mutually desirable as a result of the cooperation and collaboration efforts contemplated under the MoU, Rio Tinto and RAM may also seek to:

- establish a binding framework or similar agreement for field trials over extended operating times to test ELi in a real application; and
- subsequently, discuss and explore the potential for a further binding commercial agreement to develop a business case for the application of ELi to lithium brine assets owned by the Rio Tinto Group now or in the future.

The MoU does not create any exclusivity or commitment for either party to enter into a further agreement.

Except for provisions relating to confidentiality and intellectual property provisions, which are legally binding and enforceable, the parties agree that the remainder of the MoU is not intended to create legally binding obligations and is not enforceable by either party. Notwithstanding the non-binding nature, RAM sees value in Rio Tinto's preparedness to execute a MoU on the terms summarised in this announcement.

There is no guarantee that any binding formal agreement will result from the cooperation and collaboration under the MoU.

The MoU continues for a term of 8 months, unless extended or terminated earlier by agreement of the parties in writing.

Detailed summary of the ELi Project

A presentation is included at Annexure A of this announcement to provide more detail on the ELi technology.

Authorised on behalf of Neometals by Christopher Reed, Managing Director.

ENDS

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About Neometals Ltd

Neometals' purpose is to deliver stakeholder value by enabling the sustainable production of critical and valuable materials essential for a cleaner future. The Company is commercialising a portfolio of sustainable processing solutions that recycle and/or recover critical materials from high-value waste streams in parallel with the exploration and development of low impact mining operations at its Barrambie Gold Project.

The Company's portfolio of processing solutions under development comprise:

- **Lithium-ion Battery ("LiB") Recycling technology (50% NMT)** – patented technology being commercialised (via Primobius GmbH) with 150-year-old German plant builder, SMS group GmbH. Primobius is supplying Mercedes-Benz a 2,500tpa recycling plant for Mercedes-Benz, which is currently being installed and commissioned.
- **Lithium Chemicals (70% NMT)** – patented ELi Process™ co-owned 30% by Mineral Resources Ltd, aiming to produce battery quality lithium hydroxide from brine and/or hard-rock feedstocks at lowest quartile operating costs. Successfully completed Pilot scale test work and planning industrial validation with funding partners through continuous demonstration plant trials, targeting a technology licensing business model.
- **Vanadium Recovery (100% NMT)** – patent pending hydrometallurgical process, aiming to produce high-purity vanadium pentoxide from steelmaking by-product (Slag) at lowest-quartile operating cost and carbon footprint. Planning to exploit under a technology licensing business model. Project financing process for first commercial plant in progress (86.1% NMT).

The Company's upstream mineral asset has two separate styles of mineralisation and mineral resources:

- **Barrambie Gold (100% NMT)** – historic high-grade gold producer early 1900s, with very limited modern exploration. Maiden gold exploration targets highlighted potential for camp-scale brownfields gold discoveries. Active exploration program undertaken in 2025. Barrambie is proximal to a number of camp-scale gold projects with existing processing infrastructure.
- **Barrambie Titanium and Vanadium (100% NMT)** – the world's second highest grade hard-rock titanium deposit is currently in a divestment process.

Annexure A

ELi Process™

The Evolution Of Lithium® (Refining)

Reed Advanced Materials Pty Ltd (RAM)

Neometals Ltd (70%) Mineral Resources Limited (30%)

https://eliprocess.com

Important Notices and Disclaimer

Nm Neometals

Summary Information

This presentation has been prepared and issued by Neometals Ltd (Neometals, or the Company) to provide summary information about the Company and Reed Advanced Materials Pty Ltd ("RAM"), an incorporated joint venture between Neometals (70%) and Mineral Resources Ltd (30%), and their activities current as at the date of this document, unless otherwise stated. The information in this presentation remains subject to change without notice and in receiving this presentation, each recipient agrees to the foregoing terms and conditions.

This presentation has been authorised for release to the Australian Securities Exchange (ASX) by the Company's Managing Director, Christoper Reed.

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Financial Data

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

Who We Are –
Our Founding Story & Vision

Reed Advanced Materials Pty Ltd ("RAM") is a 70:30 joint venture formed between **Neometals Ltd,** a company that aims to facilitate and deliver stakeholder value by enabling the sustainable production of critical and valuable materials essential for a cleaner future, and **Mineral Resources Limited,** a leading diversified resources company with extensive operations in lithium, iron ore, energy and mining services across Western Australia.

The companies have rich and successful experience in the lithium industry, including the joint development of Western Australia's **Mt Marion Hard Rock Lithium Mine** which is now one of the world's largest producers of high-grade lithium concentrate.

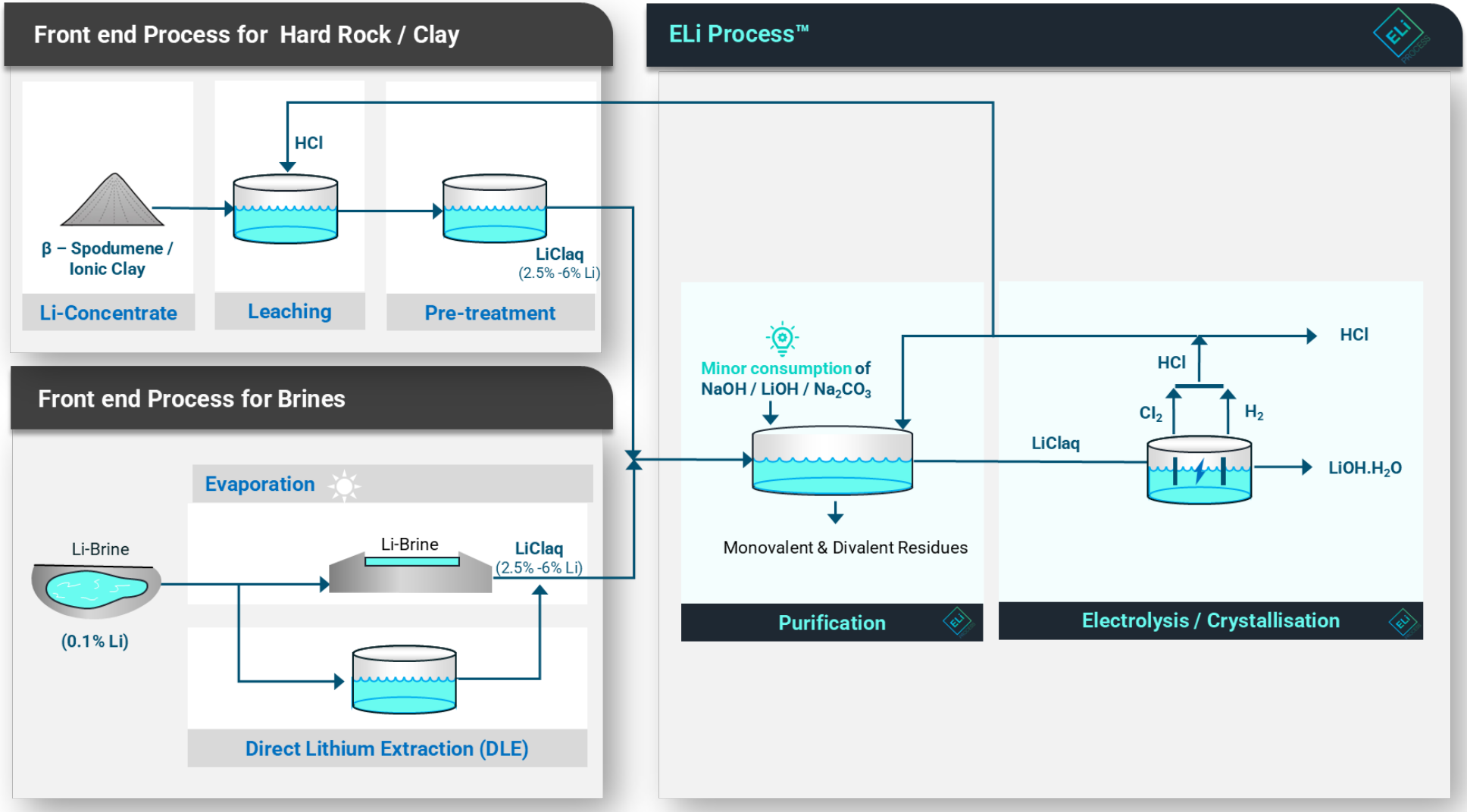
Realisation

Conventional lithium hydroxide production requires multiple chemical reactions, intensive reagent use, and large carbon footprints, which can hinder both profitability and sustainability. RAM's proprietary ELi Process™ was conceived to transform this paradigm.

Purpose

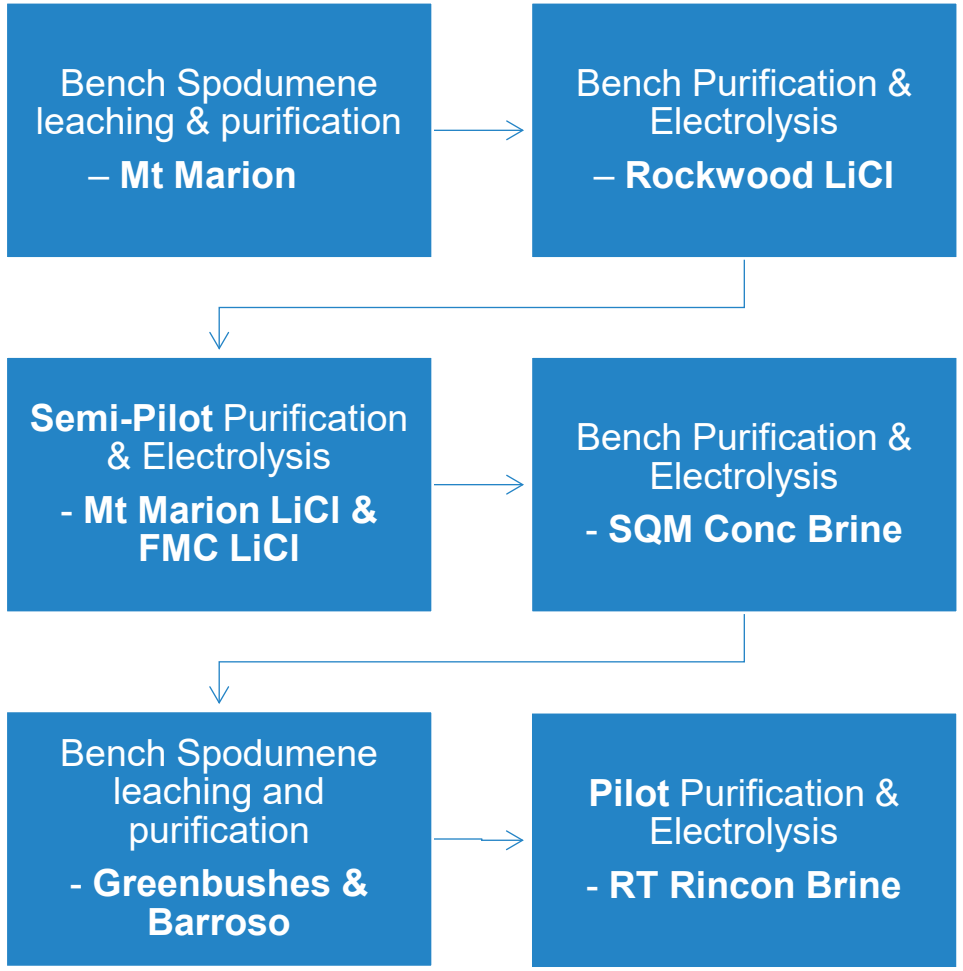
Through the ELi Process™, RAM aims to reduce CAPEX, OPEX, minimise CO_2 emissions, and accelerate the global shift toward cleaner batteries. RAM's vision is to commercialise a solution that not only boosts business but also protects the environment.

ELi Process™ Converts Processed Brines and Spodumene into Li Chemicals



Source: Refer to Neometals ASX announcement dated 26 April 2023 and titled "Portugal Lithium Refinery Study Confirms Step-change Opex of ELi Technology"

Timeline



2013 -2017 ELi Process™ Spodumene development
Development focused on proof of electrolysis concept (using synthetic LiCl solutions) and assessing the digestion of spodumene concentrates in hydrochloric acid. RAM successfully established that the ELi Process™ approach is technically sound and economically viable, through a feasibility study for a 20,000tpa production plant in Malaysia. For full details refer to Neometals' ASX announcement dated 13 December 2021 and titled "ELi Process – EU Project Presentation".

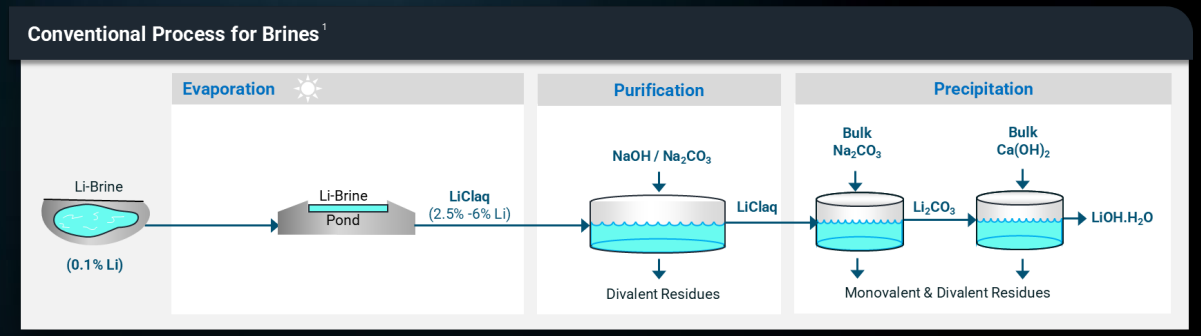
2016 -2020 ELi Process™ Brine development
Development focused on adapting the purification stage of the ELi Process™ to the different impurity profiles arising from conventional solar concentration, DLE extraction processes and various subsurface sources.

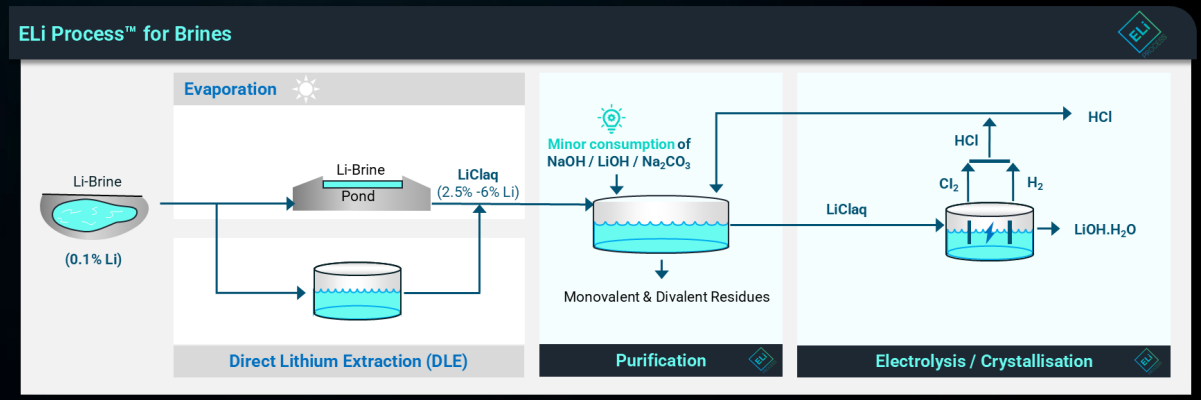
2022 – 2023 Brine Bench Scale Testing
Conducted at 3rd Party lab using synthetic and proprietary brine solutions to develop the purification and the electrolysis flowsheets.

2023 - 2024 Brine Engineering Cost Study
For full details refer to Neometals' ASX announcement dated 26 April 2023 and titled "Engineering Cost Study Results Summary".

Pilot Testing Campaign:
For full details refer to Neometals' ASX announcement dated 12 November 2024 and titled "Results of Piloting Campaign achieving Battery Grade LHM".

Comparison of ELi Process™ vs. Conventional Flowsheets

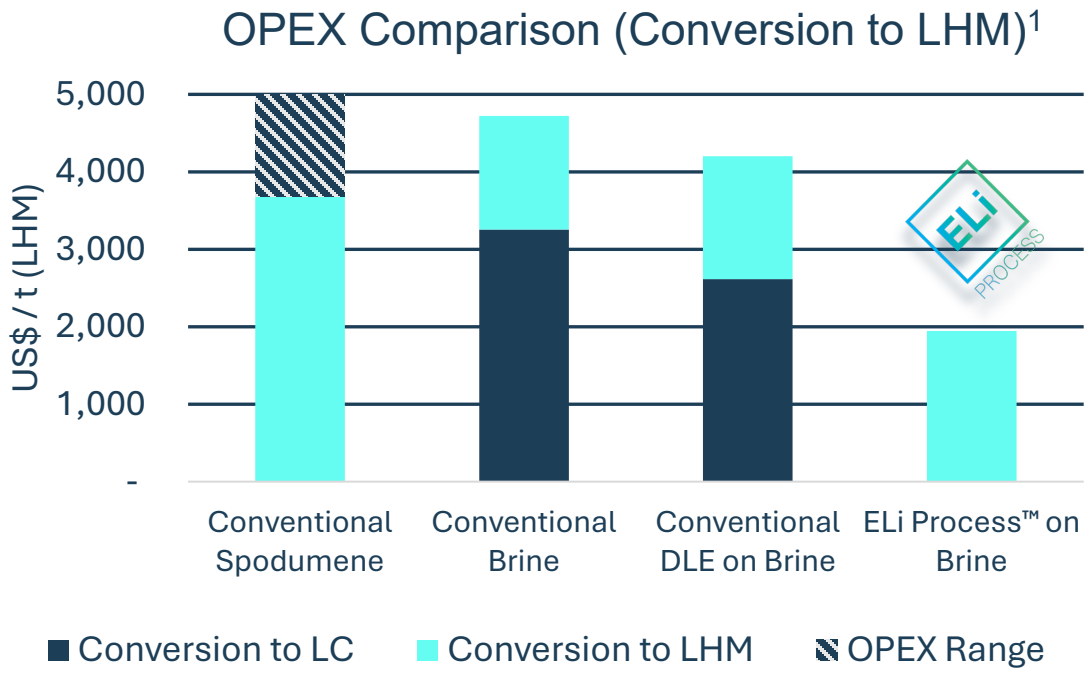




Source:
1. Refer to Neometals' ASX announcement dated 26 April 2023 and titled "Portugal Lithium Refinery Study Confirms Step-change Opex of ELi Technology"

ELi Process™ Aims to Deliver Sustainable Opex Advantage To Users

- Patented low-cost conversion of lithium chloride solutions to lithium hydroxide monohydrate (LHM), or lithium carbonate (LC)
- Lowers OPEX by minimising use of bulk reagents (e.g. Lime and Soda Ash)



ELi Process™ Competitive Advantage

1 Low Cost

Minimal bulk reagents enable production at lower cost vs. conventional process[1]

2 Potentially Low Carbon

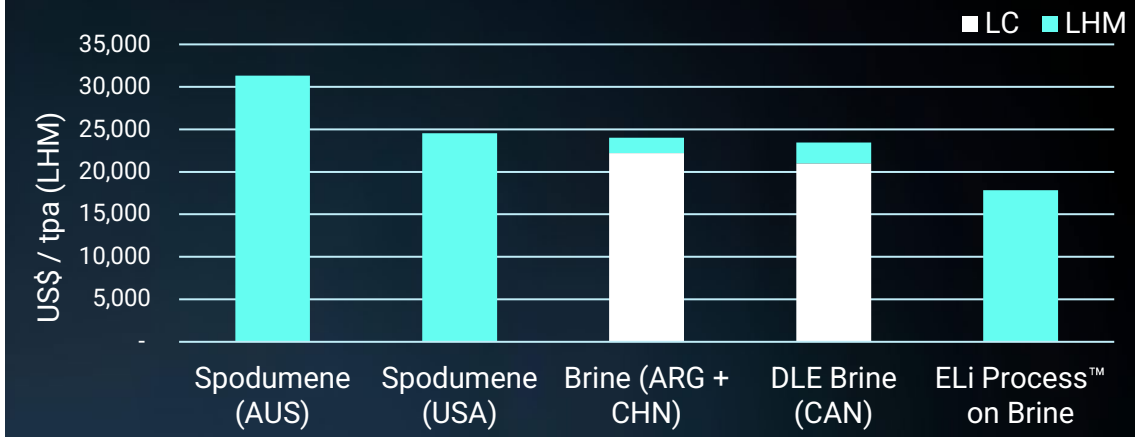
Option to incorporate green electricity aims to lower carbon footprint

3 Licence to Operate

Minimal waste streams enhance approval timelines and licence to operate

Estimated Capital Intensity (Conversion to LHM)

US$ CAPEX per tonne of annual LHM capacity[1]



Typical LHM Conversion Carbon Footprint[2,4]

Tonnes of CO_2 equivalent per tonne of LHM

Sources:

1. Refer to Neometals ASX announcement dated 26 April 2023 and titled "Portugal Lithium Refinery Study"
2. Kelly, Jarod C., Michael Wang, Qiang Dai, and Olumide Winjobi. "Energy, greenhouse gas, and water life cycle analysis of lithium carbonate and lithium hydroxide monohydrate from brine and ore resources and their use in lithium-ion battery cathodes and lithium-ion batteries." Resources, Conservation & Recycling 174 (2021): 105762.
3. Minviro have conducted a CFP study on a gate-to-gate basis of the ELi Process™ applied to the Portugal Lithium Refinery Study. Results have been third party reviewed and are in accordance with the ISO 14067:2018 standards.
4. Minviro is not responsible for the benchmarking analysis which has been conducted independently by Neometals and is outside the scope of the Minviro study

Note: Country codes ARG (Argentina), AUS (Australia), CAN (Canada), CHL (Chile), CHN (China), USA (United States of America), CFP = Carbon Footprint of Products

ELi Process™ Stage 1 - Purification

Production of Ultrapure Lithium Chloride (LiCl) for Electrolysis

The purification stage converts processed LiCl feedstocks (sourced from natural brines, DLE eluates, or hard rock sources) into an ultrapure solution required for the electrolysis stage.

dated 10 November 2023 and

The purification stage is tailored to the specification of the LiCl feedstock.

Brine Purification Results

Results from the most recent Pilot Testing[1] of the purification stage are set out below.

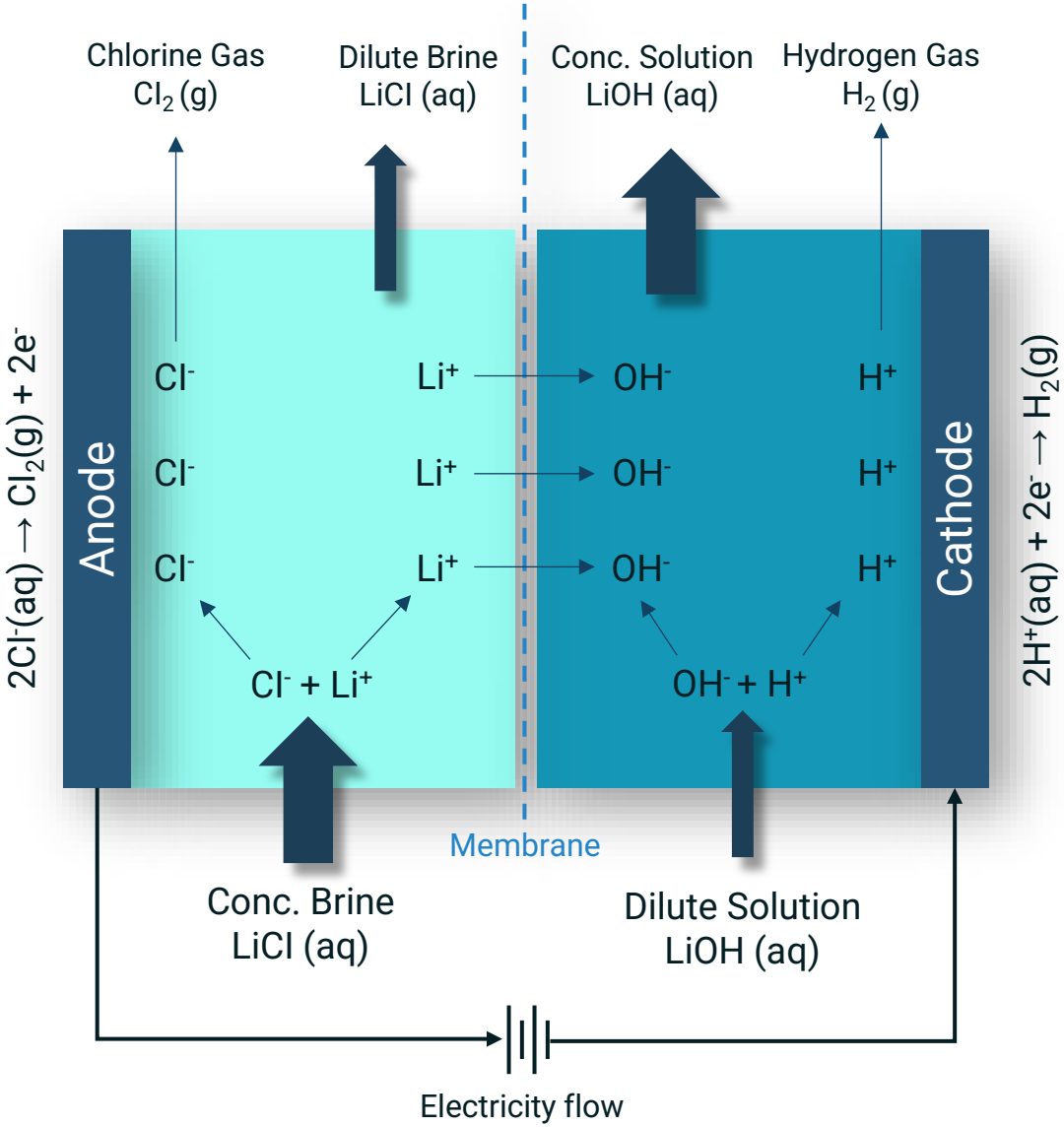
(mg/L)	Li	Ca	Mg	B	Sr	Si
Salar Brine Concentrate	62,654	6,260	15,792	7,141	71	52
Electrolyser Feed	45,100	< 0.9	< 0.09	< 0.4	< 0.002	1
% removed	n/a	**> 99.98**	**> 99.99**	**> 99.99**	**> 99.99**	**> 97**

Achieving a high purity at stage 1 will enhance the performance of stage 2 (electrolysis).

Source:

1. For full details refer to Neometals ASX announcement dated 10 November 2023 and titled “Successful ELi Purification Pilot Trial”

Electrolysis Process Diagram



ELi Process™ Stage 2 - Electrolysis
Where the Magic Happens

The electrolysis stage uses electricity to convert an ultrapure LiCl solution to a LiOH solution, the input for stage 3 (Crystallisation).

Piloting completed in Q4 2024 on natural South American brine eluate validated:

- Membrane durability[1] - continuous operation for 1,000 hours with no adverse impact on membrane performance
- Power consumption and current efficiency within expected range[1]
- LiOH solution met specification for crystallisation stage[1]

Source:
1. For full details refer to Neometals ASX announcement dated 12 November 2024 titled “Positive Results from ELi Pilot Trial”

ELi Process™ Stage 3 – Crystallisation Generate a High Purity LHM

The crystallisation stage further purifies and evaporates the LiOH solution to produce battery grade LHM for cathode manufacturers.

Results from the most recent Pilot Testing[1] for the crystallisation stage are set out below.

Element	LiOH %	CO_3^{2-}%	Na ppm	Ca ppm	K ppm	Fe ppm	SO_4 ppm
Target Spec	>56.5	<0.4	20	10	10	10	100
Sample 1	56.6	ND	1.8	6.0	5.6	8.2	2.4
Sample 2	56.9	ND	3.6	9.7	5.1	8.6	1.5

Note: ND is "not detected"

Pilot Testing confirmed LHM product met target battery grade[1].

Source:

1. For full details refer to Neometals ASX announcement dated 12 November 2024 titled "Positive Results from ELi Pilot Trial

Disciplined, Gated Approach to Commercial Operational Readiness

Successful Pilot Testing:

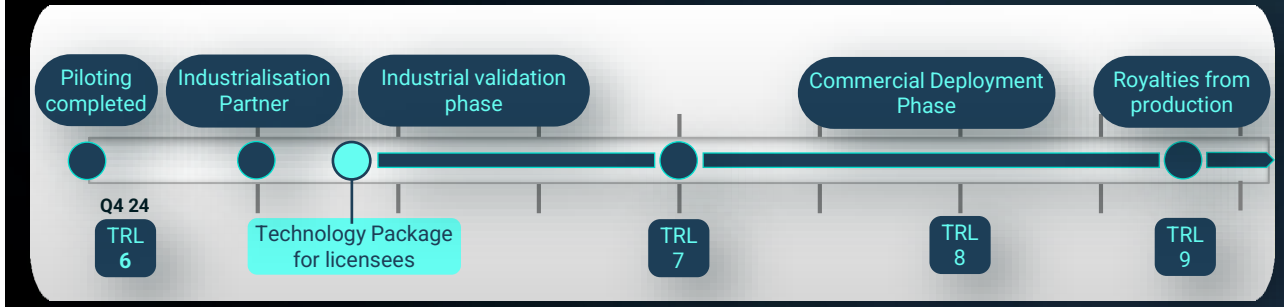
- Purification[1]
- Electrolysis[2]
- Crystallisation[2]

Plant Design and Estimation:

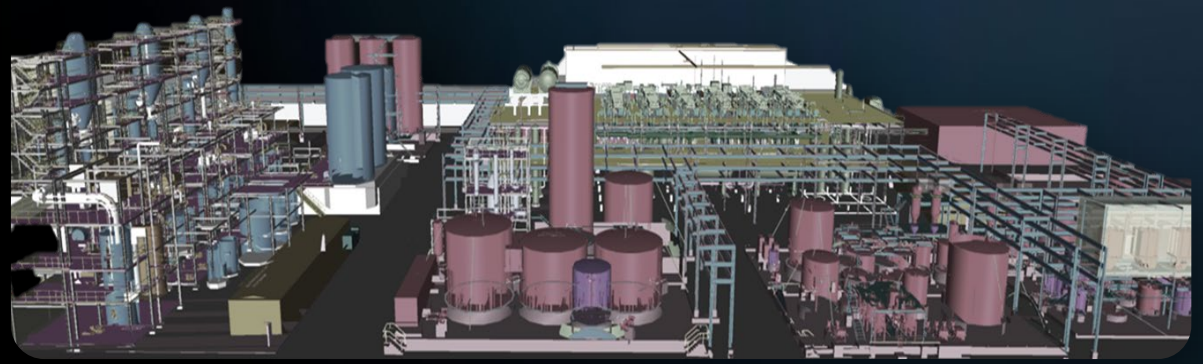
- Capex and Opex for 25ktpa LHM Plant estimated to AACE Class 3 Standard[3]

Next Steps:

Demonstration plant with industrial partner
Development and deployment of Technology Package to support commercial licensing



ELi Process™ Brine to LHM Conversion Plant



Source:
1. Refer to Neometals ASX announcement dated 10 November 2023 and titled "Successful ELi Purification Pilot Trial"
2. Refer to Neometals ASX announcement dated 12 November 2024 and titled "Positive Results from ELi Pilot Trial"
3. Refer to Neometals ASX announcement dated 26 April 2023 and titled "Portugal Lithium Refinery Study

Note: AACE; Association for the Advancement of Cost Engineering

Definitions:

LHM	Lithium Hydroxide Monohydrate ($LiOH.H_2O$)

MoU with Rio Tinto for ELi Process™

Non-binding MoU with Rio Tinto to cooperate and collaborate on discussions around potential validation of ELi under which the parties :

- expect to explore the potential for Rio Tinto to fund optimisation test work and process design updates.
- may seek to establish a framework agreement under which Rio Tinto can assess the performance of ELi through extended testing to TRL7.
- expect to discuss the potential for an evaluation licence which will be subject to negotiation and execution of a separate agreement.

As a result of the efforts contemplated under the MoU, the parties may also seek to:

- establish a binding framework or similar agreement for field trials over extended operating times; and
- subsequently, discuss and explore the potential for a further binding commercial agreement to develop a business case for the application of ELi to lithium brine assets owned by the Rio Tinto Group.

RAM successfully tested Rio Tinto's Rincon brines in purification and 1,000hr electrolysis pilot trials in 2023 and 2024 respectively, producing high-purity lithium hydroxide monohydrate crystals (for further details refer to Neometals ASX announcement dated 12th November 2024 and titled "*Final Pilot Trial Results*").

Rio Tinto's strong lithium pipeline of assets and options in South America

Refer to Rio Tinto news release dated 23 May 2025 titled "Rio Tinto confirmed as preferred partner on world-class Salares Altoandinos lithium project" available at: https://www.riotinto.com/en/news/releases/2025/rio-tinto-confirmed-as-preferred-partner-on-world-class-salares-altoandinos-lithium-project

Commercial Licensing of ELi Process™

The industrial validation phase aims to achieve product readiness.

The ELi Process™ is planned to be licensed to lithium producers, enabling them to significantly improve the efficiency of future LHM and LC production.

A royalty will be charged for the provision of services that may include:

- Evaluation and Commercial Licenses, including access to and operation within the patent specifications.
- Technology package, including process design criteria, flowsheet, mechanical equipment lists etc.
- Technology support services, including technical design consultancy, commissioning support, operational optimisation etc.

Extensive IP Portfolio

- RAM holds 19 granted ELi Process™ patents and 14 pending patents worldwide
- 4 families of patents covering brine and hard rock processing
- Covering the major lithium resource regions incl. USA, Argentina, Chile, Australia

Neometals Ltd

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ASX: **NMT** | OTCQX: **NMTAY** | DEU: **9R9**