



31 October 2022



Neometals
All the right elements

QUARTERLY ACTIVITIES REPORT

For the quarter ended 30 September 2022

HIGHLIGHTS

CORPORATE

- Cash balance A\$50.8 million, receivables and investments of A\$29.8 million and no debt; and
- Neometals included in ASX 300, first recycling revenues booked by Primobius and 3rd annual Sustainability Report completed.

CORE BATTERY MATERIALS BUSINESS UNITS

Lithium-ion Battery (“LIB”) Recycling Operation (50% NMT via Primobius GmbH, an incorporated JV with SMS group GmbH)

- Appointment of experienced executive, Merrill Gray, in dedicated ‘Head of Recycling’ role;
- Continued ramp-up of the commercial 10tpd shredding and beneficiation plant in Hilchenbach, Germany, commencement of sales of an intermediate nickel/cobalt product to multiple offtakers;
- Cooperation agreement with Mercedes-Benz recycling subsidiary becomes legally binding, contemplates supplying and installing equipment for a 10tpd integrated refinery at Mercedes-Benz’s Kuppenheim site, Germany;
- Cost estimates announced for potential shredding plant, advancing engineering cost study for matching refinery at same greenfield German site; and
- Advancing front-end engineering studies for Mercedes-Benz / Stelco plant supply arrangements.

Vanadium Recovery Project (“VRP”) (earning into 50:50 JV with Critical Metals Ltd)

- AACE¹ Class 3 Engineering and Cost Study confirms potential for lowest quartile operating costs;
- Feasibility study, including above cost estimates, is being advanced in parallel with negotiations for additional slag feedstock from Swedish Steel AB, by-product offtake with Betolar plc, product offtake and financing; and
- Finnish environmental permit was granted post quarter end.

Lithium Chemicals Project (earning into 50:50 JV with Bondalti Chemicals SA via Reed Advanced Materials Pty Ltd (“RAM”)) (NMT 70:30 Mineral Resources Ltd)

- Engineering cost study activities well-advanced for ~25,000tpa lithium hydroxide operation using RAM’s ELi[®] Process at Bondalti’s Estarreja chlor-alkali operation in Portugal; and
- Commenced confirmation testing of multiple lithium brine samples to assist with design of, and feedstock sourcing for, proposed pilot trials in Canada and subsequent demonstration plant in Estarreja, Portugal.

UPSTREAM – MINERAL EXTRACTION

Barrambie Titanium and Vanadium Project (“Barrambie”) (100% NMT)

- Commercial smelting trials on mixed gravity concentrates successfully completed in China with leading chloride-grade titanium slag producer Jiuxing. Test work results expected for release in Nov 22; and
- Pre-feasibility study advanced with completion on track for Dec 2022. Study will allow the evaluation of the production of direct shipping ore, mixed gravity concentrates and separate ilmenite and iron/vanadium concentrates for export from Geraldton.

¹ Association for the Advancement of Cost Engineering (AACE[®])

COMPANY OVERVIEW

Neometals’ focus is the continuous development and commercialisation of our proprietary innovative technologies with strong global partners to generate value through sustainable production of battery materials.

Decarbonisation, sustainability and resilient supply chains are the key challenges for the energy storage and electric vehicle supply chain. Our technologies, particularly those in battery materials recycling and recovery, reduce reliance on traditional mining and processing, and support circular economic principles.

Neometals has three core battery materials businesses commercialising proprietary, low-cost, low-carbon process technologies:

- Lithium-ion Battery (“**LiB**”) Recycling (50% equity) – to produce nickel, cobalt and lithium from production scrap and end-of-life LIBs in an incorporated JV with leading global plant builder SMS group. The Primobius JV is operating a commercial disposal service at its 10tpd plant in Germany and is the recycling technology partner to Mercedes-Benz. Primobius’ first 50tpd operation will be in Canada, an investment decision to partners with Stelco is expected to reach investment decision in MarQ 2023;
- Vanadium Recovery (earning 50% equity) – to produce high-purity vanadium pentoxide via processing of steelmaking by-product (“**Slag**”). Finalising evaluation studies on a 300,000tpa operation in Pori, Finland with potential JV partner with Critical Metals, underpinned by a 2Mt, 10-year Slag supply agreement (together with potential for a further 1.1Mt) with leading Scandinavian steelmaker SSAB. JV investment decision expected Dec 2022. MOU with H2Green Steel a potential second operation in Boden, Sweden to process up to 4Mt of Slag; and
- Lithium Chemicals (earning 35% equity) – to produce battery quality lithium hydroxide from brine feedstocks using RAM’s patented ELi® electrolysis process. Co-funding pilot/demonstration plants and evaluation studies on a 25,000tpa operation in Europe in a 50:50 JV between RAM (70% NMT, 30% Mineral Resources Ltd) and Portugal’s largest chemical producer Bondalti Chemicals S.A. Investment decision expected Dec 2023.



Figure 1 – Location map of Neometals’ Projects together with partner developments

CORE BATTERY MATERIALS BUSINESS UNITS



Lithium Battery Recycling Project

Neometals 50% via Primobius GmbH, a 50:50 incorporated JV with SMS group GmbH
(NMT 100% Intellectual Property ownership, SMS earning 50%)

Primobius GmbH (“**Primobius**”) is the 50:50 incorporated joint venture established in 2020 to co-fund the commercialisation of the LIB Recycling Technology originally developed by Neometals.

The process recovers materials contained in LIB production scrap and end-of-life cells that might otherwise be disposed of in land fill. Current LIB recycling processes predominantly rely on high carbon emission pyrometallurgy processes. Primobius’ two stage process (“**LIB Recycling Technology**”) recovers nickel, cobalt, lithium and manganese battery materials (and physically recovered metals and plastics) into saleable products that can be reused in the LIB supply chain. The LIB Recycling Technology prioritises maximum safety, environmental sustainability and product recoveries, to support the circular economy and decarbonisation.

The LIB Recycling Technology, comprises of two stages:

1. “**Spoke**” - LIB receipting, sorting, discharging, disassembly together with shredding and beneficiation to physically separate all of the components of LIBs received, by metal casings, electrode foils, plastics and active materials; and
2. “**Hub**” - Leaching, purification and crystallisation of the active materials suitable for use in production of LIB precursor, via a hydrometallurgical refining process.

A pilot trial (“**Pilot**”) at SGS Lakefield, Canada in 2019/20 successfully produced cathode-grade nickel and cobalt sulphate products which collectively represent approximately 80% of the value of the basket of products recovered. The Spoke section of the Demonstration Plant in Hilchenbach, Germany was upgraded to provide a commercial disposal service to the German OEMs in April 2022. Production is currently being ramped up to its maximum licence capacity of 10tpd of LIBs. Data generated during ongoing Demonstration Hub trials is being used internally for engineering and design purposes. Underpinning commercial plant supply offers and agreements where Primobius acts as principal, JV partner or technology licensor.

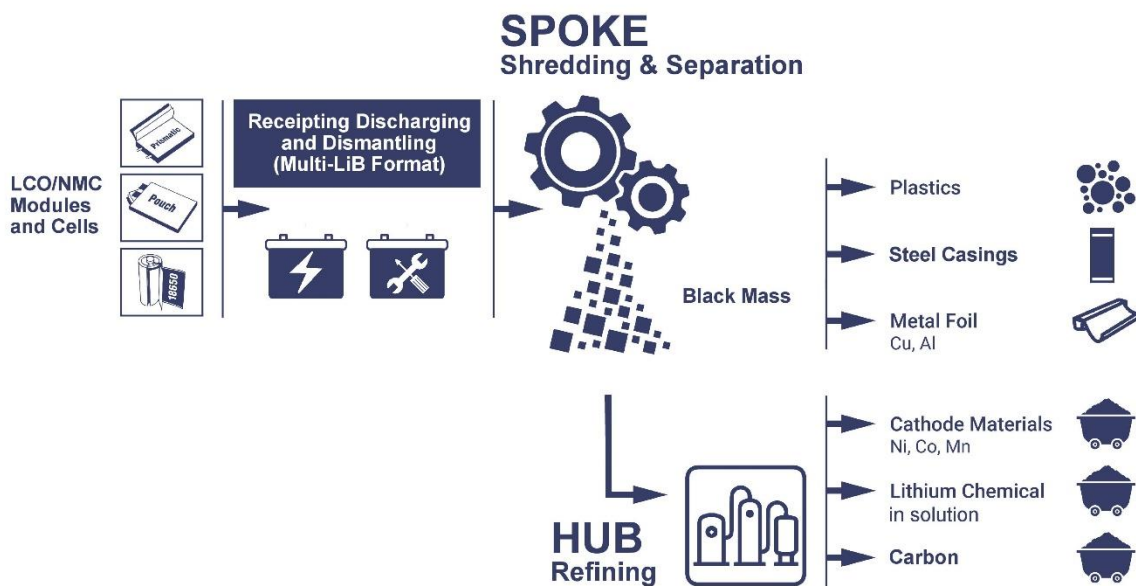


Figure 2 - High level flowsheet showing the movement of materials from Shredding and Beneficiation through Refining stages for the LIB Recycling Technology

Activity Summary

During the quarter, Primobius further progressed technical, evaluation and commercial work across the business unit. The quarter also marked the commencement of revenue generation from LIB disposal (recycling) operations at Hilchenbach, Germany.

Significant activities comprised:

- Appointment of experienced executive, Merrill Gray, as dedicated Neometals ‘Head of Recycling’;
- Continued recruitment activities to expand the Primobius operational and management teams in line with commercial requirements;
- Continued ramp-up of the commercial 10tpd shredding and beneficiation plant in Hilchenbach, Germany (“**Hilchenbach Spoke**”);
- Primobius revenue generation via Hilchenbach Spoke disposal fees and Black Mass product sales as well as plant design and engineering activities for customers;
- Co-operation agreement with Mercedes-Benz recycling subsidiary LICULAR GmbH (“**LICULAR**”) legally binding following execution of purchase order for front-end engineering of proposed 10tpd LIB Spoke and integrated Hub in Kuppenheim, Germany (together “**LICULAR 10tpd Plant**”);
- Advancing studies with Stelco to underpin the provision of plant supply agreement for Primobius’ first 50tpd (~20,000tpa) Spoke (“**Stelco 50tpd Spoke**”) and consideration of co-investment;
- Completion of Engineering Cost Study for a 50tpd Spoke (“**Spoke ECS**”) of a potential greenfields integrated LIB recycling operation in an existing industrial park in Germany;
- Equivalent Engineering Cost Study (“**Hub ECS**”) for a refining Hub progressing well; and
- Ongoing business development activities in relation to commercial partner pipeline opportunities.

Hilchenbach Operations

The Hilchenbach Operation now comprises commercial LIB disposal operations in addition to the hydrometallurgical refinery Demonstration Plant which runs discrete trials for internal flowsheet optimisation and engineering purposed in addition to external evaluation by partners and potential customers.

During the quarter, the Hilchenbach Spoke produced approximately 56.3 tonnes of intermediate mixed nickel/cobalt product (“**Black Mass**”). The typical LIB contains approximately 48% Black Mass. Installation and commissioning of a new discharge and disassembly operation to safely reduce automotive modules to individual cells substantially impacted production. The black mass is being sold to a number of European offtakers on a spot basis, pricing is set according to nickel and cobalt content.

It should be noted that Primobius’ current revenue model contemplates the following sources:

1. LIB disposal fees (for LIBs supplied by multiple waste aggregators delivering predominantly whole modules);
2. Sale of products (metallic scrap, chemical intermediates & chemicals purchased by various recyclers and smelting customers); and
3. Equipment supply (Stelco and Mercedes) and associated technology licensing royalties.

Commercial Activities

Primobius’ key near-term commercial agreements are summarised below:

- A Cooperation Agreement with Mercedes-Benz’s (“**Mercedes**”) LIB recycling subsidiary LICULAR GmbH (“**LICULAR**”)(“**LICULAR Cooperation**”) for the engineering, equipment supply and installation for a fully integrated, closed loop recycling plant (“**LICULAR 10tpd Spoke**” followed by “**LICULAR 10tpd Hub**”), a non-exclusive technology licence and long-term research collaboration (*for full details refer to Neometals ASX announcement titled “Cooperation Agreement with Mercedes Benz” released on 13th May 2022*); and
- Technology licensing agreement and option agreement to purchase up to 50% of a subsidiary of Stelco Inc. (“**Stelco**”)(“**Stelco Agreements**”) which plans to secure large volumes of end-of-life vehicles in North America for scrap steel and recycle LIBs in a proposed 50tpd integrated operation (“**Stelco 50tpd Spoke**” followed by “**Stelco 50tpd Hub**”) at Stelco’s Hamilton Works, Ontario, Canada (*for full details refer to Neometals ASX*

announcement titled “Battery Recycling - Binding Agreements with Stelco for NA” released on 31st December 2021).

Front-end engineering studies (FEL-1) for the Stelco 50tpd Spoke were completed during the quarter and more detailed engineering studies are currently in progress. Completion of the detailed engineering studies will underpin the provision by SMS group of Primobius plant supply agreements for both Mercedes and Stelco in the Dec 22 quarter. The staged delivery model enables the production and sale of black mass from Spokes during the construction and commissioning of refinery Hubs reducing overall financing requirements.

Primobius’ rollout of Spokes addresses the immediate need for safe disposal and recovery of LIB materials, ahead of an absolute requirement to close-the-loop with integrated Hubs producing products as inputs to the manufacturing of LIB precursors. Primobius is actively prosecuting its flexible approach through its three business models – as principal in Hilchenbach, a potential 50:50 joint venture with Stelco and a licensed fully integrated plant supply package to LICULAR.

Evaluation Activities

Spoke ECS

During the quarter Neometals announced results from Primobius’ Engineering Cost Study (“ECS”) for the Spoke plant located at a potential greenfields integrated LIB recycling operation in an existing industrial park in Kaiserslautern, Germany (“Kaiserslautern Spoke”).

Capital and Operating cost estimates, to a +30%/-10% level of accuracy, are denominated in US\$ using an exchange rate of 1 Euro: 1 US\$. A summary of other key assumptions and outputs are set out in the table below.

Table 1 – Key ‘Kaiserslautern Spoke’ ECS Assumptions and Outputs

Item	Assumption/Output
Annual Throughput (Feed)	21,000 tpa, comprising 70% modules and 30% individual cells (containing 8,340 t of Black Mass)
Annual Production (Black Mass)	7,130 tpa
Operating Cost per tonne of feed	US\$1,400/t
Capital Costs (incl 20% contingency)	US\$103.9 M

The Spoke ECS design and mass-energy balance was informed by extensive demonstration trials and actual performance of Primobius’ Hilchenbach Spoke.

An increase in capital and operating costs in the Kaiserslautern Spoke ECS relative to the earlier Class 4 Integrated ECS was primarily due to the inclusion of an extensive LIB module storage, discharge and disassembly operation to enable the processing of larger modules arising from end-of-life EVs. This reflects both Primobius commitment to future-proofing its product offering for EV carmakers and the current LIB feedstock mix being received at the Hilchenbach Spoke operation. The previous Class 4 ECS assumed 100% individual cell feed from production scrap. Typical steady-state scrap rates for leading LIB manufacturers is around 10% and in future will provide a decreasing percentage of the total addressable market opportunity.



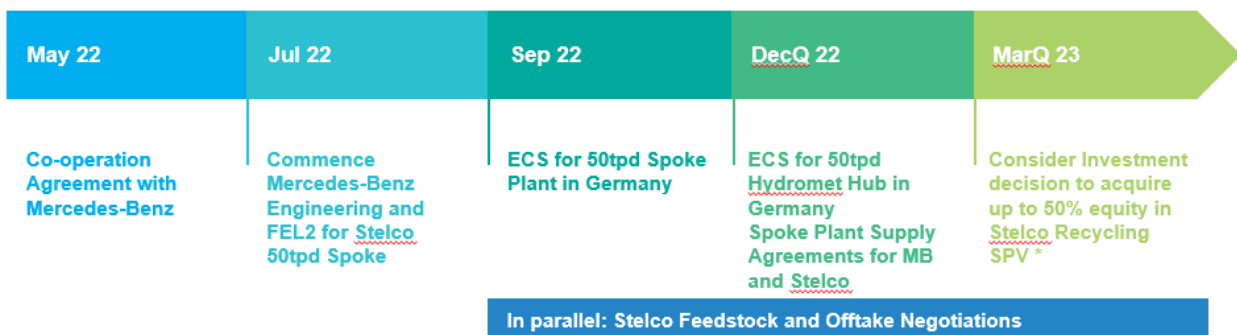
Figure 3 - Artist's impression of plant buildings (Scale: Building roof is 140 m long), adjacent land to left of buildings for second-stage hydrometallurgical refinery Hub.

Hub ECS

The Primobius team is now focussed on the delivery of the Hub ECS and offering plant supply agreements to its customers. The Hub ECS is key to Primobius' consideration to exercise its option to acquire up to 50% equity in the Stelco LIB recycling business in North America, which represents a significant opportunity.

The Hub will be the largest value generator for Primobius and its customers. The Hub processes Black Mass into high-purity and higher-value battery materials which can be used in production of new LIBs. Integrated recycling closes the loop, reducing the carbon footprint of new LIBs by using recycled inputs. Complying with pending EU regulatory requirements to use minimum levels of recycled content in the new LIBs.

Indicative Commercial Rollout Timeline



*Subject to Board Approval and Primobius Board Approvals

Figure 4 – LIB Recycling Indicative Timeline



Vanadium Recovery Business Unit
Earning into 50:50 Joint Venture with Critical Metals Ltd
(NMT 100% Intellectual Property)

Neometals is commercialising its sustainable proprietary vanadium recovery processing flowsheet (“VRP Technology”) to produce vanadium products for battery and aerospace alloying application from stockpiles of vanadium bearing steel making by-product. Neometals is currently evaluating two distinct partnership opportunities in Scandinavia and has ambitions to build a pipeline of suitable feedstock sources to increase future production:

1. VRP 1 (SSAB feedstocks, Pori – Finland location); and
2. VRP 2 (H2GS feedstock, Boden – Sweden location).

Vanadium Recovery offers a compelling business case which is underpinned by:

- Access to very high-grade vanadium feedstocks without upstream mining costs/risk/carbon footprint;
- Potential lowest-quartile operating costs (for full details refer to Neometals ASX announcement entitled “Vanadium Recovery Study Confirms Lowest Quartile Cost Potential” released on 8th July 2022).
- Processing flowsheet utilises conventional equipment at atmospheric pressure, mild-temperatures and non-exotic materials of construction; and
- Likely very low or net zero greenhouse gas footprint given:
 - a. the absence of mining and a processing route requiring the use and potential capture CO₂; and
 - b. potentially saleable carbonate by-product which sequesters CO₂.



Figure 5 - Map showing potential Vanadium Recovery Plants (Pori (SSAB Feed) and Boden (H2GS Feed)) and SSAB Slag stockpiles

VRP 1 (SSAB)

Neometals and unlisted Scandinavian-focused explorer, Critical Metals Ltd (“Critical”), are jointly evaluating the feasibility of recovering high-purity vanadium pentoxide (“V₂O₅”) from high-grade vanadium-bearing steel by-product (“Slag”) in Scandinavia. Under the formal collaboration agreement between the parties, Neometals is to fund and manage the evaluation activities, and can elect to become a 50% shareholder in an incorporated JV (Recycling Industries Scandinavia AB (“RISAB”)) with Critical.

Critical has executed a conditional agreement (“Slag Supply Agreement”) with SSAB EMEA AB and SSAB Europe Oy, subsidiaries of SSAB (“SSAB”), a steel producer that operates steel mills in Scandinavia (for full details refer to Neometals ASX announcement entitled “High-Grade Vanadium Recycling Agreement” released on 6th April 2020). Slag is a by-product of SSAB’s steel making operations. The current Slag Supply Agreement is for 2 million tonnes of Slag and RISAB is counterparty to a non-binding letter of intent (“NBLI”) with SSAB for an additional 1.1 Mt, executed during the quarter.

Critical is responsible for advancing government and environmental approvals for VRP1 and managing the SSAB and H2GS relationships.



Figure 6 - Aerial schematic showing location for the proposed VRP1 processing plant at Tahkoluoto port, Pori, Finland

VRP 2 (H2GS)

In Q3 2021, Neometals announced that Critical (via its wholly owned subsidiary, RISAB, entered into a non-binding memorandum of understanding with H2 Green Steel AB (“H2GS”)(“H2GS MoU”). The H2GS MoU outlines an evaluation framework on a potential new source of vanadium bearing Slag that could underpin a second, larger vanadium production operation (“VRP2”) capable of processing 400,000tpa of Slag. The H2GS MoU also outlines key commercial terms for a potential Slag supply agreement.

H2GS is a limited liability Swedish company planning a fully integrated and automated green steel manufacturing plant to be located at Boden in Northern Sweden (located 35km from Luleå). Along with Mercedes and others, SMS group is a H2GS shareholder and will deliver plant design and equipment for the proposed operation. The H2GS opportunity compliments the existing VRP1 agreement between Neometals and Critical for planned vanadium production in Finland to recycle Slag generated by SSAB. The H2GS MoU is a significant opportunity as it represents another potential source of valuable feed and highlights the growth profile for application of the sustainable Neometals VRP Technology.

Evaluation Activities

During the quarter Neometals announced its AACE® Class 3 ECS (“**VRP1 ECS**”) undertaken by Nordic engineering group Sweco Industry Oy (“**Sweco**”). Feasibility study (“**VRP1 FS**”) activities are ongoing and will include the cost estimates from the VRP1 ECS (for full details refer to Neometals ASX announcement entitled “Vanadium Recovery Study Confirms Lowest Quartile Cost Potential” released on 8th July 2022). The VRP1 FS is targeted for completion in the current quarter.

Neometals was encouraged by the outcomes of the VRP1 ECS which highlighted reduced technical risk and confirmed the potential for lowest quartile operating costs. This aligns with prior outcomes from the historical Neometals pre-feasibility study (“**PFS**”), however the VRP1 ECS has been completed to a ±15% level of accuracy compared to the previous -20% +25%. Capital and Operating cost estimates were denominated in US\$ dollars using an exchange rate of 1 Euro: 1.123 US\$.

Table 2 – VRP1 ECS and PFS Metrics

	ECS Metrics (100% ownership basis)**	PFS Metrics (100% ownership basis)***
Annual Production	19.01 million lbs (8,642 t) V ₂ O ₅	13.43 million lbs (6,091 t) V ₂ O ₅
Annual Throughput*	300,000 tpa	200,000 tpa
Average Net Operating Cost	US \$4.38/lb V ₂ O ₅	US \$4.25/lb
Total initial capital costs	US \$341 M	US \$183.4 M

* Based on potential additional Slag volumes contemplated in the NBLI

** Refer ASX announcement “Vanadium Recovery Study Confirms Lowest Quartile Cost Potential” released on 8th July 2022

*** Refer ASX Announcement “Vanadium Recovery Project – PFS Indicates Robust Potential Economics” dated 4 May 2021

Commercial Activities

Permitting and Approvals

Post quarter end the Environmental Permit for the project granted by Finnish regulators in relation to operation of the VRP1 facility in Pori, Finland became legally enforceable. This is a significant milestone and substantially de-risks the VRP1 project as the Company prepares to make key investment decisions.

Finance

During the quarter RISAB engaged leading Nordic investment bank Aventura Partners to lead the project financing, strong interest has been received from leading investment and commercial banks in Europe.

By-product Offtake

The VRP Technology produces an inert residue, synthetic limestone (Stabilised Slag Material (“**SSM**”) and sodium sulphate (“**Na₂SO₄**”). RISAB is moving to formalise a non-binding letter of intent (“**LOI**”) with Finnish public limited company Betolar plc (“**Betolar**”), to plan to use SSM in the production of cement-free concrete building products. This development further reinforces the opportunity for the VRP Technology to support the circular economy.



Lithium Chemicals Business Unit

Reed Advanced Materials Pty Ltd (“RAM”) earning into 50:50 JV with Bondalti Chemicals SA (Intellectual Property_100% RAM (70% NMT, Mineral Resources Ltd 30%))

Neometals, through RAM, is commercialising its proprietary process (ELi® Processing Technology (“ELi®”)) to produce lithium hydroxide from lithium chloride solutions using electrolysis. A previous Feasibility Study in 2016 indicated the potential for ELi® to significantly reduce the cost and carbon footprint associated with consumption and transport of carbon-intensive reagents used in conventional lithium processes.

ELi® has been tested on synthetic and actual lithium sources, from both hard rock and brine resources to semi-pilot scale and has the flexibility to produce a lower carbon footprint lithium carbonate at a nominal incremental cost from the sparging of carbon dioxide through the lithium hydroxide solution. This key advantage of ELi® eliminates the causticising of the lithium carbonate production step. RAM holds 13 granted patents in the hard rock and brine producing countries and has a further 17 pending national phase patents.

Lithium Chemical production via ELi offers a compelling business case which is underpinned by:

- Potential low operating costs (for full details refer to Neometals ASX announcement entitled “Feasibility Study shows low cost battery grade lithium hydroxide production possible using ELi Technology” released on 11th July 2016);
- Processing flowsheet that utilises conventional purification and chlor-alkali equipment at atmospheric pressure and mild-temperatures;
- Minimising use (and transport) of high carbon footprint reagents; and
- Potential for lowest CO₂ footprint lithium production from processing brine at source with renewable electricity.

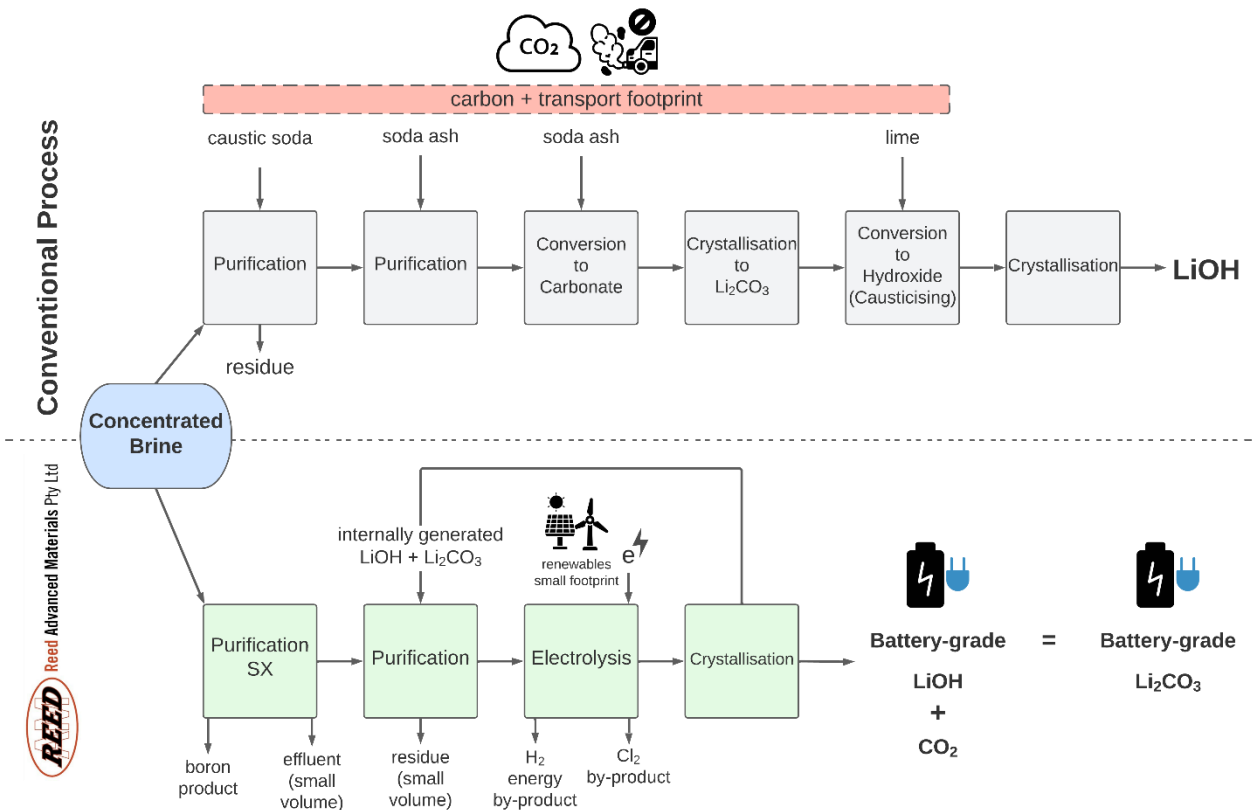


Figure 7 - Schematic showing the a comparison of the conventional flowsheet for the production of lithium hydroxide from brines vs the patented ELi process.

RAM can potentially deploy ELi[®] as principal or in joint venture with other partners, to generate revenue from merchant conversion and/or toll processing of lithium raw materials, or license the technology in return for royalty payments.

Bondalti (Estarreja) Project

In the December quarter 2021, RAM entered into a binding Co-operation Agreement (“**Co-operation**”) with Portugal’s largest chlor-alkali producer, Bondalti. Bondalti is part of the Jose De Mello Group, one of Portugal’s largest conglomerates, family owned and founded in 1898.

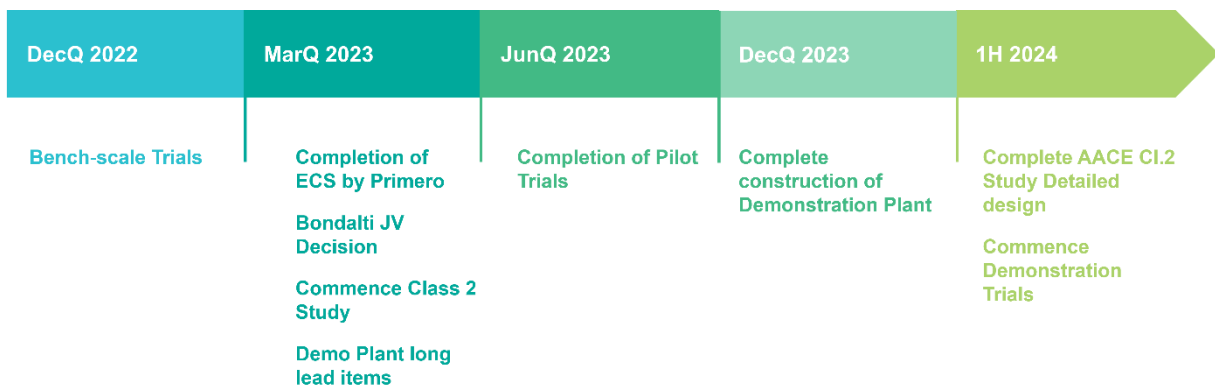
The Co-operation contemplates the co-funding of certain evaluation activities required for a decision to form a 50:50 incorporated joint venture (“**JVCo**”) to construct and operate a lithium refinery (“**Refinery**”) at Bondalti’s extensive chlor-alkali operations in Estarreja, Portugal. The evaluation activities will include, at a shared cost of approximately US\$4 million, operation of pilot testing and completion of a feasibility study (“**ELi[®] Feasibility Study**”). Upon completion of the ELi[®] Feasibility Study a decision to incorporate the JVCo will be made to enable the commencement of the Front-End Engineering and Design Study (“**ELi[®] FEED Study**”) and construction of a Demonstration Plant. Completion of the Demonstration Plant construction is targeted for DecQ 2023. If the JVCo is incorporated, RAM has agreed to a royalty free licence in the territory of the EU Patent Treaty.

The proposed Refinery will commercialise RAM’s ELi[®] Process, build RAM’s operational competence and provide an ethical and resilient local lithium supply chain for the EV OEMs located in Spain and Portugal.

Evaluation Activities

During the quarter, Neometals and Bondalti Cooperation activities included:

- Ongoing preparations for:
 - Bench-scale purification and electrolysis tests (commenced subsequent to quarter end) on potential feedstock samples; and
 - Larger scale purification and electrolysis piloting in Canada using brine and hard rock concentrate.
- Progress with Primero on ELi[®] ECS with emphasis on engineering work, vendor work with various equipment package providers and construction cost estimation Ongoing in-depth market supply review for potential brine and spodumene providers; and
- Commercial dialogues with aspiring or existing producers of lithium brine concentrates to investigate offtake or toll treating of future lithium chloride intermediate into lithium chemicals.



*Subject to Steering Committee Approvals

Figure 8 – Indicative Timeline for the Bondalti (Estarreja) Project

UPSTREAM – MINERAL EXTRACTION



Barrambie Titanium/Vanadium Project (Neometals 100%)

The Barrambie Vanadium and Titanium Project in Western Australia (“**Barrambie**”) is one of the largest vanadiferous-titanomagnetite (“**VTM**”) Mineral Resources globally (280.1Mt at 9.18% TiO₂ and 0.44% V₂O₅)*, containing the world’s second highest-grade hard rock titanium Mineral Resource (53.6Mt at 21.17% TiO₂ and 0.63% V₂O₅)* and high-grade vanadium resource (64.9Mt at 0.82% V₂O₅ and 16.9% TiO₂) subsets (referred to as the Eastern and Central Bands respectively) based on the latest Neometals 2018 Mineral Resource Estimate (*for full details refer to ASX announcement entitled “Updated Barrambie Mineral Resource Estimate” released on 17 April 2018 and Table 3 at end of document).

Barrambie is located approximately 80km north-west of Sandstone in Western Australia and the Mineral Resource is secured under a granted mining lease. Neometals secured environmental approval in 2012 to mine and construct a 3.2 Mtpa processing plant (Ministerial Statement 911), extended the timeframe for implementation in 2019 (Ministerial Statement 1119) and is currently in the process of securing a further extension of the timeframe for project implementation. The project also has a granted mining proposal to extract approximately 1.2Mtpa of mineralisation.



Figure 9 – Project location

In October 2019, Neometals entered a memorandum of understanding with Chinese research organisation, IMUMR, to jointly evaluate the development of Barrambie (“**IMUMR MoU**”). IMUMR has a Chinese national mandate that includes development of upstream supply chains for industries of strategic relevance to China. IMUMR has successfully conducted pilot scale testwork on the production of titanium slag from the blending of low-impurity Barrambie concentrate with higher titanium ilmenite. It also produced high quality chloride ilmenite and magnetite from the low-temperature reduction roasting and magnetic separation of Barrambie concentrates (*for full details refer to ASX announcement entitled “Barrambie Flowsheet Breakthrough” released on 22nd December 2020).

Neometals also has a memorandum of understanding with Jiuxing Titanium Materials (Liaoning) Co. Ltd (“**Jiuxing MoU**”) (“**Jiuxing**”) (**for full details refer to ASX announcements entitled “Barrambie - MOU for Barrambie Concentrate Offtake” released on 16th April 2021 and “Barrambie Pilot Plant and Offtake Update” released on 23rd December 2021). Jiuxing is one of the leading chloride-grade titanium slag producers and is the largest in north-eastern China. Importantly, the Jiuxing MoU builds on, and complements, the existing IMUMR MoU.

The Jiuxing MoU** outlines a product evaluation regime and contains the key commercial terms for a potential formal offtake agreement (i.e., pricing, volumes, price floor etc.). Following satisfactory completion of testing and technical due diligence, the Jiuxing MoU contemplates the parties negotiating and entering into a binding formal offtake agreement for the supply of 800,000 dtpa of mixed gravity concentrate or 500,000 dtpa of ilmenite and 275,000 dtpa of iron-vanadium concentrate, on a take-or-pay basis for a period of 5 years from first production.

Evaluation Activities

During the quarter Neometals advanced its Barrambie pre-feasibility study (“**PFS**”), the PFS includes an AACE Class 4 capital and operating cost estimates will enable the evaluation of all aspects of the Barrambie value chain. Simple Direct Shipping Ore (“**DSO**”), beneficiation to produce a mixed gravity concentrate (“**MGC**”), and downstream processing into separate ilmenite and iron-vanadium concentrates via Low Temperature Reduction roast (“**LTR**”)² and magnetic separation of the MGC. Confirmation test work to repeat previous IMUMR pilot scale results of the LTR flowsheet have been conducted in Australia at Roundhill Engineering and the results will be incorporated into the PFS.

However, given the ongoing offtake discussions with Jiuxing, the published PFS estimates and financial modelling results will be based on the LTR option as it provides the most certain pricing outcome from leading commodity price reporting services, market indexes and global trade statistics. The PFS is on track for completion in December 2022.

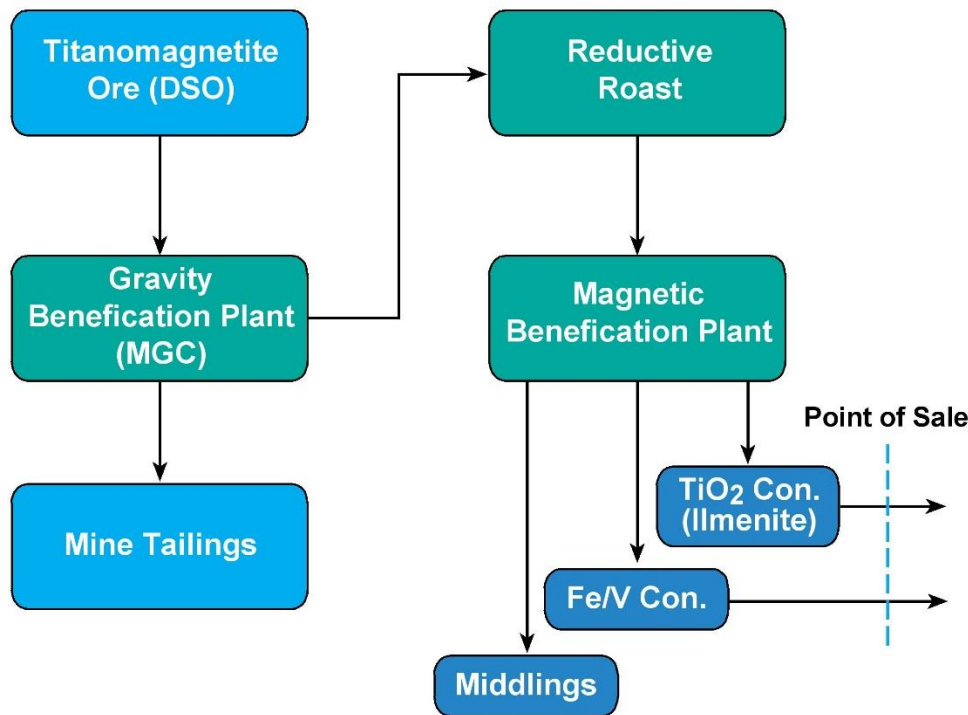


Figure 10 – Simplified overview of Barrambie flowsheets being investigated in PFS

**The Jiuxing MoU is a memorandum of understanding to allow Jiuxing to conduct large scale test work and negotiate a binding offtake agreement. There is no guarantee that any binding formal agreement will result from the cooperation under the Jiuxing MoU or that any binding formal agreement will reflect the key commercial terms set out in the MOU given that these arrangements are subject to the testing and evaluation work to be completed under the Jiuxing MOU.

Commercial Activities

During the quarter the Jiuxing performed a smelting trial on Barrambie MGC. 17 tonnes of Barrambie MGC were blended with 23t of third-party commercially available ilmenites to produce a titanium slag. Assays and formal results from the smelting trial are expected to be reported in Nov 2022. This is expected to be the final technical confirmatory step required to enable the parties to begin negotiation on pricing and binding offtake arrangements. High quality titanium feedstocks are in strong demand notwithstanding the current global economic conditions, the current prices from Fastmarkets, September 2022 are below.

Ilmenite

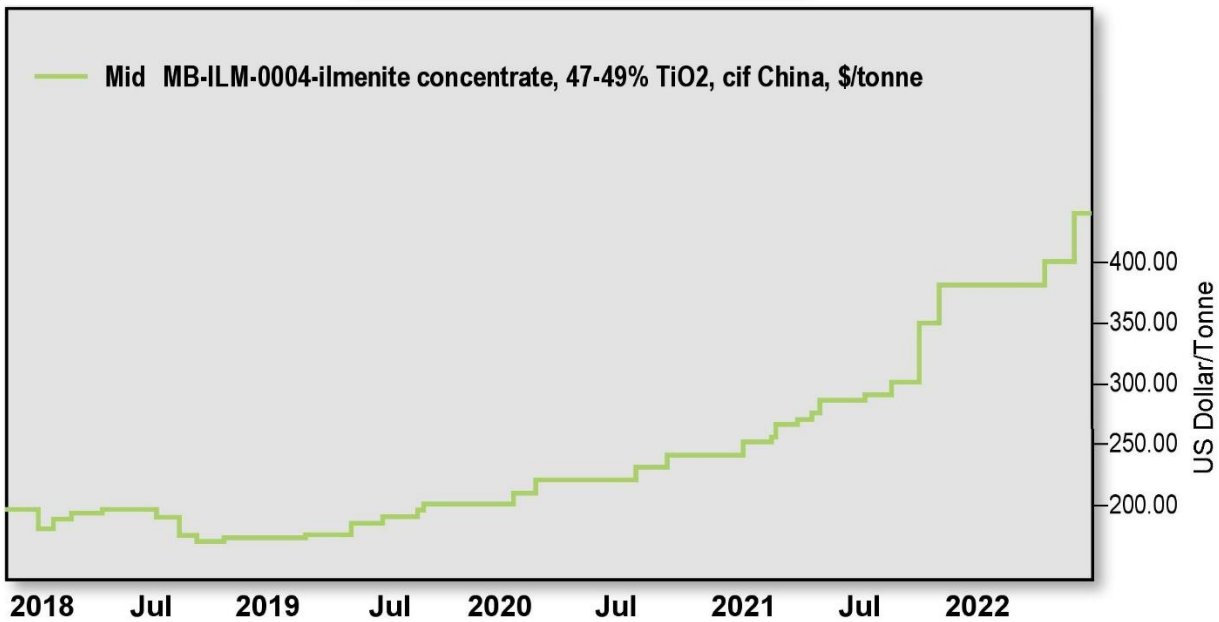
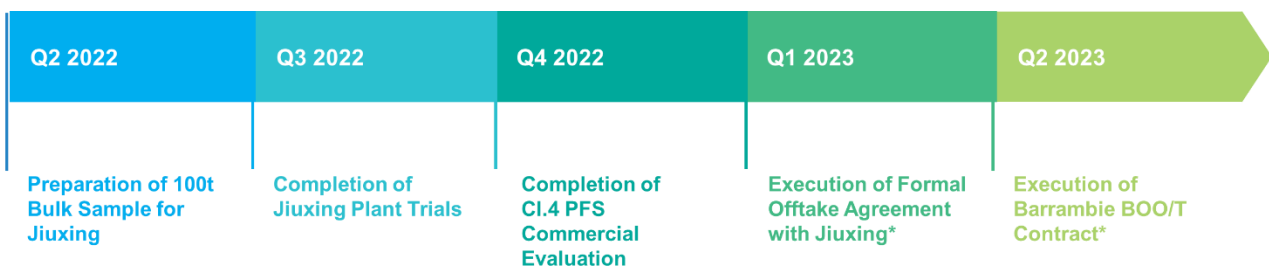


Figure 11 – Ilmenite pricing for low quality ilmenite feedstocks

The contractor engagement process continued during the quarter with leading service providers. The forthcoming data will form a large component of the due diligence required by potential ‘build-own-operate’ partners for the DSO and gravity concentrate operations. This development model was used successfully by Neometals and its partners to develop its former Mt Marion Lithium Project in 2015, which is now the world’s second largest producer of spodumene (ard-rock lithium).



*Subject to successful Jiuxing trial, positive PFS and Board Approval

Figure 12 – Barrambie Indicative Timeline

CORPORATE

Commercial / Corporate

During the quarter Neometals was included in the S&P/ASX 300 Index. This is a significant achievement and has necessarily meant that a range of index funds have either been added to the register for the first time or have increased their holdings commensurate with the Company's weighting in the index.

As it relates to ESG, Neometals was pleased to release its ESG and Sustainability report for the year ended 30 June 2022. Environment, Social and Governance considerations reflect 'core business' for Neometals and the Company is proud of its latest report which highlights year on year improvements with respect to ESG disclosure and target setting.

Neometals continues to make development headway across its projects despite significant global economic volatility. Customer engineering demands, particularly as it relates to the LiB Recycling Business Unit, have necessarily taken precedence over some of the Neometals internal evaluation study work. Indicative timelines have been placed under pressure during the period however the strategic business model, which pursues multiple exposures to the green energy transition with strong partners, continues to ameliorate risk against market uncertainty. Neometals remains confident in its stepwise and risk light approach which sees partnering early to secure feedstocks, logistics channels, permitting etc. before commitments are made to build plants. This differs in many instances to our key competitors and differentiates the business model.

Financial

Hannans Limited (ASX:HNR) (Hannans) (Yilgarn Nickel/Lithium/Gold/Battery Recycling)

As at 30 September 2022 Neometals held 845,086,264 ordinary fully paid shares (~32.4% of the issued capital) in Hannans on an undiluted basis. At 30 September 2022, Hannans shares were suspended however a re-compliance prospectus outlining re-listing and a \$1 million capital raising at 2c per share implies a value of \$16.9 million.

Critical Metals Limited (Unlisted, Scandinavian Lithium/Cobalt/Base Metals)

Neometals holds 19% of unlisted public company Critical Metals Ltd, a company which now houses the Scandinavian mineral assets previously held by Hannans and is collaborating with Neometals on Scandinavian LIB recycling and vanadium recovery opportunities.

Other Investments

The market value of the Company's other investments as at 30 September 2022 totalled \$9.5 million.

Finances (unaudited)

Cash and term deposits on hand as of 30 September 2022 totalled A\$50.8 million, including \$0.2 million in restricted use term deposits supporting contractual obligations. The Company has net receivables and investments totalling approximately \$29.8 million.

Related Party payments for the quarter outlined in the ASX Appendix 5B released contemporaneously at section 6.1 total \$467,000 and are made up of Director fees and superannuation.

Issued Capital

The total number of shares on issue at 30 September 2022 was 552,346,508.

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

ENDS

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Compliance Statement

The information in this report that relates to Mineral Resource Estimates for the Barrambie Vanadium/Titanium Project is extracted from the ASX Announcement listed below, which is also available on the Company’s website at www.neometals.com.au.

17/04/2018	Barrambie – Updated Barrambie Mineral Resource Estimate
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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 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 Persons’ findings are presented have not been materially modified from the original market announcements.

Table 3 – Barrambie Mineral Resource Estimate, April 2018*

Global 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 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 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

APPENDIX 1: TENEMENT INTERESTS

As at 30 September 2022, the Company has an interest in the following projects and tenements in Western Australia.

Project Name	Licence Name	Beneficial Interest	Status
Barrambie	M57/173-I	100%	Live
Barrambie	E57/769-I	100%	Live
Barrambie	E57/770-I	100%	Live
Barrambie	E57/1041-I	100%	Live
Barrambie	E57/1220	100%	Pending
Barrambie	E57/1244	100%	Pending
Barrambie	E57/1245	100%	Pending
Barrambie	E20/1030	100%	Pending
Barrambie	E20/1037	100%	Pending
Barrambie	L57/0030	100%	Live
Barrambie	L57/0064	100%	Pending
Barrambie	L57/0065	100%	Pending
Barrambie	L20/0055	100%	Live
Barrambie	L20/0080	100%	Live
Barrambie	L20/0081	100%	Live
Yellowdine	E77/2809	100%	Pending
Queen Victoria Rocks	E15/1416	100%	Live

Changes in interests in mining tenements

Interests in mining tenements acquired or increased

Project Name	Licence Name	Acquired or Increased
Barrambie	E57/1244	Application
Barrambie	E57/1245	Application
Barrambie	E20/1030	Application
Barrambie	E20/1037	Application
Barrambie	L57/0064	Application
Barrambie	L57/0065	Application

Interests in mining tenements relinquished, reduced or lapsed

Project Name	Licence Name	Relinquished, Reduced or Lapsed
N/A	N/A	N/A