



Neometals



Lithium  
Chemicals

Next  
generation  
thinking.



# “Neometals is an emerging sustainable producer of battery materials”

The Company has developed a suite of green battery materials processing technologies that reduce reliance on traditional mining and processing and support circular economic principles. Neometals’ three core battery materials businesses are commercialising these proprietary, low cost, low carbon process technologies through strong industry partnerships.

The ‘Lithium Chemicals’ business is focused on commercialising the patented ELi™ process.

## Issue and Need

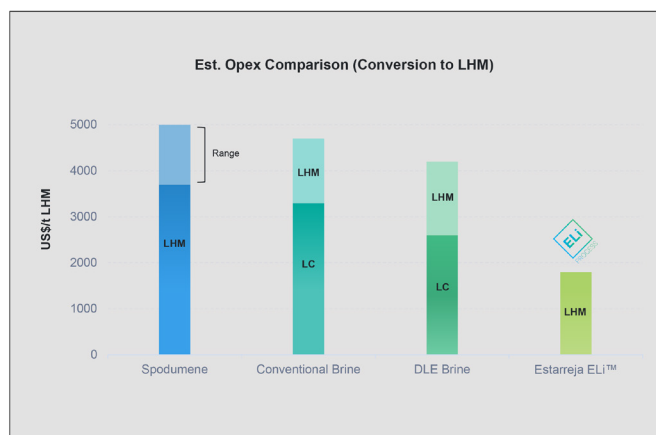
- Lithium is the key non-substitutable battery ingredient transporting electric charge, and the World needs more.
- Europe has very small supply of lithium chemicals with demand growing rapidly.
- Despite being crucial for the energy transition, lithium production is the largest CO2 contributor in lithium-ion batteries (LIB).
- Primary extraction companies often don’t have means to produce chemicals and need a market for mined intermediate or support to produce chemicals.
- Lithium chemical production needs to be more cost effective and more sustainable.

## Our Solution

Much of the embedded CO2 in lithium production comes from reagents – what if electricity from low carbon renewable sources could be used to replace the reagents?

That is the crux of the ELi™ process. Developed by Reed Advanced Materials (RAM), a joint venture between Neometals Ltd (70%) and Mineral Resources Ltd (30%), the developers of the Mt Marion hard rock lithium mine in Western Australia. ELi™ produces high-purity, battery grade lithium hydroxide and lithium carbonate from lithium-bearing brines and hard rock minerals.

ELi™ purifies feedstocks then utilises electricity to convert lithium salt into chemical. In so doing, decarbonising the battery supply chain with scope to significantly reduce CO2 by using fewer ships, trucks, reagents, processing steps and significantly reducing OPEX, whilst reducing the amount of processing required.



Opex comparison showing significantly reduced operating costs to generate lithium hydroxide monohydrate (“LHM”) when compared to conventional brine and spodumene routes (noting that conventional brine processing is a two-stage process with lithium carbonate (“LC”) produced before additional processing into LHM).

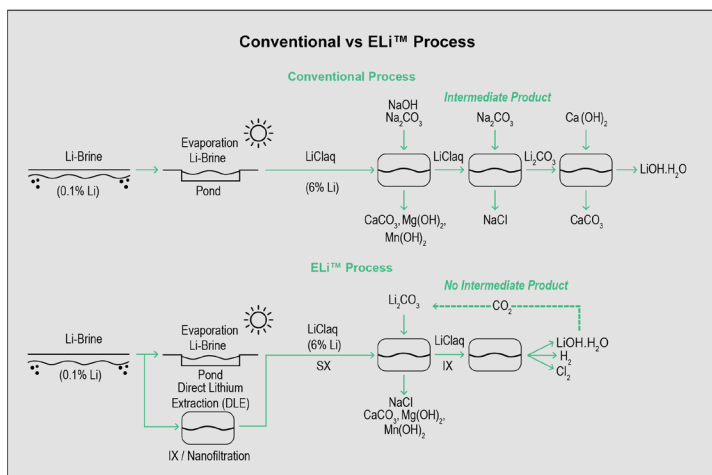
**Figure 01:** Est. Opex Comparison (Conversion to LHM)

Sources: LAC, AKE/ORE, E3 Li, PLL, ALB, Management estimates, ECS, Benchmark Minerals Intelligence.

## Our Technology

ELi™ patented in several jurisdictions, has been the subject of R&D on Australian spodumene and South American brines. ELi™ replaces conventional, carbon-intensive chemical conversion of lithium chloride solutions with electrical conversion, using off-the-shelf electrolyzers.

**Figure 02:** Conventional Process vs ELi™ Process



## Our Strategy

RAM's development strategy is to commercialise ELi™ through joint venture technology deployments and licensing ELi™ to lithium resource developers. Revenue is targeted from joint venture profit distributions and license royalty payments.

<b>1</b>	<b>Buy/Toll Process lithium chloride from Argentina/Chile</b>	<ul style="list-style-type: none"> <li>• Conventional solar evaporation to remove NA, K, Mg, Ca</li> <li>• Produces an impure concentrated lithium chloride brine that is suitable for lithium hydroxide manufacturing with ELi™</li> </ul>
<b>2</b>	<b>ELi™ purification and conversion to LiOH in Portugal</b>	<ul style="list-style-type: none"> <li>• Conventional conversion of lithium chloride to lithium hydroxide is an industry-standard route but uses sodium carbonate and sodium hydroxide (high carbon footprint materials)</li> </ul>
<b>3</b>	<b>Offtake to European EV supply chain</b>	<ul style="list-style-type: none"> <li>• ELi™ process uses low carbon electricity from renewable sources to make low carbon lithium hydroxide</li> </ul>

## Our Partnerships

Neometals majority owns the ELi™ process with JV partner Mineral Resources via RAM. RAM is co-developing in Europe with Portugal's largest chemical producer, Bondalti Chemicals S.A. (Bondalti).

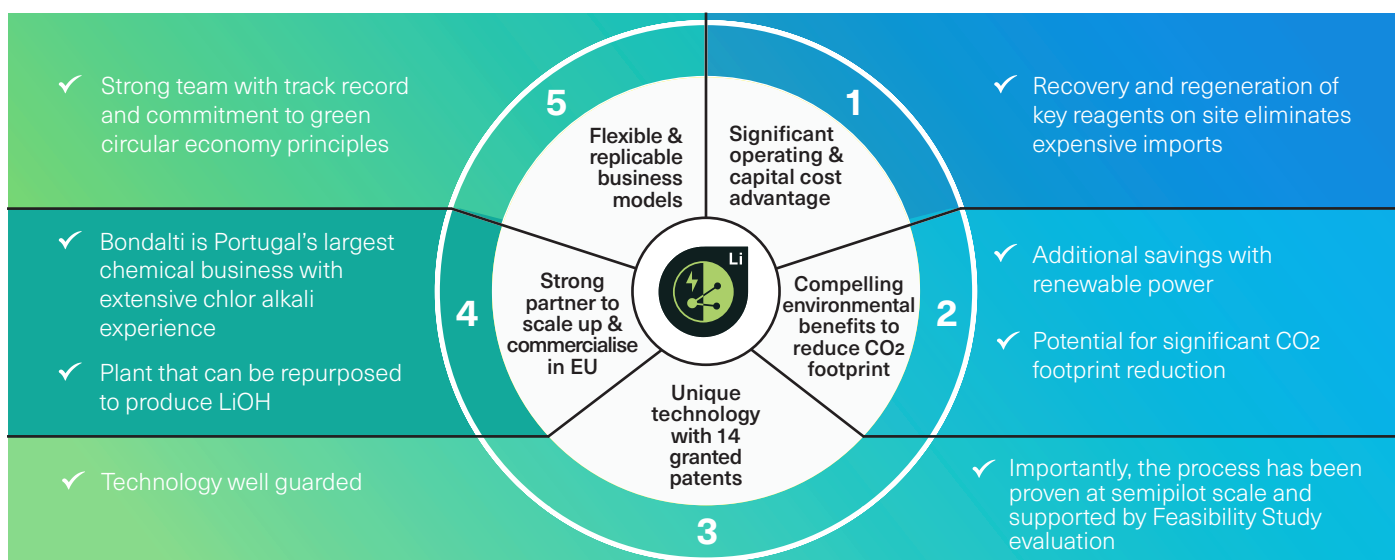


The Portuguese refinery operation will source / process brine feedstocks and leverage Bondalti's supply chain, infrastructure and operating expertise. A proposed 25,000tpa lithium refinery at Estarreja aims to produce battery quality lithium hydroxide and lithium carbonate. Piloting and demonstration will precede commercial refining at Bondalti's existing chlor-alkali operations. RAM is initially targeting the European market, where there is a large deficit of battery raw materials.

## Our Difference

ELi™ has several advantages over conventional processes including lower operating expenditures, higher product purity and a smaller CO2 footprint largely owing to lower process reagent consumption.

## Our Unique Selling Proposition (USP)



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