

COLLERINA COBALT LTD (ASX:CLL)

**FAST TRACK
HPA PRODUCTION**



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Corporate Snapshot

TRADING INFORMATION

ASX CODE	CLL
Share Price (19-Oct-18)	11.0c
52 week trading range	6.0c – 18.0c
Issued Shares	567.1M

CAPITAL STRUCTURE

Issued Shares	567.1M
Unlisted options (@10c)	30.0M (expire 31 October 2019)
Unlisted options (@15c) ¹	2.0M (expire 31 October 2020)
Market Cap (fully diluted)	\$65.9M
Cash (30 Sept 2018)	\$3.3M
Enterprise Value	\$62.6M

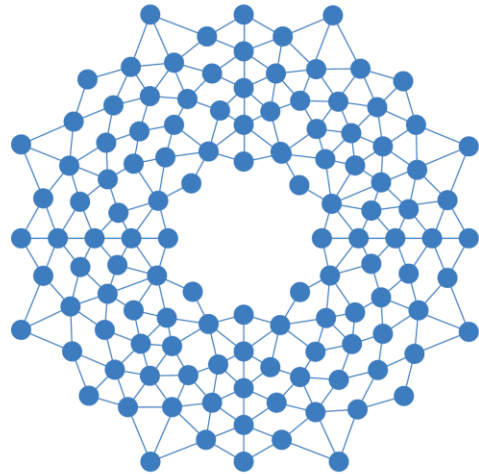
¹ It is proposed that Rimas Kairaitis be issued with 10M unlisted options at a strike price of 15c with a maturity date of 31 October 2020. The issuance of these options will be subject to shareholder approval.

SHARE PRICE PERFORMANCE



Name Change

- The Company will shortly be seeking shareholder approval for a name change to 'Alpha HPA Limited' to reflect the immediate business focus on the production of High Purity Alumina



alpha **HPA**

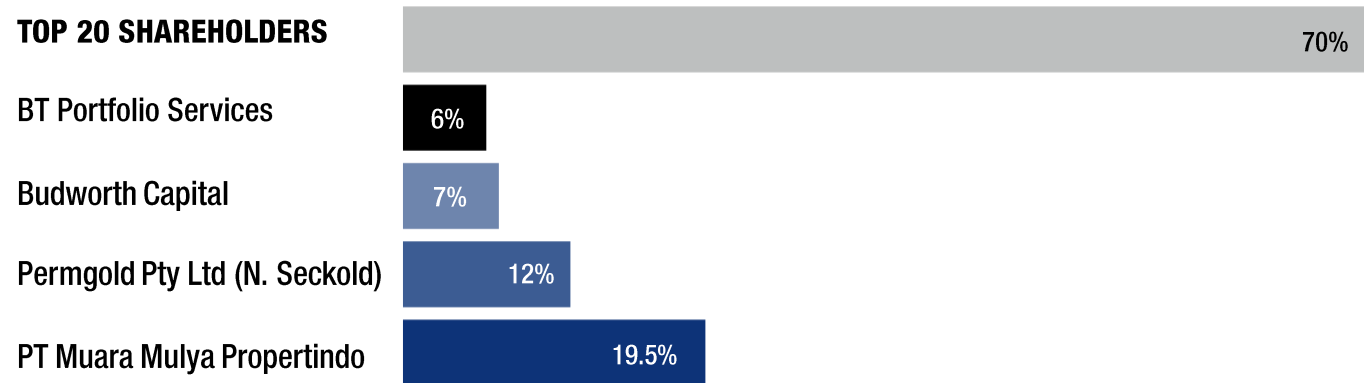


alpha **HPA**

Corporate Snapshot

SHAREHOLDERS

TOP 20 SHAREHOLDERS



RECENT HIGHLIGHTS

2017/2018

99.99% HPA

4N (99.99%) purity achieved in HPA testwork program

HPA FIRST

Adoption of the HPA First process

\$4.0M

\$4.0M underwritten Rights Issue (July 2018)



First HPA production using the HPA First process

PFS

HPA First Pre-Feasibility Study due Oct/Nov 2018

Board & Management



Norman Seckold
Chairman

30+ years in the full time management of natural resource companies. Past Chairman and Director of listed companies including Bolnisi Gold NL, Timberline Minerals Inc., Perseverance Corporation Limited, Valdora Minerals NL, Palmarejo Silver and Gold Corp. and Cockatoo Coal Limited. Currently Chairman of Santana Minerals Limited and Planet Gas Limited and Deputy Chairman of ASX listed Nickel Mines Limited.



Rimantas Kairaitis
Managing Director

20+ years experience in minerals exploration and resource development in gold, base metals and industrial minerals. Led the geological field teams to the discovery of the Tomingley and McPhillamy's gold deposits in NSW and steered the Hera gold-lead-zinc Project from discovery through to successful commissioning and commercial production. Previously founding Managing Director and CEO of ASX-listed Aurelia Metals.



Peter Nightingale
Director and CFO

20+ years as a Director or Company Secretary for a range of resource companies including Pangea Resources Limited, Timberline Minerals Inc., Perseverance Corporation Limited, Valdora Minerals NL, Mogul Mining NL, Bolnisi Gold NL, Cockatoo Coal Limited and Sumatra Copper and Gold plc. Currently a Director Planet Gas Limited, Nickel Mines Limited and Prospech Limited.



Justin Werner
Non-Executive Director

20+ years' mining and management experience. Previously consulted to a number of blue chip mining companies including BHP, Rio Tinto and Freeport McMoran. Successful track record of mine discovery and development. Currently Managing Director of ASX listed Nickel Mines Limited.



Tony Sgro
Non-Executive Director

Chemical Engineer with 45+ years' senior management experience in the supply of specialised equipment to the process industries with an emphasis on mining and oil & gas. Co-founder, Director and General Manager of Kelair Pumps for 36 years.

“HPA FIRST” - FAST TRACK PATH TO HPA PRODUCTION

The HPA First process uses the Company’s proprietary licenced solvent extraction (SX) and refining technology and a feedstock blend of readily available industrial products rather than an acid leach solution generated from the Collerina Project ore

SIMPLER



Does not require mining operation

- Simplified flow sheets with no acid plant, leach vessels, filtration plant, neutralisation circuits or tailings
- Single site industrial location

BETTER



Dramatically improved business case:

- Dominant HPA revenue fast tracked
- Higher aluminium feed tenor
- Significant CapEx reductions
- Significant OpEx reductions

FASTER



Fast track to cashflow:

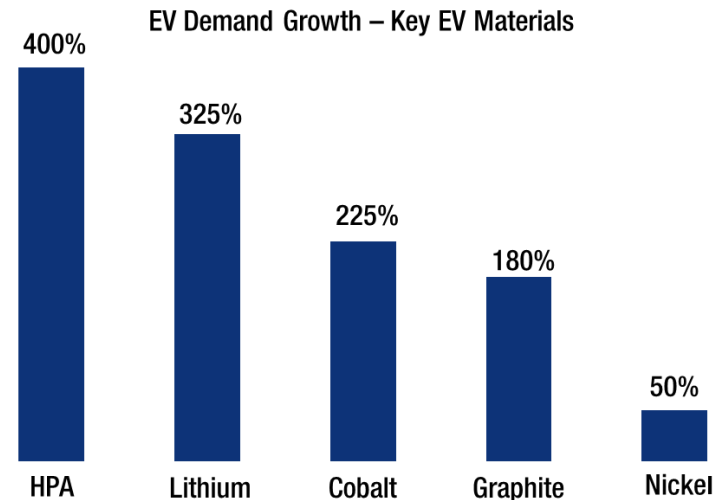
- Faster DFS – simpler pilot plant
- Faster Permitting - single site industrial zoning
- Faster track to financing and construction to operational cash-flow

About High Purity Alumina (HPA)



- HPA is the pure form of aluminium oxide (Al_2O_3) HPA is the pre-cursor material for the manufacture of **sapphire glass** and **ceramic coated Lithium-Ion-Battery (Li-B) separators**
- Its value derives from its physical properties of extreme hardness and chemical stability
- Purity is determined by the concentration of trace elements in the alumina compound eg, iron, magnesium, sodium
- Price and performance of HPA varies upon product density, crystal structure, particle size and distribution and degree of purity

4N HPA is the largest sector of the HPA market and is seen by Collerina Cobalt as the most logical sector of the market in which to focus in terms of demand volumes and margin optimisation



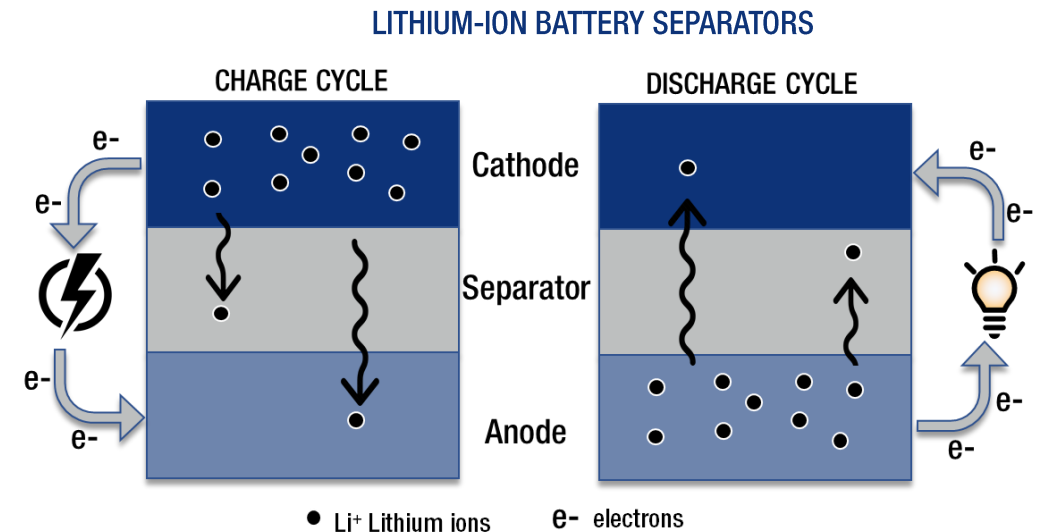
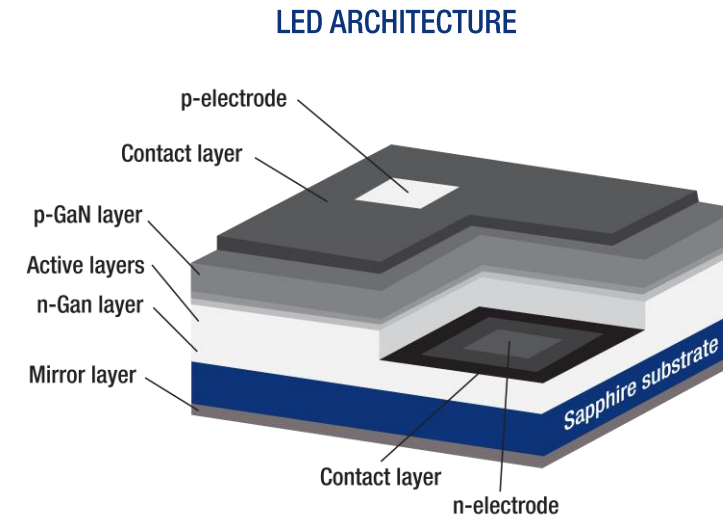
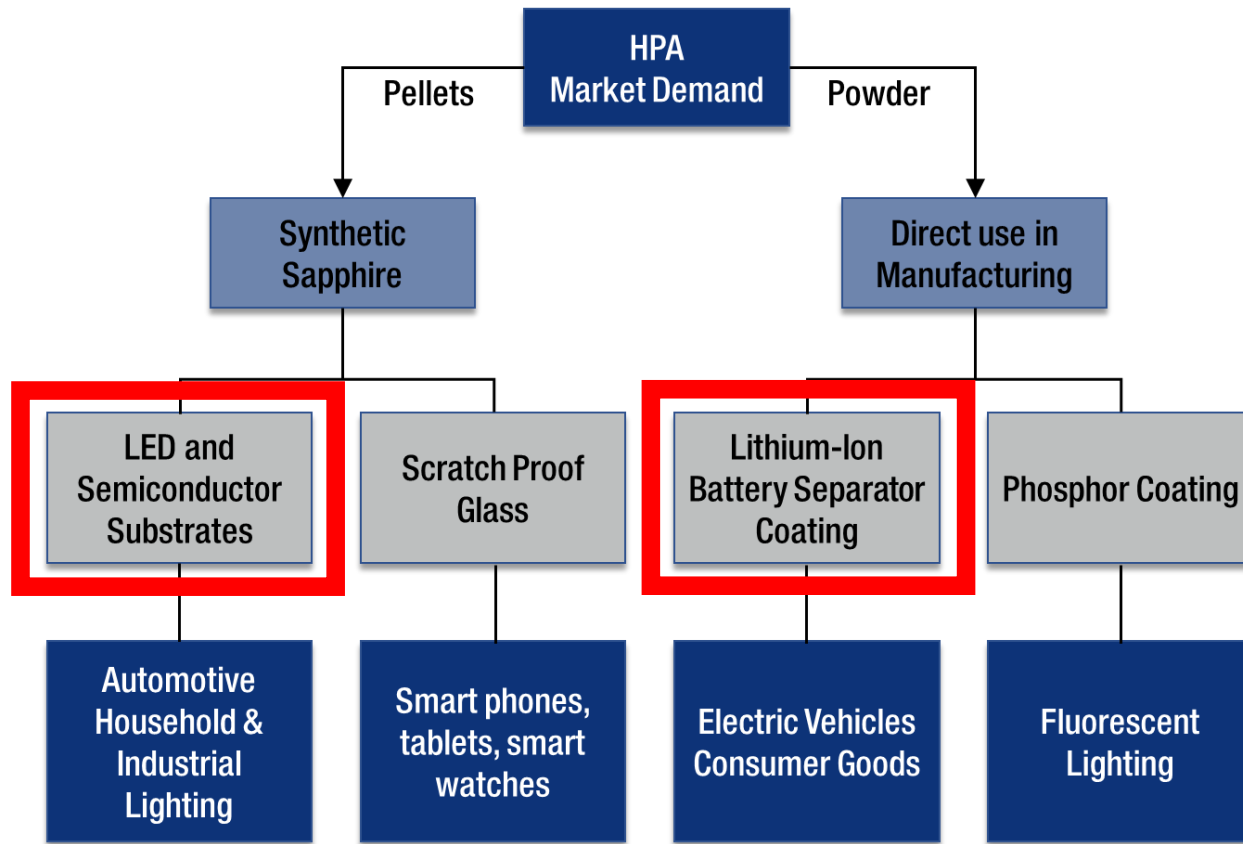
Source: Various Industry Sources & Research

PRICE FOR PURITY

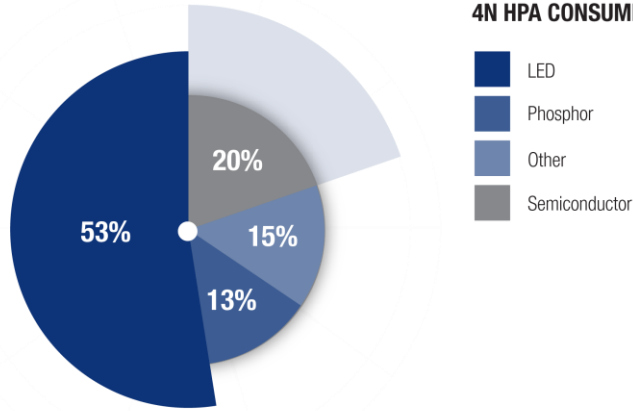
SGA	99.5% purity	~US\$400/t
3N HPA	99.9% purity	~US\$10,000-25,000/t
4N HPA	99.99% purity	~US\$25,000-40,000/t
5N HPA	99.999% purity	~US\$50,000-100,000/t
6N HPA	99.9999% purity	By negotiation in a very limited market.

Source: CRU

High Purity Alumina (HPA) Market



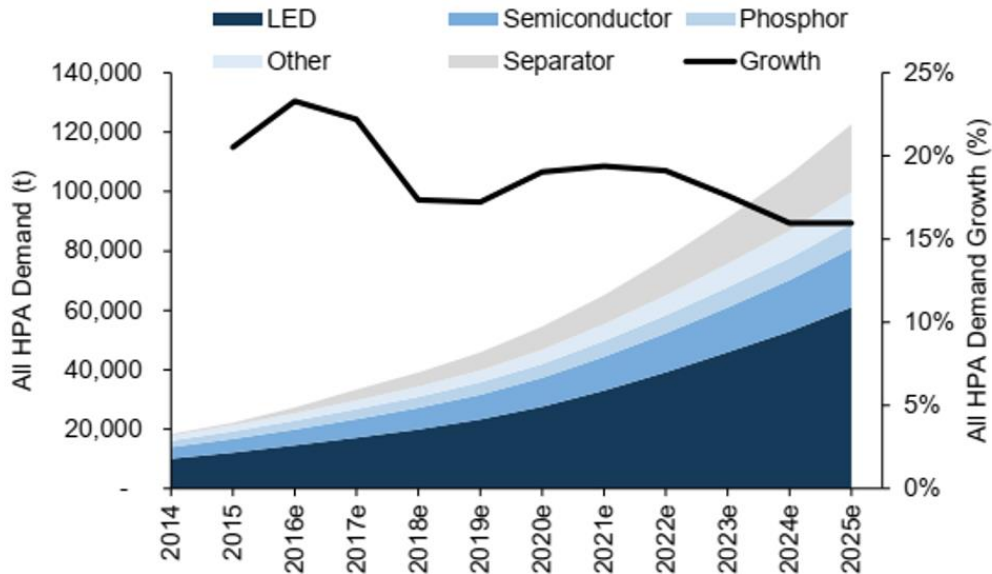
High Purity Alumina (HPA) Demand – A Battery ‘Metal’



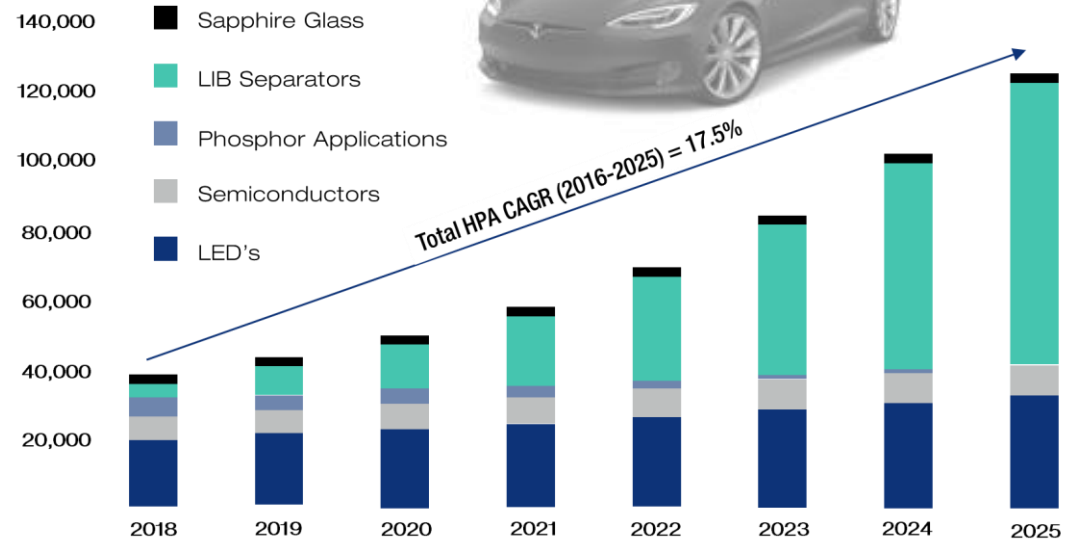
Consensus market agreement on strong demand growth for HPA to 2025. Market analysts divided on growth driver being either the increasing adoption of LED (Light Emitting Diode) products and/or separator coatings in lithium ion batteries (Li-B's).

Projected Li-B separator demand overwhelmingly driven by projected Electronic Vehicle (EV) demand

HPA Demand Outlook (2018-2025)



Source: Petra Capital

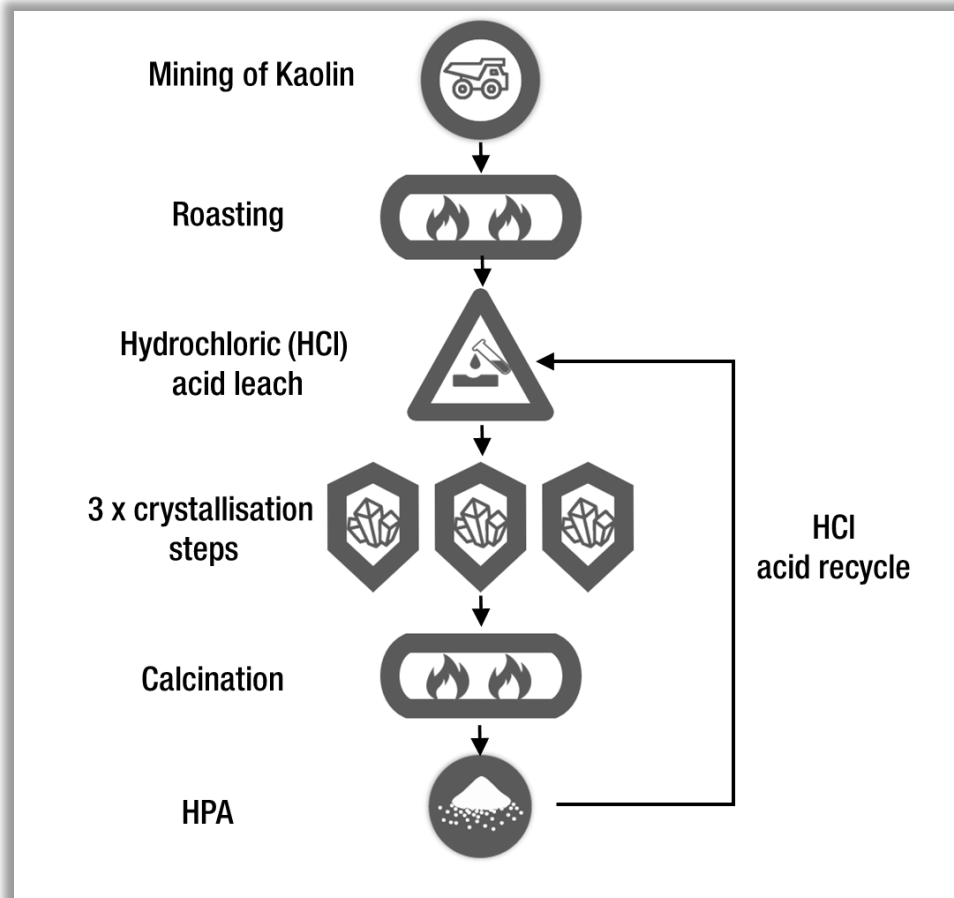


Source: CRU

Existing HPA Market Production Processes

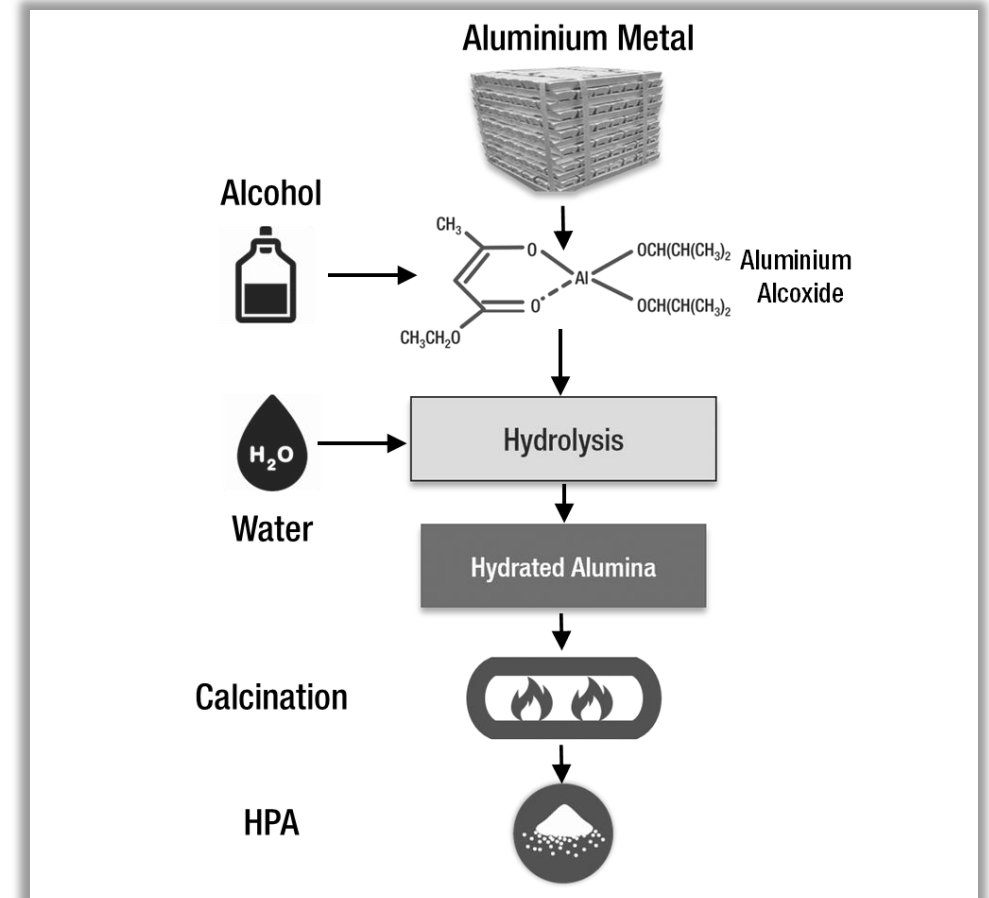
Existing HPA production is synthesised from Aluminium metal feedstock or produced from hydrochloric acid leach of kaolin clay.

HPA from kaolin – schematic flow sheet



Source: various company and technical presentations

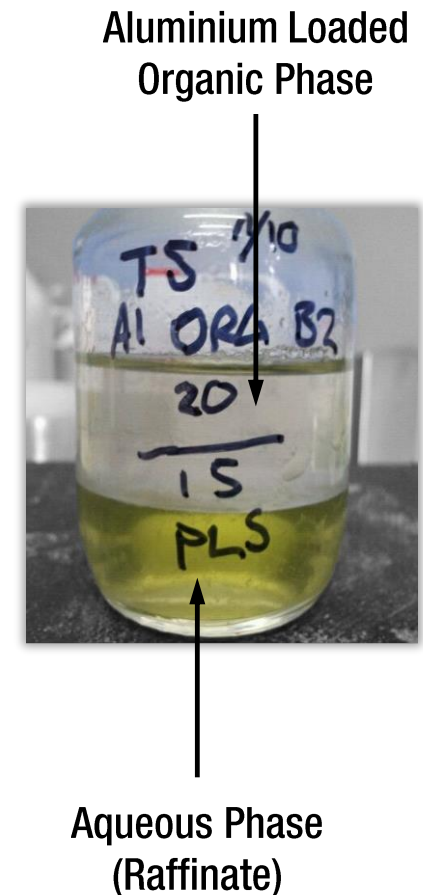
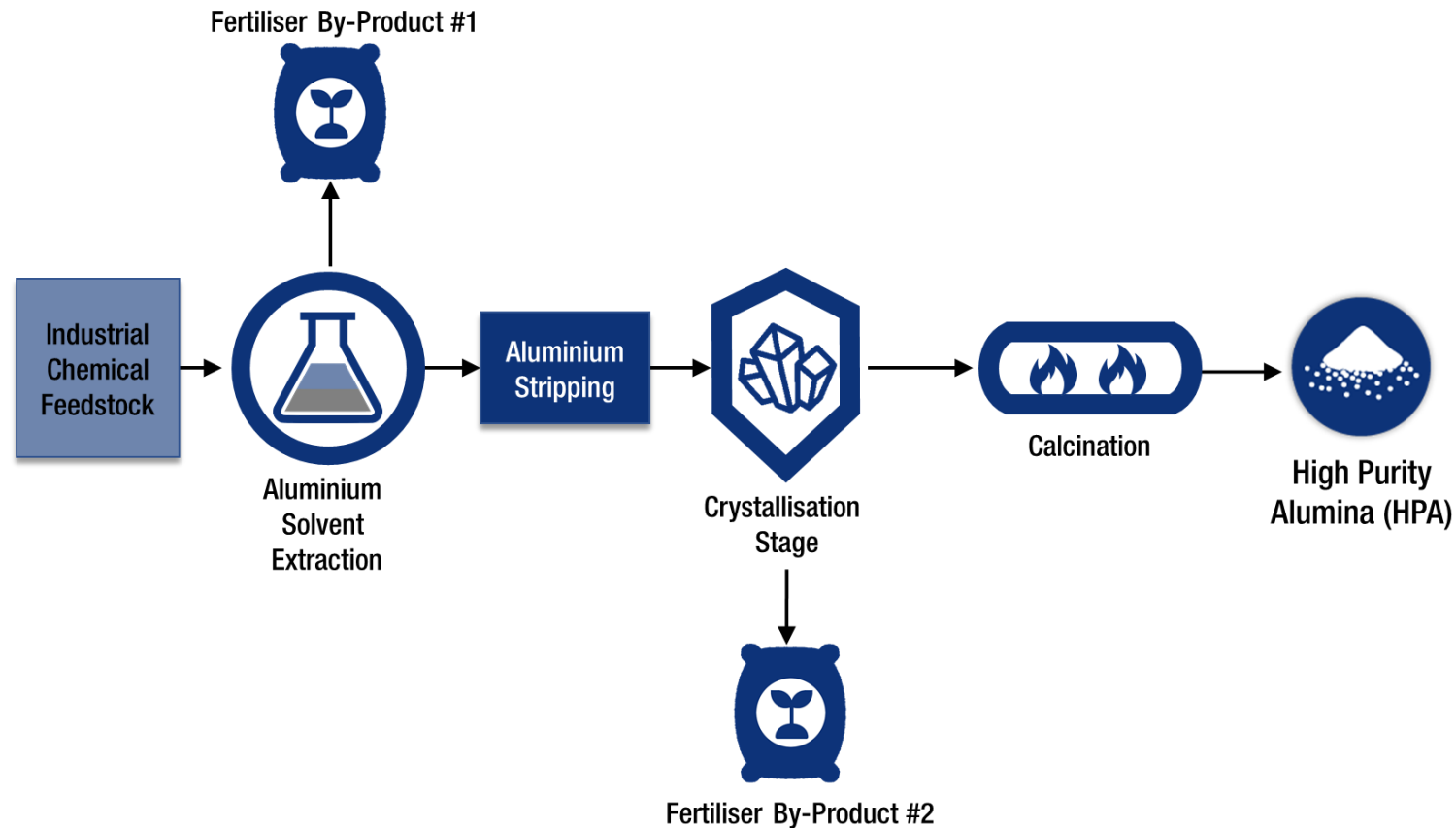
HPA from Al metal – schematic flow sheet



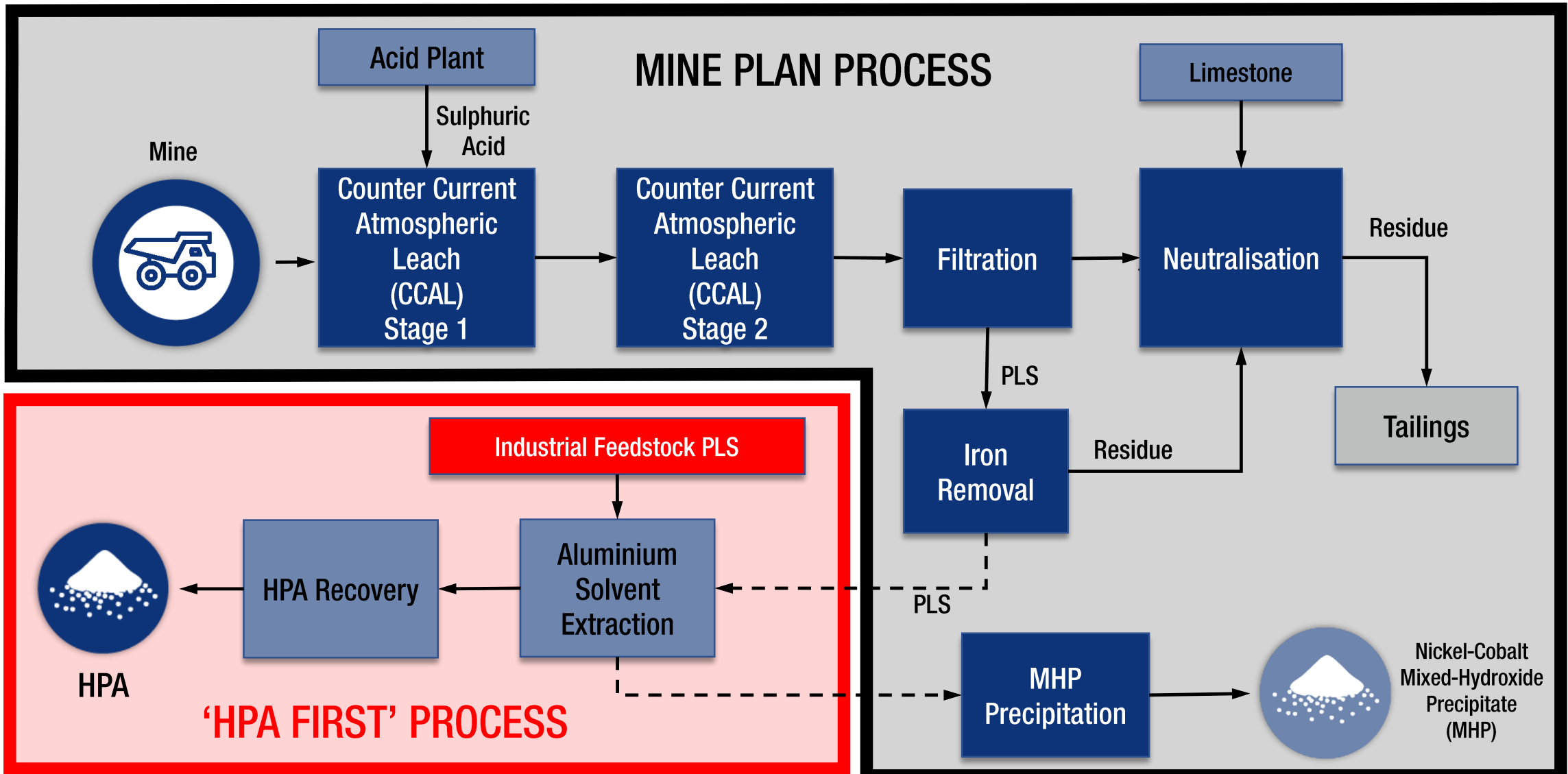
Source: Sumitomo Chemicals

Our HPA Process – Solvent Extraction

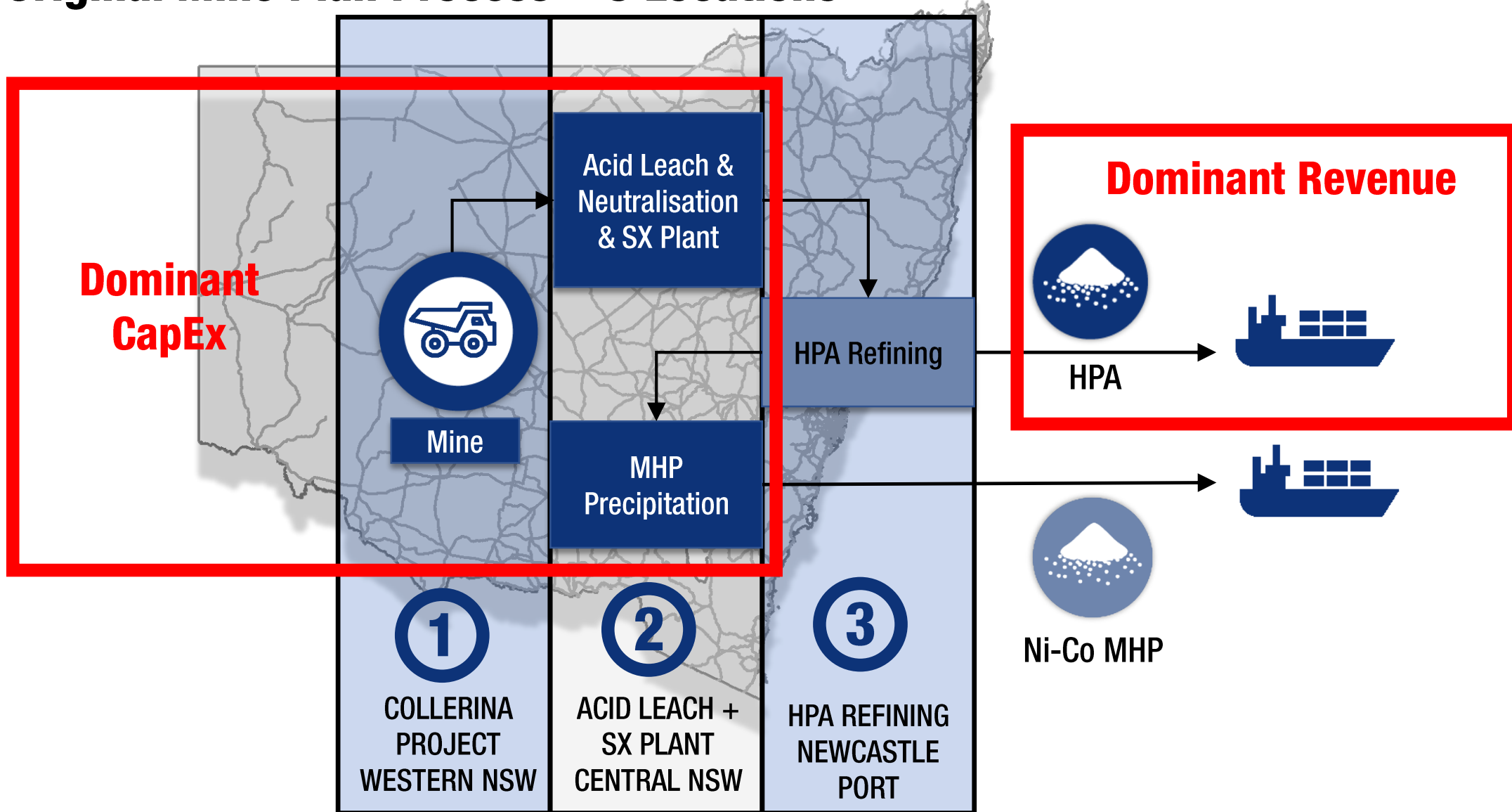
- Unique and innovative process approach to HPA production – including 2x by-product credits
- Based on Solvent Extraction (SX) - SX accounts for ~25% of global copper production
- Highly selective process delivers HPA purity
- Atmospheric wet chemical process – no high-risk pressure vessels or acid leach



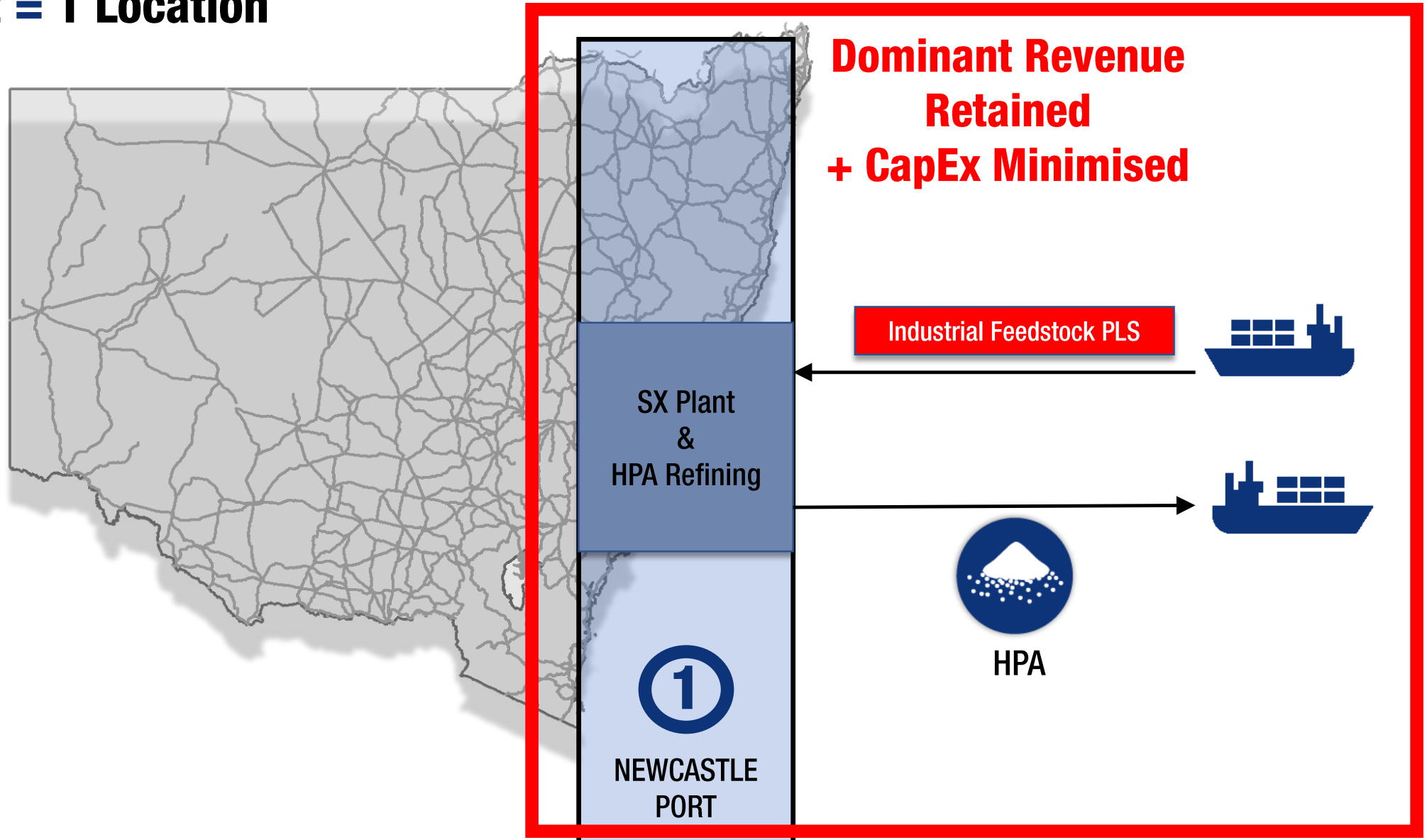
HPA First – A Major Process Simplification



Original Mine Plan Process = 3 Locations






























HPA First = 1 Location



Peer Comparison - HPA

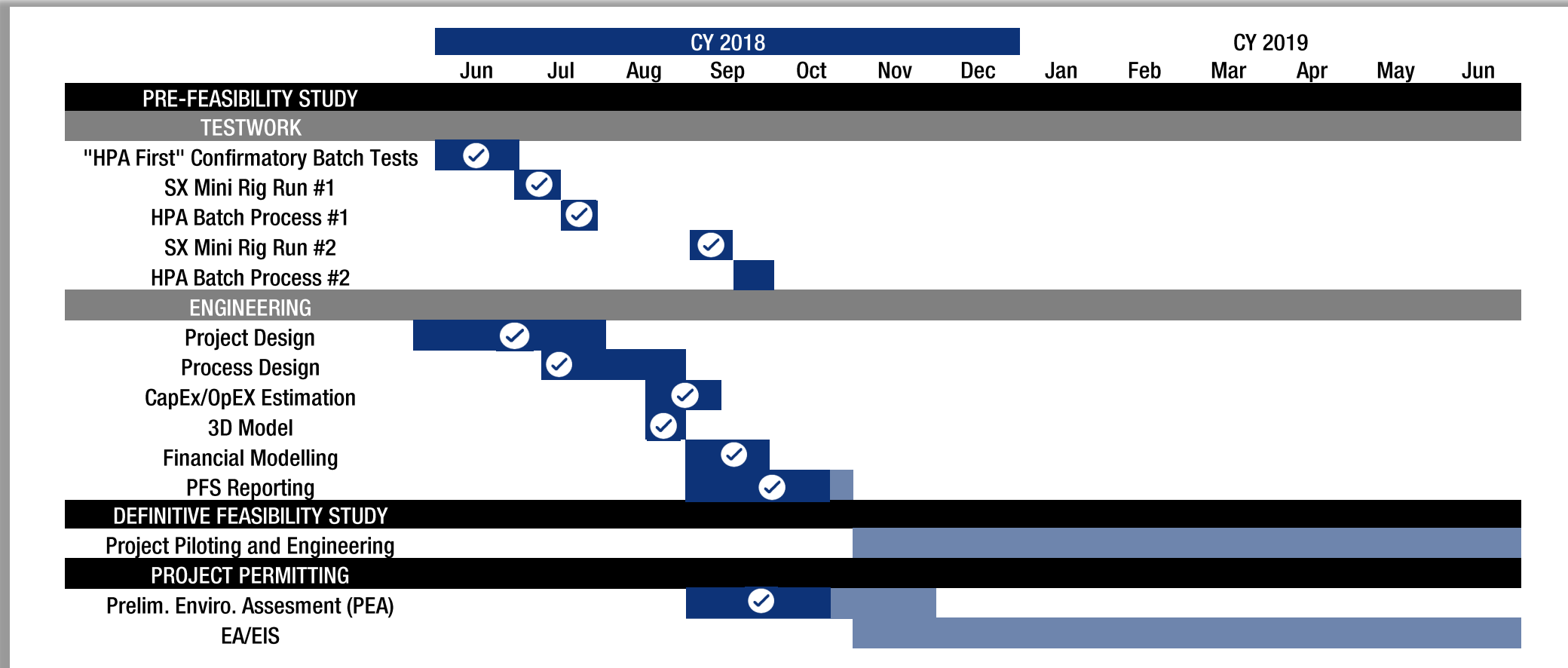
Source: Company websites and exchange filings

- Collerina Cobalt's process is advantageously unique

					
Projects	CLL	FYI	HEG	Altech	Orbite
Project Stage	PFS Oct 2018	PFS Complete	PFS Complete	BFS 2015 FID Approved	Restarting Production
Feedstock	Bulk Industrial Chemicals	Kaolin	Kaolin	Kaolin	Kaolin
Project Units					
Mining	N/A				
Feedstock Calcining	N/A				
Hydrochloric (HCl) Acid leach	N/A				
High Temperature HCl recovery	N/A				
Solvent Extraction (SX)		N/A	N/A	N/A	N/A
HPA Refining					
CapEx	Pending	US\$179M	US\$271M	US\$298M	C\$498.5M

Indicative Timetable

- The first mini-rig run using the HPA First process has been completed, with the successful production of HPA .
- The second SX mini-rig and HPA run are now completing
- PFS on track for delivery in October/November 2018.



“HPA FIRST” - FAST TRACK PATH TO HPA PRODUCTION

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- Faster track to financing and construction to operational cash-flow

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THANK YOU

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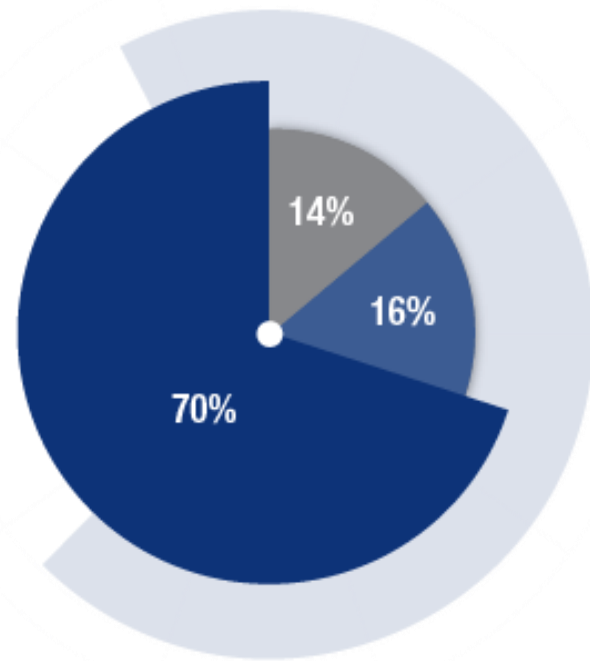
COLLERINA COBALT LTD (ASX:CLL)

Appendices

Appendix 1

Demand for HPA – Regions

Demand for HPA is primarily being driven by the increasing adoption of LED (Light Emitting Diode) products, separators in lithium ion batteries (Li-B's) and scratch resistant artificial sapphire glass for smartphone screens and watches



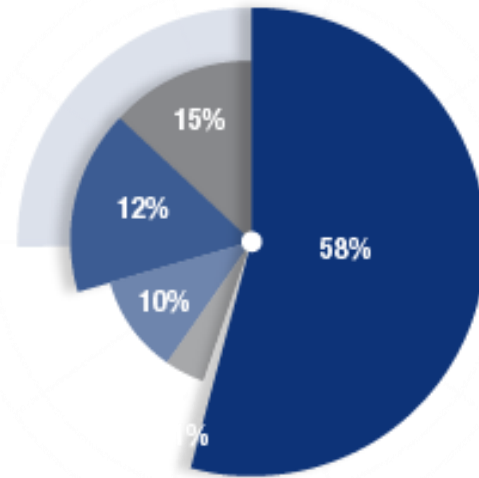
HPA DEMAND BY GEOGRAPHIC REGION (2016)



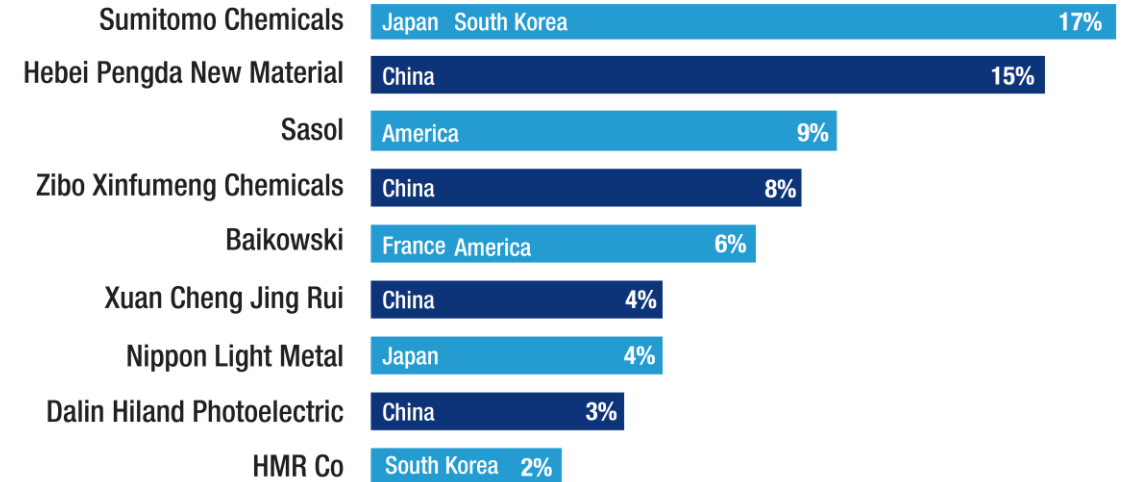
Growth demand is dominated by the APAC Region (~70% in 2016) primarily China, Japan and South Korea

As a would-be Australian based HPA producer, Collierina Cobalt is ideally placed to service the most dominant region of global HPA demand

Appendix 2 Supply of HPA



GLOBAL HPA SUPPLY DISTRIBUTION - 2016E



% EXPECTED 2016 OUTPUT

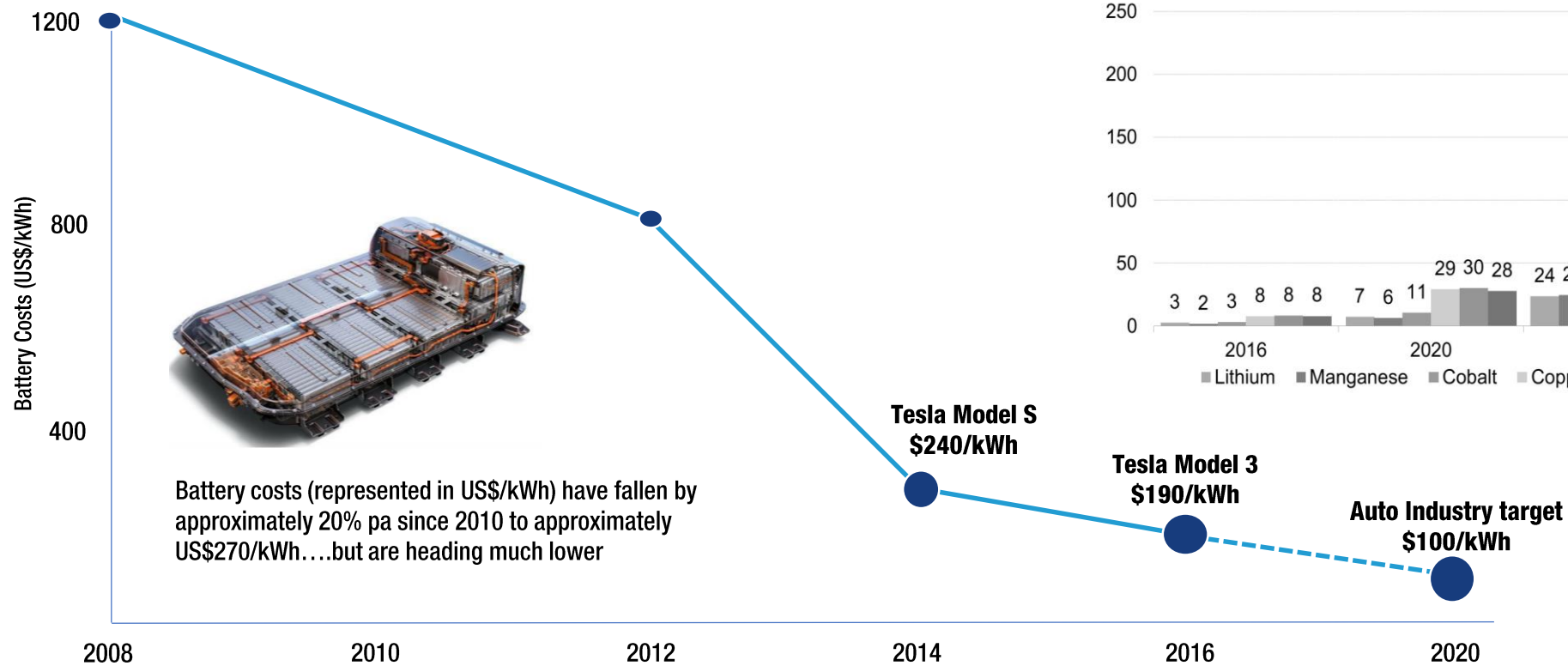
SOURCE: PERSISTENCE MARKET RESEARCH

- Current HPA supply is concentrated in the Asia Pacific region (~83%) with China the most prolific producer
- Current production is dominated by large diversified chemical companies where HPA is a non-core product and an immaterial percentage of revenue (< 5% for Sumitomo Chemicals)
- Cobalt sees enormous opportunity as a focused HPA producer to:
 - Become a genuine alternative supply source to the existing dominant APAC producing countries, and more importantly
 - Fill an expected supply shortage as forecast HPA demand escalates over the next decade
- Collerina Cobalt stands to become an extremely low-cost HPA producer
- Strong potential exists for long-term offtake agreements prior to commercial production

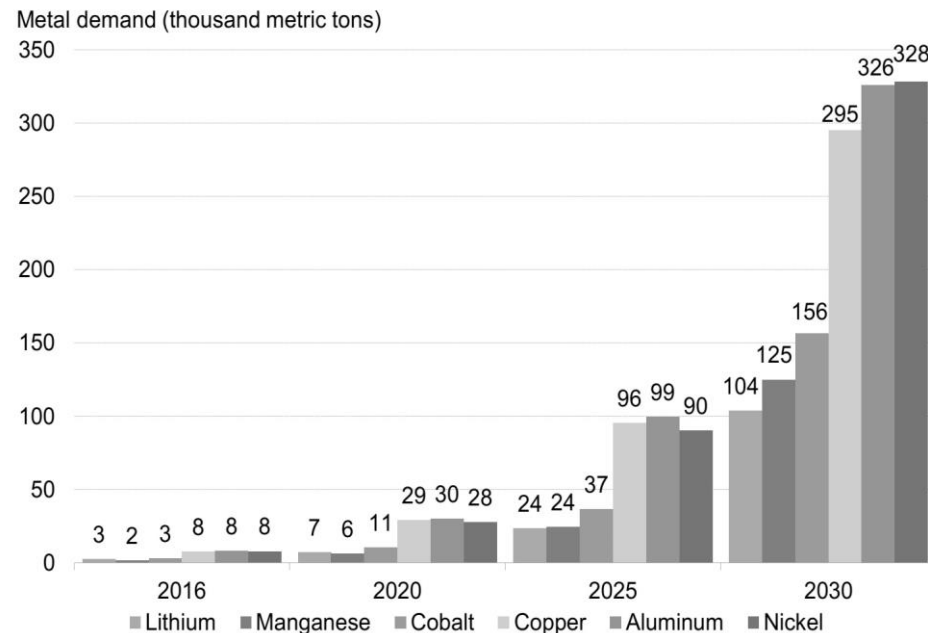
Appendix 3

Battery Costs Will Underpin EV Penetration

Batteries with lower cost structures and greater energy densities will drive EV penetration and demand for battery metals



Forecast demand for key battery materials



Source: Bloomberg New Energy Finance

Appendix 4

Statement of Compliance

Competent Persons Statement (Process Development Testwork)

Information in this announcement that relates to metallurgical results is based on information compiled by or under the supervision of Dr Stuart Leary, an Independent Consultant trading as Delta Consulting Group. Dr Leary is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Leary has sufficient experience to the activity which he is undertaking to qualify as a Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Leary consents to the inclusion of the technical data in the form and context in which it appears.

For further information on testwork results and processes see ASX announcements dated 6 August 2018, 6 September 2018 9 July 2018, 30 April 2018, 26 April 2018, 21 March 2018, 6 March 2018, 21 February 2018, 8 December 2017, 30 November 2017, 29 November 2017, 24 November 2017 and 13 November 2017.