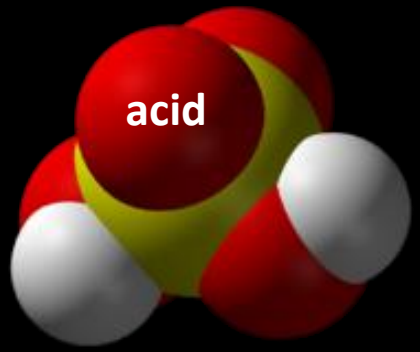
Lithium Australia NL

Disruptive technology

to revolutionize lithium production
from the world's most abundant

lithium minerals



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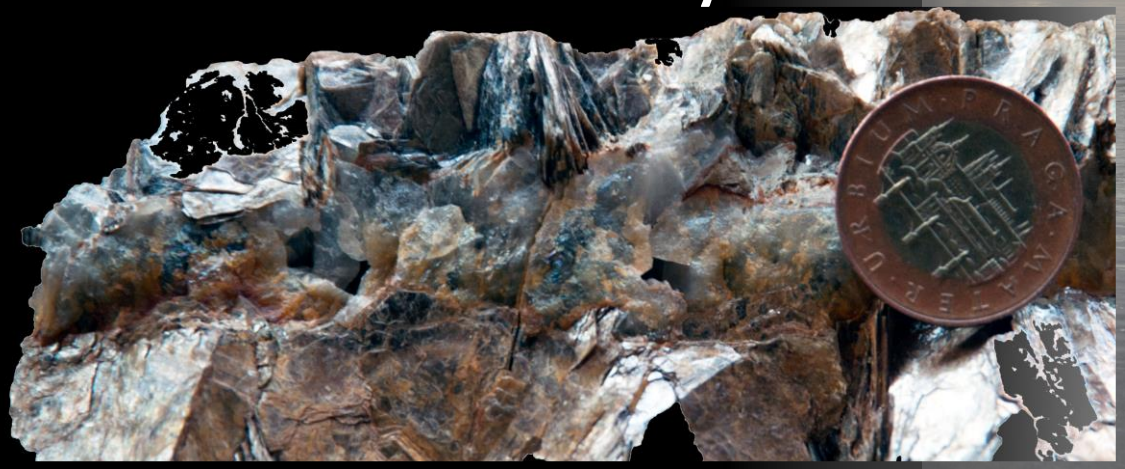
lithium micas and clays



= low cost production of lithium carbonate, lithium hydroxide, & valuable by-products

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Technology has trumped the tyranny of distance and place no longer matters

Lithium Australia NL

TELL SOMEONE PRODUCING:

- Nickel in Siberia
- Copper in Mongolia, or
- Spodumene concentrates at Pilgangoora

PLACE DOES MATTER – YOU CAN'T MOVE THE OREBODY!

But you can improve economics with good processing technology

- Low energy
- Low operating cost
- Strong by-product credits
- Technology that is disruptive

WHAT IS DISRUPTIVE TECHNOLOGY?

The history of lithium is a history of disruption

- There is a new wave of disruption
- Turn geological curiosities into reserves
- Lithium Australia leads the pack

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COMPETENT PERSON'S STATEMENT

The information in this report that relates to reporting of Exploration Results is based on and fairly represents information and supporting documentation prepared by Adrian Griffin, a member of the Australasian Institute of Mining and Metallurgy. Mr Griffin is a shareholder in, and managing director of, LIT and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. *Mr Griffin consents to the inclusion in this report of the matters based on information in the form and context in which it appears.*

The reporting of mineral species is generic in nature, and the term 'lepidolite' – as it is applied to mineral species, and not necessarily locality names – includes mineral species widely considered to be part of the solid solution series of polylithionite/trilithionite, of which the Competent Person considers lepidolite to be approximately a median member. It is also acknowledged that material processed from Lepidolite Hill has bulk compositions tending towards trilithionite, although the rubidium concentration is outside the range generally expected in such minerals.

Similarly, the term 'zinnwaldite' has been applied to minerals approximating the accepted composition of zinnwaldite but with variations tending towards lepidolite. This terminology is considered acceptable by the Competent Person, particularly with respect to the Cinovec deposit, the mineralization of which includes the type locality of zinnwaldite, being Zinnwald, close to the border of Germany and the Czech Republic.

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Company snapshot

LITHIUM AUSTRALIA (LIT) – A UNIQUE FOCUS ON LITHIUM

BOARD OF DIRECTORS

George Bauk (non-executive chairman)
Expert in specialty metals, particularly rare earths – project management, marketing and financing.

Adrian Griffin (managing director)
Exploration, production, mine management.

Bryan Dixon (non-executive director)
Corporate, finance, mine development.

ASX ticker: LIT
ACN 126 129 413

- 141 M Ordinary Shares
- 44 M Partly Paid Shares
- 29 M Unlisted Options
- 13 M Performance Rights
- Market cap. $30 M (6 Jan 2016 – source Yahoo)

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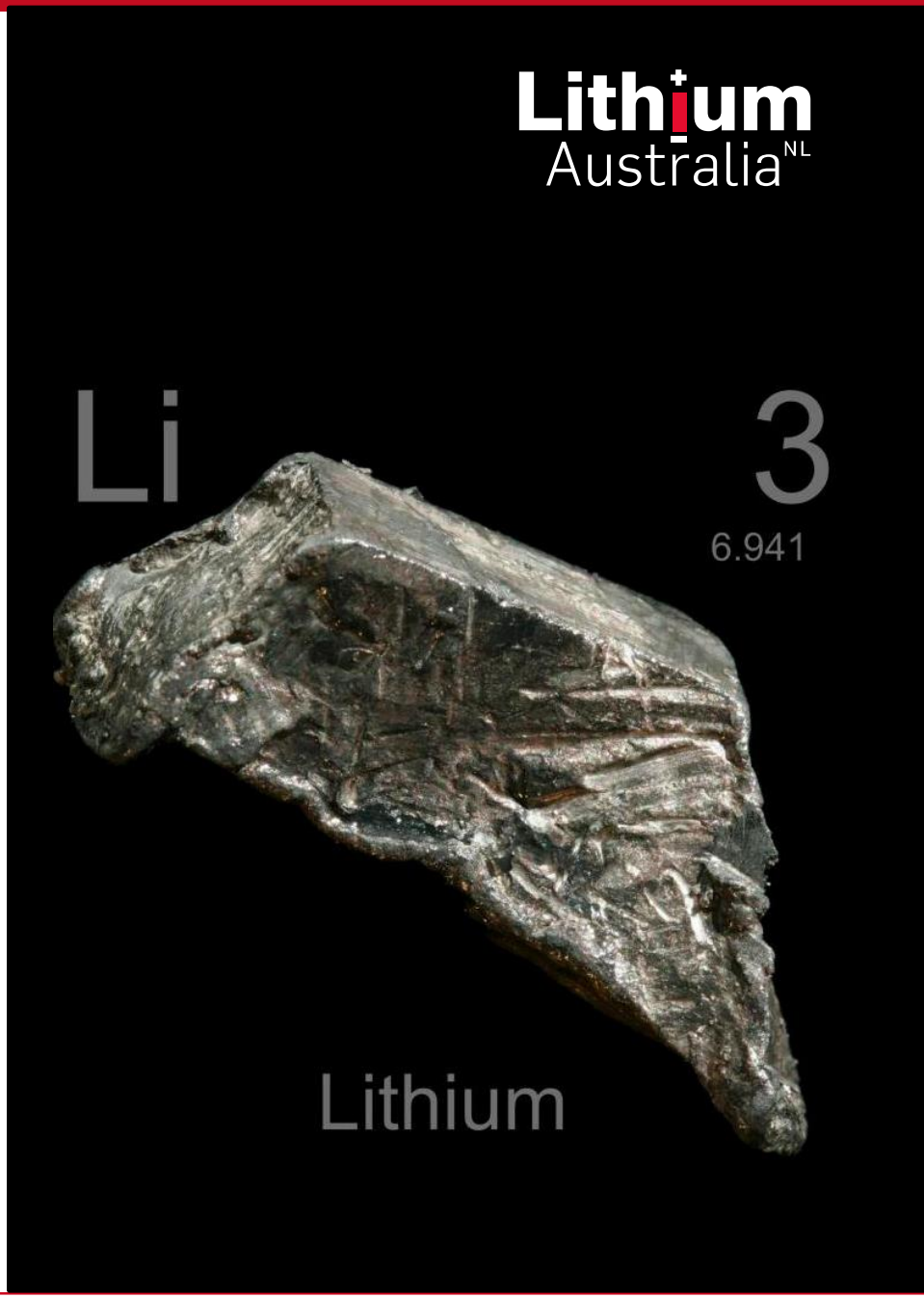
www.lithium-au.com



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Lithium market

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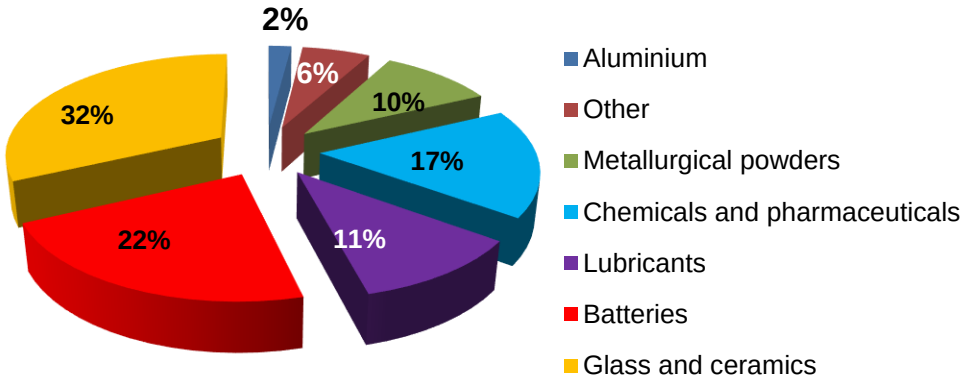
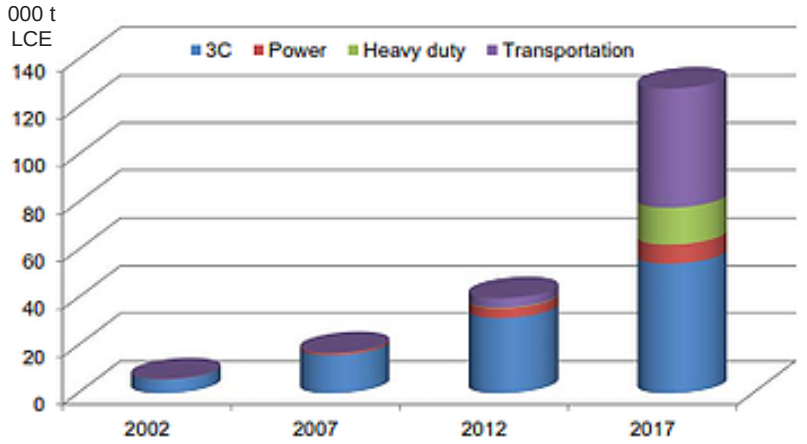
Consumption by application

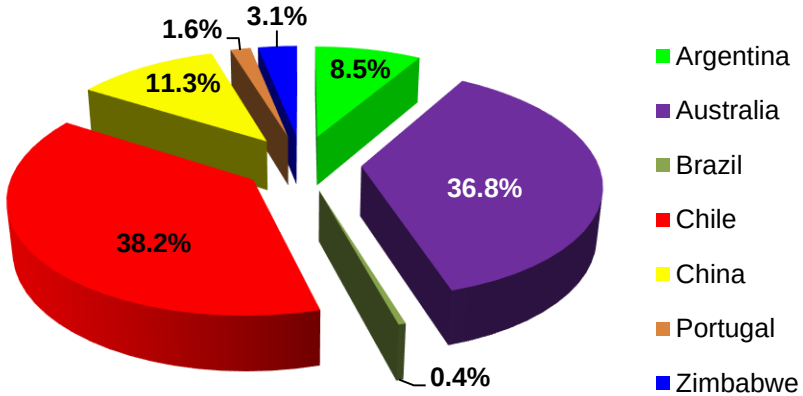


Demand for lithium batteries



Source: Market Outlook to 2017 – Roskill Information (2013).

Production by country



HARD-ROCK PRODUCERS

- Talison, Greenbushes – Western Australia (WA)
- Sociedade Mineira de Pegmatites – Portugal
- Bikita Minerals (Pvt) Ltd – Zimbabwe
- Various – China

HARD-ROCK DEVELOPERS

- Pilbara Minerals, Pilgangoora – WA
- NeoMetals, Mt Marion – WA
- General Mining, Mt Cattlin – WA
- Altura, Wodgina – WA
- Nemaska Lithium, Whabouchi – Canada

HARD-ROCK PRODUCERS ARE PRIMARILY CONCENTRATE SUPPLIERS, NOT CHEMICAL PRODUCERS

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Disruptive technology to fill supply gap

Lithium Australia NL

ABUNDANT FEED POTENTIAL

- Lithium micas, a 'forgotten resource' – the most abundant lithium minerals
- Lithium clays – the emerging opportunity
- Other lithium silicates (pyroxenes, amphiboles, tourmalines)

EXCLUSIVE TECHNOLOGY AGREEMENTS

EXCLUSIVE LICENSING

ONGOING PROCESS EVALUATION

EXPANDING SUPPLY GAP & RAPIDLY INCREASING PRICES

VALUE ADD – HIGH QUALITY LITHIUM HYDROXIDE AND LITHIUM CARBONATE



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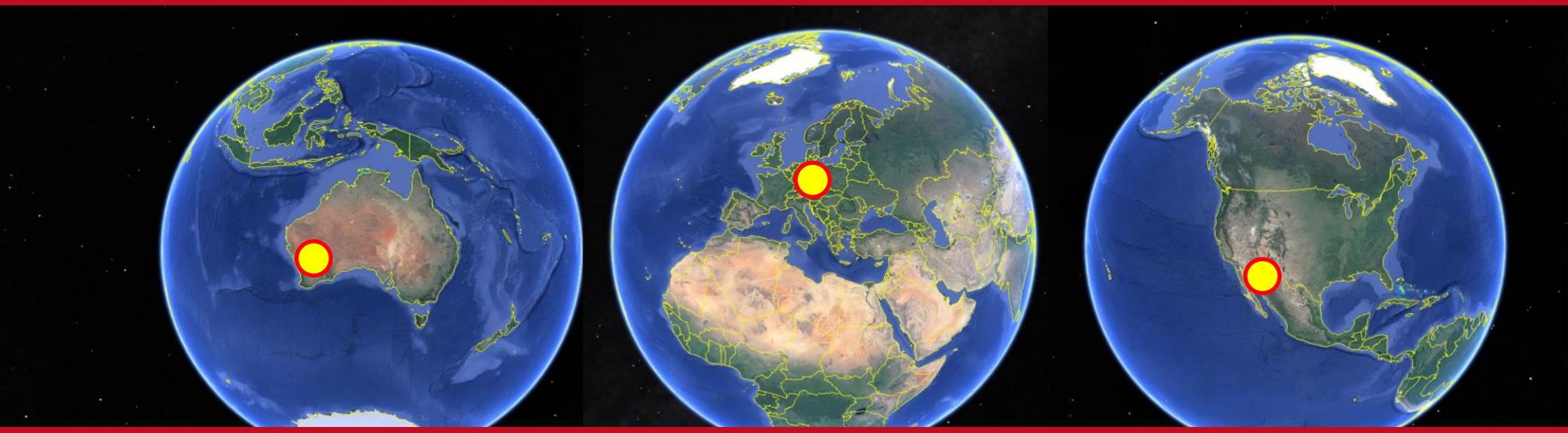
Company strategy

To produce battery-grade lithium chemicals from unconventional mineral commodities

Produce the chemicals required by the end user not intermediates convenient for the supplier

Dominate global lithium inventories

Develop well serviced regional processing hubs



Western Australia | Europe | North America

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LIT progress for 2015

CINOVEC SCOPING STUDY
NON BINDING HoA WITH EUROPEAN METALS HOLDINGS LIMITED
CONTINUOUS PLANT RUN FOR LEPIDOLITE HILL
EARLY EXERCISE OF TECHNOLOGY LICENCE OPTION
CONTINUOUS PRODUCTION OF BATTERY GRADE LITHIUM CARBONATE
PROVEN CONVERSION OF LITHIUM CARBONATE TO LITHIUM HYDROXIDE

PROGRESS TO DECEMER 2015

- Geochemical techniques developed to detect buried lithium mica pegamtites
- Geochemical surveys completed at Pilgangoora (Western Australia)
- Agreement with Alix Resources Corp (AIX-TSX:V)
- Nevada base Kappes Cassiday and Associates appointed for the evaluation of lithium clays

EXPECTATIONS FOR 2016

- Cinovec JVA
- Cinovec continuous mini plant run
- Continuous production of lithium hydroxide
- ALiX bench scale leach tests
- ALiX JVA
- Evaluation of additional European deposits
- Commitment to large-scale mica pilot testing
- Energy efficient outcome for the processing of lithium clays
- Leverage into lithium clay inventories

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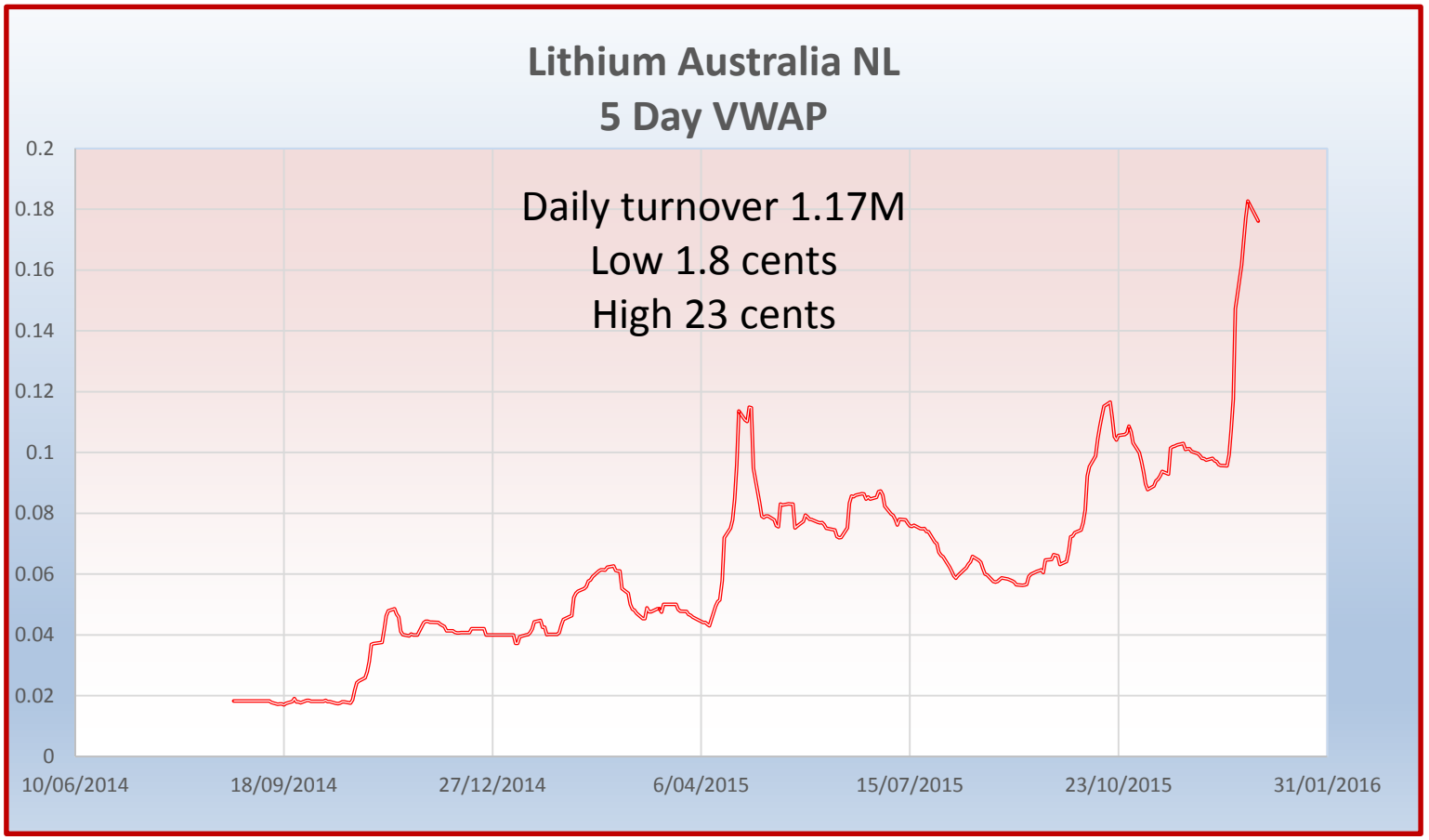
Lithium strategy since inception



SHARE PRICE DRIVERS

Exclusive technology, proof of concept, application of technology to Cinovec, conversion of lithium carbonate to hydroxide

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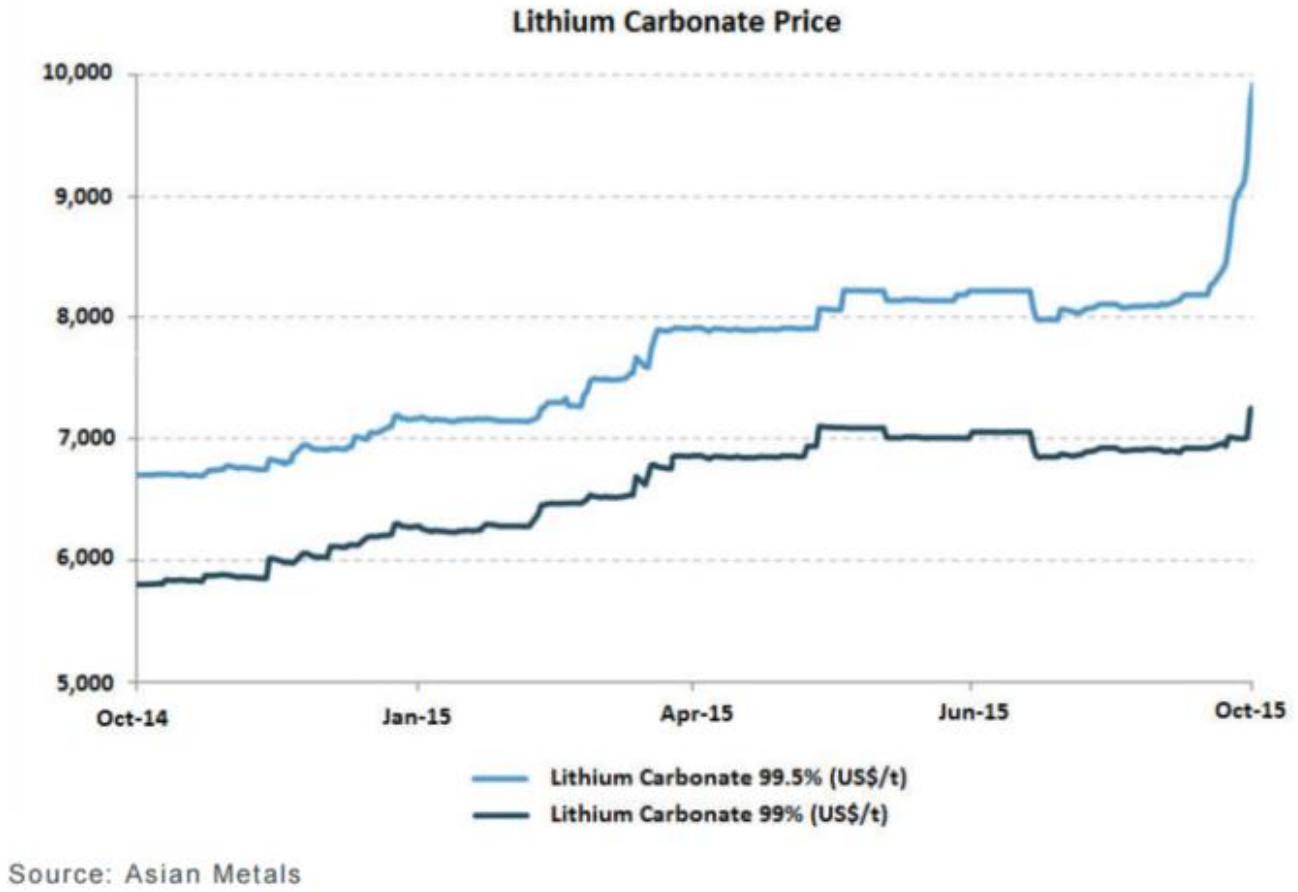
Commodity prices



Source: Asian Metals

SUPPLY CONSTRAINTS ARE DRIVING PRICES

Lithium hydroxide, a product easily produced from lithium micas, recently rose above US$14,000 per tonne. This product achieves a consistently high premium to the carbonate

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A Case Study – the Lithium Micas

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CONTINUOUS PRODUCTION – BATTERY GRADE CHEMICALS

- Zero energy footprint
- Waste materials with no mining cost
- High feed grades
- Fast reaction time – low capital cost
- Product options include carbonate and hydroxide

UTILIZE A FORGOTTEN RESOURCE

- Capitalize on availability of the most abundant lithium minerals
- Utilize advantages of strategic partnerships
- Paradigm shift in operating cost profile
- Prosper from by-product credits
  - Potassium sulphate
  - Aluminium chemicals
  - Silicon chemicals
  - Rubidium, caesium and strontium chemicals

RE-EVALUATE GLOBAL LITHIUM OCCURRENCES

- Turn geological curiosities into reserves
- Target geological environments identified
- Global evaluation initiated

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Proof of concept

THE CONCEPT BECOMES REALITY

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Zinnwaldite – lithium mica

$K(Li,Al,Fe)_3(Al,Si)_4O_{10}(F,OH)_2$

19	3	13	37
2 8 8 1	2 1	2 8 1	2 8 18 8 1
K	**Li**	**Al**	**Rb**
Potassium	Lithium	Aluminium	Rubidium
39.0983	6.941	26.8915388	85.4578

Lepidolite – lithium mica

$K(Li,Al,Rb)_3(Al,Si)_4O_{10}(F,OH)_2$



FEED MATERIAL

Lithium concentrate grades

	Li_2O	K_2O	CaO	Al_2O_3	FeO	MgO	S	Rb	Cs
	%	%	%	%	%	ppm	ppm	ppm	ppm
Cinovec	1.81	7.41	1.57	19.3	6.91	367	740	6671	222
Lepidolite Hill	2.25	6.63	0.72	23.71	1.00	600	100	22171	2100

FINAL PRODUCT FLEXIBILITY

Lithium carbonate purity 99.6%

	Li_2O	K_2O	CaO	Al_2O_3	SiO_2	FeO	MgO	S	P	Rb	Cs
	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Cinovec	40.3	128	75	ND	54	23	ND	1042	94	8	ND
Lepidolite Hill	40.3	26	302	59	260	15	42	1116	2	2	ND

Lithium hydroxide purity 99.9%

	Li(OH)	K_2O	CaO	Al_2O_3	SiO_2	FeO	MgO	S	P	Rb	Cs
Lepidolite Hill	48.9	143	238	ND	ND	ND	58	1200	ND	ND	ND

Final metallurgical balances for lithium hydroxide production are pending

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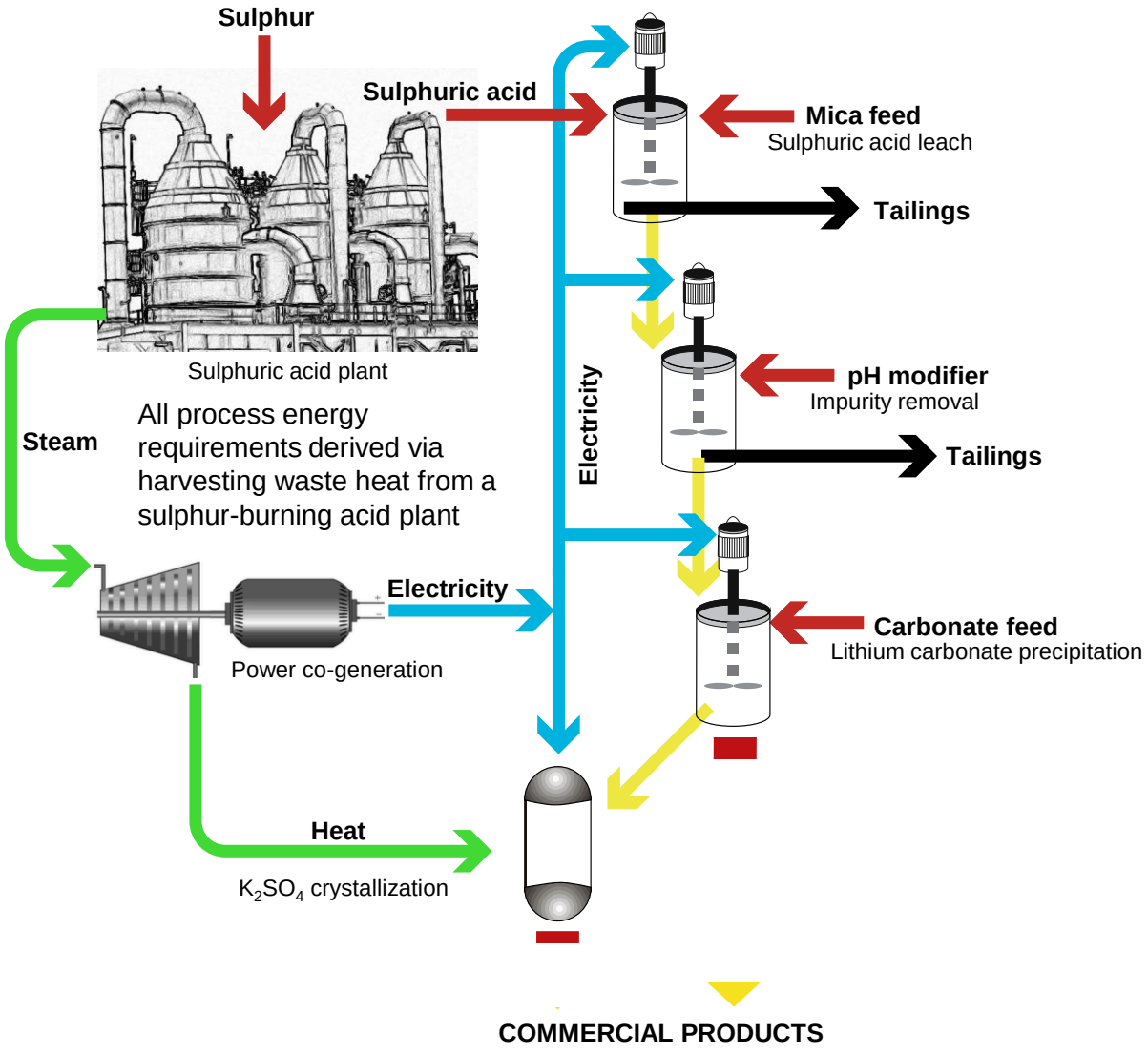
Continuous plant test – May 2015





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Continuous technology improvement

EXPLORATION DEVELOPMENTS

- Real-time, field-portable lithium assays
- Advanced geochemical modelling
- New exploration targets developed

PROCESS TECHNOLOGY

- Proprietary technology licences procured
- High-purity lithium hydroxide produced
- Integrated circuit processing capabilities
- Efficiency superior to competitive processes
- New technology being developed for other mineral species

99.9% LITHIUM HYDROXIDE PRODUCED

- Produced by reprocessing lithium carbonate
- Awaiting final metallurgical reconciliations
- Marginal additional operating costs
- Exceptional value add

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The lithium mica landscape

99.6% LITHIUM CARBONATE PRODUCED

- Capital cost $US164 M – includes sulphuric acid plant, power co-generation
- Zero energy footprint
- Benign tailings
- Capacity – 20,000 tpa of battery-grade lithium carbonate
- Operating cost <US$2,000/t after potassium sulphate credits
- Additional credits
  - Silicon chemicals
  - Aluminium chemicals
  - Rubidium and caesium chemicals

Global perspective

OPPORTUNITIES IDENTIFIED IN:

- Europe (large-scale greisen deposits)
- Africa (including Namibia, and South Africa)
- North America (Canada, Mexico and the US)
- Australia (including WA exclusive processing licence)

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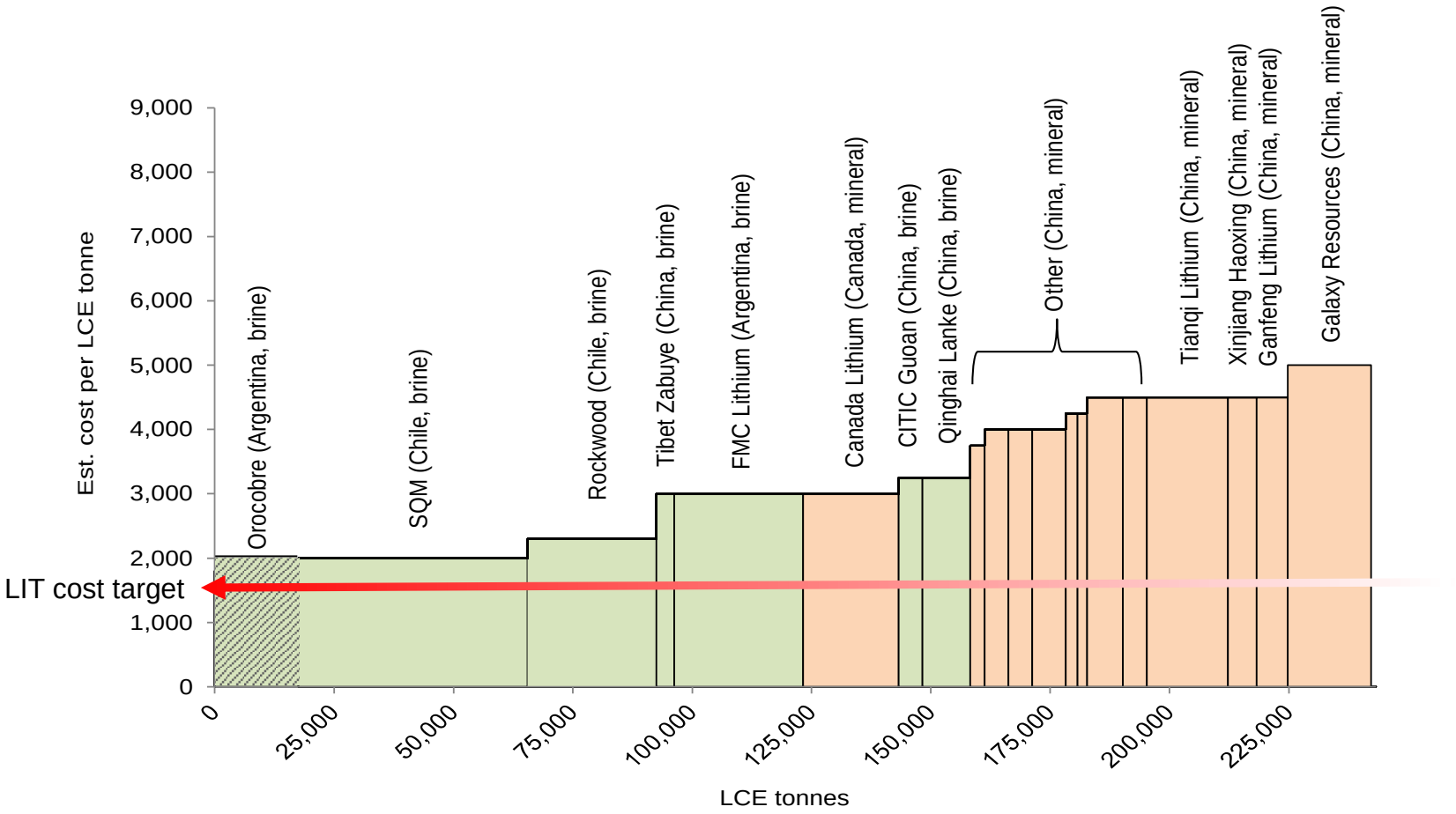
Cost profile



Estimated global lithium cost curve [sources: Roskill (with modifications) and Orecobre 2014 presentation].

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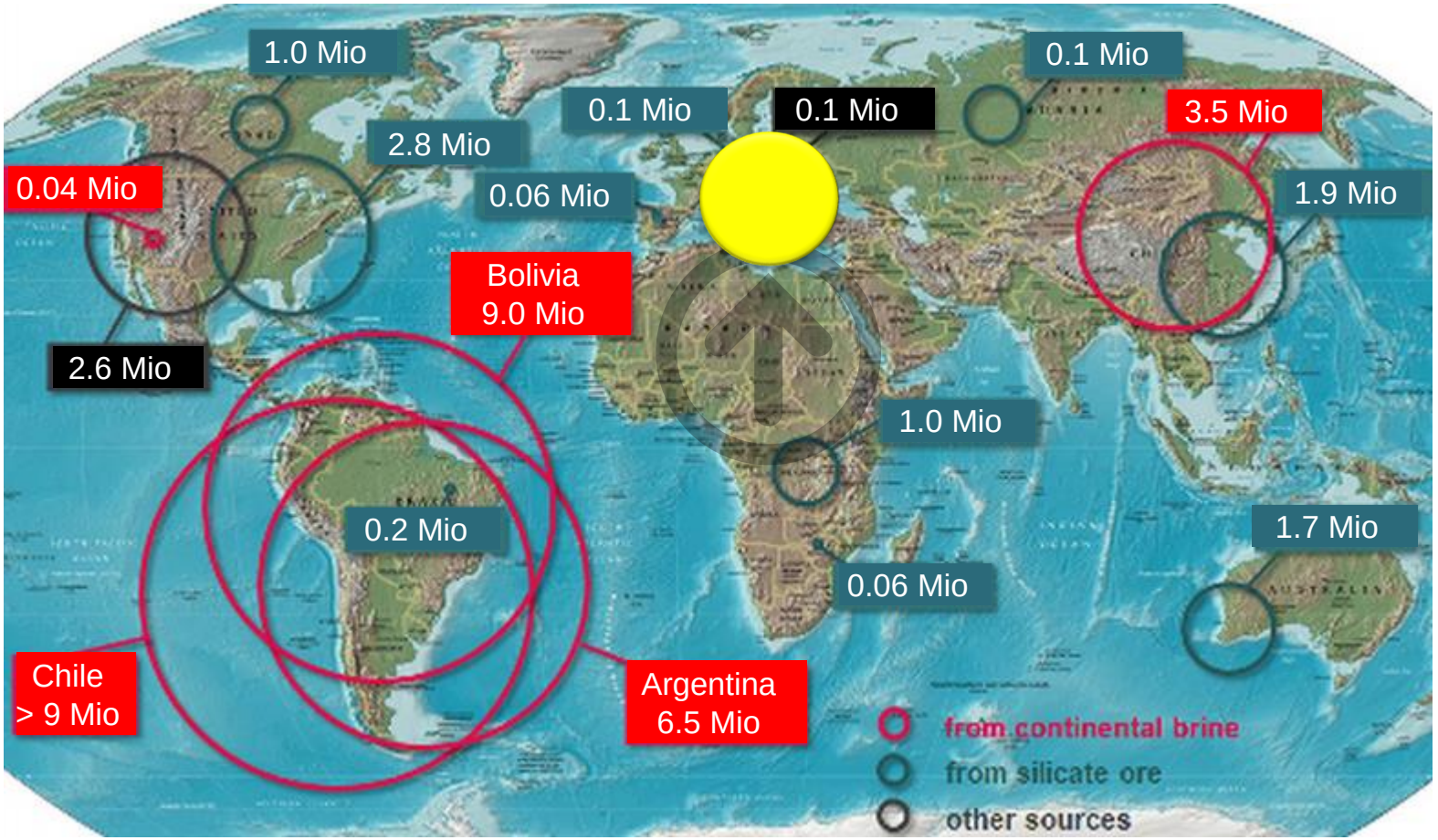
Global lithium resources

CINOVEC EMERGES AS SIGNIFICANT LITHIUM RESOURCE



Source: US Geological Survey, Mineral Commodity Summaries, February 2014.

***Lithium Inferred Resource**: 5.5 Mt LCE, 514.8 Mt @ 0.43% Li_2O (0.1% Li cut-off)*

***Additional Exploration Target**: 3.4 to 5.3 Mt LCE, 350 to 450 Mt @ 0.39-0.47% Li_2O**

CAUTIONARY STATEMENT *The potential quantity and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.*

* *As announced to the ASX on 26 June 2015.*

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Company advantages

VALUE-ADDING FACTORS

Service agreement with Strategic Metallurgy
Technology licences with Lepidico
Technical alliance with SciAps

First-mover advantage

LIT is the leader in the production of battery-grade lithium carbonate from micas, and has led to a rapid accumulation of assets and enabled expansion on three continents with diversification from lithium micas to a range of lithium silicates.

Alliances with Pilbara Minerals, Focus Minerals, and Tungsten Mining



Opportunities previously overlooked

- Tailings
- Current mine-waste discharge streams
- Primary lithium mica deposits

Escalating demand

- Revolutionary innovations in transport
- New renewable-energy storage solutions
- Emergence of smart-grid systems

Cinovec – non-binding HoA with EMH

- Giant lithium mica deposit in the Czech Republic
- Scoping study complete
- High-purity lithium carbonate produced
- Advancing to feasibility

ALiX – non-binding HoA

- Lithium clay evaluation
- Exploration potential
- Springboard into lithium-hungry North America

FURTHER INFORMATION

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Appendix 1 Cinovec Deposit – Czech Republic

VALUE ADDED PRODUCTS ENHANCE PROJECT VALUE

Since the release of the Cinovec scoping study in May 2015, lithium chemical prices have significantly increased. LIT's demonstrated ability to produce lithium hydroxide provides access to a product now commanding US$14,000/t (as opposed to $6,500 for carbonate used in the scoping study). The upgrade requires only a marginal cost increase.



Largest European lithium deposit

- Non binding MoU with EMH
- EMH is owner of the project
- Terms of 50/50 JV on lithium production under negotiation
- 600 year tin production history
- Mica concentrates produced
- Li carbonate produced
- JORC resource
- Scoping study complete
- Carbonate op cost < $2000/t
- Potential hydroxide production
- Continuous tests scheduled

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Appendix 2 Yilgarn Block project (WA)



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Appendix 3 Pilgangoora project (WA)

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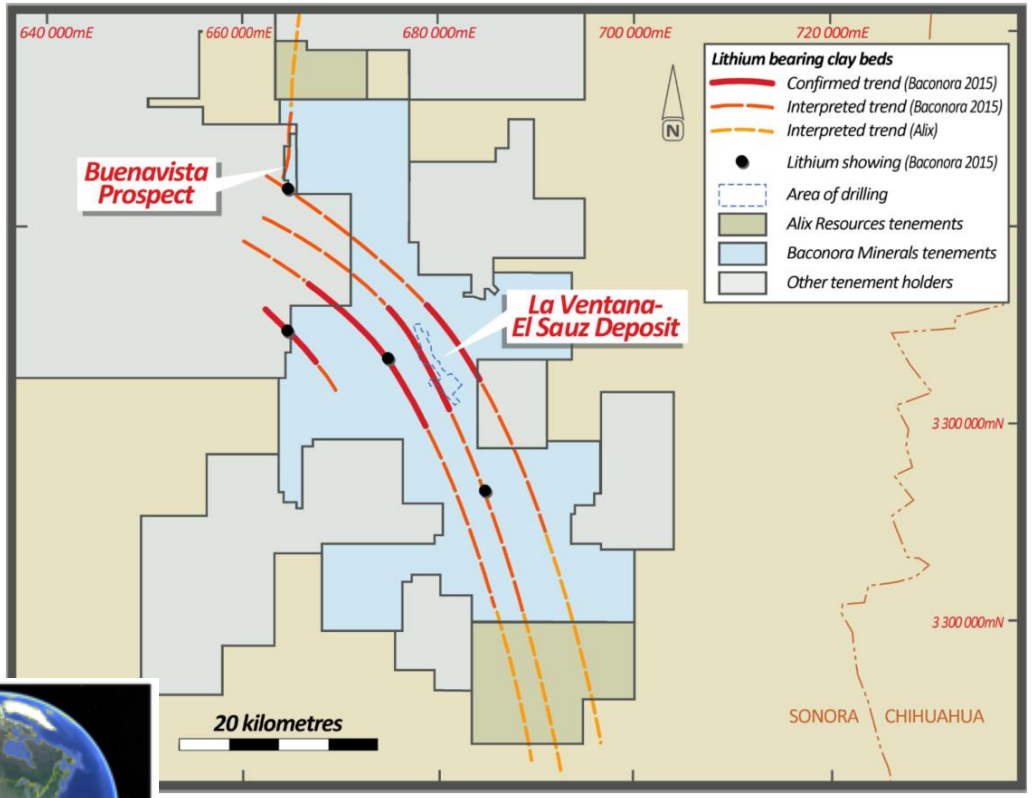
Appendix 4 Electra – Sonora, Mexico

MEMORANDUM OF UNDERSTANDING

- Alix and LIT to co-operate to develop superior processing technology for lithium clays.
- Targets include lithium clay deposits adjacent to Bacanora's sonora Project (Mexico) – The Electra Lithium Project, which includes Tecolote and Tule.
- Tecolote and Tule are interpreted to host extensions of the sedimentary/ volcanic succession that contains the lithium bearing clays.





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