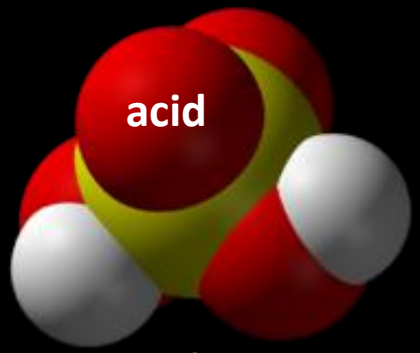
Disruptive technology

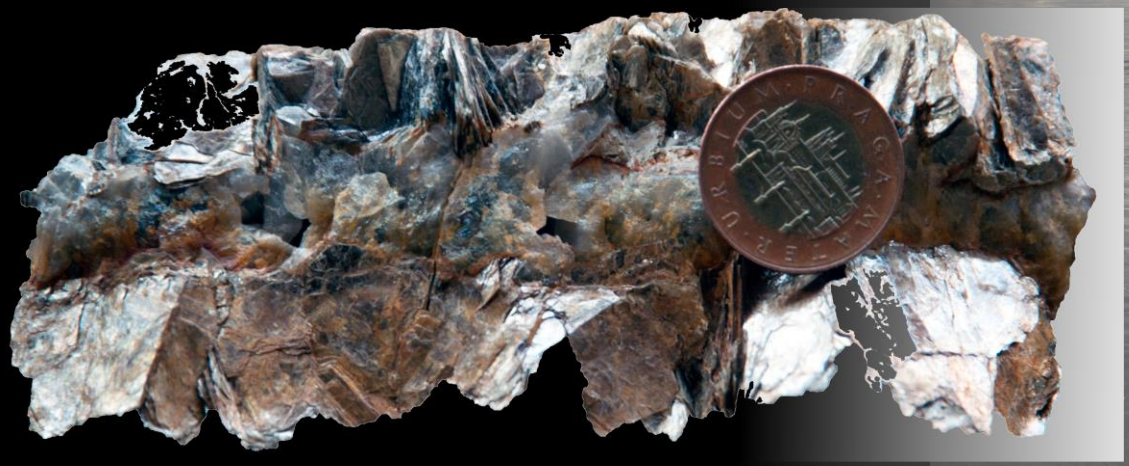
to revolutionize lithium production from

lithium silicates



+

lithium silicates



Lithium Australia NL

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

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Photographs in this presentation do not depict assets of the Company.

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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Disruptive technology – the force behind innovation

Lithium Australia NL

WHAT IS DISRUPTIVE TECHNOLOGY?

Disruptive technology is that which creates the paradigm shift, the compelling argument for strategic change.

The history of lithium is a history of disruption

- There is a new wave of disruption
- Lithium Australia leads the pack

WHERE IS THE LIT ADVANTAGE

- Sole owners of technologies for low energy recovery of Li and other metals from conventional lithium minerals including spodumene and petalite
- Potential to recover lithium from the more uncommon minerals such as jadarite
- Exclusive licences to use L-Max technology for recovery of lithium from mica
  - Throughout Western Australia
  - Cinovec in the Czech Republic
  - One other project to be nominated
- High-value end products, lithium carbonate, lithium hydroxide and fluorine compounds
- Developing extraction technologies for lithium clays

RE-EVALUATE GLOBAL LITHIUM OCCURRENCES

- Turn geological curiosities into reserves
- Improve the economics of conventional lithium resources

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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.

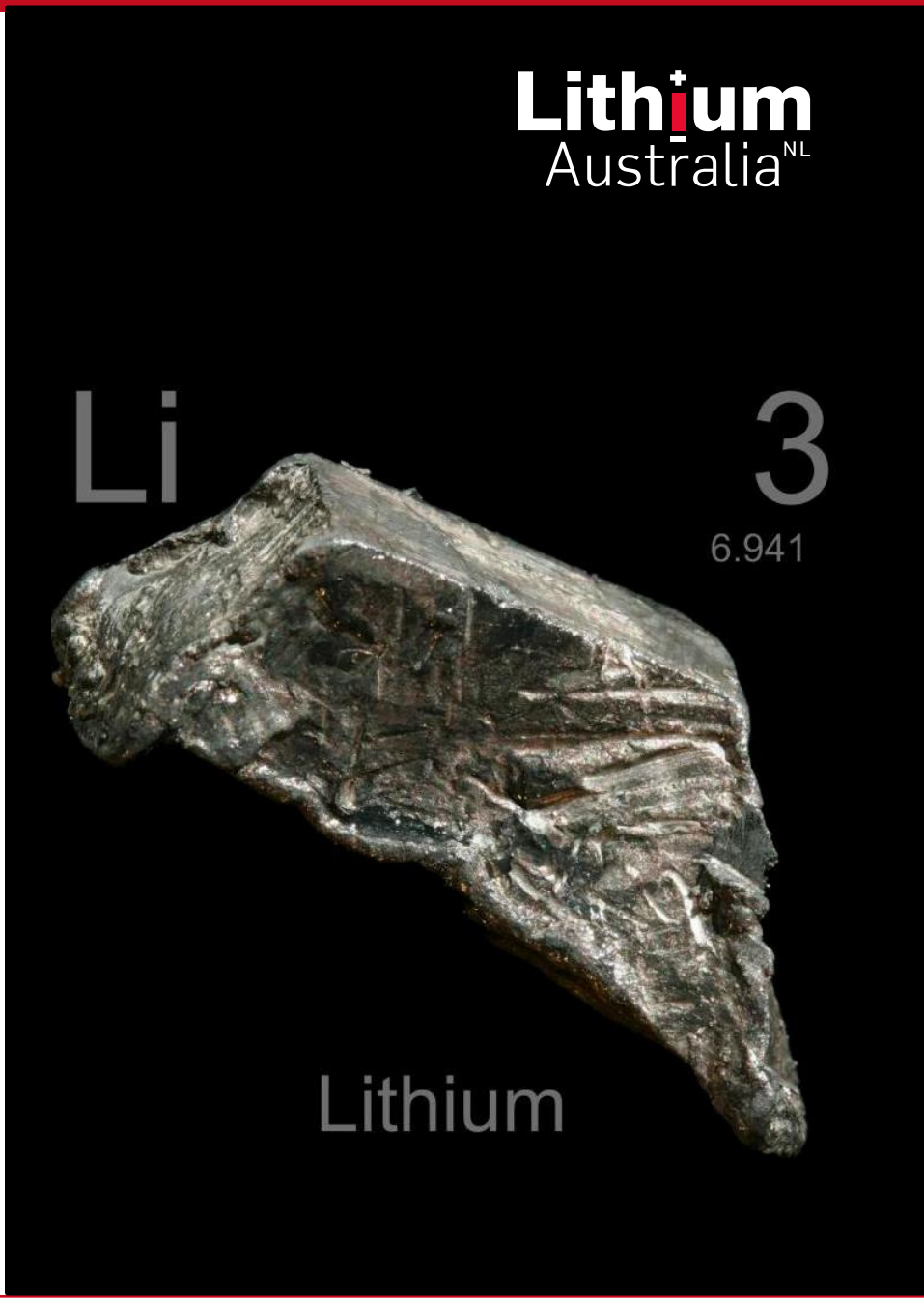
Bryan Dixon (non-executive director)
Corporate, finance, mine development.

ASX ticker: LIT
ACN 126 129 413

- 197 M Ordinary Shares
- 23 M Partly Paid Shares
- 29 M Unlisted Options
- 13 M Performance Rights
- $3.8M Cash at bank 31 Jan 2016

- **Market cap. $35 M (3 Feb 2016 – source Yahoo)**

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www.lithium-au.com



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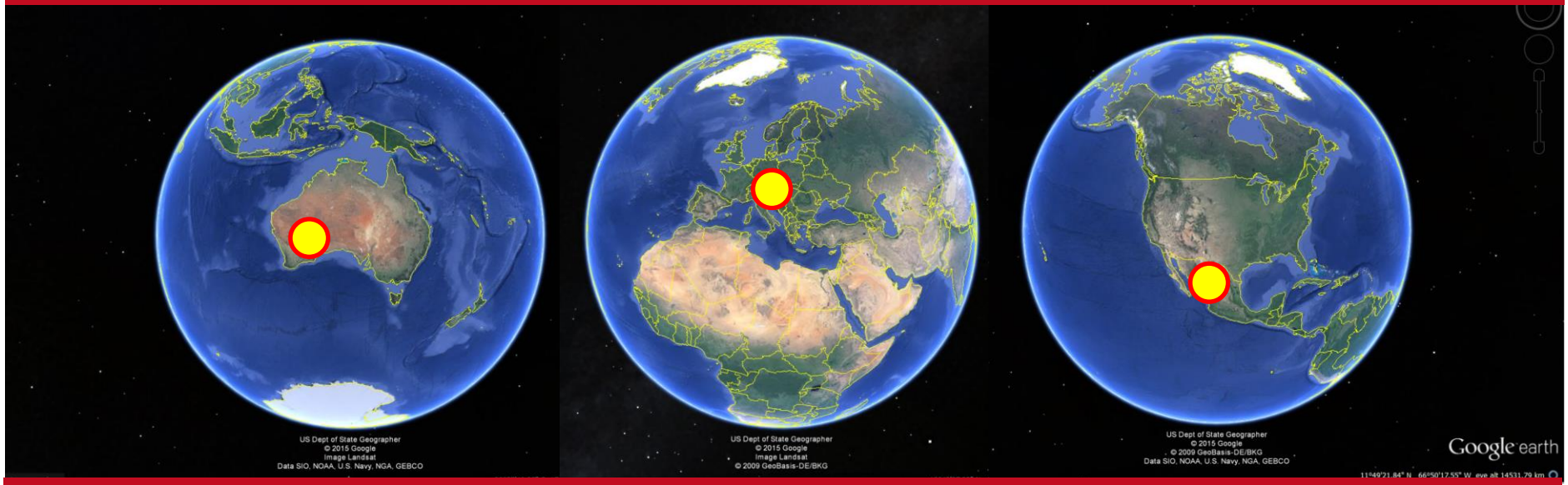
Company strategy

To produce battery-grade lithium chemicals from silicate minerals with bottom percentile costs

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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Changing the lithium chemical cost curve

Lithium Australia NL

ACHIEVING THE PRODUCTION GOALS

- Zero energy footprint
- High feed grades
- Fast reaction time – low capital cost
- Product options include carbonate and hydroxide

UTILIZE A FORGOTTEN RESOURCE – LITHIUM PHYLLOSILICATES

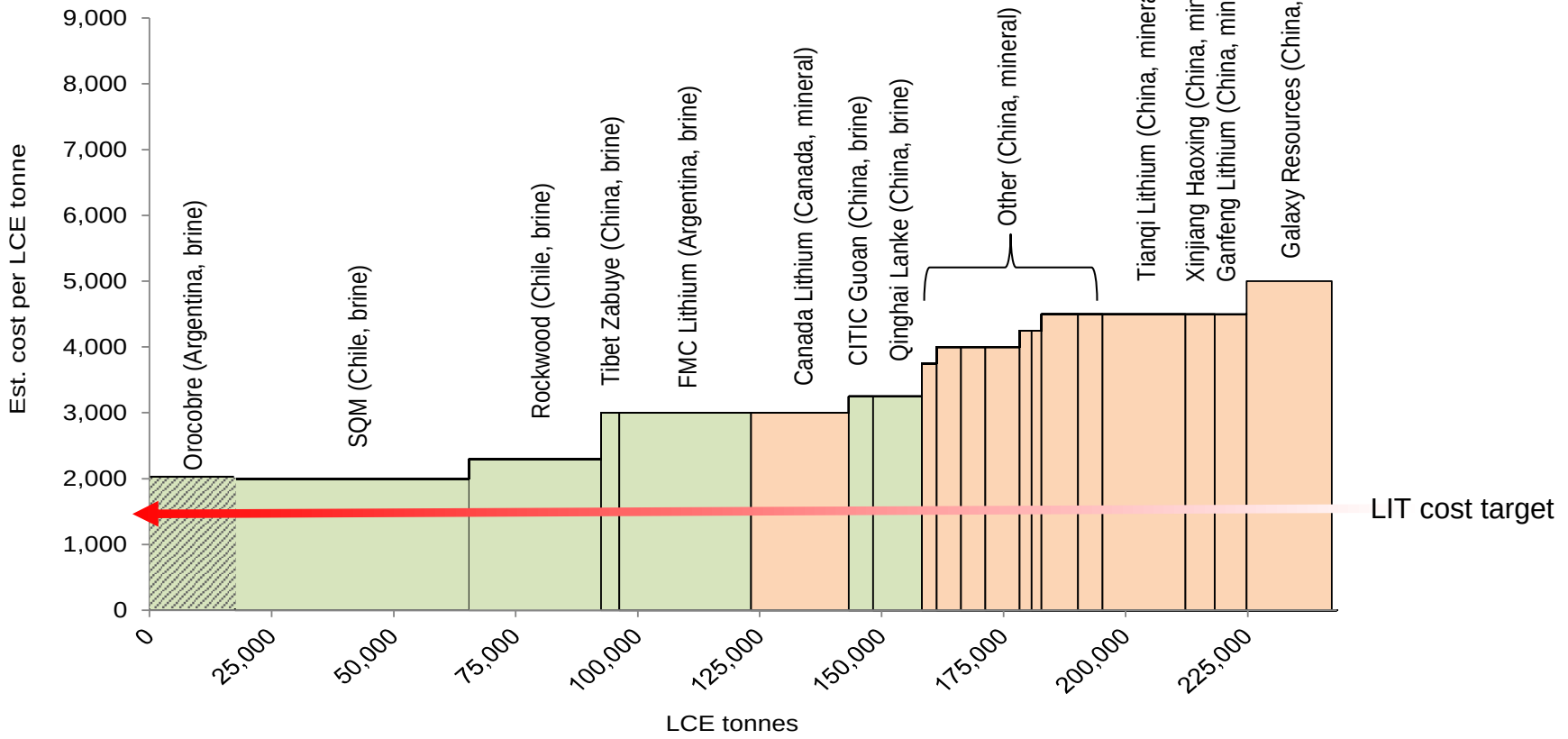
- Capitalize on availability of the most abundant lithium minerals
- Utilization of waste products
- Low exposure to mining costs
- Utilize advantages of strategic partnerships
- Paradigm shift in operating cost profile
- Prosper from by-product credits

IMPROVE ECONOMICS OF CONVENTIONAL SOURCES

- Leaching of lithium minerals without the requirement to pre-roast
  - Spodumene
  - Tourmaline
  - Petalite
  - Jadarite

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Current cost profile



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

LITHIUM AUSTRALIA provides a practical means of reducing the production cost of lithium carbonate, from micas, to less that $2000/t. It also offers a significant cost reduction for production of carbonate from other silicate sources, including spodumene, by removing the requirement to roast. Further project revenue enhancements are available by the production of lithium hydroxide or other lithium chemicals.

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The case for lithium micas

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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

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The growing lithium inventory

YILGARN PROJECT – WESTERN AUSTRALIA

- Greenbushes – grass roots exploration around the world's largest spodumene deposit
- Lepidolite Hill – abundant lithium micas discarded in mine waste from historic operations
- Seabrook – JV with lithium pegmatites identified
- Ravensthorpe – abundant lepidolite pegmatites over large areas, with high grade

PILGANGOORA – WESTERN AUSTRALIA

- MoU with Pilbara Resources with geochemical indications of lithium micas over large areas

EUROPE – CZECH REPUBLIC

- Non-binding MoU to develop 50/50JV to process tailings containing abundant zinnwaldite

MEXICO

- JV with Toronto listed Alix Resources on the interpreted strike extensions of the giant Sonora lithium clay deposit.

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Company advantages

VALUE-ADDING FACTORS

Service agreement with Strategic Metallurgy
Technology licences with Lepidico
Proprietary lithium extraction processes

First-mover advantage

LIT is the leader in the production of battery-grade lithium carbonate and hydroxide and developer of advanced extraction processes for other silicates. Assets extend over three continents with diversification from lithium micas to a range of more conventional 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 JV

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

Improved economics for conventional sources

FURTHER INFORMATION

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