3 MAY 2018

# MACQUARIE AUSTRALIA CONFERENCE PRESENTATION



### **DISCLAIMER**

This investor presentation (**Presentation**) has been prepared by Orocobre Limited (the **Company** or **Orocobre**). It contains general information about the Company as at the date of this Presentation.

The information in this Presentation should not be considered to be comprehensive or to comprise all of the material which a shareholder or potential investor in the Company may require in order to determine whether to deal in shares. The information in this Presentation is of a general nature only and does not purport to be complete.

This Presentation does not take into account the financial situation, investment objectives, tax situation or particular needs of any person and nothing contained in this Presentation constitutes investment, legal, tax or other advice, nor does it contain all the information which would be required in a disclosure document or prospectus prepared in accordance with the requirements of the Corporations Act. Readers or recipients of this Presentation should, before making any decisions in relation to their investment or potential investment in the Company, consider the appropriateness of the information having regard to their own objectives and financial situation and seek their own professional investment, legal and taxation advice appropriate to their particular circumstances.

This Presentation is for information purposes only and does not constitute or form part of any offer, invitation, solicitation or recommendation to acquire, purchase, subscribe for, sell or otherwise dispose of, or issue, any entitlements, shares or any other financial product. Further, this Presentation does not constitute financial product or investment advice (nor tax, accounting or legal advice), nor shall it or any part of it or the fact of its distribution form the basis of, or be relied on in connection with, any contract or investment decision.

The distribution of this Presentation in other jurisdictions outside Australia may also be restricted by law and any restrictions should be observed. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.

Certain statements in this Presentation are forward-looking statements. You can identify these statements by the fact that they use words such as "anticipate", "estimate", "expect", "project", "intend", "plan", "believe", "target", "may", "assume", "should", "could", "predict", "propose", "forecast", "outlook" and words of similar import. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Forward-looking information may include, but is not limited to, the successful ramp-up of the Olaroz Project, and the timing thereof; the design production rate for lithium carbonate at the Olaroz Project; the expected brine grade at the Olaroz Project; the Olaroz Project's future financial and operating performance, including production, rates of return, operating costs, capital costs and cash flows; the comparison of such expected costs to expected global operating costs; the ongoing working relationship between Orocobre and the Provinces of Jujuy and Salta in Argentina; the on-going working relationship between Orocobre and the Olaroz Project's financiers, being Mizuho Bank and JOGMEC and the satisfaction of lending covenants; the future financial and operating performance of the Company, its affiliates and related bodies corporate, including Borax Argentina S.A. (**Borax Argentina**); the estimation and related bodies corporate, consents and permits under applicable legislation; trends in Argentina relating to the role of government in the economy (and particularly its role and projects; timing and receipt of approvals, consents and permits under applicable legislation; trends in Argentina relating to the role of government in the economy (and particularly its role and the Olaroz Project; the potential processing of brines from the Cauchari Project and the incremental capital cost of such processing, expansion, growth and optimisation of Borax Argentina's operations; the integration of Borax Argentina's operations; the integration of Borax Argentina's



# **DISCLAIMER (CONT.)**

Forward-looking statements are based on current expectations and beliefs and, by their nature, are subject to a number of known and unknown risks and uncertainties that could cause the actual results, performances and achievements to differ materially from any expected future results, performances or achievements expressed or implied by such forward-looking statements, including but not limited to, the risk of further changes in government regulations, policies or legislation; that further funding may be required, but unavailable, for the ongoing development of the Company's projects; fluctuations or decreases in commodity prices; uncertainty in the estimation, economic viability, recoverability and processing of mineral resources; risks associated with development of the Olaroz Project; unexpected capital or operating cost increases; uncertainty of meeting anticipated program milestones at the Olaroz Project or the Company's other projects; risks associated with general economic conditions; the risk that the historical estimates for Borax Argentina's properties that were prepared by Rio Tinto, Borax Argentina and/or their respective consultants (including the size and grade of the resources) are incorrect in any material respect; the inability to efficiently integrate the operations of Borax Argentina with those of Orocobre; as well as those factors disclosed in the Company's Annual Report for the financial year ended 30 June 2017 and Sustainability Report 2017 available on the ASX website and at www.sedar.com.

No representation, warranty or assurance (express or implied) is given or made by the Company that the forward-looking statements contained in this Presentation are accurate, complete, reliable or adequate or that they will be achieved or prove to be correct.

Subject to any continuing obligation under applicable law or relevant listing rules of the ASX, the Company disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements in this Presentation to reflect any change in expectations in relation to any forward-looking statements or any change in events, conditions or circumstances on which any such statements are based. Nothing in this Presentation shall under any circumstances create an implication that there has been no change in the affairs of the Company since the date of this Presentation.

US investors should note that while the Company's reserve and resource estimates comply with the JORC Code, they may not comply with Industry Guide 7, which governs disclosures of mineral reserves in registration statements filed with the US Securities and Exchange Commission (**SEC**). In particular, Industry Guide 7 does not recognise classifications other than proven and probable reserves and, as a result, the SEC generally does not permit mining companies to disclose their mineral resources in SEC filings. You should not assume that quantities reported as "resources" will be converted to reserves under the JORC Code or any other reporting regime or that the Company will be able to legally and economically extract them.

To the maximum extent permitted by law, the Company, the lead manager and their respective related bodies corporate and affiliates, and their respective directors, officers, partners, employees, agents and advisers expressly disclaim all liability (including without limitation, liability for negligence) for any direct or indirect loss or damage which may be suffered by any person in relation to, and take no responsibility for, any information in this Presentation or any error or omission therefrom, and make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information contained in this Presentation.

By attending an investor presentation or briefing, or by accepting, accessing or reviewing this Presentation, you acknowledge and agree to the terms set out in this disclaimer.



## CAPITAL MARKETS SNAPSHOT (ASX:ORE, TSX:ORL)

#### CAPITAL STRUCTURE (AS AT 1 May 2018)

Shares outstanding	260.7M
Performance Rights and Options Outstanding	2.0M
Cash Balance (31/3/18)	US\$319M
Share price ASX/TSX	A\$5.63/C\$5.49
Market capitalisation	A\$1.5 Billion US\$1.1 Billion
Market capitalisation 52 week share price range (c	US\$1.1 Billion
· · · · · · · · · · · · · · · · · · ·	US\$1.1 Billion

#### **SHARE PRICE**



#### SHAREHOLDERS

Toyota Tsusho	15.0%
Executives and Directors	~3.0%
Institutions, Banks and Brokers	~51%



# **MARCH QUARTER FY18**

#### Record prices and margins, strong cashflow

#### SDJ joint venture (Olaroz)

ROCOBRE

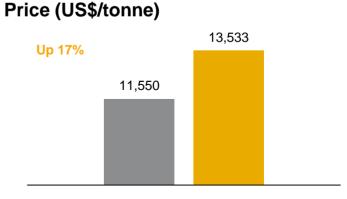
- Record quarterly sales revenue of US\$41.3 million on total sales of 3,052 tonnes
- Record Olaroz sales price of US\$13,533 / tonne FOB<sup>1</sup>, up 17% quarter on quarter (QoQ) with higher priced contracts reflecting firmer market conditions
- Cost of sales of US\$4,356 / tonne<sup>2</sup> and record gross cash margin up 21% to US\$9,177 / tonne

#### Orocobre

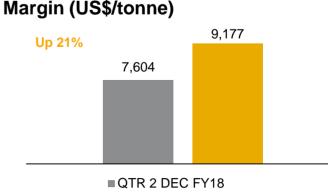
- As at 31 March 2018, Orocobre (excluding SDJ) had US\$319 million of available cash
- During the quarter the previously announced A\$361 million funding initiative was completed ensuring that the **Phase 2 Olaroz expansion** and Lithium Hydroxide plant (in Japan) are both fully funded
  - 1. Orocobre reports price as "FOB" (Free On Board) which excludes additional insurance and freight charges included in "CIF" (Cost, Insurance and Freight or delivered to destination port) pricing. The key difference between an FOB and CIF agreement is the point at which responsibility and liability transfer from seller to buyer. With a FOB shipment, this typically occurs when the goods pass the ship's rail at the export port. With a CIF agreement, the seller pays costs and assumes liability until the goods reach the port of destination chosen by the buyer. The Company's pricing is also net of Toyota Tsusho commissions. The intention in reporting FOB prices is to provide clarity on the sales revenue that flows back to SDJ, the joint venture company in Argentina



3. See Notes page



QTR 2 DEC FY18QTR 3 MAR FY18



QTR 3 MAR FY18

# **GROWTH PROJECTS**

-----



Section 1

# PHASE 2 EXPANSION AT OLAROZ

The Phase 2 expansion of Olaroz is fully funded with cash and proposed debt funding arrangements. Final investment decision is expected mid 2018

- Based on forecast strong demand growth the Joint Venture Partners have scaled the expansion to 25,000 tonnes per annum (total 42,500 tonnes per annum across the whole Olaroz site)
- Capital expenditure for Phase 2 is approximately US\$285 million including a US\$25 million contingency and allowing for the addition of evaporators / crystallisers (US\$13m) to service both Phase 1 & 2
- Multinational engineering firm GHD continues to oversee engineering design studies for the Olaroz Phase 2 expansion; all basic engineering work has been completed
- All key permits for expansion have been received
- Vegetation clearing for the new ponds is underway road construction and drilling of the first new bore has also commenced
- Vegetation clearing has been awarded to a local contractor and will be utilised by local communities as a source of fuel

#### Key project milestones include:

Milestone	Timing				
Final joint venture approvals	Mid 2018				
Drilling of wells	2018				
Construction of ponds	2H 2018 – 1H 2019				
Construction of lithium carbonate plant	2H 2018 – 1H 2019				
Plant commissioning	2H 2019				





# NARAHA LITHIUM HYDROXIDE PLANT UPDATE

Orocobre and TTC are well advanced with plans for a proposed 10,000 tonne per annum Naraha Lithium Hydroxide Plant to be built in Japan

#### Update

- Proposed location is well situated near potential customers reducing common risks of degradation when lithium hydroxide is transported / exposed to humidity
- Tests demonstrate **very high-quality**, **battery grade**, lithium hydroxide can be produced via customised process
- Negotiations continue with TTC regarding commercial arrangements of the joint venture structure.
- Approval for a US\$27 million subsidy was received from the Japanese Government, capital remains approximately US\$60-70 million (pre-subsidy) and Orocobre's equity contribution is approximately US\$6 million. A term sheet has been received from Japanese banks for project debt
- Operating costs (excluding lithium carbonate feedstock) for the plant **remain at approximately US\$1,500/tonne**
- A final investment decision is still expected mid-year, with construction to commence soon after, commissioning is forecast in late 2019



Orocobre & Toyota Tsusho partners meeting in Japan with the Associate Director General of Commerce, Industry and Labour department of Fukushima Prefecture & the Deputy Mayor of Naraha to discuss 10,000 tpa Naraha Lithium Hydroxide Plant



# **ADVANTAGE LITHIUM**

#### Advantage Lithium (AAL)

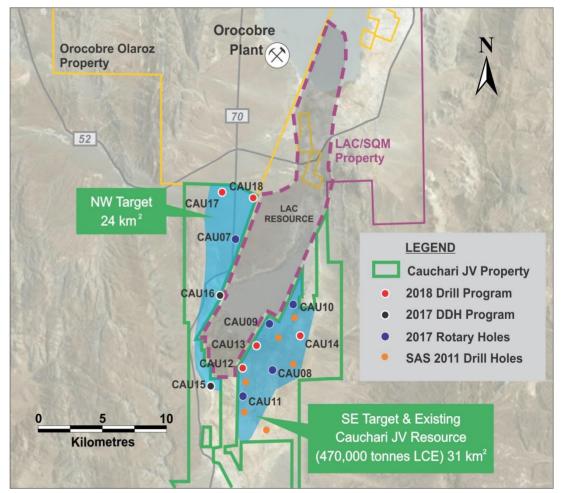
 Orocobre hold ~29% of AAL issued shares and 2,550,000 warrants exercisable at C\$1

#### Cauchari Project (25% ORE, 75% AAL)

- Advantage Lithium has now undertaken drilling at 12 locations within Cauchari tenements and is about to complete Phase 1 & 2 of its drilling program
- Phase 3 drilling will test the extent of a deeper sand unit that has been intersected in a number of holes following on immediately from Phase 2
- Results confirm that the brine body in NW sector of Cauchari extends to southern boundary of Olaroz

#### **Cauchari JV Development Timeline**

- An **updated resource estimate** is expected to be completed in the June quarter
- Preliminary Economic Assessment will be completed mid-year – Feasibility Study to be completed early 2019







下下

Same - D

OROCOBRE

JALES

Carl Constants

......

BALLES DE JUJUT BA UTHEDHI CARBONATE Product of Argentine No. of Concession, Name

Salahan annes Linna catant Famarca an

18

ij

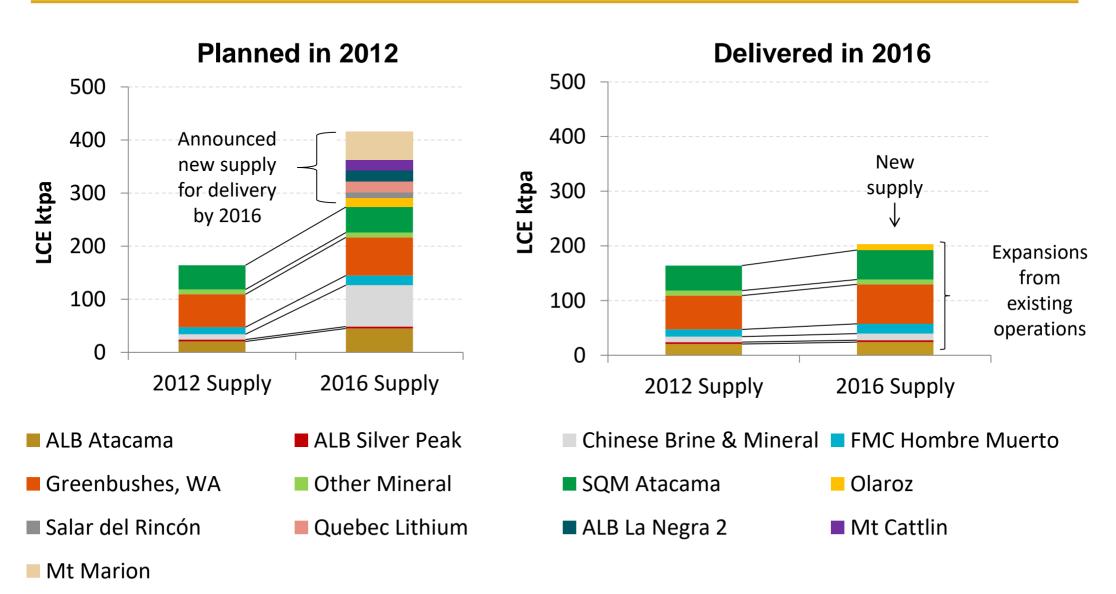
19

## CAR MANUFACTURERS ARE PROVIDING GREATER TRANSPARENCY OF FUTURE EV PLANS

Car Manufacturer	Targeted number of Models	Targeted Sales			
<b>Toyota Motor Corp</b> targets every model in the Toyota and Lexus line-up around the world to be available either as a dedicated electrified model or have an electrified option by 2025	Over 10 EV & hybrid models by the early 2020's	5.5 million vehicles with some form of electrified powertrain, 1 million pure EV's by 2030			
General Motors will phase out gas-powered vehicles for an "all-electric" future	20 pure EV models by 2023	1 million EV sales by 2025			
<b>Ford</b> will significantly increase it's planned investment in EV's to US11 billion by 2022.	40 EV models by 2022, 16 pure EV models	10-25% of total ford sales by 2020			
<b>Daimler</b> will invest over US\$12 billion in development of of electric and hybrid technology.		0.1 million annual EV sales by 2020 (2016)			
Mercedes-Benz announced a plan to electrify its entire portfolio by 2022	50 electric & hybrid models by 2022				
The <b>Renault, Nissan, and Mitsubishi alliance</b> will work together to develop new systems to use across their vehicle lines, with a focus on pure electric EVs	12 new pure electric vehicles to be launched by 2022	1.5 million cumulative sales of Evs by 2020			
Volvo plans to electrify its entire vehicle line by 2019	5 pure EV models to be rolled out between 2019 and 2021	1 million EV car sales p.a. by 2025			
<b>VW</b> group, parent of European automakers like Volkswagen, Audi, and Porsche, will invest \$84 billion in EV development. Roughly \$60 billion of the total will be dedicated to battery production	30 electric and hybrid models by 2030	2-3 million EV sales per annum by 2025			
Tesla		Over 1 million by 2020			
<b>BMW</b> will spend up to US\$8.6 billion in 2018 alone to assist in achieving it's EV targets.	25 electrified models will be introduced by 2025, with 12 of those being pure electric cars	15-25% of BMW total sales by 2025			
Hyundai and affiliate Kia	Release 38 'green' models by 2025				
Audi and VW's Porsche	Will launch 20 electrified models by 2025 more than half of which will be pure EV models.				



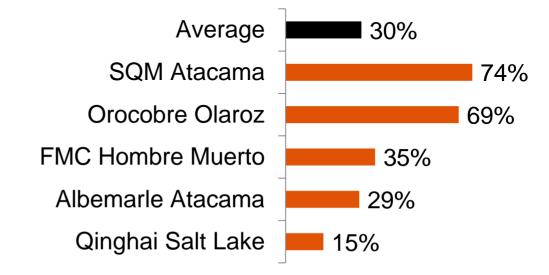
# PREVIOUSLY AT MONTREAL 2017: WHAT IS EXPECTED IS NOT ALWAYS DELIVERED



# NEW SUPPLY FROM BRINE IS RELATIVELY TRANSPARENT

#### Brine utilisation rates in the third year

- We know brine projects take time to permit, build, commission and ramp up – e.g.
   Olaroz, Sal de Vida, Cauchari, La Negra 2
- Brine production is typically end to end with finished or usable products that don't necessarily need further processing



However, there is significant confusion around Chinese conversion capacity and the ability to deliver finished lithium chemicals as evidenced with the move by hard rock miners into concentrate conversion... This supports our research that insufficient conversion capacity in the medium term will support strong lithium chemical prices.

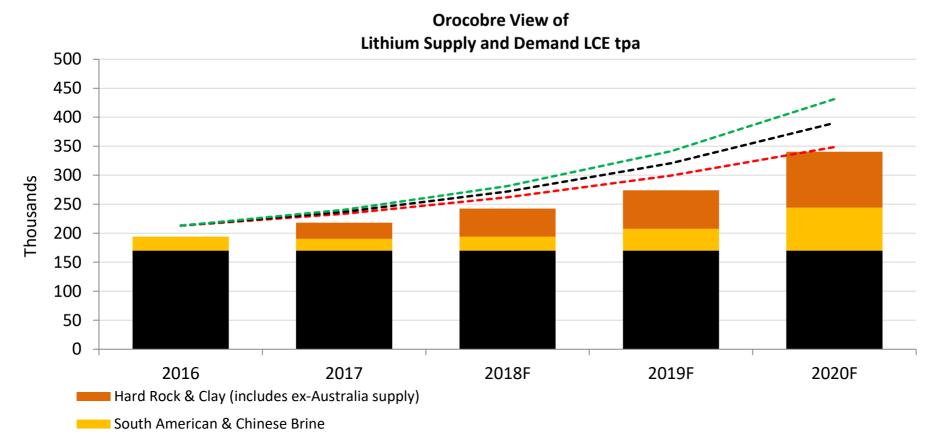


# SUPPLY FUNDAMENTALS: THE CHINESE CONVERSION INDUSTRY

TARA BERRIE = COMMERCIAL EXECUTIVE



## IN THE NEXT 3 YEARS, ONCOMING SUPPLY RELIES INCREASINGLY ON HARD ROCK & CONVERSION MARKET



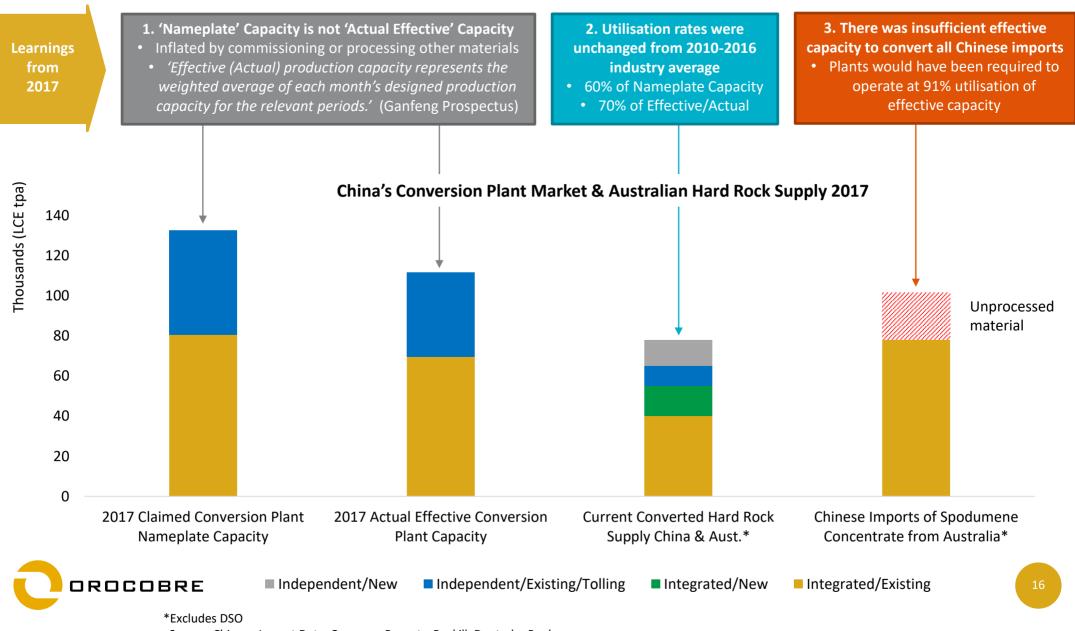
Capacity at Utilisation (80% ex-China Brine; 60% China, 10% mineral losses for hard rock)

---- Pessimistic: CAGR 2016-'22 = ~15%; 2020 EV Penetration = ~3.5%; 2016-'20 EV Growth YoY = ~40%; ESS Growth YoY = 30-40%

- ---- Base: CAGR 2016-'22 = ~20%; 2020 EV Penetration = ~4.5%; 2016-'20 EV Growth YoY = ~49%; ESS Growth YoY = 30-40%
- ---- Optimistic: CAGR 2016-'22 = ~24%; 2020 EV Penetration = ~5.5%; 2016-'20 EV Growth YoY = ~57%; ESS Growth YoY = 30-40%



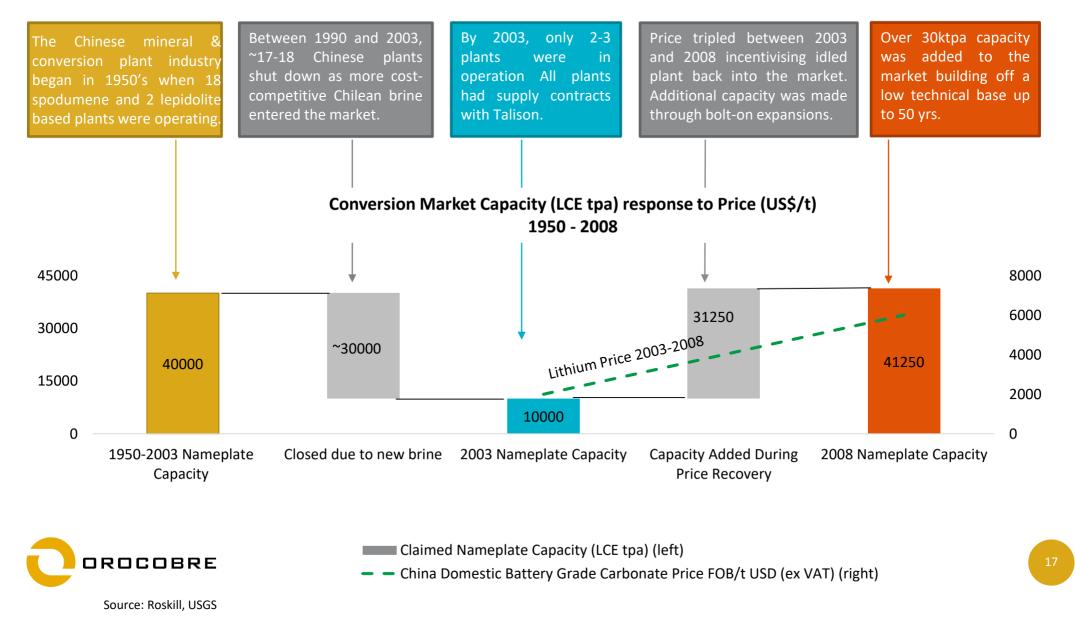
## **CLAIMED CAPACITY VERSUS ACTUAL PRODUCTION**



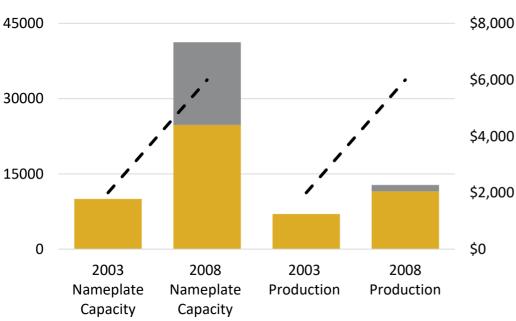
Source: Chinese Import Data, Company Reports, Roskill, Deutsche Bank

## CHINA'S CONVERSION INDUSTRY HAS SEEN LIMITED TECHNOLOGICAL INNOVATION (AND ONLY SINCE 2008)

#### The lesser known history of Conversion Plants 1950 - 2008



# OLD TECHNOLOGY & VARIED FEEDSTOCK LIMITS PRODUCTIVITY

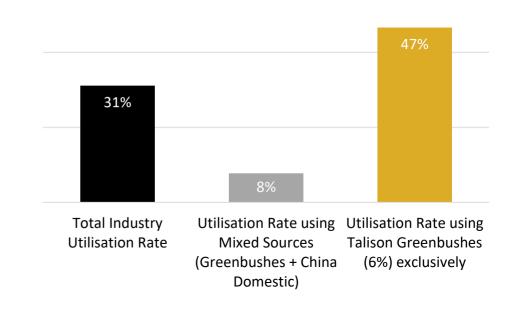


Planned Conversion Plant Expansions 2003-2008 (LCE tpa)

Carbonate converted from China Domestic feed (left)

- Carbonate converted from Talison feed (6% grade) ( left)
- ——China Domestic Battery Grade Carbonate Price FOB/t USD (ex VAT) (right)

#### Utilisation Rates (Production/Nameplate) of Conversion 2008 plants by Feed



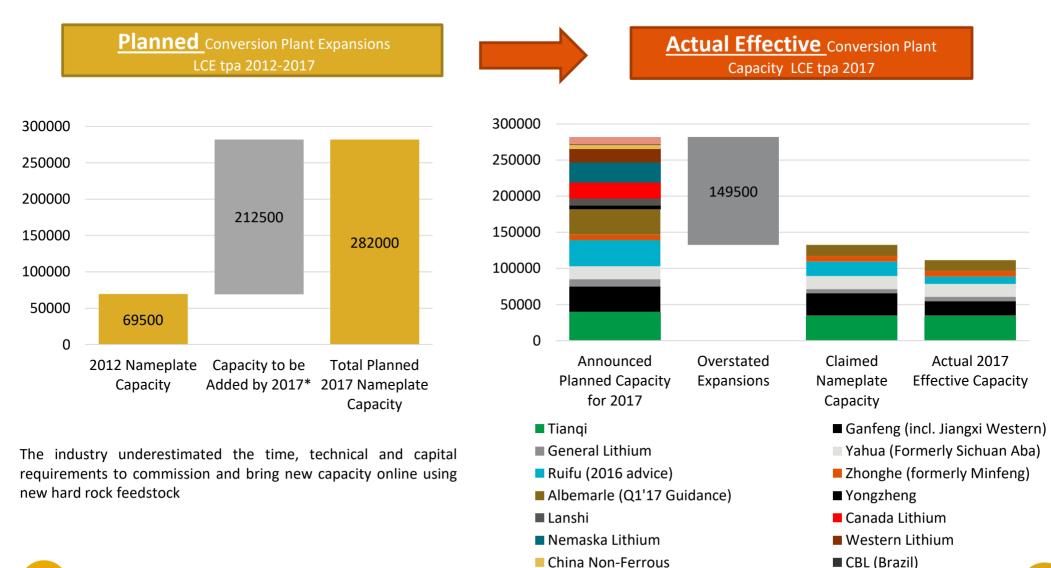
### A number of factors contributed to lower utilisation rates of newly added capacity including:

- 1. Plants require ramp up period;
- 2. Inexperience in plant design and conversion of spodumene and lepidolite;
- 3. Plant not custom-designed for feed and/or use of multiple feeds;
- 4. Insufficient capital spent on old plant; and
- 5. Security of supply & or lack of feed.



18

## LESS THAN 30% OF PLANNED CONVERSION CAPACITY ADDITIONS COMPLETED OVER THE LAST FIVE YEARS



Baijerui Advanced Materials

Source: Roskill, Company Reports, Industrial Minerals, Deutsche Bank,

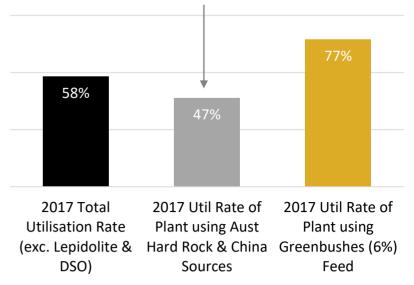
Note: Guidance provided via company reports & Roskill between 2010 and 2012 unless otherwise stated

## MARKET UNDERESTIMATED CHALLENGES INVOLVED IN CONSTRUCTING/COMMISSIONING PLANT WITH NEW FEED

Huge capacity announcements were made as conversion plants saw an opportunity to diversify away from Greenbushes Issues with finance & delays in early Australian hard rock resulted in a number of cancelled offtakes & abandoned plans. Very few plants were able to successfully construct, commission & scale operations with new, unfamiliar &/or mixed feedstock. Tianqi's decision to exclusively supply their own conversion plants along with Albemarle's acquisition starved the market of a reliable source of quality feed.

China's Conversion Plant Market by Feedstock (LCE tpa) 300000 200000 100000 0 2012 Actual 2017 Planned 2017 Claimed 2017 Actual 2017 Actual Effective Nameplate Nameplate Effective Production Capacity Capacity Capacity Capacity

Utilisation rates by Primary Feedstock



Converting new Australian Hard Rock, China Domestic & Expected Canadian

Converting 6% Greenbushes

Source: Roskill, Company Reports, Industrial Minerals, Deutsche Bank, Note: Guidance provided via company reports & Roskill between 2010 and 2012 unless otherwise stated

# **EXPERIENCE IN THE CONVERSION MARKET IS IMPORTANT & HAS BECOME HIGHLY CONCENTRATED**

With growing costs of inputs, inefficient & old	New entrants experienced various challenges	To expand & evolve the industry has
plant were forced to close. Some also faced	with permitting mineralogy, costs & climate	been forced to consolidate experience
resource depletion.	during commissioning.	& technical resources.

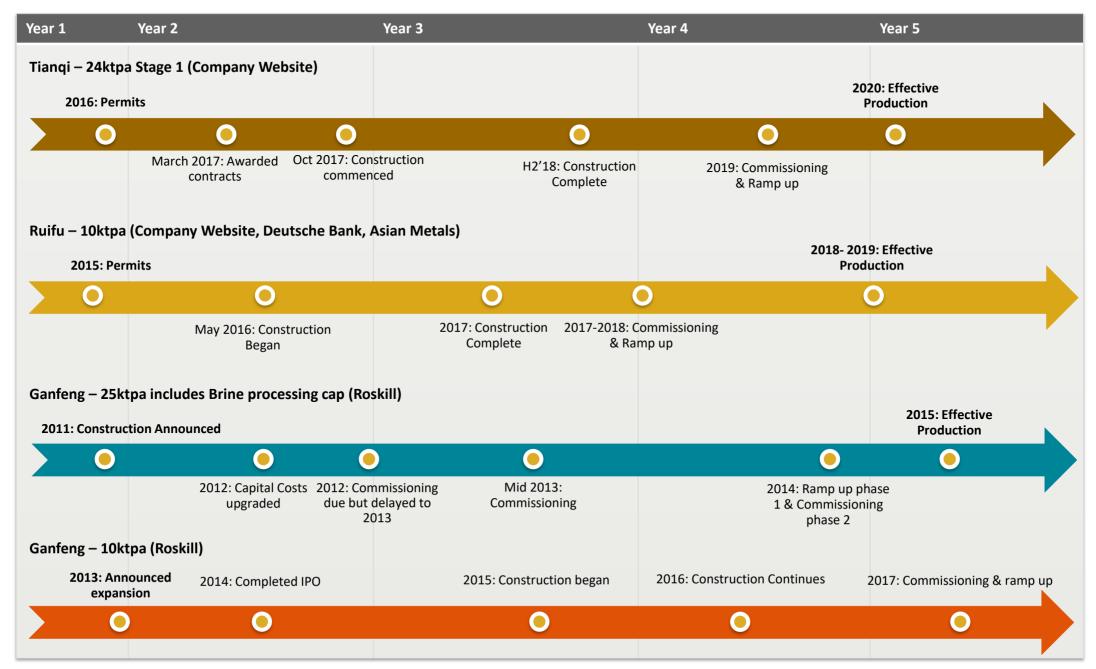
#### **Conversion Capacity Achieved versus Announced Expansion (2012-2017)**

Closed Plant			Failed New Entrants			Acquisition	Existing operators as of 2016				100%			
													80%	80%
														60%
					Industry E	xpansion S	uccess Ra	te <30%						40%
												36%		20%
0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	16%			0%
China Non- Ferrous	Xinjiang Xinjing Lithium Developmer	China Lithium	Baijierui Advanced Materials	CBL	Canada Lithium	Quebec Lithium	Lanshi	Yongzheng	Albemarle (Q1'17 Guidance)	General Lithium	Ruifu	Ganfeng	Tianqi/Galaxy	

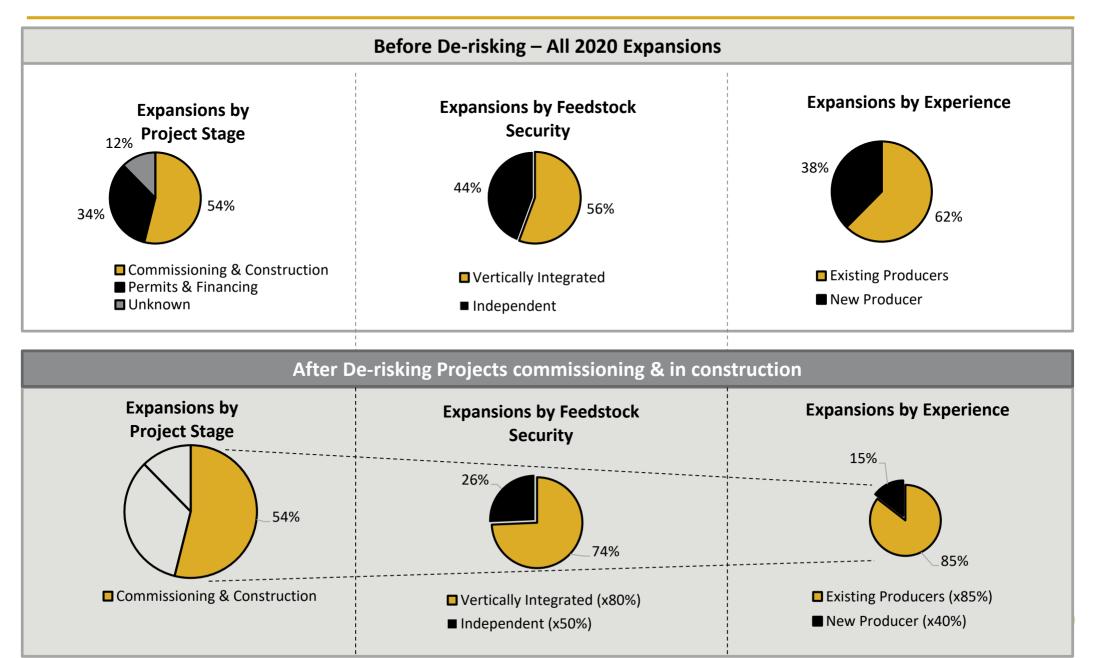
#### Increasing Experience

 COBRE
 Source: Roskill, Company Reports, Industrial Minerals, Deutsche Bank, Note: Guidance provided via company reports & Roskill between 2010 and 2012 unless otherwise stated

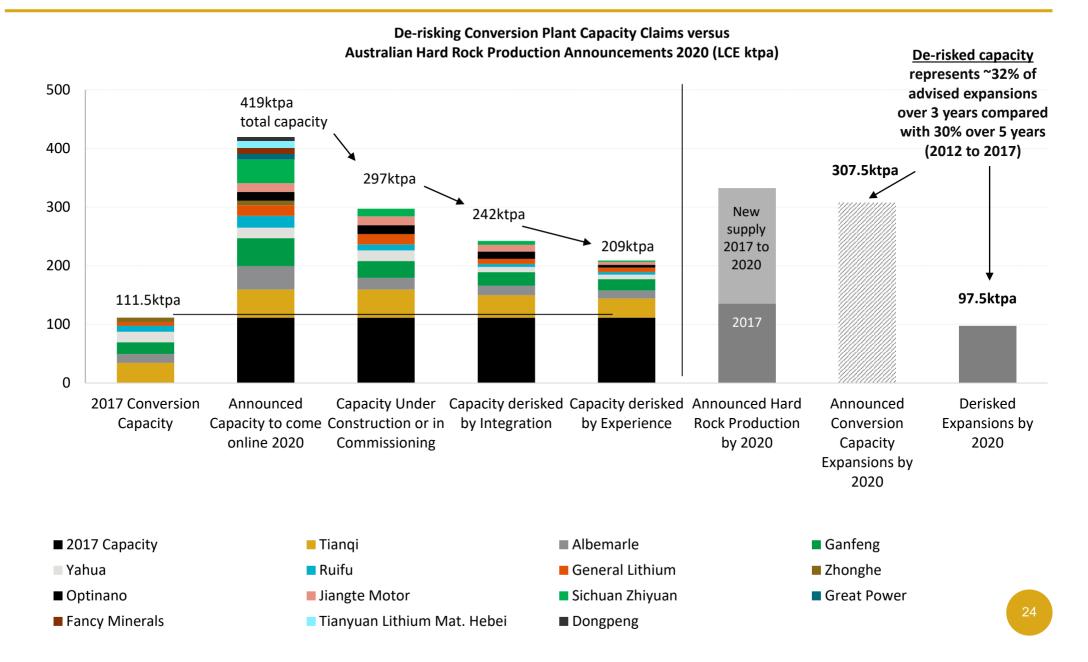
### **CONVERSION PLANT EXPANSIONS TAKE LONGER THAN MARKET BELIEVES – EVIDENCE SUGGESTS 4-5 YEARS**



### ON THE BASIS OF HISTORY, CLAIMED NAMEPLATE CAPACITY & EXPANSIONS NEEDS TO BE DE-RISKED



# A DE-RISKED VIEW OF ~300 KTPA LCE CONVERSION CAPACITY EXPANSIONS BY 2020...



## SUMMARY

Orocobre continues to operate as a low cost, high margin producer of lithium chemicals

Growth projects are moving forward with early works at Phase 2 Olaroz and Naraha lithium hydroxide facility

### Supply

Chinese conversion capacity is subject to the same slow ramp up as seen in brine

The conversion industry is not well understood

Analysis demonstrates that potential new capacity is significantly overstated, ORE expects about one third of planned capacity to be available by 2020

Orocobre expects lithium chemical prices to remain strong for at least for the medium term

The key risk remains with under-delivery across the industry



