

PILBARA MINERALS
LIMITED



Pilgangoora – the world's leading
lithium development project

Corporate Presentation

March 2018

Important Notices and Competent Person's Statement



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Important Notices and Competent Person's Statement



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Recipients of this presentation outside Australia should note that it is a requirement of the Australian Securities Exchange listing rules that the reporting of ore reserves and mineral resources in Australia comply with the Australasian Joint Ore Reserves Committee Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code"), whereas mining companies in other countries may be required to report their ore reserves and/or mineral resources in accordance with other guidelines (for example, SEC Industry Guide 7 in the United States). Recipients should note that while Pilbara's mineral resource and ore reserve estimates comply with the JORC Code, they may not comply with the relevant guidelines in other countries, and do not comply with SEC Industry Guide 7. In particular, SEC 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, including indicated and inferred resources, in SEC filings. Accordingly, if Pilbara were reporting in accordance with SEC Industry Guide 7, it would not be permitted to report any mineral resources, including indicated and inferred resources, and the amount of reserves reported by Pilbara may be lower than its estimates. 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 Pilbara will be able to legally and economically extract them. In addition, investors should note that under SEC Industry Guide 7, mine life may only be reported based on ore reserves. Mine life estimates in this presentation assume that a portion of non-reserve resources will be converted to ore reserves, which would not be permitted under SEC Industry Guide 7.

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By attending a presentation or briefing, or accepting, accessing or reviewing this document you acknowledge, accept and agree to the matters set out above.

Competent Person Statement

Information relating to the mineral resource estimate at the Pilgangoora Project is extracted from the ASX announcement dated 25 January 2017 entitled "*Pilgangoora Resource Update*", information relating to the current ore reserve estimate at the Pilgangoora Project is extracted from the ASX announcement dated 29 June 2017 entitled "*Pilbara More Than Doubles Pilgangoora Ore Reserves*", information relating to the maiden ore reserve estimate at the Pilgangoora Project is extracted from the ASX announcement dated 10 March 2016 entitled "*Pilgangoora Lithium-Tantalite Pre-Feasibility Study*" and information relating to the production target and forecast financial information derived from the production target is extracted from the ASX announcements dated 20 September 2016 entitled "*Pilgangoora DFS Confirms World Class/Lithium Project*", "*PFS Outlines Compelling 4Mtpa Expansion Option*" and the ASX Announcement dated 13 February 2018 entitled "*Outstanding Results from 5Mtpa Stage 2 PFS Paves Way for Major Expansion of Pilgangoora Lithium-Tantalum Project*" (each of which is available at www.pilbaraminerals.com.au). Pilbara confirms that it is not aware of any new information or data that materially affects the information included in these ASX announcements and that all material assumptions and technical parameters underpinning the estimates, the production target and forecast financial information derived from the production target in the announcements continue to apply and have not materially changed.



Company Overview

Lithium Markets

Pilgangoora Stage 1 Project

Pilgangoora Stage 2 Project

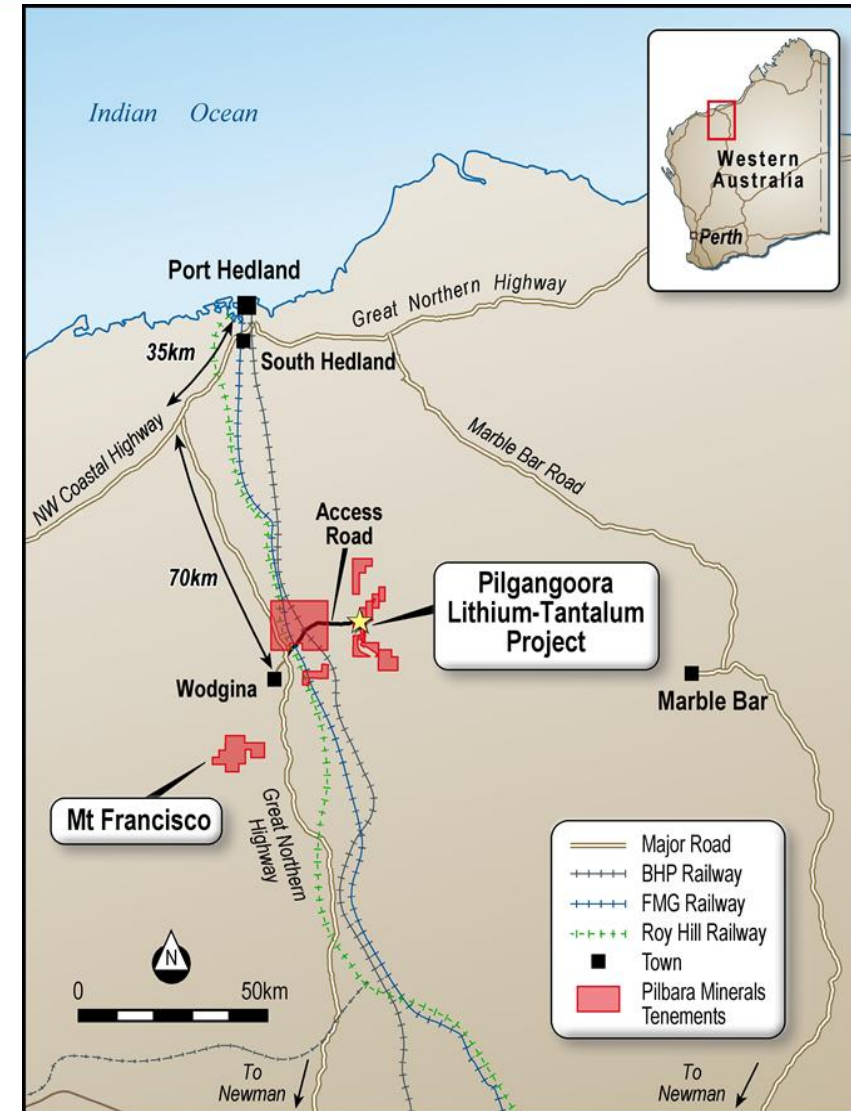
Summary

Pilbara Minerals – Overview



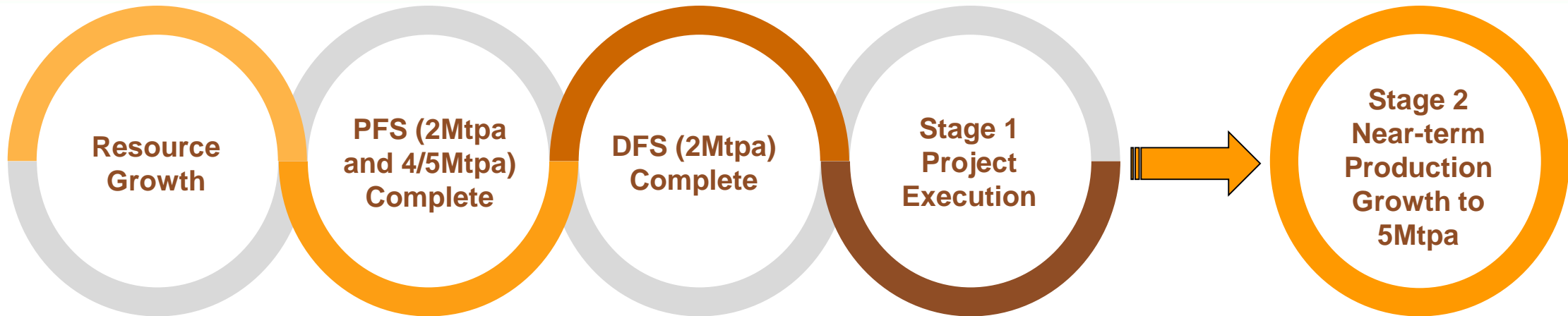
- ▶ Pilgangoora is located in the Pilbara region of Western Australia, a proven mining jurisdiction 120km south of Port Hedland with established transport and port infrastructure
- ▶ 100% ownership interest in the world-class Pilgangoora Lithium-Tantalum Project
- ▶ One of the largest spodumene-tantalite resources in the world, significant further exploration potential
- ▶ 2Mtpa Definitive Feasibility Study (“DFS”) demonstrated technical and financial viability of Pilgangoora development (completed in September 2016)
- ▶ 2Mtpa project is fully funded and advancing rapidly to production, targeting first concentrate from June 2018
- ▶ Cornerstone offtake partners: General Lithium, Ganfeng Lithium and Great Wall Motors
- ▶ 5Mtpa Pre-Feasibility Study (“PFS”) completed in February 2018 delivered exceptional results indicating compelling project economics (inclusive of both Stage 1 and Stage 2):
 - ▶ *Post-tax NPV² of A\$2.1Bn, rapid payback (3 years), and strong IRR (56%)*
 - ▶ *Low LOM cash operating costs¹ of US\$225/tonne CIF; globally competitive*
 - ▶ *LOM average EBITDA A\$382Mpa*
 - ▶ *Annual average production 800ktpa of 6% spodumene concentrate (over 100ktpa LCE equivalent)*
 - ▶ *Stage 2 Capital estimate of A\$207M*
- ▶ DFS on the Stage 2 expansion well underway and on track for completion by mid-2018, paving the way for a Final Investment Decision (“FID”) in Q3 2018, with start of construction by Q4 2018 and commissioning from Q4 2019

1. Cash operating costs include all mining, processing, transport, port, shipping/freight, site based general and administration costs, and corporate administration/overhead costs allocation, state and private royalties and native title costs, and are net of Ta₂O₅ by-product credits
2. Net Present Values (NPV) are presented on a nominal after tax basis using a 10% nominal discount rate



An emerging, low-cost producer of lithium and tantalum in the Pilbara region of Western Australia, a Tier-1 mining jurisdiction

Pilgangoora – Pilbara Minerals, delivering on project execution



Resource Estimation

- ▶ JORC Inferred / Indicated 130Mt Resource completed
- ▶ Massive pegmatite endowment on Pilbara's tenure presents outstanding opportunities for further resource and reserve growth
- ▶ Key global strategic resource



Project Definition

- ▶ Maiden Ore Reserve, 29.5Mt @ 1.31% Li₂O, 134ppm Ta₂O₅ tantalite
- ▶ Outstanding project economics
- ▶ Low cost hard-rock Spodumene production
- ▶ Further ore reserve growth expected, growing mine-life



Detailed Design and Project Planning

- ▶ Updated Ore Reserve of 80.3Mt @ 1.27% Li₂O, 123ppm Ta₂O₅; long mine-life
- ▶ Plant process and design optimisation
- ▶ Product specification and bulk samples to customers
- ▶ Tailings design
- ▶ Opex & Capex updates
- ▶ Updated financial models



Project Execution – from December 2016

- ▶ Updated Resource of 156Mt 1.25% Li₂O
- ▶ Native Title Agreement
- ▶ Mining Leases granted
- ▶ Construction commenced
- ▶ Plant EPC Contract Tender/Award
- ▶ Native Vegetation Clearing Permit
- ▶ Mining Proposal Approval
- ▶ Secure offtake
- ▶ Financing / FID
- ▶ Construction commenced
- ▶ Other construction and operating contracts
- ▶ Commissioning / 1st conc on track from Q2 2018





General Lithium Corporation

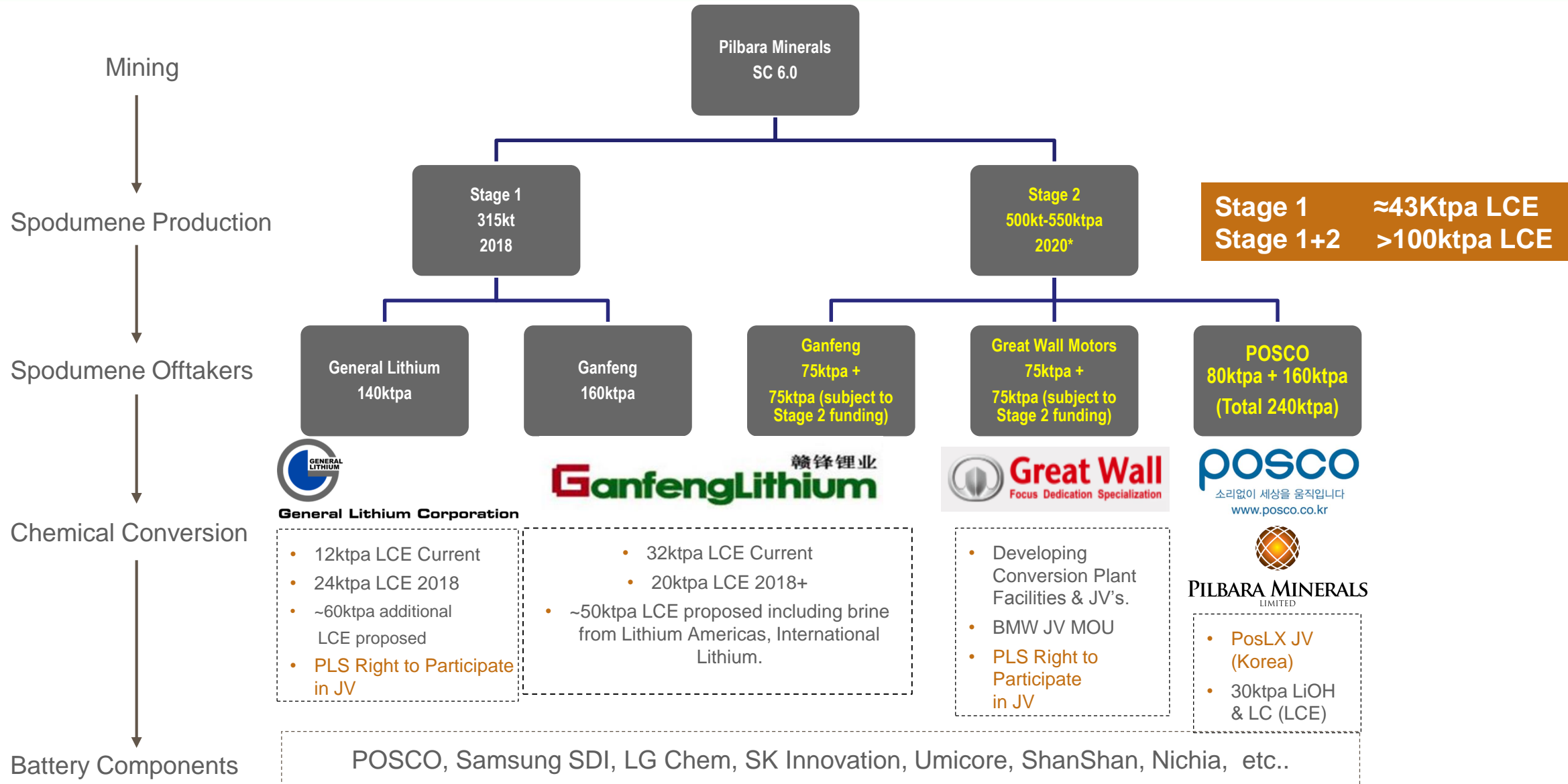


소리없이 세상을 움직입니다
www.posco.co.kr

Outstanding project partners:

- Scale
- Quality
- Excellent Technology
- Experience

Pilbara Minerals – A Key Supplier to Global Lithium Markets



*Refer to Updated PFS Announcement dated 13 February 2018. The Company confirms that all material assumptions underpinning the Stage 2 5Mtpa PFS continue to apply and have not materially changed.

Stage 2, 5Mtpa Expansion Project – Off-take and Associated Funding



POSCO agreements announced on 28 February 2018 close out the remaining uncommitted Stage 2 production

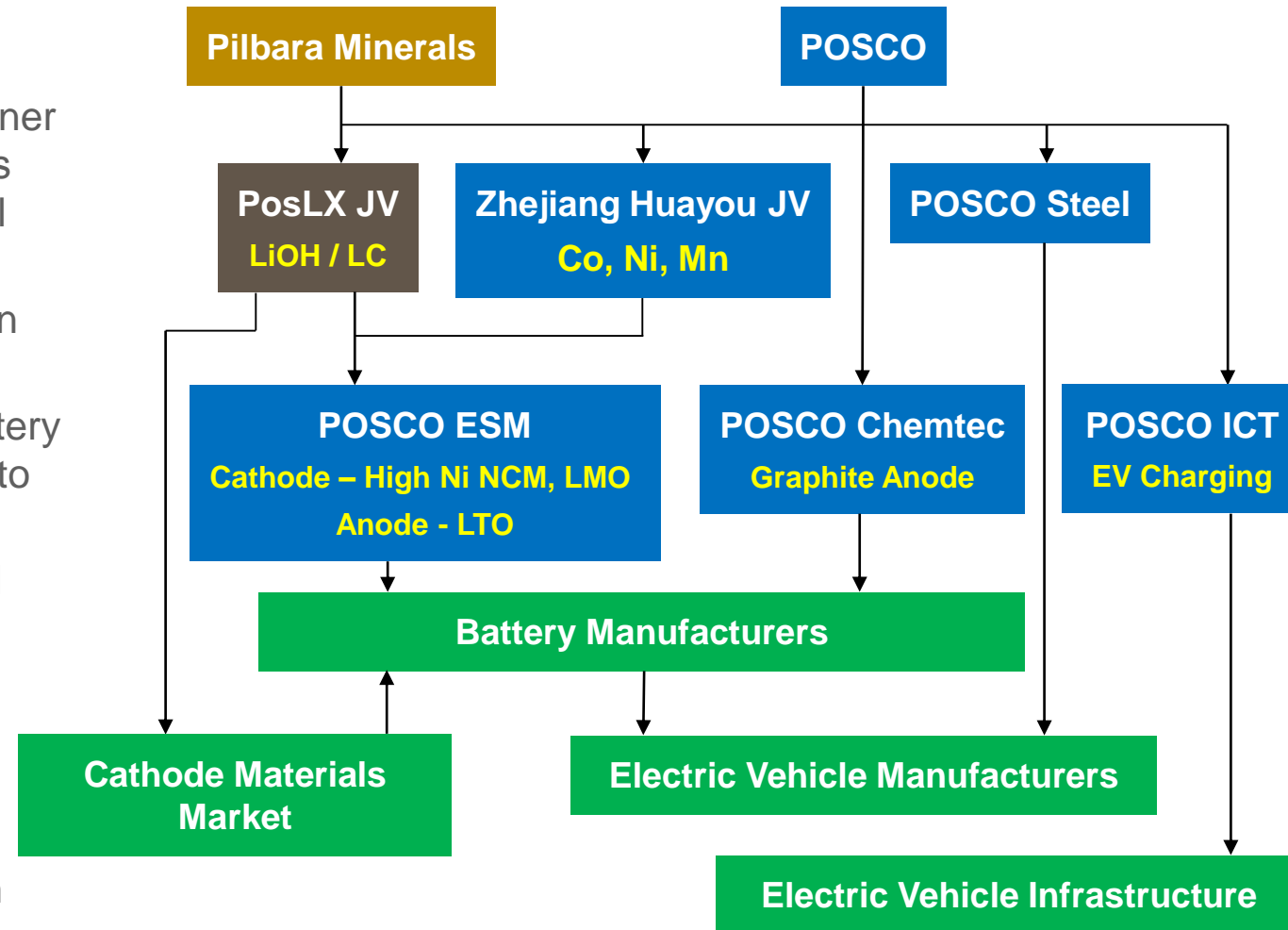
- ▶ Binding offtake agreement for an initial 80,000tpa of 6% spodumene concentrate from Stage 2 production for the Pilgangoora Project Life of Mine.
- ▶ Upfront A\$79.6M equity investment (representing 4.75% of issued capital, at a 17.5% premium) to allow acceleration of Stage 2, including the purchase of long lead items.
- ▶ Additional 160,000tpa from Stage 2 production (for a total of 240,000tpa), subject to Stage 2 FID decision and Pilbara's participation (at its election) in a downstream conversion plant joint venture with Posco ("Downstream Joint Venture").
- ▶ Pilbara Minerals will at its election be a 30% participant in the Downstream Joint Venture, which will develop and operate a 30,000tpa lithium carbonate/lithium hydroxide conversion plant in South Korea from 2019, utilising POSCO's proven state-of-the-art PosLX conversion technology.
- ▶ Should Pilbara elect to participate in the Downstream Joint Venture, Posco will provide a further A\$79.6M by way of a convertible bond which will be used to help fund Pilbara's participation in the joint venture. The convertible bond will be convertible at Pilbara's sole option at any time during the term, at the lesser of the 30-day or 5 day VWAP, less a 7.5% discount.
- ▶ The convertible bond will be unsecured, have a 5 year tenor, be priced at 1.5% over the RBA cash rate (indicatively 3% pa in total), with the principal and interest payable at maturity.



Strategic Downstream JV with POSCO



- Pilbara Minerals to be a 30% participant in a Downstream Joint Venture (**DSJV**) with POSCO (at Pilbara's election), to develop and operate a 30,000tpa LCE lithium carbonate/lithium hydroxide conversion plant in South Korea
- POSCO is a financially strong and technically capable partner who will provide a convertible bond (convertible at Pilbara's election) for A\$79.6M which will largely fund Pilbara's initial 30% interest in the JV conversion plant
- POSCO's PosLX patented technology is cost competitive in comparison to conventional processing facilities
- POSCO provides Pilbara with a strategic link to lithium battery and EV manufacturers, having established R&D expertise to target the electric vehicle and energy storage markets
- DSJV expands Pilbara's access to the battery industry and should help Pilbara expand its knowledge of the lithium supply chain and core competencies
- DSJV broadens Pilbara's customer base, providing geographic diversification and greater access to global cathode makers
- DSJV should allow Pilbara to capture further value through direct participation in a downstream chemical conversion facility





Company Overview

Lithium Markets

Pilgangoora Stage 1 Project

Pilgangoora Stage 2 Project

Summary



*The way we Generate, Use, Distribute and **Store** energy is changing.*

***Lithium Ion** rapidly becoming the **dominant** rechargeable battery technology.*

***Electric Vehicle** uptake driving the growth in demand, followed by energy storage.*

The Lithium-ion Battery is the storage of choice



Super Energy Density



Lighter, more compact & portable



Longer life-cycle and more cost efficient



More environmentally friendly

Batteries are the fastest growing segment of Lithium Demand



Transportation

Cars, buses, bikes.

26.3%

CAGR*
(Roskill)



Consumer Electronics

+ power tools +e-mobility

7.5%

CAGR
(Roskill)



Renewable Grid Storage

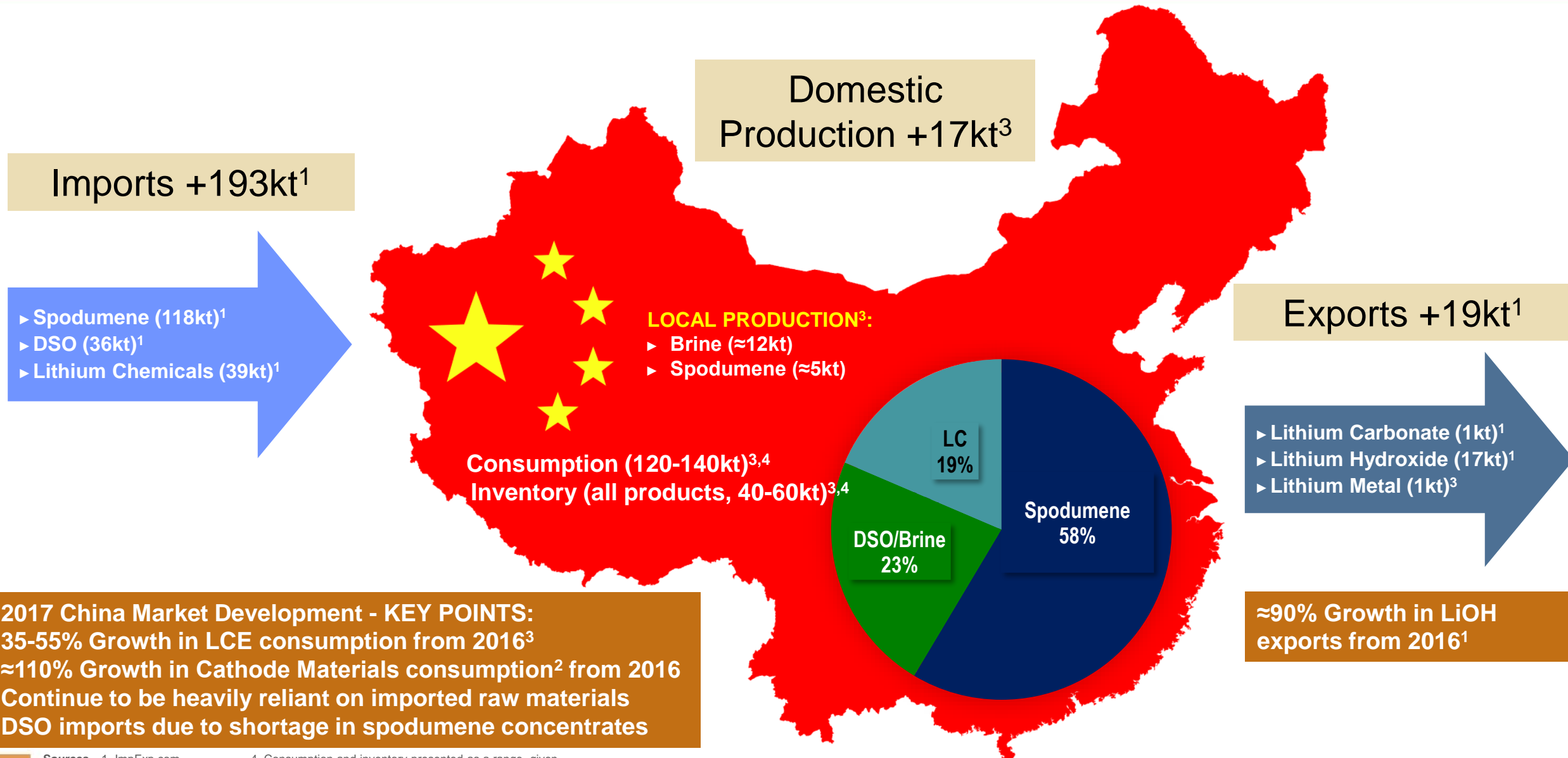
16.5% - 35%

CAGR
(Roskill)

CAGR
(Industrial
Minerals)

* CAGR is 2016 to 2026

China market overview – 2017 snapshot (Lithium Carbonate Equivalent)

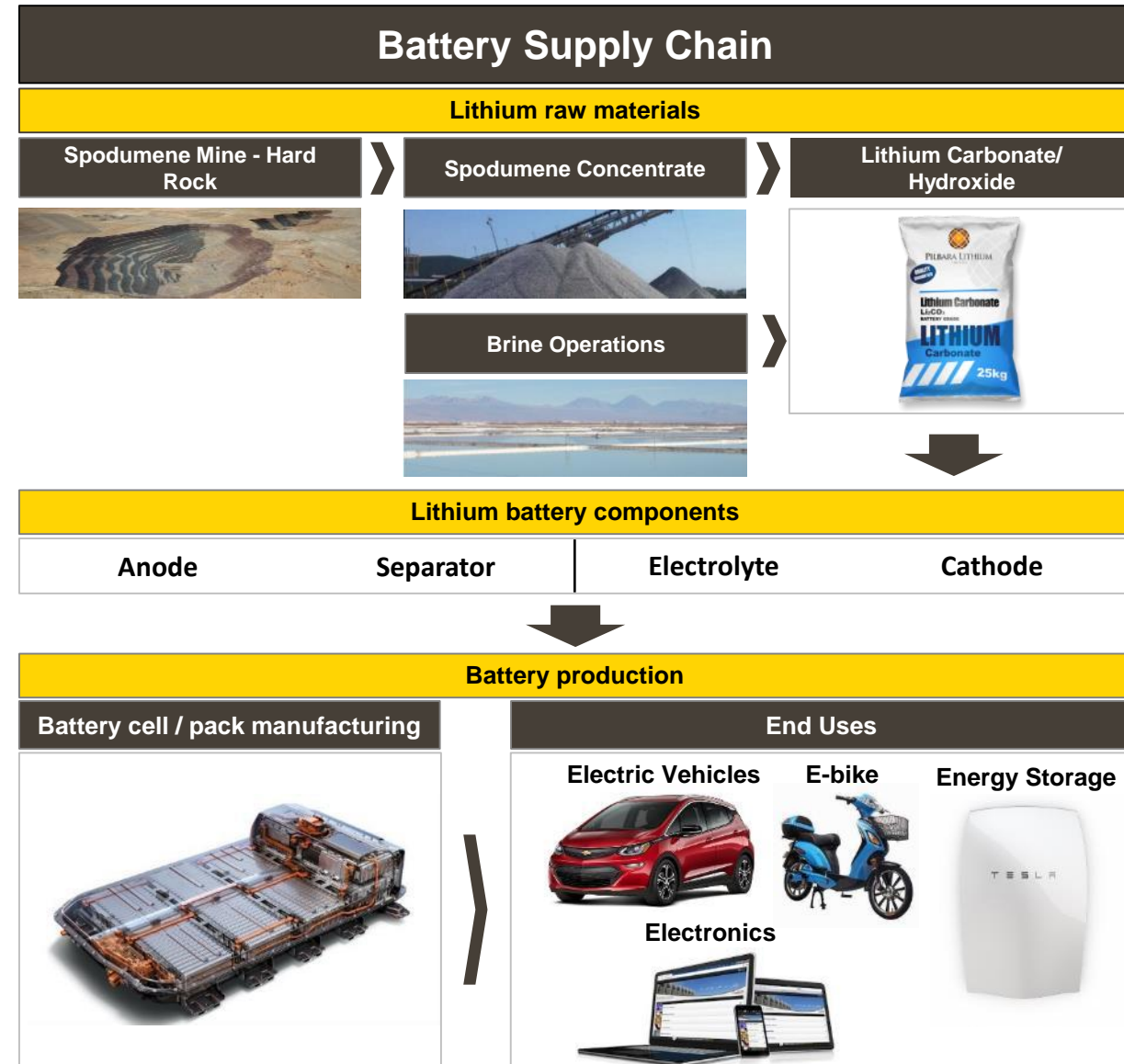


Lithium raw materials

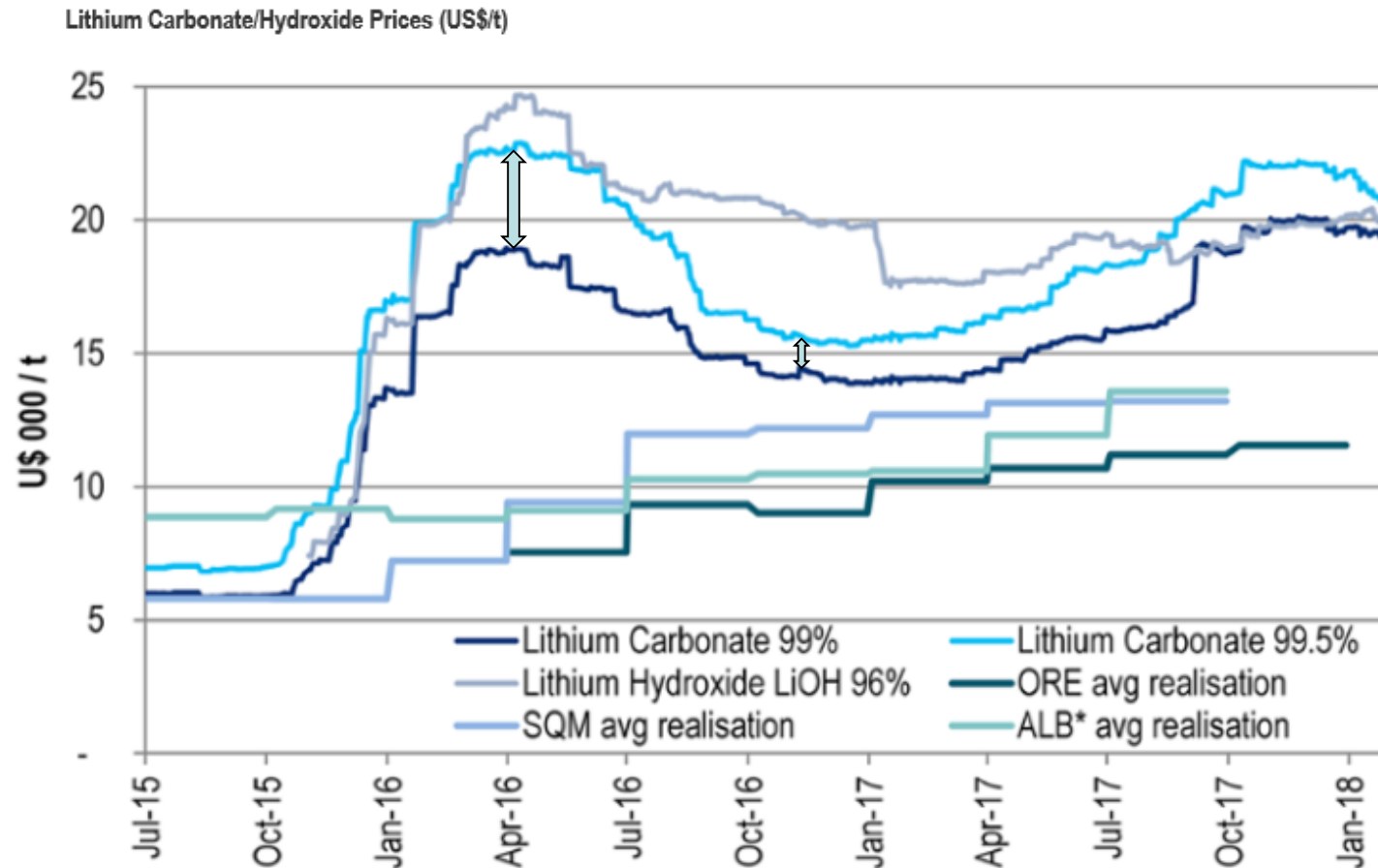
The key ingredient of the improved battery supply chain



- ▶ Lithium raw materials are the vital ingredient for lithium battery technology
- ▶ Lithium is sourced predominantly from:
 - ▶ *hard-rock mining of spodumene deposits;*
 - ▶ *extracting lithium from brine deposits*
- ▶ Australia is the world's largest producer of spodumene concentrate with three mines in production
- ▶ The Pilgangoora deposit is one of the world's largest lithium-tantalum resources
 - ▶ *Measured, Indicated and Inferred Resources of 156.3Mt @ 1.25% Li_2O (lithia) and 128ppm Ta_2O_5*
- ▶ Spodumene ore is processed into a spodumene concentrate (6% Li_2O) and then converted into a lithium carbonate or lithium hydroxide to be utilized in lithium battery components
 - ▶ *Approximately 7.5t of 6% Li_2O spodumene concentrate is required to produce 1t of lithium carbonate (at 90% recovery)*
 - ▶ *Approximately 6.75t of 6% Li_2O spodumene concentrate is required to produce 1t of lithium hydroxide monohydrate (at 90% recovery)*



Lithium Raw Material Prices – Grade Differential



Source: Company reports, AsianMetal, Citi Research

Lithium Carbonate ≈99% Technical Grade
Lithium Carbonate ≥99.5% Battery Grade

Price Variance – Battery Grade vs Technical Grade over recent history

Minimum ↑ - +USD\$1,200/tonne

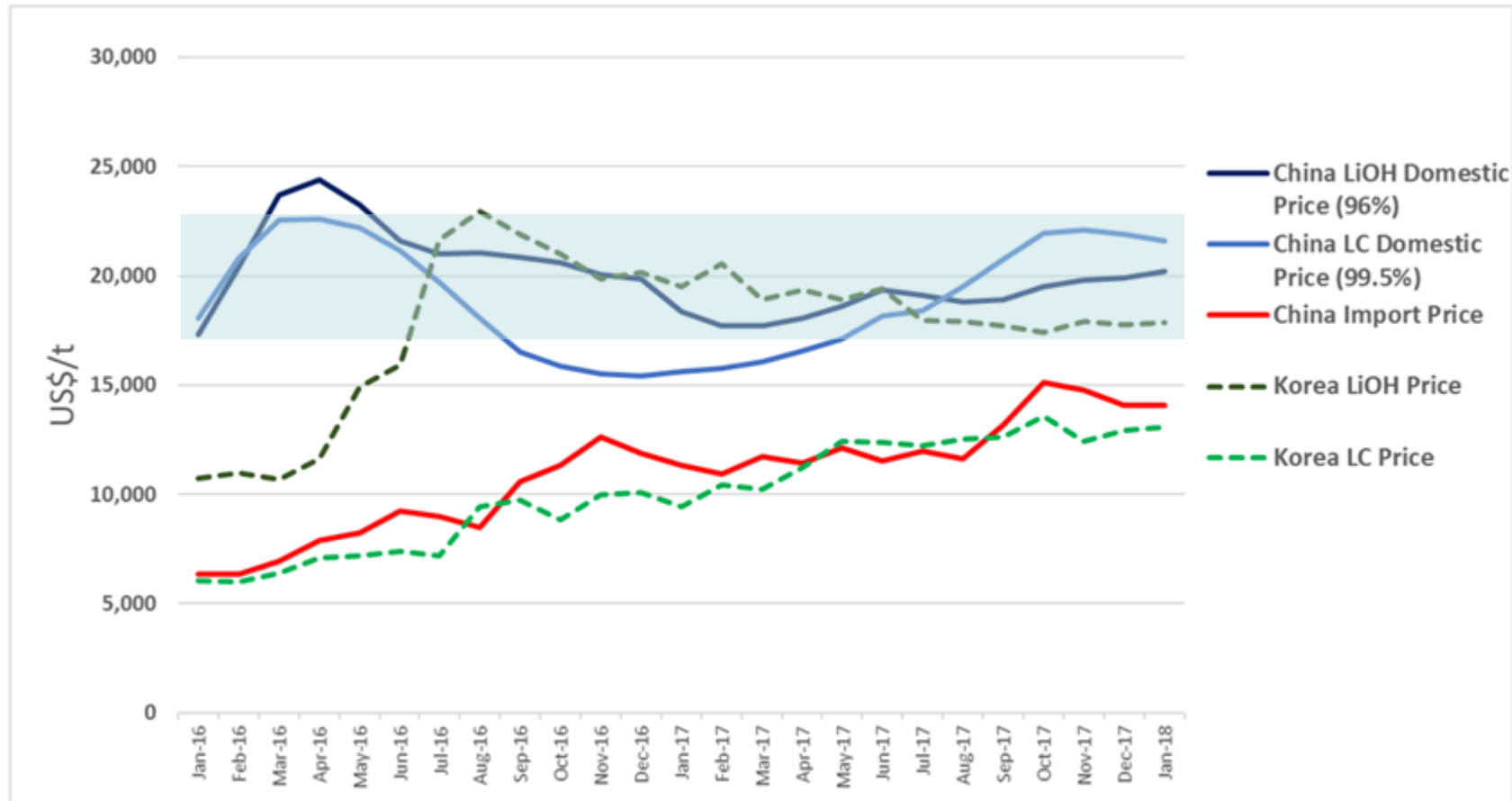
Maximum ↓ - +USD\$3,500/tonne

Upgrading an 'Industrial or Technical Grade' product to achieve 'Battery Grade' products costs more money as evidenced by the price traces opposite;

- Spodumene concentrates are typically 'cleaner' than brine sources of supply and therefore readily upgrade to Battery Grade product after chemical conversion, and
- They are likely cheaper than brine sources of supply for the Battery grade specification and especially for Hydroxide products.

Hard-rock lithium raw material is ideally suited to the higher quality requirements arising from battery demand growth

Lithium Raw Material Prices – Grade Differential

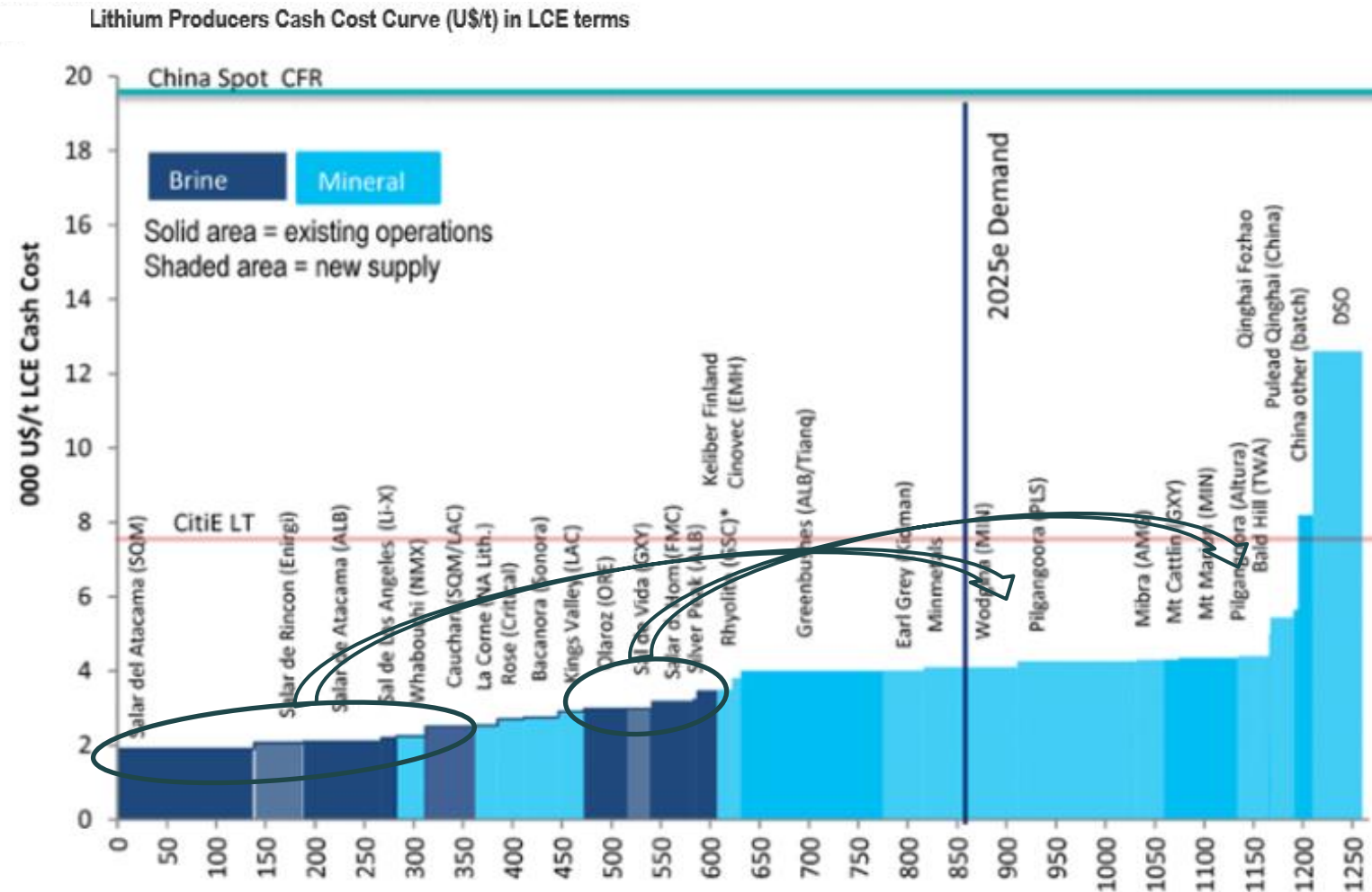


Battery grade materials trading at higher levels for the best part of 2 years, driven by;

- Significant demand
- Premium for product quality

Sources: China Domestic Price, Asian Metals (exc. VAT)
China Import Price, Impexp data (imports to major cathode materials makers exc VAT)
Korean Price, KITA (imports exc. VAT)

Global Cost Curve – Product Grade Matters.....



Source: Citi Research Estimates, Company reports, Roskill

Global cost curves are not 'normalised' for Battery Grade specifications, i.e. $\geq 99.5\%$ purity lithium carbonate

By far, the majority of brine production does not meet Battery Grade specifications and therefore has to have more money spent on it to achieve the higher, in-demand specification for the battery world.

Several implications –

- Conventional wisdom on the relative cost of brine versus hard rock production is being broken down
- The growth in Battery Grade demand favours further hard rock supply to market because of its quality advantages/speed to market
- This could get worse for brines over time as further purity is sought to improve battery technology
- Chilean brines have the added cost of additional royalties (circa USD\$3,000/t at current carbonate pricing of US\$14,000/t) – not reflected in cost curve.

After Battery Grade quality adjustments, brine sourced supply is moving well up the cost curve



Company Overview

Lithium Markets

Pilgangoora Stage 1 Project

Pilgangoora Stage 2 Project

Summary

Stage 1 – 2Mtpa Overview



- ▶ DFS completed in September 2016; subsequent update to reflect higher ore reserve (80.3Mt) further enhances project economics
- ▶ 41 year project life based on 80.3Mt reserve
- ▶ LOM average annual production:
 - ▶ *approximately 320ktpa of 6% spodumene concentrates, and*
 - ▶ *approximately 315,000lbs of tantalite in concentrate*
- ▶ Estimated LOM cash operating cost of USD 277/t CIF¹
- ▶ Total capital cost of A\$284M; \$122M spent to December 2017
- ▶ 2Mtpa project fully funded following successful debt and equity raisings in 2017
- ▶ First production targeted by June 2018 with committed offtake agreements in place for 300ktpa of spodumene production

1. Cash operating costs include all mining, processing, transport, port, shipping/freight and site based general and administration costs, allocation of corporate administration/overhead costs, State and private royalties and native title costs and are net of Ta₂O₅ by-product credits.



Pilgangoora Project – Overview



Pilgangoora Project – construction progress



Central Pit Pre Strip



TMF Construction



Expanded Camp
Facilities



Company Overview

Lithium Markets

Pilgangoora Stage 1 Project

Pilgangoora Stage 2 Project

Summary

Stage 2 - 5Mtpa Expansion Overview (PFS Results)



- ▶ Modest incremental capital to expand to 5Mtpa of AUD 207m
- ▶ LOM average annual production, after Stage 1 and 2 production ramp-up:
 - ▶ *approximately 800ktpa of 6% spodumene concentrates, and*
 - ▶ *approximately 780,000lbs of tantalite in concentrate*
- ▶ Mine life of 17 years; First production planned for Q4 2019; Committed offtake agreements in place for up to 600ktpa of spodumene concentrate
- ▶ Forecast Net Present Value (NPV²10%, post-tax) of AUD 2.1Bn; Project payback of approximately 3 years (on cumulative capital)
- ▶ Projected annual average EBITDA increases to AUD 383m
- ▶ Estimated LOM cash operating costs¹ reduced to USD 225/t CFR demonstrating economies of scale compared to the Stage 1 project
- ▶ Expansion project subject to further feasibility work, market analysis and Pilbara Board approval

Stage 2

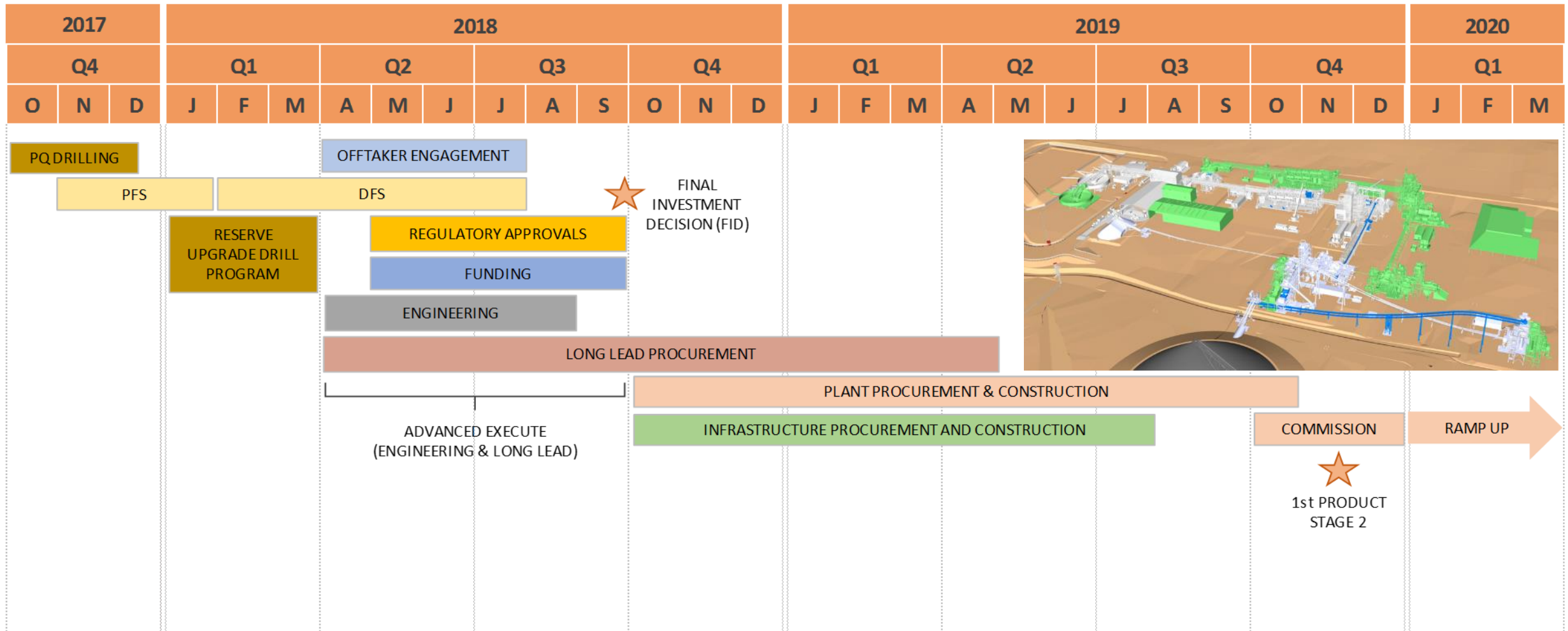


1. Cash operating costs include all mining, processing, transport, port, shipping/freight and site based general and administration costs, allocation of corporate administration/overhead costs, State and private royalties and native title costs and are net of Ta₂O₅ by-product credits.
2. NPV is presented on a 10% nominal basis after tax basis.

5Mtpa Expansion - Project Delivery Schedule



PILGANGOORA STAGE 2 - PRELIMINARY DELIVERY SCHEDULE





Low-cost and
high quality
lithium
products

Significant
resource scale
and grade

Outstanding
project
economics and
ability to
substantially
grow
production

Offtake and full
Stage 1 project
funding secured

Rapid pathway
through
construction and
production from
Q2 2018

Ideally placed to
capitalize on
robust lithium
market outlook
and demand

Ideal project location, low-cost, large scale, growth to 5Mtpa processing capacity and premium product quality position Pilgangoora to be a key supply solution to the burgeoning lithium raw material market

