



Powering a sustainable energy future

# Growing a major lithium materials business

Dale Henderson  
Managing Director & CEO

CITIC CLSA Investor Forum  
11 September 2023

ASX:PLS



# Pilbara Minerals

ASX 50 - Largest, independently owned, hard-rock lithium company in the world

Spodumene concentrate

620,147t

produced FY23

Market capitalisation

\$14.0B<sup>1</sup>

Cash balance

\$3.3B<sup>2</sup>

<sup>1</sup> As at 7 September 2023

<sup>2</sup> As at 30 June 2023



# Pilgangoora Operation

## 214Mt

at 1.2% Li<sub>2</sub>O Ore Reserve

## Tier 1 asset

with strong growth potential

35% ore reserve increase FY23<sup>2</sup>  
+70% increase in production capacity under construction<sup>3</sup>

## ~34 year

mine life<sup>1</sup>

## Two plants

in operation



<sup>1</sup> The ~34 year life of mine and ore mined referenced is from 30 June 2023. This production over life of mine is underpinned by the Company's existing reported Ore Reserves that have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and were released by the Company to the ASX on 24 August 2023 and reported in the Company's FY23 Annual Report. It is based on a combined 6.3 Mtpa throughput operations consisting of 1.3 Mtpa Ngungaju process plant and the proposed Pilgan 5 Mtpa expanded process plant for the P1000 expansion project (Refer to ASX Announcement 29 March 2023).

<sup>2</sup> Ore Reserve as at 30 June 2023, including stockpiled material, was 214Mt at 1.2% Li<sub>2</sub>O, 103 ppm Ta<sub>2</sub>O<sub>5</sub> and 1.0% Fe<sub>2</sub>O<sub>3</sub>. The relevant proportions of Ore Reserves are 9% Proved Ore Reserves and 91% Probable Ore Reserves. Refer Appendix.

<sup>3</sup> Increase in nameplate production capacity uplift to ~ 1Mtpa subject to completion and commissioning of the P680 and P1000 Projects. Actual production is expected to vary in any year due to ore grade, concentrate grade, mine plan and other factors – refer to P1000 Project ASX release 29 March 2023.

**To be a leader  
in the provision  
of sustainable  
battery materials  
products**

**Operate** ▶ Deliver our operating performance commitments

**Grow** ▶ Achieve the full potential of the Pilgangoora asset

**Chemicals** ▶ Extract greater value along the battery materials supply chain

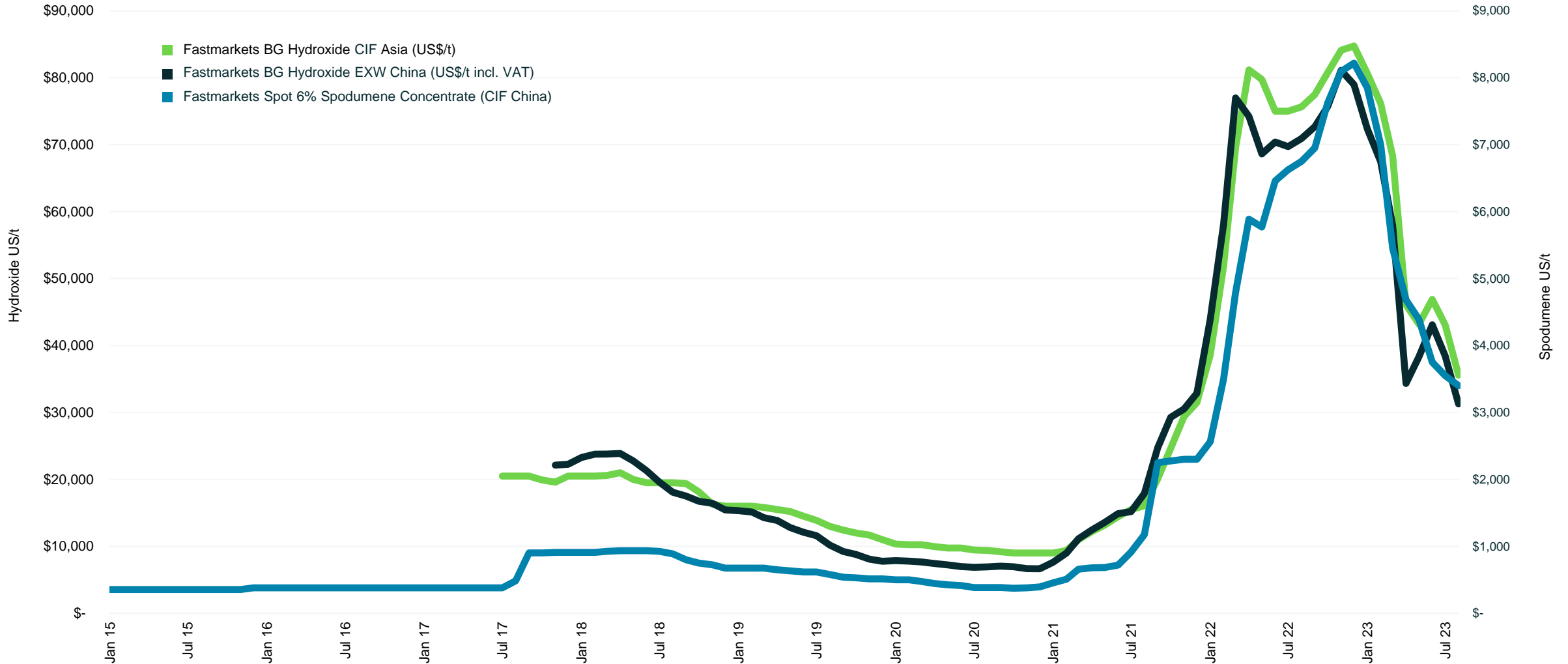
**Diversify** ▶ Diversify revenue beyond the Pilgangoora asset



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# Pilbara Minerals - our journey

# Spodumene concentrate pricing history



Source: Fastmarkets. Note: Prices are the average monthly price as published within the respective month. BG EXW Hydroxide (including VAT) price is published in RMB and converted to USD via the Bloomberg exchange rate on the respective publication day. BG Hydroxide CIF Asia price is published in kilograms and converted to tonnes



**It all begins with a hole in the ground**





# Commencing process plant earthworks





# Process plant foundations





# Process plant steel erected





# Process plant commissioned





# First blast at the Central pit





# Mining underway





# Central pit today





# First shipment October 2018

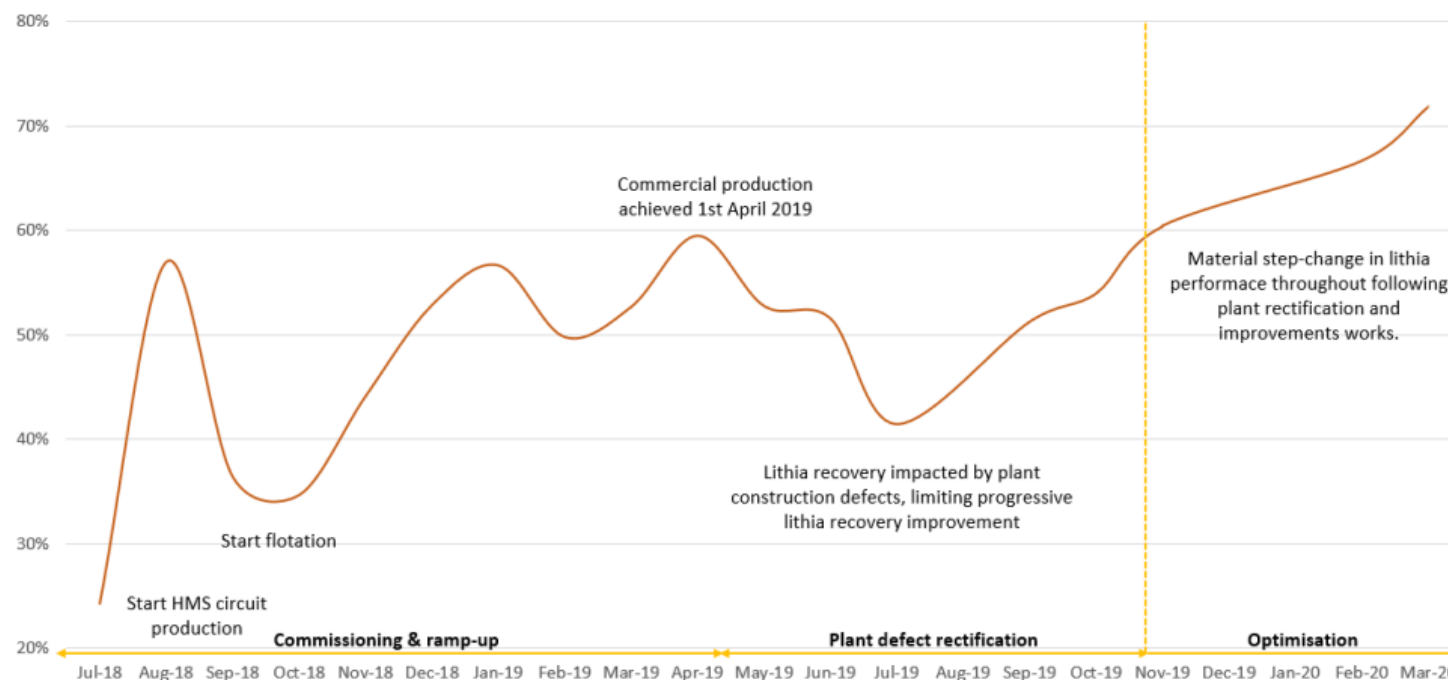




# Optimisation – the early days

## Operational journey

Overall lithia recovery<sup>1</sup> since the commencement of Pilgangoora production



<sup>1</sup> Monthly reconciled lithia recoveries. There was no lithia recovery during months Aug-19, Dec-19, Jan-20 due to no plant production as part of moderated operations.



# Altura acquisition...





...and value add





# Amazing growth journey with more to come

Other major milestones achieved along the way

2017

- Initial US\$100M Nordic Bond, cornerstone investor CEFC

2018

- Strategic relationship formed with POSCO
- First shipment

2019

- Commercial production at Pilgangoora declared

2020

- Re-finance – new senior debt facility at lower cost (CEFC and BNP Paribas)

2021

- Altura acquisition
- First Battery Material Exchange (BMX) auction

2022

- POSCO JV finalised
- P680 FID (+100 ktpa)



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# Pilbara Minerals – FY23



# FY23 - A transformational year

## Major milestones achieved in the 2023 financial year

### Q1

- Accelerated growth mandate endorsed by Board

### Q2

- \$250M Aus Govt and new US\$113M financing facilities
- Capital Management Framework released
- Calix JV Mid-Stream formed
- Pilbara Minerals enters ASX 50

### Q3

- P680 construction contract awarded
- Inaugural interim dividend paid
- POSCO JV debt financing secured
- P1000 FID (+320 ktpa)
- Executive recruitment completed (5 x Executives)

### Q4

- Record quarter for production and sales



## FY23 operational highlights

### Production

▲ **64%**

increase in  
production volume  
**620.1 kt**

### Sales

▲ **68%**

increase in shipping  
volume  
**607.5 kt**

### Price

▲ **87%**

increase in realised  
price

### Expansion

**P680**  
**P1000**

expansion  
projects  
progressed

### Chemicals

**POSCO JV plant**  
progressed

**Mid-stream  
Demonstration  
Project**  
progressed

### Growth

▲ **35%**

increase to Ore  
Reserves  
**214 Mt**



## FY23 financial highlights

### Revenue

▲ **242%**

increase Group  
Revenue to  
**\$4.1B**

### Cash

▲ **464%**

increase in Cash  
Balance to  
**\$3.3B**

### EBITDA

▲ **307%**

increase in Group  
EBITDA to  
**\$3.3B**

### Profit

▲ **326%**

increase in  
Statutory Profit  
after Tax to  
**\$2.4B**

### Dividend

Fully franked  
final dividend  
determined of

**14cps**

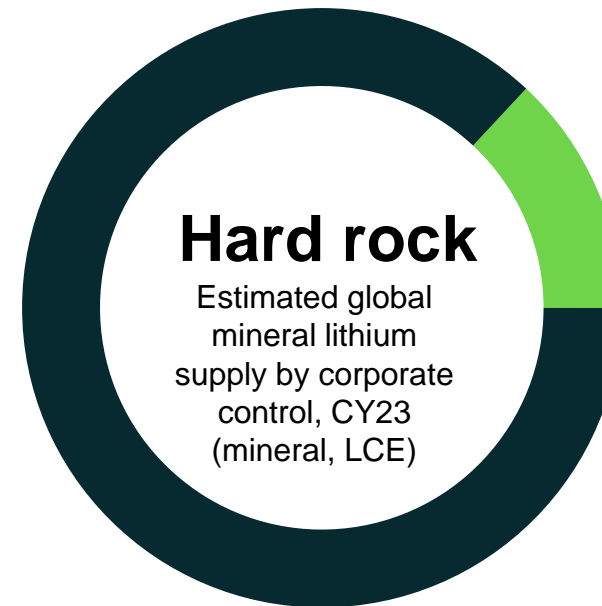
full year dividend paid and  
determined of 25 cps



## A major lithium materials supplier



**8%**  
Pilbara Minerals

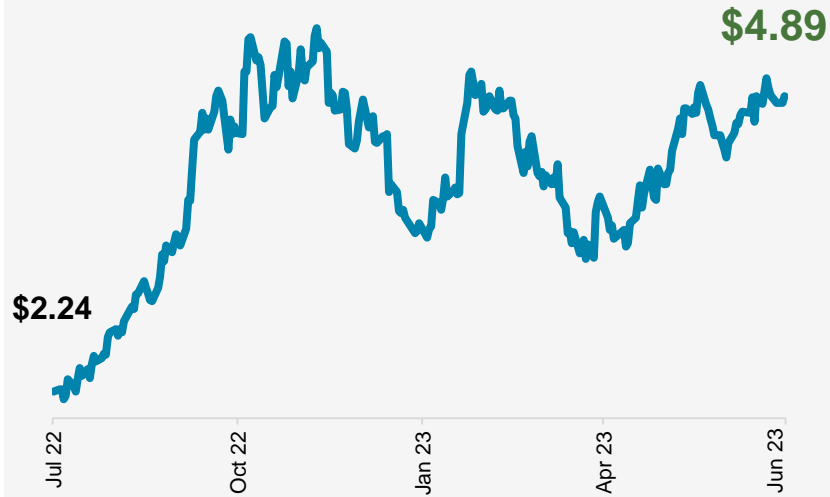


**13%**  
Pilbara Minerals



# Delivering shareholder returns

118% increase in share price over FY23



**Interim  
FY23 dividend**

**11**  
cents  
per share  
fully franked  
in dollar terms  
interim dividend  
value of **\$330m**

**Final  
FY23 dividend**

**14**  
cents  
per share  
fully franked  
in dollar terms  
final FY23  
dividend valued  
at **~\$420m**

**Total  
FY23 dividend**

**25**  
cents  
per share  
Totaling **~\$750M**,  
also implying  
**~30% of free cash flow<sup>1</sup>**

1. Free cash flow is defined as statutory cashflow from operating activities less tax paid / payable less sustaining capital (inclusive of capitalised mine waste development).







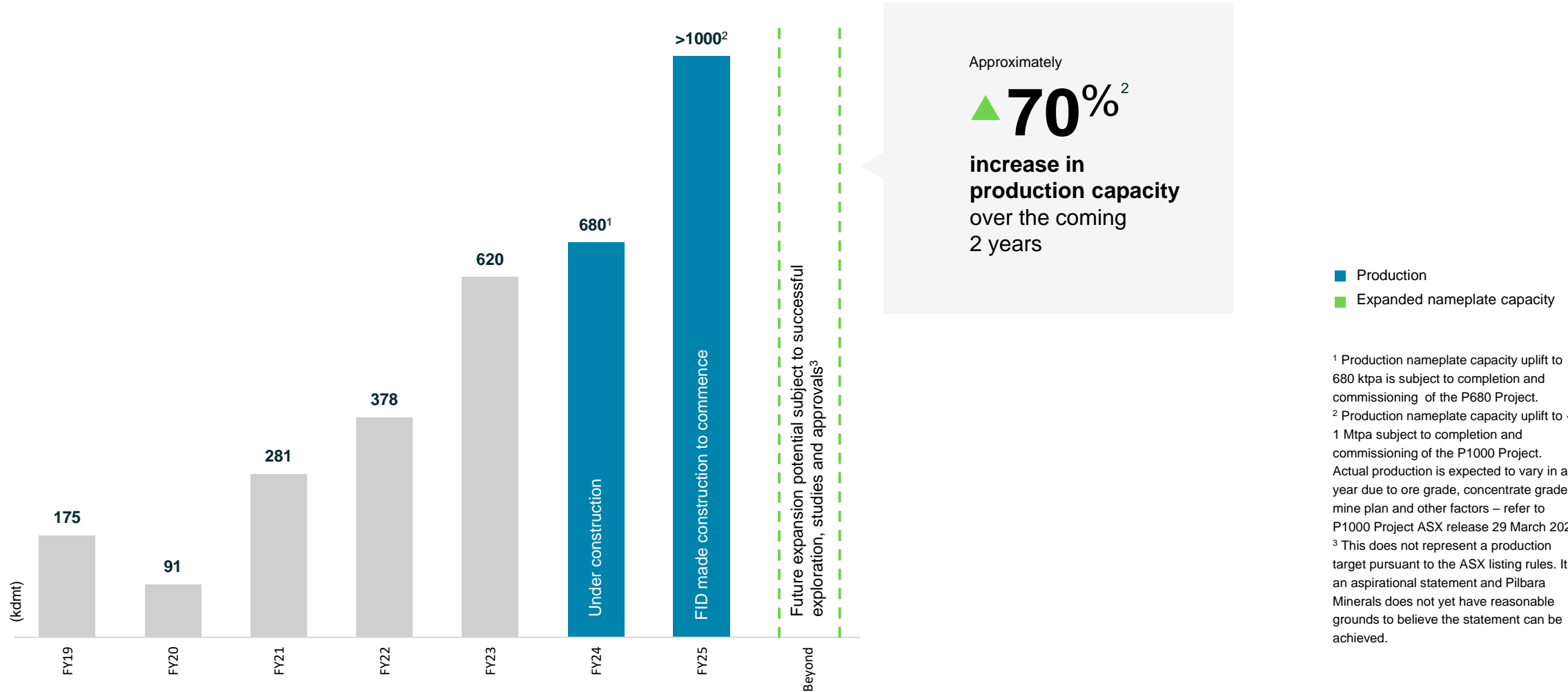
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# Pilbara Minerals - future



# Spodumene concentrate production

Rapid production growth continuing with construction underway



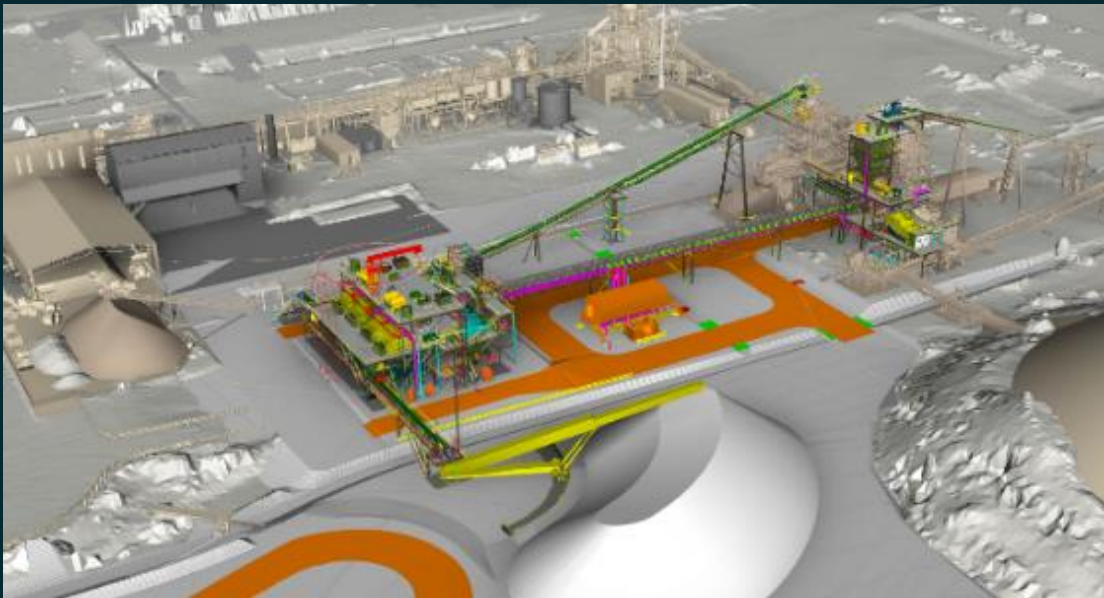
<sup>1</sup> Production nameplate capacity uplift to 680 ktpa is subject to completion and commissioning of the P680 Project.  
<sup>2</sup> Production nameplate capacity uplift to ~ 1 Mtpa subject to completion and commissioning of the P1000 Project. Actual production is expected to vary in any year due to ore grade, concentrate grade, mine plan and other factors – refer to P1000 Project ASX release 29 March 2023.  
<sup>3</sup> This does not represent a production target pursuant to the ASX listing rules. It is an aspirational statement and Pilbara Minerals does not yet have reasonable grounds to believe the statement can be achieved.



# Expansions underway to increase production

## P680

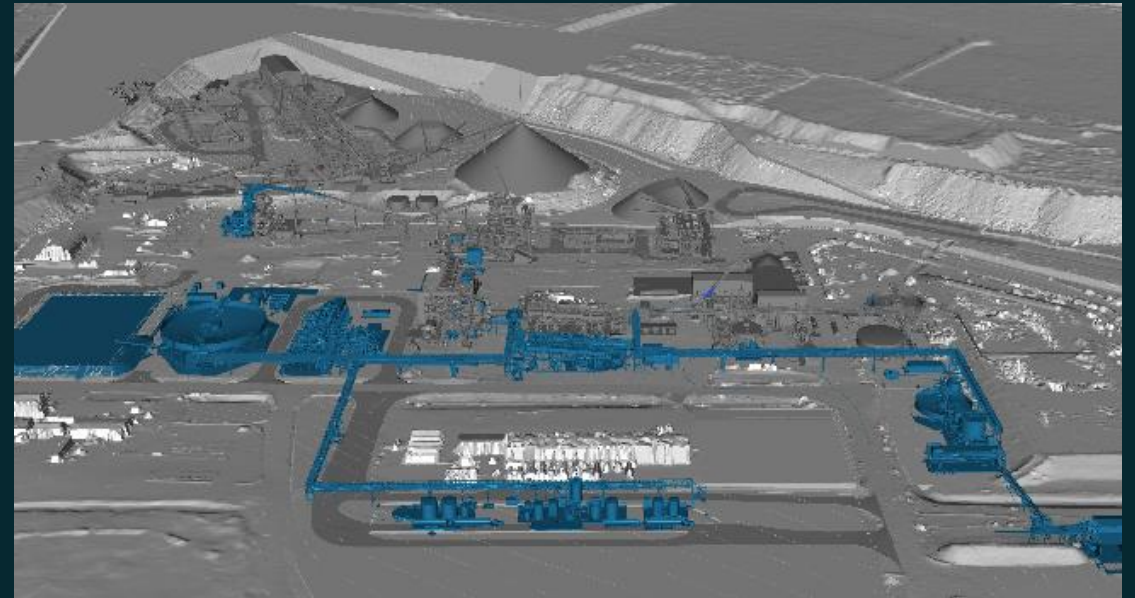
under construction



Pilgan Plant schematic –  
primary rejection 3D design model  
(existing plant infrastructure in greyscale)

## P1000

long lead equipment ordered

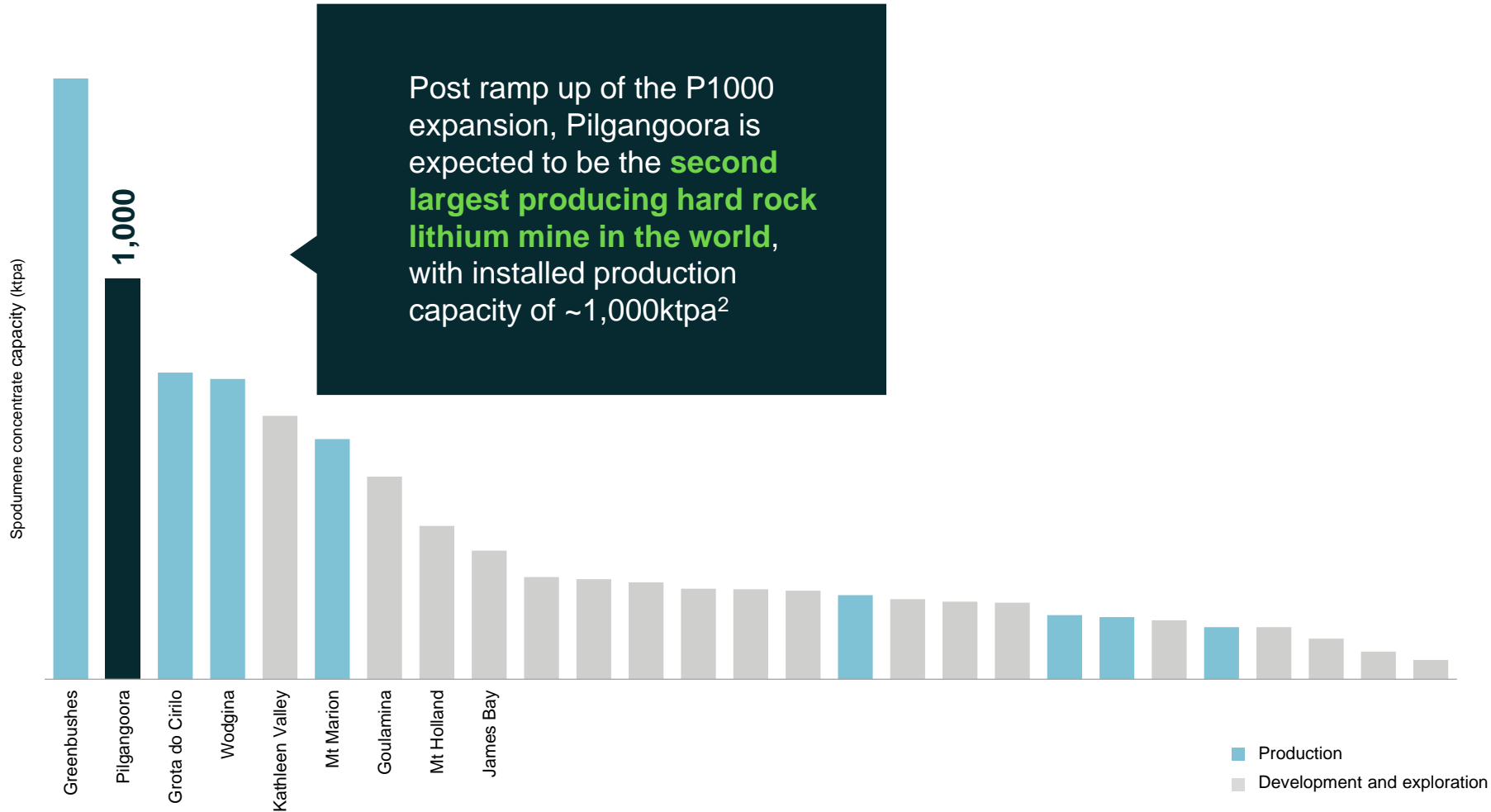


Pilgan Plant schematic  
i) existing plant infrastructure in dark grey  
ii) P1000 Project Expansion in dark blue



# Global spodumene production capacity

Spodumene production capacity vs peers<sup>1</sup>



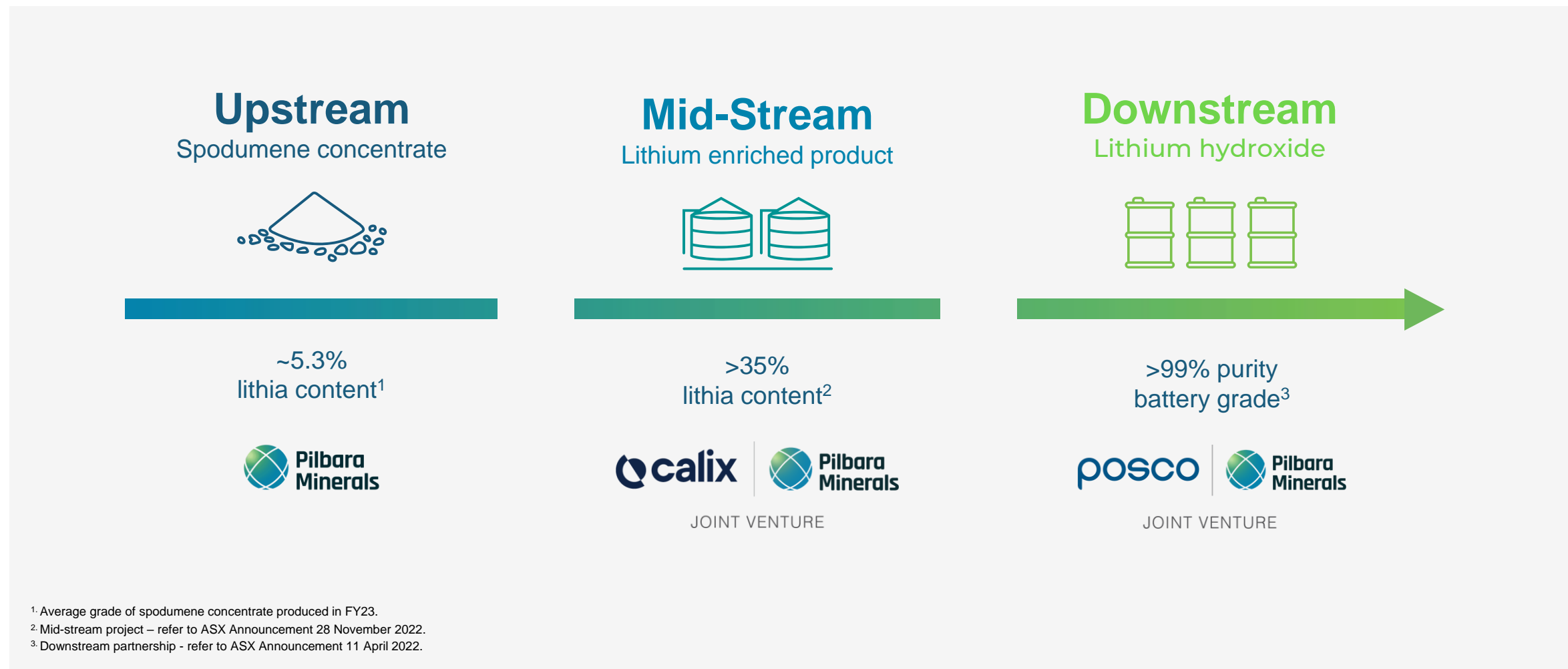
<sup>1</sup> Excludes projects with no formal study released, or where no definitive spodumene production capacity figure is quoted in a study. Excludes Manono (AVZ).

<sup>2</sup> Pilgangoora - based on combined 6.3Mtpa throughput operations consisting of 1.3Mtpa Ngungaju process plant and the proposed Pilgan 5Mtpa expanded process plant for the P1000 expansion project. Increase in nameplate production capacity uplift to ~ 1Mtpa subject to completion and commissioning of the P680 and P1000 Projects. Actual production is expected to vary in any year due to ore grade, concentrate grade, mine plan and other factors – Refer to ASX Announcement 29 March 2023.



# Chemicals

Strategically positioned to capture value across the lithium supply chain



<sup>1</sup> Average grade of spodumene concentrate produced in FY23.

<sup>2</sup> Mid-stream project – refer to ASX Announcement 28 November 2022.

<sup>3</sup> Downstream partnership - refer to ASX Announcement 11 April 2022.



## Mid-Stream to target reduced carbon intensity

- **R&D demonstration plant** with Calix to demonstrate electric kiln technology
- **80%** potential calcination emission intensity reduction<sup>1</sup> via electric calcination
- Potential higher value adding at the resource
- FID achieved – construction from Q4 FY24
- Refer to 2 August ASX Announcement

<sup>1</sup> 80% carbon emissions reduction in calcining spodumene are calculated when using 100% renewable electricity for electric calcination compared to natural gas-powered rotary kiln calcination. See ASX announcement "Final Investment Decision for Mid-Stream Demonstration Plant" on 2 August 2023 for more information.



**>3,000 tpa  $\text{Li}_3\text{PO}_4$**   
from 27,000 dmt concentrate feed

Mid-stream Demonstration Plant schematic



# Downstream chemicals facility with POSCO



Up to 30% equity participation in a 43,000 tpa **lithium hydroxide facility** in Gwangyang, South Korea in joint venture with POSCO



# 35% increase in Pilgangoora Ore Reserve



- Pilgangoora Ore Reserve increased by 55 Mt to 214 Mt following FY23 drill program and Mineral Resource update<sup>1</sup>
- Extends Pilgangoora Operations' mine life by ~9 years to ~34 years<sup>2</sup>
- Study commenced to explore potential further expansion of production capacity beyond 1 Mtpa.

<sup>1</sup> See Appendix for further information

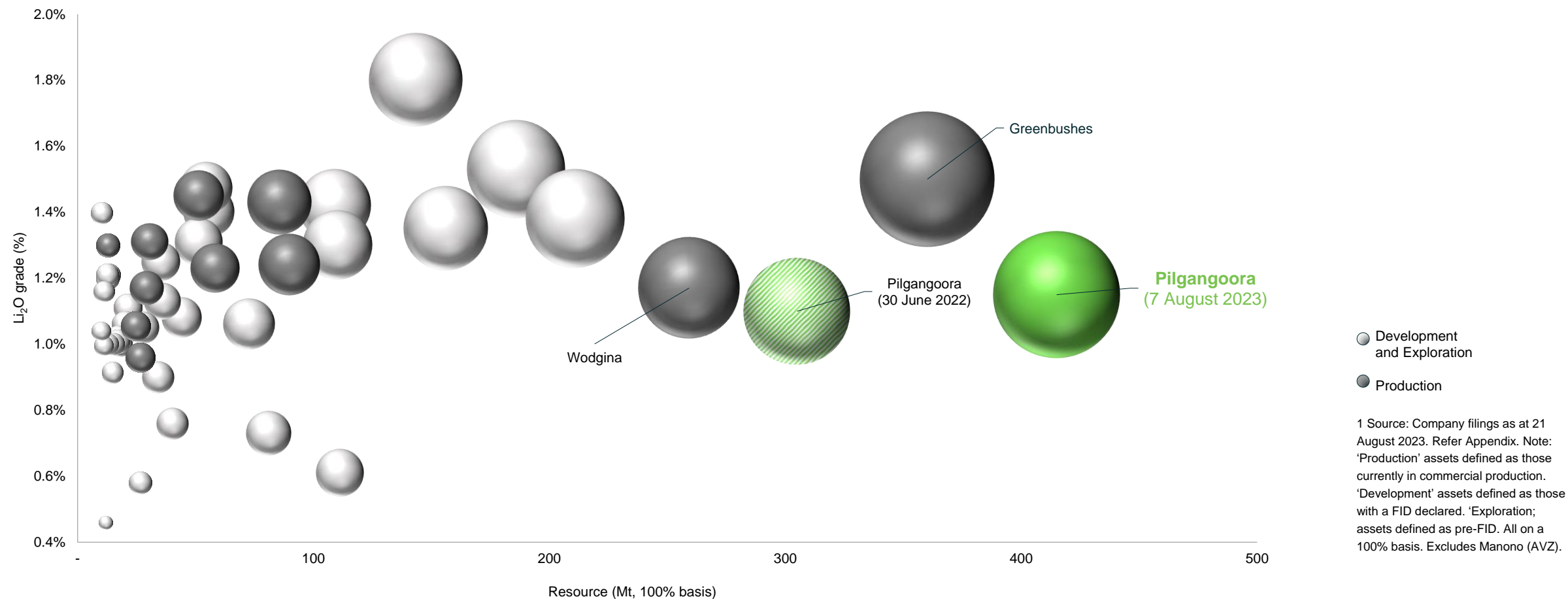
<sup>2</sup> The indicative mine life quoted is from 30 June 2023, based on the planned ramp up to a 6.3 Mtpa production capacity assuming successful delivery of the P1000 Project and based on the updated 30 June 2023 Ore Reserve comprising 9% Proven Ore Reserves and 91% Probable Ore Reserves.





# Globally significant lithium resource

Global hard-rock lithium project landscape (bubble size represents Resource Lithium Carbonate Equivalent (LCE))<sup>1</sup>



<sup>1</sup> Source: Company filings as at 21 August 2023. Refer Appendix. Note: 'Production' assets defined as those currently in commercial production. 'Development' assets defined as those with a FID declared. 'Exploration' assets defined as pre-FID. All on a 100% basis. Excludes Manono (AVZ).



## Strategic partnering process

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Opportunity to access lithium raw materials from a world-class deposit

## Partnership opportunity

with Pilbara Minerals on downstream lithium conversion facility in a mutually agreed location

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## Long-term lithium supply

up to 300,000 tpa spodumene concentrate allocated to underpin a lithium conversion facility

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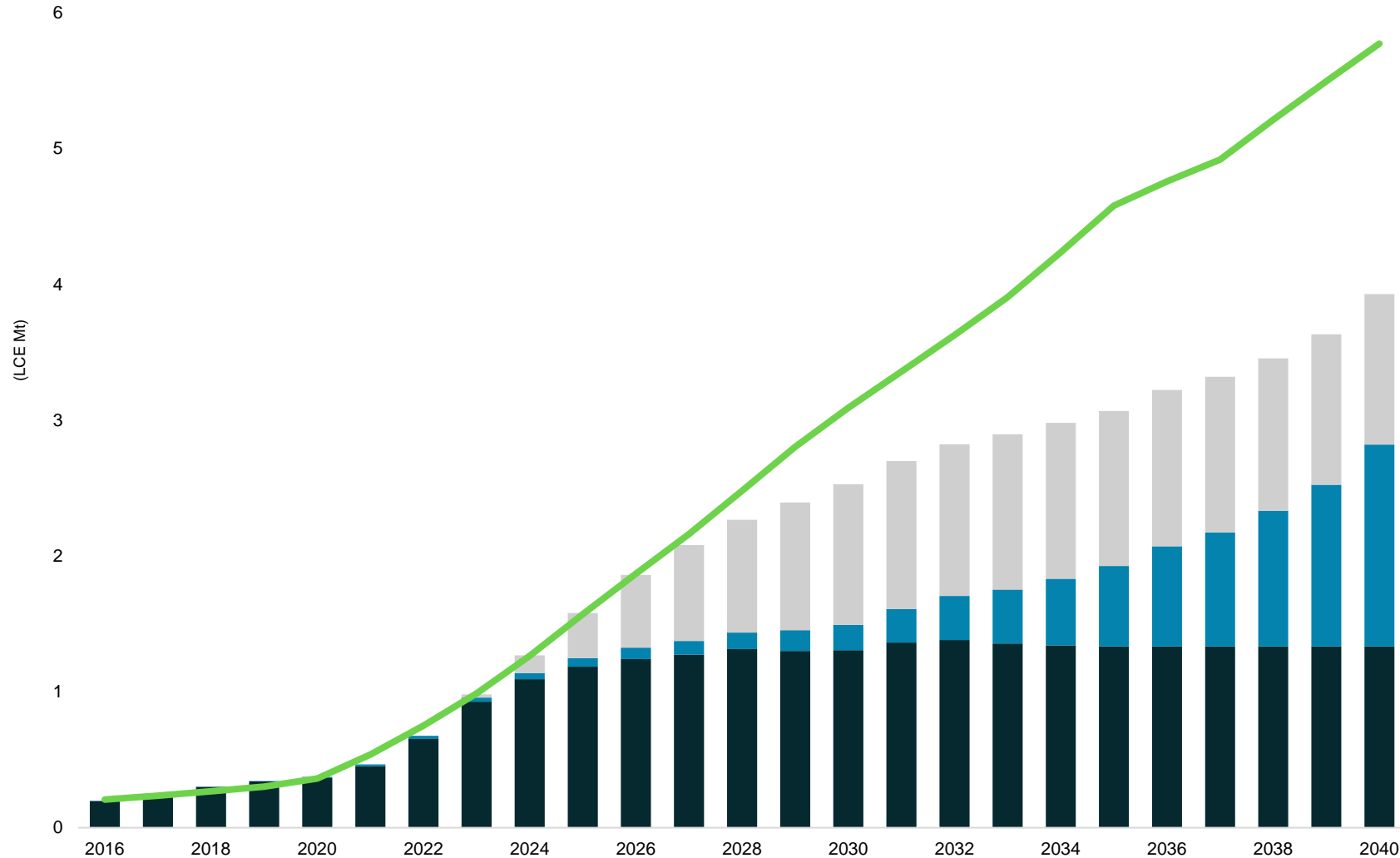
## World-class

lithium resource supplying a future lithium chemicals conversion facility





# Long term demand driven by PEV and ESS



Expected deficit in lithium by 2040 is the equivalent of

**12-20 Pilgangooras<sup>1</sup>**



dependent on potential supply coming online

- Operational
- Secondary
- Potential
- Demand

<sup>1</sup> Source: Benchmark Mineral Intelligence 2022. June Quarter 2023 data. Assumed Pilgangoora production of 1 Mtpa SC6.0, or 60 kt of contained Li<sub>2</sub>O which has been converted to LCE at a 2.473 conversion factor (148 ktpa LCE). The range of 12-20 Pilgangooras is determined by the amount of lithium supply available, 20 representing the difference between Demand and the sum of Operational and Secondary supply, and 12 representing the difference between Demand and the sum of Operational, Secondary and Potential supply. Operational includes brownfields expansions, operational supply and care and maintenance/idled capacity. Secondary includes recycling/global supply. Potential includes projects that are possible, probable and highly probable.



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# Questions



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# Appendix

Important notices and other supporting information



# Important notices



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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 regulations in the United States). Such estimates of reserves are largely dependent on the interpretation of data and may prove to be incorrect over time. No assurance can be given that the reserves and contingent resources presented in the document will be recovered at the levels presented. Recipients should note that while Pilbara Minerals’ mineral resource and ore reserve estimates comply with the JORC Code, they may not comply with the relevant guidelines in other countries including SEC regulations. 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 Minerals will be able to legally and economically extract them.

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Statements contained in this document, including but not limited to those regarding possible or assumed production, sales, future capital and operating costs, projected timeframes, performance, dividends, returns, revenue, exchange rates, potential growth of Pilbara Minerals, the timing and amount of synergies, the future strategies, results and outlook of the combined Pilgangoora Project, industry growth, commodity or price forecasts, or other projections and any estimated company earnings are or may be forward looking statements. Forward-looking statements can generally be identified by the use of words such as ‘project’, ‘foresee’, ‘plan’, ‘expect’, ‘aim’, ‘intend’, ‘anticipate’, ‘believe’, ‘estimate’, ‘may’, ‘should’, ‘will’ or similar expressions. Forward looking statements including all statements in this presentation regarding the outcomes of preliminary and definitive feasibility studies, projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. These statements relate to future events and expectations and as such involve known and unknown risks and significant uncertainties, many of which are outside the control of Pilbara Minerals. Actual results, performance, actions and developments of Pilbara Minerals may differ materially from those expressed or implied by the forward-looking statements in this document. Such forward-looking statements speak only as of the date of this document. There can be no assurance that actual outcomes will not differ materially from these statements. To the maximum extent permitted by law, Pilbara Minerals and any of its affiliates and their directors, officers, employees, agents, associates and advisers: disclaim any obligations or undertaking to release any updates or revisions to the information in this document to reflect any change in expectations or assumptions; do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence). Nothing in this document will under any circumstances create an implication that there has been no change in the affairs of Pilbara Minerals since the date of this document.



# Important notices

## Important Information regarding Mineral Resources, Ore Reserves and P680 and P1000 Projects

Information in this presentation regarding expansions in nameplate capacity of the Pilgan Plant in respect of the P680 and P1000 projects are underpinned by the Company's existing Ore Reserves that have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and were released by the Company to ASX on 24 August 2023. The relevant proportions of proven Ore Reserves and probable Ore Reserves are 9% proved Ore Reserves and 91% probable Ore Reserves. The Company confirms it is not aware of any new information or data that materially affects the information included in that release or report and that all material assumptions and technical parameters underpinning the Ore Reserves estimates continue to apply and have not materially changed.

Information in this presentation relating to Mineral Resource estimates is extracted from the ASX releases dated 7 August 2023 and 24 August 2023. Information in this presentation relating to Ore Reserve estimates is extracted from the ASX release dated 24 August 2023. Pilbara Minerals confirms that it is not aware of any new information or data that materially affects the information included in these announcements and that all material assumptions and technical parameters underpinning the Mineral Resource and Ore Reserve estimates continue to apply and have not materially changed. Pilbara Minerals confirms that the form and context in which the competent persons' findings are presented in this presentation have not been materially modified from the original market announcements.

## Guidance as to Production, Unit Costs and Capital Expenditure

Any guidance as to production, unit costs and capital expenditure in this presentation is based on assumptions, budgets and estimates existing at the time of assessment which may change over time impacting the accuracy of those estimates. These estimates are developed in the context of an uncertain operating environment including in respect of inflationary macroeconomic conditions, incomplete engineering and uncertainties surrounding the risks associated with mining and project development including the construction, commissioning and ramp up of projects such as the P680 and P1000 Projects which may delay or impact production and have a flow on effect on sales. Actual results may therefore vary significantly depending on these risks and the timing required to address them. The information is therefore provided as an indicative guide to assist sophisticated investors with modelling of the Company. It should not be relied upon as a predictor of future performance.

## Midstream Demonstration Plant Project

Front End Engineering Design (FEED) and other technical studies in respect of the Mid-Stream Demonstration Plant have been undertaken to determine the potential viability of the demonstration plant and to reach a final investment decision. The FEED study has been prepared to an accuracy level of +/-20% (for Capital costs) and +/-20% (for Operating costs). As with all studies of this nature no assurance or certainty can be provided that the conclusions of the studies including in respect of capital and operating cost estimates and timing will be realised.

## Financial information

In order to provide additional insight into the business, certain non-IFRS measures such as "EBITDA", "underlying profit after tax", "Cash Balance inclusive of LOC" and "Net Cash/(Debt)" may be used in this presentation which are unaudited, non-IFRS measures that, in the opinion of the Company's directors, provides useful information to assess the financial performance of the Company over the reporting period. Reconciliations to IFRS measures are included within this presentation.

This presentation should be read in conjunction with the Company's FY23 Annual Financial Report and accompanying notes dated 25 August 2023.

## Past performance

Statements about past performance are not necessarily indicative of future performance.

## References to Australian dollars

All references to dollars (\$) and cents in this report are to Australian currency, unless otherwise stated.

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## Authorisation of release

Release of this market announcement is authorised by Mr Dale Henderson, Managing Director & CEO.

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# Supporting data: Hard-rock Mineral Resources (slide 35)



Company <sup>1</sup>	Project name	Stage	Location	Announcement title	Announcement date	Total (Mt)	Resource grade (% Li <sub>2</sub> O)	Contained Li <sub>2</sub> O (Mt)	Contained LCE (Mt) <sup>2</sup>	
1	Pilbara Minerals	Pilgangoora	Production	Australia	Substantial Increase to Pilgangoora Mineral Resource to 414Mt	7-Aug-23	414	1.15%	4.8	11.8
2	AVZ Minerals	Manono	Exploration	DRC	Updated Mineral Resource Estimate	24-May-21	401	1.65%	6.6	16.4
3	IGO / Tianqi / Albemarle	Greenbushes	Production	Australia	IGO 2022 Annual Report to Shareholders	30-Aug-22	360	1.50%	5.4	13.4
4	Mineral Resources	Wodgina	Production	Australia	Lithium Mineral Resources and Reserve Update	7-Oct-22	259	1.17%	3.0	7.5
5	Leo Lithium	Goulamina	Development	Africa	Significant Goulamina Mineral Resource upgrade 48% increase to 211Mt	20-Jun-23	211	1.37%	2.9	7.1
6	SQM	Mt Holland	Development	Australia	Mt Holland Technical Report	25-Apr-22	186	1.53%	2.9	7.0
7	Liontown	Kathleen Valley	Development	Australia	Kathleen Valley Lithium Project - DFS Update 2	8-Apr-21	156	1.35%	2.1	5.2
8	Rio Tinto	Jadar	Exploration	Europe	Update to Ore Reserves and Mineral Resources at Jadar	23-Feb-22	144	1.80%	2.6	6.4
9	Infinity Lithium	San Jose	Exploration	Europe	South-West Connect Conference	20-Oct-22	111	0.61%	0.7	1.7
10	Allkem	James Bay	Exploration	North America	James Bay Mineral Resources increased by 173% to 110.2Mt	11-Aug-23	110	1.30%	1.4	3.5
11	Patriot Battery Metals	Corvette	Exploration	North America	Patriot announces the largest lithium pegmatite Resource in the Americas at CV5	30-Jul-23	109	1.4%	1.5	3.8
12	Albemarle	Kings Mountain	Production	North America	2022 Annual Report	14-Feb-23	90	1.24%	1.1	2.8
13	Sigma	Grota do Cirilo	Production	South America	Sigma Lithium Corporate Presentation March 2023	15-Mar-23	86	1.43%	1.2	3.0
14	Andrada	Uis	Exploration	Africa	Drilling Delivers Significant Lithium Resource Upgrade at the Uis Mine	6-Feb-23	81	0.73%	0.6	1.5
15	Prospect	Arcadia	Development	Africa	Staged OFS Investor Presentation	11-Oct-21	73	1.06%	0.8	1.9
16	Sayona	North American Lithium	Production	North America	Definitive Feasibility Study confirms NAL value with A\$2.2B NPV	13-Apr-23	58	1.23%	0.7	1.8
17	Livent	Nemaska	Development	North America	NI 43-101 Report on the Estimate to Complete for the Whabouchi Lithium Mine	31-May-19	56	1.40%	0.8	1.9
18	Frontier	Pakeagama Lake	Exploration	North America	Frontier Lithium PFS Demonstrates Pre-Tax NPV US\$2.6bn	1-Jun-23	55	1.47%	0.8	2.0
19	Mineral Resources	Mt Marion	Production	Australia	Lithium Mineral Resources and Reserve Update	7-Oct-22	51	1.45%	0.8	1.8
20	Sayona	Moblan	Exploration	North America	Moblan Boosted by Significant Increase in Lithium Resource	17-Apr-23	51	1.31%	0.7	1.7
21	Latin Resources	Salinas	Exploration	South America	241% increase for the Colina Mineral Resource	20-Jun-23	45	1.32%	0.6	1.5
22	Piedmont	Carolina Lithium	Exploration	North America	Piedmont Increases Mineral Resources	22-Oct-21	44	1.08%	0.5	1.2
23	Zinnwald Lithium	Zinnwald	Exploration	Europe	PEA for the revised Zinnwald Lithium Project (NL to FN, Li converted to Li <sub>2</sub> O using 2.153, it is reported in li PPM)	6-Sep-22	40	0.76%	0.3	0.8
24	Global Lithium	Manna	Exploration	Australia	Manna Lithium Project Resource Grows	26-Jul-23	36	1.13%	0.4	1.0
25	Atlantic Lithium	Ewoyaa	Exploration	Africa	Definitive Feasibility Study Project Update	22-Sep-22	35	1.25%	0.4	1.1
26	Critical Elements	Rose	Exploration	North America	Rose Lithium-Tantalum project feasibility study	13-Jun-22	34	0.90%	0.3	0.8
27	Core Lithium	Finniss	Production	Australia	Significant Increase to Finniss Mineral Resources	18-Apr-23	31	1.31%	0.4	1.0
28	Bikita Minerals	Bikita	Production	Africa	SMM news	18-May-22	29	1.17%	0.3	0.9
29	Savannah	Mina Do Barroso	Exploration	Europe	Annual Report and Financial Statements	31-Dec-21	27	1.06%	0.3	0.7
30	Alita	Bald Hill	Production	Australia	121 Mining Conference Presentation	20-Mar-19	27	0.96%	0.3	0.6
31	CAT Strategic Metals	Kamativi	Exploration	Africa	Chimata Releases NI 43-101 Technical Report on the Kamativi Tailings Lithium Project	7-Nov-18	27	0.58%	0.2	0.4
32	AMG Mineracao	Mibra	Production	South America	AMG Advanced Metallurgical Group Announces Increased Lithium and Tantalum Mineral Resource at Mibra Mine	3-Mar-17	25	1.05%	0.3	0.6
33	Kodal Minerals	Bougouni	Exploration	Africa	FS demonstrates robust economics for development of the Bougouni Lithium Project	27-Jan-20	21	1.11%	0.2	0.6
34	Premier African Minerals	Zulu	Development	Africa	Africa's Next Lithium Developer	20-Jun-21	20	1.06%	0.2	0.5
35	Keliber Oy	Keliber	Development	Europe	Mineral Resources from Keliber's New Tuoreetsaaret Lithium Deposit	23-Jun-22	17	1.02%	0.2	0.4
36	Sayona	Authier	Production	North America	Definitive Feasibility Study confirms NAL value with A\$2.2B NPV	13-Apr-23	17	1.01%	0.2	0.4
37	Liontown	Buldanina	Exploration	Australia	Annual Report to Shareholders	30-Sep-22	15	1.00%	0.2	0.4
38	Rock Tech Lithium	Georgia Lake	Exploration	North America	Georgia Lake Pre-Feasibility Study	1-Oct-22	15	0.91%	0.1	0.3
39	Allkem	Mt Cattlin	Production	Australia	Mt Cattlin Resource Upgrade with Higher Grade	17-Apr-23	13	1.30%	0.2	0.4
40	Delta Lithium	Mt Ida	Exploration	Australia	Maiden Lithium Mineral Resource Estimate at Mt Ida	19-Oct-22	13	1.20%	0.2	0.4
41	European Lithium	Wolfsberg	Exploration	Europe	EUR Merger with NASDAQ Corp	26-Oct-22	13	1.00%	0.1	0.3
42	Lepidico	Karibib	Development	Africa	Helikon 4 & Rubicon Stockpiles Upgrade to Mineral Resources	30-Jan-23	12	0.46%	0.1	0.1
43	Essential Metals	Dome North	Exploration	Australia	Dome North Resource Upgrade	20-Dec-22	11	1.16%	0.1	0.3
44	Snow Lake Resources	Thompson Brothers	Exploration	North America	Annual Report to Shareholders	1-Nov-22	11	1.00%	0.1	0.3
45	Avalon	Separation Rapids	Exploration	North America	NI 43-101 Separation Rapids Lithium Deposit	26-Sep-18	10	1.40%	0.1	0.4
46	Green Technology	Seymour	Exploration	North America	Investor Presentation South - West Connect Conference	20-Oct-22	10	1.04%	0.1	0.3
47	Green Technology	Root	Exploration	North America	Maiden Mineral Resource Estimate for the Root Project	19-Apr-23	5	1.01%	0.1	0.1

Source: Company filings as at 21 August 2023.  
Note: Figures are rounded. Reported on a 100% asset basis.  
Sorted by Resource Tonnes. 1. Company reporting the Mineral Resource; 2. Li<sub>2</sub>O converted to Lithium Carbonate Equivalent using a factor of 2.473. Manono Project excluded from the bubble chart.



# Pilgangoora Mineral Resources and Ore Reserves (slide 34)



Category	Tonnes	Li <sub>2</sub> O	Ta <sub>2</sub> O <sub>5</sub>	Fe <sub>2</sub> O <sub>3</sub>	Li <sub>2</sub> O	Ta <sub>2</sub> O <sub>5</sub>
	(Mt)	(%)	(ppm)	(%)	(Mt)	(M lb)
<b>Mineral Resource estimate at 30 June 2023</b>						
Measured	22.1	1.34	146	0.44	0.3	7
Indicated	315.2	1.15	106	0.53	3.6	74
Inferred	76.6	1.07	124	0.54	0.8	21
<b>Total</b>	<b>413.8</b>	<b>1.15</b>	<b>112</b>	<b>0.53</b>	<b>4.8</b>	<b>102</b>
<b>Ore Reserve estimate at 30 June 2023</b>						
Proved	19.1	1.32	133	0.92	0.3	6
Probable	195.1	1.18	100	1.00	2.3	42
<b>Total</b>	<b>214.2</b>	<b>1.19</b>	<b>103</b>	<b>0.99</b>	<b>2.5</b>	<b>48</b>

## Notes

- Totals may not add up due to rounding.
- All Open-pit Ore Tonnes are defined using the weighted average cost and recovery of the Pilgan and Ngungaju Plants.
- Ore Reserves were estimated using projected concentrate prices of US\$1,450/dmt (CIF price) for 6% Li<sub>2</sub>O concentrate and US\$36/lb for 25% Ta<sub>2</sub>O<sub>5</sub> concentrate.
- The Ore Reserve is the economically mineable part of the Measured and Indicated Resource. It includes allowance for ore losses and dilution during mining extraction discussed further below.
- Pilbara Minerals ensures that the Mineral Resource and Ore Reserve estimates quoted are subject to governance arrangements and internal controls at both a site level and at the corporate level. Mineral Resources and Ore Reserves are reported in compliance with the JORC Code 2012, using industry standard techniques and internal guidelines for the estimation and reporting of Ore Reserves and Mineral Resources. The Mineral Resources and Ore Reserve statements included in this document were reviewed by the Competent Persons prior to inclusion.
- Stockpiles at the Ngungaju Plant have had no Ta<sub>2</sub>O<sub>5</sub> grade applied.
- The Probable Ore Reserves include 5.0Mt of stockpiles. These comprise 1.7Mt at 1.27% Li<sub>2</sub>O and 0.72% Fe<sub>2</sub>O<sub>3</sub> at the Ngungaju Plant and 3.3Mt at 1.26% Li<sub>2</sub>O, 106ppm Ta<sub>2</sub>O<sub>5</sub> and 0.80% Fe<sub>2</sub>O<sub>3</sub> at the Pilgan Plant.
- For further information on the Pilgangoora Mineral Resource estimate and the Pilgangoora Ore Reserve estimate, refer to the ASX announcements on 7 August 2023 "Substantial 109Mt Mineral Resource increase to 414Mt - further extends Pilgangoora's position as a world class lithium project" and ASX release dated 24 August 2023 "55Mt increase in Ore Reserves to 214Mt".