

Notice to ASX

Presentation for Financial community visit to Pilbara

9 October 2023

Attached are the presentation slides for the presentation by management at the site visit for the financial community to its Pilbara operations in Western Australia. The presentation will be webcast at 13:45 AWST / 06:45 BST and can be found on our website at: <https://www.riotinto.com/en/invest/presentations>

Contacts

Please direct all enquiries to media.enquiries@riotinto.com

Media Relations, United Kingdom

Matthew Klar
M +44 7796 630 637

David Outhwaite
M +44 7787 597 493

Media Relations, Australia

Matt Chambers
M +61 433 525 739

Jesse Riseborough
M +61 436 653 412

Alyesha Anderson
M +61 434 868 118

Michelle Lee
M +61 458 609 322

Media Relations, Americas

Simon Letendre
M +1 514 796 4973

Malika Cherry
M +1 418 592 7293

Vanessa Damha
M +1 514 715 2152

Investor Relations, United Kingdom

Menno Sanderse
M +44 7825 195 178

David Ovington
M +44 7920 010 978

Laura Brooks
M +44 7826 942 797

Investor Relations, Australia

Tom Gallop
M +61 439 353 948

Amar Jambaa
M +61 472 865 948

Rio Tinto plc

6 St James's Square
London SW1Y 4AD
United Kingdom
T +44 20 7781 2000

Registered in England
No. 719885

Rio Tinto Limited

Level 43, 120 Collins Street
Melbourne 3000
Australia
T +61 3 9283 3333

Registered in Australia
ABN 96 004 458 404

This announcement is authorised for release to the market by Andy Hodges, Rio Tinto's Group Company Secretary.

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RioTinto

Pilbara Site Visit October 2023



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This document contains certain forward-looking statements with respect to the financial condition, results of operations and business of the Rio Tinto Group. These statements are forward-looking statements within the meaning of Section 27A of the US Securities Act of 1933, and Section 21E of the US Securities Exchange Act of 1934. The words "intend", "aim", "project", "anticipate", "estimate", "plan", "believes", "expects", "may", "should", "will", "target", "set to" or similar expressions, commonly identify such forward-looking statements.

Examples of forward-looking statements include those regarding estimated ore reserves, anticipated production or construction dates, costs, outputs and productive lives of assets or similar factors. Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors set forth in this presentation.

For example, future ore reserves will be based in part on market prices that may vary significantly from current levels. These may materially affect the timing and feasibility of particular developments. Other factors include the ability to produce and transport products profitably, demand for our products, changes to the assumptions regarding the recoverable value of our tangible and intangible assets, the effect of foreign currency exchange rates on market prices and operating costs, and activities by governmental authorities, such as changes in taxation or regulation, and political uncertainty.

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Mineral Resources

The Mineral Resources reported for the Rhodes Ridge Joint Venture between Rio Tinto (50 per cent) and Wright Prospecting Pty Ltd (50 per cent), on slide 18 form part of the Pilbara Mineral Resource estimates reported in Rio Tinto's 2022 Annual Report released to the ASX on 22 February 2023. These Mineral Resources are not materially different to the breakdown of the Rhodes Ridge Mineral Resources reported in Rio Tinto's 2020 Annual Report released to the ASX on 22 February 2021.

The Competent Persons responsible for reporting these Mineral Resource estimates were Mr P Savory, who is a Fellow of The Australasian Institute of Mining and Metallurgy, and Ms N Brajkovich, Mr C Kyngdon, Mr M Judge and Ms A Latscha who are Members of The Australasian Institute of Mining and Metallurgy. Rio Tinto is not aware of any new information or data that materially affects these Mineral Resource estimates and confirms that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed. The form and context in which the Competent Persons' findings are presented have not been materially modified from when they were reported. Mineral Resources are quoted in this release on a 100 per cent basis, as dry in-situ tonnes.

Rhodes Ridge contains 6.8 billion tonnes of Mineral Resources at an average grade of 61.6% Fe; comprising 0.8 billion tonnes of Indicated Mineral Resources at an average grade of 62.4% Fe and 6.0 billion tonnes of Inferred Mineral Resources at an average grade of 61.5% Fe.

These Mineral Resources include:

- 0.6 billion tonnes of high grade Brockman Indicated Mineral Resources at an average grade of 63.9% Fe and 0.03 billion tonnes of high grade Detrital Indicated Mineral Resources at an average grade of 61.3% Fe.
- 5.3 billion tonnes of high grade Brockman, Marra Mamba and Detrital Inferred Mineral Resources at an average grade of 62.2% Fe.

Agenda

Time	Topic	Presenter
Session 1		
13:45 – 13:55	Safety and Cultural Share	Cecile Thaxter
13:55 – 14:25	Iron Ore	Simon Trott
14:25 – 14:45	Pilbara Mines	Matthew Holcz
14:45 – 15:00	Rail, Port & Core Services	Richard Cohen
15:00 – 15:10	Operational & Technical Support	Stephen Jones
15:10 – 15:25	Break	
Session 2		
15:25 – 15:35	Markets	Will Millstead
15:35 – 15:50	Steel Decarbonisation	Simon Farry
15:50 – 16:05	Financial Performance	Rowena Albones
16:05 – 16:15	Break	
16:15	Q&A	Panel
17:00	End	

Cecile Thaxter

Vice President,
Health, Safety, Environment & Communities

Fatality prevention

The leading causes of fatalities across the mining industry in 2022¹ are **risks that our people face today...**

**Mobile
equipment**

**Falling
objects**

**Working at
heights**



Integrated approach to preventing fatalities



Managing fatality risks

Ensuring critical controls are well designed, understood, in place, and working at the frontline



Shifting mindsets & behaviours

Through leadership & engagement and the Safe Production System



Building capability & learning

Applying innovative and inclusive methods to train, communicate, and share critical learnings



Assessing maturity – continually

Leading practice Safety Maturity Model to assess performance in key areas

Safety Maturity Model pillars



Nammuldi cultural heritage incident

August 2023

Identified dislodgement of Pilbara scrub tree and ~1m³ rock

Cultural heritage management

Design, implement, monitor & optimise critical controls

Engagement on Country and operating parameters

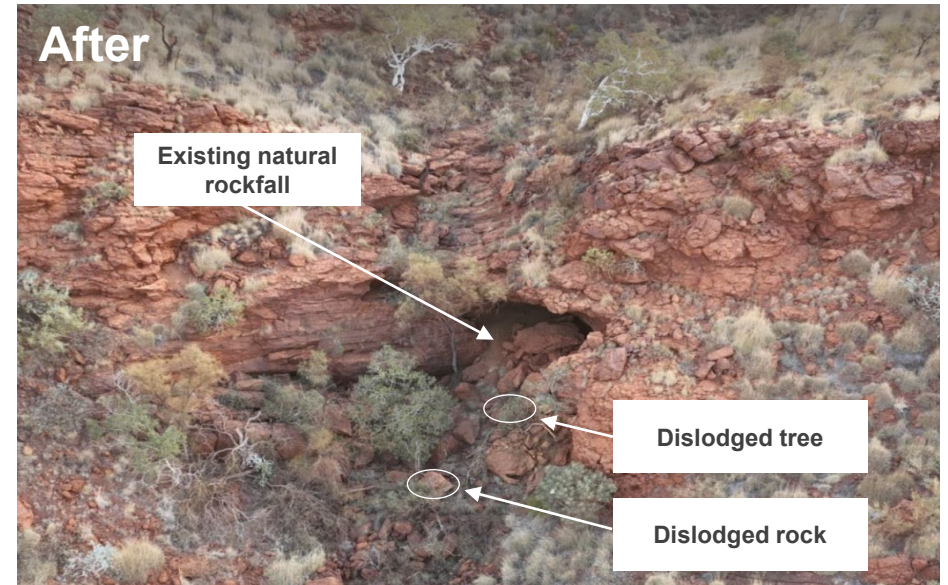
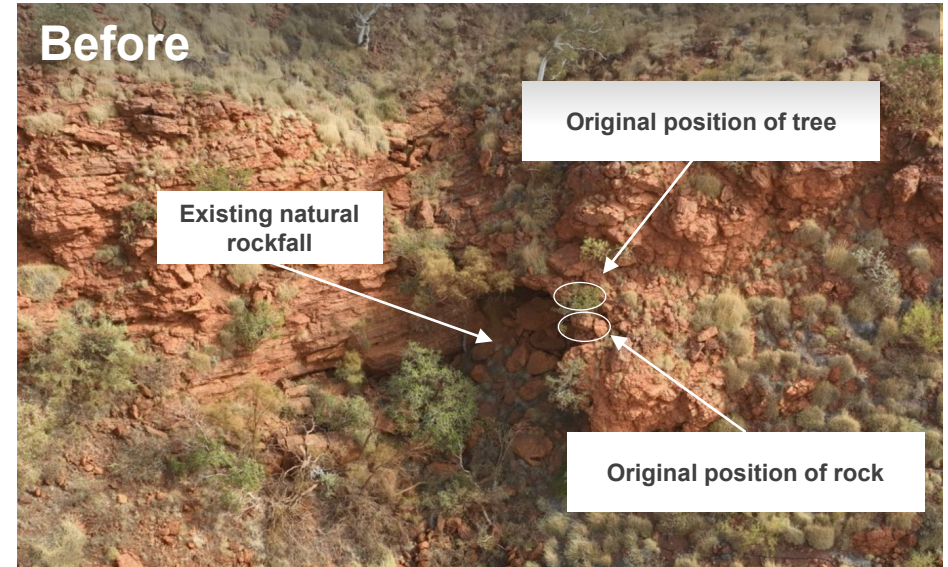
Monitoring blast operations in real time; analyse and update models and designs

Review underway to identify learnings

Site visit

Assessment found no structural damage and no damage to cultural material

We continue to work closely with Traditional Owners



Simon Trott

Chief Executive, Iron Ore



Acknowledgement of country

We acknowledge the Yaburara and Ngarluma People on whose Traditional Lands Dampier is located and pay our respects to Elders past and present.

We extend that respect to all Aboriginal and Torres Strait Islander peoples on the lands where we operate.



Presenters



Simon Trott
Chief Executive,
Iron Ore



Cecile Thaxter
Vice President,
Health, Safety, Environment &
Communities



Matthew Holcz
Managing Director,
Pilbara Mines



Richard Cohen
Managing Director,
Rail, Port & Core Services



Stephen Jones
Managing Director,
Operational & Technical Support



Will Millstead
Head of Market Analysis



Simon Farry
Head of Steel Decarbonisation



Rowena Albones
Chief Financial Officer,
Iron Ore

This week's programme

Dampier

Our world class port and autonomous rail

Ports capable >360 Mtpa



Gudai-Darri

We continue to excel in development

Applying co-management



Rhodes Ridge

The best undeveloped project in the Pilbara

Large, grade-advantaged & close to infrastructure



Nothing is more important than the safety and wellbeing of our people

Fatality prevention

Life Saving Commitments

Critical Risk Management

Safety Maturity Model

Everyday respect

Embedding respectful behaviours

Inclusion and respect

Supportive leadership programmes to help support a mentally healthy workforce

In the last 5 years

Fatality-free¹

↓ **80%¹** 0.03²

Potentially Fatal Injury rate

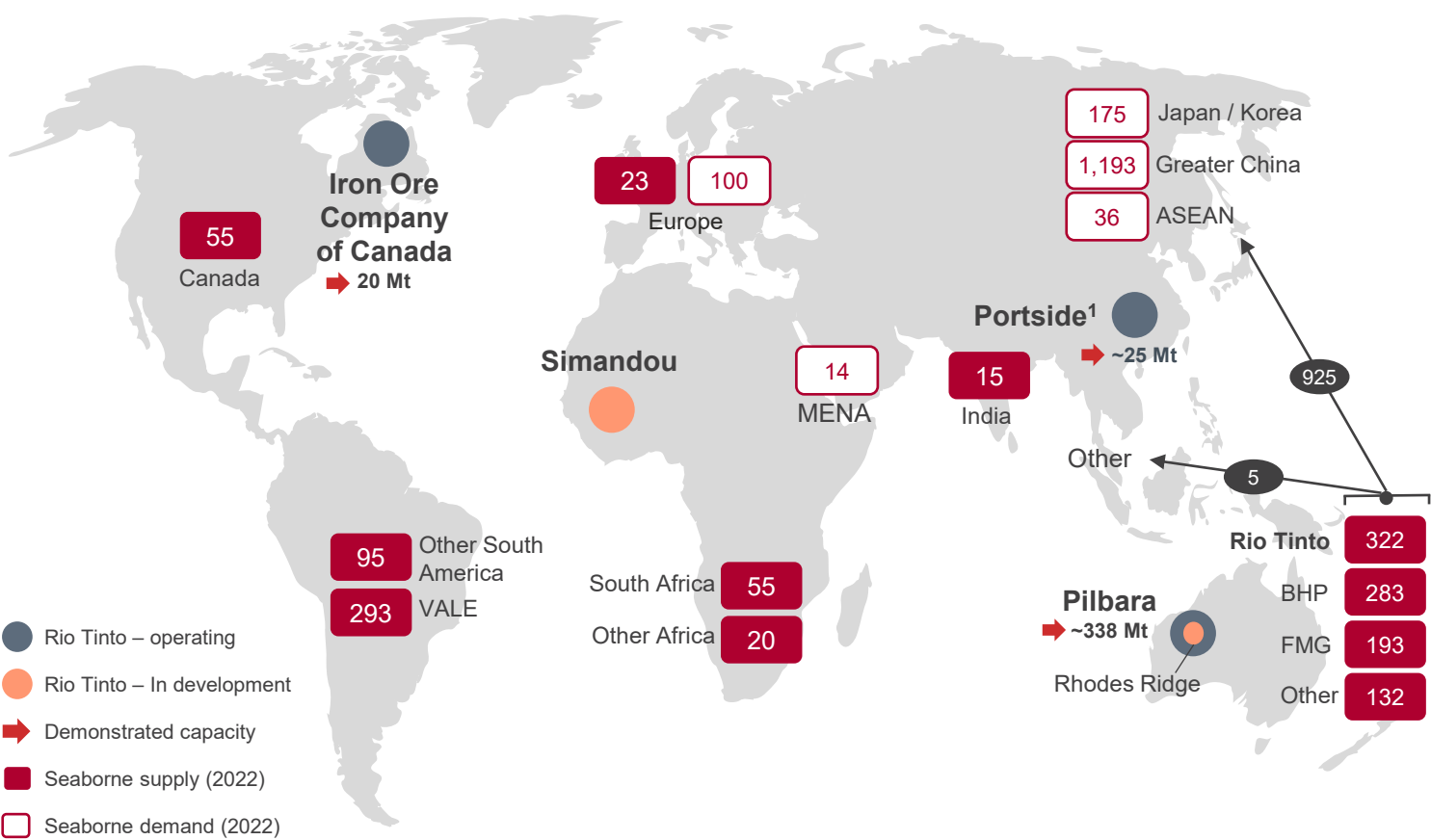
↓ **11%¹** 0.57²

All Injury Frequency Rate



We have a compelling global iron ore portfolio

Our portfolio includes the world’s two best undeveloped projects



Access to global markets
Iron ore projects on three continents

Rhodes Ridge & Simandou
The best undeveloped projects globally

Portside blending
Capability to de-risk supply chain

Resilient resource portfolio
Resources compatible with a low CO₂ future

Proven record of outstanding Pilbara financials and a strategy that will deliver into the future

68%

Average Pilbara EBITDA margin, 2013-2022

\$82bn

Free cash flow, 2013-2022

\$39bn

Corporate Tax, 2013-2022

53%

Return on Capital Employed, 2013-2022

A\$0.6bn

Spent with Pilbara-based businesses, 2022

A\$9bn

Spent with suppliers in WA, 2022

We aim to be the 'Most Valued' resource business



**Superior & sustainable
shareholder returns**

Our strategy is realising tangible results across the value chain

2023 Focus areas

2023_{YTD} Outcomes

Best operator

5 Mt uplift from Safe Production System (SPS)
320 to 335 Mt 2023 original shipments guidance

>

2023 forecast to be upper half of guidance with SPS 5 Mt uplift on track
2023 Q3 results – Production 83.5 Mt¹, Shipments 83.9 Mt¹

Impeccable ESG credentials

Progress towards a lower cost renewables-powered business
Developing green steel pathways at the next level of scale

>

Climate Change partnership signed with Baowu
Water stewardship and Dampier desalination plant investment

Excel in development

Mine developments for replacement and growth
Rhodes Ridge will underpin our competitive position for decades

>

Gudai-Darri reached nameplate within 12 months of commissioning
Rhodes Ridge Order of Magnitude study underway and Western Range on schedule

Social licence

Positioning for a future defined by access to Country

>

Progressing mining co-design with Traditional Owners across the Pilbara

Values-based performance culture

Three global forces define our strategic context

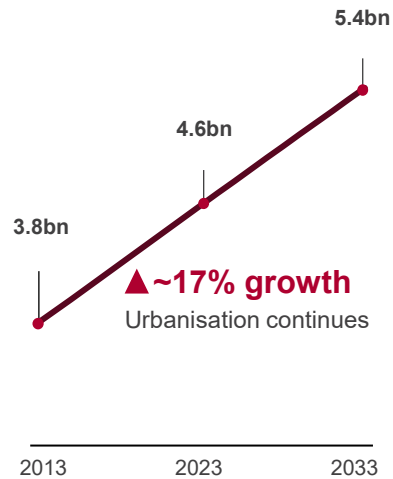
1

Global steel demand

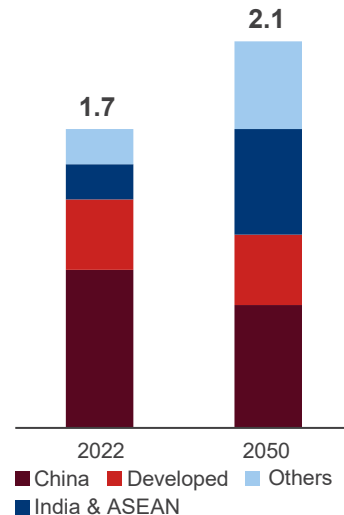
▲ ~24% growth by 2050

Driven by emerging markets with maturing Chinese steel industry

Global urban population¹



Regional steel demand² Bt



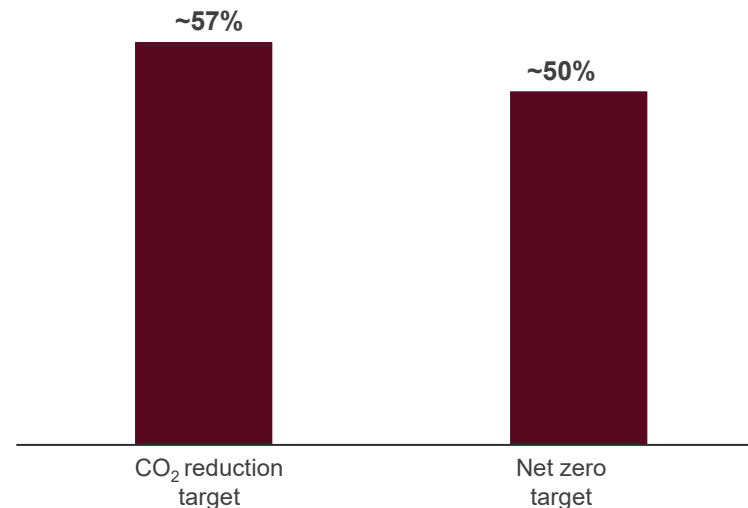
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Decarbonisation

~50% with net zero targets

Based on 2022 iron ore sales volumes

Share of customers³ with...



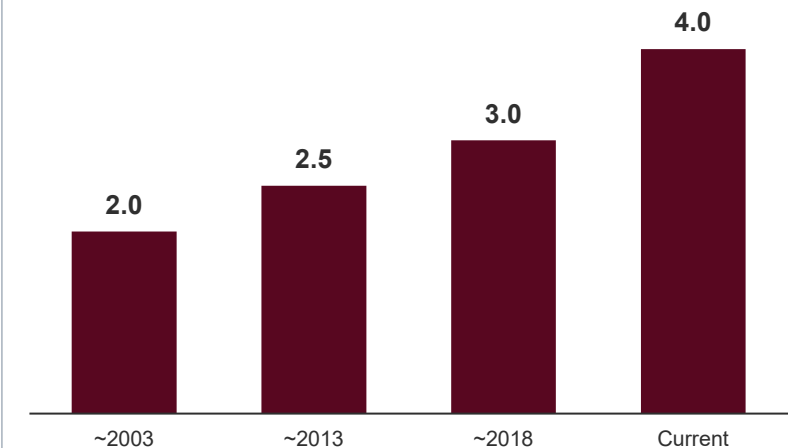
3

ESG Stewardship

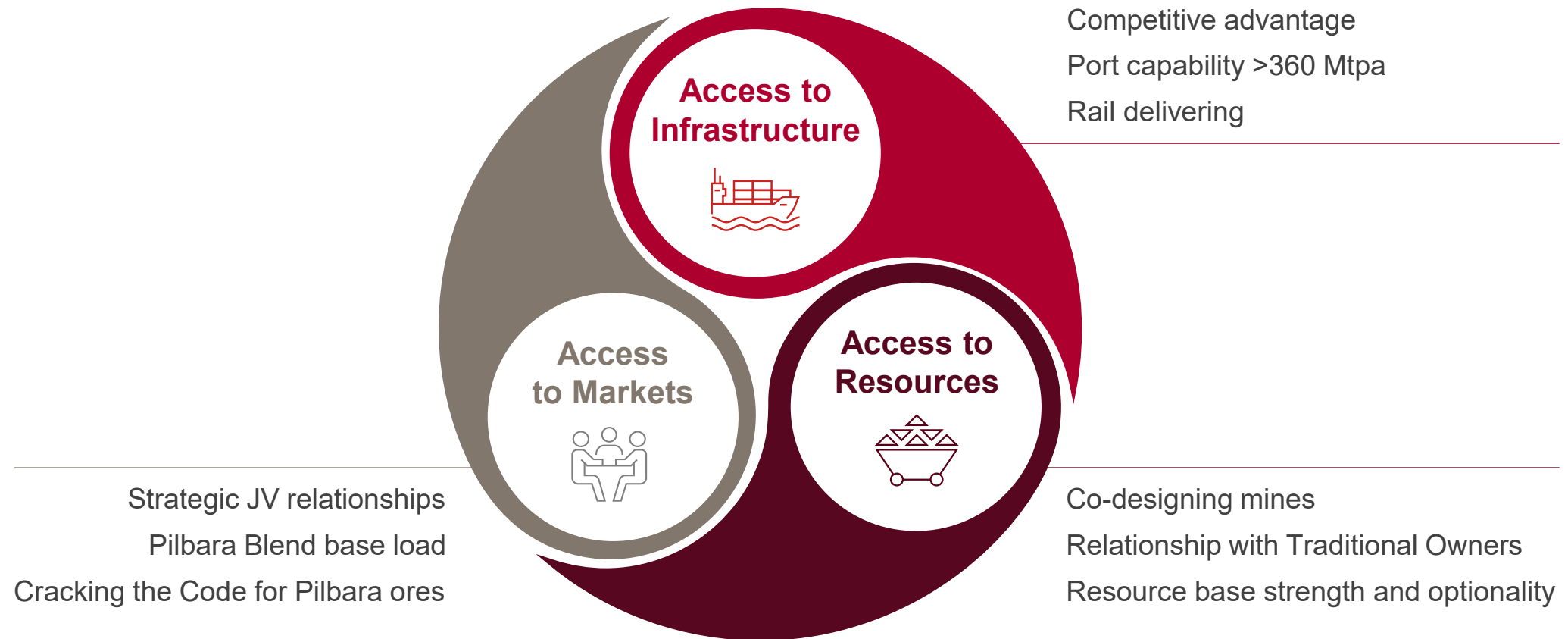
+12-18 months since 2018

Increase in Western Australian mining approvals timeframes

Average industry environmental approvals time⁴ (years)

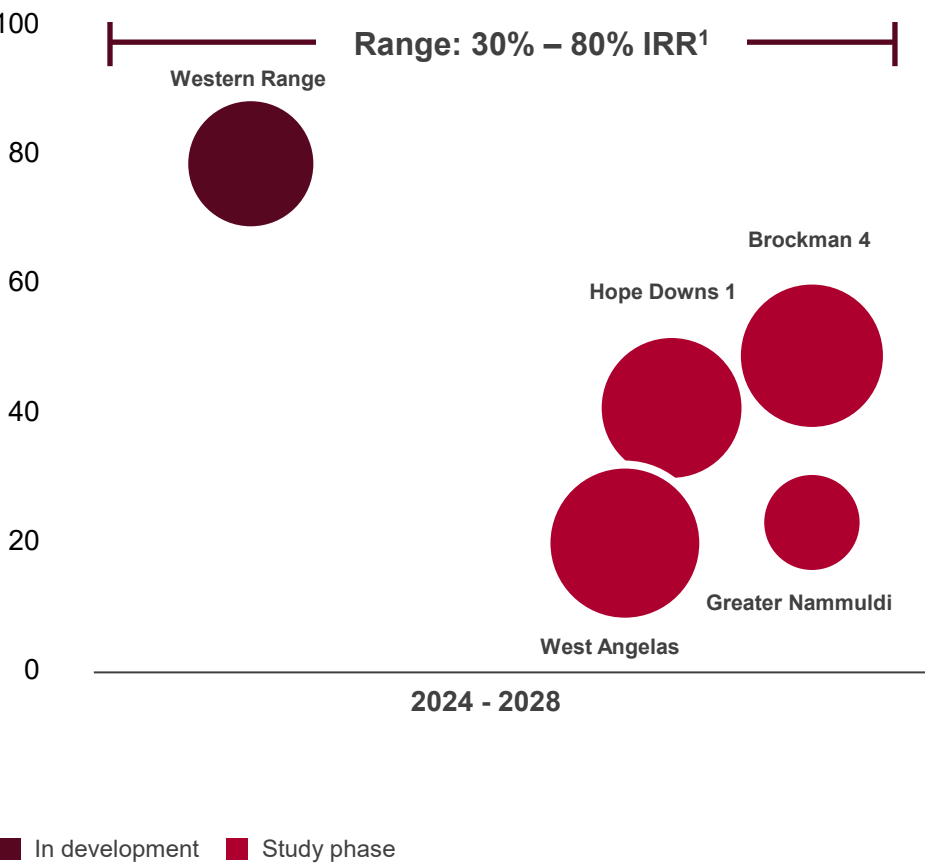


The next 10 years will be defined by access to infrastructure, markets and resources

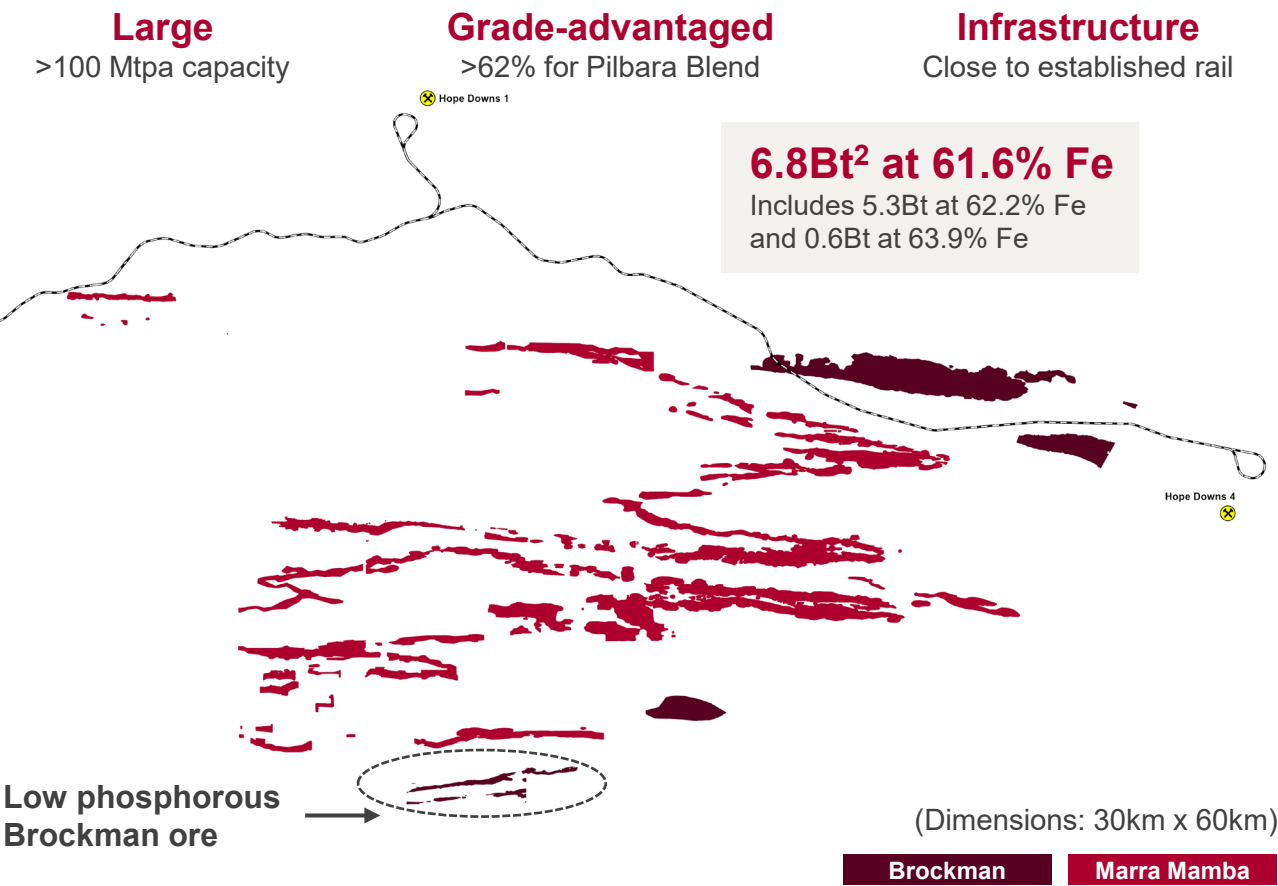


Generating robust returns from disciplined capital investment

Mine capital intensity outlook (\$/t installed capacity)



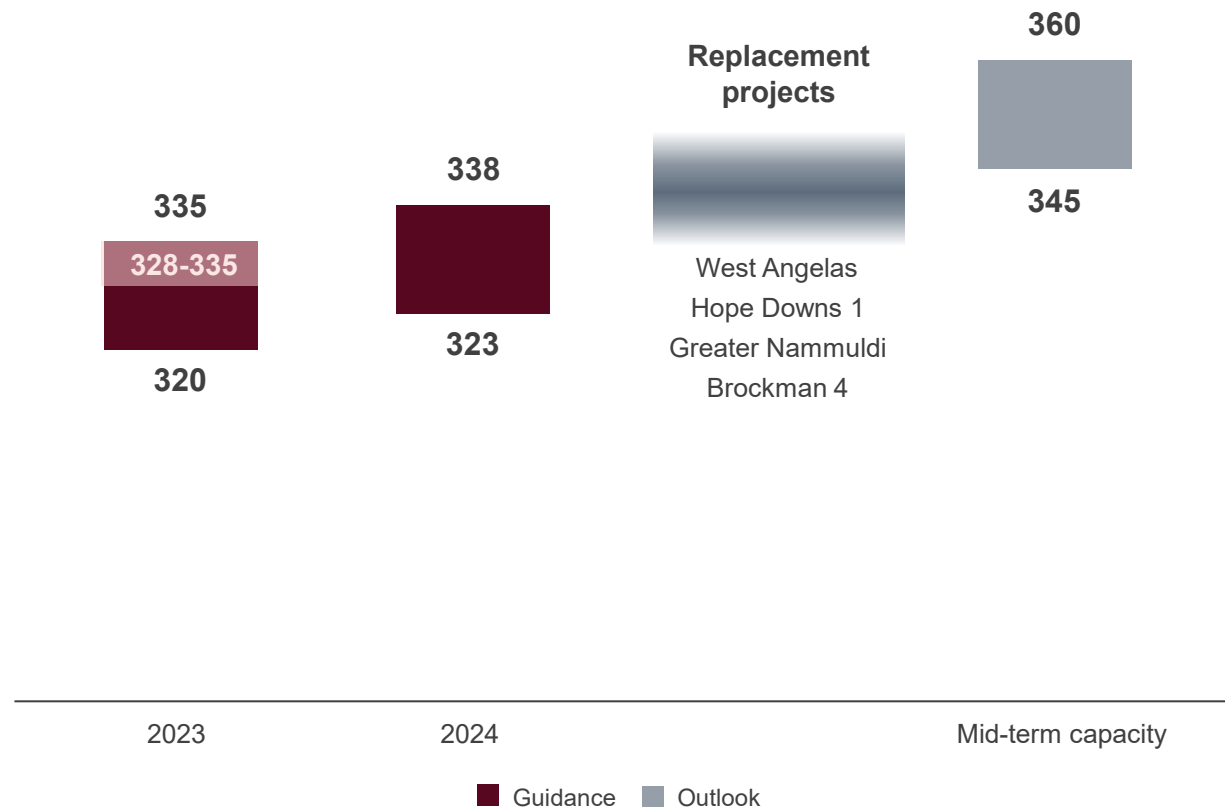
Rhodes Ridge: the best undeveloped project in the Pilbara



We have production momentum, targeting a higher range in 2024

Shipping guidance

(Mt, 100% basis)



Guidance

On track for upper half of guidance in 2023

323 – 338 Mt in 2024

Equity

Equity tonnes 84%¹ in 2022

Effective equity share of free cashflow remains stable at >85%²

Product mix

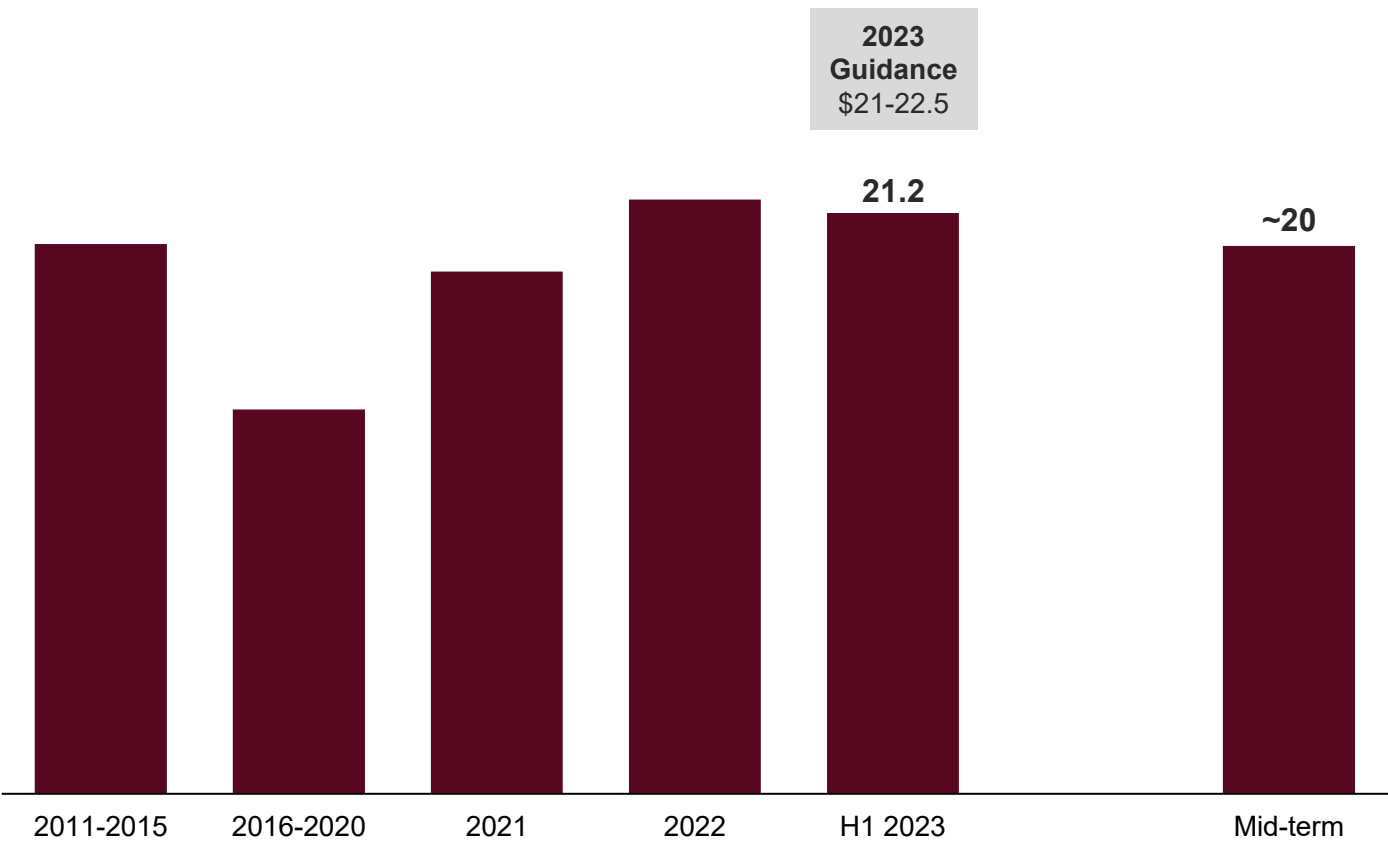
45 – 50 Mt of SP10 in 2023 (13 – 15% of shipments)

SP10 to remain elevated until replacement projects delivered

Rhodes Ridge re-orientes Pilbara Blend to >85% of shipments³

Volume and productivity to enable cost improvement

Unit costs
\$/t shipped



~\$20/t mid-term unit cost target¹

Volumes increasing



Productivity improvements



Work index rising



Reduces unit costs from current



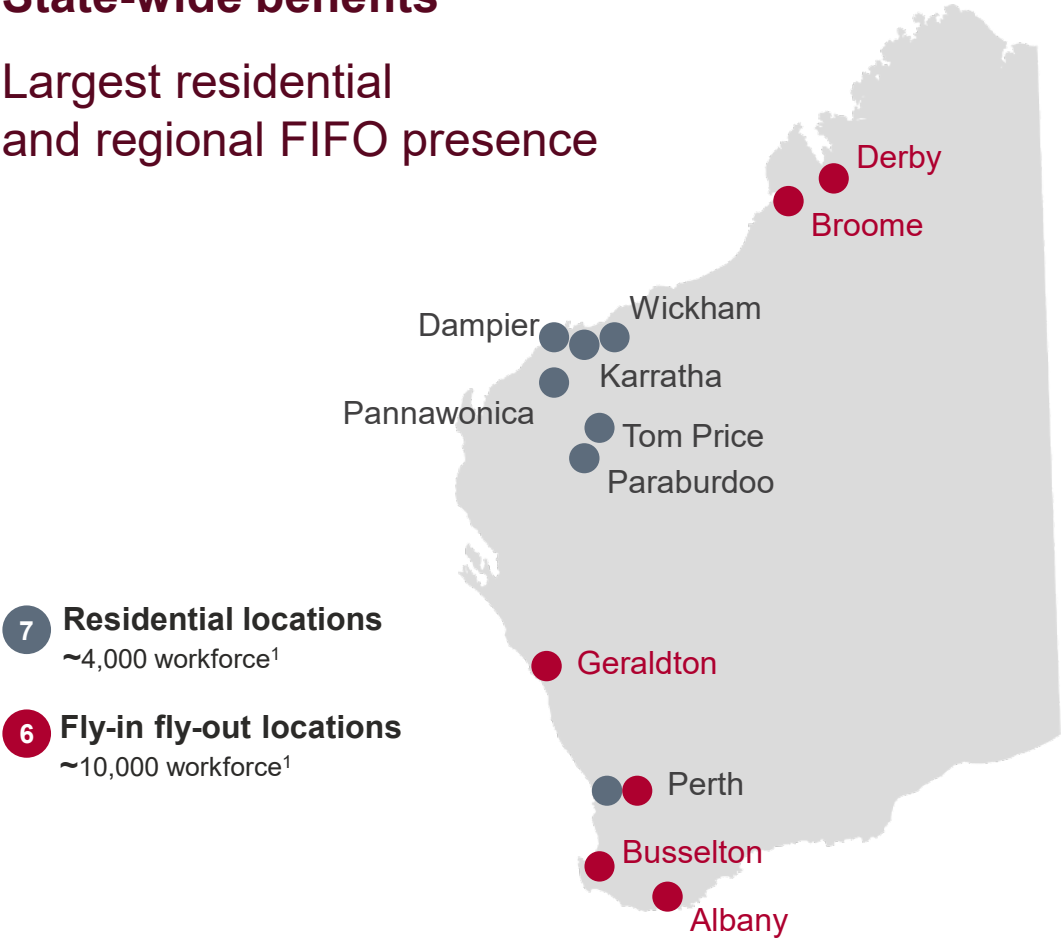
Increases unit costs from current

¹ Mid-term unit cost - AUD:USD FX 0.67, real basis, subject to inflationary pressures

Building valued partnerships across our business

State-wide benefits

Largest residential
and regional FIFO presence



7 Residential locations
~4,000 workforce¹

6 Fly-in fly-out locations
~10,000 workforce¹

Working to build healthy, resilient communities and strong local economies



¹ In 2022. Residential workforce excludes Perth workforce of ~3,000.

Positioning for a green future



Existing pathways
Ongoing

Scope 1 & 2

Reducing operational emissions

Progressing a renewable-powered business with options for expansion



Emerging pathways
<10 years to commercial scale

Piloting electrification technologies on Rail and in HME



Future pathways
>10 years to commercial scale

Scope 3

Pathways to producing low CO₂ steel

Lower the carbon impact of existing Blast Furnace steel making technology

Leverage our high-grade iron ores to participate in DRI-EAF technologies

Unlock new economic pathways to produce low CO₂ steel using Pilbara ores



A proven record and a strategy for the future

Best operator

2023 volumes at the upper half of guidance

Maximising productivity with our Safe Production System

Impeccable ESG

Safety and wellbeing of our people

Partnering on low CO₂ technologies for Pilbara ores

Excel in development

Gudai-Darri at nameplate within 12 months

Progressing Rhodes Ridge to pre-feasibility

Social licence

Extending co-management

Building thriving communities



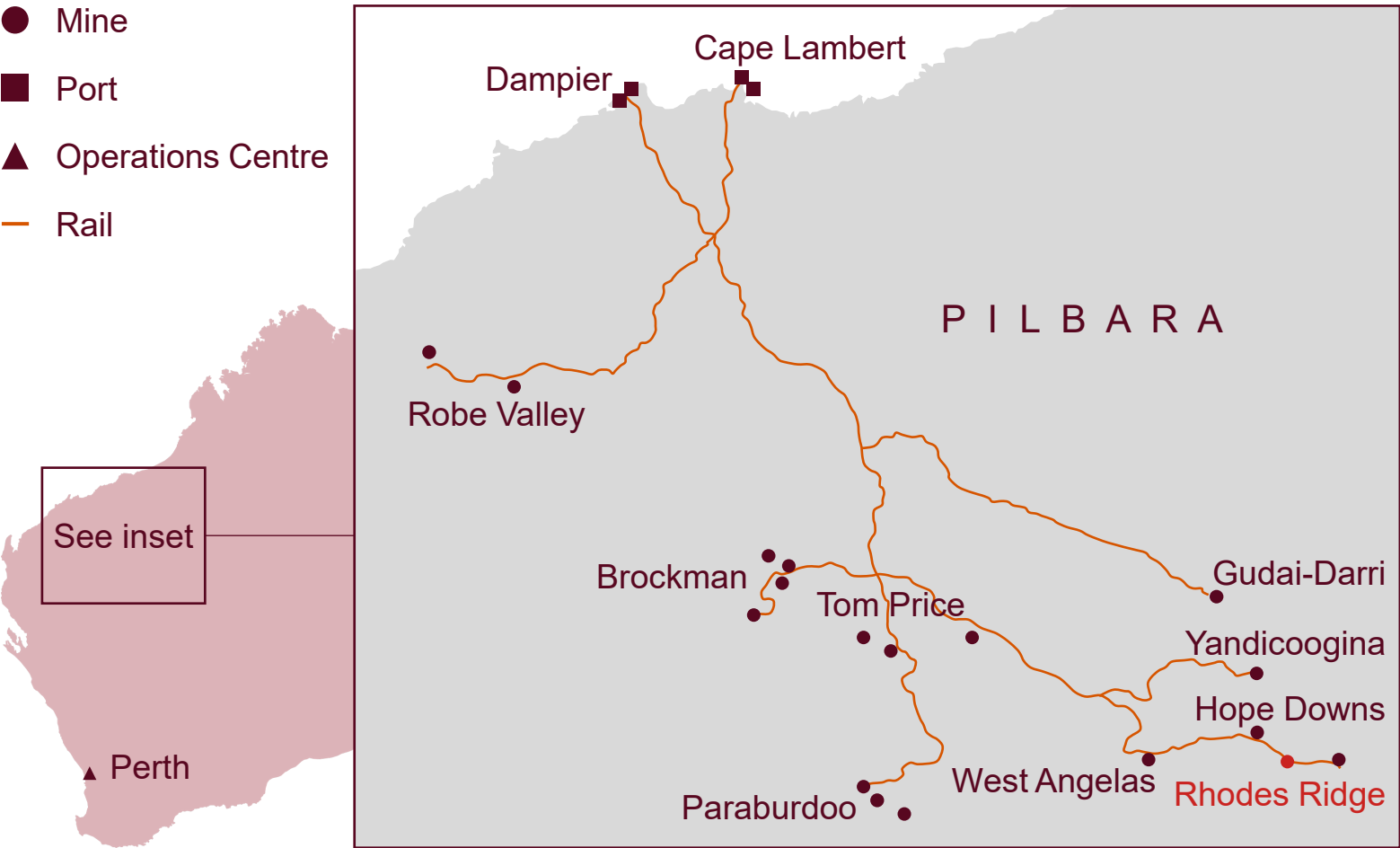
Matthew Holcz

Managing Director,
Pilbara Mines



A globally significant bulk commodities business

- Mine
- Port
- ▲ Operations Centre
- Rail



17	Mines
430	Haul trucks (361 automated)
60	Production drills (34 automated)
17	Processing plants (7 wet plants)
1,900	Rail network distance (km)
220	Locomotives (13,500 wagons)
7	Car dumpers
4	Port terminals
4	Gas-fired power stations
1	Solar farm (34 MW)
> 100	Global customers

Building resilient and reliable performance

		2018	2021	2023 ¹	Today
Volume	Shipments	338 Mt	320 Mt	328–335 Mt ²	Volume recovering
Mine Health	Mine spatial conformance ³	<1.00	1.25	1.33	Mine health restored
	Blasted stocks	103 Mt	110 Mt	142 Mt	
	Run of mine stocks	12 Mt	15 Mt	30 Mt	
Asset Health	End-to-end process maturity ³	1.00	1.35	1.41	Asset health improving
Customers	Shipment quality variation ³	1.00	0.83	0.76	Quality control restored
Heritage	Volume mined with BMP ⁴ (%)	0	~6%	~31% ²	Leading practice
Projects	90 Mtpa brownfield extensions plus Gudai-Darri. Total capacity of ~130 Mtpa.				Projects delivered

¹ YTD to 30 September 2023 unless noted | ² 2023 full year guidance | ³ Internal metric, indexed to 2018 | ⁴ Blast Management Plans; one of the ways to protect heritage

Blast Management Plans are designed to protect heritage sites

Design

Detailed understanding of the heritage site and surrounding areas

Technical analysis defining exclusion zones and operating parameters

Final review of drill pattern and blast design

Implement, monitor & optimise

Monitoring of blast operations and heritage sites in real time

Data analysis and benchmarking to update models and designs

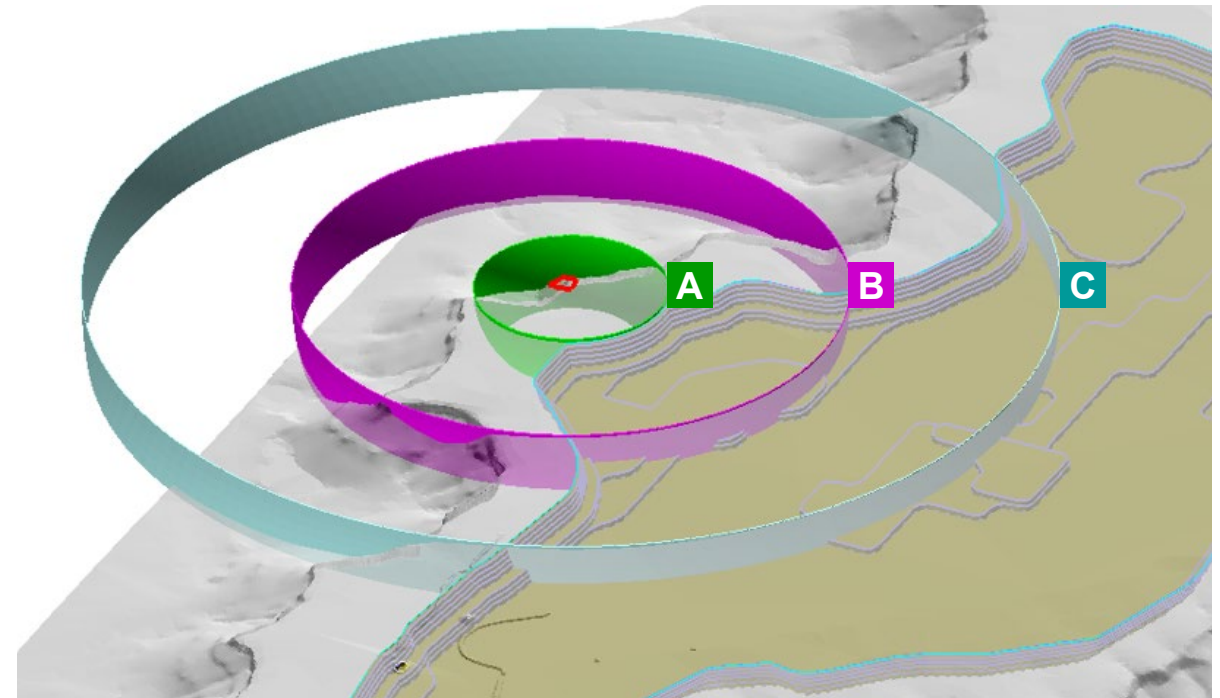
>1,800 controlled blasts undertaken over the past three years

 Heritage site

A 70 metre exclusion zone

B 200 metre blast management zone

C 350 metre blast management zone

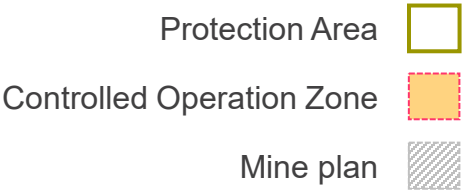
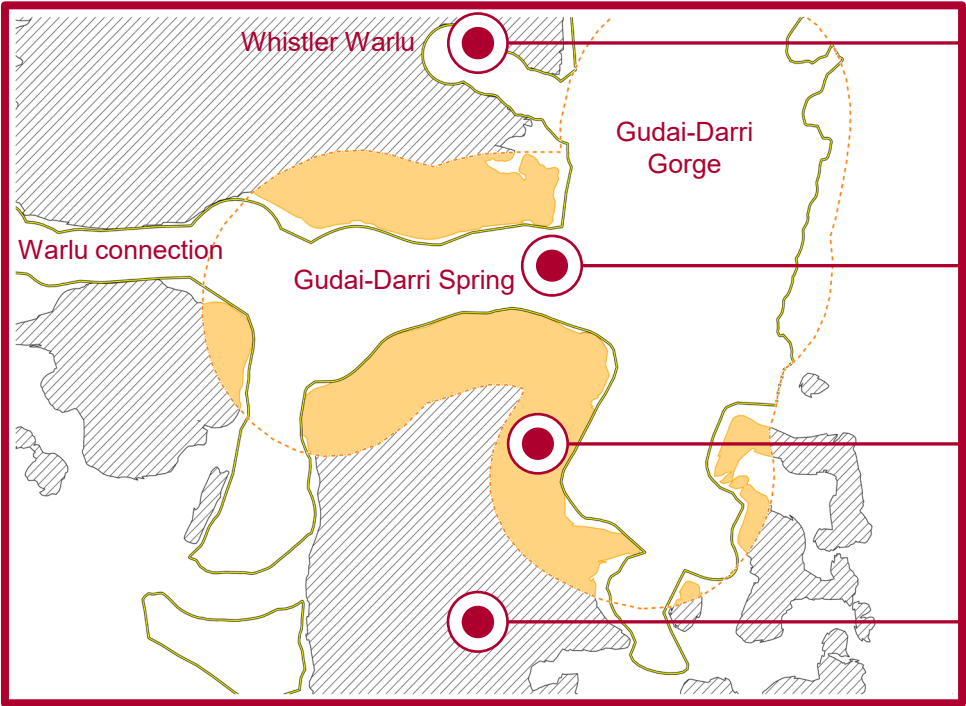
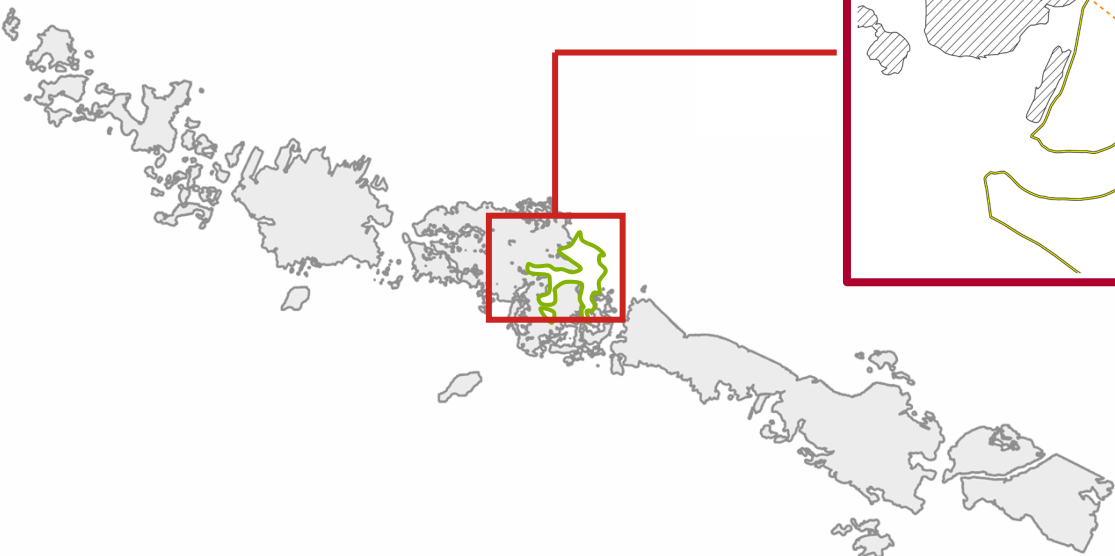


Embedding co-management across our business

Gudai-Darri case study

Changes to mine plan

- 10% reduction in ore reserve from Kara deposit
- 12% of production to date is SP10
- 53% of Kara pit mined with blast management plans



Employee cultural awareness

Warlu hole identified by operator following cultural awareness training

Protection zones

Protected zones established where no mining will occur

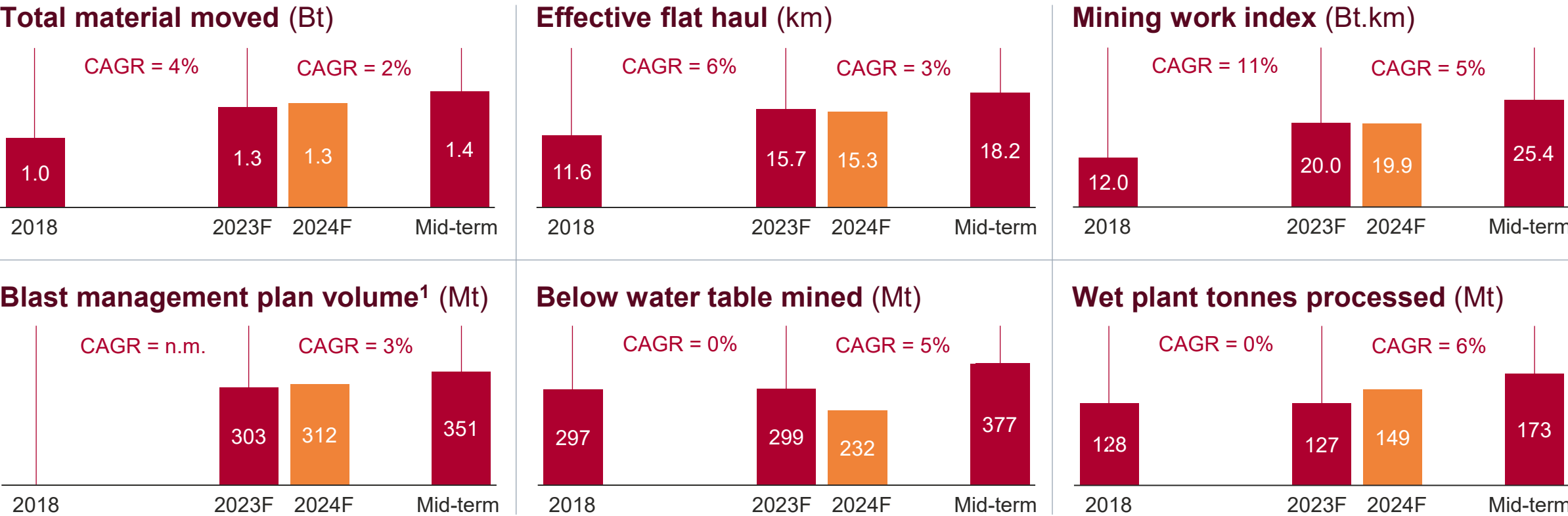
Controlled operating zones

Operational controls in place to reduce impact on protected areas

Iterative mine planning

Retrospective redesign of mine to protect significant sites

Mining work index continues to increase but at a slower rate



Project delivery

2018 to 2023	3 x Brownfield and 1 x Greenfield projects executed ~130 Mtpa total capacity	2023 to 2028	5 x Brownfield projects to be developed ~130 Mtpa total capacity
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Pathway to Best Operator

Safe Production System

 Leading practice

 Problem solving

 Digital applications

Key enablers

 Organisation design

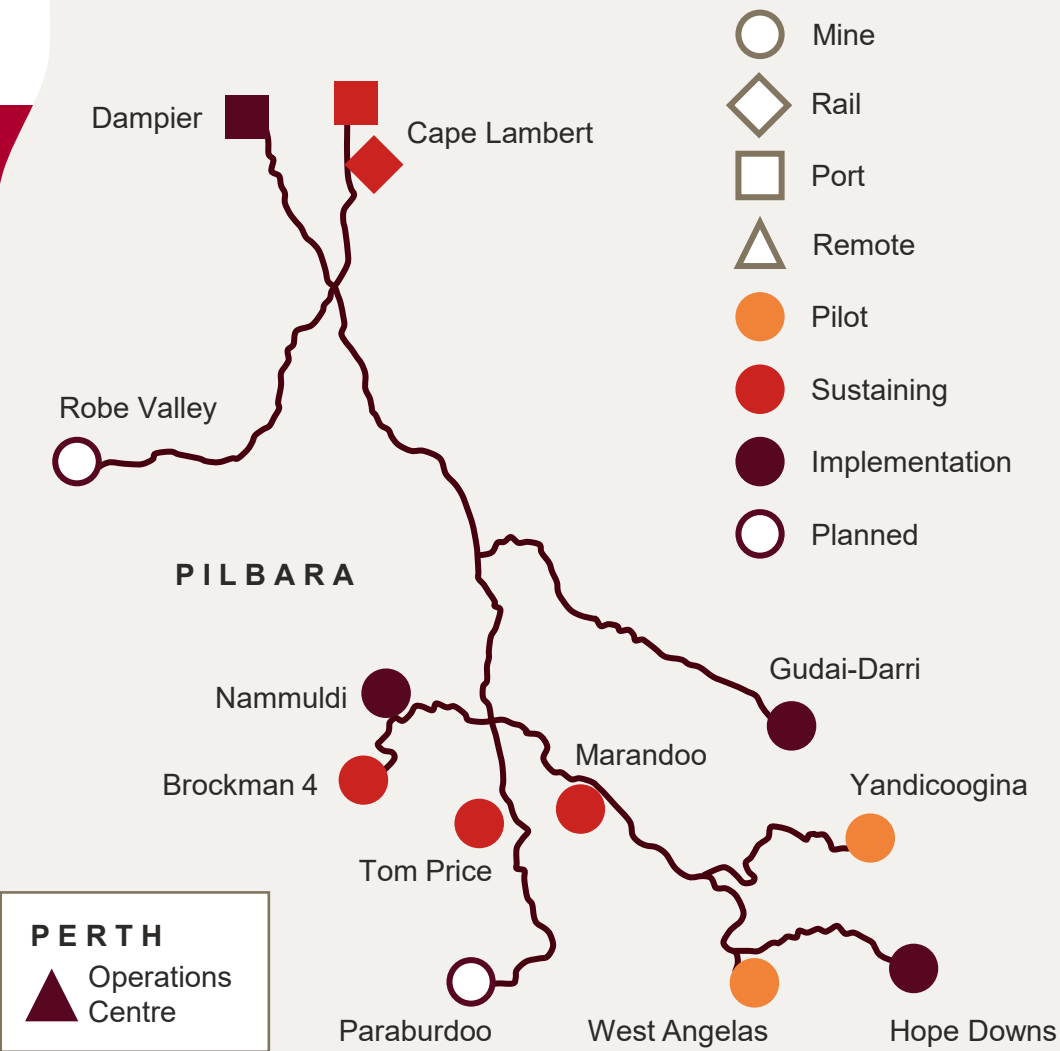
 Operational routines

 Capability uplift

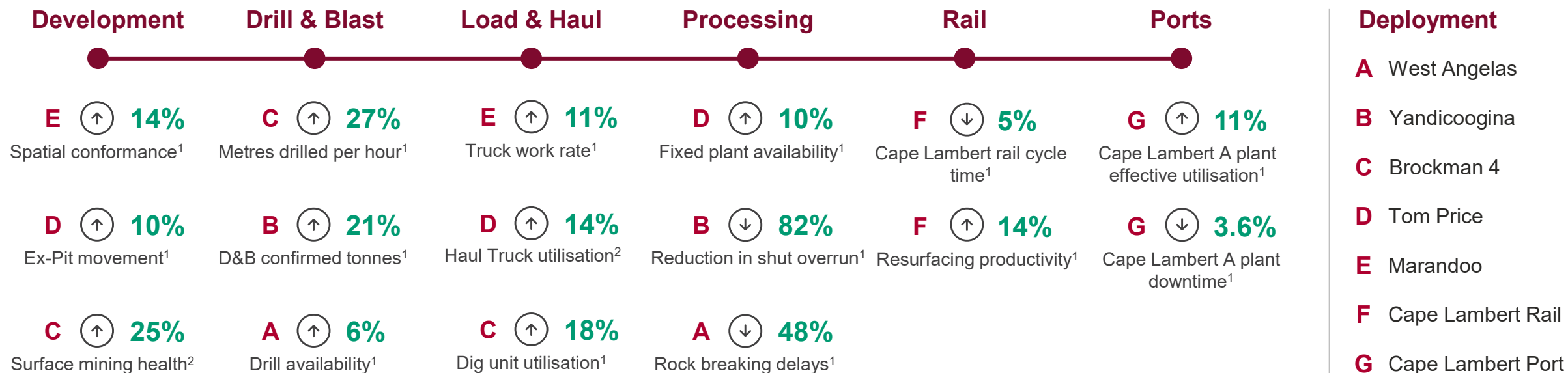
Focus areas



Safe Production System deployment



Safe Production System is delivering: 5 Mt uplift in 2023 on track



Focus on front line engagement is delivering results



4,332 Increase in ideas from front line²

2,196 Increase in ideas actioned²

4% reduction in all injury frequency rate¹

25% increase in People Survey participation²

Highest employee satisfaction since survey began in 2018

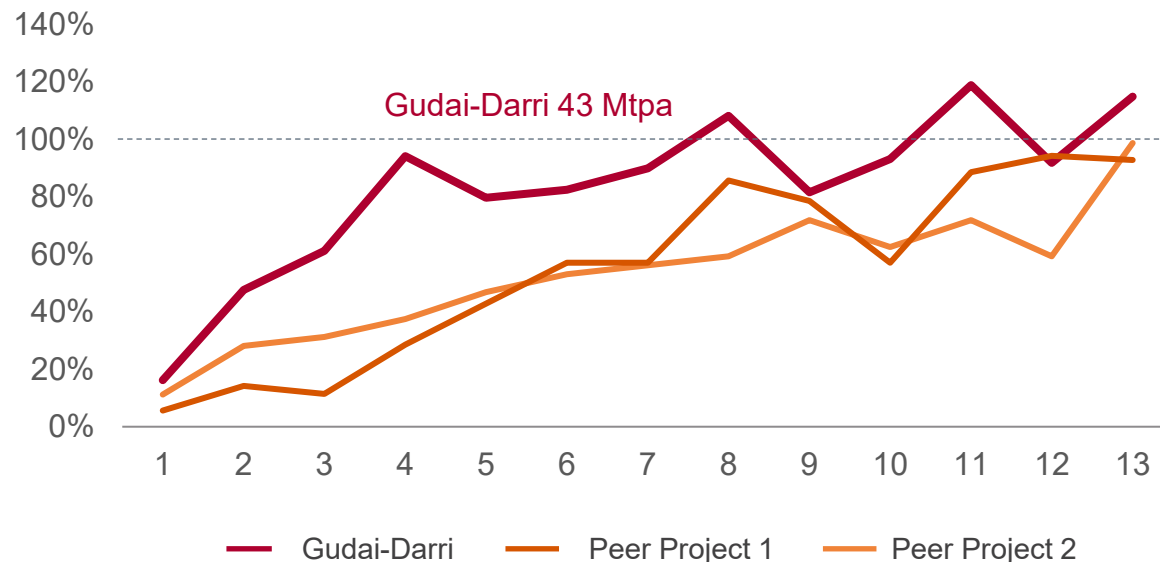
4% increase in employee² productivity per tonne of saleable ore¹

Gudai-Darri: Pathway to Best Operator

Phase 1: Ramp-up achieved within 12 months



Annualised monthly production¹ (% of nameplate capacity)



Phase 2: Creep capacity towards 50 Mtpa Pathway

Chute and conveyor belt upgrades to main plant

Additional mining fleet and rail stockyard expansion

Leverage incremental crushing and screening facility

Deployment of Safe Production System

Co-commitments

Co-design water management plan with Traditional Owners

Engage with Banjima on cultural heritage mapping

Additional biological survey work and required approvals

Opportunity

7 Mtpa Uplift in annual production capacity

~\$70 M Incremental development capital²

<\$12 /t Maintain operating cost per tonne

Disciplined approach to deliver resilient and reliable performance

Volume recovering

Mine health, product quality and heritage management

Continue the momentum

Drive productivity and overcome work index challenges

Safe Production System

Productivity pathway embedded and delivering



Richard Cohen

Managing Director,
Rail, Port & Core Services



World class infrastructure



Our mines are serviced by a fully integrated supply chain, supported by our Operations Centre in Perth



Extensive rail network

~1,900km of privately owned rail
AutoHaul® delivering safety and efficiency



Port competitive advantage

Unencumbered, low risk, port facilities
4 Port terminals; 7 shiploaders; 7 car dumpers



Supporting infrastructure

4 power stations; 3 bulk fuel distribution hubs
Water, gas & telecommunication systems



Accommodation

3,000 houses across 6 Pilbara towns
FIFO to 24 villages via 120 flights per week from 15 airports

Reliable rail and port infrastructure already supports 360 Mtpa



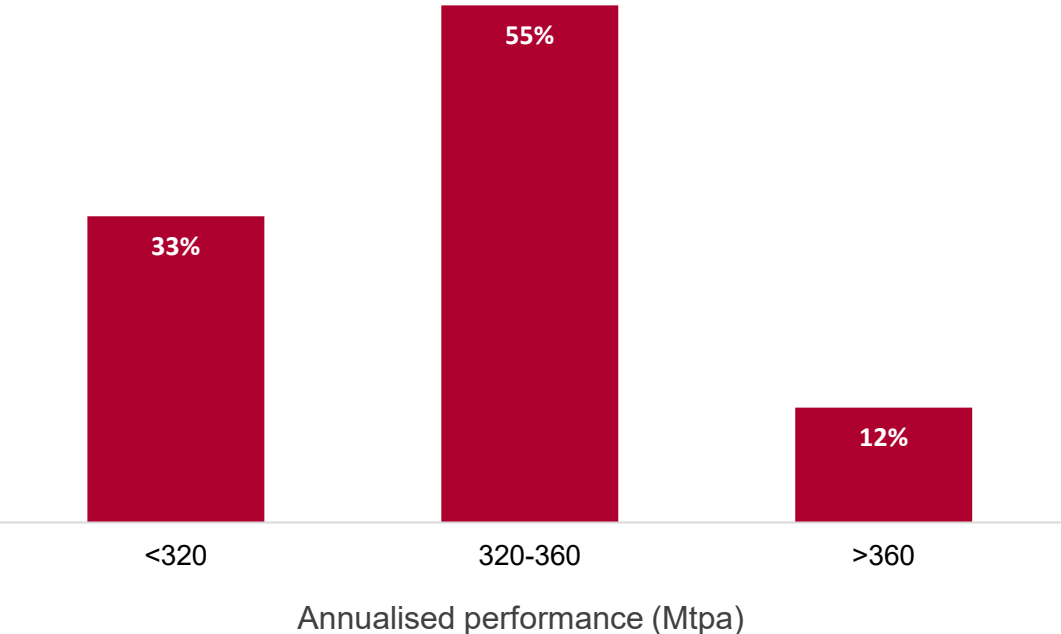
Existing capacity 350 – 360 Mtpa¹
~330 Mtpa average weekly performance²



Existing capacity >360 Mtpa¹
~330 Mtpa average weekly performance²

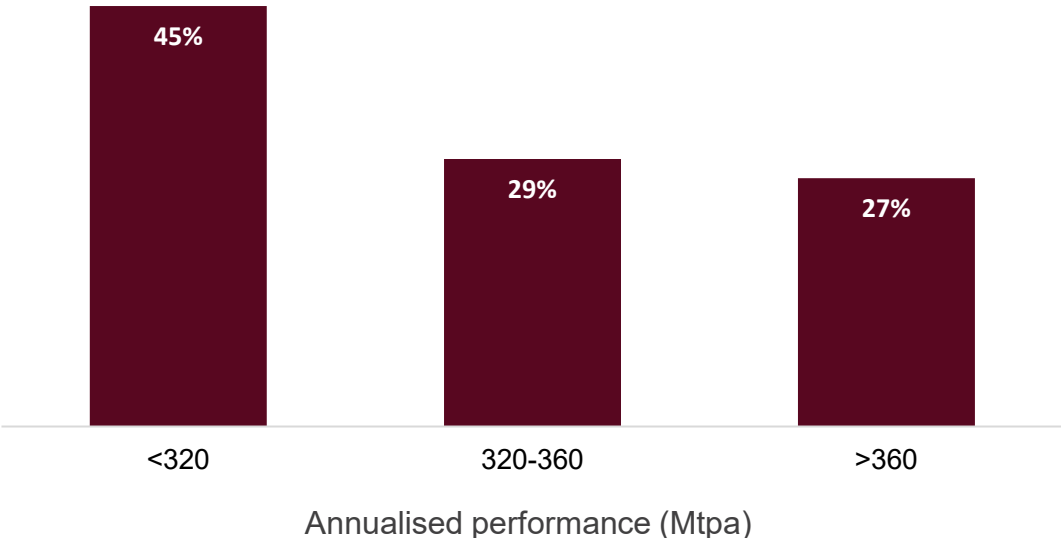
Rail performance

Weekly annualised actual performance from H2 2022 to H1 2023



Port performance

Weekly annualised actual performance from H2 2022 to H1 2023



We have unrivalled port capacity

Our ports offer a competitive advantage



Two berths per shiploader

Maximising utilisation of our shiploaders

Dedicated shipping channels

Maximising tonnes loaded and ships moved

Port improvements

Dampier reclaimer replacement

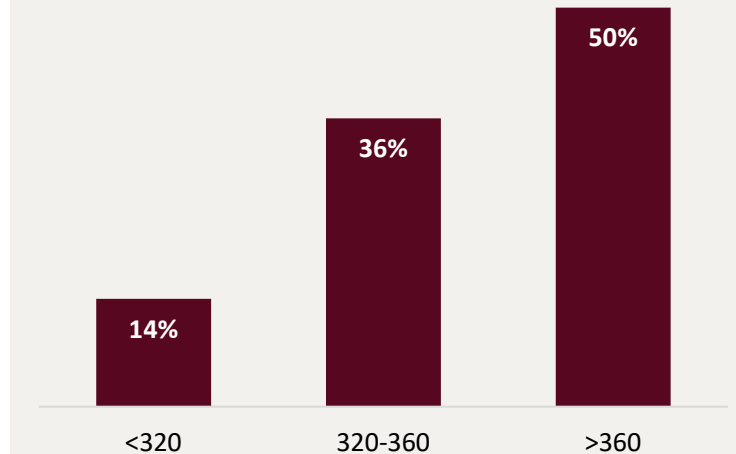
Product flexibility

Existing capacity >360 Mtpa

Demonstrated port capability above 360 Mtpa

Weekly outload capacity¹

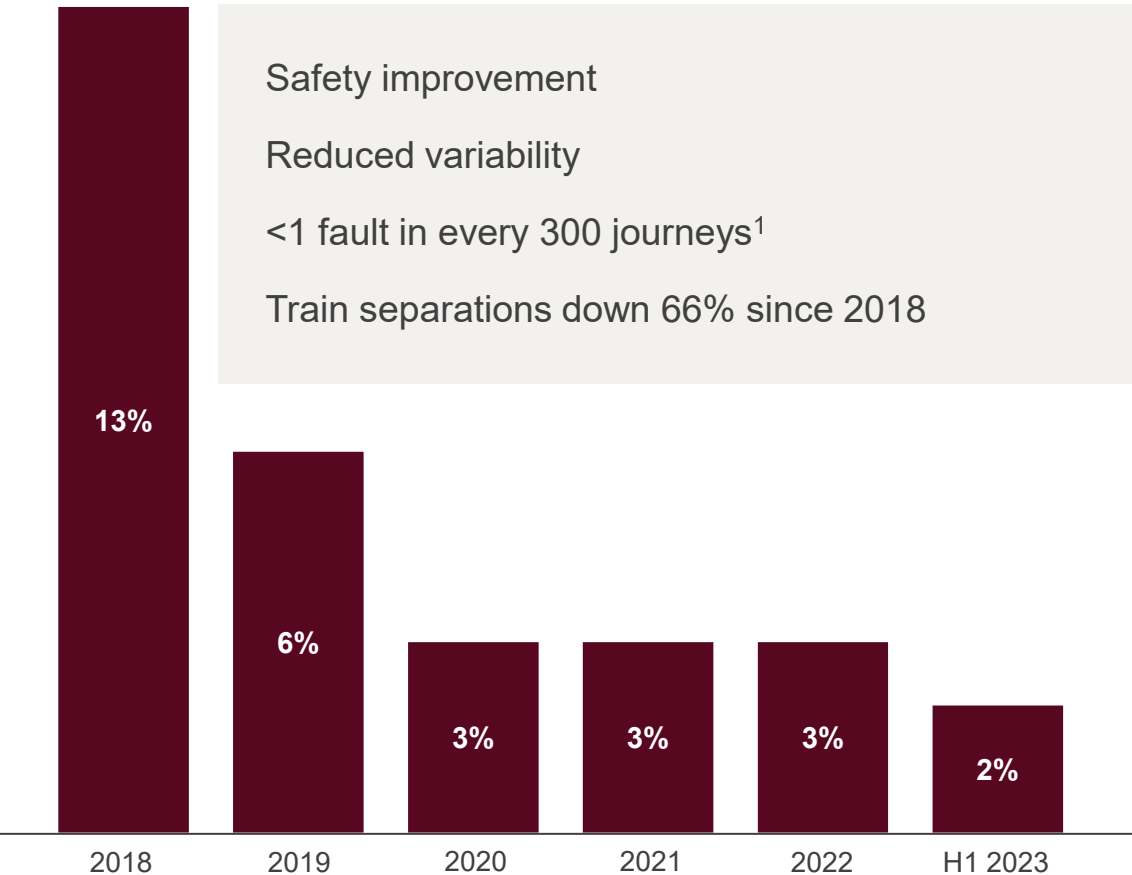
2018-2023, Mtpa annualised



Increasing rail capacity towards 360 Mtpa

Improved AutoHaul® performance

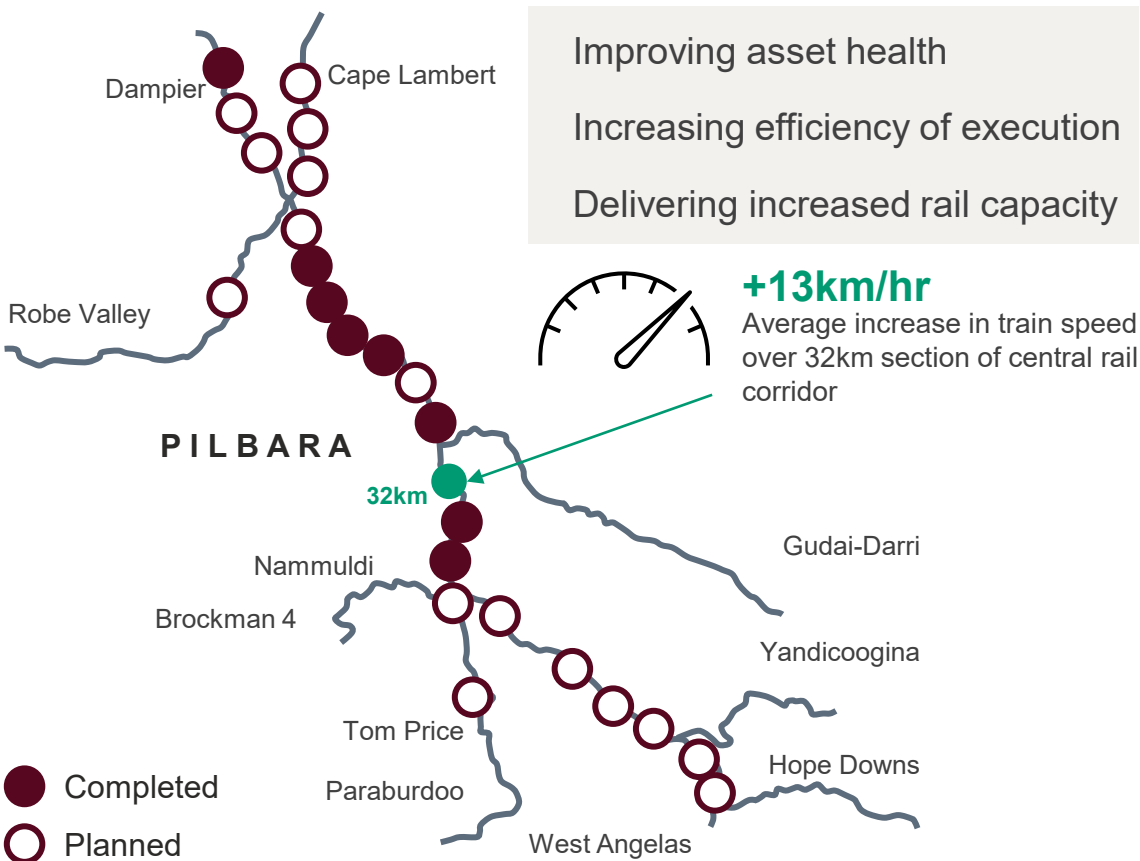
Percentage of time a train driver responds to a train in the field



Safety improvement
Reduced variability
<1 fault in every 300 journeys¹
Train separations down 66% since 2018

¹ H1 2023

Rail track renewal progress



Our Safe Production System will build on our downstream advantage

Ports

Dampier

↓ 23%

Unscheduled loss compared to 2022

V

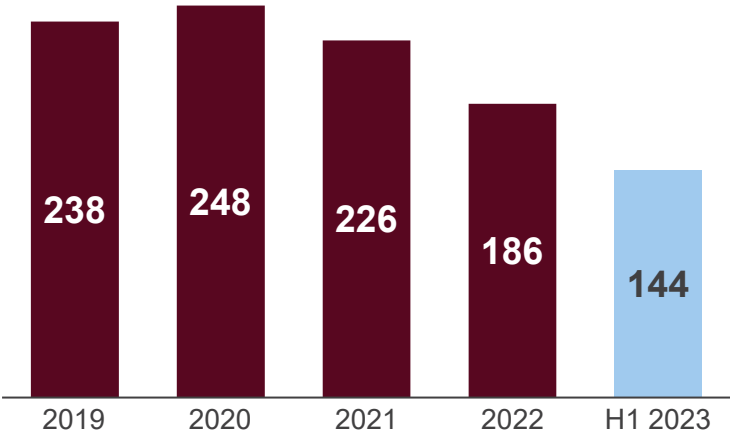
Cape Lambert

↑ 11%

Cape Lambert A plant effective utilisation

Dampier Port unscheduled loss

Minutes by month



Rail

↓ 5%

Cape Lambert yard cycle time

↓ 60

Less wagons called for service every week



The voice of our people

“

We are clear on our purpose and our priorities

”

- Superintendent, Cape Lambert Port

“

The upside opportunity is staggering

”

- Maintenance Planner, Rail

Safe, respectful and inclusive communities at our villages & towns



Safety and security

Improvements in lighting, CCTV and village security



Infrastructure modernisation

Room and housing refurbishments, enhanced dining and gym facilities



Thriving communities

Partnerships to deliver infrastructure projects, local services and events



Social connection

Creating spaces and optionality for human connection



Village committees

Residents driving improvements that matter

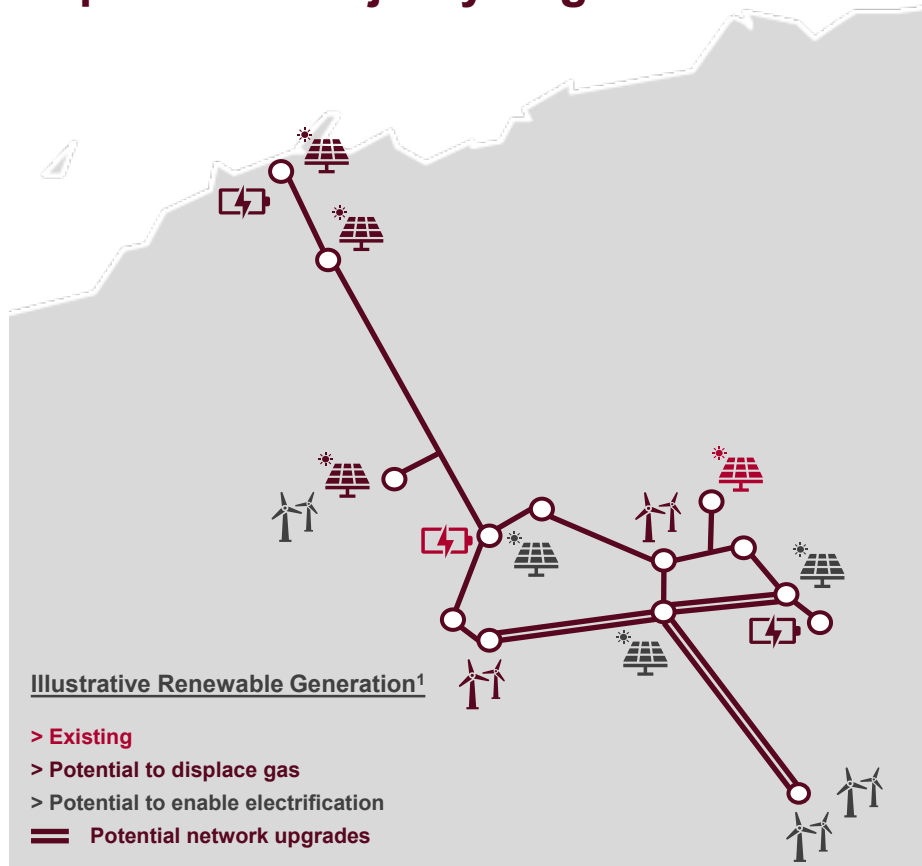


Wellbeing

Introduction of psychologists on site, social officer trial

Decarbonising our Pilbara supply chain

~600MW of renewable generation will displace the majority of gas use



A strategic Integrated System Model optimises our renewables pathway as options and technology develop



34MW of solar farm built at Gudai-Darri
45MW Battery Energy Storage Systems in commissioning
300MW of solar energy in advanced study
Wind monitoring commenced



Engaging with partners to progress land access & approvals
Expanded engineering capability de-risks construction schedule



Battery Electric Haul Trucks and Train development continues
Preparation underway for pilots in 2024-2025

Advancing our rail and port advantage

Unrivalled port capacity

Port infrastructure above 360 Mtpa

Safe Production System

Building on our network efficiency

Safety & wellbeing

Improving safety and amenity at villages and camps

Scope 1 & 2

Decarbonising our Pilbara supply chain



Stephen Jones

Managing Director,
Operational & Technical Support



An extensive geoscience, planning and research capability



Resource development

Acquire and interpret geological information to define our extensive resource portfolio



Mine planning

Design and optimisation of our new and existing portfolio of mines



Integrated planning

Connect our people and systems to produce an optimised, flexible and feasible physicals plan



Studies & capital projects

Responsible development of high value infrastructure and mining projects



Research & Development

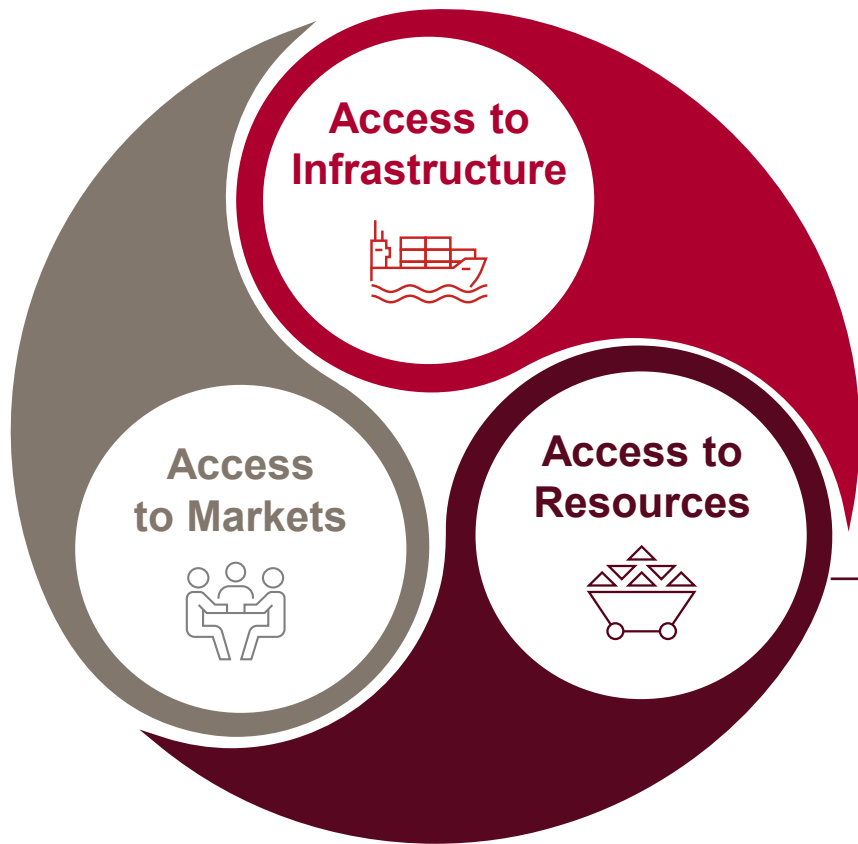
Transform our ways of mining with a focus on water stewardship and reducing our impacts



Engineering

Drive performance improvements through maintenance planning and process engineering

Designing a mining portfolio that is compatible with the environmental and heritage values of the region



Co-design of mines

Investing in genuine engagement with Traditional Owners
Protecting culturally significant areas

Water stewardship

Preservation of areas of cultural significance
Maintaining healthy aquifers that sustain regional biodiversity

Resource strength and optionality

Opening up a large and grade advantaged mining region at Rhodes Ridge
Reducing mining footprint and impacts

Opportune use of SP10

SP10 to remain elevated until sustaining projects are delivered
Levels potentially higher if replacement projects delayed

Our next replacement projects are in progress

Replacing
existing
production



Co-design with Traditional Owners

Developments compatible with regional heritage values



Sustaining Production

Mine extensions at West Angelas, Hope Downs 1 and Brockman 4 leveraging existing infrastructure



Growing our Pilbara Blend profile

Greater Nammuldi, West Angelas and Hope Downs 1 providing low phosphorous resources to support Pilbara Blend

West Angelas

Pre-Feasibility Study
First ore 2027

Hope Downs 1

Feasibility Study
First ore 2027

Greater Nammuldi

Feasibility Study
First ore 2028

Brockman 4

Feasibility Study
First ore 2028

Rhodes Ridge is a world class mining hub in the making

‘Big Rock’ Choices

Scale	Resources	Processing	Product
1 Hub	Brockman	Dry Crush & Screen	Pilbara Blend contributor
2 Hubs	Marra Mamba	Wet Processing	Other products (high-grade and/or discrete low-grade)
Staging		Concentration	

Transforming our ways of mining

	Water stewardship		Reduced mining footprint and impacts
	Orebody knowledge approach		Protecting heritage values
	Capital intensity opportunities		Move towards a regional approach to environmental management and approvals

Large

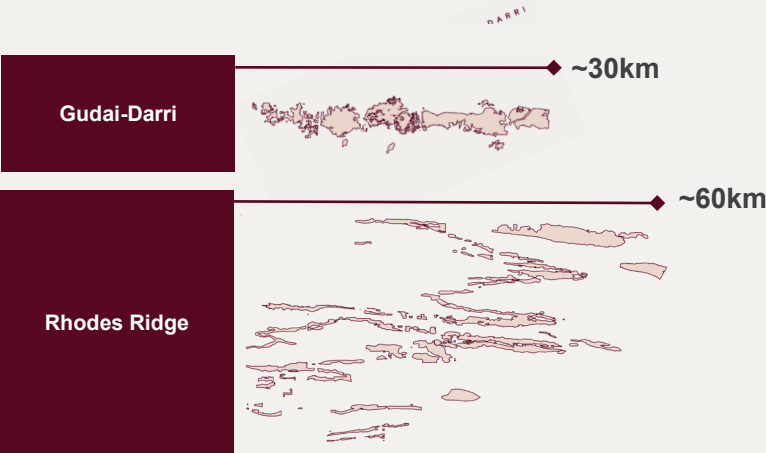
>100 Mtpa capacity, scalable

Grade Advantaged

Re-orientate mix to Pilbara Blend
Well suited to a green iron future

Infrastructure

Close to established rail
Existing rail & port infrastructure



Advancing a more sustainable and lower cost business

**Reshaping our
orebody knowledge**



**Using technology to shape timely
and effective orebody knowledge
programmes**

**Remote operations &
automation**



**Digital programmes to support and
optimise our workforce**

**Lower cost & lower impact
mining methods**



**Progressive rehabilitation
Sustainable water management**

Processing options



**New processing options for the
resources of today and tomorrow**

Designing the future mining portfolio

Driving a sustainable and respectful future in mining
Co-designing mines

An extensive development pipeline
Replacement projects commencing construction in 2024

Rhodes Ridge
A world class mining hub in the making



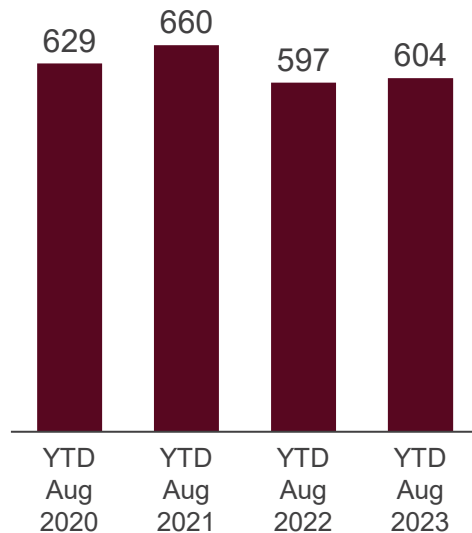
Will Millsteed

Head of Market Analysis



China steel demand resilient as growth drivers shift from property to other sectors

China finished steel demand*, Mt



* Excluding steel exports. Chart includes data in each year from January to August

Weak property market more than offset by ...

YTD Aug 2023 growth



Property FAI¹
-9%



Floor space (FS) sold
-9%



Commodity building FS starts
-25%



Commodity building FS under construction
-7%



FS completion
+19%

... resilient infrastructure and manufacturing investment ...



Transport FAI
+11%



Utilities FAI
+27%



Manufacturing FAI
+6%



Grid investment
+1%

... and robust increase in manufactured goods



Auto production
+7%



A/C production
+16%



EV production
+37%



Refrigerator production
+17%



Shipbuilding completion
+16% (July)

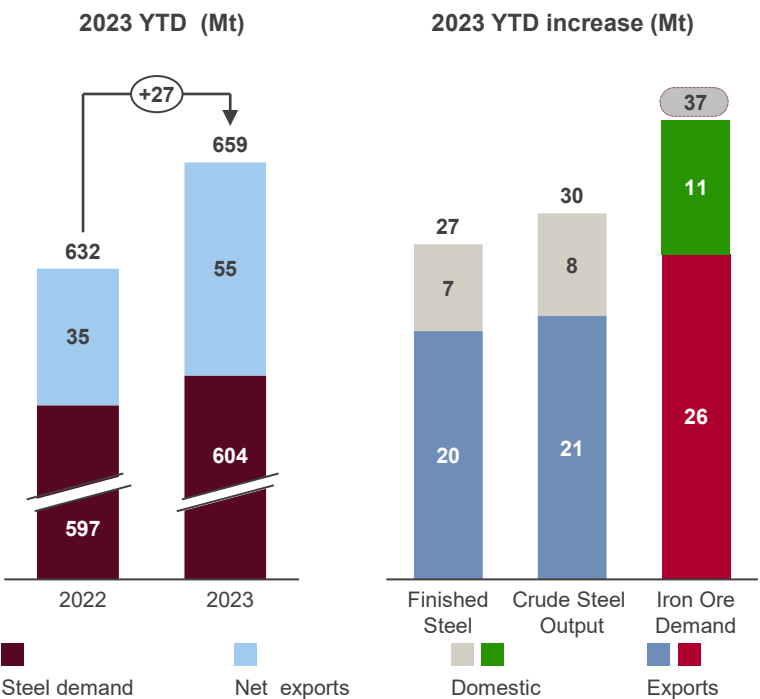


Washing machine production
+20%

Incremental iron ore demand met mainly by higher cost seaborne supply growth

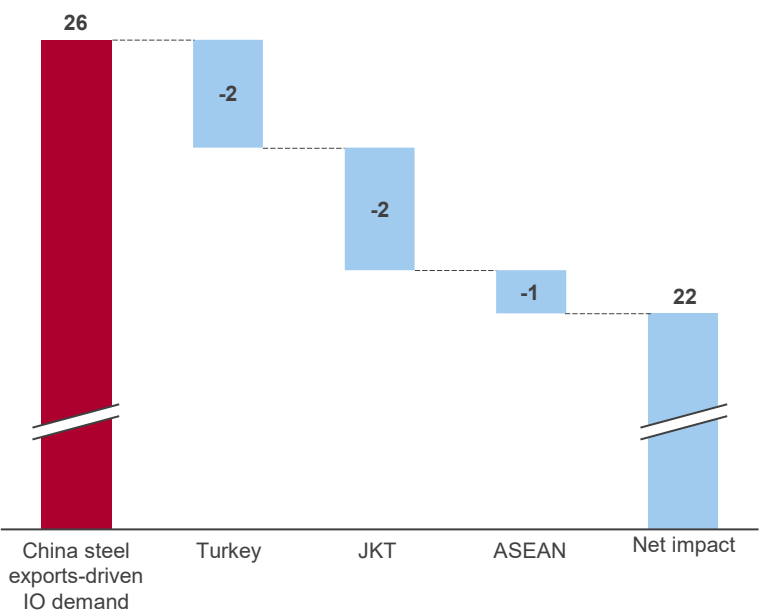
China's steel demand and trade

Jan-Aug'23	Mt	YoY	
Finished steel demand	604	+8Mt	1.3%
Net steel trade	55	+20Mt	57%
Finished steel production	659	+27Mt	4.3%



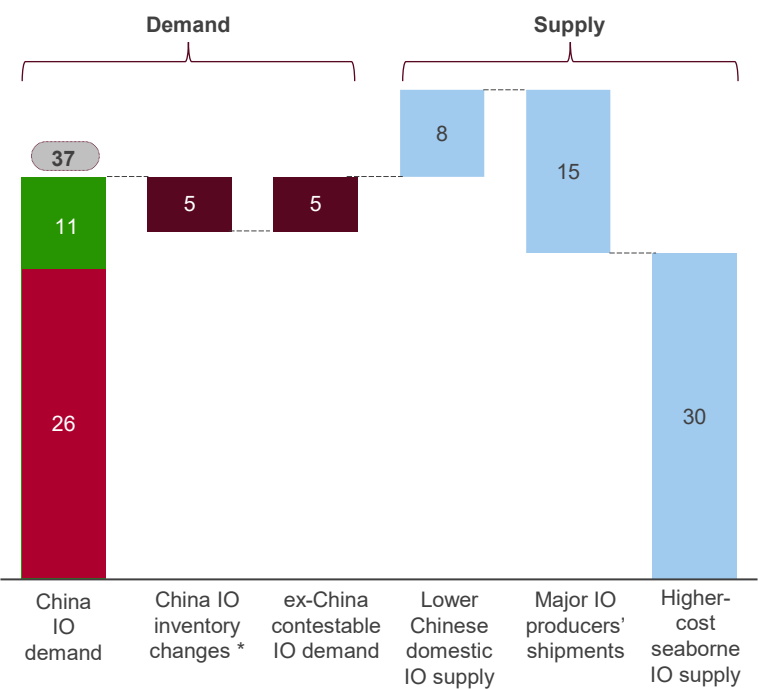
Impact of Chinese steel exports on iron ore demand

Jan-Aug'23	Mt	YoY	
IO in China steel exports	73	+26	56%
Ex-China crude steel output	543	-15Mt	-2.8%
Ex-China pig iron output	277	-5Mt	-1.9%



Global iron ore market balance

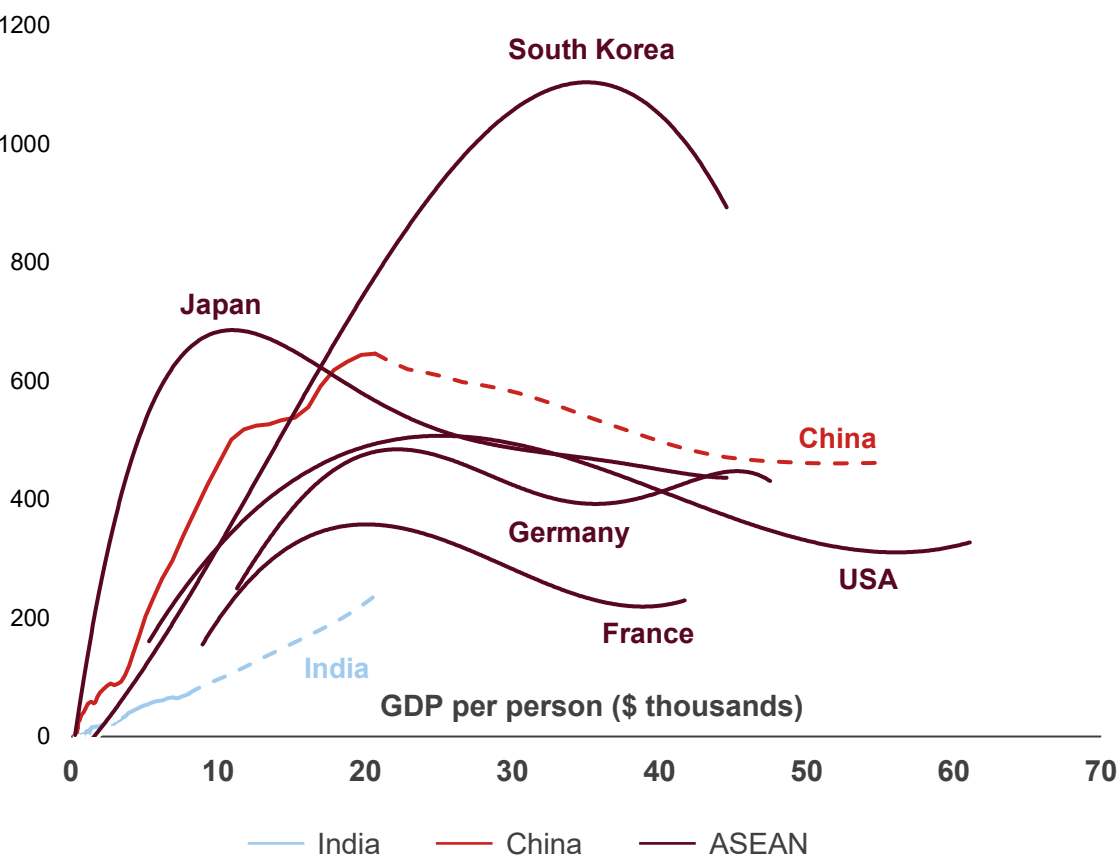
Jan-Aug'23	Mt	YoY	
China IO demand	996	+37	3.9%
Major producers' supply	795	+15	1.9%
High-cost supply	209	+30	17%



Global steel demand growth is driven by emerging markets

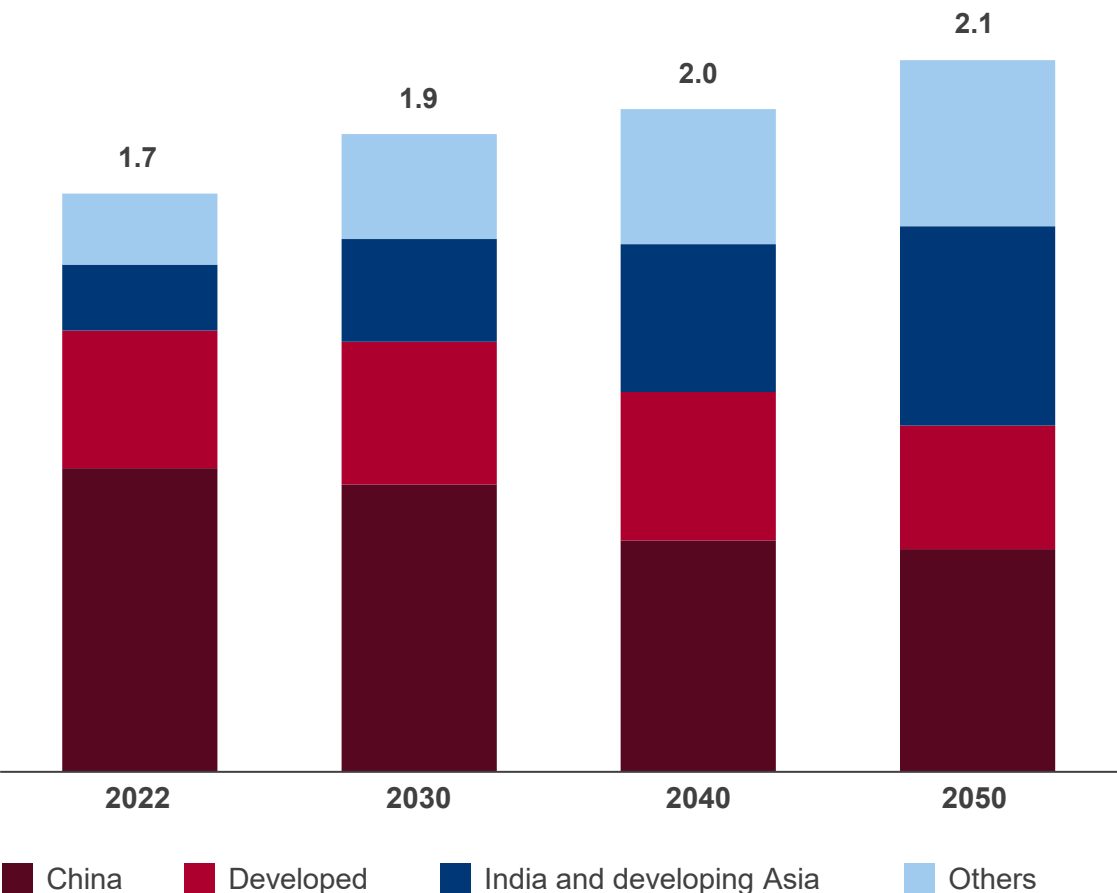
Steel intensity curves by region

Finished steel consumption per person (kg)

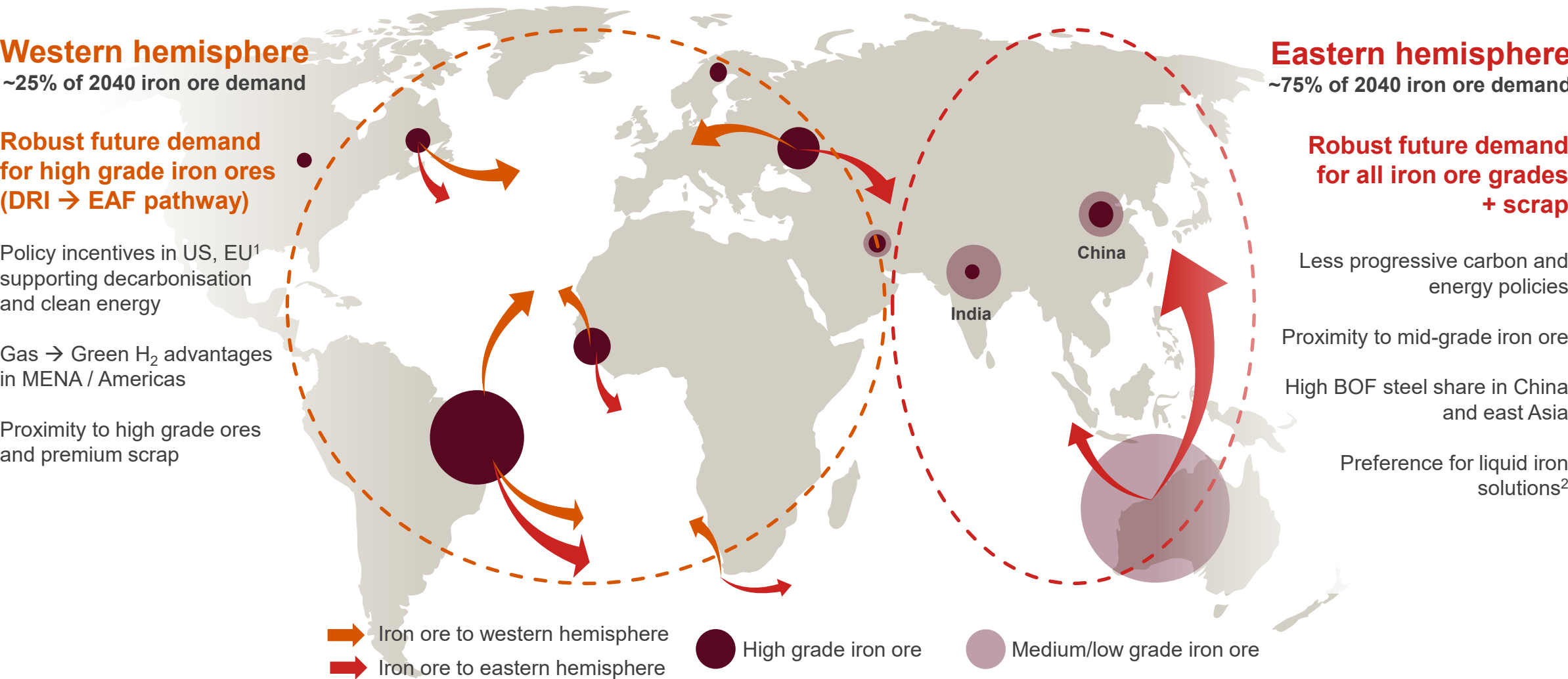


Finished steel demand by region

(Bt)



Decarbonisation drives potential for segmented steel value chains



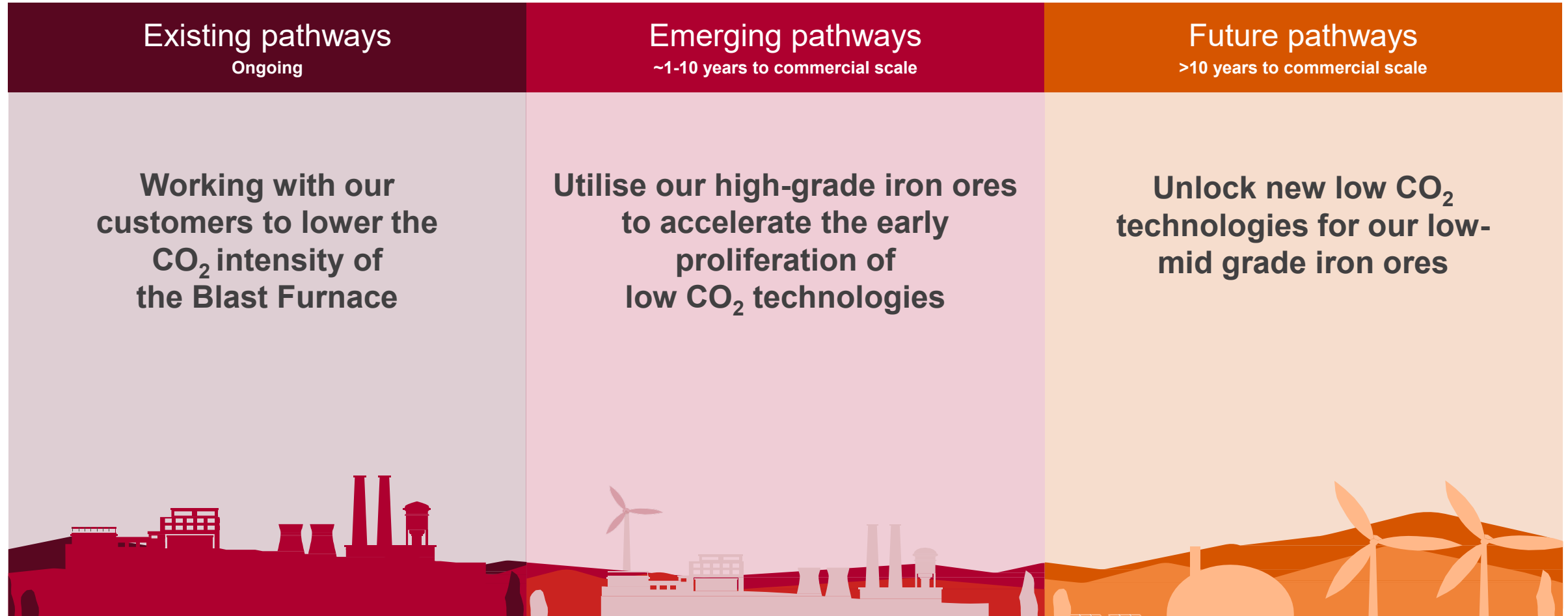
Simon Farry

Head of Steel Decarbonisation



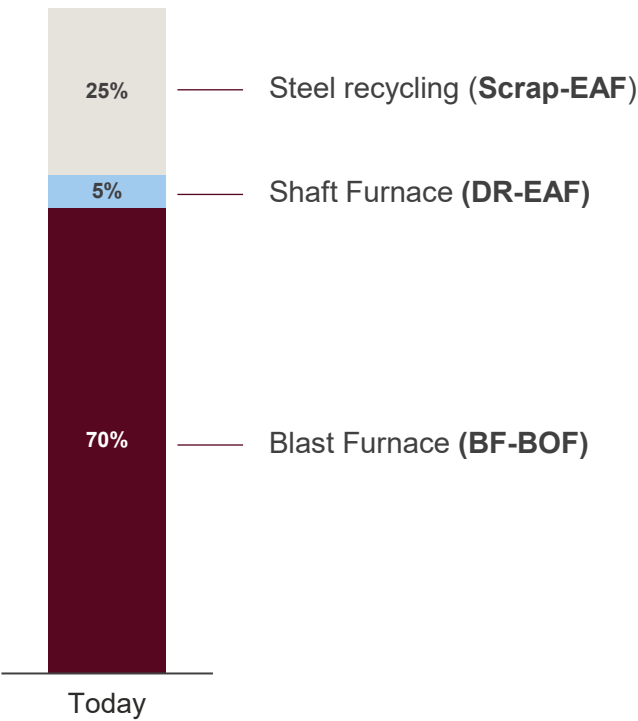
Our approach spans 3 time horizons and the full steel value chain

We are working with ~40 partners, across ~50 projects in 10 countries

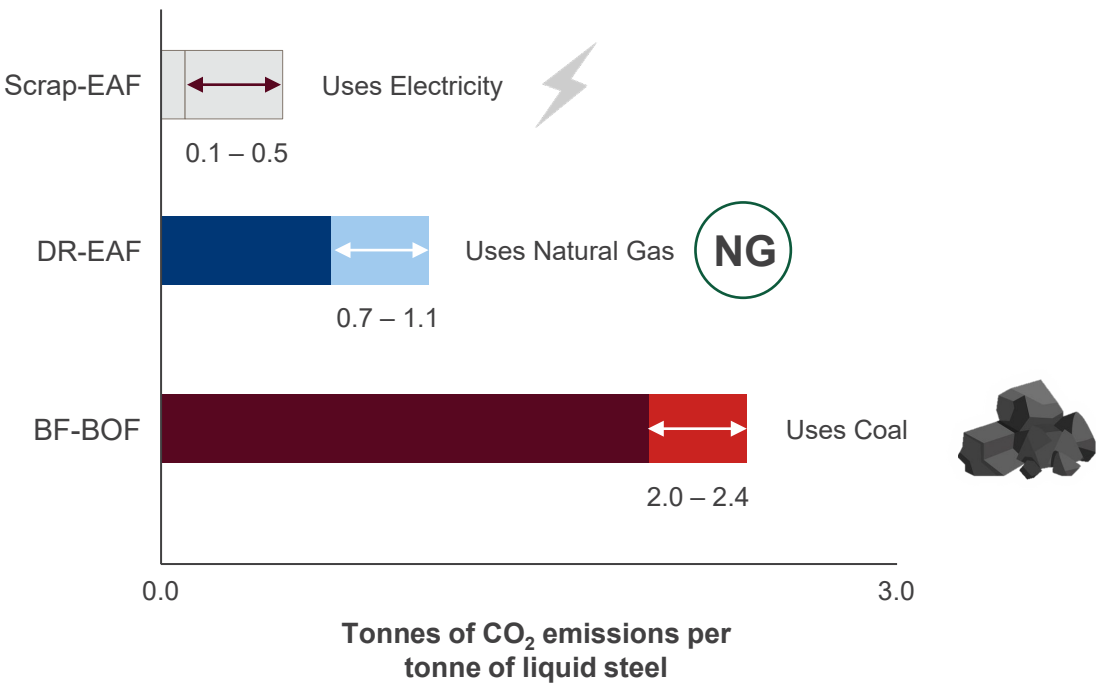


Majority of steel is produced today via the Blast Furnace – Basic Oxygen Furnace (BF-BOF) route, reliant on coal

Today's steelmaking production routes

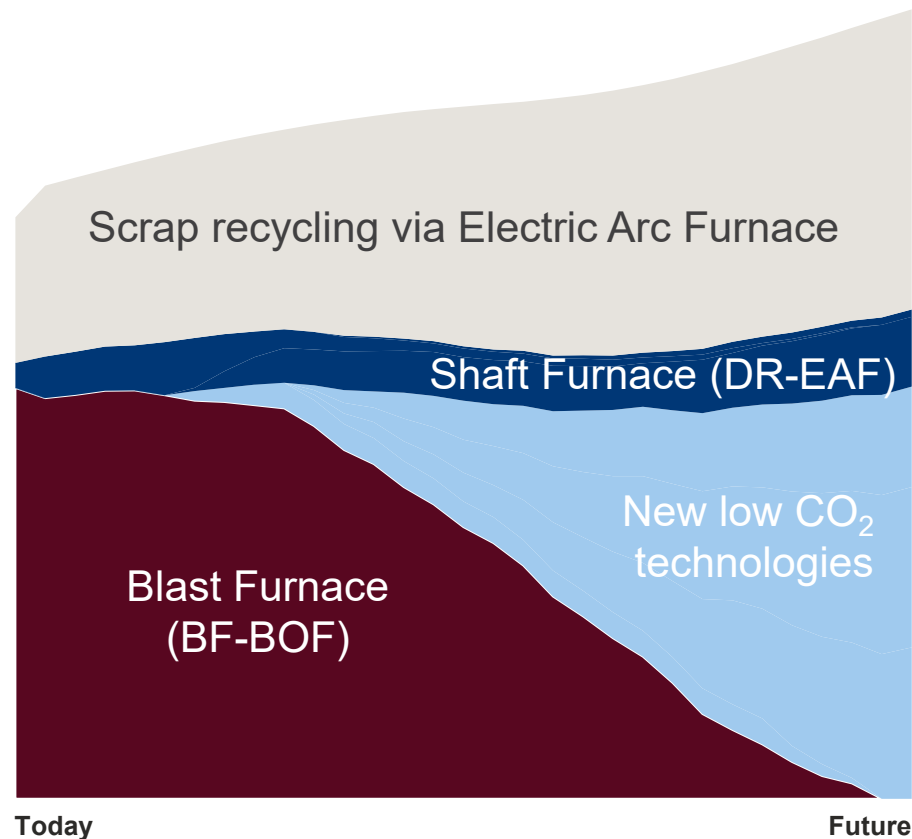


Carbon intensity and energy source of each production route



A range of new technological pathways are emerging to produce low CO₂ steel, transitioning away from fossil fuels

Global steel produced by technological pathway
(in tonnes) (representative only)



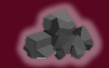
Existing pathway (BF-BOF)

01

Blast Furnace is being optimised but will eventually be substituted with lower CO₂ technologies



Carbon-intensive energy / reductant source



Coal

Emerging pathway (DR-EAF)

02

DR-EAF technology will increase, limited by availability of scarce high-grade pellets



Low-carbon energy / reductant source



Natural Gas



Hydrogen



Biomass



Renewables

Future pathways

(New low CO₂ technologies)

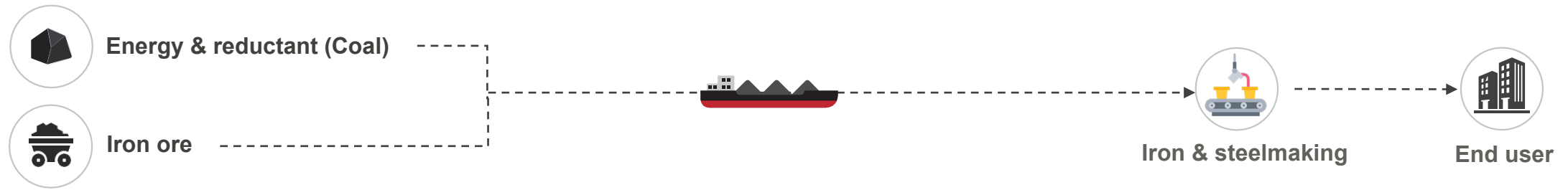
03

Range of new low CO₂ technologies suitable for Pilbara type iron ores

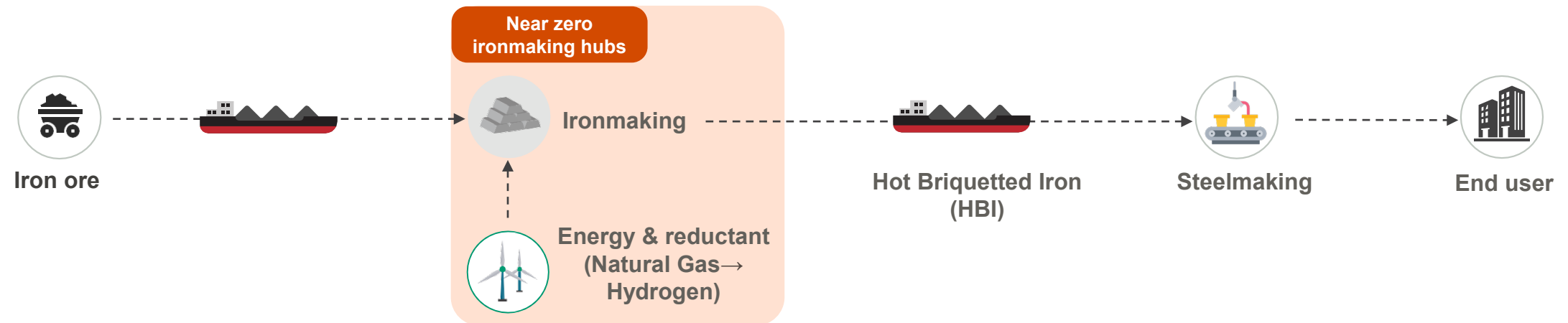
Ironmaking will likely dislocate from steelmaking, moving to advantaged energy locations, with near zero hubs emerging

* Illustrative only

Today's supply chain

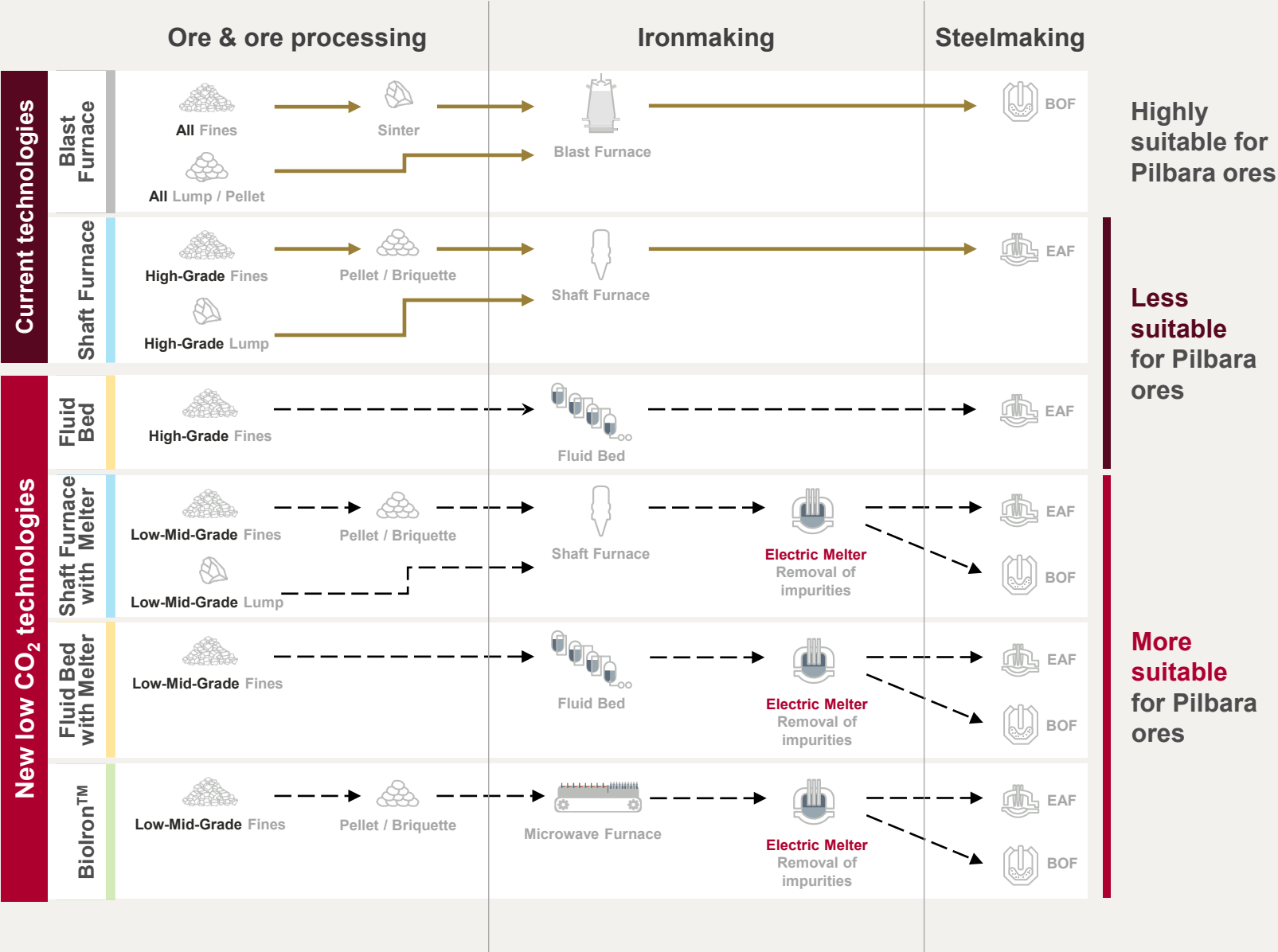


Future supply chain



Work is underway across a suite of new low CO₂ technologies suitable for Pilbara ores

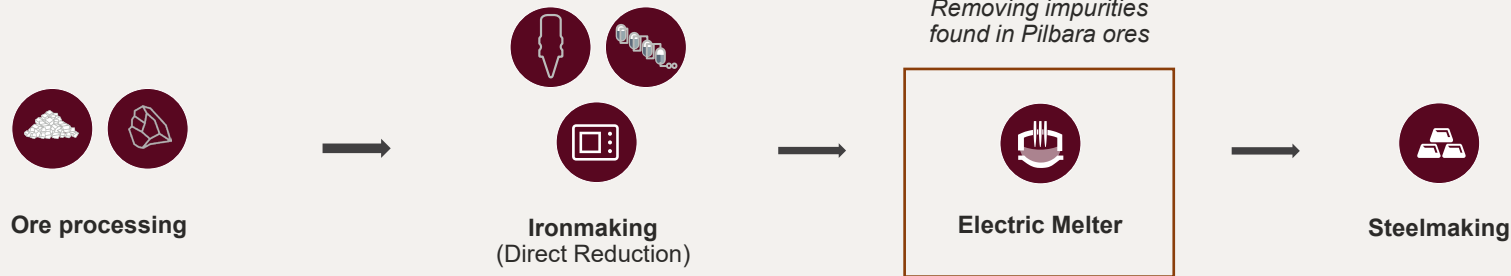
- Existing pathways
- New low-carbon pathways under development
- Upgradeability work underway to improve the grade of our Pilbara iron ores



Melter programme - unlocking new low CO₂ technologies for Pilbara iron ores

Developing a process step to remove impurities from Direct Reduced Iron (DRI) made with Pilbara ores

Simplified illustration



What is exciting

1. Unlocks pathway for producing low CO₂ steel with > 80%¹ of the world's iron ores
2. Effective at removing contaminants found in low-mid grade iron ores
3. Widely used in Ferro Alloy and Ilmenite (titanium) industries
4. Produces a more sustainable by-product which can be used in construction

Progress and Partners



- MoU signed in 2021
- Concept studies complete
- Next steps include laboratory testwork and pilot detailed design

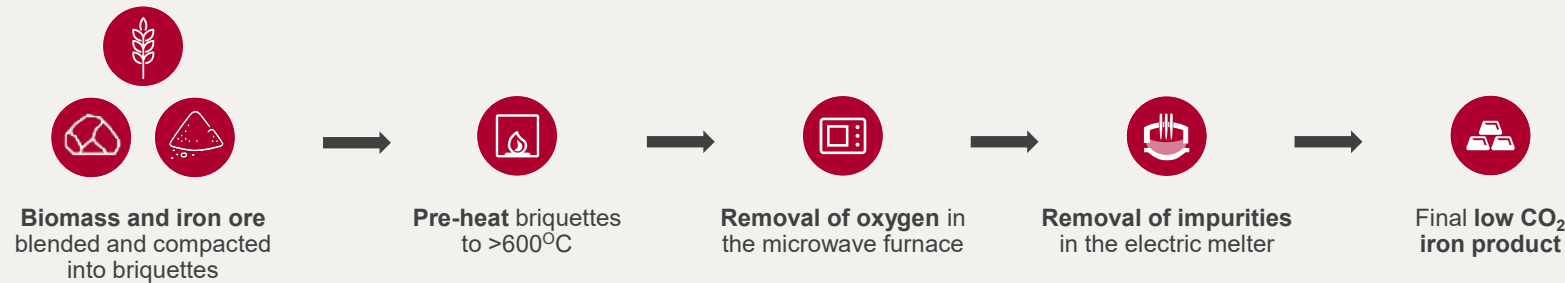


- MoU signed in 2023
- Targeting to build a pilot scale melter in China by 2025

Biolron™ - unlocking new low CO₂ technologies for Pilbara iron ores

Biolron™ is Rio Tinto proprietary technology which uses sustainable biomass and microwave energy as alternatives to coal in steelmaking

Simplified illustration



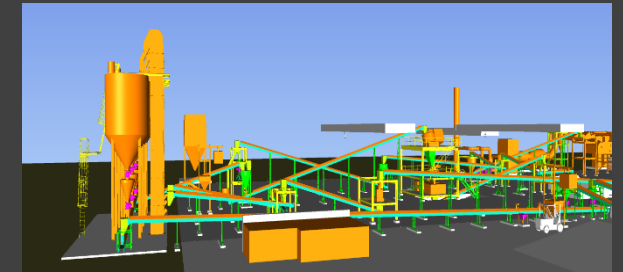
What is exciting

1. High productivity with world's largest iron ore region, the Pilbara
2. Produces pig iron metal with less than 5% emissions
3. Uses agricultural by-products to produce sustainable biomass
4. Consumes < 1/3rd electricity compared to other green hydrogen technologies
5. Potential to be net negative if combined with carbon capture and storage

Progress and partners

We have successfully produced iron in the small-scale pilot plant. We are currently designing a continuous pilot plant to commence operations in 2026.

3D Model of the CPP



Our key partners include:



University of
Nottingham
UK | CHINA | MALAYSIA

Metso

Our approach spans 3 time horizons and the full steel value chain

We are working with ~40 partners, across ~50 projects in 10 countries

	Existing pathways Ongoing	Emerging pathways ~1-10 years to commercial scale	Future pathways >10 years to commercial scale
Objectives	Lower the carbon impact of the Blast Furnace	Utilise our high-grade iron ores to accelerate the proliferation of low CO ₂ DR-EAF technologies	Unlock new low CO ₂ technologies for Pilbara grade iron ores
Project Areas	Blast furnace burden optimisation Slag usage Sintering optimisation New blast furnace technologies CCUS	Direct our high-grade iron ore products to low CO ₂ pathways Support the development of near zero hubs	Electric Melter Biolron™ Pelletisation for Shaft Furnace Fluidised bed Upgrade our Pilbara ores
Key Partners			

A large pile of iron ore, showing distinct layers of reddish-brown and dark brown material. A wavy white line graphic is overlaid on the bottom of the image.

Rowena Albones

Chief Financial Officer
Iron Ore

We have great assets that generate superior returns through the cycle

\$ Billion Except where stated	2020	2021	2022	H1 2023
Underlying EBITDA	18.8	27.6	18.6	9.8
EBITDA margin	74%	76%	68%	69%
Capex	2.9	3.9	2.9	1.1
Free cash flow	10.2	15.2	11.0	5.6
ROCE	74%	100%	62%	63%

Asset quality

Strong resource base

Integrated mining and infrastructure system

Attractive EBITDA and returns

Local contribution

~\$10 billion spend in Australia¹ in 2022

\$8.8 billion taxes paid² in 2022

>50% increase in indigenous procurement in H1 2023

Disciplined investment

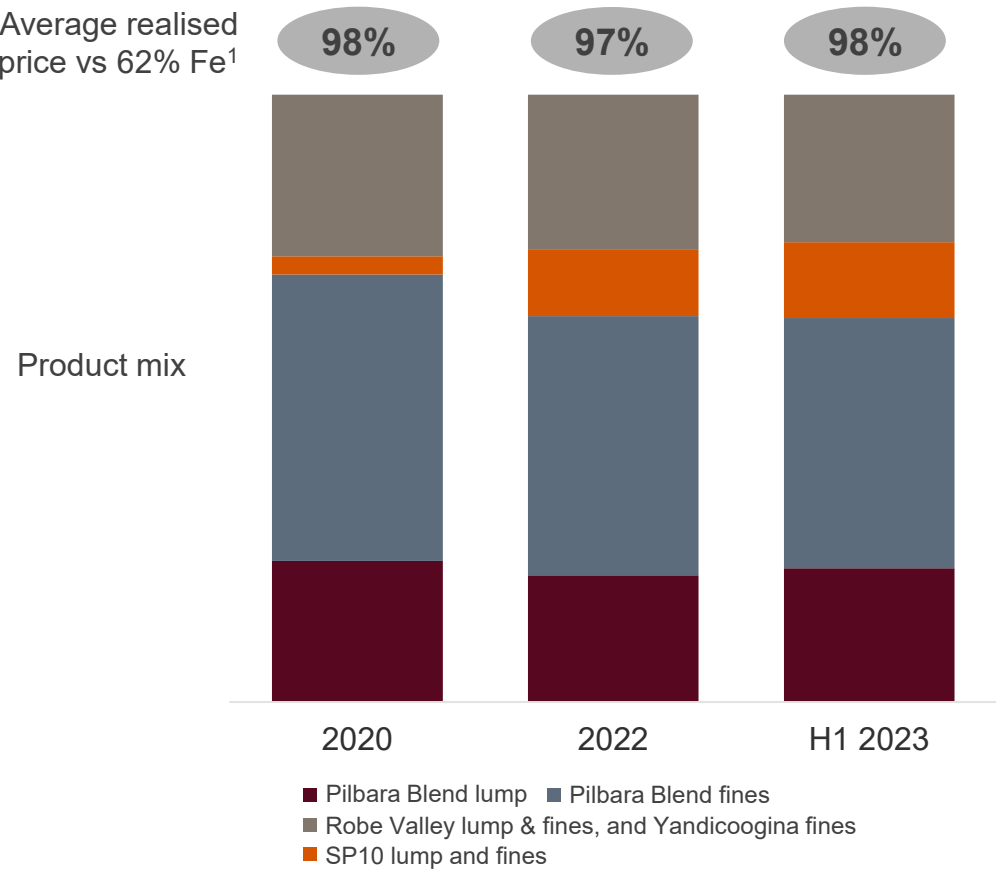
Next phase of mine replacement projects

Rhodes Ridge development

Green steel R&D and low impact mining

Our strong resource base provides options in the market

Pilbara sales mix and index price relativity



Resilient product mix

Pilbara Blend >85% of volume post Rhodes Ridge²
Strong SP10 relativities

SP10 flex

Competitive cost, provides options
Alternate customer supply via portside and IOC blend

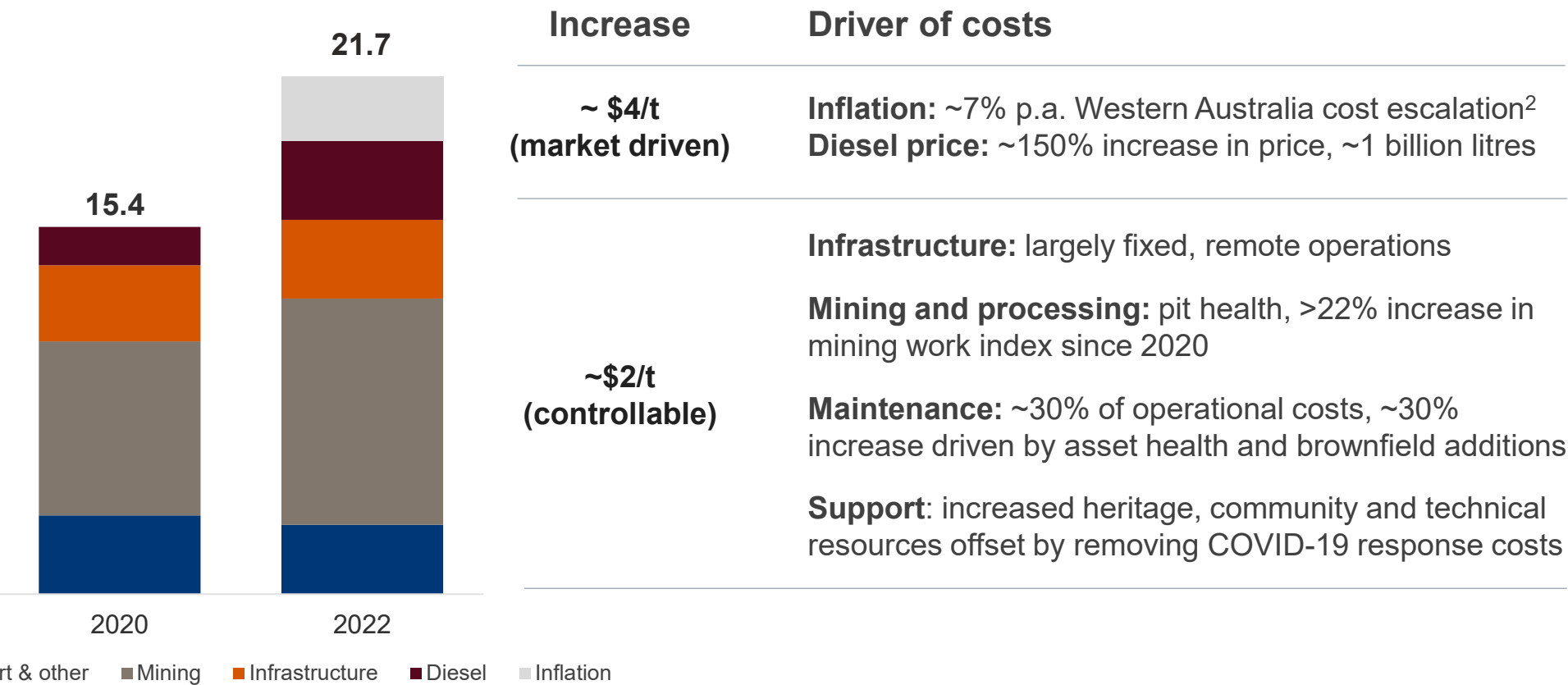
Preparing for the future

Mid-term mine replenishment
Rhodes Ridge options

We have focused on improving mine and asset health

Pilbara unit costs (2020 v 2022)¹

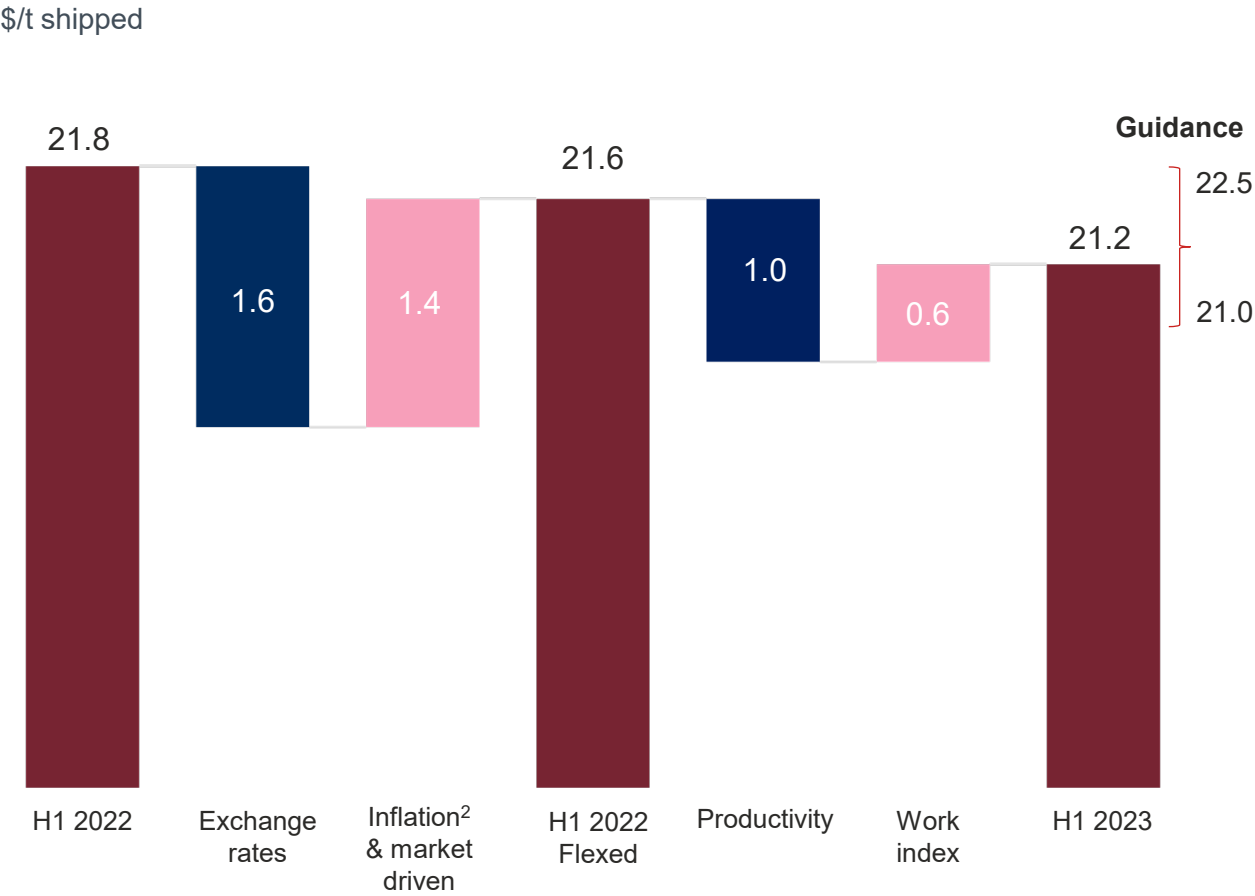
\$/t shipped



¹ AUD:USD exchange rate 0.69 in 2022 and 2020; ² Rio Tinto estimated price escalation across a basket of RTIO specific consumption metrics

This year, improved productivity is offsetting mining headwinds

Pilbara unit costs (H1 2022 v H1 2023)

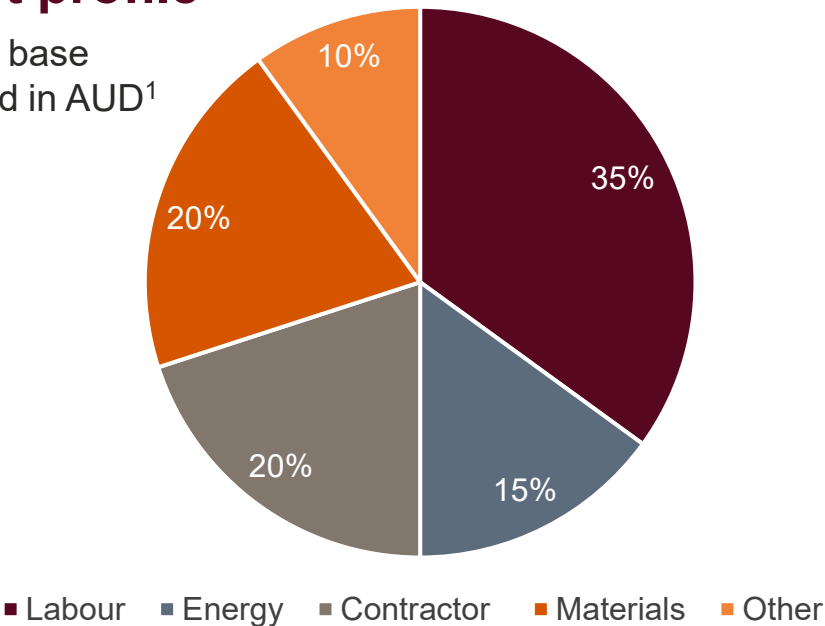


Productivity and asset health

Improved system productivity and uplift in volume offset
~6% uplift in mining work index
Retain focus on maintenance

Our cost profile

85% of cost base
denominated in AUD¹



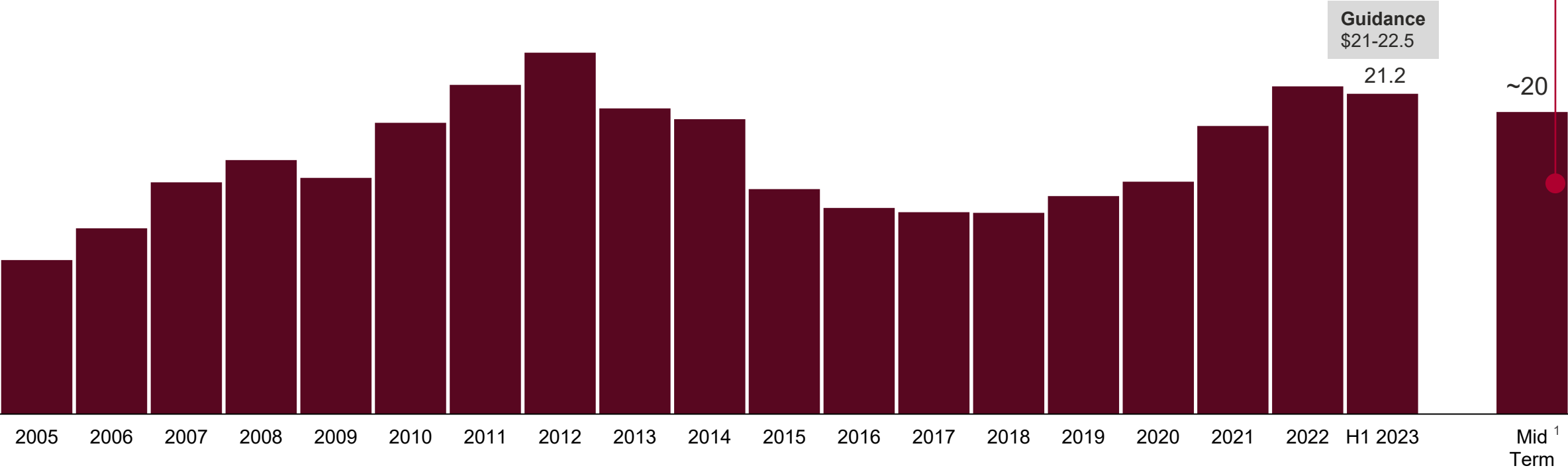
Volume and productivity to enable cost improvements

Pilbara unit costs

\$/t shipped

 Reduces unit costs from current  Increases unit costs from current

Productivity 
Volume 
Work index 

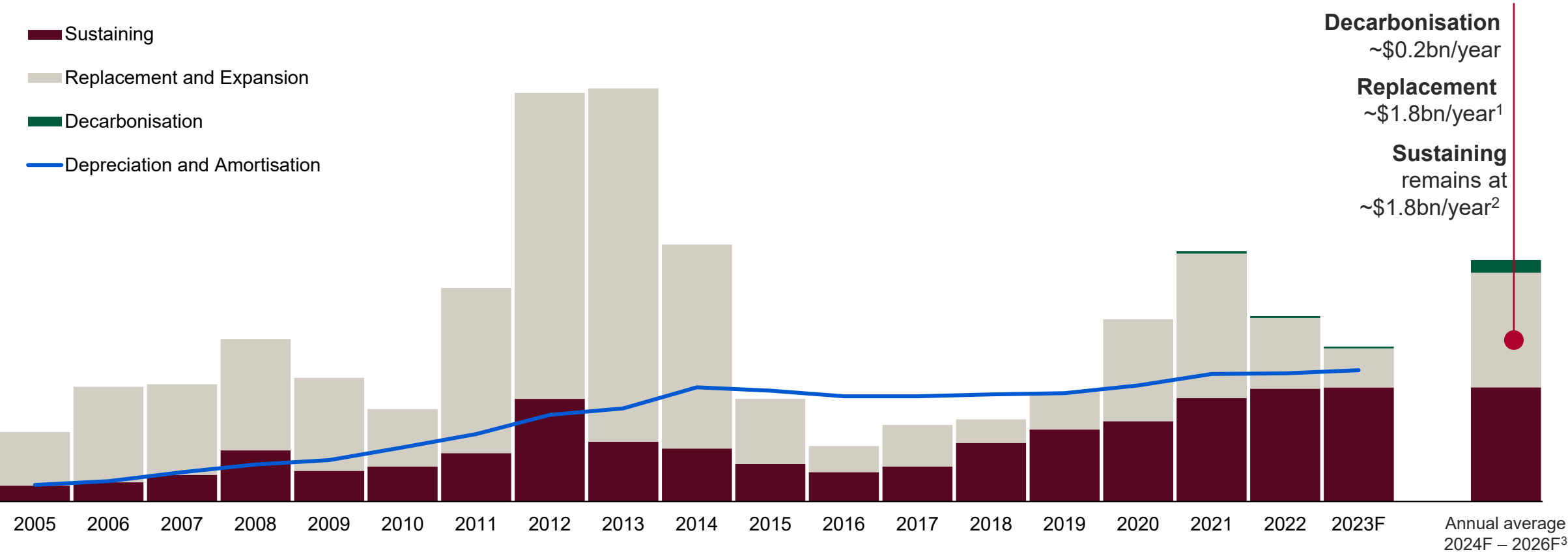


¹ Mid-term unit cost - AUD:USD FX 0.67, real basis, subject to inflationary pressures

Disciplined capital investment across our Pilbara assets

Capital expenditure

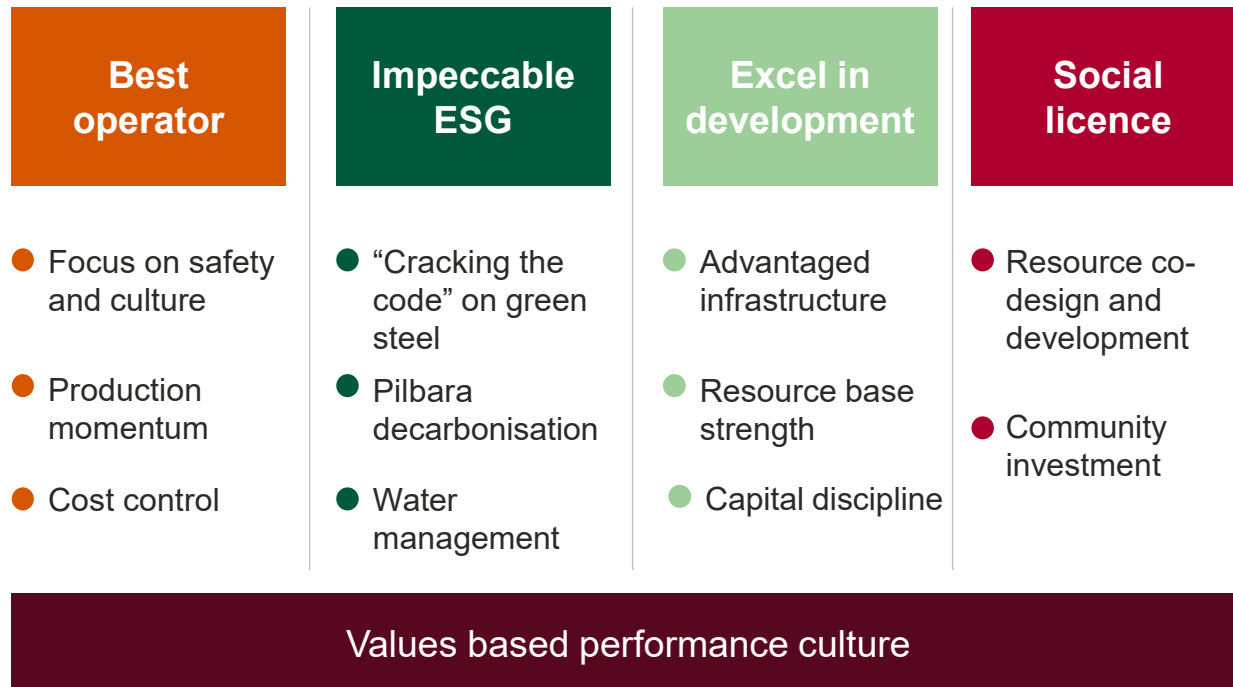
\$ billion, Rio Tinto share



¹ This includes mine replacement from the bubble chart on slide 18 as well as existing mine pit development and stock yard equipment replacement;

² ~\$6 per tonne capital intensity; ³ Real basis, subject to inflationary pressures

We have clear priorities and are positioning for the future



Volume: 345 – 360 Mtpa mid-term capacity

Effective equity: remains >85%¹ post Rhodes Ridge

Pilbara Blend: >85% of volume post Rhodes Ridge²

Unit costs: ~\$20/t mid-term³

Capital expenditure:

Sustaining: ~\$1.8bn⁴ per year in 2024-26

Mine Replacement: \$20 - 50/t installed capacity⁵

Growth: large, grade-advantaged, near infrastructure

Simon Trott

Chief Executive, Iron Ore

A proven record, and a strategy for the future

We will be the 'Most Valued' resource business

Defined by the cash flow we generate and as viewed by our people and external stakeholders



Q&A

RioTinto

Common acronyms

AHS	Autonomous Haulage System	EAF	Electric Arc Furnace	IRR	Internal rate of return	RT	Rio Tinto
AIFR	All Injury Frequency Rate	EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation	JV	Joint Venture	RTE	Round trip efficiency
ASEAN	Association of Southeast Asian Nations	ESG	Environmental, Social and Governance	km	kilometre	RTIO	Rio Tinto Iron Ore
ATAL	Aboriginal Training and Liaison	EU	European Union	M	Millions	RTX	Rio Tinto Exploration
ASX	Australian Securities Exchange	FAI	Fixed asset investment	MENA	Middle East and North Africa	SMM	Safety Maturity Model
AUD	Australian dollar	Fe	Iron	MoU	Memorandum of Understanding	SPS	Safe Production System
Bn	Billion	FIFO	Fly-in fly-out	Mt	Million tonnes	T	Tonne
BF	Blast furnace	FOB	Free On Board	Mtpa	Million tonnes per annum	t/ha	Tonnes per hectare
BMP	Blast management plan	FS	Feasibility Study	MW	Megawatt	tLS	Tonnes of liquid steel
BOF	Blast Oxygen Furnace	FY	Full Year	MWh	Megawatt hour	tCO₂ e	Tonne of carbon dioxide equivalent
Bt	Billion tonnes	GHG	Greenhouse gas	NPV	Net present value	tpa	Tonnes per annum
CAGR	Compound annual growth rate	Gt	Giga tonnes	O&M	Operation & Maintenance	TWh	Terawatt hour
CBAM	Carbon Border Adjustment Mechanism	GW	Gigawatt	OBK	Ore body knowledge	USD	United States dollar
CCUS	Carbon Capture Utilisation and Storage	H₂	Hydrogen	p.a	Per annum	WA	Western Australia
CO₂	Carbon dioxide	HBI	Hot briquetted iron	PFI	Potentially fatal injury	WTS	Western Turner Syncline
CPP	Continuous pilot plant	HME	Heavy Mining Equipment	PP&E	Plant, Property & Equipment	YoY	Year on Year
D&B	Drill & Blast	IEA	International Energy Agency	R&D	Research & Development	YTD	Year to date
DRI	Direct Reduction Iron	IOC	Iron Ore Company of Canada	ROCE	Return on capital employed	\$	United States dollar

Our ability to flex product mix is an important value lever

Pilbara Blend (since 2007)

Our flagship, long-term product strategy

Reliable | Liquid | Reference product for 62% Fe indices | Baseload in China



Yandicoogina Fines (since 1998)

Baseload by large, quality sensitive mills in Japan

Low in phosphorous & alumina | Premium mid-grade fines product | Calcines to high Fe



Robe Valley (Since 1970s)

Niche, very low phosphorous

Sold principally to Japan, Korea & Taiwan



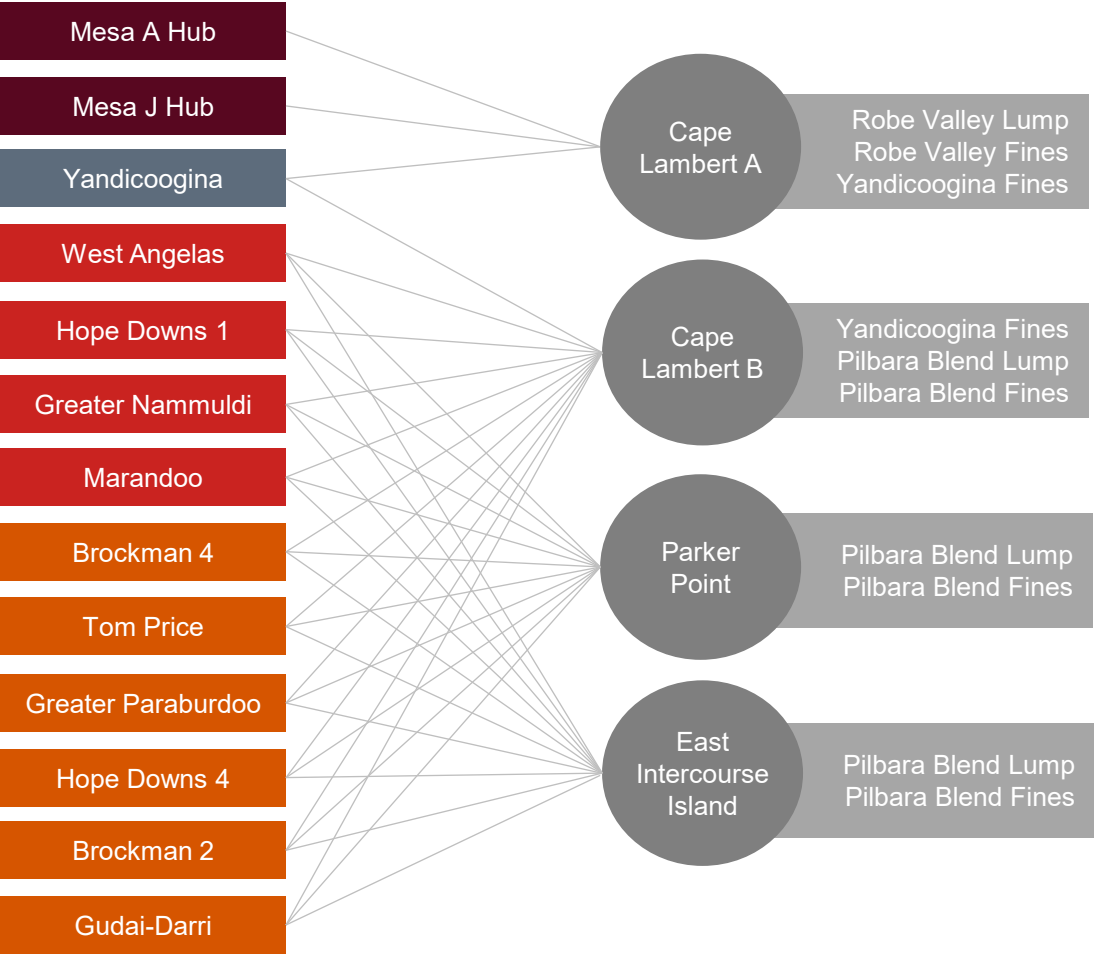
SP10 (since 2014)

Delivering further operational & product flexibility

Flexibility to fill capacity | Low cost | Supports Pilbara Blend quality | Extends China customer base



Our world class Pilbara iron ore blending capability

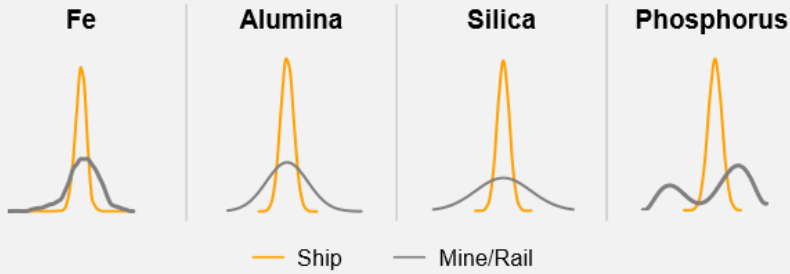


Pisolite Marra Mamba Brockman

Port blending capability reduces product variability



Product quality variance from mean



Accounting treatment for Pilbara mines

Asset	%	Location	Accounting treatment
Brockman (2 and 4)	100.0	Australia	Full consolidation
Eastern Range JV ¹	54.0	Australia	Proportional consol
Hope Downs JV (1 and 4)	50.0	Australia	Proportional consol
Marandoo	100.0	Australia	Full consolidation
Mt Tom Price	100.0	Australia	Full consolidation
Nammuldi	100.0	Australia	Full consolidation
Pannawonica (Mesas J and A)	53.0	Australia	Proportional consolidation ²
Paraburdoo	100.0	Australia	Full consolidation
West Angelas	53.0	Australia	Proportional consolidation ²
Western Turner Syncline	100.0	Australia	Full consolidation
Yandicoogina	100.0	Australia	Full consolidation

¹ Under the terms of the Eastern Range Joint Venture Agreement, Hamersley Iron manages the operation and is obliged to purchase all production from the JV;

² Rio Tinto recognises 65% of the assets, liabilities, revenues and expenses of Robe River, with a 12% non-controlling interest. The Group therefore has a 53% beneficial interest in the Robe River mines (Mesas J and A and West Angelas).