

An aerial photograph of a long, orange and white iron ore train traveling along a curved railway track. The train is moving away from the viewer towards a large industrial processing plant in the background. The landscape is a mix of green scrubland and reddish-brown hills under a clear sky. The BHP logo is in the top left, and the title 'Western Australia Iron Ore' is centered in the upper half. Text identifying the speaker and date is on the left, and the location 'Newman' is in the bottom left.

# BHP

## Western Australia Iron Ore

**Brandon Craig**  
Asset President WAIO

3 October 2022

Newman



# Disclaimer

## Forward-looking statements

This presentation contains forward-looking statements, including: statements regarding our strategy, our values and how we define success; our expectations of a competitive advantage for our business or certain products; our commitment to generating social value; our commitments under sustainability frameworks, standards and initiatives; our intention to achieve certain sustainability-related targets, goals, milestones and metrics; statements regarding trends in economic outlook; commodity prices and currency exchange rates; demand for commodities; medium-term guidance; production forecasts; operational performance; expectations, plans, strategies and objectives of management; climate scenarios; assumed long-term scenarios; potential global responses to climate change; the potential effect of possible future events on the value of the BHP portfolio; closure or divestment of certain assets, operations or facilities (including associated costs); anticipated production or construction commencement dates; capital expenditure or costs and scheduling; operating costs, including unit cost guidance, and shortages of materials and skilled employees; anticipated productive lives of projects, mines and facilities; provisions and contingent liabilities; and tax and regulatory developments.

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For example, our future revenues from our assets, projects or mines described in this release will be based, in part, upon the market price of the minerals, or metals produced, which may vary significantly from current levels. These variations, if materially adverse, may affect the timing or the feasibility of the development of a particular project, the expansion of certain facilities or mines, or the continuation of existing assets.

Other factors that may affect the actual construction or production commencement dates, costs or production output and anticipated lives of assets, mines or facilities include our ability to profitably produce and transport the minerals and/or metals extracted to applicable markets; the impact of foreign currency exchange rates on the market prices of the minerals or metals we produce; activities of government authorities in the countries where we sell our products and in the countries where we are exploring or developing projects, facilities or mines, including increases in taxes; changes in environmental and other regulations; the duration and severity of the Ukraine conflict and the COVID-19 pandemic and their impact on our business; political uncertainty; labour unrest; and other factors identified in the risk factors discussed in section 9.1 of the Operating and Financial Review in the Appendix 4E and BHP's filings with the U.S. Securities and Exchange Commission (the 'SEC') (including in Annual Reports on Form 20-F) which are available on the SEC's website at [www.sec.gov](http://www.sec.gov).

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## Presentation of data

Unless specified otherwise: operations includes operated assets and non-operated assets; total operations refers to the combination of continuing and discontinued operations; continuing operations refers to data presented excluding the impacts of Onshore US from the 2017 financial year onwards and excluding Petroleum from the 2021 financial year onwards; references to Underlying EBITDA margin exclude third party trading activities; data from subsidiaries are shown on a 100 per cent basis and data from equity accounted investments and other operations is presented, with the exception of net operating assets, reflecting BHP's share; medium term refers to our five year plan. Numbers presented may not add up precisely to the totals provided due to rounding. All footnote content (except in the Annexures) is contained on slide 32.

## Non-IFRS information

We use various Non-IFRS information to reflect our underlying performance. For further information please refer to Non-IFRS financial information set out in section 11 of the Operating and Financial Review in the Appendix 4E for the year ended 30 June 2022.

## No offer of securities

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In this release, the terms 'BHP', the 'Company', the 'Group', 'BHP Group', 'our business', 'organisation', 'we', 'us', 'our' and ourselves' refer to BHP Group Limited and, except where the context otherwise requires, our subsidiaries. Refer to note 28 'Subsidiaries' of the Financial Statements in the Appendix 4E for a list of our significant subsidiaries. Those terms do not include non-operated assets. This release covers BHP's functions and assets (including those under exploration, projects in development or execution phases, sites and closed operations) that have been wholly owned and/or operated by BHP or that have been owned as a joint venture<sup>1</sup> operated by BHP (referred to in this release as 'operated assets' or 'operations') during the period from 1 July 2021 to 30 June 2022.

BHP also holds interests in assets that are owned as a joint venture<sup>1</sup> but not operated by BHP (referred to in this release as 'non-operated joint ventures' or 'non-operated assets'). Notwithstanding that this release may include production, financial and other information from non-operated assets, non-operated assets are not included in the BHP Group and, as a result, statements regarding our operations, assets and values apply only to our operated assets unless stated otherwise.

1. References in this release to a 'joint venture' are used for convenience to collectively describe assets that are not wholly owned by BHP. Such references are not intended to characterise the legal relationship between the owners of the asset..

# Acknowledgement of Country

Banjima Country  
Yandi

**BHP**



# Western Australia Iron Ore site tour: 3 days at a glance



Western Australia Iron Ore site tour  
3 October 2022

## Meet the team

### DAY 1



**Brandon Craig**  
Asset President  
WAIO



**Anna Wiley**  
Vice President  
Planning and Technical



**Huw McKay**  
Vice President  
Market Analysis  
and Economics



**Rod Dukino**  
Vice President  
Sales and Marketing  
Sustainability



**Kristy Heal**  
Head of Finance  
WAIO

### DAY 2



**Steve Campbell**  
General Manager  
South Flank



**Andrew Buckley**  
General Manager  
Mining Area C



**Cindy Dunham**  
General Manager  
Port



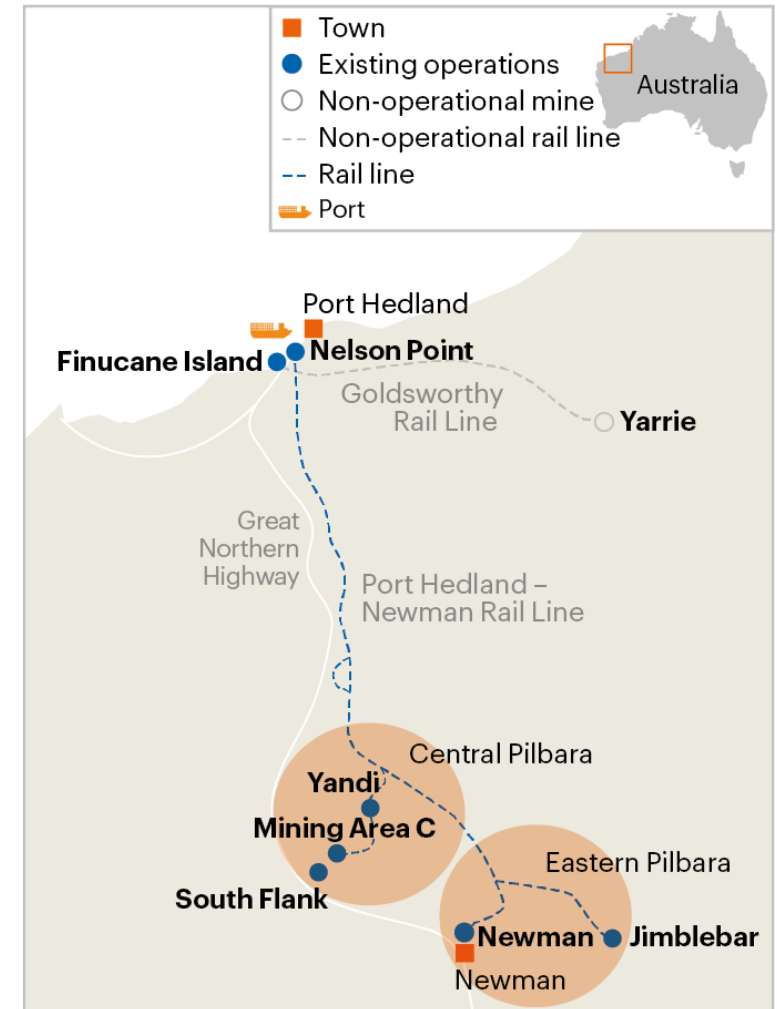
**Warren Wellbeloved**  
General Manager  
Rail

### DAY 3

# Western Australia Iron Ore snapshot

An interconnected system bringing resources and people together to build a better world

- Workforce of ~8,000 employees – 29% female and 11% Indigenous
- Four processing hubs supported by five mines, all located in the Pilbara
  - Processing hubs are Newman, Jimblebar, Yandi and Mining Area C (including South Flank)
  - 220 trucks in operation; >30% autonomous
  - ~1,000 km of rail track
  - 182 locomotives; ~10,500 ore cars
  - Each train has an average length of ~2.8 km
  - Port operations at Nelson Point and Finucane Island include five car dumpers and eight shiploaders
  - Loading ~1,500 ships per year (or one every six hours)



# WAIO is a significant contributor to BHP

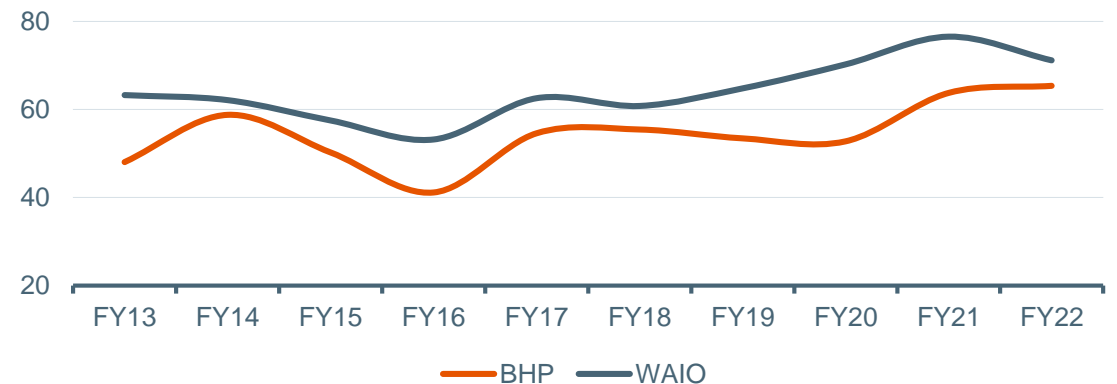
## An example of a large, long-life, low-cost asset

- Value unlocked through embedded growth optionality over the long asset-life and first quartile cost performance
  - Return on Capital Employed (ROCE)
    - FY22: 75%
    - 10 year average: 41%
- Consistent strong performance underpins significant contribution
  - EBITDA
    - FY22: US\$21.8bn
    - 10 year average: US\$13.0bn
  - EBITDA margin
    - FY22: 71%
    - 10 year average: 64%; consistently >50%
  - Free cash flow
    - FY22: US\$20.4bn
    - 10 year average: US\$10.8bn
- Increased production >50%, and lowered unit costs by ~40% in the past decade

Asset returns since investment in 1985  
(annualised, %)



EBITDA margin<sup>1</sup>  
(%)



# Consistent delivery of superior returns

Safer, lower cost, more reliable, more productive



## Operational excellence

Safe operations

Stable and reliable

Continuous improvement mindset



## Strong margins

Strong price realisations relative to benchmark

Lowest cost iron ore producer<sup>2</sup>

Large, high quality resources close to existing hubs



## Value and returns

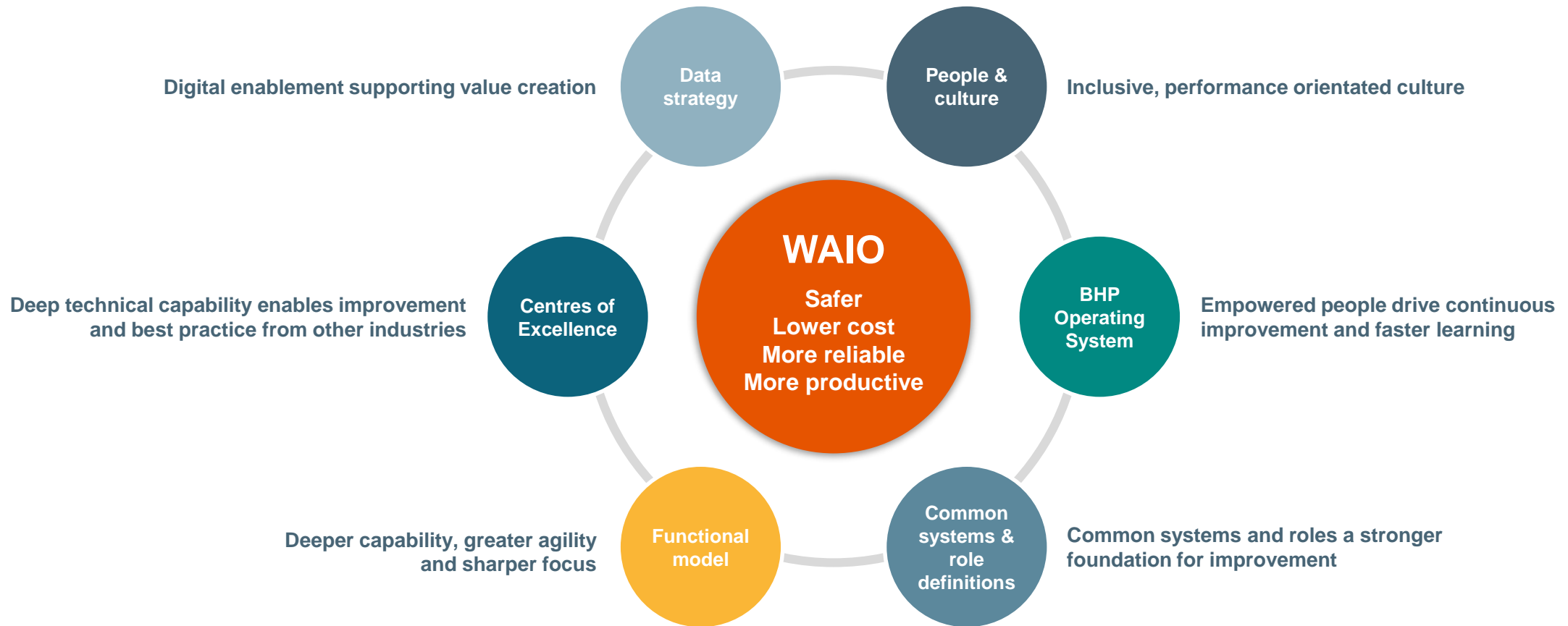
Social value embedded in our approach

Clear growth pathway to >300 Mtpa; studies underway for 330 Mtpa

Disciplined capital allocation

# Our strategy is underpinned by the way we work

Enabling our people to contribute to their full potential to achieve operational excellence





# WAIO values safe operations above all else

Empowering our workforce through culture, systems and controls

Over 11 years fatality free; fatal potential events down 65% since FY18

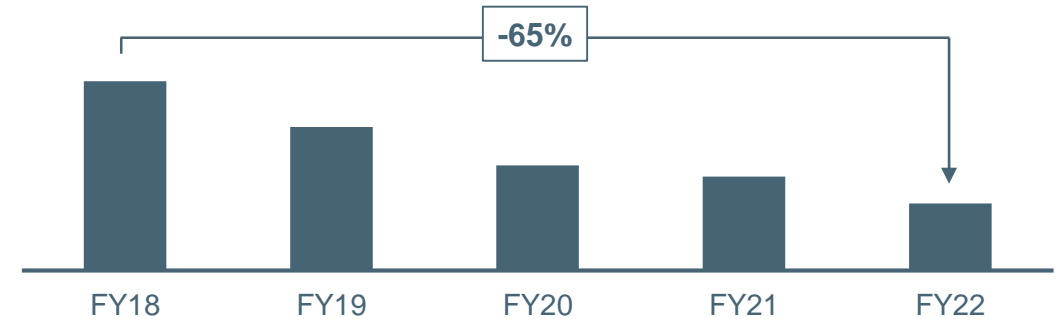
Disciplined approach to material risk management (e.g. COVID-19)

Focus on eliminating sexual harassment, racism and bullying

Technology and automation supporting improved safety performance

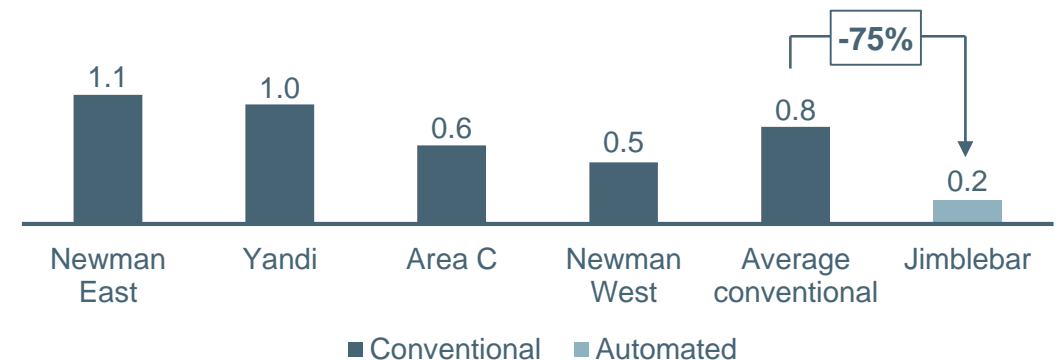
Frontline engagement through BOS and field leadership program

Events with fatal potential<sup>3</sup>  
(#, index FY18 = 100)



Automation reducing safety events







(# of reported "SME Collision Incident" events / total movement)



Source: Events Management, Surface Mobile Equipment (SME) interactions actual, hazard and near miss events for CY2020. Newman East has since transitioned to autonomous trucks.

# Social value embedded in our approach

Helps enable sustainable operations long term and positions us to access future opportunities

 <p><b>Decarbonisation</b></p>	 <p><b>Healthy environment</b></p>	 <p><b>Indigenous partnerships</b></p>	 <p><b>Safe, inclusive and future ready workforce</b></p>	 <p><b>Thriving, empowered communities</b></p>	 <p><b>Responsible supply chains</b></p>
<p><b>Contributing to the world's climate ambitions</b></p> <p>One of the lowest GHG emissions-intensity iron ore producers<sup>4</sup></p> <p>Trialling four battery electric locomotives scheduled for delivery in late 2023</p> <p>Port renewable power purchase agreement with Alinta</p>	<p><b>Delivering nature-positive<sup>5</sup> outcomes</b></p> <p>A\$300m Pilbara Air Quality Program (including wind fences)</p> <p>Focus on responsible water management</p>	<p><b>Building relationships based on trust, respect and mutual benefit</b></p> <p>Co-creating plans with Traditional Owners</p> <p>Pilbara Aboriginal Health Alliance</p> <p>Yandi land rehabilitation partnership</p>	<p><b>Enhancing safety diversity, capability, and wellbeing</b></p> <p>~29% female representation in FY22</p> <p>~11% Indigenous representation in FY22</p> <p>Considerable investment for security and physical upgrades at camps</p>	<p><b>Contributing to long-term prosperity and resilience</b></p> <p>A\$324m paid to local suppliers through Local Buying Program in FY22</p> <p>362 entry pathway roles in FY22</p> <p>Childcare and wellbeing services</p>	<p><b>Supporting ethical, sustainable and transparent supply chains</b></p> <p>Working closely with customers, including our partnerships on Scope 3 emissions</p> <p>Jimblebar beneficiation in studies</p>

# Indigenous partnerships

Building relationships based on trust, respect and mutual benefit

## Emphasis on co-creating plans and high-quality relationships

8 Traditional Owner Groups  
across our portfolio

Ongoing commitment to  
consultation on  
heritage and the development of  
Cultural Heritage Management Plans

Heritage protection through  
strengthened systems and  
processes

## Creating mutual value and long-term, sustainable change

More than doubling spend with  
Indigenous businesses

**>A\$300m**

by FY24

Increasing Indigenous  
employment from

**~11%**

in FY22

Supporting workforce participation  
and training

**25%**

of entry pathway roles are Indigenous

Support for Western Australia's  
**Aboriginal Cultural Heritage  
reform**



Western Australia Iron Ore site tour  
3 October 2022



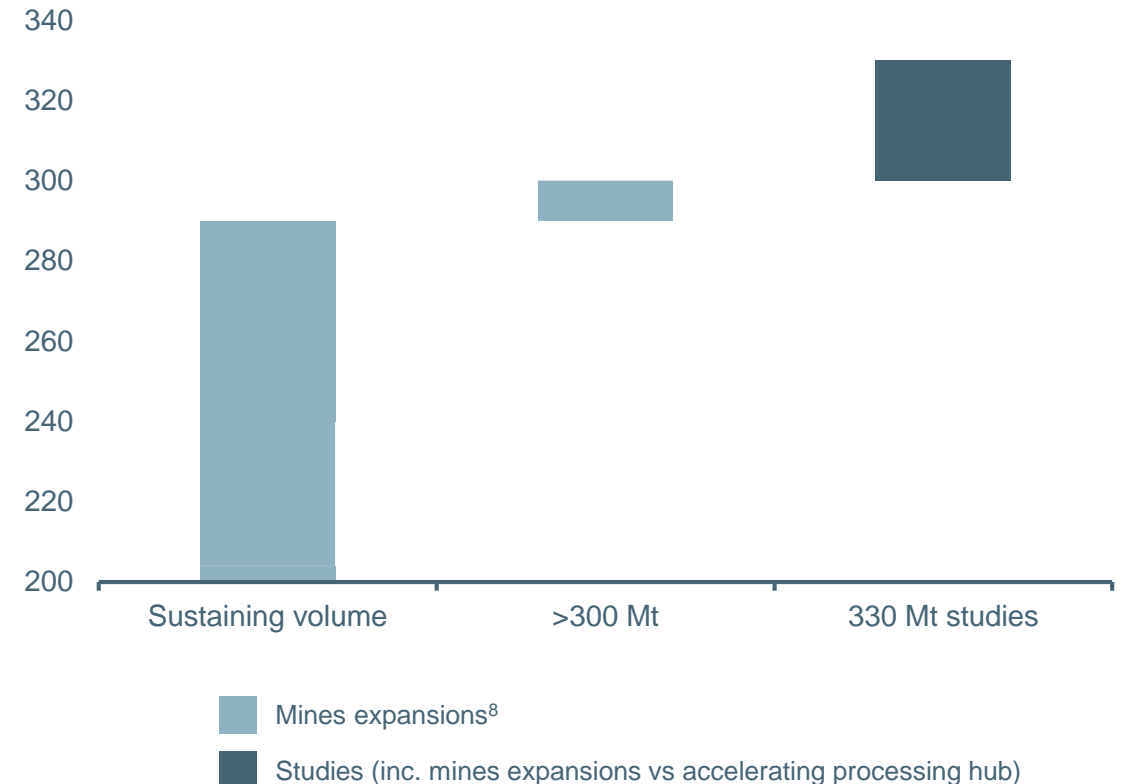


# Large resource base in proximity to existing infrastructure

Enables capital efficient volumes over the next few decades

- 30 Bt Mineral Resources<sup>6</sup>
- Currently operate four processing hubs supported by five mines
- ~95% of Mineral Resources<sup>7</sup> within 50 km of existing processing hubs
  - Estimated average hub life of 40-60 years
- Includes low-cost development options adjacent to existing hubs
  - Attractive future options in Central Pilbara
- Characteristics of our deposits support low-cost operations
  - Mining strip ratio expected to remain stable at ~1.3 over the next five years
  - Majority of mining above the water table. Increased below water table mining over the medium term

Mines replacement to achieve 330 Mtpa run rate<sup>7</sup>  
(Mtpa, peak capacity)



# Competitive advantage

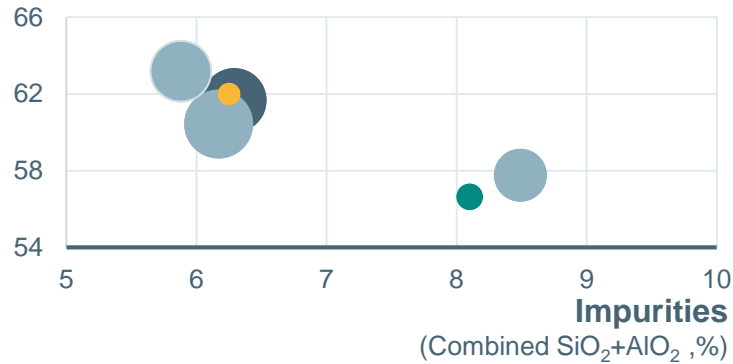
## High-grade ore and percentage of lump drives superior price realisation

### Index quality ore

#### Iron content in ore

(%)

● WAIO ● Yandi ● Competitors ● Platts 62% Index

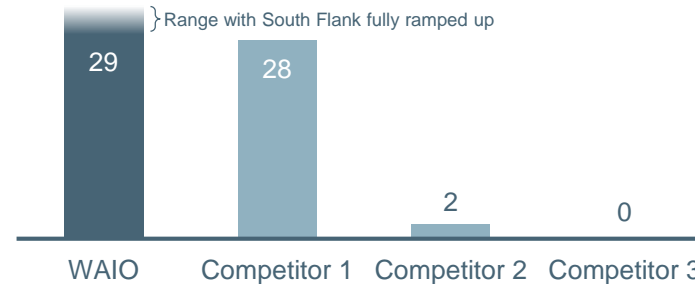


- High-quality, low-impurity ore
- South Flank will increase overall portfolio grade to ~62% (from ~61%); some grade variability over the next couple of years during ramp-up<sup>9</sup>
- Studying options to beneficiate Jimblebar product to increase value

### Increasing lump proportion

#### Lump proportion

(%, FY22)

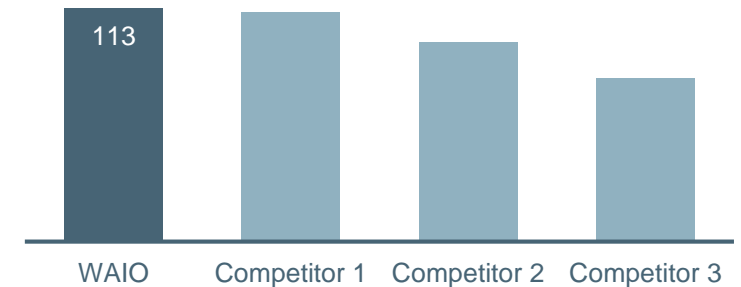


- Sector leading lump product mix
- South Flank is expected to increase the portion of lump in the portfolio to 30-33% when fully ramped up<sup>9</sup>
- Lump is highly sought after in a decarbonising steel industry

### Premium price realisation

#### Realised price

(\$US/wmt FOB, FY22)



- Strong customer relationships and technical expertise drives strong price realisations
- We have outperformed our competitors in price performance, achieving ~98.5% of the Platts 62% benchmark in FY22<sup>10</sup>

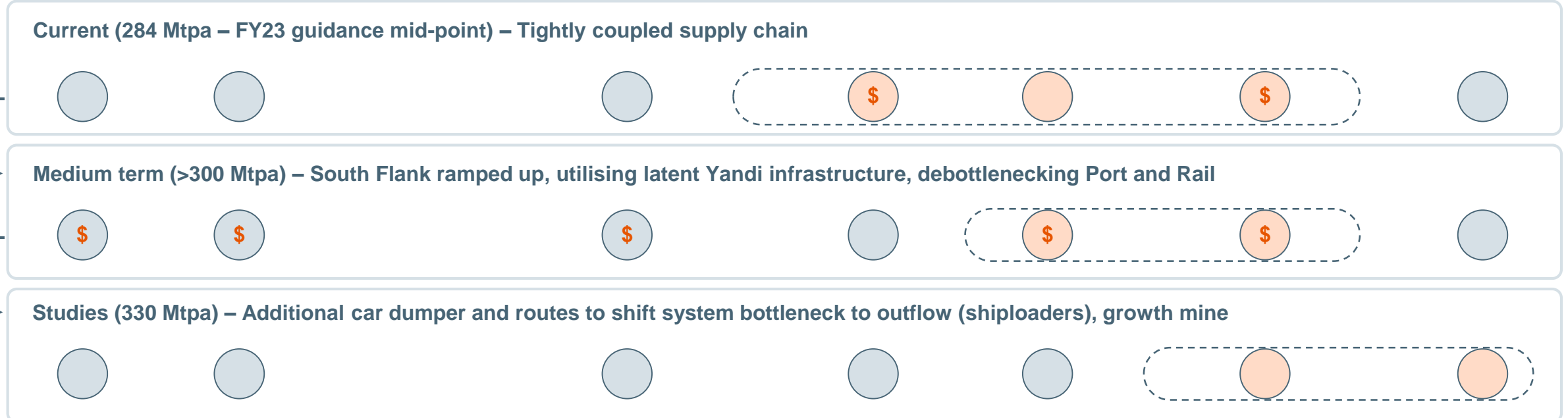
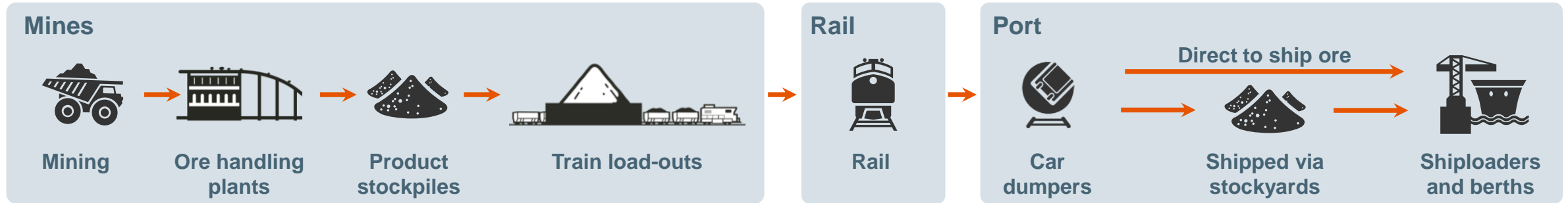
Note: Competitors include Rio Tinto, Vale and FMG; bubble size represents production volumes; production volumes, grade and price comparison excludes pellet. BHP average product grade excludes Yandi. Studies are underway on the optimal growth pathway above 300 Mt and the resultant grade and lump contributions.

Western Australia Iron Ore site tour

3 October 2022

# Unlocking capacity across the value chain

Disciplined investment to shift the bottleneck to the port over the medium term



○ Step in supply chain  
 ○ Notional system bottleneck  
 Ⓢ Investment focus to achieve future capacity  
 Ⓢ Investment focus on debottlenecking

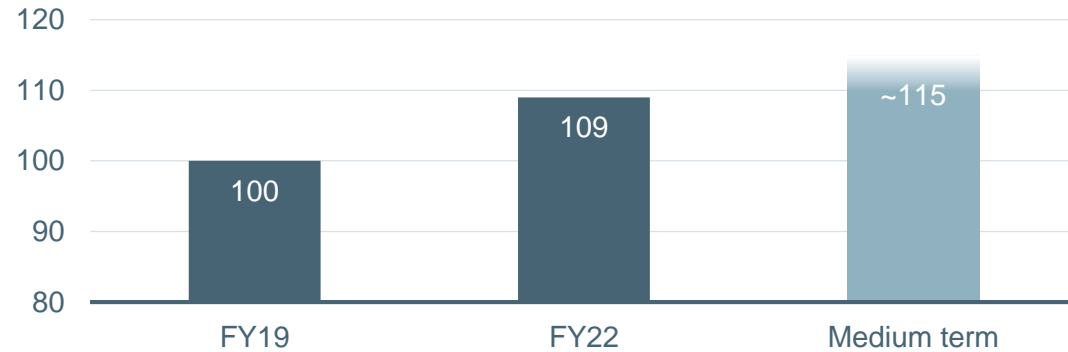


# Delivering productivity at Mines

Productivity mitigating expanding deposits and increased haul cycle times

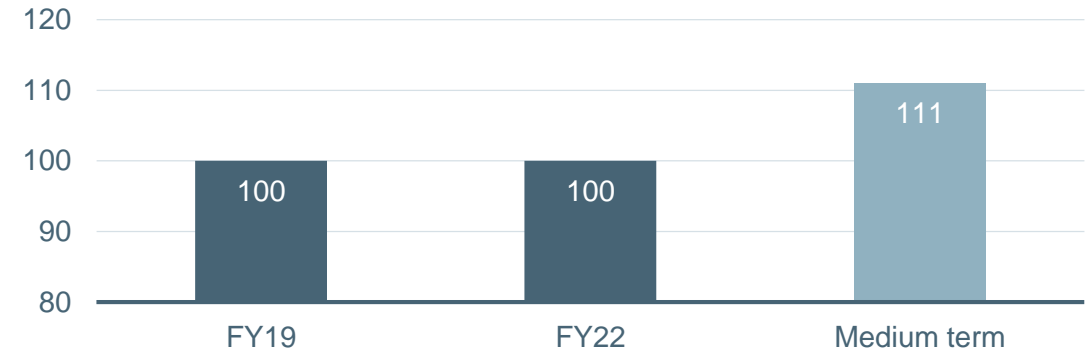
## Greater truck payload increasing production

(t, index FY19 = 100)



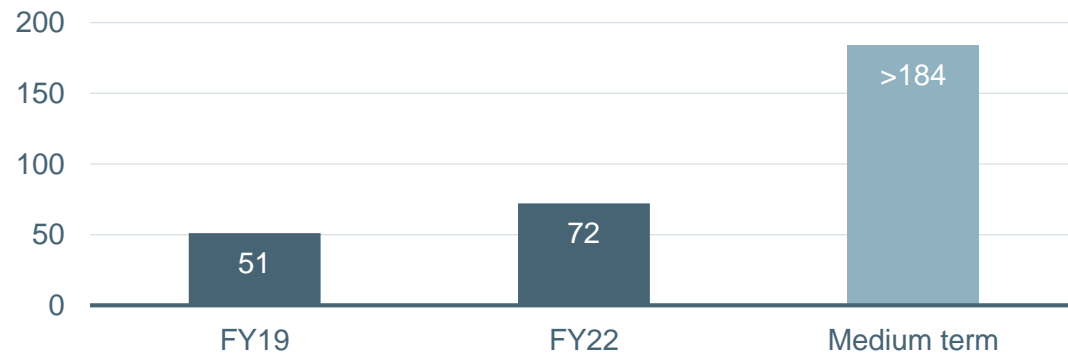
## Productivity driving improved truck hours

(hours, index FY19 = 100)



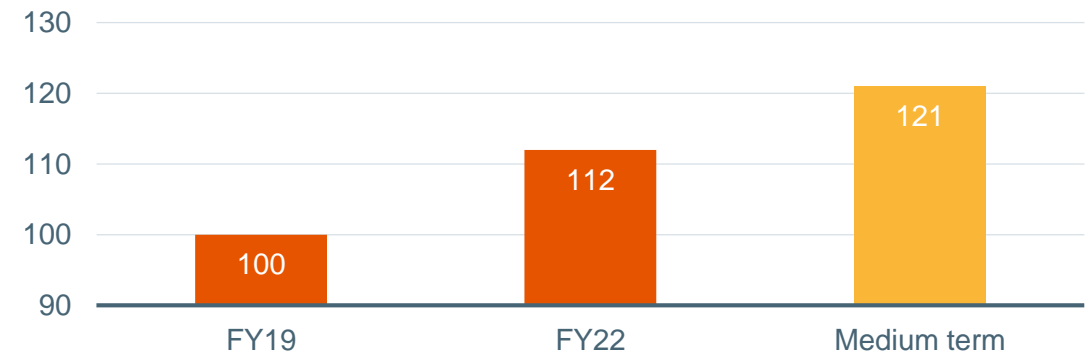
## Accelerating autonomous truck roll out

(Number of autonomous trucks)



## Mine life driving higher haul cycle times

(min, index FY19 = 100)

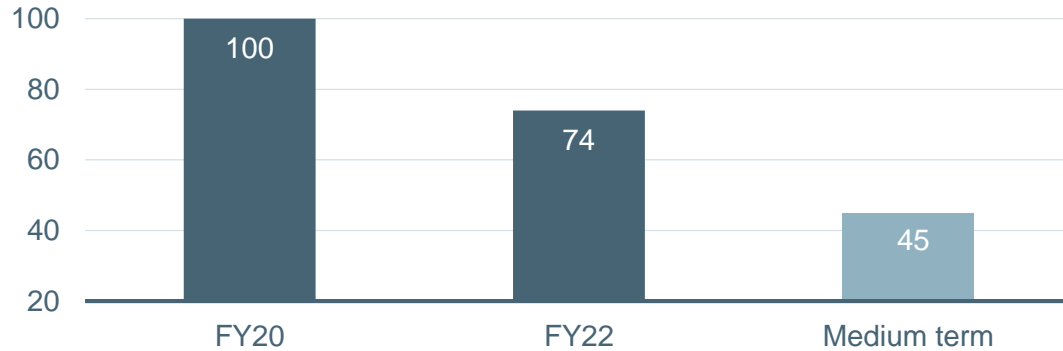


# Delivering productivity at Rail and Port interface

## Debottlenecking Port and Rail increases productivity

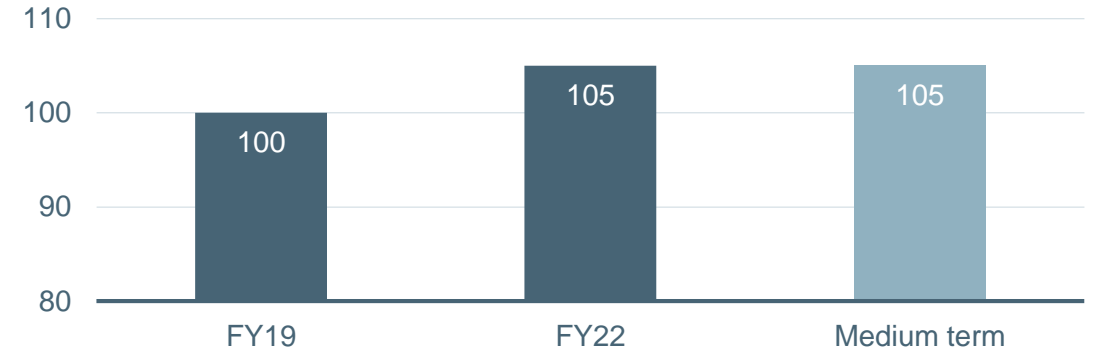
### Track speed restrictions impact on cycle time

(mins, index FY20 = 100)



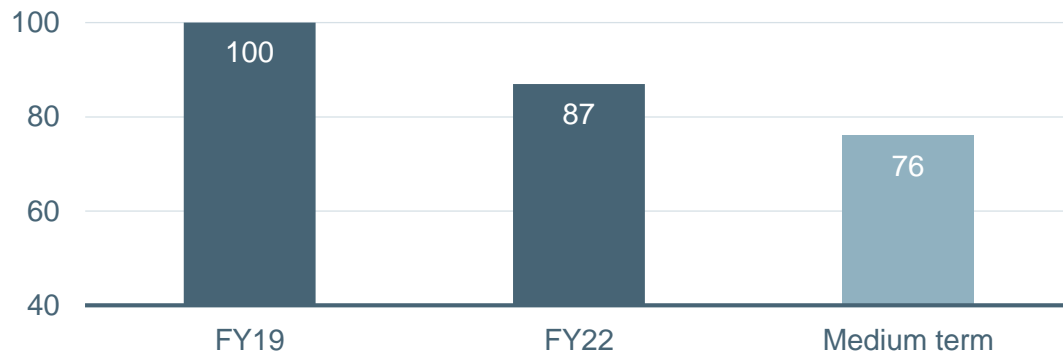
### Five car dumper (CD) availability

(%, index FY19 = 100)



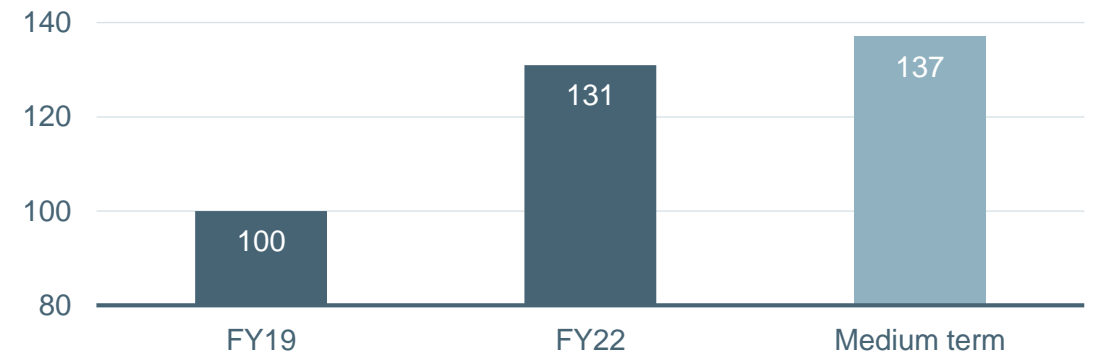
### Pre-dump cycle time

(hours, index FY19 = 100)



### Number of days operated in 5CD mode

(%, index FY19 = 100)

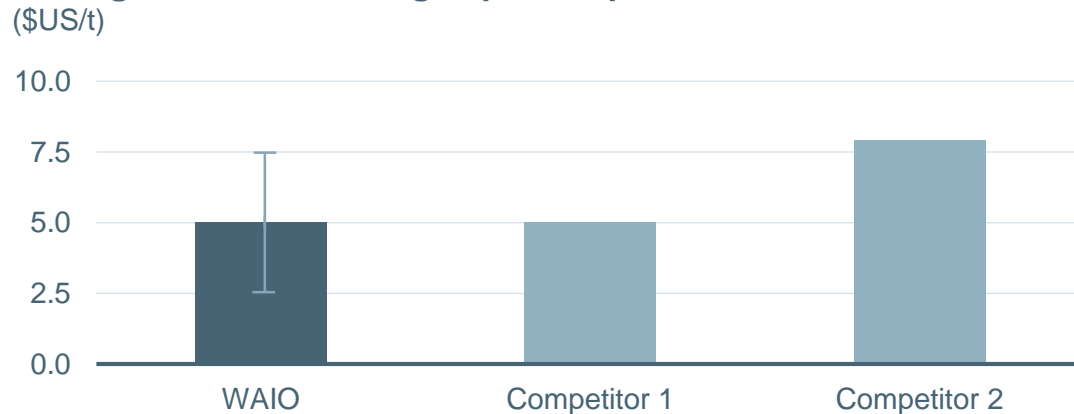


# Sector leading free cash flow performance

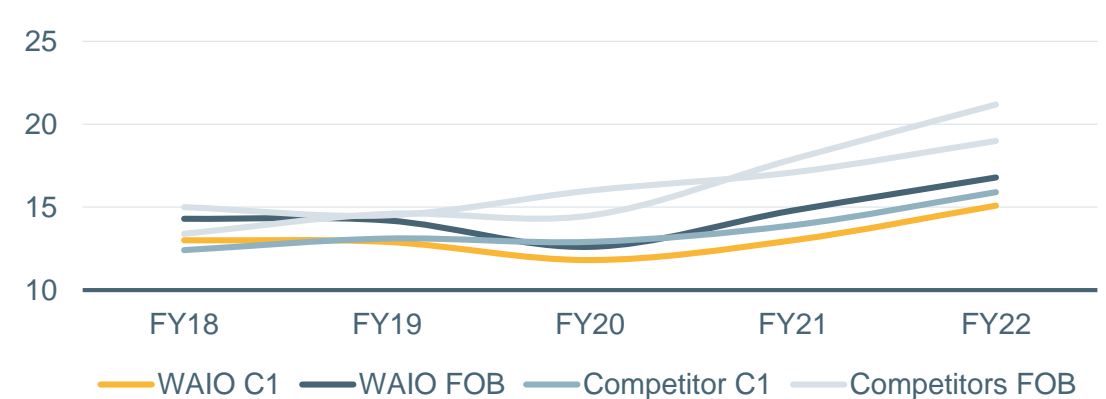
## Lowest cost iron ore producer, with low sustaining capital intensity

- FY23 unit cost guidance of US\$18-19/t FOB, decreasing to <US\$17/t FOB in the medium term (both @ \$0.72 FX)
  - Supply chain reliability, BOS and Operations Services provide strategic advantage
- Low sustaining capital intensity of ~US\$5/t in the medium term (+/- 50% in any given year)
  - Supported by larger ore bodies connecting to four processing hubs

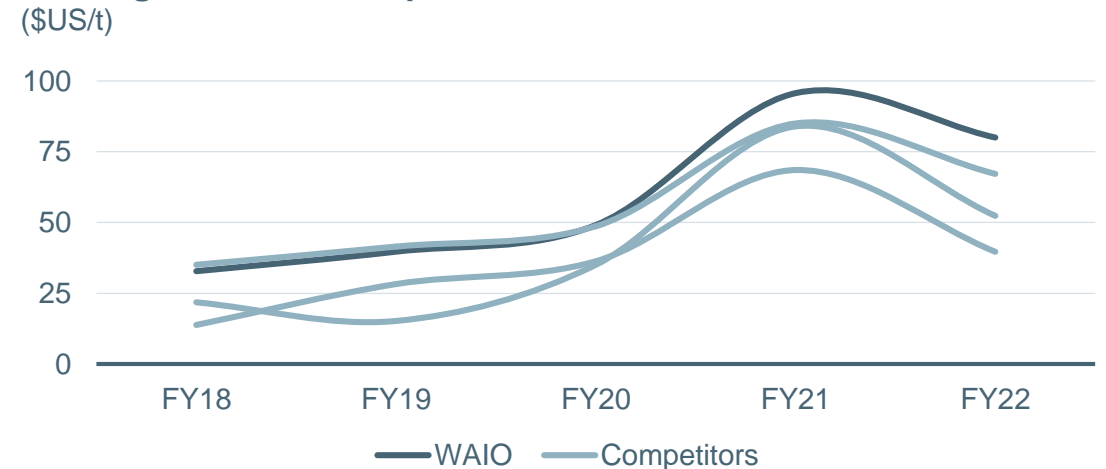
### Among lowest sustaining capital requirements<sup>11</sup>



### Lowest cost producer for four consecutive years<sup>12</sup>



### Leading free cash flow performance<sup>13</sup>





# Technology is a key enabler

Improving safety, equipment reliability and increasing productivity across the value chain

## Autonomous haulage

- Jimblebar and Newman East embedded
- South Flank on track to be completed by end CY23
- Studies underway for Newman West and Mining Area C
- Accelerating autonomous pathway to ~85% in medium term



## Rail Technology Project (RTP)

- Replaces end of life rail signalling systems with new technology
- Moving block technology (communications based train control) to reduce train separation
- Enables material risks reduction



## Shiploader automation

- Currently testing two shiploaders, with plans to fully automate all eight by the end of 2023
- Artificial Intelligence in surveying ships, with world first, 3D laser scan technology
- Eliminating risks from manual operation and reducing loading time



## Value chain integration

- Improvements in scheduling and decision support to optimise flow through the supply chain

# Growing to >300 Mtpa in the medium term

## Focus on debottlenecking the Inflow system (Port and Rail)

- The supply chain is highly interconnected with limited sprint capacity
- Capital intensity of between US\$45 – US\$60/t

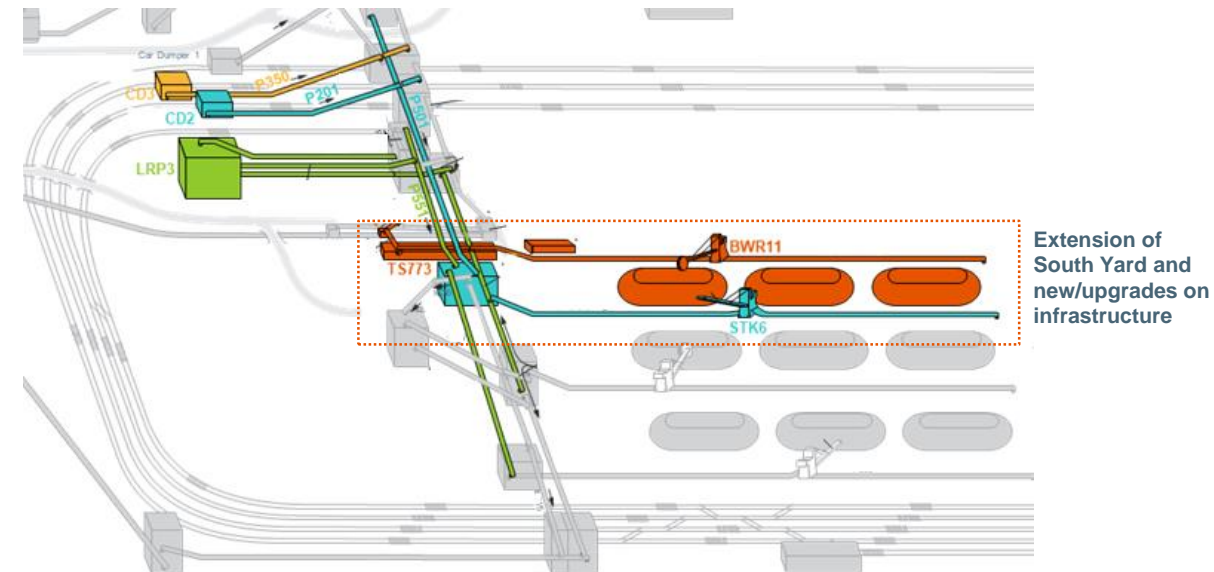
### Port

- Port Debottlenecking Project (PDP1), completion in FY24, includes a yard extension and rate increases on our shiploader routes

### Mines

- South Flank ramped up by FY25
- Potential to utilise latent Yandi infrastructure with proximate orebodies and remnant ore
- Continued productivity improvements supported by BOS and MECoE strategies and progressive roll-out of autonomous haulage trucks

## Phase 1 – Maximising capacity through port five car dumpers system



# Studying options for growth to 330 Mtpa

## Shifting the system constraint to design bottleneck at Outflow (shiploaders)

- Studies expected to be completed in FY25

### Port

- Further debottlenecking the Port, likely through an additional car-dumper, routes and yard expansion

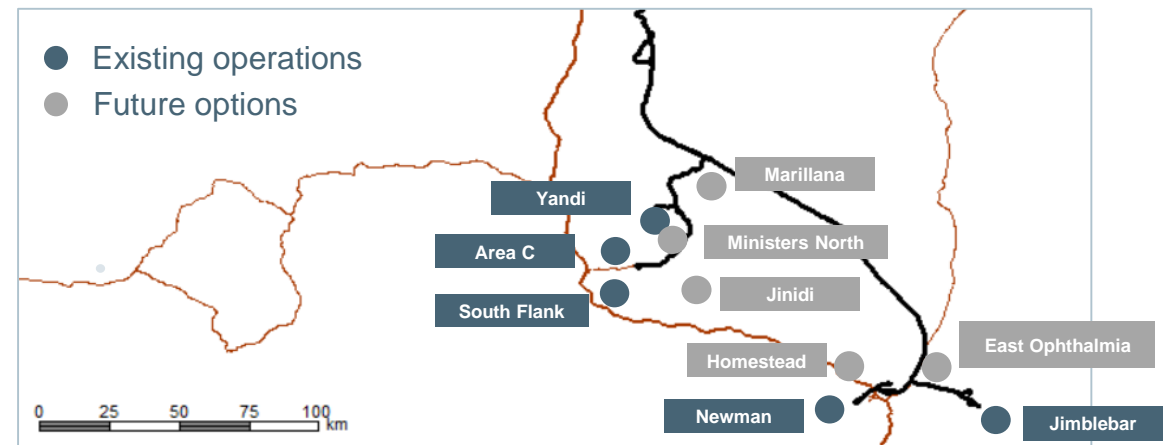
### Rail

- Further rail optimisation, capitalising on reduced train separation from moving block technology
- Increased ore carried per train via longer trains

### Mine

- Ability to leverage existing infrastructure (e.g. Yandi) and beneficiate will be key considerations, trade-off against new processing hub
- Mine options include Ministers North, Jinidi, Homestead, East Ophthalmia and Marillana

## Phase 2: Enable a stable future proof supply chain



# Consistent delivery of superior returns

Safer, lower cost, more reliable, more productive



## Operational excellence

Safe operations

Stable and reliable

Continuous improvement mindset



## Strong margins

Strong price realisations relative to benchmark

Lowest cost iron ore producer<sup>2</sup>

Large, high quality resources close to existing hubs



## Value and returns

Social value embedded in our approach

Clear growth pathway to >300 Mtpa; studies underway for 330 Mtpa

Disciplined capital allocation





**BHP**

# Decarbonisation: operational emissions

**Anna Wiley**

Vice President Planning and Technical

3 October 2022

**Newman**



# Decarbonisation: operational emissions

WAIO is on track to deliver our plans to lower operational emissions, with further upside potential as new technologies emerge

WAIO is one of the lowest carbon intensity iron ore producers globally<sup>4</sup>

Renewable PPA to lower electricity greenhouse gas emissions at Port Hedland by 50%<sup>14</sup>

Yarnima power station to provide firm power while technology evolves

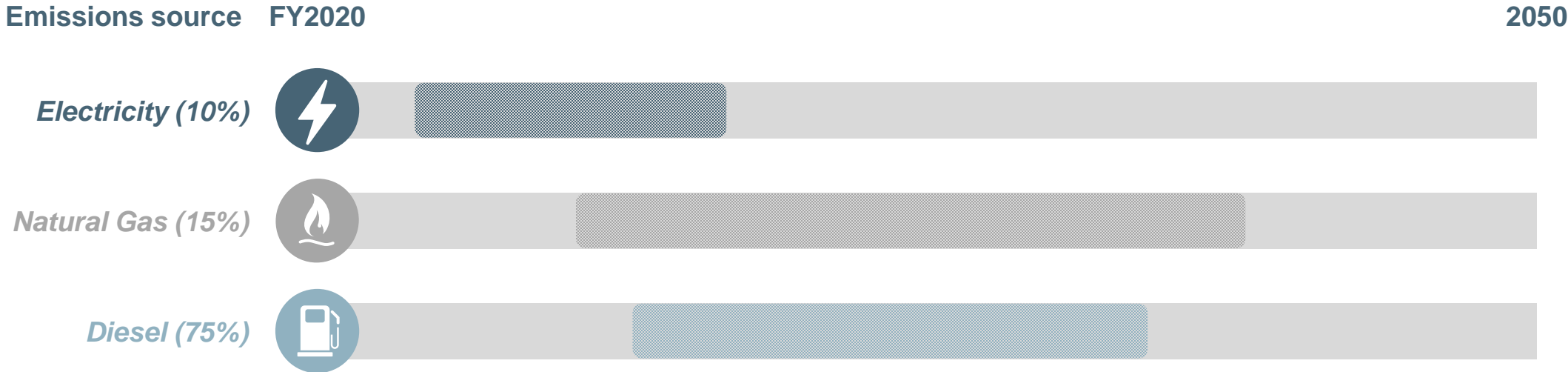
Large proportion of our Pilbara operations' power generation planned to come from renewables by 2040

Working with OEMs to replace our diesel locomotives and trucks with battery electric technology



# WAIO's decarbonisation pathway

Delivering structural abatement of emissions through technological advancement



Our pathway to net-zero is dependent on advancement and feasibility of new technology

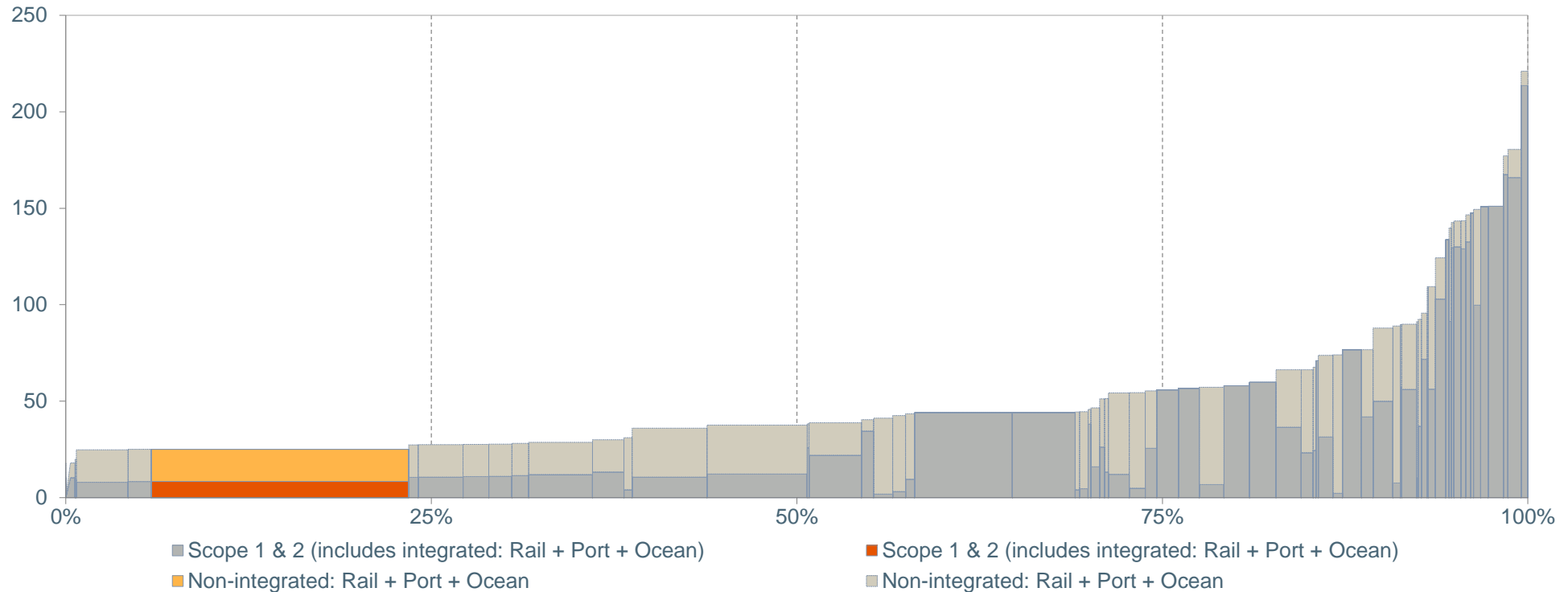
Studies and pilots are critical near-term actions to evaluate the technology options and assess suitability to our operations, we are acting now to set up for the future

Flexibility in the implementation horizon is vital as technologies and renewable markets evolve; this will help to enable the best business decisions to be made in support of long-term emissions reduction

# WAIO is one of the lowest carbon intensity producers

WAIO represents around 22% of BHP's overall operational emissions (Scope 1 and Scope 2)

2021 Carbon Intensity – Seaborne Iron Ore<sup>15</sup>  
(Kilograms CO<sub>2</sub>-equivalent per tonne of iron ore (wet))

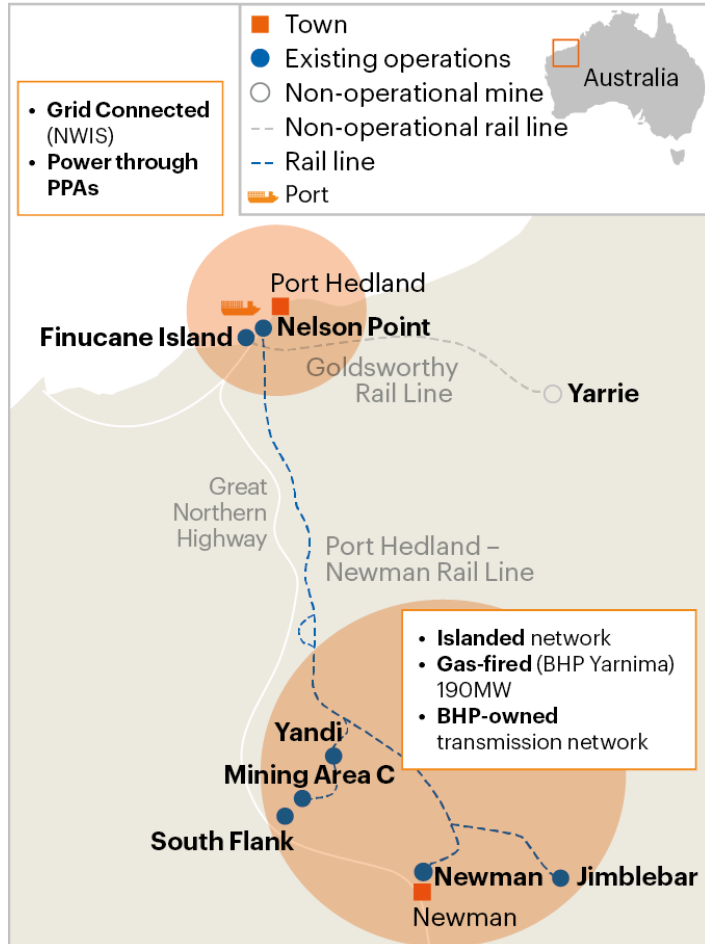


Source: Skarn Associates, BHP.



# New PPA to reduce emissions at Port Hedland

Alinta agreement expected to deliver a 50% reduction in emissions at Port



⚡ ~75 MW demand (Port)  
~150 MW demand (Pilbara)

🌐 ~610 kt CO<sub>2</sub>-e GHG emissions<sup>16</sup>  
(~25% of WAIO total)

## Port

- Integrating a 45 MW solar farm, 35 MW battery energy storage system and low emissions intensity thermal power
- Scheduled to be fully operational in late 2024
- The PPA is expected to deliver cost savings, provide optionality to improve network redundancy and maintain firm power supply as well as providing a 50% reduction in reported emissions from electricity at our Port facilities<sup>14</sup>
- BHP and Alinta Energy have also entered into a memorandum of understanding in relation to the development of the Shay Gap Wind Farm. The Shay Gap Wind Farm is currently planned to be 45 MW, with a potential first-generation date of 2027

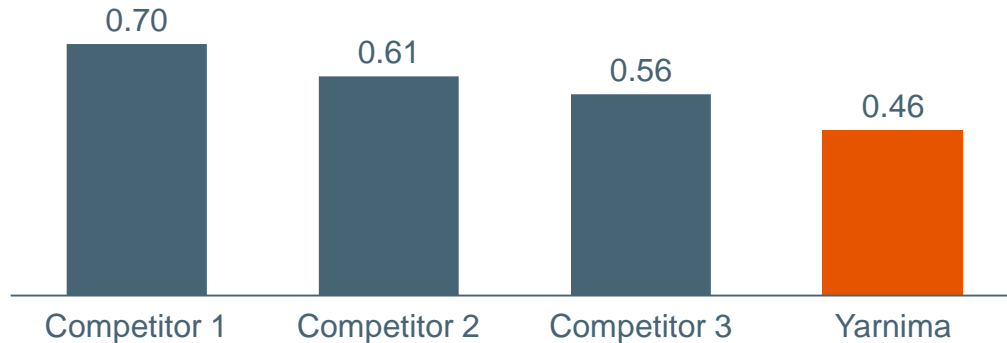
## Pilbara

- Pilbara requires a more complex solution as it is an islanded network

# Our renewable transition will be supported by Yarnima

Our highly efficient Combined Cycle Gas Power Station will provide firm power in the Pilbara

Gas power generation in WA Emission Intensity<sup>17</sup>  
(t CO<sub>2</sub>-e/MWh)



Power generation mix over time

(MWh)

Gas Diesel Renewable

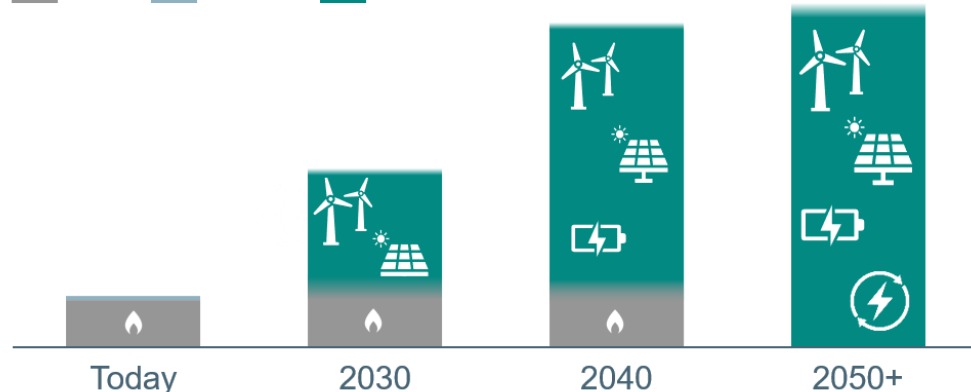


Chart is illustrative only, not to scale

- Yarnima enables the production of reliable gas power while emitting fewer tonnes CO<sub>2</sub> emissions per MWh produced than our competition
- A further ~900 MW of generation will be required to support growth and the power demands of electrification of trucks and locomotives
- By 2040 we intend to have a large proportion of our electricity generated from renewable sources
- Yarnima's future will be assessed as large-scale carbon neutral firm generation options become commercially available
- Our goal is that 100% of electricity generated will come from net zero greenhouse gas emissions sources by 2050

# We are trialling battery electric locomotives

Preparing for the replacement of our diesel powered locomotive fleet



~180 locomotives

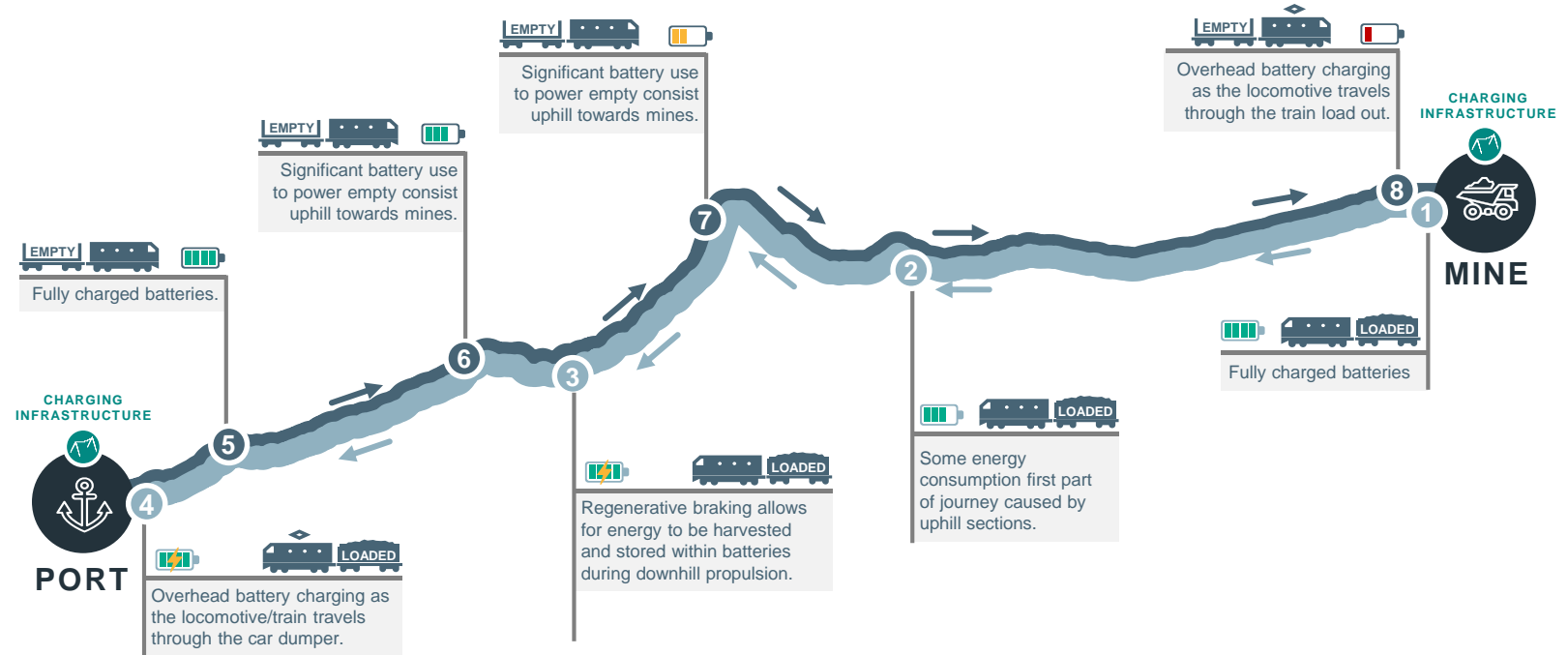


~190 million litres of diesel annually



~490 kt of CO<sub>2</sub>-e GHG emissions (~20% of WAIO total)

- Partnership agreements signed with Wabtec and Progress Rail in January 2022
- Each OEM will supply two battery electric locomotives for an operational trial in Q3 FY2024
- Trial will test the potential of energy recapture using the unique topography of the rail network
- On completion of a successful trial, battery electric locomotives are expected to be delivered from 2027



# Mines will focus on battery electric technology

## Collaborating for large-scale haul truck electrification solutions



~300 haul trucks<sup>18</sup>  
~45 excavators  
~500 ancillary equipment



~500 million litres  
of diesel annually



~1,340 kt CO<sub>2</sub>-e GHG emissions  
(~55% of WAIO total)

- Partnership agreements signed in 2021 with Komatsu and Caterpillar to accelerate development and deployment of Zero Emission Haul Trucks
- Caterpillar battery electric early learner haul truck to be trialled in 2025
- On completion of a successful trial we are aiming for the first battery electric haul trucks to be operational by 2027, with full fleet replaced by mid-2030s
- Where possible current fleet life will be extended to meet the commercialisation of battery electric technology
- Charge-on-Challenge identified need for industry collaboration to standardise charging interfaces for mining equipment





# Decarbonisation: operational emissions

WAIO is on track to deliver our plans to lower operational emissions, with further upside potential as new technologies emerge

WAIO is one of the lowest carbon intensity iron ore producers globally<sup>4</sup>

Renewable PPA to lower electricity greenhouse gas emissions at Port Hedland by 50%<sup>14</sup>

Yarnima power station to provide firm power while technology evolves

Large proportion of our Pilbara operations' power generation planned to come from renewables by 2040

Working with OEMs to replace our diesel locomotives and trucks with battery electric technology



**BHP**

# Footnotes

1. Slide 6: EBITDA Margin presented on a 'continuing operations' basis.
2. Slide 7,22: Based on published unit costs by major iron ore producers, as reported at 30 June 2022.
3. Slide 9: Fatal potential events include High Potential Injuries (HPI) and near miss events.
4. Slide 10,23,30: 2021 Carbon Intensity for Seaborne Iron Ore is detailed on slide 25.
5. Slide 10: Nature positive is defined by the WBCSD / TNFD as "A high-level goal and concept describing a future state of nature (e.g., biodiversity, ecosystem services and natural capital) which is greater than the current state." It includes land and water management practices that halt and reverse nature loss – that is, supporting healthy, functioning ecosystems.
6. Slide 12: BHP FY2022 Annual Report for resource classification, quality and cut-off grade of the Mineral Resources.
7. Slide 12: Based on revised CY2020 life of asset plan, subject to change as growth to 330 Mtpa study progress.
8. Slide 12: Sustaining studies in progress: mines expansion primarily through crusher and conveyor infrastructure; wet processing infrastructure likely required at Newman to manage increasing below water table ore.
9. Slide 13: The increased lump and grade estimates subsequent to the ramp up of South Flank excludes Yandi, which is expected to provide supply chain flexibility for several years.
10. Slide 13: Price performance is based on published average realised pricing, as reported at 30 June 2022.
11. Slide 17: Sustaining capital disclosure for BHP represents the 5 year average +/- 50% in any given year. The competitor data represents the sustaining capital disclosure for FY23 for FMG and CY22 Rio Tinto. Not all major competitors disclose sustaining capital requirements.
12. Slide 17: Competitors include Vale, Rio Tinto and FMG, measured on an annualised based on published half year unit cost measurements.
13. Slide 17: Free Cash Flow (FCF) represents reported EBITDA less capital expenditure as a proxy methodology in the absence of available public data.
14. Slide 23, 27, 30: Based on current forecast demand and compared with FY20.
15. Slide 25: The iron ore emissions intensity curve is based on CY2021 data estimates from Skarn Associates for seaborne iron ore operations. The emissions intensity basis is kilograms of CO<sub>2</sub>-equivalent per tonne of iron ore (wet basis) produced per mine. BHP operations have been aggregated to WAIO level and overlaid with reported BHP data points for CY2021 for: i) iron ore production (wet basis); ii) Scope 1 emissions; and iii) Scope 2 emissions incorporating integrated rail, port and ocean emissions. Non-integrated Port + Rail + Ocean emissions intensity estimates utilise Skarn Associates data across the dataset. In case of WAIO, only the emissions from non-integrated Ocean freight are applicable as Rail & Port emissions are included as part of Scopes 1 and 2 emissions.
16. Slide 26: Includes natural gas emissions (electricity is ~10% of WAIO total, natural gas is ~15%).
17. Slide 27: Sourced from Clean Energy Regulator, Electricity sector emissions and generation data 2020-21. #1 is Newman Power Station, #2 is Solomon Power Station, #3 is West Angelas Power Station
18. Slide 29: Includes all haul trucks of which ~220 are large mining trucks.

# **BHP**

## **Appendix**



# Summary of mining and processing hubs

Joint venture	Processing hub	Mining hub	Main mineral deposits
Mount Newman	Newman operations	Newman	Mount Whaleback, Eastern Ridge, Shovelanna
Jimblebar			Western Ridge
	Jimblebar	Jimblebar	South Jimblebar, Wheelarra, Hashimoto
Yandi	Yandi	Yandi	Yandi (end-of-life ramp down started in July 2021)
Mount Goldsworthy (POSMAC JV holds a sublease over the Mining Area C mine)	Mining Area C	Mining Area C	North Flank, Packsaddle
		South Flank	South Flank (new mine, first production started in May 2021)

**BHP**