Investor Seminar
Performance, strategic direction and shareholder returns
20 October 2021
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<th>AEDT</th>
<th>Topic</th>
<th>Presenter</th>
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<td>08:00 - 08:15</td>
<td>18:00 - 18:15</td>
<td><strong>Strategy and execution</strong></td>
<td>Jakob Stausholm, Chief Executive</td>
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<td>08:15 - 08:40</td>
<td>18:15 - 18:40</td>
<td><strong>Panel</strong></td>
<td>Mark Davies, Chief Technical Officer, James Martin, Chief People Officer</td>
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<td>08:40 - 09:10</td>
<td>18:40 - 19:10</td>
<td><strong>Decarbonisation:</strong> Impact on commodity markets</td>
<td>Vivek Tulpule, Chief Economist</td>
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<td>09:10 - 09:40</td>
<td>19:10 - 19:40</td>
<td><strong>Commercial opportunities from decarbonisation</strong></td>
<td>Alf Barrios, Chief Commercial Officer</td>
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<td>09:40 - 09:55</td>
<td>19:40 - 19:55</td>
<td><strong>Pilbara Iron Ore</strong></td>
<td>Simon Trott, Chief Executive, Iron Ore</td>
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<td>10:15 - 10:35</td>
<td>20:15 - 20:35</td>
<td><strong>Aluminium</strong></td>
<td>Ivan Vella, Chief Executive, Aluminium</td>
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<td>10:35 - 11:00</td>
<td>20:35 - 21:00</td>
<td><strong>Panel</strong></td>
<td>Bold Baatar, Chief Executive, Copper, Mark Davies, Chief Technical Officer</td>
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<tr>
<td>11:00 - 11:10</td>
<td>21:00 - 21:10</td>
<td><strong>Financials</strong></td>
<td>Sinead Kaufman, Chief Executive, Minerals</td>
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<td>11:10 - 11:40</td>
<td>21:10 - 21:40</td>
<td><strong>Q&amp;A session 2</strong></td>
<td>Jakob Stausholm, Chief Executive, Ivan Vella, Mark Davies, Sinead Kaufman</td>
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<tr>
<td>11:40 - 11:45</td>
<td>21:40 - 21:45</td>
<td><strong>Closing remarks</strong></td>
<td>Jakob Stausholm, Chief Executive</td>
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</table>
Jakob Stausholm
Strategy and execution
Outstanding financials but operational improvement needed

Return on Capital Employed

2018: 19%
2019: 24%
2020: 27%
H121: 50%

Copper equivalent production*

2018: 5.2
2019: 5.1
2020: 5.1
H121 annualised: 4.9

*Excludes divested assets
The team

- **Bold Baatar**, Chief Executive, Rio Tinto Copper
- **Alf Barrios**, Chief Commercial Officer
- **Peter Cunningham**, Chief Financial Officer
- **Mark Davies**, Chief Technical Officer
- **Sinead Kaufman**, Chief Executive, Rio Tinto Minerals
- **James Martin**, Chief People Officer
- **Kellie Parker**, Chief Executive, Australia
- **Arnaud Soirat**, Chief Operating Officer
- **Jakob Stausholm**, Chief Executive
- **Simon Trott**, Chief Executive, Rio Tinto Iron Ore
- **Vivek Tulpule**, Chief Economist
- **Ivan Vella**, Chief Executive, Rio Tinto Aluminium

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Four areas of immediate focus

**Best operator**
Expand capability and leadership

**Impeccable ESG credentials**
Strengthen track record and transparency

**Excel in development**
Deliver organic & inorganic growth

**Social Licence**
Earn trust by building meaningful relationships and partnerships

**Our Values**

**Care for**
- People’s safety
- Communities
- Planet

**Courage to**
- Try new things
- Speak up
- Do what’s right

**Curiosity fosters**
- Collaboration
- Learning
- Innovation
The world faces a major challenge

Limited action so far. The world has more than doubled cumulative GHG emissions since the early ‘90’s

Momentum changing. Countries are setting ambitious targets and enacting policies

China, the world’s largest consumer and a significant producer of commodities, has set clear objectives

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Annual global GHG emissions*

Gt CO₂e

+1.3% p.a.

~7% p.a. reduction to achieve net zero agreed under Paris Agreement

**Nationally Determined Contributions**

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The annual decline rate is an illustrative straight-line rate and not a forecast or scenario. | **Nationally Determined Contributions

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A large carbon footprint today

Global commodity value chain carbon emissions and intensities

<table>
<thead>
<tr>
<th>Global</th>
<th>CO₂ emissions</th>
<th>Production</th>
<th>CO₂ intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper*</td>
<td>86 Mt</td>
<td>21 Mt</td>
<td>4 tCO₂/t</td>
</tr>
<tr>
<td>Aluminium*</td>
<td>~1.0 Gt</td>
<td>66 Mt</td>
<td>15 tCO₂/t</td>
</tr>
<tr>
<td>Crude Steel</td>
<td>~3.3 Gt</td>
<td>1,850 Mt</td>
<td>1.8 tCO₂/t</td>
</tr>
</tbody>
</table>

Our 2020 Scope 1 and 2 emissions by operations (equity basis)
Total CO₂e

- Iron Ore
- Copper
- Minerals**
- Aluminium (Pacific)
- Aluminium (Atlantic)
- Bauxite & Alumina

Our 2020 Scope 3 emissions
Total CO₂e

- IOC iron ore
- Bauxite & Alumina
- Other
- Pilbara iron ore

*Primary production | **Iron Ore Company of Canada (IOC) included in Minerals

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All our commodities are vital – today, towards 2050 and beyond

Ongoing population growth and urbanisation provides base demand for metals

Additional demand for all our products from decarbonisation and global energy transition

Often no alternatives to steel, aluminium, copper and minerals from primary sources even with circular economy

Creates opportunities for us to deliver value-adding growth
Delivering our strategy

50% reduction in our emissions by 2030

New targets for our Scope 1 & 2 emissions (Mt CO\textsubscript{2}e equity basis)

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (Mt CO\textsubscript{2}e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018*</td>
<td>32.6</td>
</tr>
<tr>
<td>2025</td>
<td>16.3</td>
</tr>
<tr>
<td>2030</td>
<td>16.3</td>
</tr>
</tbody>
</table>

- Advantaged renewables position
- Accelerate R&D
- ELYSISTM
- Studying Canadian DRI
- High-quality iron ore
- Partnerships
- Crack the code on Pilbara iron ore
- Delivering our Scope 3 goals

~$7.5bn*** investment in decarbonisation from 2022-2030 plus indirect expenditure

Ambition to double investment in growth

Growth to 2030 (multiple of current size)**

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>5.5</th>
<th>3.8</th>
<th>1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>3</td>
<td>28</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Market Size ($bn)

- Lithium 3
- Nickel (Class 1) 28
- Cobalt 4
- Copper 184

Double growth capex up to $3bn per year from 2023

*2018 Scope 1 & 2 emissions baseline has been adjusted for divestments. **Market size is for primary market only. Recycling is expected to take a larger share of total demand in the future for most commodities. ***Conceptual view of capital requirements at October 2021. Marginal Abatement Cost Curves (MACC) will be updated on an annual basis. Sources: Rio Tinto Market Analysis, UBS, CPM Group | DRI = Direct Reduction Iron
Well placed to deliver

We operate in three out of the eleven advantageous regions for renewable energy

Advantaged positions
Large power producer and consumer. Uniquely positioned in advantaged green energy locations – Pilbara, Quebec and Queensland

Assets and people
Long-life orebodies with superior orebody knowledge. Talented workforce

Technology
Metallurgy, geology, mining equipment, processing, energy

Cash flow and balance sheet
Disciplined capital allocation. Cash flow through cycle. Ability to invest and pay an attractive dividend – in line with our policy

*RES = Renewable Energy System
Vivek Tulpule
Decarbonisation: Impact on commodity markets
Transitioning towards net zero emissions

Low-carbon policies
- Net zero by 2050¹
- Net zero by 2050²
- Carbon neutral by 2060³

Scrap use
Cannibalises some demand for primary material

<table>
<thead>
<tr>
<th>Material</th>
<th>Scrap Use Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al</td>
<td>4-6%</td>
</tr>
<tr>
<td>Steel</td>
<td>1-3%</td>
</tr>
<tr>
<td>Cu</td>
<td>3-4%</td>
</tr>
</tbody>
</table>

Annual growth to 2040

Electrification
2.5x electrification growth from now to 2050 in net zero scenario
Average per capita electricity demand will more than double

Renewables
Renewable energy from 10% to 70% of energy mix by 2050
- 16x wind increase
- 30x solar increase

Power storage
Battery capacity additions for electric vehicles will grow over 30x by 2050
Stationary storage will grow with intermittent renewable generation

Hydrogen
A critical part of the fuel mix in industry and heavy transport
6% of final energy mix by 2050

¹ EU Updated Nationally Determined Contribution (NDC), Dec 2020, United Nations Framework Convention on Climate Change (UNFCCC) ² As per section 4.a(i).b, The United States of America Nationally Determined Contribution, April 21 2021 ³ Official Statement in 75th Session of The UN General Assembly, Sep 2020 Source: Net zero statistics from International Energy Association (IEA)
All our commodities are vital – today, towards 2050 and beyond

Green aluminium lowers carbon input

Green steel supporting low-carbon urbanisation

Copper supports rapid renewable electrification

Lithium is an essential battery technology mineral

<table>
<thead>
<tr>
<th>Al</th>
<th>B</th>
<th>Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium</td>
<td>Boron</td>
<td>Copper</td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fe</th>
<th>Li</th>
<th>Ti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>Lithium</td>
<td>Titanium</td>
</tr>
<tr>
<td>26</td>
<td>3</td>
<td>22</td>
</tr>
</tbody>
</table>
China is targeting peak emissions by 2030

- **Electricity:** new aluminium smelter tariff rumoured to rise 50% from RMB 250/MWh to RMB 375/MWh
  - **Aluminium:** 57% capacity closed or idled
  - **Steel:** 50% production affected

- **Electricity:** power tariff for aluminium smelters and coking plants to increase by RMB 300/MWh to RMB 611/MWh
  - **Aluminium:** 4% curtailed since Feb
  - **Steel:** 60% production affected

- **Electricity:** initiate floating price of power by introducing an escalator of RMB 15/MWh for every RMB 50/t increase in coal price
  - **Aluminium:** downstream facilities open only 2 days per week
  - **Steel:** 20% production affected

- **Electricity:** peak time prolonged to 7 hours per day and tariff for peak hours in summer lifted by 25% vs. original tariff
  - **Aluminium:** downstream facilities open only 2 days per week
  - **Steel:** 20% production affected

- **Electricity:** initiate floating price of power by introducing an escalator of RMB 15/MWh for every RMB 50/t increase in coal price
  - **Aluminium:** downstream facilities open only 2 days per week
  - **Steel:** 20% production affected

- **Electricity:** power tariff for aluminium smelters and coking plants to increase by RMB 300/MWh to RMB 611/MWh

- **Aluminium:** 27% capacity at risk
  - **Steel:** 10% production affected

- **Aluminium:** 22% instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Aluminium:** 27% capacity at risk
  - **Steel:** 10% production affected

- **Aluminium:** 44% capacity closed and idled
  - **Steel:** 10% production affected

- **Aluminium:** 6% capacity start curtailment since September
  - **Steel:** 40% production affected

- **Aluminium:** 14% capacity instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Aluminium:** 22% instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Electricity:** small-sized downstream facilities closed till Sep end
  - **Steel:** 30% capacity affected

- **Aluminium:** 22% instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Electricity:** new aluminium smelter tariff rumoured to rise 50% from RMB 250/MWh to RMB 375/MWh
  - **Aluminium:** 57% capacity closed or idled
  - **Steel:** 50% production affected

- **Electricity:** power tariff for aluminium smelters and coking plants to increase by RMB 300/MWh to RMB 611/MWh
  - **Aluminium:** 4% curtailed since Feb
  - **Steel:** 60% production affected

- **Aluminium:** 22% instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Aluminium:** 27% capacity at risk
  - **Steel:** 10% production affected

- **Aluminium:** 22% instructed to close due to energy controls
  - **Steel:** 10% production affected

- **Electricity:** peak time prolonged to 7 hours per day and tariff for peak hours in summer lifted by 25% vs. original tariff
  - **Aluminium:** downstream facilities open only 2 days per week
  - **Steel:** 20% production affected

- **Electricity:** new aluminium smelter tariff rumoured to rise 50% from RMB 250/MWh to RMB 375/MWh
  - **Aluminium:** 57% capacity closed or idled
  - **Steel:** 50% production affected
Competitive advantage for low-carbon smelters

Aluminium smelter all-in cash costs
(Real US$2021 per tonne)

Hydro

- 2021e: $1,190
- 2030: $1,420
- Carbon costs: $330
- Power costs: $100/t
- Other costs: $290

Coal

- 2021e: $1,650
- 2030: $2,630
- Carbon costs: $700
- Power costs: $700
- Other costs: $770

Carbon price assumption:
- Carbon price assumption: $100/t
- Carbon cost: $1490
- Power cost: $750
- Other costs: $770

60% of world’s aluminium production in 2020 powered by coal

China accounted for ~75% of capacity growth over 2010-20

Carbon intensity of coal smelters is over 7x that of hydro smelters

Inert anodes could enable zero-carbon smelting

All non-carbon costs are regional weighted averages from CRU, 2021 (long-run uses 2030 costs). Hydro costs are based on a weighted average of Canadian smelters. Coal costs are based on a weighted average of coal-fired Chinese smelters. Costs do not include CO2 charges from alumina refineries.
Green steel structures can reduce emissions

Building construction is responsible for about 30% of China’s carbon emissions.

New China building code will require higher seismic precautionary intensity.

A shift to green construction and steel structures will reduce carbon emissions by ~60%.

Moving to steel structures contributes up to a third of the total emissions reduction.

Steel intensity of construction increases by ~45-80% across low to high rise buildings.

Source: Tsinghua School of Civil Engineering, 2021. Green construction with steel structures includes the shift to green concrete and green steel in addition to the move from current reinforced concrete structures to steel structures.
Decarbonisation is a big driver of copper demand

Additional green demand expected to account for over one quarter of total demand in the net zero carbon scenario

Rapid electrification of grid adds ~5Mt in copper demand by 2050

Solar and wind generation consume ~3-6 tonnes of copper per MW respectively vs ~1 tonne per MW for thermal power

Electric vehicles contain ~80kg of copper vs 20kg in an internal combustion engine

Net additional demand* in a net zero carbon scenario

Net demand after deducting copper consumption using traditional technologies in these segments. Net zero carbon scenario is an internal based view where developed countries reach net zero emissions by 2050, large emerging markets, including China, by 2060 and all other countries by 2070. Average intensity data from International Copper Association (ICA). *Global semis

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Significant supply gap emerging for lithium

By 2030, electric vehicles will account for up to 55% of annual light vehicle sales

Lithium is the preferred material in electric vehicle batteries and has potential upside in emerging solid state battery chemistry

Supply gap will require over 60 Jadar projects

- Committed supply and capacity expansions contribute ~15% to demand growth over 2020-50
- Remaining 85% would need to come from new projects

Lithium demand and supply in net zero carbon scenario
(Multiple of 2020 demand levels, Lithium Carbonate Equivalent)

Net zero carbon scenario is an internal based view where developed countries reach net zero emissions by 2050, large emerging markets, including China, by 2060 and all other countries by 2070.
Energy and industrial transition drives demand for our products

Limiting the impact of climate change requires a green revolution

This social-industrial change will profoundly shift the energy and industrial landscape

Green metals and minerals will be key enablers
Mark Davies

Decarbonising our own business and the impact of green steel

ISAL Aluminium smelter, Iceland
Our Scope 1 & 2 carbon footprint today

<table>
<thead>
<tr>
<th>Source</th>
<th>2020 (Mt CO₂e)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity (purchased and generated)</td>
<td>8.5</td>
<td>45%</td>
</tr>
<tr>
<td>Anodes and reductants</td>
<td>6.0</td>
<td>25%</td>
</tr>
<tr>
<td>Process heat</td>
<td>4.4</td>
<td>18%</td>
</tr>
<tr>
<td>Diesel</td>
<td>2.2</td>
<td>12%</td>
</tr>
</tbody>
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Total: 31.5 Mt CO₂e

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Taking actions to address our emissions

**Electricity**
Growing renewables from 75%¹
- Gudai-Darri (34MW), QMM (20MW) and Weipa (4MW)
- Large scale (1GW) Pilbara renewables
- Switching Boyne Island and Tomago smelters to renewables
- Signed statement of cooperation with Queensland Government

**Anodes & Reductants**
Developing technologies
- Construction of first ELYSISTM commercial-scale cell at Alma
- Increasing R&D

**Process heat**
Redesigning processes
- Yarwun hydrogen calcination pilot
- Plasma torches trials

**Diesel**
Partnering with industry
- Komatsu and Caterpillar zero-emission truck partnerships
- Charge On Innovation Challenge

**Offsets**
Building capacity and capability including new technology partnerships

¹Share of renewables in 2020 across our managed operations
Raising our decarbonisation target from 15% to 50% by 2030

Accelerate delivery of existing 15% emissions reduction target to 2025

2030 target from 15% to 50% reduction

Increase decarbonisation investment of our own assets to ~$1.5bn over next three years and total investment of ~$7.5bn from 2022 to 2030***

Incentivise MACC projects with internal carbon price of $75/t CO₂ initially

*2018 Scope 1 & 2 emissions baseline has been adjusted for divestments. | **Marginal abatement cost curve, see slide 28 | ***Conceptual view of capital requirements at October 2021. MAC curves will be updated on an annual basis | ****Includes energy efficiencies, ELYSISTM and carbon offsets
Switching the Pilbara to renewables

Rapid deployment of ~1GW solar and wind renewables, supported by storage

Abates ~1Mt CO₂ Scope 1 emissions, mostly from gas-based power for fixed plants

Full electrification and decarbonisation of Pilbara system require further deployment of renewables at scale

Exploring development partnerships

<table>
<thead>
<tr>
<th>MW installed renewables</th>
<th>To replace gas power and early electrification</th>
<th>Fully displace diesel in rail and mobile fleet</th>
</tr>
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<tbody>
<tr>
<td>First Gigawatt</td>
<td><img src="chart.png" alt="Chart" /></td>
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<tr>
<td>Natural gas repowering</td>
<td><img src="chart.png" alt="Chart" /></td>
<td><img src="chart.png" alt="Chart" /></td>
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<tr>
<td>Diesel repowering</td>
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## Progressing renewable power options for Australian smelters

<table>
<thead>
<tr>
<th>Assets in coal-based grids</th>
<th>Ownership</th>
<th>Power (100% basis)</th>
<th>Contract expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomago smelter</td>
<td>51.6%</td>
<td>960MW (demand)</td>
<td>2028</td>
</tr>
<tr>
<td>Boyne Island smelter</td>
<td>59.4%</td>
<td>810MW (demand)</td>
<td>2029</td>
</tr>
<tr>
<td>Gladstone power station</td>
<td>42.1%</td>
<td>1,680MW (capacity)</td>
<td></td>
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Catalyst for regional renewable energy deployment and development of industry

Signed Statement of Cooperation with Queensland Government

Requires deployment of 5GW+\(^1\) of solar and wind power with robust firming solution

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\(^1\) Equity share
Accelerating current abatement projects

Our Marginal Abatement Cost Curve for Scope 1 & 2 emissions
(excl. Pilbara and Pacific Operations repowering, ELYSISTM, energy efficiency and carbon offsets)

As of 30 September 2021

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Developing green products for our customers

By source

- Pilbara iron ore: 363 Mt CO₂e
- IOC iron ore: 13 Mt CO₂e
- Bauxite and alumina: 116 Mt CO₂e
- Other: 27 Mt CO₂e

By region

- China: 390 Mt CO₂e
- Japan: 44 Mt CO₂e
- South Korea: 17 Mt CO₂e
- EU: 8 Mt CO₂e
- Other: 61 Mt CO₂e

Scope 3 goals

1. Technology for reductions in steelmaking carbon intensity of at least 30% from 2030
2. Breakthrough technologies to deliver carbon neutral steelmaking pathways by 2050
3. Anticipate that ELYSISTM technology will reach commercial maturity in 2024
4. Net zero emissions from shipping our products by 2050
### A shift to greener steelmaking technologies

<table>
<thead>
<tr>
<th>Short-term / partial decarbonisation</th>
<th>Medium / Long-term / net-zero potential</th>
<th>New technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF / BOF</td>
<td>BF optimisation + CCUS</td>
<td>Direct Smelting</td>
</tr>
<tr>
<td>Lump / pellet high-grade iron ore</td>
<td>Biomass pig iron&lt;sup&gt;1&lt;/sup&gt;</td>
<td>New iron and steelmaking electric furnace</td>
</tr>
<tr>
<td>Hydrogen (H&lt;sub&gt;2&lt;/sub&gt;) injection</td>
<td></td>
<td>Electrolysis</td>
</tr>
<tr>
<td>DR / EAF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrap</td>
<td>Green H&lt;sub&gt;2&lt;/sub&gt; direct reduction&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Natural gas direct reduction</td>
<td>Green H&lt;sub&gt;2&lt;/sub&gt; direct reduction + melter&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

**Driving need for high-quality iron ore**

<sup>1</sup> These products can be used in an EAF or BOF. | BF = Blast furnace, BOF = Basic oxygen furnace, DR = Direct reduction, EAF = Electric arc furnace, CCUS = carbon capture, utilisation and storage

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Our focus areas for iron and steel decarbonisation

<table>
<thead>
<tr>
<th></th>
<th>Future pathways for Pilbara iron ore</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blast furnace optimisation</td>
</tr>
<tr>
<td>2</td>
<td>Pilbara beneficiation</td>
</tr>
<tr>
<td>3</td>
<td>Low-carbon research project</td>
</tr>
<tr>
<td>4</td>
<td>H₂ DRI and melter</td>
</tr>
<tr>
<td>5</td>
<td>Simandou</td>
</tr>
<tr>
<td>6</td>
<td>H₂ DRI Canada</td>
</tr>
</tbody>
</table>

- **1 Blast furnace optimisation**: Multiple projects
- **2 Pilbara beneficiation**: CSIRO / Universities
- **3 Low-carbon research project**: Pilbara pathway 1
- **4 H₂ DRI and melter**: Pilbara pathway 2
- **5 Simandou**: High-quality iron ore
- **6 H₂ DRI Canada**: Project – study phase

**Customer partnerships**

We have a dedicated steel decarbonisation team

DRI = Direct reduction iron, CSIRO = Commonwealth Scientific and Industrial Research

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Alf Barrios

Commercial opportunities from decarbonisation

Amrun, Queensland
# Sustainable future across the value chain

Leveraging insights across the value chain

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Customers</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Markets</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Communities</strong></td>
<td></td>
</tr>
</tbody>
</table>

1. Partnering with our suppliers and developing sustainable supply chains
2. Working together with our customers to provide products & services for a more sustainable future
3. Innovating with our customers to enable them to decarbonise
Partnering with suppliers and developing sustainable supply chains

Driving innovation through supplier partnerships

- Collaborating on a mining decarbonisation pathway
  - 2025 Piloting zero emission trucks and locomotives
  - 2030 No new diesel-powered trucks and locomotives
  - Supporting local and Indigenous supplier development

Accelerating shipping decarbonisation

- Reduced emissions intensity\(^1\) >30% by end 2021, vs IMO target of 40% by 2030
- Chartered 9 LNG dual-fuel Newcastlemax vessels\(^2\)
- Net zero emission vessels by 2030

\(^1\) From our own and time chartered fleet | \(^2\) Delivery from H2 2023
IMO: International Maritime Organisation, LNG: Liquified Natural Gas
Working with customers to meet societal demands

Government policy and markets responding to end-user demand

ESG transparency through START

- Transparency and traceability from mine to market
- Secure platform, built on blockchain
- Enabling consumers to make ESG-informed decisions, beyond carbon
Solutions for a more sustainable future

Products for a greener world
- Aluminium alloys for giga-casting in electric vehicle manufacturing
- Collaborating with InoBat across the full lithium lifecycle, from mining through to recycling

Circular solutions to reduce emissions
- Partnering with ABInbev to reduce emissions from packaging
- Multi-product collaboration with Schneider Electric for infrastructure and electric vehicles
- Optimising market placement for critical minerals (Li, Sc, Te, Se) extracted from our waste streams

Li = Lithium, Sc = Scandium, Te = Tellurium, Se = Selenium
Pilbara Iron Ore set for even stronger performance

14 new growth mines since 1999
Port expansion towards 360Mt, industry-leading automation
Underpinned by key acquisitions and introduction of Pilbara Blend

1999 - 2013
China expansion

2014 - 2021
Consolidation

2021+
Refocus our future

Build on outstanding financial performance
Transform our safe operating performance
Deliver new mines
Create value with our partners
Position Pilbara for green steel

Shipments (Mt, 100%)
### Raising our system capacity

System capacity will be delivered by:

- Rio Tinto Safe Production System driving improved productivity
- Improved interface efficiencies across mine, plant, rail and ports
- Modest capital investment, including two additional rail consists

Requires commissioning of replacement mines, including Western Range, Bedded Hill Top and Hope Downs 2 and Brockman Syncline 1 to reach and sustain capacity

<table>
<thead>
<tr>
<th></th>
<th>Prior best performance</th>
<th>Estimated Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max month* Mt</td>
<td>Max quarter* Mt</td>
</tr>
<tr>
<td>Mine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>370</td>
<td>349</td>
</tr>
<tr>
<td>Rail</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>362</td>
<td>351</td>
</tr>
<tr>
<td>Ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>393</td>
<td>357</td>
</tr>
<tr>
<td>System</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>362</td>
<td>351</td>
</tr>
</tbody>
</table>

*Annualised rates | ** Mid-term defined as upon completion of the next tranche of new and replacement mines
## Mine productivity to mitigate higher work index

### The work index of our mining operations is increasing

<table>
<thead>
<tr>
<th>Material movement (Bt)</th>
<th>Effective flat haul* (km)</th>
<th>Work index (Bt.km)</th>
<th>Below water table mining (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 1.2 1.4</td>
<td>11 14 15</td>
<td>12 17 21</td>
<td>36% 42% 33%</td>
</tr>
</tbody>
</table>

*Average haul distance travelled by each truck – adjusted for gradient

### Initial gains in productivity – targeting further improvement

<table>
<thead>
<tr>
<th>Truck EU (Index 2018 = 100)</th>
<th>Payload (Index 2018 = 100)</th>
<th>Digger MTBF (Index 2018 = 100)</th>
<th>Dewatering** (Index 2018 = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 105 115</td>
<td>100 105 106</td>
<td>100 126 135</td>
<td>100 109 117</td>
</tr>
</tbody>
</table>

** Dewatering volumes increase as pit deepens

EU = Effective utilisation, MTBF = Meantime between failure

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Adjusting our operating practices to protect heritage

Heritage site example

Responding to new information

A. 70 metre exclusion zone | B. 200 metre blast management zone | C. 350 metre blast management zone
## Improving plant performance

### Maintenance impacted by labour constraints

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

Hours, Index 2019 = 100

- COVID-19 restrictions impacted available labour in 2020 reducing maintenance hours
- 2021 labour availability improved but still constrained

### Increased planned shutdowns

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td>114</td>
<td></td>
</tr>
</tbody>
</table>

Hours, Index 2019 = 100

### Stabilising and addressing maintenance backlog

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Outstanding hours, Index 2019 = 100

Focus areas to address maintenance backlog:
- Shutdown alignment across system
- Improved maintenance tactics and simplified maintenance schedules
- Improved conveyor reliability though better rock breaking and targeted asset improvements
- Completing the brownfield mine tie-ins will further improve plant performance
Maximising productivity from port and rail

**Rail performance**

Focus on asset health, including ballast and turnout replacement

AutoHaul delivering operational and safety improvements:
- Reduction in driver change-over delays from 90 minutes per train to zero
- One in 250 journeys require a driver to operate the train
- Reduction of 1.5 million kilometres each year in light vehicle travel

**Track speed restrictions cycle time impact**

<table>
<thead>
<tr>
<th></th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21F*</th>
<th>22-24</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>232</td>
<td>132</td>
<td>121</td>
<td>110</td>
<td>&lt;100</td>
</tr>
</tbody>
</table>

**Port productivity**

Our ports are our competitive advantage

Focus areas:
- Optimising shut durations for capacity needs
- Reclaimer replacements 2024+
- High density ore upgrades 2022+
- Car Dumper 1 at Cape Lambert end of life 2022

**Weekly outload capacity in Q3 2021**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

*At October 2021 | **Includes all full and partial weeks in Q3 2021
### How we are improving our business

<table>
<thead>
<tr>
<th>Focus area</th>
<th>Operational Readiness</th>
<th>Rio Tinto Safe Production System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commission and ramp up new assets</td>
<td>Reduce wait for feed at the crusher</td>
</tr>
<tr>
<td></td>
<td>Gudai-Darri</td>
<td>Reduce materials handling losses</td>
</tr>
<tr>
<td></td>
<td>Robe Valley Sustaining</td>
<td>Reduce fixed plant unscheduled loss</td>
</tr>
<tr>
<td></td>
<td>West Angelas C&amp;D</td>
<td>Improve rail capacity and resilience</td>
</tr>
<tr>
<td></td>
<td>Western Turner Syncline Phase 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Priorities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value chain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mine</td>
<td>Rail</td>
</tr>
<tr>
<td></td>
<td>Port</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Focus area:**
  - Commission and ramp up new assets
  - Gudai-Darri
  - Robe Valley Sustaining
  - West Angelas C&D
  - Western Turner Syncline Phase 2

- **Operational Readiness:**
  - Reduce wait for feed at the crusher
  - Dewatering
  - Drill and blast
  - Load and haul

- **Rio Tinto Safe Production System:**
  - Reduce materials handling losses
  - Fragmentation
  - Feed strategy
  - Engineering and technology
  - Conveyor reliability
  - Shutdown productivity
  - Asset management
  - Digital and technology

- **Value chain:**
  - Mine
  - Rail
  - Port
Operating and sustaining capital cost outlook

Outlook for 2022

2021 cost guidance of $18-18.5/t

Cost pressures continue:
- Work index increase of 12% (from 2021 forecast)
- Continued investment in asset health and reliability
- Tight labour market driving higher rates
- Diesel price (+23%, 2021F v 2020)
- Cost of materials due to strong construction market and COVID-19 restrictions

Investing in our assets

Key focus areas:
- Asset reliability
- Plant and rail asset health
- Accommodation / camps
- Systems including IT

Sustaining capital investment (US$bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Pilbara Iron Ore</th>
<th>Peers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>~1.5</td>
<td></td>
</tr>
</tbody>
</table>

*Unit cost for peers are based off publicly available sales, revenue and EBITDA data, with adjustments made for comparison to RTIO’s reporting method and products.

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Mine project pipeline

High volume of environmental approvals for new mines

Studies being progressed. Commissioning from 2025:
- Western Range
- Bedded Hill Top and Hope Downs 2
- Brockman Syncline 1

Approvals timeline risk has increased
Ongoing focus on quality and product mix

Shipments by product (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>SP10</th>
<th>RV</th>
<th>HIY</th>
<th>PBL</th>
<th>PBF</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY19</td>
<td>45%</td>
<td>24%</td>
<td>17%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>FY20</td>
<td>47%</td>
<td>23%</td>
<td>17%</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>YTD 21</td>
<td>45%</td>
<td>20%</td>
<td>18%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>FY24F</td>
<td>45%</td>
<td>27%</td>
<td>13%</td>
<td>10%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Consistent quality remains key for our Pilbara Blend. Demand remains strong, and will continue to underpin our product strategy.

Pilbara Blend quality maintained by:
- Blending different ore sources to tight specifications
- Producing lower quality products (including SP-10) as required

RV = Robe Valley, PBL: Pilbara Blend Lump, PBF: Pilbara Blend Fines | 2021 YTD at 30 September 2021
Positioning Pilbara ores in a green steel world

Working with customers to decarbonise the blast furnace mostly capped at ~20-30% emission reduction

Options to more cost effectively beneficiate Pilbara ores are being developed

Working on new processing routes to crack the code for Pilbara ores

Two examples shown – both early stage development but showing promise

Steel making process routes to move to ‘net neutral’

### Pilbara Pathway 1: Low-carbon research project

Raw materials: Iron Ore, Sustainable Biomass

Ironmaking: Green Iron Process, Electric Furnace

Steelmaking: Basic Oxygen Furnace, Electric Arc Furnace

### Pilbara Pathway 2: H₂ Hot Briquetted Iron + melter

Raw materials: Iron Ore, Hydrogen

Direct Reduction Ironmaking: Shaft Furnace, Fluidised Bed

Steelmaking: Basic Oxygen Furnace, Electric Arc Furnace
Strengthening partnerships

Traditional Owners
Working together to build a better future through employment, business and caring for country and culture
Embedding cultural competency and heritage management into The Way We Work
Asset General managers now responsible for Traditional Owner relationships
Modernising agreements

Local Communities
Supporting thriving communities through economic development and employment:
- Direct shipping into Dampier
- Automation qualifications and education pathways
Partner with State Government to provide logistics support for COVID-19 vaccinations across the Pilbara

Western Australia
Building local capacity - using local suppliers to build rail ore cars, a first in the industry
Long-term partnerships and outcomes such as the partnership with Royal Flying Doctor Service

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Becoming the most valued resource business

Best operator
Transform our safe operating performance
Empower our workforce through Rio Tinto Safe Production System

Impeccable ESG credentials
Position Pilbara for green steel
Decarbonise the Pilbara and position our ores to participate in Green Steel

Excel in development
Deliver new mines of the future
Optimise Pilbara capacity, product mix and development sequence

Social licence
Create value with our partners
Connect, partner and restore trust with the community

People at our heart
Shift from ‘asset focus’ to ‘people focus’

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Over a hundred years of aluminium expertise

Engineering excellence

Technological expertise

Partnership and innovation
A structurally advantaged integrated business

### Bauxite
- 4 bauxite mines
- 56.1Mt* 
  - Australia, Brazil and Guinea

### Alumina
- 4 alumina refineries
- 8.0Mt* 
  - Australia, Brazil and Canada

### Energy
- 7 hydro plants
- 4.1GW

### Aluminium
- 14 aluminium smelters, 80% renewables
- 3.1Mt* 
  - Australia, Canada, Iceland, New Zealand and Oman

*2020 production
The most profitable integrated Aluminium business

Historic supply growth created challenging conditions
Mt

Integrated Upstream¹ EBITDA Margin (%)

Integrated EBITDA Margin & ROCE (%)

¹Upstream assets includes bauxite, alumina and primary metal

Source: Rio Tinto Market Analysis and peer disclosures
Proven operational resilience

Global All Injury Frequency Rate

Pot Productivity*
Tonnes per operating pot per day

Asset Utilization rate
Casthouse*

*Atlantic managed operations
Continuing to improve our business

1st decile hydro-powered smelters*

Positioned for low CO₂ metal demand
Access to structurally short US market

Optimising business through data analytics and advanced process control

Saguenay integrated operations centre

1st quartile bauxite mines leveraging R&D

Processing technology development in the areas of impurities

Exploratory work on alternative technologies for silica

Processing technology to reduce product moisture

Automating our casting process

Using machine learning and automation to maximise scrap remelting opportunities

Further leveraging data analytics

Flex power – modulating smelter power demand

*Includes managed operations in Saguenay region.
**9 months annualised
Potential for positive structural change in the market from energy and smelting caps in China

Aluminium supply by source (global)
Mt

CAGR: 6.8%
CAGR: 4.2%
CAGR: 2.6%

Primary Aluminium supply (China)
Mt

China Primary Aluminium Supply, Mt

Weeks of consumption

Sources: Rio Tinto Market Analysis, CRU, IAI.
Renewables include hydropower and other renewables. Non-Renewables include coal, gas, and nuclear.
New coal-powered smelting likely to be challenged

Total metal required*
Mt

<table>
<thead>
<tr>
<th>Year</th>
<th>Recycled (Mt)</th>
<th>Primary (Mt)</th>
<th>Total (Mt)</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>25</td>
<td>63</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>36</td>
<td>75</td>
<td>111</td>
<td>3.3%</td>
</tr>
<tr>
<td>2030</td>
<td>43</td>
<td>79</td>
<td>122</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Aluminium smelter all-in cash costs
(Real US$2021 per tonne)

Hydro

<table>
<thead>
<tr>
<th>Year</th>
<th>2021e</th>
<th>2030 $50/t</th>
<th>2030 $100/t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$330</td>
<td>$290</td>
<td>$290</td>
</tr>
</tbody>
</table>

Coal

<table>
<thead>
<tr>
<th>Year</th>
<th>2021e</th>
<th>2030 $50/t</th>
<th>2030 $100/t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$700</td>
<td>$770</td>
<td>$770</td>
</tr>
</tbody>
</table>

Carbon price assumption

Carbon costs
Power costs
Other costs

Sources: Rio Tinto Market Analysis, CRU
*Global semis production including melt loss

All non-carbon costs are regional weighted averages from CRU, 2021 (long-run uses 2030 costs). Hydro costs are based on a weighted average of Canadian smelters. Coal costs are based on a weighted average of Chinese smelters from Shandong, Shanxi, Xinjiang and Inner Mongolia.
Smelting requires uninterrupted energy, increasing the technical difficulty of a transition without hydro-power…

…but regions with high-quality renewables and a coordinated approach can create value in the transition

Typical energy requirements for large-scale aluminium smelter

1GW hydro

~4GW renewables\(^1\)

OR

Firming solutions

World-class solar and wind resources

Ability to create a coordinated solution to support heavy industry transition

Internationally competitive renewables and skilled industrial workforce provides regional advantage. Signed Statement of Cooperation with Queensland Government

\(^1\) Renewables requirements vary by region, mix of wind and solar and system design
Decarbonising the aluminium supply chain

Already lowest CO₂ emissions

2021 - Total emission tCO₂/t
Producing the lowest CO₂ per tonne

Lowest footprint alumina refinery in the world

Hydrogen calcination

Green hydrogen a substitute to natural gas
Potential to underpin 10% Rio Tinto group-wide decarbonisation

Commercialising ELYSIS™

P1020 metal grade or better
On track for commercial scale technology in 2024

The graph is on an equity basis for Rio Tinto and all the other individual producers
Source: CRU includes direct emissions (Scope 1) and indirect from electricity generation (Scope 2)
Green materials need to be more than carbon free

**Carbon free**
- Zero carbon through the full lifecycle of production

**Responsible**
- Produced with respect and care for host communities, partners, first nations and environment

**Traceable**
- Materials identifiable and traceable throughout lifecycle

**Circular**
- Recyclable material that retain its properties
  - Recycling pilots in Quebec
Strengthening our social licence

First nations and communities
Mutual Respect Agreement with Mashteuiatsh for 20 years
Joint business opportunities with First Nations in Quebec and British Columbia
Long-term relationships with Traditional Owners in Weipa and Gove

Vaudreuil filter press
Reduce red mud waste volume
Eliminate slurry pond storage
Stable red mud disposal sites

Turning waste into valuable resources
Treatment technology developed by RTA
Treat spent pot lining of the Canadian Al industry and reuse in the cement industry
Convert Anhydrate by-product into a fertiliser used in blueberry crops
Opportunities to leverage our attractive foundation

Tier 1 bauxite resource with options to expand and improve cost position

Deep technical and processing expertise

Growing smelting capacity requires more green power

Working with customers to meet their specific needs

Improve capital intensity of future investments

ELYSIS™ commercial maturity in 2024

Recycling is an opportunity to enhance our profitability and relevance to customers
Positioned to thrive in a low-carbon environment

**Strong foundation**
- Integrated business with Tier 1 assets
- Advantageous renewables position
- Strong history with world-class technical expertise
- Operational stability

**Clear strategy**
- Accelerate zero carbon, zero waste
- Empowering our people to be the Best Operator
- Optimise capital intensity
- Build strong connections with our partners and stakeholders
- Pursue options for increased profitability or growth

**Attractive future**
- Potential structural change in the market
- ELYSIS™ – net zero aluminium smelting
- Switching Australian smelters to renewables
- Long-life Tier 1 resource in bauxite
- Long-life hydropower assets
- Well positioned for North American market

---

**Best operator** | **Impeccable ESG credentials** | **Excel in development** | **Strengthening our social licence**

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Peter Cunningham
Performance, investment and shareholder returns
We are in very robust financial health

ROCE (post-tax) – outperforming our peers

<table>
<thead>
<tr>
<th>Year</th>
<th>Rio Tinto</th>
<th>Peers</th>
<th>Rio Tinto average</th>
<th>Peers average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>8.5</td>
<td>5.8</td>
<td>9.5</td>
<td>7.0</td>
</tr>
<tr>
<td>2017</td>
<td>13.9</td>
<td>9.5</td>
<td>11.8</td>
<td>7.0</td>
</tr>
<tr>
<td>2018</td>
<td>14.9</td>
<td>11.8</td>
<td>14.9</td>
<td>7.0</td>
</tr>
<tr>
<td>2019</td>
<td>15.9</td>
<td>14.9</td>
<td>15.9</td>
<td>11.8</td>
</tr>
<tr>
<td>2020</td>
<td>19.4</td>
<td>15.9</td>
<td>19.4</td>
<td>14.9</td>
</tr>
<tr>
<td>2021*</td>
<td>26.6</td>
<td>19.4</td>
<td>26.6</td>
<td>15.9</td>
</tr>
</tbody>
</table>

Attractive cash flows

Net debt (cash) $bn

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating cash flow</th>
<th>Free cash flow</th>
<th>Pro-forma net debt* **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun-16</td>
<td>8.5</td>
<td>5.8</td>
<td>14.1</td>
</tr>
<tr>
<td>Jun-17</td>
<td>13.9</td>
<td>9.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Dec-17</td>
<td>14.9</td>
<td>11.8</td>
<td>10.0</td>
</tr>
<tr>
<td>Jun-18</td>
<td>15.9</td>
<td>14.9</td>
<td>9.3</td>
</tr>
<tr>
<td>Dec-18</td>
<td>19.4</td>
<td>15.9</td>
<td>9.3</td>
</tr>
<tr>
<td>Jun-19</td>
<td>26.6</td>
<td>19.4</td>
<td>8.0</td>
</tr>
<tr>
<td>Dec-19</td>
<td>30.6</td>
<td>26.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Jun-20</td>
<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Dec-20</td>
<td>1.6</td>
<td>1.6</td>
<td>-3.1</td>
</tr>
</tbody>
</table>

Investing consistently and with discipline through the cycle

Maintain a strong balance sheet. Focus on “Single A” credit metrics

We can grow and invest in decarbonisation whilst continuing to pay attractive dividends to shareholders – in line with our policy

Peers: BHP, Vale, Anglo American and Glencore | *Consensus (Visible Alpha, 15 October 2021) | **Pro-forma net debt (cash) adjusts for the remainder of previously announced buy-backs from operations, lags in shareholder returns from disposal proceeds, Australian tax lag (December only) and disposal-related tax lag and the impact of IFRS 16 Leases accounting change for the prior periods. This lease accounting change is reflected in the June and December 2019 reported net debt

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66
Actions in place to improve our performance

Copper equivalent production for the nine months to September*
Million tonnes

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>3.9</td>
</tr>
<tr>
<td>2019</td>
<td>3.8</td>
</tr>
<tr>
<td>2020</td>
<td>3.8</td>
</tr>
<tr>
<td>2021</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Excludes divested assets

Operating performance not where we want it to be
- Rigorous performance management
- Deploying Rio Tinto Safe Production System
- Building capability across the organisation
- Increasing our capital allocation towards sustaining
- Focused on risk management
Disciplined allocation of capital remains at our core

1. Essential capex
   *Integrity, Replacement, Decarbonisation*

2. Ordinary dividends

3. Iterative cycle of

   - Further cash returns to shareholders
   - Compelling growth
   - Debt management
Maintaining our rigorous approach to investments

Commodities which enable the energy transition
Decarbonisation

Independent Economics team sets prices (including carbon), global scenarios and discount rates

Scenario based NPV, IRR, payback ranges
Detailed Risk assessment (including ESG)

Controlled risk taking allows for more opportunities
Using a range of criteria across different investment opportunities

Integrity
Rigorous assessment of options

Decarbonisation
Capital intensity of CO₂ reduction
| Cost of capital

Growth
Embedded options | Cost position | Valuation

M&A
Embedded options | Cost position | Strategic fit | Right owner | Valuation
Reinvesting for growth and decarbonisation

Capital expenditure profile

$bn

<table>
<thead>
<tr>
<th>Year</th>
<th>Depreciation</th>
<th>Sustaining</th>
<th>Other replacement</th>
<th>Decarbonise our assets</th>
<th>Pilbara replacement</th>
<th>Growth</th>
<th>Ambition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018A</td>
<td>5.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019A</td>
<td>5.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020A</td>
<td>6.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021F</td>
<td>~7.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022F</td>
<td>~8.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023F</td>
<td>~9.0-10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024F</td>
<td>~9.0-10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sustaining capital of ~$3.5bn per year including Pilbara Iron Ore of ~$1.5bn

~$0.5bn per year to decarbonise our assets from 2022 to 2024

Total decarbonisation investment of ~$7.5bn* from 2022 to 2030, predominantly in second half of decade

Ambition to grow and decarbonise reflected in 2023-24 capex of up to ~$9-10bn including up to $3bn in growth spending, depending on opportunities

Replacement spending unchanged at $2-3bn per year

*Conceptual view of capital requirements at October 2021. Marginal Abatement Cost Curves (MACC) will be updated on an annual basis

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## Broad-based funding model for decarbonisation

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital expenditure</td>
<td>~$7.5bn over 2022-30 Pilbara energy system</td>
</tr>
<tr>
<td>Operating expenditure</td>
<td>New capability</td>
</tr>
<tr>
<td>Long-term contracts</td>
<td>Pacific Aluminium smelters and refineries Kennecott</td>
</tr>
<tr>
<td>Partnerships*</td>
<td>Green steel: 25 existing R&amp;D partnerships – more targeted</td>
</tr>
</tbody>
</table>

Examples provided under each category of funding is not an exhaustive list and options for decarbonisation will continue to evolve.

*Funding model to be determined. MACC = Marginal Abatement Cost Curve
Attractive dividends remain paramount

Shareholder returns of 40-60% of underlying earnings on average through the cycle
Pay-out ratio (%)

Consistent five-year record of shareholder returns

Pay-out ratio policy de-risks the company

60% average pay-out on ordinary dividend over past 5 years

73% average pay-out in total

Our financial strength allows us to simultaneously:
- reinvest for growth
- accelerate our own decarbonisation
- continue to pay attractive dividends to shareholders in line with our policy

Excluding divestment proceeds returned to shareholders

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## Strong foundation for growth, decarbonisation and shareholder returns

<table>
<thead>
<tr>
<th>Outstanding foundation</th>
<th>Clear strategy</th>
<th>Compelling investment proposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>- No fossil fuel extraction</td>
<td>- Accelerate our own decarbonisation</td>
<td>- Deliver value-adding growth</td>
</tr>
<tr>
<td>- Long-life assets producing vital commodities</td>
<td>- Grow in materials enabling the global energy transition</td>
<td>- Continue to pay attractive dividends in line with our policy</td>
</tr>
<tr>
<td>- Resilient cash flows through the cycle</td>
<td>- Develop products and services that help our customers to decarbonise</td>
<td>- Attractive partner to our customers and host countries</td>
</tr>
<tr>
<td>- Capital discipline</td>
<td></td>
<td>- Reduce risks by accelerating our own low-carbon transition</td>
</tr>
<tr>
<td>- Robust financial position</td>
<td></td>
<td>- Maintain financial strength and resilience</td>
</tr>
<tr>
<td>- Advantageous renewables position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- World-class pipeline of projects and exploration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best operator</th>
<th>Impeccable ESG credentials</th>
<th>Excel in Development</th>
<th>Strengthening our social licence</th>
</tr>
</thead>
<tbody>
<tr>
<td>©2021, Rio Tinto, All Rights Reserved</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendices
Shareholder structure

23% Rio Tinto Limited
Shares outstanding: 0.371bn

77% Rio Tinto PLC
Shares outstanding: 1.247bn

100% Rio Tinto DLC
Shares outstanding: 1.619bn

- Australia
- UK
- Europe (ex UK)
- North America
- Asia
- ROW

*21 September 2021

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Debt maturity profile
30 June 2021 debt maturity profile*

Average outstanding debt maturity of corporate bonds at ~12 years (~ 9 years for Group debt)

No corporate bond maturities until 2024

Liquidity remains strong under stress tests

$7.5bn back-stop Revolving Credit Facility extended to November 2023 and remained undrawn throughout the pandemic

*Numbers based on June 2021 accounting value. The debt maturity profile shows $1.1 billion of capitalised leases under IFRS 16.
# Group level financial guidance

## CAPEX

<table>
<thead>
<tr>
<th></th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2023</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Group</td>
<td>~$7.5bn</td>
<td>~$8.0bn</td>
<td>~$9.0 – 10.0bn</td>
<td>~$9.0 – 10.0bn</td>
</tr>
<tr>
<td>Sustaining Capex</td>
<td>~$3.5bn</td>
<td>~$3.5bn</td>
<td>~$3.5bn</td>
<td>~$3.5bn</td>
</tr>
<tr>
<td>Pilbara Sustaining</td>
<td>~$1.5bn</td>
<td>~$1.5bn</td>
<td>~$1.5bn</td>
<td>~$1.5bn</td>
</tr>
</tbody>
</table>

- $0.5bn per year to decarbonise our assets from 2022 to 2024
- Total decarbonisation investment of ~$7.5bn* from 2022 to 2030, predominantly in second half of decade
- Ambition to grow and decarbonise reflected in 2023-24 capex of ~$9-10bn including up to ~$3bn in growth spending, depending on opportunities
- Replacement spending $2-3bn per year

## Effective tax rate

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

## Returns

<table>
<thead>
<tr>
<th></th>
<th>Total returns of 40 – 60% of underlying earnings through the cycle</th>
</tr>
</thead>
</table>

*Conceptual view of capital requirements at October 2021. Marginal Abatement Cost Curves (MACC) will be updated on an annual basis.
# Product group level guidance

<table>
<thead>
<tr>
<th>Product Group</th>
<th>2021 production guidance</th>
<th>2021 costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iron Ore</strong></td>
<td>320 – 325mt&lt;sup&gt;2&lt;/sup&gt; (100% basis)</td>
<td>$18.0-18.5/wmt (FOB), based on an Australian dollar exchange rate of $0.75</td>
</tr>
<tr>
<td><strong>Copper</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mined Copper</td>
<td>~500kt&lt;sup&gt;3&lt;/sup&gt;</td>
<td>C1 Copper unit costs 75-80 US c/lb</td>
</tr>
<tr>
<td>Refined Copper</td>
<td>190 – 210kt&lt;sup&gt;4&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td><strong>Aluminium</strong></td>
<td></td>
<td>Modelling guidance provided for Canadian smelters only (see slide 80)</td>
</tr>
<tr>
<td>Bauxite</td>
<td>54 – 55mt&lt;sup&gt;6&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Alumina</td>
<td>7.8 – 8.2mt</td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td>3.1 – 3.3mt</td>
<td></td>
</tr>
<tr>
<td><strong>Minerals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TiO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>~1.0&lt;sup&gt;7&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>IOC pellets and concentrate&lt;sup&gt;8&lt;/sup&gt;</td>
<td>9.5 – 10.5mt</td>
<td></td>
</tr>
<tr>
<td>B&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;3&lt;/sub&gt;</td>
<td>~0.5mt</td>
<td></td>
</tr>
<tr>
<td>Diamonds</td>
<td>3.0 – 3.8m carats&lt;sup&gt;5&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Rio Tinto share unless otherwise stated.
<sup>2</sup> Pilbara shipments guidance remains subject to COVID-19 disruptions including risks around mandatory vaccination for the resources industry in Western Australia as of 1 December, and risks around commissioning of new mines and management of cultural heritage.
<sup>3</sup> Remains subject to COVID-19 disruptions and risks around mine plan sequencing following geotechnical issues at Kennecott.
<sup>4</sup> Reduction reflects a Kennecott smelter incident in September resulting in force majeure on customer contracts.
<sup>5</sup> Diamonds 2021 guidance and actuals are for Diavik only for comparability, following Argyle closure in 2020. Unadjusted Diamonds production for 2020 was 14.7 million carats, including both Diavik and Argyle operations.
<sup>6</sup> Reduction reflects equipment reliability issues and operational instability at the Pacific mines. The focus in the fourth quarter is on the recovery of plant equipment availability and asset health to support 2022 performance.
<sup>7</sup> Full year titanium dioxide slag production guidance has been reinstated following stabilisation of the security situation at Richards Bay Minerals in South Africa and resumption of operations.
<sup>8</sup> Iron Ore Company of Canada.
### Modelling EBITDA

#### Underlying EBITDA sensitivity

<table>
<thead>
<tr>
<th></th>
<th>Average published price/exchange rate for 2021 first half</th>
<th>US$ million impact on full year 2021 underlying EBITDA of a 10% change in prices/exchange rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>413c/lb</td>
<td>478</td>
</tr>
<tr>
<td>Aluminium</td>
<td>$2,245/t</td>
<td>784</td>
</tr>
<tr>
<td>Gold</td>
<td>$1,805/oz</td>
<td>77</td>
</tr>
<tr>
<td>Iron ore realised price (62% Fe CFR freight-adjusted)</td>
<td>$168.4/dmt</td>
<td>4,180</td>
</tr>
<tr>
<td>A$</td>
<td>0.77US$</td>
<td>665</td>
</tr>
<tr>
<td>C$</td>
<td>0.80US$</td>
<td>249</td>
</tr>
<tr>
<td>Oil (Brent)</td>
<td>$65/bbl</td>
<td>112</td>
</tr>
</tbody>
</table>

Note: The sensitivities give the estimated effect on underlying EBITDA assuming that each individual price or exchange rate moved in isolation. The relationship between currencies and commodity prices is a complex one and movements in exchange rates can affect movements in commodity prices and vice versa. The exchange rate sensitivities include the effect on operating costs but exclude the effect of revaluation of foreign currency working capital.
# Modelling aluminium costs

## Canadian* smelting unit cash** cost sensitivity

<table>
<thead>
<tr>
<th>Input Cost</th>
<th>Impact a $100/t change in each of the input costs below will have on our H1 2021 Canadian smelting unit cash cost of $1,262/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumina (FOB)</td>
<td>$191</td>
</tr>
<tr>
<td>Green petroleum coke (FOB)</td>
<td>$27</td>
</tr>
<tr>
<td>Calcined petroleum coke (FOB)</td>
<td>$36</td>
</tr>
<tr>
<td>Coal tar pitch (FOB)</td>
<td>$8</td>
</tr>
</tbody>
</table>

* Canadian smelters include all fully-owned smelters in Canada (Alma, AP60, Arvida, Grande-Baie, Kitimat, and Laterrière), as well as Rio Tinto’s share of the Becancour and Alouette smelters

** The smelting unit cash costs refer to all costs which have been incurred before casting, excluding depreciation but including corporate allocations and with alumina at market price, to produce one metric tonne of primary aluminium.
Jadar project – 100% owned and managed

Mining and processing
Underground mine using bench stoping
Co-located beneficiation and chemical processing plant
Primary products: lithium carbonate, boric acid
Overall product recoveries: ~80%

Capex
Capital: $2.4bn (nominal)
Construction phase: 2021-2026 (peak 2022-2025)
LOM sustaining capital: $30m per year, average (real)

Production profile¹
First saleable production: 2026
Full ramp-up: 2029
Annual target volumes: up to 58,000 tonnes of battery-grade lithium carbonate², 160,000 tonnes of boric acid (B₂O₃ units) and 255,000 tonnes of sodium sulphate³ per annum

Serbian tax and royalties
Mining royalty: 5% (levied on gross sales minus allowable deductions)
Corporate income tax rate: 15%
Withholding tax rate: 5%

40 year mine life
Ore reserve:
16.6Mt @ 1.8% Li₂O and 13.4% B₂O₃
Mineral resource:
139.2Mt @ 1.8% Li₂O and 14.7% B₂O₃

¹ Continuing to work closely with stakeholders in Serbia. Subject to award of final permits and approvals.
² These production targets were previously reported in a release to the Australian Securities Exchange (ASX) dated 10 December 2020, “Rio Tinto declares maiden Ore Reserve at Jadar” (for battery-grade lithium carbonate it was 55,000 tonnes). All material assumptions underpinning the production targets continue to apply and have not materially changed.
³ These resources and reserves were previously reported in the Rio Tinto Annual Report 2020. The material assumptions on which they were based have not materially changed.
RTA Value Chain – 2020 Actuals

- **Mining**
  - Bauxite: 56.1 dmt (30%)
- **Refining**
  - Alumina: 8.0 mt (80%)
  - Alumina: 1.6 mt (20%)
- **Aluminium**
  - Aluminium: 3.2 mt (100%)
- **Casting**
  - Casthouse Prodn: VAP (43%), Non-VAP (57%)
Common acronyms

T = Tonne
Mt = Million tonnes
Gt = Giga tonnes
tCO₂ = Tonne of carbon dioxide
tCO₂ e = Tonne of carbon dioxide equivalent
P.a = Per annum
Mtpa = Million tonnes per annum
CO₂ = Carbon dioxide
GHG = Greenhouse gas
Mwh = Megawatt hour
MW = Megawatt
GW = Gigawatt

ROCE = Return on capital employed
EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortisation
CAGR = Compound annual growth rate
USD = United States dollar
Bn = Billion
NPV = Net present value
ESG = Environmental, Social, and Governance
IRR = Internal rate of return
R&D = Research and development
VAP = Value-added product
Increasing transparency for our stakeholders

A commitment to reporting on:

**Ongoing progress** against our own commitments and internal work-streams external obligations and recommendations.

The **enhanced governance** arrangements in place to oversee the company’s progress against these actions.

How Traditional Owners’ views are being sought and considered in shaping these commitments and **Traditional Owners’ perspectives** on how successfully these commitments are being met.

How the company is working to **advocate for enhanced sector-wide cultural heritage management** and how this is consistent with our internal standards.
## Working to improve in multiple areas

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Remedying and rebuilding our relationship with the PKKP people</td>
</tr>
<tr>
<td>2</td>
<td>Partnering with Pilbara Traditional Owners in modernising and improving agreements</td>
</tr>
<tr>
<td>3</td>
<td>Establishing the new Communities and Social Performance model</td>
</tr>
<tr>
<td>4</td>
<td>Building local capability and capacity to support the site General Manager</td>
</tr>
<tr>
<td>5</td>
<td>Improving our governance, planning and systems where it relates to communities</td>
</tr>
<tr>
<td>6</td>
<td>Reducing barriers to, and increasing, Indigenous employment</td>
</tr>
<tr>
<td>7</td>
<td>Increasing Indigenous leadership and developing cultural competency within Rio Tinto</td>
</tr>
<tr>
<td>8</td>
<td>Establishing a process to redefine and improve cultural heritage management standards</td>
</tr>
<tr>
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Establishing an Australian Advisory Group

We are establishing an Australian Advisory Group (AAG) to help shape, influence and support our approach to issues that are important to Indigenous peoples, the Australian community and our business.

The AAG aims to:
- Introduce more **diversity and breadth of views**
- Increase the **awareness of leaders** within Rio Tinto to make fully informed decisions
- **Act as a sounding board** for Rio Tinto on knowledge, practices, and perspectives with a particular focus on Indigenous issues
- Provide **coaching, mentoring** and advice to senior leadership
- Identify ways to **improve the culture** within Rio Tinto
Reducing barriers to and increasing Indigenous employment

We have:

Committed to a **US$50 million investment** to retain, attract and grow Indigenous professionals and leaders in our business

**Increased Indigenous leaders** from 6 to 19 across Australia

**Increased our 2021 target** to recruit 50 Indigenous leaders

Launched a leadership development programme in Australia, with over **200 Indigenous employees** enrolled

Implemented a **two-way Indigenous mentoring** programme

Launched an **Australia-wide Indigenous employee networking programme**

Awarded **Indigenous university scholarships** to students in the fields of environmental science and engineering
Establishing the new Communities and Social Performance model

We have:

**Increased number of CSP professionals** from 250 to 300, working in 65 sites and 35 countries

**Restructured reporting lines** so field based CSP professionals report to their line managers

**Established a central CSP Area of Expertise** with technical subject matter experts

**Established a senior leadership team** comprising CSP leaders from all product groups, exploration, projects, closure and Indigenous Affairs
Partnering with Pilbara Traditional Owners in modernising and improving agreements

Specific actions

- Preliminary discussions with ten Pilbara Traditional Owner groups in relation to agreement moderisation
- Identified key principles for consideration in modernising agreements
- Signed engagement protocols that provide a scope and framework of the modernisation work with four of the Traditional Owner groups
- Continuing to work with Traditional Owners to enhance benefits that flow to communities
Building local capability and capacity to support the site General Manager

**Specific actions**

- **Iron Ore Chief Executive** has the overall accountability for Traditional Owner relationships and heritage matters for the product group.

- **Site General Managers** have direct responsibility for TO relationships.

- **Traditional Owner Engagement Leads** support the mine General Managers by maintaining the day-to-day engagement with the Traditional Owner groups.

- **Increased capacity across our CSP function** as well as **upgrading CSP systems** to provide improved, linked-up decision-making.

- A **Traditional Owner Partnerships Committee** has been created to drive improvements and share learnings.
Establishing a process to redefine and improve cultural heritage management standards

We are increasing both the capabilities and resources of the internal Cultural Heritage teams to increase understanding and delivery of cultural heritage performance.

Rio Tinto Iron Ore has almost **doubled the size of its cultural heritage** team to more than 60 people.

We are progressing the **Integrated Heritage Management Process** (IHMP) to ensure we do not impact sites of exceptional cultural significance within our existing mine plans. To date, we have:

- Reviewed **2205 heritage sites**
- Reviewed all sites for 2021 and **95% for 2022**
- Removed approx. **54 million tonnes** of Iron Ore from our reserves as a precautionary measure
- Set up **protective buffer zones** for all sites of high cultural significance