Investor seminar
Strength and resilience
Cautionary and supporting statements

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

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Ore Reserves and Mineral Resources

The Ore Reserve and Mineral Resource estimates which appear on slides 22 and 41 are reported on a 100% basis. The Ore Reserve and Mineral Resource estimates which appear on slide 65 are reported on a Rio Tinto share basis apart from Pilbara iron ore, which are reported on a 100% basis. All Ore Reserve and Mineral Resource estimates in this presentation, together with the ownership percentages for each joint venture, were set out on pages 271 to 279 of Rio Tinto’s 2018 Annual Report released to the market on 27 February 2019. Rio Tinto is not aware of any new information or data that materially affects the aforementioned Ore Reserve and Mineral Resource estimates as reported in the 2018 Annual Report, and confirms that all material assumptions and technical parameters underpinning these estimates continue to apply and have not materially changed. The form and context in which each Competent Person’s findings are presented have not been materially modified.
Cautionary and supporting statements (cont.)

The Competent Persons responsible for reporting in Rio Tinto’s 2018 Annual Report the Ore Reserve and Mineral Resource estimates in this presentation were:

<table>
<thead>
<tr>
<th>Association 1</th>
<th>Employer</th>
<th>Accountability</th>
<th>Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bauxite</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L McAndrew</td>
<td>AusIMM</td>
<td>Reserve</td>
<td>Gove, East Weipa and Andoom, Amrun</td>
</tr>
<tr>
<td>G Rogers</td>
<td>AusIMM</td>
<td>Resource</td>
<td>Gove, East Weipa and Andoom, North of Weipa, Amrun</td>
</tr>
<tr>
<td>M Keersemaker</td>
<td>AusIMM</td>
<td>Reserve</td>
<td>Sangaredi</td>
</tr>
<tr>
<td>G Girouard</td>
<td>AusIMM</td>
<td>Resource</td>
<td>Trombetas</td>
</tr>
<tr>
<td>C J da Silva</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>M A H Monteiro</td>
<td>AusIMM</td>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td><strong>Iron Ore</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>K Tindale</td>
<td>AusIMM</td>
<td>Resource</td>
<td>Simandou</td>
</tr>
<tr>
<td>T Leriche</td>
<td>PEGNL</td>
<td>Resource and Reserve</td>
<td>Iron Ore Company of Canada</td>
</tr>
<tr>
<td>B Power</td>
<td>PEGNL</td>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td>B Wallace</td>
<td>PEGNL</td>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td>R Way</td>
<td>PEGNL</td>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td>R Williams</td>
<td>PEGNL</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>A Bertram</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>P Savory</td>
<td>AusIMM</td>
<td>Resource</td>
<td>Rio Tinto Iron Ore – Hamersley, Channar, Eastern Range, Hope Downs, Robe, Rhodes Ridge</td>
</tr>
<tr>
<td>B Sommerville</td>
<td>AusIMM</td>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td>L Couto</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>M Janas</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>R Sarin</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>R Verma</td>
<td>AusIMM</td>
<td>Reserve</td>
<td></td>
</tr>
</tbody>
</table>

1 AusIMM: Australasian Institute of Mining and Metallurgy; PEGNL: Professional Engineers and Geoscientists, Newfoundland and Labrador.
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:25</td>
<td>Strength and resilience</td>
<td>J-S Jacques Chief executive</td>
</tr>
<tr>
<td>08:25-08:45</td>
<td>Connected to our markets</td>
<td>Vivek Tulpule Head of Economics &amp; Markets</td>
</tr>
<tr>
<td></td>
<td>Maximising the value of physical flows</td>
<td>Simon Trott Chief Commercial Officer</td>
</tr>
<tr>
<td>08:45-09:05</td>
<td>Iron Ore: optimise and flex</td>
<td>Chris Salisbury Chief executive, Iron Ore</td>
</tr>
<tr>
<td>09:05-09:35</td>
<td>Q&amp;A</td>
<td>Panel</td>
</tr>
<tr>
<td>09:35-10:05</td>
<td>BREAK</td>
<td>Technology demonstrations in the foyer</td>
</tr>
<tr>
<td>10:05-10:25</td>
<td>At the frontier of mining technology</td>
<td>Stephen McIntosh Group executive, Growth &amp; Innovation</td>
</tr>
<tr>
<td>10:25-10:35</td>
<td>Oyu Tolgoi</td>
<td>Arnaud Soirat / Stephen McIntosh Chief executive, Copper &amp; Diamonds / Group executive, Growth &amp; Innovation</td>
</tr>
<tr>
<td>10:35-10:55</td>
<td>Our investment proposition</td>
<td>Jakob Stausholm Chief Financial Officer</td>
</tr>
<tr>
<td>10:55-11:25</td>
<td>Q&amp;A</td>
<td>Panel</td>
</tr>
<tr>
<td>11:25-11:30</td>
<td>Wrap up</td>
<td>J-S Jacques</td>
</tr>
</tbody>
</table>
J-S Jacques
Chief executive
Sector-leading financial performance

$41bn operating cash flows + $12bn divestments

-$8bn Growth capex

+$8bn Sustaining capex

-$9bn Reduction in net debt

+$15bn Ordinary dividends paid

+$4bn Buy-backs

+$9bn Buy-backs and special dividends from disposals

+$0.7bn Buy-backs

$53bn of cash (2016-1H19)

1. Average EBITDA margin and average ROCE from H1 2016-H1 2019. Return on Capital Employed (ROCE) is defined as underlying earnings before net interest divided by average capital employed (operating assets before net debt).
2. Comprises $2.5 billion interim dividend and $1.0 billion special dividend paid on 19 September 2019. 3 $0.7 billion of on-market share buy-backs in Rio Tinto plc to be completed by 28 February 2020. Numbers have been rounded to the nearest $ billion.
4. Total Shareholder Return (TSR) is from 1 January 2016 to 30 September 2019.
## Compelling purpose and sustainability drive

### Running a safe, responsible and profitable business

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0.44 AIFR</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>In 2018 vs 0.68 for ICMM&lt;sup&gt;2&lt;/sup&gt; 23 companies</td>
</tr>
<tr>
<td><strong>17%</strong></td>
<td>Average ROCE&lt;sup&gt;3&lt;/sup&gt; H1 2016-H1 2019</td>
</tr>
<tr>
<td><strong>71%</strong></td>
<td>Of our electricity from renewable sources</td>
</tr>
<tr>
<td><strong>$10bn</strong></td>
<td>In close-down and restoration provisions at 31 Dec 2018</td>
</tr>
</tbody>
</table>

### Collaborating to enable long-term economic benefits

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$6.6bn</strong></td>
<td>17% paid in taxes and royalties globally in 2018</td>
</tr>
<tr>
<td><strong>1st</strong></td>
<td>Collaboration on Australia’s first automation skills qualifications</td>
</tr>
<tr>
<td><strong>$3bn with 700 local firms</strong></td>
<td>spent in Mongolia since 2010</td>
</tr>
</tbody>
</table>

### Pioneering materials for human progress

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elysis</strong></td>
<td>Partnership with Alcoa and Apple to create carbon-free aluminium smelting process</td>
</tr>
<tr>
<td><strong>Li₂CO₃</strong></td>
<td>R&amp;D to produce battery grade Lithium Carbonate from tailings waste at Boron</td>
</tr>
<tr>
<td><strong>100%</strong></td>
<td>Of our Canadian operations now offer Aluminium Stewardship Initiative certified product</td>
</tr>
</tbody>
</table>

### Partnerships

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2nd</strong></td>
<td>Collaboration on Australia’s first automation skills qualifications</td>
</tr>
<tr>
<td><strong>$3bn with 700 local firms</strong></td>
<td>spent in Mongolia since 2010</td>
</tr>
</tbody>
</table>

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<sup>1</sup> All Injury Frequency Rate

<sup>2</sup> International Council on Mining and Metals

<sup>3</sup> Return on Capital Employed (ROCE) is defined as underlying earnings before net interest divided by average capital employed (operating assets before net debt).
We are facing a ‘New Era’ of complexity

Growing geopolitical tensions

Higher societal expectations

Technological disruptions
This New Era is framed by three interconnected global scenario forces

Positioning our business for success through value over volume

**Geopolitics**

**Partnerships**
- Partnering across the value chain
- Customers and suppliers
- Technology and ESG
- Growth

**Society**

**ESG / Carbon abatement**
- New Rio Tinto emission targets in Q1 2020
- Aluminium hydro assets structurally advantaged
- Copper and battery minerals demand upside from electrification

**Technology**

**Mining innovation**
- Productivity – next level of automation
- Projects – lower capital intensity, more nimble
- Tailings reprocessing unlocks new volumes
Our strategy is clear and consistent

Superior cash generation

World-class assets
Portfolio

Operating and Commercial excellence
Performance

Capabilities
People & Partners

Disciplined capital allocation

Balance sheet strength
Superior shareholder returns
Creating growth options
# Portfolio: quality, diversified assets

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Iron ore</th>
<th>Aluminium</th>
<th>Copper</th>
<th>Minerals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic approach</strong></td>
<td>Optimise and flex</td>
<td>Protect and fix</td>
<td>Unlock growth</td>
<td>Develop opportunities</td>
</tr>
<tr>
<td><strong>Priorities</strong></td>
<td>Value over Volume</td>
<td>Production creep</td>
<td>Fast-track options from exploration</td>
<td>Value over Volume</td>
</tr>
<tr>
<td></td>
<td>Product quality</td>
<td>Customer / product mix optimisation</td>
<td>Develop growth projects</td>
<td>Rio Tinto Ventures</td>
</tr>
<tr>
<td></td>
<td>Productivity / automation</td>
<td>Energy costs</td>
<td>Apply technology to unlock volumes</td>
<td>Partnerships</td>
</tr>
<tr>
<td></td>
<td>Renewables</td>
<td>Reduce capital intensity</td>
<td>Tolling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase variable cost base</td>
<td>Low-carbon technology</td>
<td>Partnerships</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partnerships</td>
<td></td>
<td>Partnerships</td>
<td></td>
</tr>
<tr>
<td><strong>Long-term market conditions</strong></td>
<td>Low growth</td>
<td>Moderate primary demand growth</td>
<td>Depletion and demand growth</td>
<td>High demand growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Price-cost squeeze</td>
<td>Fragmented supply side</td>
<td>Evolving downstream markets</td>
</tr>
<tr>
<td><strong>EBITDA margin</strong></td>
<td>63%</td>
<td>28%</td>
<td>40%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>ROCE</strong></td>
<td>42%</td>
<td>8%</td>
<td>9%</td>
<td>10%</td>
</tr>
</tbody>
</table>

1 Average over three years to 30 June 2019. Divested assets have been excluded from all periods. Copper & Diamonds excludes Oyu Tolgoi. Return on Capital Employed (ROCE) defined as underlying earnings (to 30 June) before net interest divided by average capital employed (operating assets before net debt).
Portfolio: creating options through exploration

Projects located mainly in lower risk jurisdictions

2019 exploration expenditure by commodity
- Copper: 65%
- Diamonds: 3%
- Nickel: 5%
- Other (1): 5%

2019 exploration expenditure by project stage
- Target Generation: 5%
- Target Testing: 7%
- Project of Merit: 27%
- Order of Magnitude: 6%
- Ore Body Knowledge: 6%

Focus on most promising opportunities
- 18 countries
- 69 projects in generative and target testing stage
- 2 Projects of Merit
- 2 Order of Magnitude studies

*1 Iron ore, bauxite, uranium, minerals*
Performance: safety, operational and commercial excellence drive superior margins and returns

Zero fatalities our priority
A safe and well run business

We are improving our Process Safety Performance

Relentless focus on operational excellence
Addressing the challenges: strong recovery in iron ore production and shipments in Q3

Pilbara iron ore production (annualised run rate Mt)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>338</td>
<td>308</td>
<td>320</td>
<td>347</td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cumulative Process Safety incidents: MRC\(^1\)
Major and Catastrophic

Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

|   | 1   | 3   | 4   | 4   | 5   | 7   | 8   | 9   | 9   | 11  | 11  |

Commercial insights boost profits
Actively managing trade-off between volumes, quality, cost and capex

Superior price achievement

- [Pilbara Blend Fines](#)
- Competitor fines basket\(^2\)

1. Maximum Reasonable Consequence.
2. A synthetic blend of competitor products sold at the portside market. This synthetic blend approximates the Pilbara Blend Fines (PBF) quality spec. Sold on a stand-alone basis, these products have realised a lower aggregate price than PBF. Source: Rio Tinto
People: building capability to drive performance

Centres of Excellence enabling decision making
- Open Pit Mining
- Processing
- Underground Mining
- Energy and Climate Change

Commercial hub for sales, procurement and partnerships

Significant increase in employee engagement across three years of surveys

Collaborating on Australia’s first automation skills qualifications
Partners: working with others for future success

Path to carbon free smelting
Sustainable approach to meeting the resource needs of green energy
Strengthening global capabilities for key Chinese partners
Responsible aluminium value chain
Downstream emission reductions

Industry standards for sustainable development
Lifesaving connections for rural communities
Australia’s first nationally accredited automation training
Unlocking frontier exploration markets
One billion tonnes of autonomous ore haulage
Powering the Mine of the Future
A disciplined business generating strong returns over the cycle…

**Strength and resilience** from:

- Quality of our assets
- Capability of our people
- Operational performance
- Innovative partnerships
- Disciplined capital allocation

### Resilient group margin and returns through the cycle

<table>
<thead>
<tr>
<th>Year</th>
<th>EBITDA margin</th>
<th>ROCE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>2019H1</td>
<td>23%</td>
<td></td>
</tr>
</tbody>
</table>

*Return on Capital Employed (ROCE) is defined as underlying earnings before net interest divided by average capital employed (operating assets before net debt)*
...with a focus on free cash flow generation

Free cash flow through the cycle

$ billion

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.9</td>
<td>13.7</td>
<td>7.7</td>
<td>(8.1)</td>
</tr>
</tbody>
</table>

Updated capital allocation framework

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019F*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.1</td>
<td>6.9</td>
<td>4.8</td>
<td>5.8</td>
<td>9.5</td>
<td>7.0</td>
<td>10</td>
</tr>
</tbody>
</table>

Free cash flow is defined as net cash generated from operating activities less purchases and sales of Property, Plant & Equipment. From 2019, lease principal payments are also deducted on adoption of IFRS 16 Leases.

* 2019 forecast assumes June YTD actual realised pricing, July to September monthly average index prices with the remainder of 2019 based on October spot prices. Production and shipments for 2019 is based on consensus.
Vivek Tulpule
Connected to our markets
Near-term uncertainties but policy is supportive

Manufacturing sentiment in contraction in all 4 major economies

- PMI Index

![Graph showing PMI Index over time for USA, Japan, Eurozone, and China.](image-url)

Chinese GDP continues to grow strongly but at a slowing pace

- Real GDP (2018 $bn)¹

![Graph showing Chinese GDP growth from 2011 to 2021.](image-url)

**Synchronised policy support**: major central banks are lowering borrowing costs to support the economy

Source: Oxford Economics. ¹ Average forecast based on estimates from Oxford Economics and Capital Economics
Long-term trends support further growth in commodity demand

Per capita commodity consumption¹

<table>
<thead>
<tr>
<th></th>
<th>India</th>
<th>ASEAN</th>
<th>China</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>64kg</td>
<td>121kg</td>
<td>523kg</td>
<td>505kg</td>
</tr>
<tr>
<td>Al</td>
<td>2kg</td>
<td>3kg²</td>
<td>28kg</td>
<td>28kg</td>
</tr>
<tr>
<td>Cu</td>
<td>1kg</td>
<td>2kg²</td>
<td>9kg</td>
<td>10kg</td>
</tr>
</tbody>
</table>

Key takeaways

Macro fundamentals remain supportive of ongoing demand growth in commodities

Global steel consumption forecast to grow by 1%-2%

Chinese steel production to peak in early 2020s, offset by growth in ASEAN and India

Primary Aluminium demand forecast to grow by 2.0% - 2.5%

China’s primary Aluminium demand to moderate to 2.0% – 2.5% in the next decade compared to 11% in previous decade

Copper primary demand to grow 1.5% - 2.5% supported by transport electrification and increased renewables

Copper intensity of EVs is 3 – 4 times that of traditional vehicles

¹ Average for 5 years ending 2018. ² Indonesia and Thailand used as proxy for ASEAN region. Demand growth ranges are based on consensus estimates, covering medium to long-run (2030). Excludes outliers. Source: Wood Mackenzie, CRU, UN population estimates, Consensus
Demand for iron ore well supported

Obsolete scrap usage is growing in China but constrained by segregation costs & EAF/BOF\(^1\) economics

China steel scrap consumption (Mt)

Iron ore demand growth depends on scrap consumption and India’s requirement for imported iron ore

Contestable iron ore demand (Mt)

---

1 EAF – Electric Arc Furnace, BOF – Basic Oxygen Furnace
2 New scrap includes home and prompt scrap. Source: Rio Tinto
Iron ore will remain attractive for incumbents

Steep iron ore cost curve supports healthy margins for low cost producers
2019, CFR China Value in Use Adjusted Cash Cost $/dmt

But the industry requires greenfield projects to maintain production which could cost up to $200/t

Industry iron ore reserves¹ (Bt)

<table>
<thead>
<tr>
<th>Country</th>
<th>Reserves (Bt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2.1Bt</td>
</tr>
<tr>
<td>USA</td>
<td>1.2Bt</td>
</tr>
<tr>
<td>Brazil</td>
<td>4.2Bt</td>
</tr>
<tr>
<td>India</td>
<td>4.6Bt</td>
</tr>
<tr>
<td>Russia</td>
<td>3.2Bt</td>
</tr>
<tr>
<td>Peru</td>
<td>1.8Bt</td>
</tr>
<tr>
<td>Africa</td>
<td>13.5Bt</td>
</tr>
<tr>
<td>China</td>
<td>4.6Bt</td>
</tr>
<tr>
<td>Other Australia</td>
<td>13.5Bt</td>
</tr>
<tr>
<td>Rio Tinto Pilbara</td>
<td>3.4Bt¹</td>
</tr>
</tbody>
</table>

¹ Reserves reported on a 100% basis. Refer to slide 2 for supporting statements.
Source (cost curve): Wood Mackenzie
Aluminium market challenged by flat cost curve

Rio Tinto’s Canadian smelters are in the bottom decile
Aluminium Cost Curve, ($/t, 2019)

Global demand for primary aluminium forecast to grow by 2.0% - 2.5% CAGR (2018-30)

Aluminium demand growth supported largely by transport and utilities sectors. Transport to account for about a third of the increase in semis demand supported by light weighting trend

Low capital intensity of new smelters in Asia constrains price upside

A $10 per tonne increase in carbon prices would lead to a $175/t increase in the operating cost of coal fired aluminium

---

1. Equity share basis
Source: Rio Tinto, CRU

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Electrification: exploring opportunities and markets

Higher Electric Vehicle (EV) penetration to support demand
EV demand Consensus range (Mn units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nickel
Batteries evolve towards higher energy density nickel rich chemistries
Long lead times, high capital costs, complexities of HPAL\(^2\) are key challenges to unlock new nickel supply

Lithium
EV sales drive 15 - 20% CAGR growth in lithium demand based on consensus range
There are enough lithium resources to meet battery demand growth

Cobalt
DRC accounts for 72% of the world’s primary cobalt output.

Copper
Electric vehicles and electric utilities will add 6-9Mt of copper demand by 2040
Small projects (less than 100kt tonnes\(^3\)) accounted for about 40% of new capacity added in the last decade

---

1 ICE - internal combustion engine
2 HPAL - high pressure acid leach
3 100kt of copper equivalent production

Copper intensity of vehicles
- ICE\(^1\) = 23kg
- Hybrid = 40kg
- EVs = 83kg
Simon Trott
Maximising the value of physical flows
We ensure our business is optimising value

Driving end to end optimisation

- Processing & refinement
- Mining & extraction
- Mine planning
- Exploration & development
- Logistics & delivery
- Marketing & sales
- Procurement

Customers & suppliers

Providing market insights
Deepen understanding of our value chain and monetise information flows

Building commercial excellence
Ensure we sell every tonne we produce to the customer that values it the most, supported by our technical expertise

Expanding our activities and options
Optimise our physical flows, increase options and improve measurement and management of risk

Optimising the end-to-end value chain
Ensure we maximise value not volume, evolving product suites to take advantage of the resource
Close to our global customers and suppliers

19% of sales to North America in 2018
$7.6bn in sales\(^1\), ~90% sourced within North America
$3.4bn in supplier spend\(^1\)

66% of sales to Asia in 2018
$26.6bn in sales\(^1\)
$7.7bn in supplier spend in Asia Pacific\(^1\)

Commercial organisation

Sales & Marketing
• ~$40bn sales\(^1\)
• 2,000 customers in 96 countries
• >10,000 customer visits each year

Marine & Logistics
• One of the largest global dry bulk shippers
• 3,000 voyages per year
• Contract book 230+ vessels

Procurement
• $12bn spend across 37,000 suppliers and 3,000 contracts
• 124 locations

Markets & Risk
• Market analysis, market risk management
• Commercial treasury

\(^1\) 2018
Arrows depict major flows from mine to market.
Our Pilbara Blend is the single largest, most liquid and consistent product

Baseload for China mills
Our Pilbara Blend (PB) is a key input to customers operations

Quality consistency
We maintain Pilbara Blend quality by blending different sources to a tight spec…

Superior value for Pilbara Blend Fines (PBF)
…thus delivering higher value to our customers and extracting a premium

Imports & domestic iron ore consumption in China

Average China blend\(^1\)

Domestic concentrate

50Mt

Silica-alumina

Iron content %

Iron content %

Average specification of shipped product

Silica

Phosphorus

Fe

Alumina

H1 2018

H2 2018

H12019

$2.3/t

$3.4/t

$1.7/t

Competitor fines basket\(^2\)
Pilbara Blend Fines\(^3\)

Reported China portside transactions

\(^1\) Calculated basis China’s iron ore consumption in 2019. Pilbara Blend includes fines and lump. \(^2\) A synthetic blend of competitor products sold at the China portside market. This synthetic blend approximates PBF quality. 
\(^3\) Includes reported PBF transactions at the China portside market, irrespective of seller. Source: MySteel, Rio Tinto
Our diversified portfolio of products optimises end-to-end value

Diversified portfolio of products

We market our high liquidity Pilbara Blend, plus a suite of products to meet the needs of our customers and optimise our resource

Silica + alumina

<table>
<thead>
<tr>
<th>Iron content %</th>
</tr>
</thead>
<tbody>
<tr>
<td>56</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

- PBF – Pilbara Blend Fines
- PBL – Pilbara Blend Lump
- HIY – Yandicoogina Fines
- RVF – Robe Valley Fines
- RVL – Robe Valley Lump

Continuous optimising end-to-end value

From pit to furnace: we link our customers to our assets and ensure we maximise value over volume as the market and our resource evolve

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Since</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilbara Blend</td>
<td>Baseload in China, the most liquid and consistent product in the market</td>
<td>2007</td>
</tr>
<tr>
<td>Iron Ore Company of Canada</td>
<td>High-grade, very low contaminants, enables increased productivity</td>
<td>2000s</td>
</tr>
<tr>
<td>HIY Fines</td>
<td>Low contaminants, calcines to high Fe, key input to JKT² mills</td>
<td>1998</td>
</tr>
<tr>
<td>SP10</td>
<td>60% Fe product with moderate contaminants. Targeted at smaller mills in China</td>
<td>2014</td>
</tr>
<tr>
<td>Robe Valley</td>
<td>Low phosphorus, targeted at producers of high-quality steel</td>
<td>1970s</td>
</tr>
</tbody>
</table>

1 2019 YTD figures, ² Japan, South Korea, Taiwan, ³ total Iron Ore Company of Canada (IOC) production comprised of pellets and concentrate. Source: Rio Tinto

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Customers are at the centre of our commercial activities

- **Technical engagements** with customers to understand changes in their operations and inform our product offerings
- **Joint Work Programme** with Asian mills to improve our customers' lump rescreening and increase their lump usage
- **Partnership** with Baowu and Tsinghua University to reduce carbon emissions and improve environmental performance

**Strengthen partnerships**

**Create value through supply chain optionality**

**Portside trading in China** to enable just-in-time deliveries, inventory management solutions and value added services

**Larger vessels** to optimise freight costs

**Improve customer experience through innovation**

Piloting the first-ever fully integrated, cross-border paperless trade transaction in the industry

**Mobile portside application** that provides flexibility to purchase iron ore from Chinese ports
Maximising value from our aluminium product portfolio

**Bauxite: Developing new markets**
We create demand for our products through technical engagements and partnerships

![Map of key customers and market development](image)

**Growing external bauxite sales, Mt, Rio Tinto share**

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (Mt)</td>
<td>23</td>
<td>27</td>
<td>29</td>
<td>32</td>
<td>33</td>
</tr>
</tbody>
</table>

+41%

1. 2019 first half

**Alumina: Globally traded book**
Provides ability to balance Atlantic needs and manage market disruptions

<table>
<thead>
<tr>
<th>Position</th>
<th>Sources</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>Internal</td>
<td>3rd party and swaps</td>
</tr>
<tr>
<td>Pacific</td>
<td>Internal</td>
<td>3rd party and swaps</td>
</tr>
</tbody>
</table>

**11 Mt alumina book**
~9% of globally traded alumina market

**Swaps & purchases**
from external parties used to optimise global supply balance

**Aluminium: VAP sales**
To generate additional margin, regional optimisation to maximise value

<table>
<thead>
<tr>
<th>VAP premium vs. remelt, $/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAP portion¹</td>
</tr>
</tbody>
</table>

242

54%

¹ 2019 first half

Focusing on end customer solutions and partnerships

- RenewAl
- Low CO₂, Aluminium
- NESSEPO
- as is Aluminium Stewardship Initiative
Tailoring assets and product suite to market dynamics in TiO₂ and copper

TiO₂: market leader with unrivalled product offering
We flex volumes, grades and products to meet the needs of the market

Supply volumes through the cycle

<table>
<thead>
<tr>
<th></th>
<th>Peak</th>
<th>Trough</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume change</td>
<td>-40%</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

Product split¹

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio Tinto</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitor 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitor 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitor 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Value over volume approach to optimise our three assets to meet market needs

Diverse product suite and operational flexibility allows us to adjust grades to meet customer needs

Maximising co-product credits & developing new products for high grade

Copper: Positioning our assets to outperform in the market
Unique position to leverage longs and shorts in our markets

KUC long smelter capacity in a long concentrate market

Positioning Oyu Tolgoi in a market short in high-quality concentrate

Leverage arbitrage opportunities to optimise the portfolio

We are maximising the value of our physical flows

Harnessing our **vast network of information & insights** across markets, supply chain and procurement

**Driving commercial insight** across the business to continuously optimise end-to-end value

Maximising the value of our physical flows by **increasing optionality**

**Building a culture** of creating additional value at every opportunity
World-class system delivering outstanding returns

World-class assets and significant resource base

Highly-valued product suite

Exclusive fully-integrated system creates flexibility

People and partners driving innovation and productivity

Focus on sustainable operational excellence

Average FOB EBITDA margin\(^3\) ~68%\(^4\)

Average ROCE ~43%\(^4\)

---

1 EBITDA margin defined as sales margin excluding freight revenues. 2 Return on Capital Employed in H1 2019 shown at an annualised rate. 3 Nominal Free on Board (FOB) Western Australian iron ore price per dry metric tonne. Rio Tinto Iron Ore EBITDA excludes Dampier Salt and Rio Tinto Marine. Tonnage based on attributed shipments (adjusted for Robe River at 65% as per financial results). All figures in FOB terms. 4 FOB EBITDA margin is Rio Tinto Iron Ore EBITDA divided by revenues, excluding freight revenue. 5 Average over 3.5 years.
Solid mine performance

Annualised tonnes produced in Q3 2019 (number of weeks)

<table>
<thead>
<tr>
<th># weeks</th>
<th>320</th>
<th>330</th>
<th>340</th>
<th>350</th>
<th>360</th>
<th>370</th>
<th>380</th>
<th>390</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mtpa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strong Q3 performance following weather disruptions and operational issues in Q1 / Q2

87.3 Mt production / 347 Mtpa run rate in Q3

Annualised 360 Mt rate achieved for 5 weeks. Not achievable on a consistent, annualised basis

Total Material Moved Indexed to 2018 Actual

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mtpa</td>
<td>1.0</td>
<td>0.98</td>
<td>1.06</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Recovery actions well progressed and delivering results

2019 YTD Sales Product Split (RT Share) (Mt)

<table>
<thead>
<tr>
<th></th>
<th>PBF</th>
<th>PBL</th>
<th>HIY</th>
<th>RVF</th>
<th>RVL</th>
<th>SP10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

SP10 supports high consistency of Pilbara Blend

Increases resource recovery and mine productivity

SP10 cost is lower than Pilbara Blend average cost

Productivity focus to maximise financial results from assets

Haul Truck Effective Utilisation (Indexed to 2018 Actuals)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>Q1 19</th>
<th>Q2 19</th>
<th>Q3 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomous</td>
<td>1.0</td>
<td>1.02</td>
<td>1.06</td>
<td>1.10</td>
</tr>
<tr>
<td>Manned</td>
<td>1.0</td>
<td>0.96</td>
<td>1.01</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Excavator Mean Time Between Failure (Hrs Indexed to 2018 Actuals)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>Q1 19</th>
<th>Q2 19</th>
<th>Q3 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomous</td>
<td>1.0</td>
<td>0.86</td>
<td>1.08</td>
<td>1.18</td>
</tr>
<tr>
<td>Manned</td>
<td>1.0</td>
<td>0.96</td>
<td>0.95</td>
<td>0.87</td>
</tr>
</tbody>
</table>

Fixed Plant Conveyor Unscheduled Loss (Mt Indexed to 2018 Actuals)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>Q1 19</th>
<th>Q2 19</th>
<th>Q3 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomous</td>
<td>1.0</td>
<td>0.96</td>
<td>0.95</td>
<td>0.87</td>
</tr>
<tr>
<td>Manned</td>
<td>1.0</td>
<td>0.96</td>
<td>0.95</td>
<td>0.87</td>
</tr>
</tbody>
</table>
Rail improvements to drive capacity and flexibility

Annualised Railed Tonnes Run Rate (Mt)\(^1\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>338</td>
<td>302</td>
<td>345</td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Solid Q3 performance with 345 Mtpa run rate

Annualised Tonnes Railed in Q3 2019 (number of weeks)\(^2\)

- Annualised rate of 360 Mt achieved for 7 weeks in Q3.
- Capacity unlocked through AutoHaul, productivity and rail maintenance

TSR\(^3\) Average Cycle Time Impact Indexed to December 2018\(^2\)

- Maintenance demonstrating positive effect on cycle time

---

\(^1\) Does not include period of rail maintenance shut undertaken in late September / early October. Total railed tonnes for Q3 2019 were 85.3 Mt.

\(^2\) Does not include period of rail maintenance shut undertaken in late September / early October.

\(^3\) TSR - Temporary Speed Restrictions
Predicting Rail Maintenance

Specialist, multi-disciplined team formed including data scientists

Leverages data collected from AutoHaul™ and other technology throughout the rail network

Using artificial intelligence and Random Forests to optimise maintenance

Predicts optimal removal of existing defects to >90% and predicts future defects to >80%

Enables preventative approach and prioritisation of more effective maintenance
Sustain low cost through productivity and technology

Pilbara cash unit cost


$ per tonne

20.2 19.5 14.9 13.7 13.4 13.3 14.6

2020 Cost Direction:

- **Labour costs and maintenance**: Market tightening for some skill segments
  Increased maintenance hours

- **Mine work index**: Increase of ~12% due to longer haul distances
  Further development of brownfield pits

- **Exploration, evaluation and approvals**: Increasing to support major renewals

- **Productivity improvement**: Extension of automation and cost reduction
  Significant pipeline of productivity initiatives

- **Foreign exchange**: AUD / USD

Guidance
Long-term asset with strong replacement pipeline

Low-cost, value-accretive capital options

Koodaideri Phase One delivers capacity step change from 2021

Increasing approvals complexity

Significant period of mine renewal ahead

3.4 Bt of reserves and 23.3 Bt of resources¹

¹ 100% basis. Refer to page 2 for supporting statements.
System Outlook

System demonstrating 360 Mtpa run-rate short term
360 Mtpa capacity achieved when Koodaideri Phase One is fully commissioned\(^1\)

**2019 Guidance**

Shipments: 320 - 330 Mt (100% basis)
Unit costs: $14 - 15 /t

**2020 Guidance**

Up to 5% increase on shipments from 2019 guidance
Actual volumes and quality driven by market demand
Specific shipping and cost guidance provided January 2020

**Sustaining Capital**

Sustaining capital historically ~$1 billion per year
2020 to 2022 guidance $1 billion - $1.5 billion

\(^1\) Actual production subject to market and other conditions

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Strategy to deliver returns through the cycle

Continued outstanding financial performance through superior EBITDA margin

Mines - operational improvements delivering results

Focus on delivering sustainable operational excellence

Productivity and technology to offset headwinds

Resources and development options to underpin flagship Pilbara Blend product into the future

Driving system capacity through productivity, with step change to be achieved post Koodaideri

Value over volume core strategy with clear focus on delivering high-quality products to customers
Stephen McIntosh
At the frontier of mining technology
Technology at our core

Sustaining our leading cost positions

Deploying emerging technologies

World class talent

Delivering real growth options through exploration

Proven track record in project study and execution

Tackling critical industry challenges
## Leading mining industry innovation

<table>
<thead>
<tr>
<th>Automation</th>
<th>Process Tech</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILbara remote operations centre</td>
<td>Tailings Press Filter tech</td>
<td>Data analytics / data science</td>
</tr>
<tr>
<td>Autonomous trucks</td>
<td>AP45 Aluminium Smelter tech</td>
<td>Open Data Environment³</td>
</tr>
<tr>
<td>MAS¹ / RTVis²</td>
<td>AP60 Aluminium Smelter tech</td>
<td></td>
</tr>
<tr>
<td>Autonomous drills</td>
<td>Elysis™ - GHG Free Aluminium</td>
<td></td>
</tr>
<tr>
<td>AutoHaul™</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 MAS – Mine Automation System. 2 RTVis – Rio Tinto’s 3D visualisation technology. 3 The Open Data Environment is a proprietary data platform allowing rapid development and use of data analytics, machine learning, Artificial Intelligence, automation and optimisation technologies across Rio Tinto.
## Beyond automation

<table>
<thead>
<tr>
<th>Value chain integration</th>
<th>Digitally enabled operations</th>
</tr>
</thead>
</table>
| Real-time operational insights | **TrueView**  
Frontline decision support |
| Precision in decision making | **Paperless maintainer**  
Digital workflow, more time on tools |
| Real-time orebody optimisation | **Pioneer portal**  
Best minds on critical challenges |
| Sophisticated product / margin strategy | **Open Data Environment**  
Seamless integration with third party tech |
| **Mine Automation System** | **Edison**  
AI simplifying the knowledge landscape |
| | **Portside trading**  
Mobile app for customers |

*The Open Data Environment is a proprietary data platform allowing rapid development and use of data analytics, machine learning, Artificial Intelligence, automation and optimisation technologies across Rio Tinto.*
Data analytics and AI lowers cost and drives productivity

Copper head grade prediction

Real-time chemistry increasing Cu recovery
Global replication opportunity

Reducing materials handling down time
~40% reduction in materials handling down time
Global replication opportunity

Forecasting ship arrivals
Enable the reduction of demurrage costs
Global replication opportunity

Targeted head grade prediction is from Rio Tinto Kennecott. Materials handling downtime results are from Hope Downs 1.
Industry-leading exploration technology delivering results

Sophisticated proprietary tools & techniques

- "Greenrocks"
- Geochronology & Fertility
- Automated Mineralogy
- Predictive Analytics
- New models

Rapid application of new technologies

- Drones
- Hyperspectral Imaging
- Data in the field
- Search Analytics
- Research Partnership

Discovered by applying new insights to public and proprietary data to improve our targeting techniques

Winu

Novel adaptation of existing technology accelerating definition of the orebody

FalCon™
World-class execution function
Digital design and innovative construction led to multiple awards for Amrun

Winner: The Australian Construction Achievement Awards

Winner: The Civil Contractors Federation national award

Winner: IACCM innovation & excellence award

Winner: ICE Brunel Award – excellence in civil engineering

IACCM - The International Association for Contract & Commercial Management. The Brunel Medal is awarded by the Institute of Civil Engineers to recognise excellence in civil engineering.
Making mining fleets more productive

What is the mobile surge loader?
An integrated, mobile hopper bin and loading chute
Accepts ore/waste directly from the loading unit
Loading unit doesn’t have to wait for the truck

The benefits
50% increase in productivity of digger* expected as a result of cutting shovel hang time, removing spot and reverse at shovel, increasing effective utilisation
98% accuracy in loading of trucks* expected; average 75 seconds and trucks positioned within 1cm

*based on simulated results

Status of work
First of its kind being built by supplier MMD (commissioning Oct 2019)
12 month pilot at Kennecott (November 2019)
Future vision for deployment dependent on field results
Optimising orebodies and adding new revenue streams

Recovering borates from our tailings

- Lowest cost refinery ore feed, including recovery of tailings
- 7% uplift in recovery and reduction in variability of daily performance

Potential to add a new lithium revenue stream

- Optimising methods to generate battery-grade lithium carbonate from waste streams
- Opportunity to become largest producer of battery grade lithium carbonate in the US
Using technology to tackle critical industry challenges

Tailings – Dry-stacking:
Work with industry to research and develop new tailings solutions

Water management:
Increase capability to enhance water use and reduce waste

Solar:
Deploy existing renewable energy technologies

Wind:
Deploy existing renewable energy technologies

Hybrid & electric equipment:
Deploy OEM\(^1\) developed equipment to reduce scope 1

Elysis™
Technology breakthrough to produce GHG free aluminium

\(^1\) OEM – original equipment manufacturer
Leading the next frontier in mining

Unlocking tonnes

Creating options

Fighting inflation

Reducing capital intensity

Tackling critical industry challenges
Arnaud Soirat and Stephen McIntosh
Oyu Tolgoi
Oyu Tolgoi, a key investment for Rio Tinto

**World-class ore body**, set to become one of the world’s largest copper/gold mines

Outstanding achievements in **safety** and **production**

Open pit operations and mine plans continue to be optimised, delivering over **$1bn free cash flow** since 2013

Ten years since **Investment Agreement** signed

More than **$9.5bn spent to date*** in Mongolia since 2010

*At 30 June 2019. Source: Oyu Tolgoi website
## Operating in an evolving landscape

### Complexities

<table>
<thead>
<tr>
<th><strong>Population</strong></th>
<th><strong>Sovereign Risk</strong></th>
<th><strong>Economy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased urbanisation</td>
<td>Political uncertainty</td>
<td>Largely dependent on Oyu Tolgoi</td>
</tr>
</tbody>
</table>

### Opportunities

<table>
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<th><strong>Sovereign Risk</strong></th>
<th><strong>Economy</strong></th>
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</thead>
<tbody>
<tr>
<td>Young, educated population; employment and training</td>
<td>Mongolia can demonstrate successful delivery of large Foreign Direct Investment project</td>
<td>Diversify base – Oyu Tolgoi local procurement, sustainable projects funding</td>
</tr>
</tbody>
</table>
Construction progress

Shaft 2 construction complete

Hoist systems being commissioned

Game changer for underground development productivity

Boosted productivity

Record month in September 2019

Lateral development progress of 1,385 equivalent metres (eqm) vs 1,213 eqm in August 2019

Updating mine design

Building an asset that will live 50 years +

Continuing to evaluate mine design options: mid-access drives, ore handling system and panel sequencing
Shaft 2 construction complete

Animation shows infrastructure that has been completed (Shaft 2, Conveyor to surface) as well as elements currently under construction (Primary Crusher 1).
Construction progress

Shaft 2 construction complete

Hoist systems being commissioned

Game changer for underground development productivity

Boosted productivity

Record month in September 2019

Lateral development progress of 1,385 equivalent metres (eqm) vs 1,213 eqm in August 2019

Updating mine design

Building an asset that will live 50 years +

Continuing to evaluate mine design options: mid-access drives, ore handling system and panel sequencing
Looking forward

**Shaft 2 construction complete** – going through commissioning phase

Now focusing on **key underground supporting infrastructure**:
- Primary crusher 1
- Conveyor to surface
- Shafts 3 and 4

Complete the mine design in **H1 2020**

Complete Definitive Estimate in **H2 2020**
Jakob Stausholm
Our investment proposition
“Why invest in Rio Tinto?”

Our Assets
- Long life
- Competitive
- Expandable
- Sustainable
- Strong balance sheet

Our Approach
- Sustainability (ESG)
- Operational Excellence
- Value over volume
- Capital discipline
- Counter-cyclical

Our Performance

<table>
<thead>
<tr>
<th>Last 3 Years¹</th>
<th>ROCE²</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25 billion earnings³</td>
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<td>$23 billion free cash flow</td>
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<td>$26 billion⁴ dividends share buy-backs</td>
<td>18%</td>
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¹ 2H2016-1H2019 excluding all operations divested in the period. ² Return on Capital Employed (ROCE) is defined as underlying earnings (before net interest) / free cash flow / cash returns divided by average capital employed (operating assets before net debt). Average for 3 years to 30 June 2019. ³ Underlying earnings before net interest for the 3 years to 30 June 2019. ⁴ Cash returns (dividends and share buy-backs) are stated on a cash flow basis.

Unique strength and resilience
### Why invest in Rio Tinto?

#### Our Assets
- Long life
- Competitive
- Expandable
- Sustainable
- Strong balance sheet

#### Our Approach
- Sustainability (ESG)
- Operational Excellence
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#### Our Performance

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Long life: large resource base and modest depletion

40% of assets in **processing** > no depletion

60% of assets in **mining** > modest depletion

<table>
<thead>
<tr>
<th>Bulk products</th>
<th>2018 Production¹</th>
<th>Ore Reserves²</th>
<th>Mineral Resources²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mt</td>
<td>Mt</td>
<td>Mt</td>
</tr>
<tr>
<td>Pilbara Iron Ore (100%)</td>
<td>338</td>
<td>3,427</td>
<td>23,319</td>
</tr>
<tr>
<td>IOC Canada</td>
<td>9</td>
<td>320</td>
<td>1,125</td>
</tr>
<tr>
<td>Bauxite</td>
<td>50</td>
<td>1,522</td>
<td>3,365</td>
</tr>
</tbody>
</table>

¹ IOC and Bauxite 2018 production figures are on a Rio Tinto share basis, Pilbara Iron Ore is on a 100% basis.
² Refer to slide 2 for supporting statements. All Mineral Resources and Ore Reserves are as per the Rio Tinto 2018 Annual Report. All Mineral Resources and Ore Reserves are Rio Tinto share, except for Pilbara Iron Ore which is on a 100% basis. Mineral Resources are reported as additional to Ore Reserves. As per standard reporting practice, modifying factors have not been applied to the Resources and so these cannot be simply added to Ore Reserves.

Very significant resources in addition to reserves
Outstanding competitive position:
> 80% of our assets\(^1\) in lower half of the cost curve

Pilbara Iron Ore

Borates

\(\text{Lower half} \) of the cost curve

\(\text{In well-structured markets} \)

\(\text{With a strong market position} \)

\(\text{Constrained} \) by geology

Bauxite

Copper

TiO\(_2\)

Diamonds

Source: Rio Tinto and Wood Mackenzie. Copper costs expressed as CuEq C1 + royalties + sustaining capex. Range capped at 400c/lb.

\(^1\) Based on operating assets at 30 June 2019, excluding projects.
Expandable: our technical knowledge combined with our asset base creates opportunities throughout the pipeline

Spend over the last 3 years\(^1\) in $ billion

Spending Trend:

- **0.7**
  - Greenfield Exploration & Evaluation

- **0.7**
  - Product Groups Exploration & Evaluation

- **7.3**
  - Development Capital

- **6.7**
  - Sustaining Capital

1 Cumulative figures for the three year period 2H16 to 1H19
Sustainable: assets are well placed in a carbon-constrained world

No extraction of fossil fuels

71% of electricity from renewable sources

Own emissions down 18% in the last five years

Renew own emission targets in Q1 2020

Working with our customers (Baowu) and partners (Tsinghua University, Elysis) to help reduce emissions across the value chain

Total own greenhouse gas emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Million tonnes CO₂ equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>34</td>
</tr>
<tr>
<td>2015</td>
<td>32</td>
</tr>
<tr>
<td>2016</td>
<td>32</td>
</tr>
<tr>
<td>2017</td>
<td>31</td>
</tr>
<tr>
<td>2018</td>
<td>28</td>
</tr>
</tbody>
</table>

-18%
Our strong balance sheet creates resilience and optionality

- Reduces cyclicality of cash flows
- Enables counter-cyclical behaviour
- Creates optionality

<table>
<thead>
<tr>
<th></th>
<th>Reported net debt</th>
<th>Pro-forma net debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun-16</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td>Dec-16</td>
<td>12.9</td>
<td></td>
</tr>
<tr>
<td>Jun-17</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Dec-17</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Jun-18</td>
<td>9.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Dec-18</td>
<td>9.3</td>
<td>8.0</td>
</tr>
<tr>
<td>Jun-19</td>
<td>8.0</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>-0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.9</td>
<td></td>
</tr>
</tbody>
</table>

Pro forma net debt adjusts for the remainder of previously announced buy-backs from operations, lags in shareholder returns from disposal proceeds, Australian tax lag and disposal-related tax lag, and the impact of IFRS 16 Leases for all prior periods. IFRS 16 Leases is reflected in June 2019 reported net debt.
“Why invest in Rio Tinto?”

Our Assets
- Long life
- Competitive
- Expandable
- Sustainable
- Strong balance sheet

Our Approach
- Sustainability (ESG)
- Operational Excellence
- Value over volume
- Capital discipline
- Counter-cyclical

Our Performance
- Last 3 Years
  - ROCE
  - $25 billion earnings
  - $23 billion free cash flow
  - $26 billion dividends share buy-backs

Unique strength and resilience

---

1 2H2016-1H2019 excluding all operations divested in the period. 2 Return on Capital Employed (ROCE) is defined as underlying earnings (before net interest) / free cash flow / cash returns divided by average capital employed (operating assets before net debt). Average for 3 years to 30 June 2019. 3 Underlying earnings before net interest for the 3 years to 30 June 2019. 4 Cash returns (dividends and share buy-backs) are stated on a cash flow basis.
Well-established sustainability (ESG) approach

Relationships and governance

Safety always our first priority

Community relations

Transparency:
- Climate change report
- Taxes paid
- Contract disclosure
- Tailings disclosure

Effective risk management

Closure, the long-term view

Three levels of assurance for managing tailings and water storage

$10bn\textsuperscript{1} of provisions
Robust rehabilitation plans

\textsuperscript{1} At 31 December 2018
Operational excellence: productivity is a key lever

M2M\(^1\) free cash flow target of $1.0-1.5 billion run-rate from 2021, dependent on:

- Market conditions in Iron Ore
- Raw material prices in Aluminium reverting to levels at the beginning of the programme

---

\(^1\) M2M - Mine to Market
Value over volume

Production growth (Cu Eq)

2.0% CAGR\(^1\)

up to 2% CAGR – organic growth potential

Last 3 years

2016 2019 2023

\(^1\) Compound Annual Growth Rate (CAGR) from 2H2016 to 1H2019

Value over volume

Day-to-day commercial considerations by commodity

Investment decisions entirely driven by value
Disciplined allocation of capital

1. Essential sustaining capex
2. Ordinary dividends
3. Iterative cycle of

- Further cash returns to shareholders
- Compelling growth
- Debt management
Controlled ramp-up of investments

Sustaining capex of around $2.5 billion per year

Iron Ore sustaining capex of $1.0-1.5 billion per year

Pilbara replacement capital includes Koodaideri and Robe River mine developments from 2019

All capital decisions go through rigorous evaluation and challenge
Counter-cyclical: divested assets while disciplined on capital spend

Divested assets in strong commodity markets

18 assets divested since 2016

Raised $12.3 billion in pre-tax cash flow

All post-tax divestment proceeds have been returned to shareholders

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash proceeds from divestments (pre-tax) $ billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1.0</td>
</tr>
<tr>
<td>2017</td>
<td>2.7</td>
</tr>
<tr>
<td>2018</td>
<td>8.6</td>
</tr>
<tr>
<td>Total</td>
<td>12.3</td>
</tr>
</tbody>
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Global PMI¹  

<table>
<thead>
<tr>
<th>Year</th>
<th>PMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>51</td>
</tr>
<tr>
<td>2017</td>
<td>53</td>
</tr>
<tr>
<td>2018</td>
<td>53</td>
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¹ PMI – Purchasing Managers Index
“Why invest in Rio Tinto?”

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Our performance: industry-leading profitability…

Average ROCE 2009 to 2019 of 16%
Average ROCE 2001 to 2008 of 22%
Only one year of single digit ROCE in two decades

Return on invested capital*, post tax

Source: CSFB and company information.
*Return on Invested Capital is defined as tax adjusted EBIT / (consolidated book equity + net debt).
** Average of peers comprising Anglo American, BHP, Glencore and Vale.

©2019, Rio Tinto, All Rights Reserved
…that drive strong cash flows…

Cash flow in $ billion

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating cash flow</th>
<th>Free cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>9.2</td>
<td>3.9</td>
</tr>
<tr>
<td>2010</td>
<td>18.3</td>
<td>13.7</td>
</tr>
<tr>
<td>2011</td>
<td>20.0</td>
<td>7.7</td>
</tr>
<tr>
<td>2012</td>
<td>(8.1)</td>
<td>9.4</td>
</tr>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Operating cash flow</th>
<th>Free cash flow</th>
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<tbody>
<tr>
<td>2013</td>
<td>15.1</td>
<td>2.1</td>
</tr>
<tr>
<td>2014</td>
<td>14.3</td>
<td>6.9</td>
</tr>
<tr>
<td>2015</td>
<td>9.4</td>
<td>4.8</td>
</tr>
<tr>
<td>2016</td>
<td>8.5</td>
<td>5.8</td>
</tr>
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</tr>
<tr>
<td>2018</td>
<td>11.8</td>
<td>7.0</td>
</tr>
<tr>
<td>2019F*</td>
<td>15.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Free cash flow is defined as net cash generated from operating activities less purchases of PP&E less lease principal payments plus sales of PP&E.

*2019 forecast assumes June YTD actual realised pricing, July to September monthly average index prices with the remainder of 2019 based on October spot prices. Production and shipments for 2019 is based on consensus.
…based on a well defined pay-out policy

Our pay-out ratio has consistently exceeded the policy

Returns policy widely accepted

Pay-out ratio policy de-risks the company

Policy of 40-60% of underlying earnings through the cycle
## “Why invest in Rio Tinto?”

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### Unique strength and resilience

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3. Underlying earnings before net interest for the 3 years to 30 June 2019.
4. Cash returns (dividends and share buy-backs) are stated on a cash flow basis.
J-S Jacques
Chief executive
Appendices

31 October 2019
London
World-class iron ore assets - fully integrated and agile network

- Mines: 16
- Rail (km): 1,700
- Port terminals: 4
- Power stations: 4
- Haul trucks: >370
- Autonomous haul trucks: >150
- Production drills: 55
- Autonomous drills: >20
- Locomotives: >200
- Global customers: >100
Benefits to Mongolia already significant and will continue for generations

**World-class**
safety performance

**Direct economic**
contribution

**88%**
water recycling rate

**International**
reputation

**212,000**
saplings planted

**Industry**
development

**Support**
gazelle and wildlife

**Human capital**
development

**South Gobi**
partnerships

**Building the future**
business eco system

- $9.5bn spent to date in Mongolia
- $2.4bn in taxes and royalties
- 212,000 saplings planted
- 15,000 employees
- 93% Mongolian
- 342k hrs in training in 2019
- 342k hrs in training in 2019
- $3bn spent with ~700 local businesses
- At 30 June 2019

Source: Rio Tinto, Oyu Tolgoi website
**Construction progress at Oyu Tolgoi**

**Above ground infrastructure completed**
- Mine dry building
- Mine dry and control centre
- Central heating plant
- Overland conveyor to stockpile
- 5,500 person camp
- Shaft 5 ventilation fans
- Mine air heaters
- Batch plant 4 & quarry

**Shafts & below ground infrastructure completed**
- Shaft 2 complete, commissioning
- Shaft 5
- Shaft 2 Jaw Crusher
- Ore bin 11 and transfer station
- Surface discharge conveyor
- Excavation of the Primary Crusher 1 chamber

**Lateral development productivity**
- 28,202 equivalent metres (eqm) of vertical, lateral and mass excavation development (on & off footprint) – 30 September 2019
- Record performance of 1,385 eqm in September
Investment agreements allowed financing for Oyu Tolgoi

- **Open pit mine constructed and production commenced**
- **Underground construction suspended**
- **UDP signed and project finance secured**
- **Underground construction recommenced & ongoing**

**2009**
- Investment Agreement

**2011**
- Amended & Restated Shareholder Agreement (ARSHA)

**2013**
- Underground Development Plan (UDP)

**2015**
- Under construction
- Project Finance

**2016**
- Power Agreement

**2018**
- Today

~90% of Foreign Direct Investment associated with Oyu Tolgoi

**Total**
**$4.4bn**

Loans raised by Oyu Tolgoi to fund underground expansion

Foreign direct investment, net inflows (Balance of Payments, current US$)
Source: World Bank
## Group level financial guidance

<table>
<thead>
<tr>
<th></th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPEX</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Group</td>
<td>$5.5bn</td>
<td>~$7.0bn</td>
<td>~$6.5bn</td>
<td>~$6.5bn</td>
</tr>
<tr>
<td>Sustaining Capex Group</td>
<td>~$2.5bn</td>
<td>~$2.5bn</td>
<td>~$2.5bn</td>
<td>~$2.5bn</td>
</tr>
<tr>
<td>Pilbara Sustaining Capex</td>
<td>$1.0bn</td>
<td>$1.0-$1.5bn</td>
<td>$1.0-$1.5bn</td>
<td>$1.0-$1.5bn</td>
</tr>
<tr>
<td><strong>Productivity</strong></td>
<td>$0.5bn</td>
<td></td>
<td>$1.0 - $1.5bn$^{1}$</td>
<td></td>
</tr>
<tr>
<td><strong>Effective tax rate</strong></td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td></td>
<td>Total returns of 40 – 60% of underlying earnings through the cycle</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

$^{1}$ Exit run rate of additional free cash flow by end of 2021
## Group level financial guidance

<table>
<thead>
<tr>
<th></th>
<th>2019 production guidance(^1)</th>
<th>2019 costs</th>
<th>2020 guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iron Ore Shipments</strong></td>
<td>320 – 330mt (100% basis)</td>
<td>$14-15/wmt (FOB)(^2)</td>
<td>Up to 5% increase on shipments from 2019 guidance, subject to market conditions.</td>
</tr>
<tr>
<td><strong>C&amp;D</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mined Copper</em></td>
<td>550 – 600kt</td>
<td>C1 unit costs 110-120 c/lb</td>
<td></td>
</tr>
<tr>
<td><em>Refined Copper</em></td>
<td>220 – 250kt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Diamonds</em></td>
<td>15 – 17 m carats</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aluminium</strong></td>
<td></td>
<td>Modelling guidance provided for Canadian smelters only (see slide 91)</td>
<td></td>
</tr>
<tr>
<td><em>Bauxite</em></td>
<td>around 54mt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Alumina</em></td>
<td>around 7.7mt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Aluminium</em></td>
<td>at lower end of 3.2 – 3.4mt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minerals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>TiO₂</em></td>
<td>1.2 – 1.4 mt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>IOC</em></td>
<td>10.7 - 11.3 mt(^3) (RT share)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>B₂O₃</em></td>
<td>0.5mt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Rio Tinto share unless otherwise stated. \(^2\) Per wet metric tonnes on a Free on Board basis. Includes 0.25c/t relating to additional waste movement costs. \(^3\) Total production of pellets and concentrates – mix can flex depending on marketing demand.
Modelling EBITDA

Underlying EBITDA sensitivity

<table>
<thead>
<tr>
<th>Commodity</th>
<th>H1 2019 average price / rate</th>
<th>($m) impact on FY 2019 underlying EBITDA of 10% price/rate change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>280c/lb</td>
<td>281</td>
</tr>
<tr>
<td>Aluminium</td>
<td>$1,826/t</td>
<td>462</td>
</tr>
<tr>
<td>Gold</td>
<td>$1,307/oz</td>
<td>61</td>
</tr>
<tr>
<td>Iron ore (62% Fe FOB)</td>
<td>$84.9/dmt</td>
<td>1,862</td>
</tr>
<tr>
<td>A$</td>
<td>0.71US$</td>
<td>550</td>
</tr>
<tr>
<td>C$</td>
<td>0.75US$</td>
<td>345</td>
</tr>
<tr>
<td>Oil (Brent)</td>
<td>$66/bbl</td>
<td>68</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

($/t) Impact a $100/t change in each of the input costs below will have on our H1 2019 Canadian smelting unit cash cost of $1,406/t

<table>
<thead>
<tr>
<th>Material</th>
<th>Impact ($/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumina (FOB)</td>
<td>191</td>
</tr>
<tr>
<td>Green petroleum coke (FOB)</td>
<td>34</td>
</tr>
<tr>
<td>Calcined petroleum coke (FOB)</td>
<td>30</td>
</tr>
<tr>
<td>Coal tar pitch (FOB)</td>
<td>7</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.
## Group Income Statement

<table>
<thead>
<tr>
<th></th>
<th>Rio Tinto Group</th>
<th></th>
<th>Oyu Tolgoi and Turquoise Hill&lt;sup&gt;(1)&lt;/sup&gt;</th>
<th></th>
<th>Proforma Rio Tinto Group (excluding OT and TRQ)&lt;sup&gt;(2)&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jun-19 YTD Actual ($m)</td>
<td>Dec-18 YTD Actual ($m)</td>
<td>Jun-19 YTD Actual ($m)</td>
<td>Dec-18 YTD Actual ($m)</td>
<td>Jun-19 YTD Actual ($m)</td>
</tr>
<tr>
<td>Consolidated sales revenue</td>
<td>20,722</td>
<td>40,522</td>
<td>735</td>
<td>1,180</td>
<td>19,987</td>
</tr>
<tr>
<td>Net operating costs (excluding items shown separately)</td>
<td>(12,818)</td>
<td>(27,115)</td>
<td>(470)</td>
<td>(1,058)</td>
<td>(12,348)</td>
</tr>
<tr>
<td>Impairment charges</td>
<td>(2,349)</td>
<td>(132)</td>
<td>(2,240)</td>
<td>-</td>
<td>(109)</td>
</tr>
<tr>
<td>Net gains on consolidation and disposal of interests in businesses</td>
<td>-</td>
<td>4,622</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Exploration and evaluation costs</td>
<td>(287)</td>
<td>(488)</td>
<td>-</td>
<td>(5)</td>
<td>(287)</td>
</tr>
<tr>
<td>Profit relating to interests in undeveloped projects</td>
<td>8</td>
<td>278</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>Operating profit</td>
<td>5,276</td>
<td>17,687</td>
<td>(1,975)</td>
<td>117</td>
<td>7,251</td>
</tr>
<tr>
<td>Share of profit after tax of equity accounted units</td>
<td>208</td>
<td>513</td>
<td>-</td>
<td>-</td>
<td>208</td>
</tr>
<tr>
<td>Profit before finance items and taxation</td>
<td>5,484</td>
<td>18,200</td>
<td>(1,975)</td>
<td>117</td>
<td>7,459</td>
</tr>
<tr>
<td>Finance items</td>
<td>(298)</td>
<td>(33)</td>
<td>1</td>
<td>(22)</td>
<td>(299)</td>
</tr>
<tr>
<td>Profit before taxation</td>
<td>5,186</td>
<td>18,167</td>
<td>(1,974)</td>
<td>95</td>
<td>7,160</td>
</tr>
<tr>
<td>Taxation</td>
<td>(2,255)</td>
<td>(4,242)</td>
<td>(80)</td>
<td>44</td>
<td>(2,175)</td>
</tr>
<tr>
<td>Profit for the period</td>
<td>2,931</td>
<td>13,925</td>
<td>(2,054)</td>
<td>139</td>
<td>4,985</td>
</tr>
<tr>
<td>- attributable to owners of Rio Tinto (net earnings)</td>
<td>4,130</td>
<td>13,638</td>
<td>(641)</td>
<td>125</td>
<td>4,771</td>
</tr>
<tr>
<td>- attributable to non-controlling interests</td>
<td>(1,199)</td>
<td>287</td>
<td>(1,413)</td>
<td>14</td>
<td>214</td>
</tr>
<tr>
<td>Non-GAAP measures (per Financial Information by Business Unit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underlying EBITDA</td>
<td>10,250</td>
<td>18,136</td>
<td>306</td>
<td>375</td>
<td>9,944</td>
</tr>
<tr>
<td>Underlying Earnings</td>
<td>4,932</td>
<td>8,808</td>
<td>52</td>
<td>69</td>
<td>4,880</td>
</tr>
</tbody>
</table>

<sup>(1)</sup> Represents the amounts shown in the subsidiaries’ financial statements prepared in accordance with IFRS under Rio Tinto Group accounting policies, including fair value adjustments, and before intercompany eliminations.

<sup>(2)</sup> Includes income and expenses arising in other Rio Tinto group companies from transactions with Oyu Tolgoi and Turquoise Hill.
# Group Balance Sheet

<table>
<thead>
<tr>
<th></th>
<th>Rio Tinto Group</th>
<th>Oyu Tolgoi and Turquoise Hill(1)</th>
<th>Proforma Rio Tinto Group (excluding OT and TRQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jun-19 YTD</td>
<td>Dec-18 YTD</td>
<td>Jun-19 YTD</td>
</tr>
<tr>
<td></td>
<td>Actual ($m)</td>
<td>Actual ($m)</td>
<td>Actual ($m)</td>
</tr>
<tr>
<td>Non-current assets</td>
<td>69,887</td>
<td>70,047</td>
<td>8,848</td>
</tr>
<tr>
<td>Current assets</td>
<td>16,479</td>
<td>20,168</td>
<td>3,280</td>
</tr>
<tr>
<td>Assets of disposal groups held for sale</td>
<td>386</td>
<td>734</td>
<td>-</td>
</tr>
<tr>
<td>Total assets</td>
<td>86,752</td>
<td>90,949</td>
<td>12,128</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>(10,897)</td>
<td>(10,571)</td>
<td>(503)</td>
</tr>
<tr>
<td>Non-current liabilities</td>
<td>(31,386)</td>
<td>(30,261)</td>
<td>(4,400)(2)</td>
</tr>
<tr>
<td>Liabilities of disposal groups held for sale</td>
<td>(169)</td>
<td>(294)</td>
<td>-</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>(42,452)</td>
<td>(41,126)</td>
<td>(4,903)</td>
</tr>
<tr>
<td>Net assets</td>
<td>44,300</td>
<td>49,823</td>
<td>7,225</td>
</tr>
<tr>
<td>Equity attributable to owners of Rio Tinto</td>
<td>39,565</td>
<td>43,686</td>
<td>4,739</td>
</tr>
<tr>
<td>Attributable to non-controlling interests</td>
<td>4,735</td>
<td>6,137</td>
<td>2,486</td>
</tr>
<tr>
<td>Total equity</td>
<td>44,300</td>
<td>49,823</td>
<td>7,225</td>
</tr>
</tbody>
</table>

**Non-GAAP Measures (per Financial Information by Business Unit)**

- Operating assets: 44,420 (Jun-19), 43,431 (Dec-18), 5,954 (Jun-19), 6,072 (Dec-18), 38,466 (Jun-19), 37,359 (Dec-18)
- Net debt: 4,855 (Jun-19), 255 (Dec-18), 1,215 (Jun-19), 727 (Dec-18), 3,640 (Jun-19), 982 (Dec-18)
- Equity attributable to owners of Rio Tinto: 39,565 (Jun-19), 43,431 (Dec-18), 4,739 (Jun-19), 5,345 (Dec-18), 34,826 (Jun-19), 38,341 (Dec-18)

---

Oyu Tolgoi (OT) and Turquoise Hill Resources (TRQ) are fully consolidated in the Rio Tinto accounts – Rio Tinto's economic ownership is 33.66%. These tables are provided to be able to see the OT/TRQ accounts on a stand alone basis.

(1) Represents the amounts shown in the subsidiaries' financial statements prepared in accordance with IFRS under Rio Tinto Group accounting policies, including fair value adjustments, and before intercompany eliminations.

(2) Rio Tinto plc has provided a guarantee, known as the completion support undertaking (CSU), in favour of the Oyu Tolgoi LLC project finance lenders. At 30 June 2019 and 31 Dec 2018, US$4.3bn of project finance debt was outstanding under this facility.

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<table>
<thead>
<tr>
<th></th>
<th>Rio Tinto Group</th>
<th>Oyu Tolgoi and Turquoise Hill(1)</th>
<th>Proforma Rio Tinto Group (excluding OT and TRQ)(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YTD Actual ($m)</td>
<td>YTD Actual ($m)</td>
<td>YTD Actual ($m)</td>
</tr>
<tr>
<td>Cash flows from operations</td>
<td>9,429</td>
<td>16,455</td>
<td>9,142</td>
</tr>
<tr>
<td>Net interest paid</td>
<td>(250)</td>
<td>(612)</td>
<td>(169)</td>
</tr>
<tr>
<td>Dividends paid</td>
<td>(57)</td>
<td>(420)</td>
<td>(57)</td>
</tr>
<tr>
<td>Tax paid</td>
<td>(2,733)</td>
<td>(3,602)</td>
<td>(3)</td>
</tr>
<tr>
<td>Net cash generated from</td>
<td>6,389</td>
<td>11,821</td>
<td>6,272</td>
</tr>
<tr>
<td>operating activities</td>
<td></td>
<td>117</td>
<td>189</td>
</tr>
<tr>
<td>Purchase of property, plant</td>
<td>(2,391)</td>
<td>(5,430)</td>
<td>(1,284)</td>
</tr>
<tr>
<td>and equipment and intangible</td>
<td></td>
<td>(651)</td>
<td>(1,740)</td>
</tr>
<tr>
<td>assets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposals of subsidiaries,</td>
<td>46</td>
<td>7,733</td>
<td>-</td>
</tr>
<tr>
<td>joint ventures, unincorporated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>joint operations and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>associates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases of financial assets</td>
<td>(47)</td>
<td>(1,572)</td>
<td>(47)</td>
</tr>
<tr>
<td>Other investing</td>
<td>17</td>
<td>590</td>
<td>-</td>
</tr>
<tr>
<td>Net cash (used)/generated in</td>
<td>(2,375)</td>
<td>1,321</td>
<td>(1,283)</td>
</tr>
<tr>
<td>investing activities</td>
<td></td>
<td>(651)</td>
<td>(1,724)</td>
</tr>
<tr>
<td>Cash flows before financing</td>
<td>4,014</td>
<td>13,142</td>
<td>(1,094)</td>
</tr>
<tr>
<td>activities</td>
<td></td>
<td>(534)</td>
<td></td>
</tr>
<tr>
<td>Net cash flows used in</td>
<td>(7,881)</td>
<td>(12,951)</td>
<td>(2)(3)</td>
</tr>
<tr>
<td>financing activities</td>
<td></td>
<td>(9)(3)</td>
<td></td>
</tr>
<tr>
<td>Effects of exchange rates on</td>
<td>(34)</td>
<td>151</td>
<td>-</td>
</tr>
<tr>
<td>cash and cash equivalents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net (decrease)/increase in</td>
<td>(3,901)</td>
<td>342</td>
<td>(1,096)</td>
</tr>
<tr>
<td>cash and cash equivalents</td>
<td></td>
<td>(543)</td>
<td></td>
</tr>
<tr>
<td>Non-GAAP measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free cash flow</td>
<td>3,879</td>
<td>6,977</td>
<td>(334)</td>
</tr>
</tbody>
</table>

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