RioTinto

Investor seminar

Strength and resilience

Cautionary and supporting statements

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This document, including but not limited to all forward looking figures, contains certain forward-looking statements with respect to the financial condition, results of operations and business of the Rio Tinto Group. These statements are forward-looking statements within the meaning of Section 27A of the US Securities Act of 1933, and Section 21E of the US Securities Exchange Act of 1934. The words "intend", "aim", "project", "anticipate", "estimate", "plan", "believes", "expects", "may", "should", "will", "target", "set to" or similar expressions, commonly identify such forward-looking statements.

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

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

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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 abovementioned 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:

	Association[1]	Employer	Accountability	Deposits
Bauxite				
L McAndrew	AusIMM	Rio Tinto	Reserve	Gove, East Weipa and Andoom, Amrun
G Rogers	AusIMM		Resource	Gove, East Weipa and Andoom, North of Weipa, Amrun
M Keersemaker	AusIMM	CBG Consultant	Reserve	Sangaredi
G Girouard	AusIMM	Compagnie des Bauxites de Guinée	Resource	
C J da Silva	AusIMM	MRN Consultant	Reserve	Trombetas
M A H Monteiro	AusIMM	Mineração Rio do Norte	Resource	
Iron Ore				
K Tindale	AusIMM	Rio Tinto	Resource	Simandou
T Leriche	PEGNL	Rio Tinto	Resource and Reserve	Iron Ore Company of Canada
B Power	PEGNL		Resource	
B Wallace	PEGNL		Resource	
R Way	PEGNL		Resource	
R Williams	PEGNL		Reserve	
A Bertram	AusIMM	Rio Tinto	Resource	Rio Tinto Iron Ore – Hamersley, Channar, Eastern Range, Hope Downs, Robe, Rhodes Ridge
P Savory	AusIMM		Resource	
B Sommerville	AusIMM		Resource	
L Couto	AusIMM		Reserve	Rio Tinto Iron Ore – Hamersley, Channar, Eastern Range, Hope Downs, Robe
M Janas	AusIMM		Reserve	
R Sarin	AusIMM		Reserve	
R Verma	AusIMM		Reserve	

[1] AusIMM: Australasian Institute of Mining and Metallurgy; PEGNL: Professional Engineers and Geoscientists, Newfoundland and Labrador.

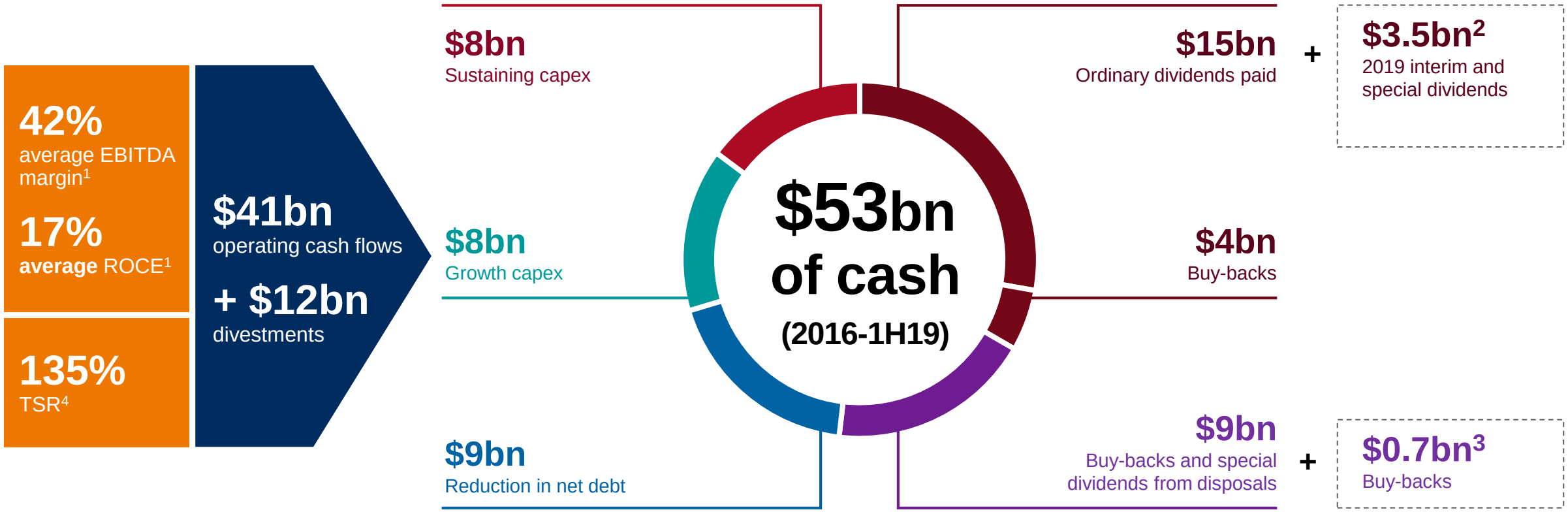
Agenda

Time	Topic	Who
08:00-08:25	Strength and resilience	**J-S Jacques** Chief executive
08:25-08:45	Connected to our markets	**Vivek Tulpule** Head of Economics & Markets
	Maximising the value of physical flows	**Simon Trott** Chief Commercial Officer
08:45-09:05	Iron Ore: optimise and flex	**Chris Salisbury** Chief executive, Iron Ore
09:05-09:35	Q&A	Panel
09:35-10:05	BREAK	Technology demonstrations in the foyer
10:05-10:25	At the frontier of mining technology	**Stephen McIntosh** Group executive, Growth & Innovation
10:25-10:35	Oyu Tolgoi	**Arnaud Soirat / Stephen McIntosh** Chief executive, Copper & Diamonds / Group executive, Growth & Innovation
10:35-10:55	Our investment proposition	**Jakob Stausholm** Chief Financial Officer
10:55-11:25	Q&A	Panel
11:25-11:30	Wrap up	**J-S Jacques**

J-S Jacques

Chief executive

Sector-leading financial performance



[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

0.44 AIFR[1]
In 2018 vs 0.68 for ICMM[2] 23 companies

17%
Average ROCE[3] H1 2016-H1 2019

71%
Of our electricity from renewable sources

$10bn
In close-down and restoration provisions at 31 Dec 2018

2nd
In the Corporate Human Rights Index

Collaborating to enable long-term economic benefits

$6.6bn
paid in taxes and royalties globally in 2018

1st
Collaboration on Australia's first automation skills qualifications

$3bn with 700 local firms
spent in Mongolia since 2010

Pioneering materials for human progress

Elysis
Partnership with Alcoa and Apple to create carbon-free aluminium smelting process

Li_2CO_3
R&D to produce battery grade Lithium Carbonate from tailings waste at Boron

100%
of our Canadian operations now offer Aluminium Stewardship Initiative certified product

Partnerships
MOU with Baowu and Tsinghua University to work to reduce carbon emissions across the steel value chain

[1] All Injury Frequency Rate
[2] International Council on Mining and Metals
[3] 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

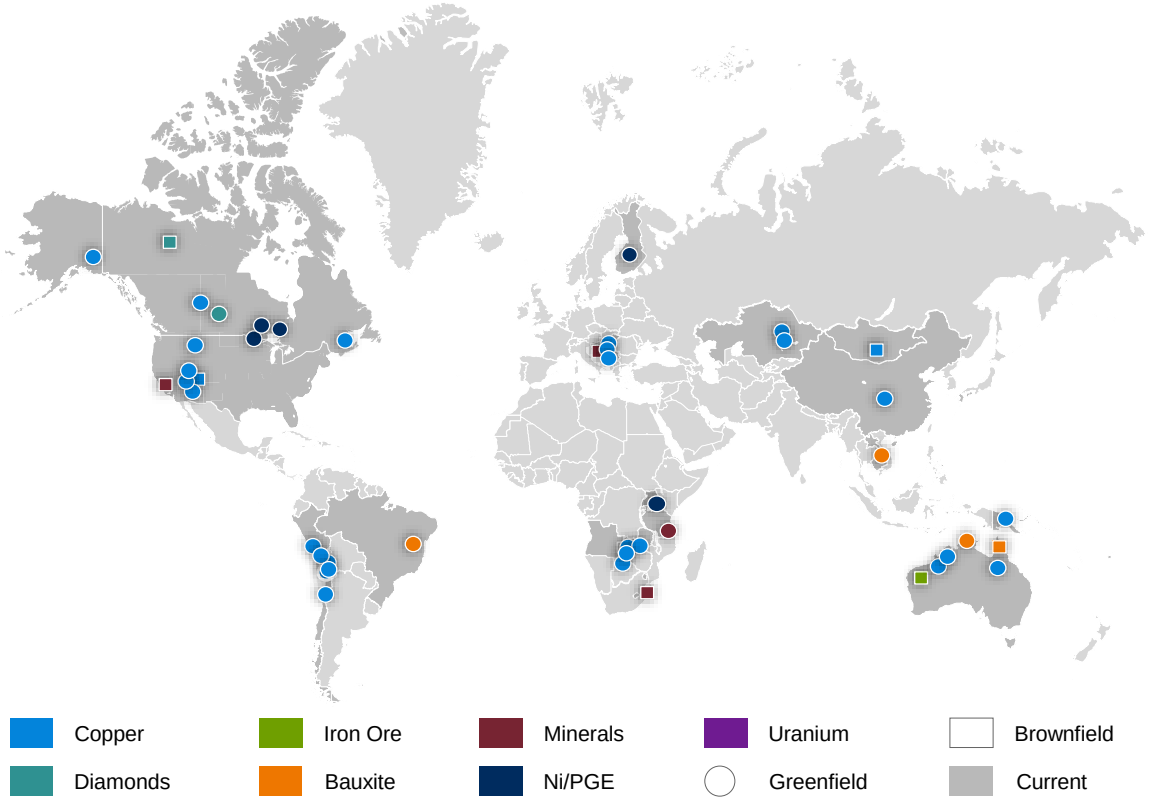
Portfolio: quality, diversified assets

Commodity	Iron ore	Aluminium	Copper	Minerals
Strategic approach	Optimise and flex	Protect and fix	Unlock growth	Develop opportunities
Priorities	Value over Volume Product quality Productivity / automation Renewables Increase variable cost base Partnerships	Production creep Customer / product mix optimisation Energy costs Reduce capital intensity Low-carbon technology Partnerships	Fast-track options from exploration Develop growth projects Apply technology to unlock volumes Tolling Partnerships	Value over Volume Rio Tinto Ventures Partnerships
Long-term market conditions	Low growth	Moderate primary demand growth Price-cost squeeze	Depletion and demand growth Fragmented supply side Non-OECD supply growth	High demand growth Evolving downstream markets
EBITDA margin[1]	**63%**	**28%**	**40%**	**31%**
ROCE[1]	**42%**	**8%**	**9%**	**10%**

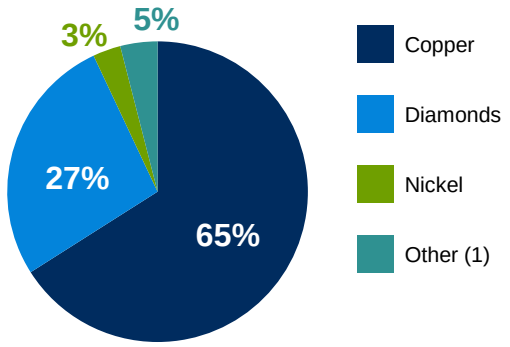
[1] Average over three years to 30 June 2019. Divested assets have been excluded from all periods. Copper & Diamonds excludes Oyu Tolgoi. Return on Capital Employed (ROCE) defined as underlying earnings (to 30 June) before net interest divided by average capital employed (operating assets before net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

Portfolio: creating options through exploration

Projects located mainly in lower risk jurisdictions

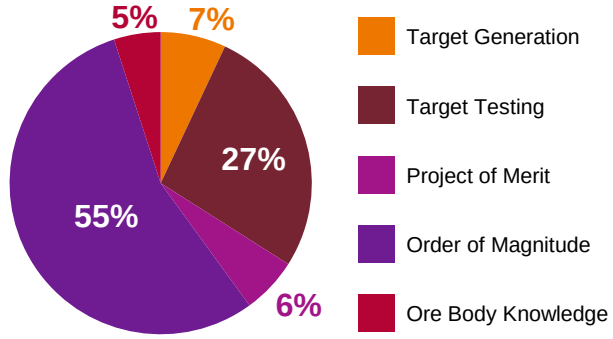


2019 exploration expenditure by commodity

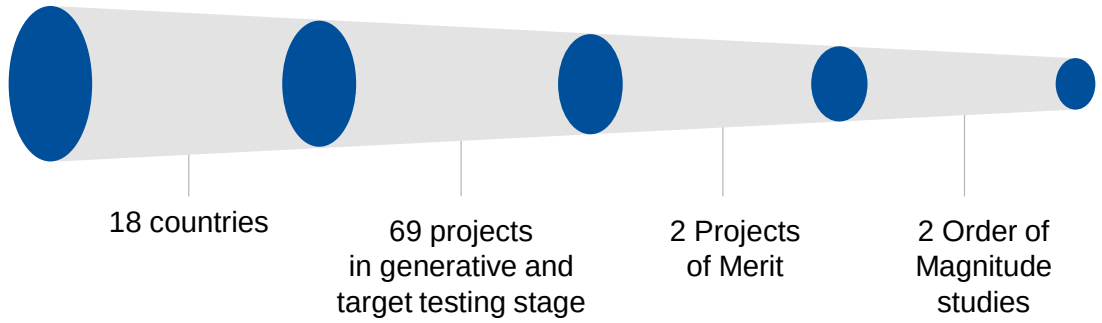


[1] Iron ore, bauxite, uranium, minerals

2019 exploration expenditure by project stage



Focus on most promising opportunities

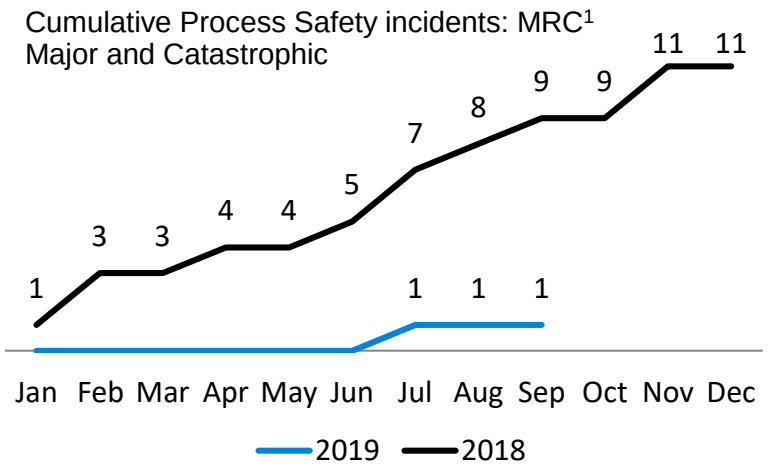


Performance: safety, operational and commercial excellence drive superior margins and returns

Zero fatalities our priority

A safe and well run business

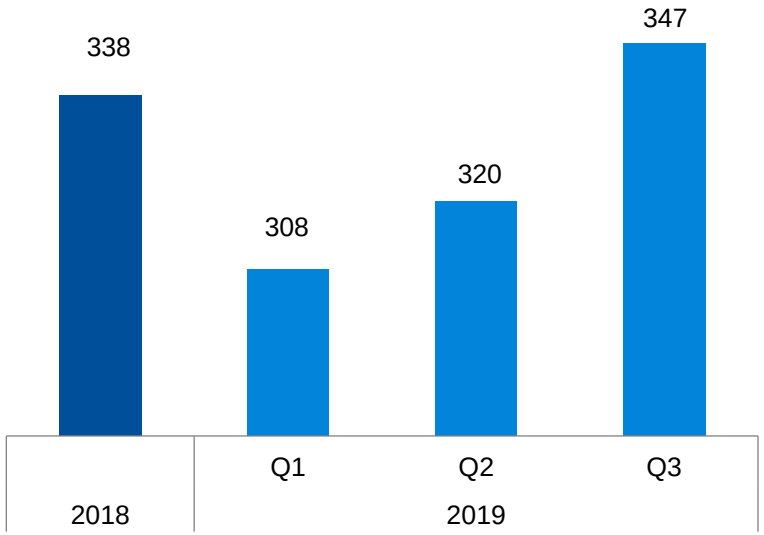
We are improving our Process Safety Performance



Relentless focus on operational excellence

Addressing the challenges: strong recovery in iron ore production and shipments in Q3

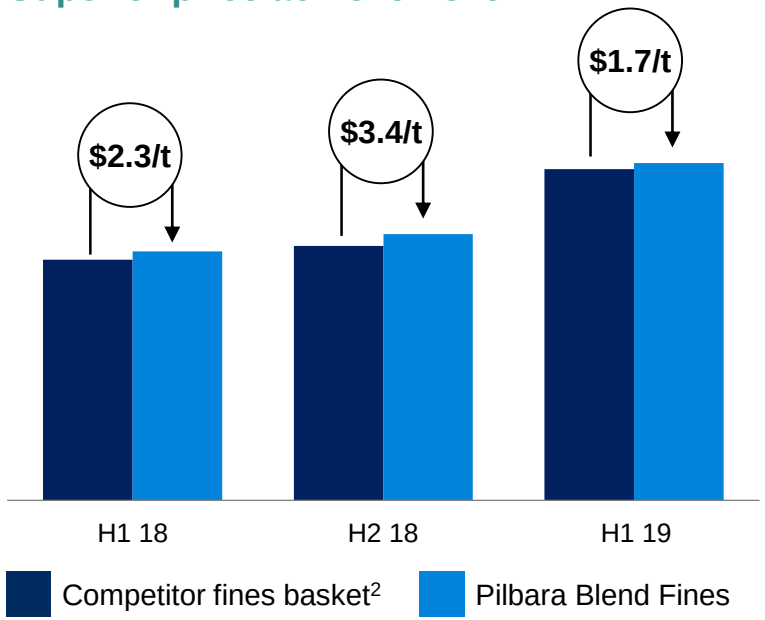
Pilbara iron ore production (annualised run rate Mt)



Commercial insights boost profits

Actively managing trade-off between volumes, quality, cost and capex

Superior price achievement



[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

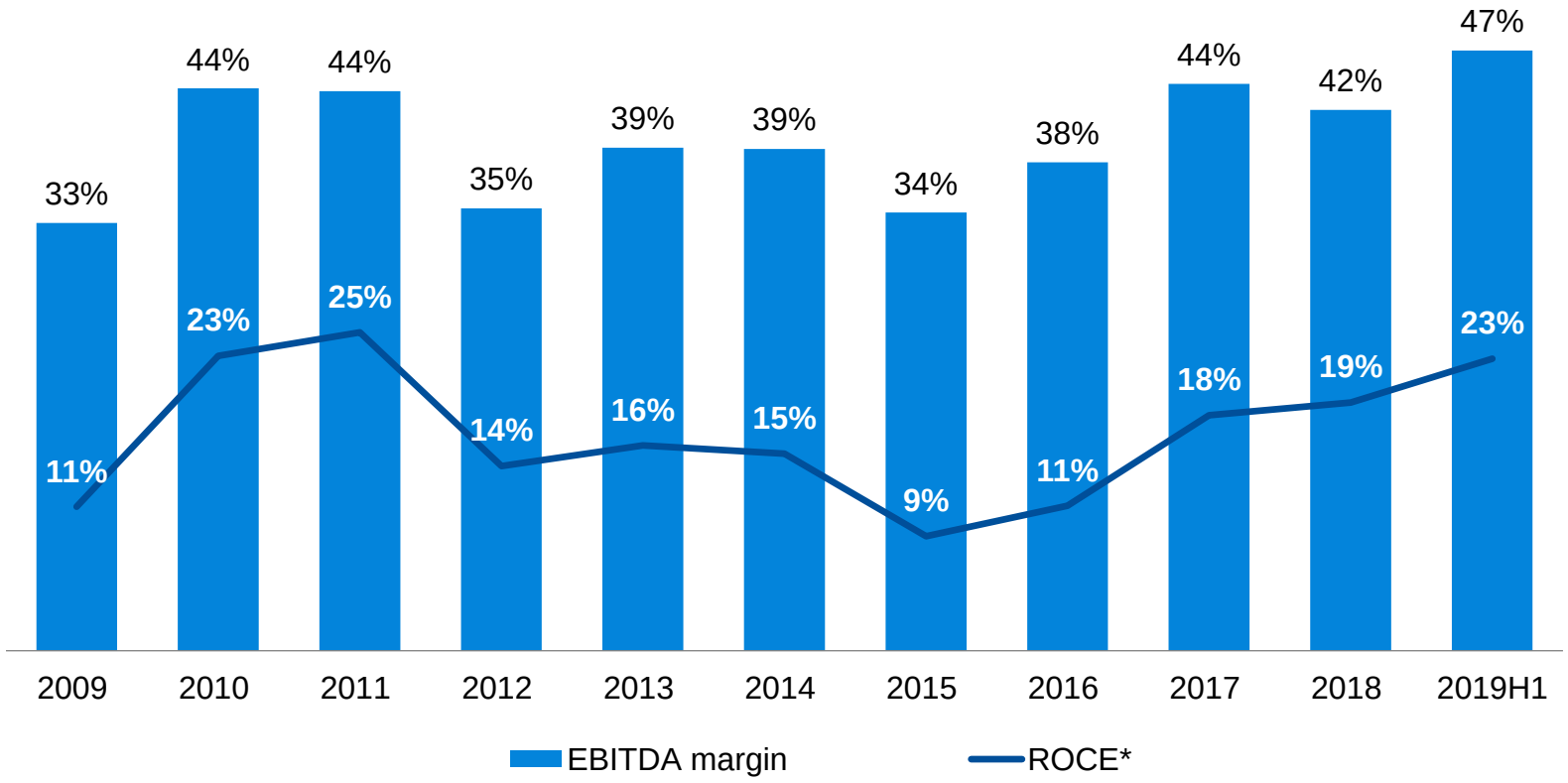
Powering the Mine of the Future

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

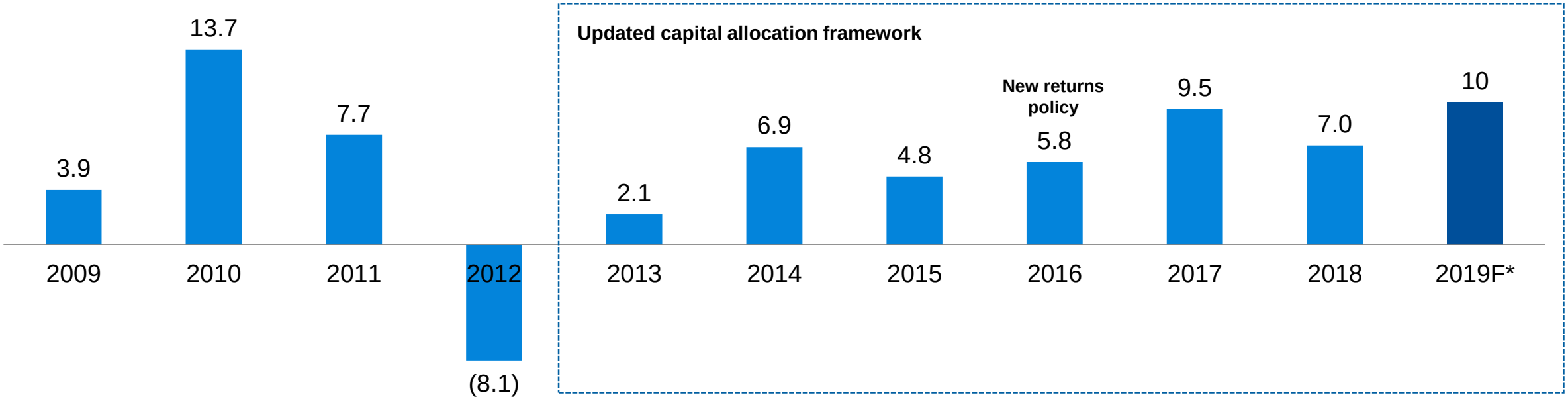
Resilient group margin and returns through the cycle



*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



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.

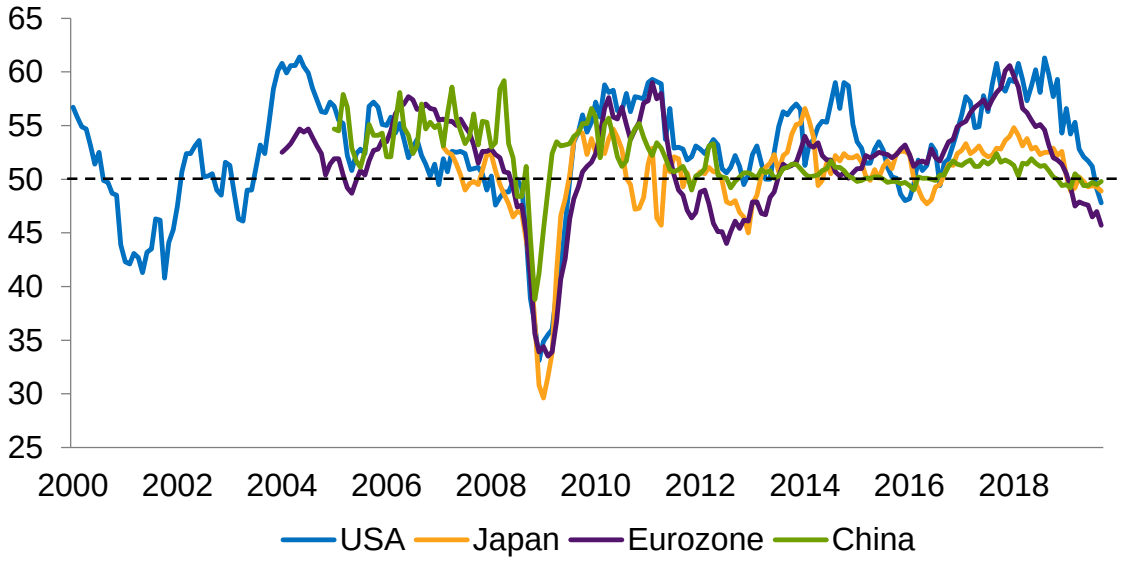
Vivek Tulpule

Connected to our markets

Near-term uncertainties but policy is supportive

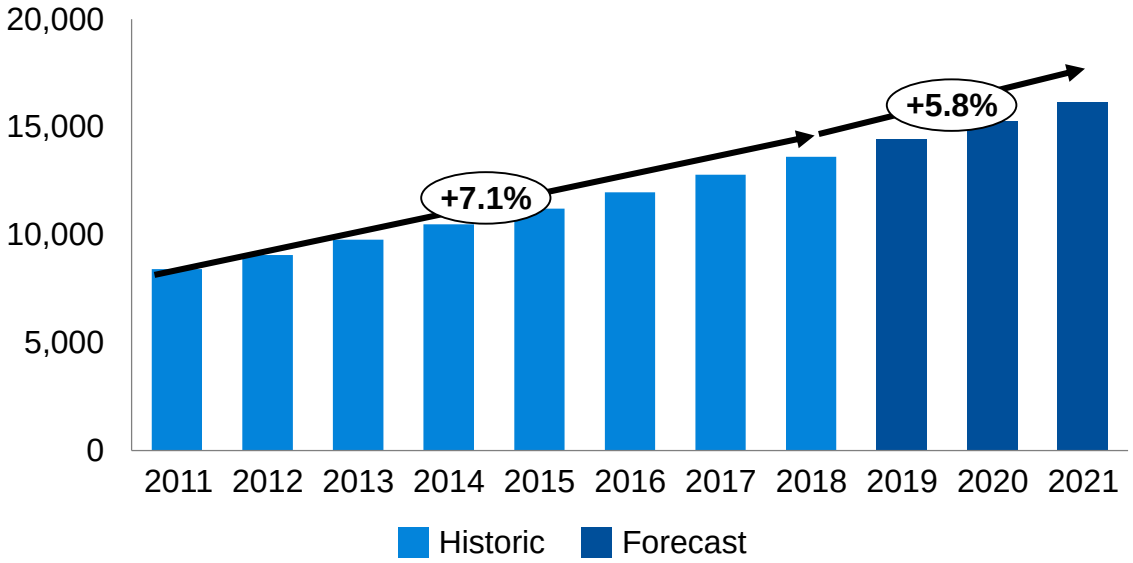
Manufacturing sentiment in contraction in all 4 major economies

PMI Index



Chinese GDP continues to grow strongly but at a slowing pace

Real GDP (2018 $bn)[1]



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 consumption[1]

	India	ASEAN	China	Japan
Steel	64kg	121kg	523kg	505kg
Al	2kg	3kg[2]	28kg	28kg
Cu	1kg	2kg[2]	9kg	10kg

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

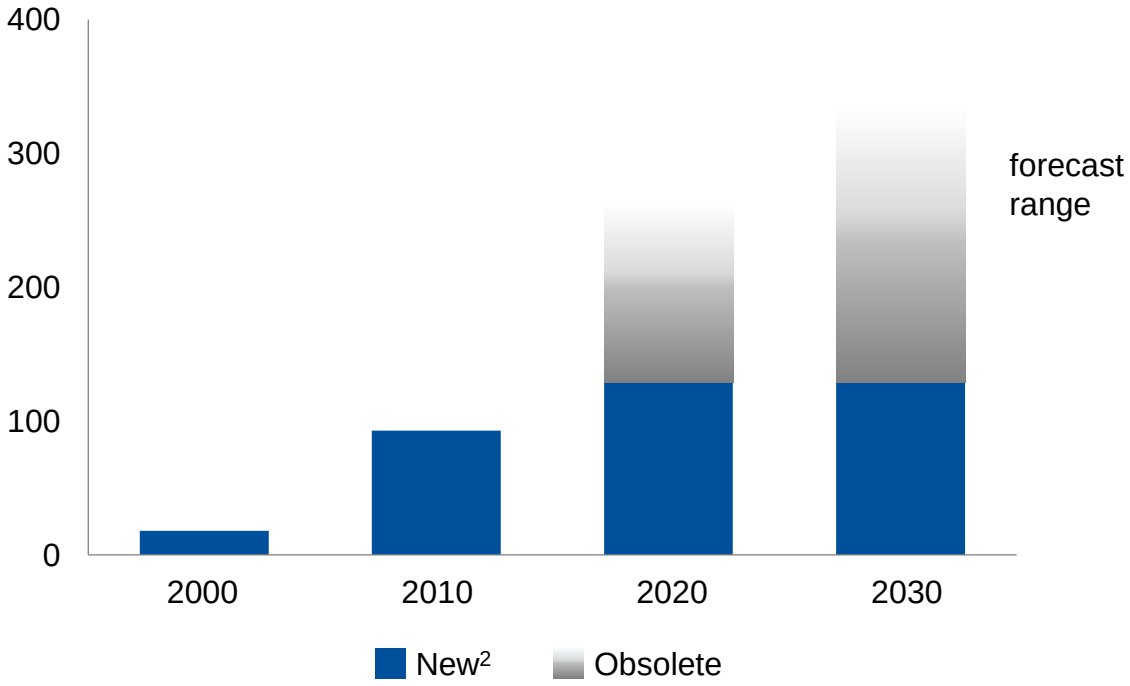
Copper intensity of EVs is 3 – 4 times that of traditional vehicles

[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

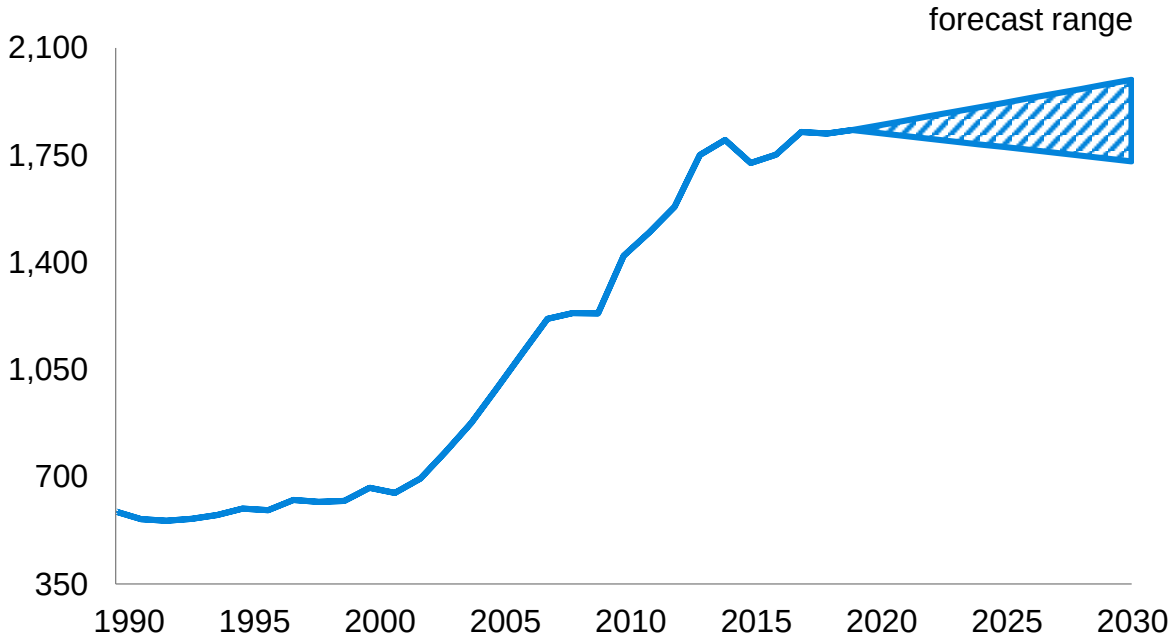
Obsolete scrap usage is growing in China but constrained by segregation costs & EAF/BOF[1] economics

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)

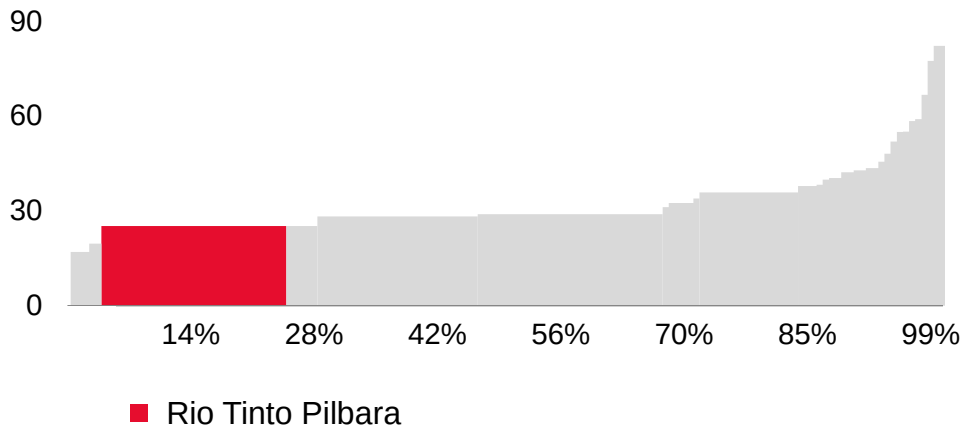


[1] EAF – Electric Arc Furnace. BOF – Basic Oxygen Furnace
[2] New scrap includes home and prompt scrap. Source: Rio Tinto

Iron ore will remain attractive for incumbents

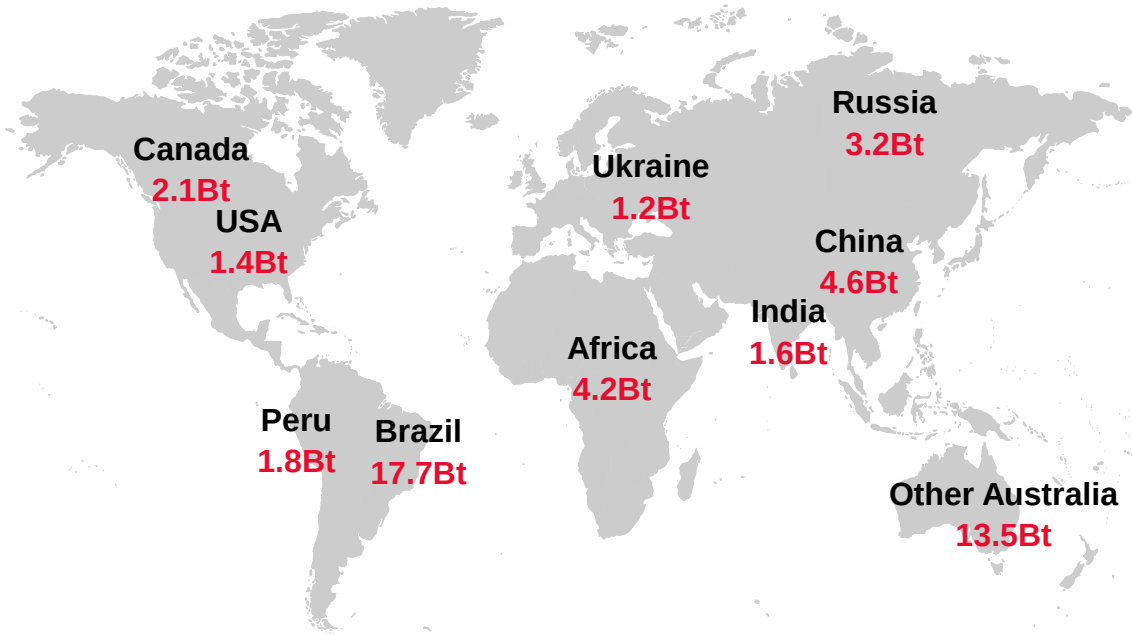
Steep Iron ore cost curve supports healthy margins for low cost producers

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 reserves[1] (Bt)



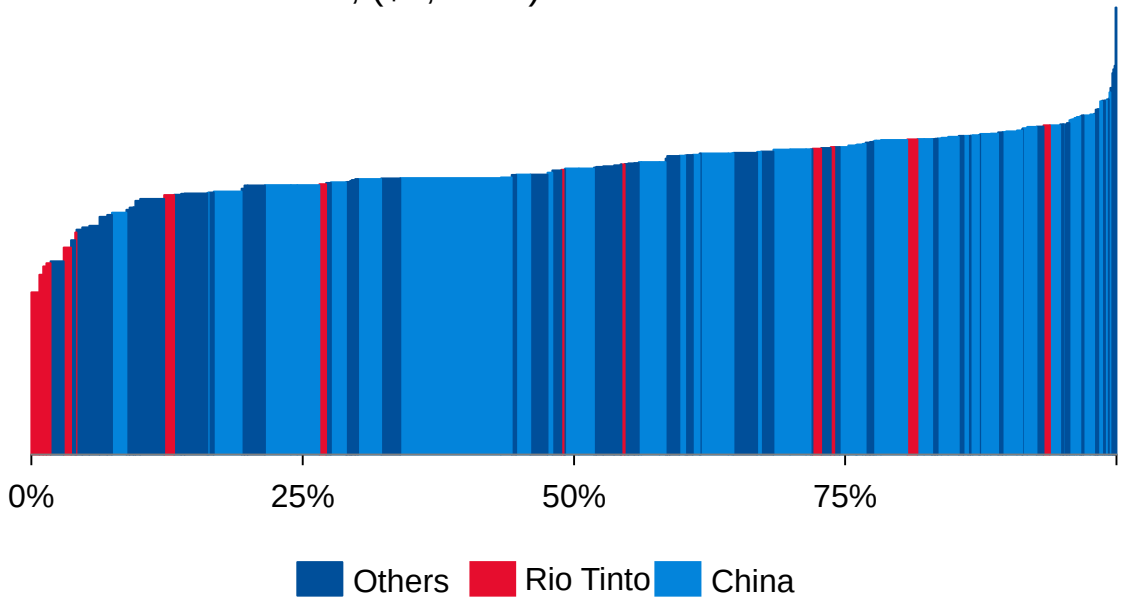
Rio Tinto Pilbara - 3.4Bt[1]

[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)



2019 Fuel mix **Rio Tinto: 75% hydro[1]** | **China: 86% coal** | **Others: 55% coal & gas**

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

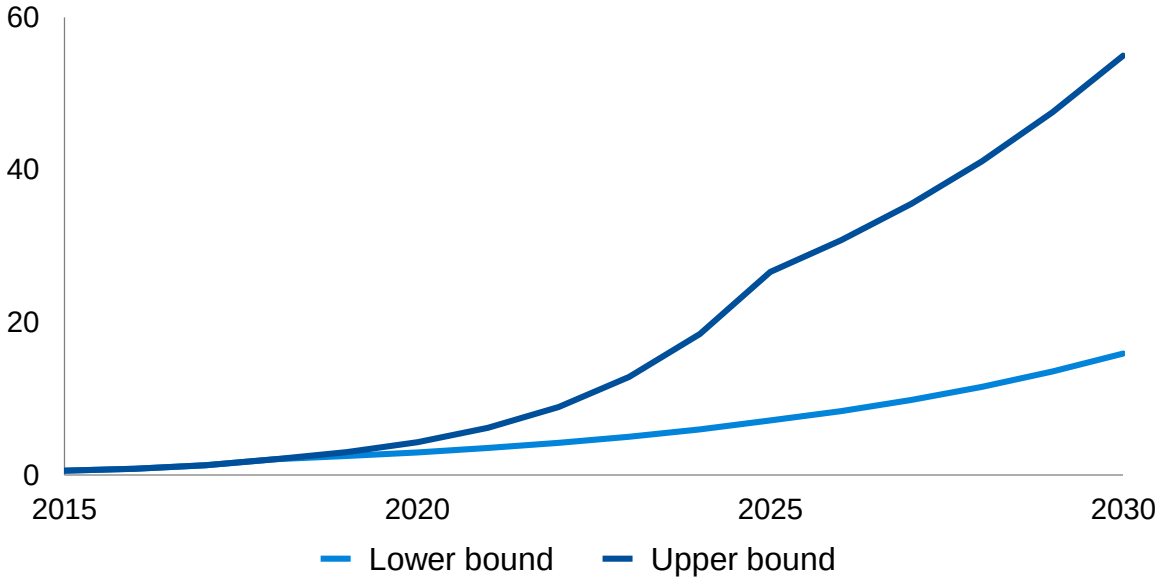
A $10 per tonne increase in carbon prices would lead to a $175/t increase in the operating cost of coal fired aluminium

1. Equity share basis
Source: Rio Tinto, CRU

Electrification: exploring opportunities and markets

Higher Electric Vehicle (EV) penetration to support demand

EV demand Consensus range (Mn units)



Copper intensity of vehicles	ICE[1] = 23kg	Hybrid = 40kg	EVs = 83kg

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 100ktonnes[3]) accounted for about 40% of new capacity added in the last decade

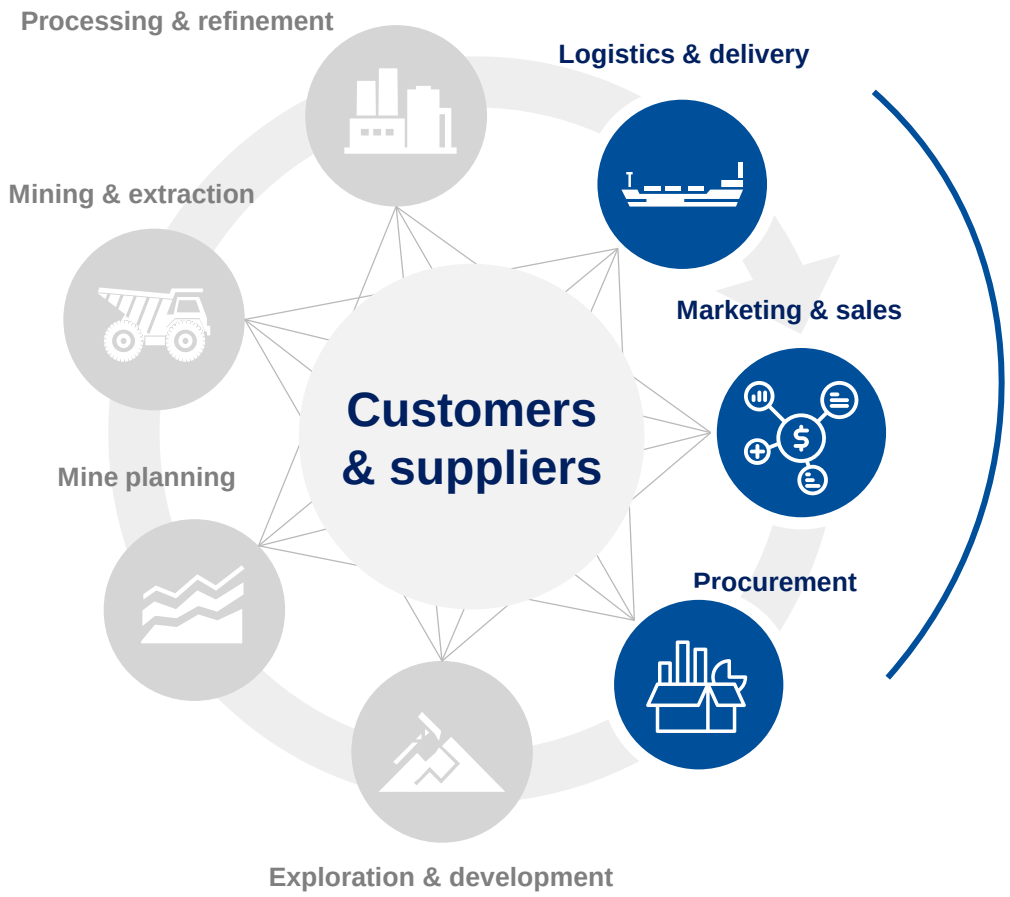
[1] ICE - internal combustion engine
[2] HPAL – high pressure acid leach
[3] 100kt of copper equivalent production

Simon Trott

Maximising the value of physical flows

We ensure our business is optimising value

Driving end to end optimisation



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

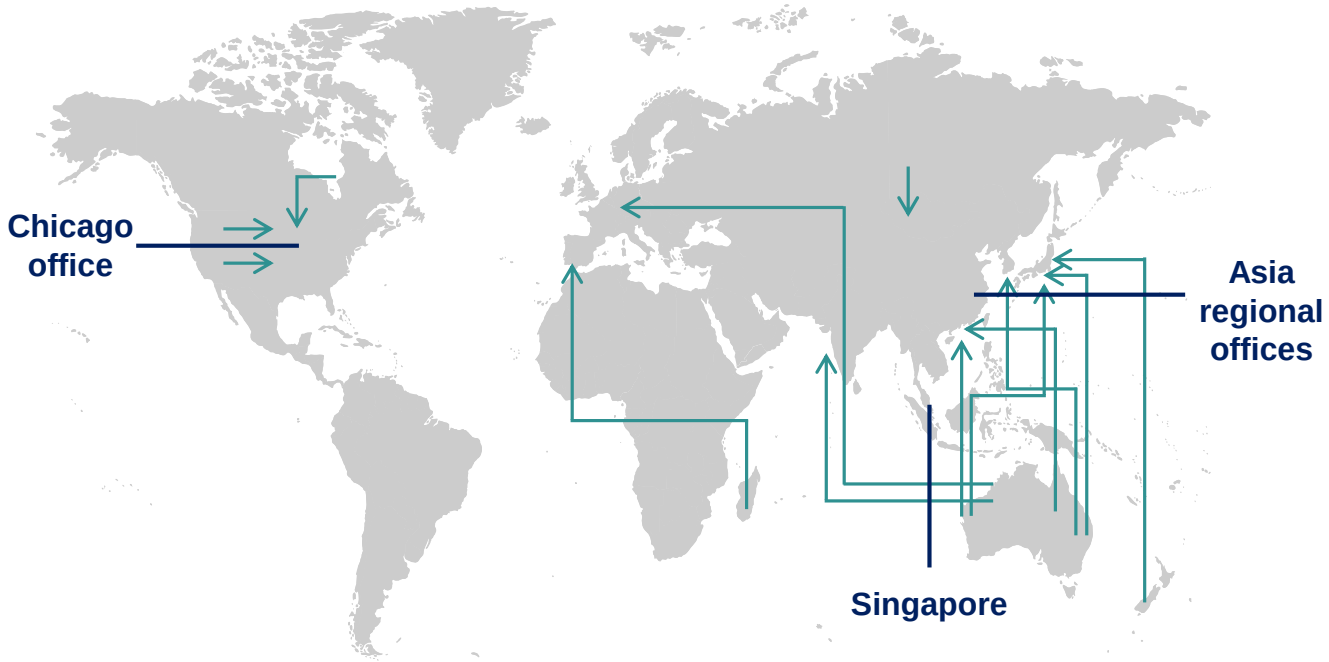
$7.6bn in sales[1], ~90% sourced within North America

$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]



[1] 2018
Arrows depict major flows from mine to market.

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

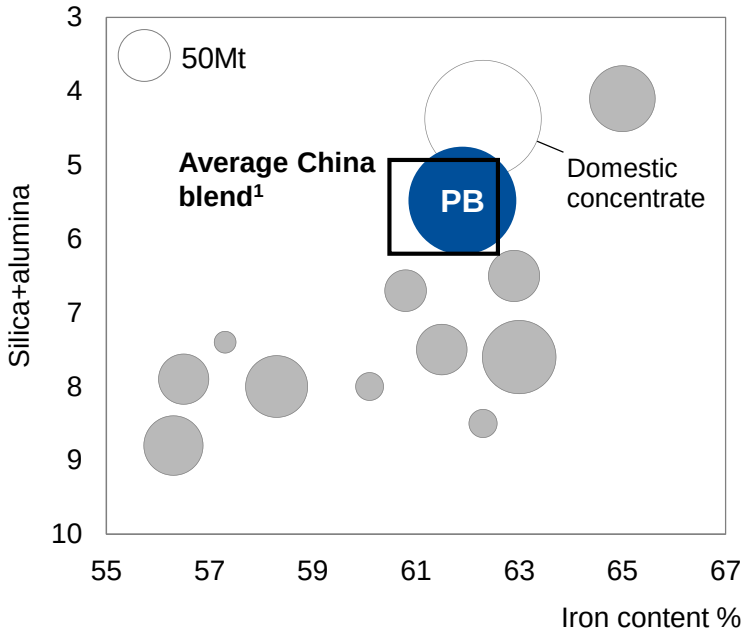
Markets & Risk

- Market analysis, market risk management
- Commercial treasury

Our Pilbara Blend is the single largest, most liquid and consistent product

Baseload for China mills

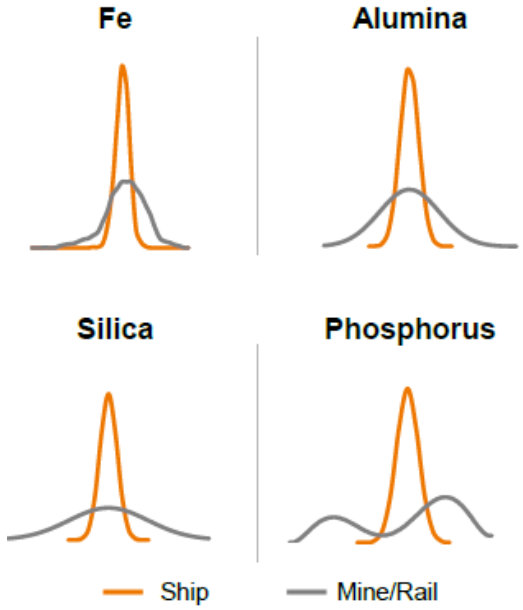
Our Pilbara Blend (PB) is a key input to customers operations



Imports & domestic iron ore consumption in China

Quality consistency

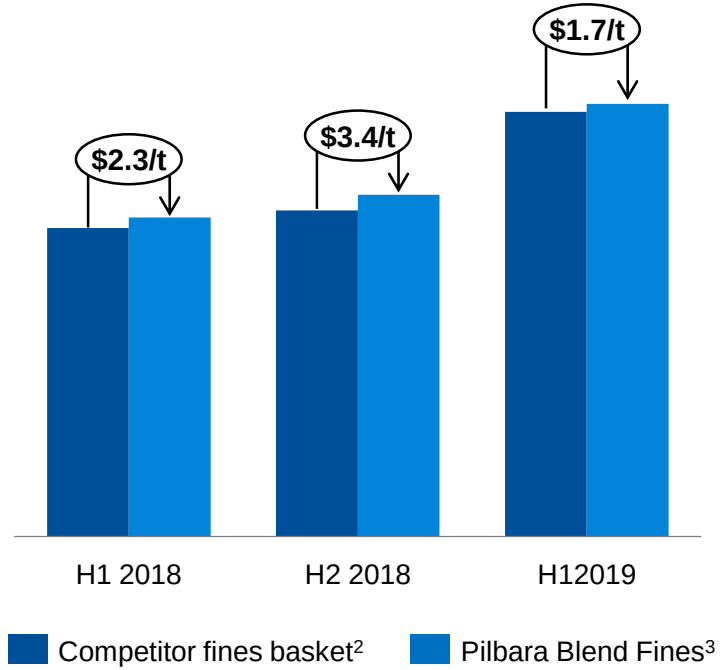
We maintain Pilbara Blend quality by blending different sources to a tight spec…



Average specification of shipped product

Superior value for Pilbara Blend Fines (PBF)

…thus delivering higher value to our customers and extracting a premium



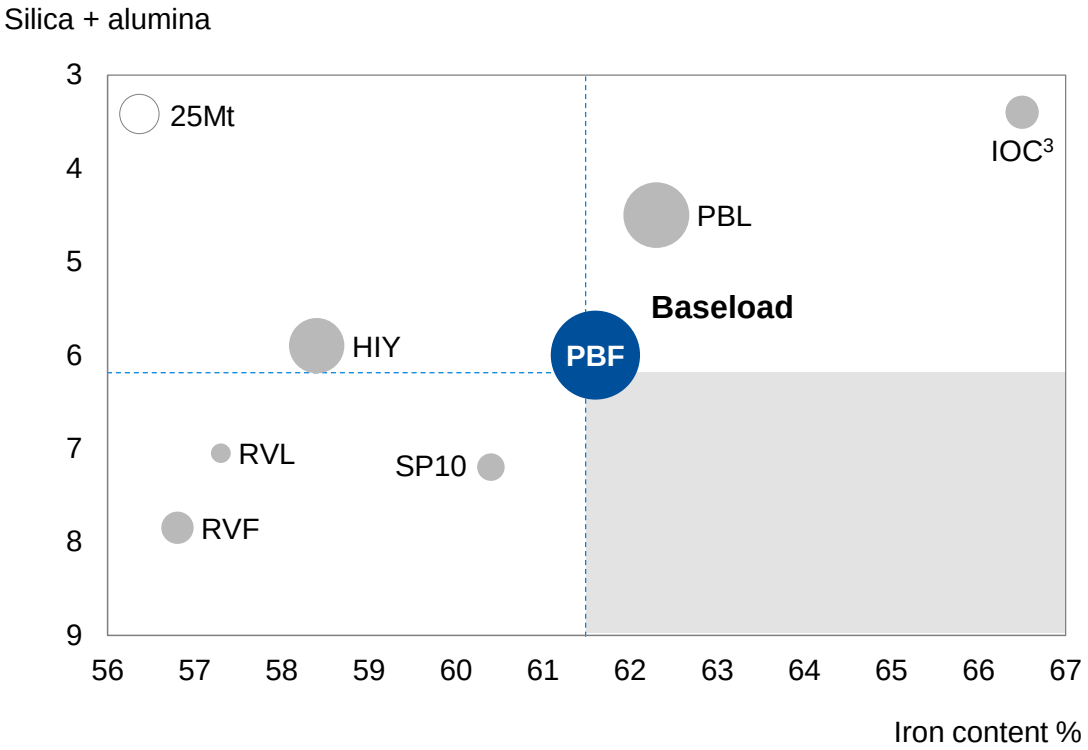
Reported China portside transactions

[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[1]

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



Continuously 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

		Since
Pilbara Blend	Baseload in China, the most liquid and consistent product in the market	**2007**
Iron Ore Company of Canada	High-grade, very low contaminants, enables increased productivity	**2000s**
HIY Fines	Low contaminants, calcines to high Fe, key input to JKT[2] mills	**1998**
SP10	60% Fe product with moderate contaminants. Targeted at smaller mills in China	**2014**
Robe Valley	Low phosphorus, targeted at producers of high-quality steel	**1970s**

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

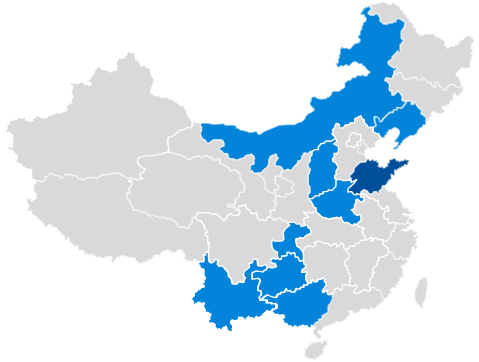
Customers are at the centre of our commercial activities

Strengthen partnerships	**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
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

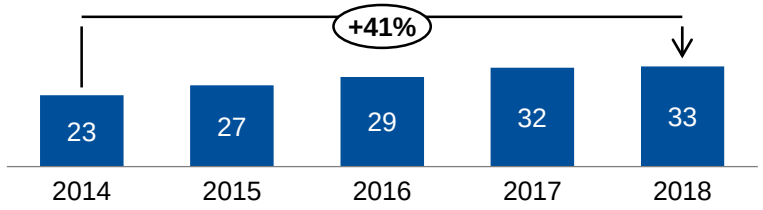
Bauxite: Developing new markets

We create demand for our products through technical engagements and partnerships



● Key customers ● Market development

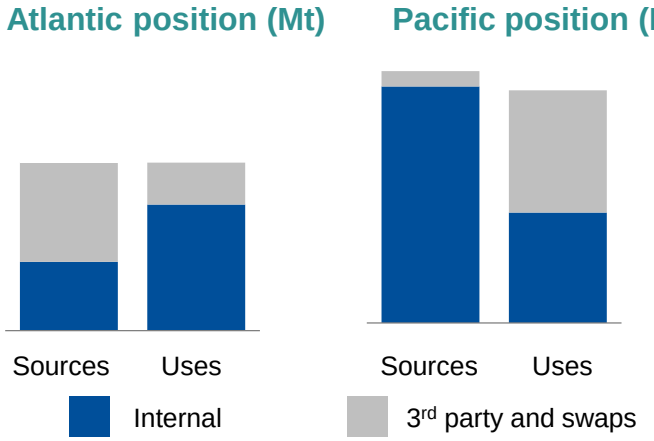
Growing external bauxite sales, Mt, Rio Tinto share



[1] 2019 first half

Alumina: Globally traded book

Provides ability to balance Atlantic needs and manage market disruptions

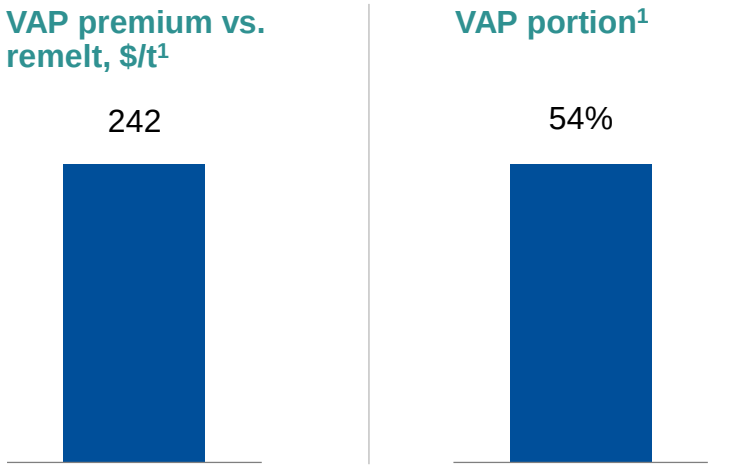


11mt alumina book
~9% of globally traded alumina market

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

Aluminium: VAP sales

To generate additional margin, regional optimisation to maximise value



Focusing on end customer solutions and partnerships

RenewAl™ Low CO_2 Aluminium

NESPRESSO

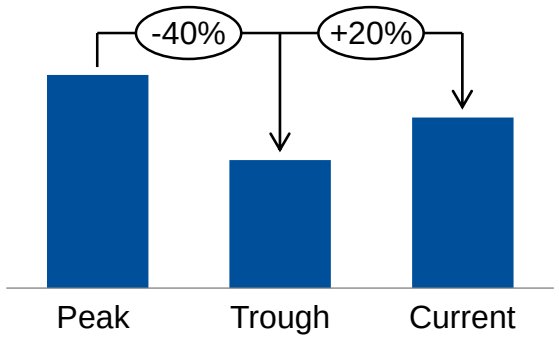
asi Aluminium Stewardship Initiative

Tailoring assets and product suite to market dynamics in TiO_2 and copper

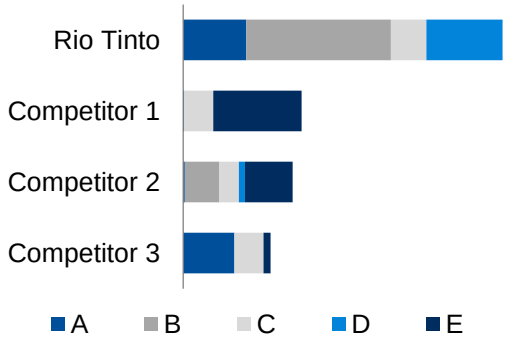
TiO_2: market leader with unrivalled product offering

We flex volumes, grades and products to meet the needs of the market

Supply volumes through the cycle



Product split[1]



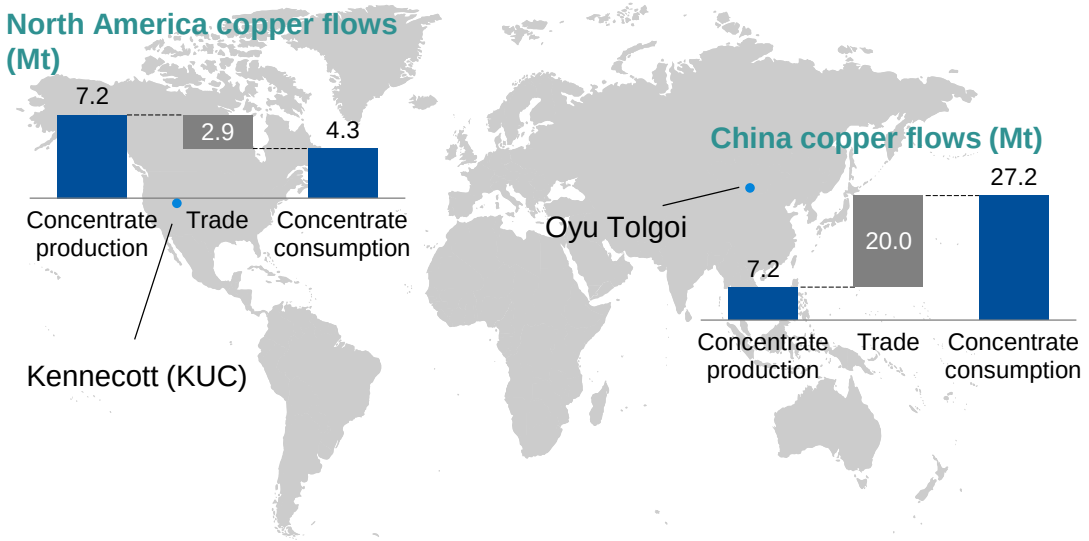
Value over volume approach to optimise our three assets to meet market needs

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

[1] A = High-grade slag, B = Chloride slag, C = Chloride ilmenite, D = Sulphate slag, E = Sulphate ilmenite. Source (copper flows): Wood Mackenzie, Rio Tinto. Source (TiO_2 product split): TZMI August 2019 forecast.

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

Chris Salisbury

Iron Ore: optimise and flex

World-class system delivering outstanding returns

World-class assets and significant resource base

Highly-valued product suite

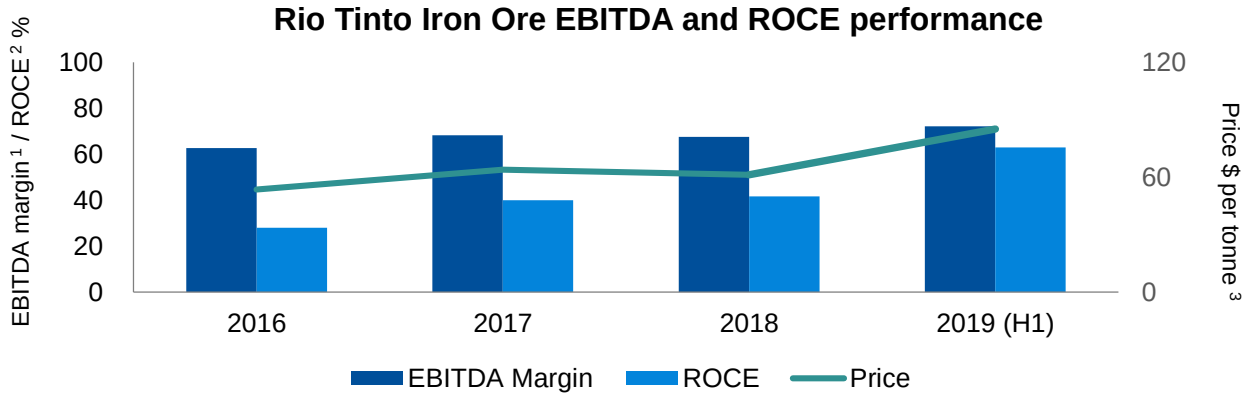
Exclusive fully-integrated system creates flexibility

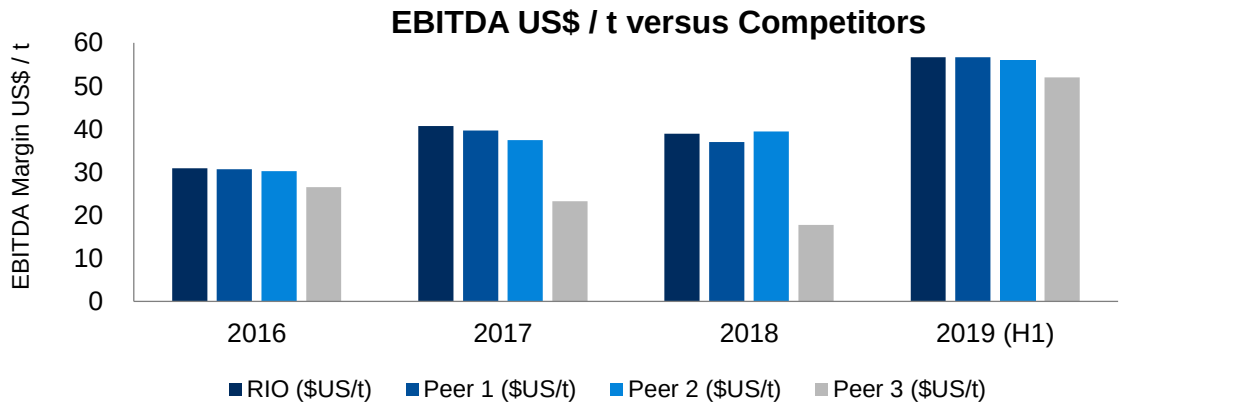
People and partners driving innovation and productivity

Focus on sustainable operational excellence

Average FOB EBITDA margin[3] ~68%[4]

Average ROCE ~43%[4]

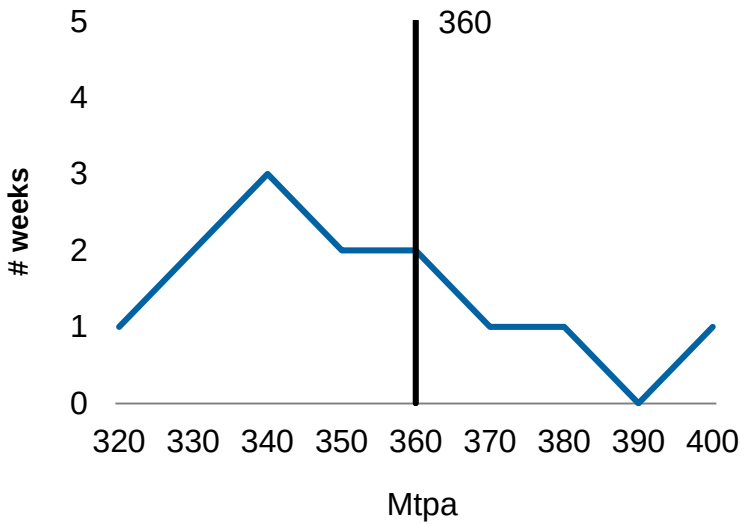




[1] EBITDA margin defined as sales margin excluding freight revenues. [2] Return on Capital Employed in H1 2019 shown at an annualised rate. [3] Nominal Free on Board (FOB) Western Australian iron ore price per dry metric tonne . Rio Tinto Iron Ore EBITDA excludes Dampier Salt and Rio Tinto Marine. Tonnage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

Solid mine performance

Annualised tonnes produced in Q3 2019 (number of weeks)

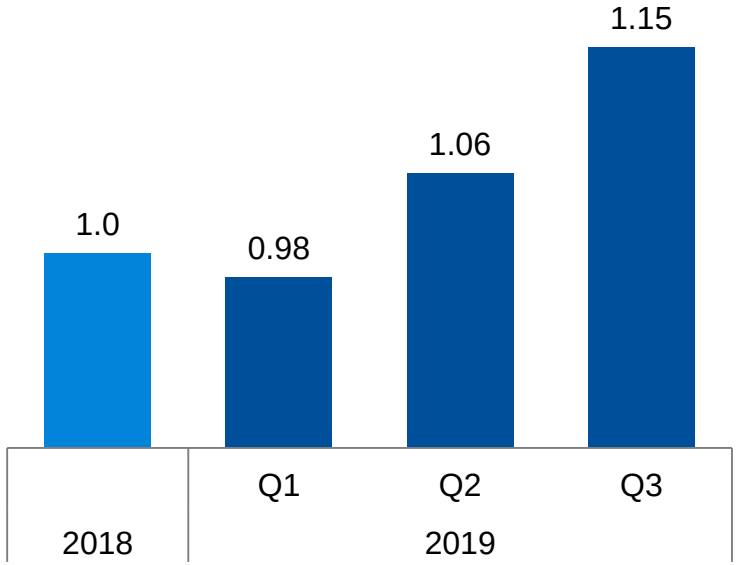


Strong Q3 performance following weather disruptions and operational issues in Q1 / Q2

87.3 Mt production / 347 Mtpa run rate in Q3

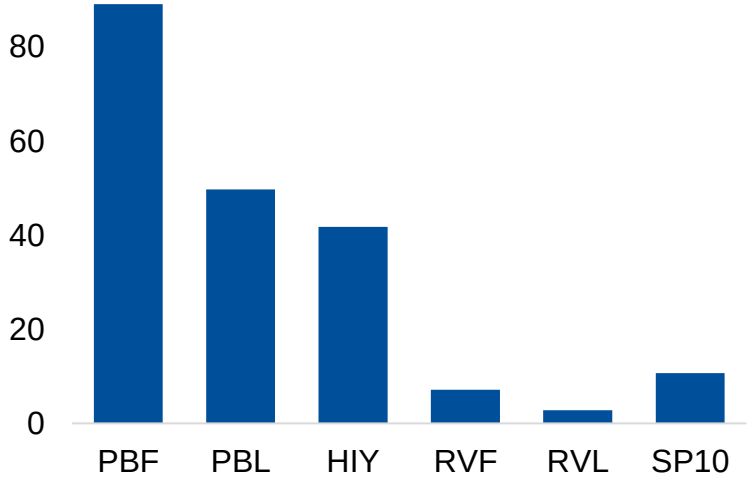
Annualised 360 Mt rate achieved for 5 weeks. Not achievable on a consistent, annualised basis

Total Material Moved Indexed to 2018 Actual



Recovery actions well progressed and delivering results

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



SP10 supports high consistency of Pilbara Blend

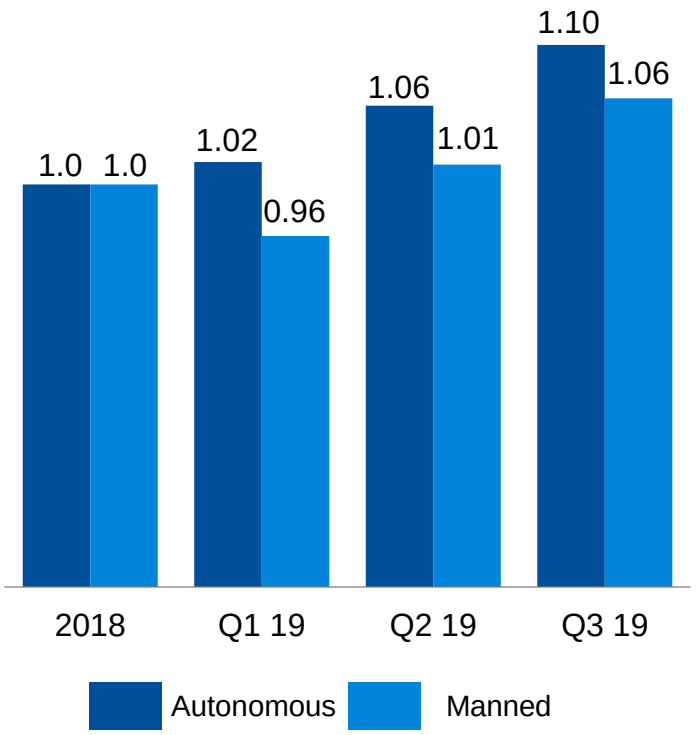
Increases resource recovery and mine productivity

SP10 cost is lower than Pilbara Blend average cost

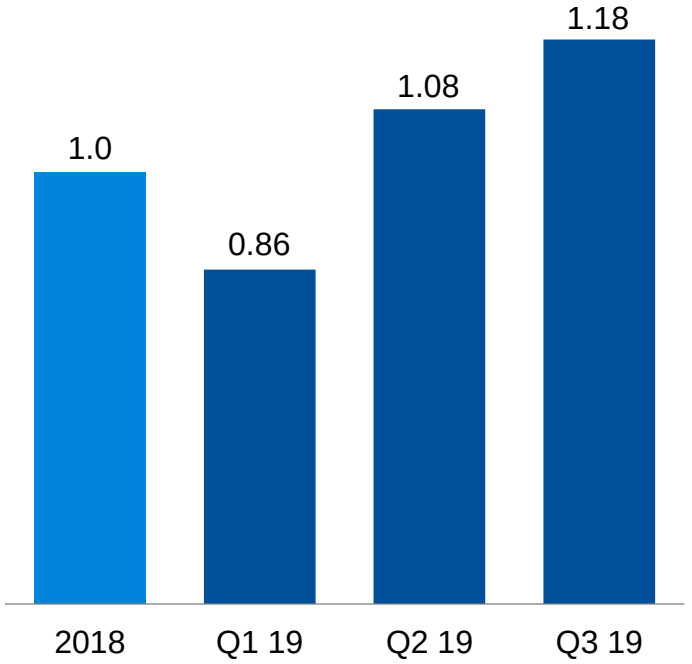
* PBF – Pilbara Blend Fines, PBL – Pilbara Blend Lump, HIY – Yandicoogina Fines, RVF – Robe Valley Fines, RVL – Robe Valley Lump

Productivity focus to maximise financial results from assets

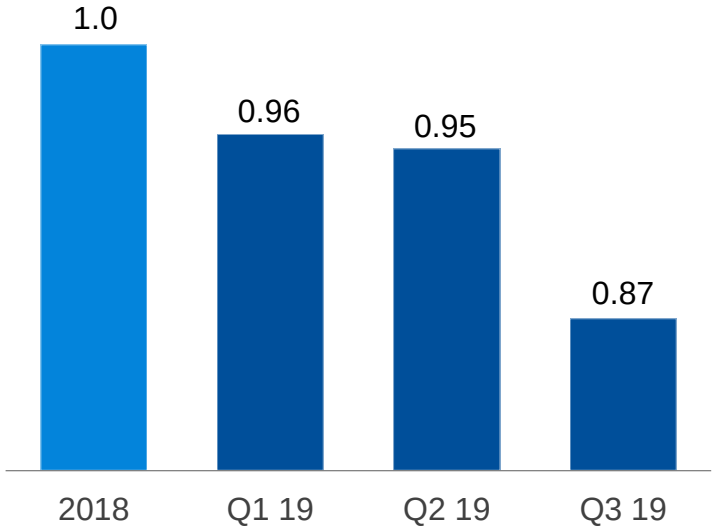
Haul Truck Effective Utilisation (Indexed to 2018 Actuals)



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

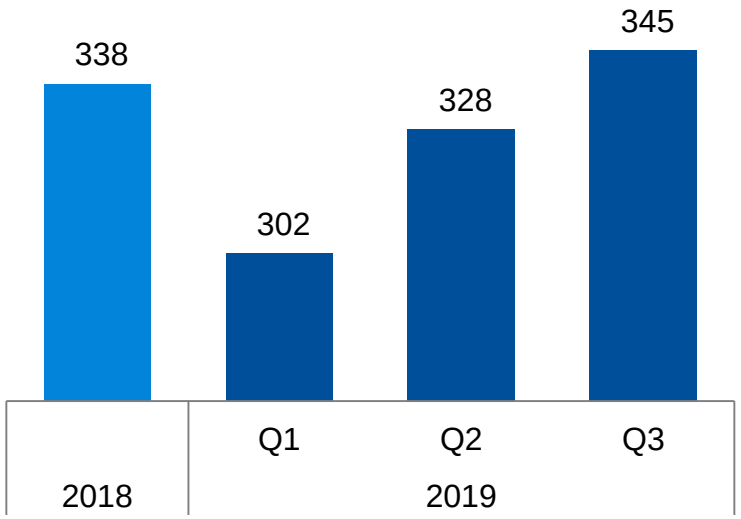


Fixed Plant Conveyor Unscheduled Loss (Mt Indexed to 2018 Actuals)



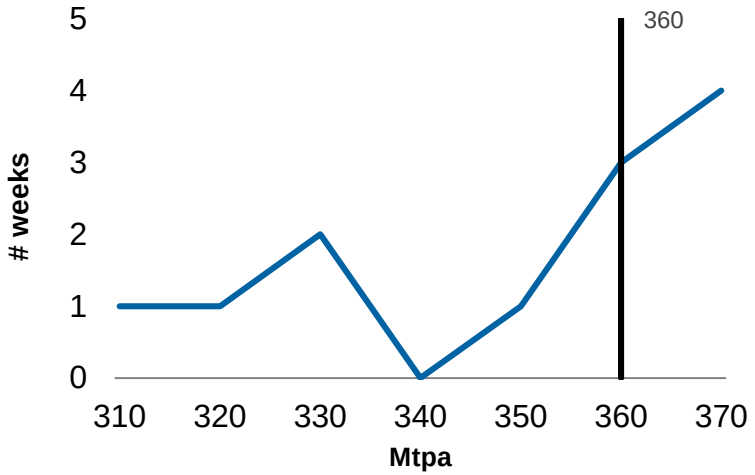
Rail improvements to drive capacity and flexibility

Annualised Railed Tonnes Run Rate (Mt)[1]



Solid Q3 performance with 345 Mtpa run rate

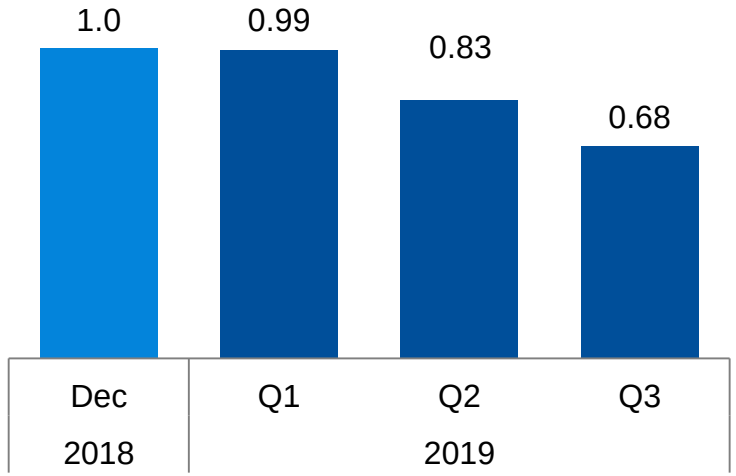
Annualised Tonnes Railed in Q3 2019 (number of weeks)[2]



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

Data Analytics - taking productivity to the next level

Predicting Rail Maintenance

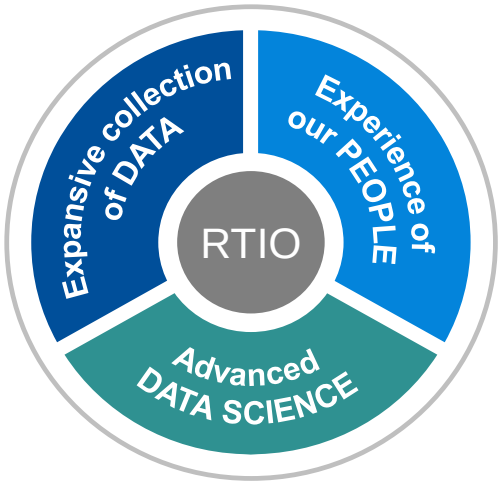
Specialist, multi-disciplined team formed including data scientists

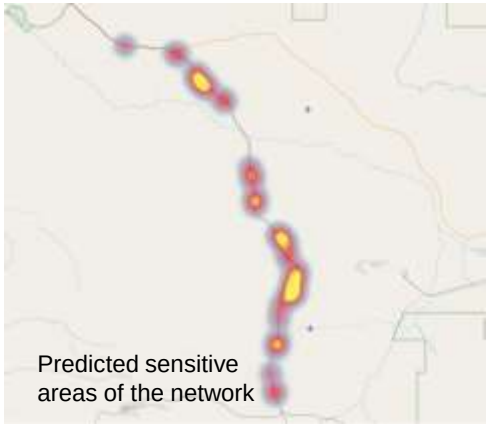
Leverages data collected from AutoHaul™ and other technology throughout the rail network

Using artificial intelligence and Random Forests to optimise maintenance

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

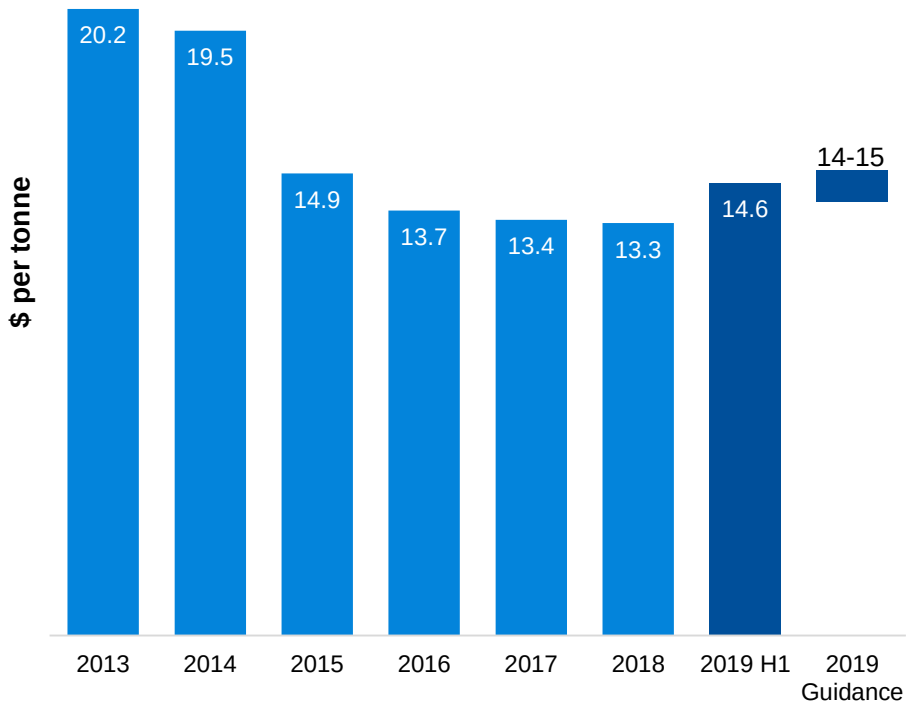
Enables preventative approach and prioritisation of more effective maintenance





Sustain low cost through productivity and technology

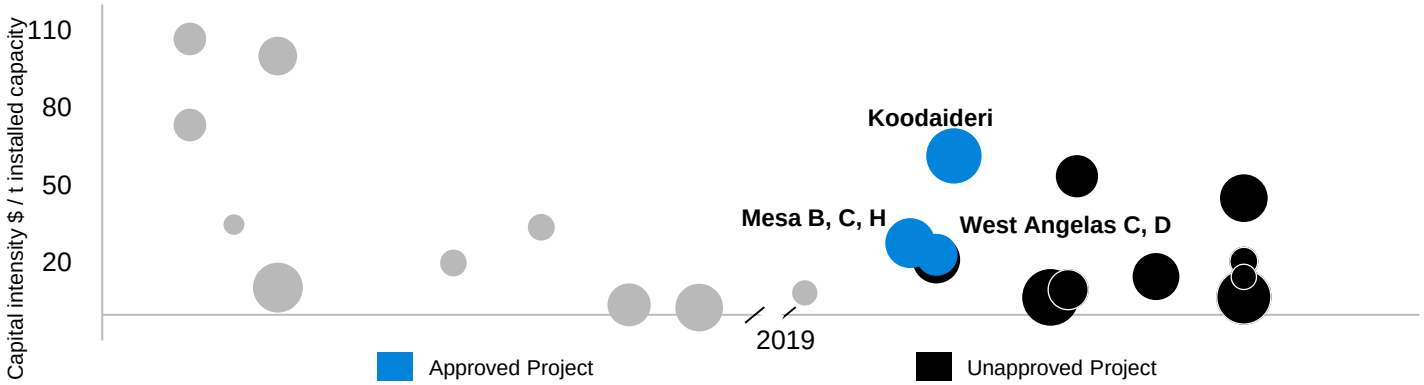
Pilbara cash unit cost



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

Long-term asset with strong replacement pipeline

Low-cost, value-accretive capital options



Koodaideri Phase One delivers capacity step change from 2021

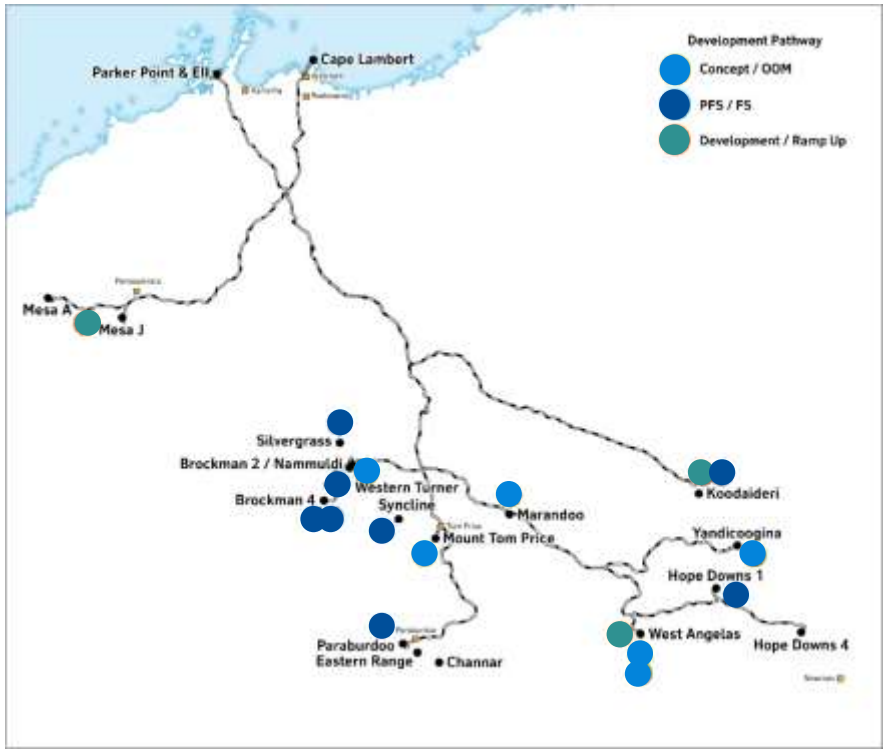
Increasing approvals complexity

Significant period of mine renewal ahead

3.4 Bt of reserves and 23.3 Bt of resources[1]

[1] 100% basis. Refer to page 2 for supporting statements.

Multiple mine replacement options leveraging established hubs



System Outlook and Guidance

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

Strategy to deliver returns through the cycle

Continued outstanding financial performance through superior EBITDA margin

Mines - operational improvements delivering results

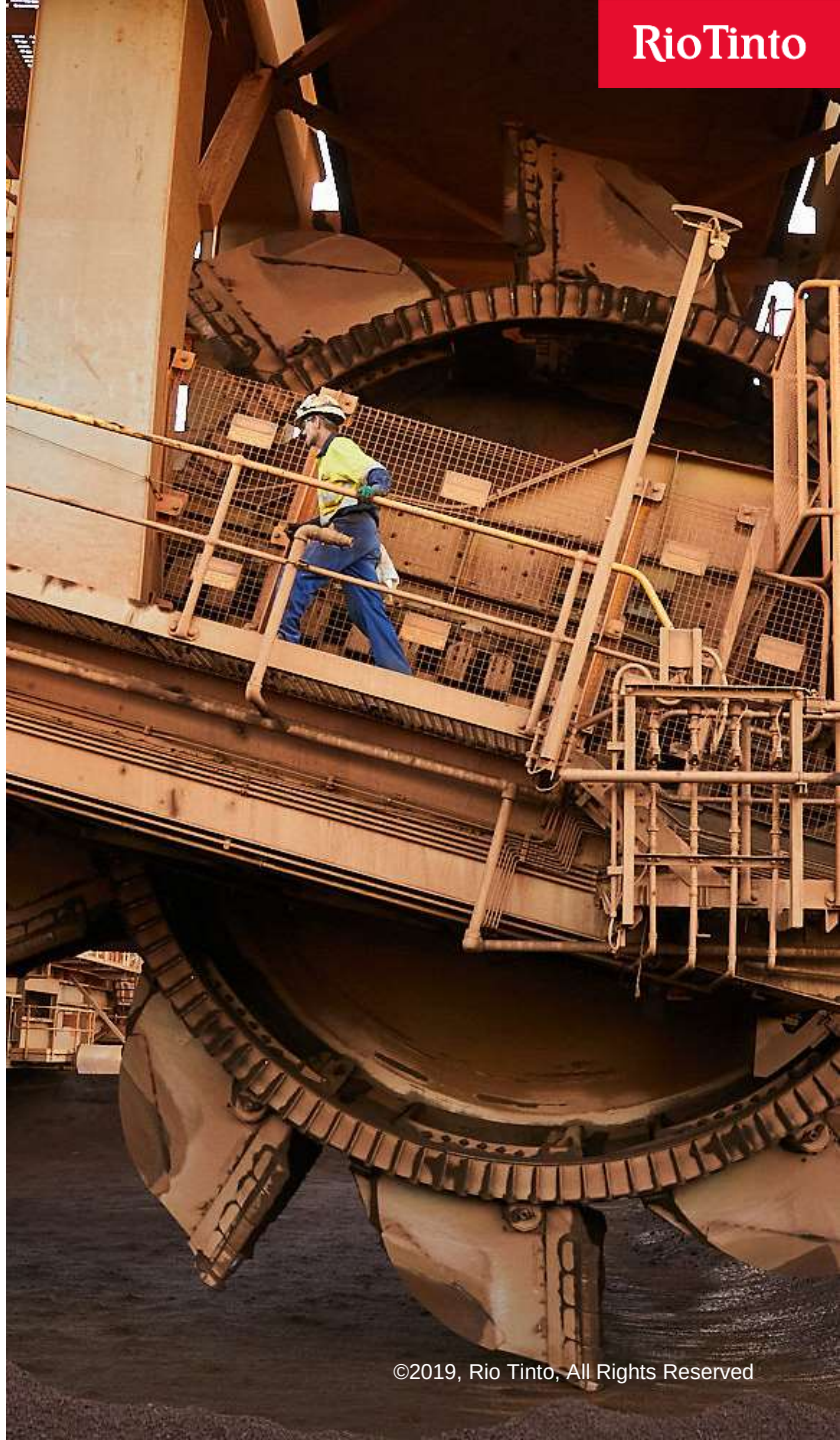
Focus on delivering sustainable operational excellence

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




RioTinto
Stephen McIntosh
At the frontier of mining technology

Technology at our core

Sustaining our leading cost positions

Deploying emerging technologies

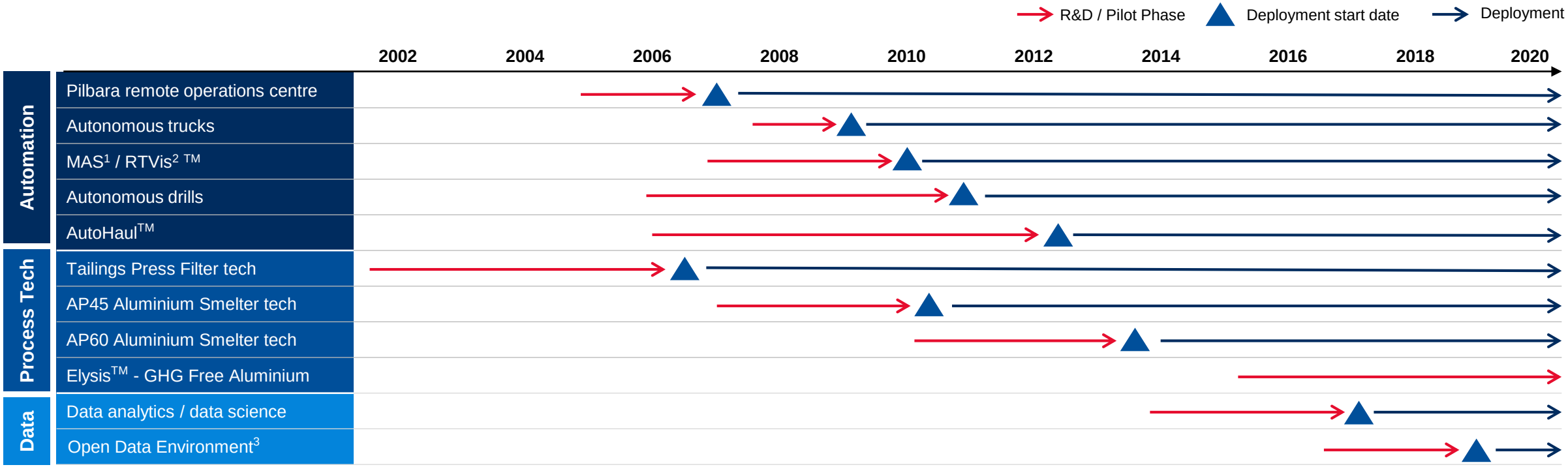
World class talent

Delivering real growth options through exploration

Proven track record in project study and execution

Tackling critical industry challenges

Leading mining industry innovation



[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

Value chain integration

Mine Automation System

- Real-time operational insights
- Precision in decision making
- Real-time orebody optimisation
- Sophisticated product / margin strategy

Digitally enabled operations

TrueView

Frontline decision support

Paperless maintainer

Digital workflow, more time on tools

Pioneer portal

Best minds on critical challenges

Open Data Environment*

Seamless integration with third party tech

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

Real-time chemistry increasing Cu recovery

Global replication opportunity

~40% reduction in materials handling down time

Global replication opportunity

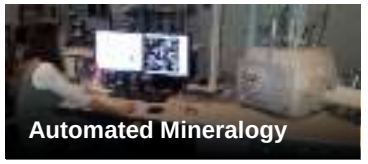
Enable the reduction of demurrage costs

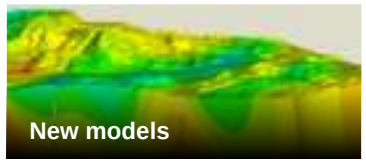
Global replication opportunity

Targeted head grade prediction is from Rio Tinto Kennecott. Materials handling downtime results are from Hope Downs 1.

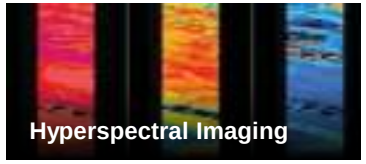
Industry-leading exploration technology delivering results

Sophisticated proprietary tools & techniques

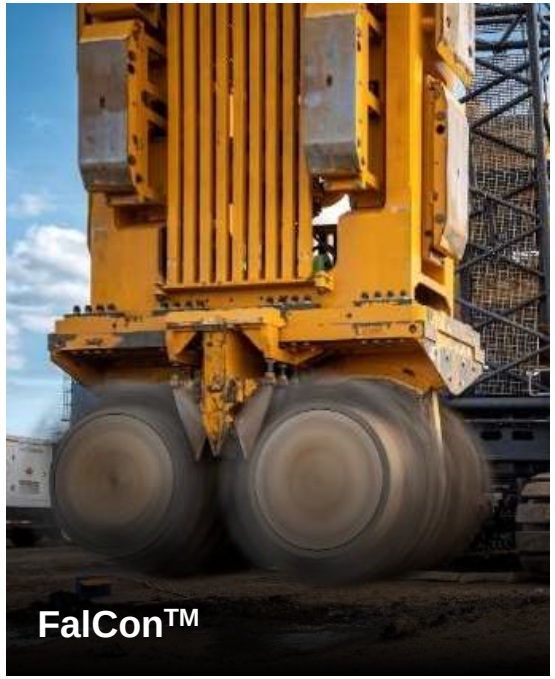




Rapid application of new technologies



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



Novel adaptation of existing technology accelerating definition of the orebody

World-class execution function

Digital design and innovative construction led to multiple awards for Amrun


Amrun – Chith Bauxite Export Facility

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

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

*based on simulated 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

Fighting inflation

Creating options

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

	Population	Sovereign Risk	Economy
Complexities	Increased urbanisation	Political uncertainty	Largely dependent on Oyu Tolgoi
Opportunities	Young, educated population; employment and training	Mongolia can demonstrate successful delivery of large Foreign Direct Investment project	Diversify base – Oyu Tolgoi local procurement, sustainable projects funding

Construction progress

Shaft 2 construction complete

Hoist systems being commissioned

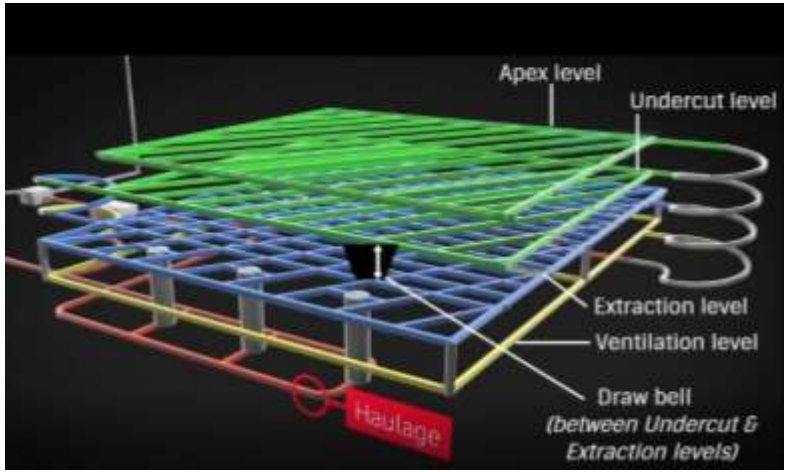
Game changer for underground development productivity

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

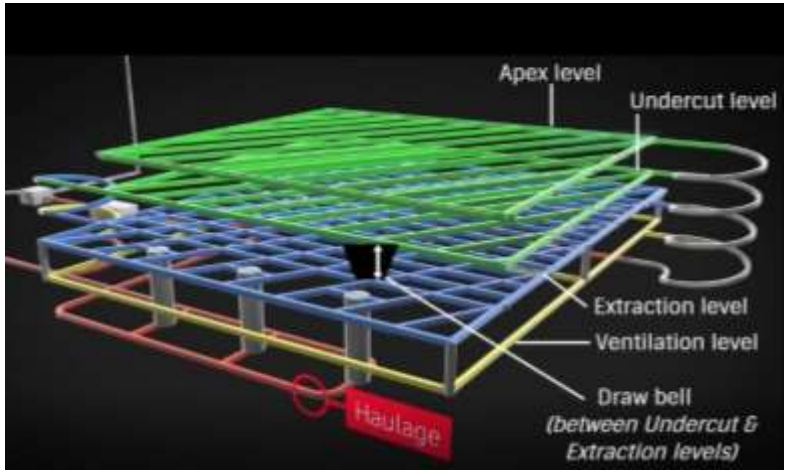
Game changer for underground development productivity

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

Last 3 Years[1]	ROCE[2]
$25 billion earnings[3]	18%
$23 billion free cash flow	17%
$26 billion[4] dividends share buy-backs	18%

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.

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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

Bulk products	2018 Production[1]	Ore Reserves[2]	Mineral Resources[2]
	Mt	Mt	Mt
Pilbara Iron Ore (100%)	338	3,427	23,319
IOC Canada	9	320	1,125
Bauxite	50	1,522	3,365

[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.

Outstanding competitive position:

> 80% of our assets[1] in lower half of the cost curve

Pilbara Iron Ore

Borates

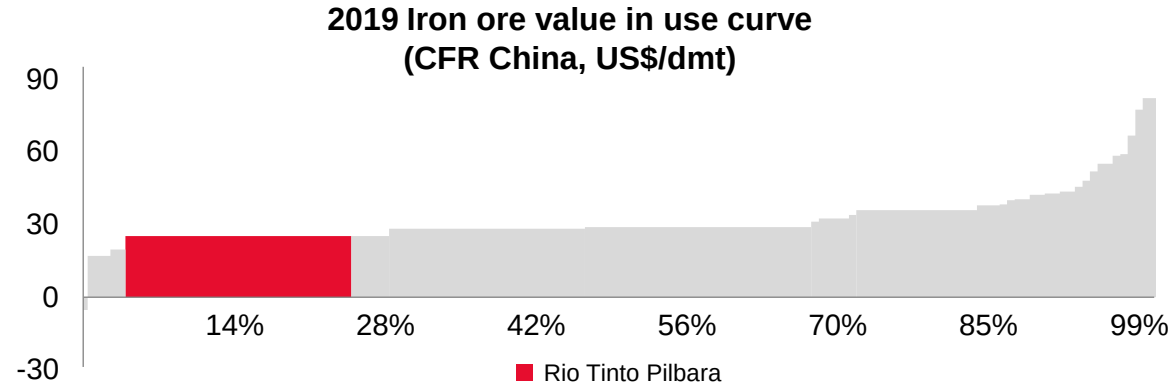
TiO_2

Bauxite

Lower half of the cost curve

In **well-structured markets**

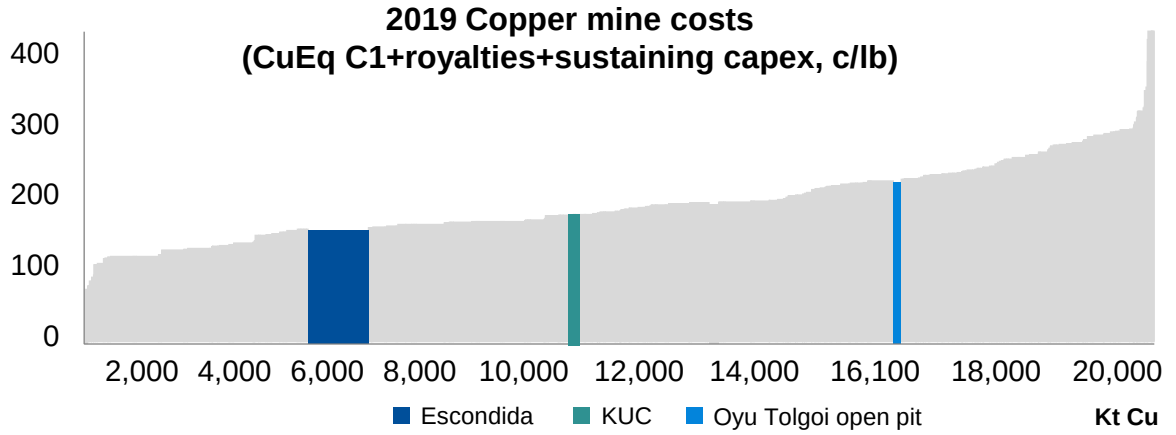
With a **strong market position**



Copper

Diamonds

Constrained by geology



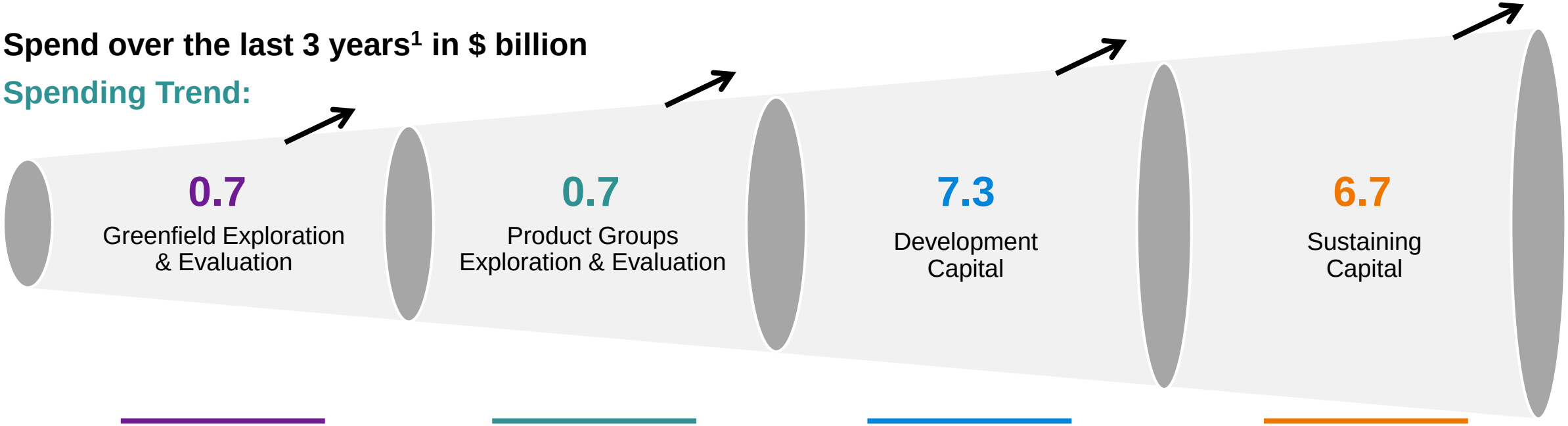
Source: Rio Tinto and Wood Mackenzie. Copper costs expressed as CuEq C1 + royalties + sustaining capex. Range capped at 400c/lb.

[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:



Full pipeline

Resolution
Jadar
Simandou

Oyu Tolgoi
Koodaideri
Amrun
Silvergrass
Southwall Pushback

Asset health

[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

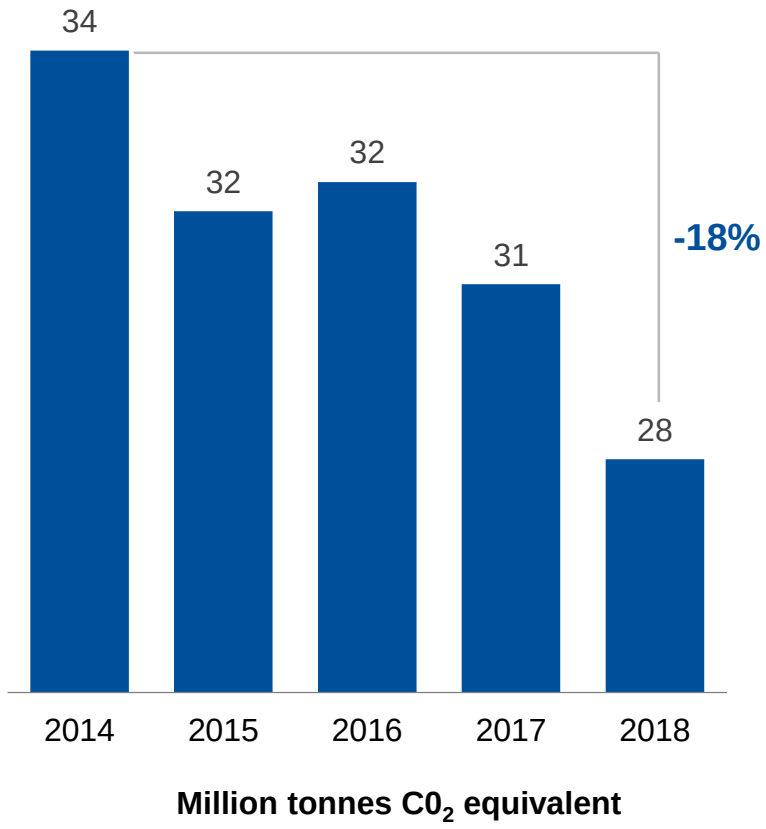
71% of electricity from renewable sources

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



Million tonnes $C0_2$ equivalent

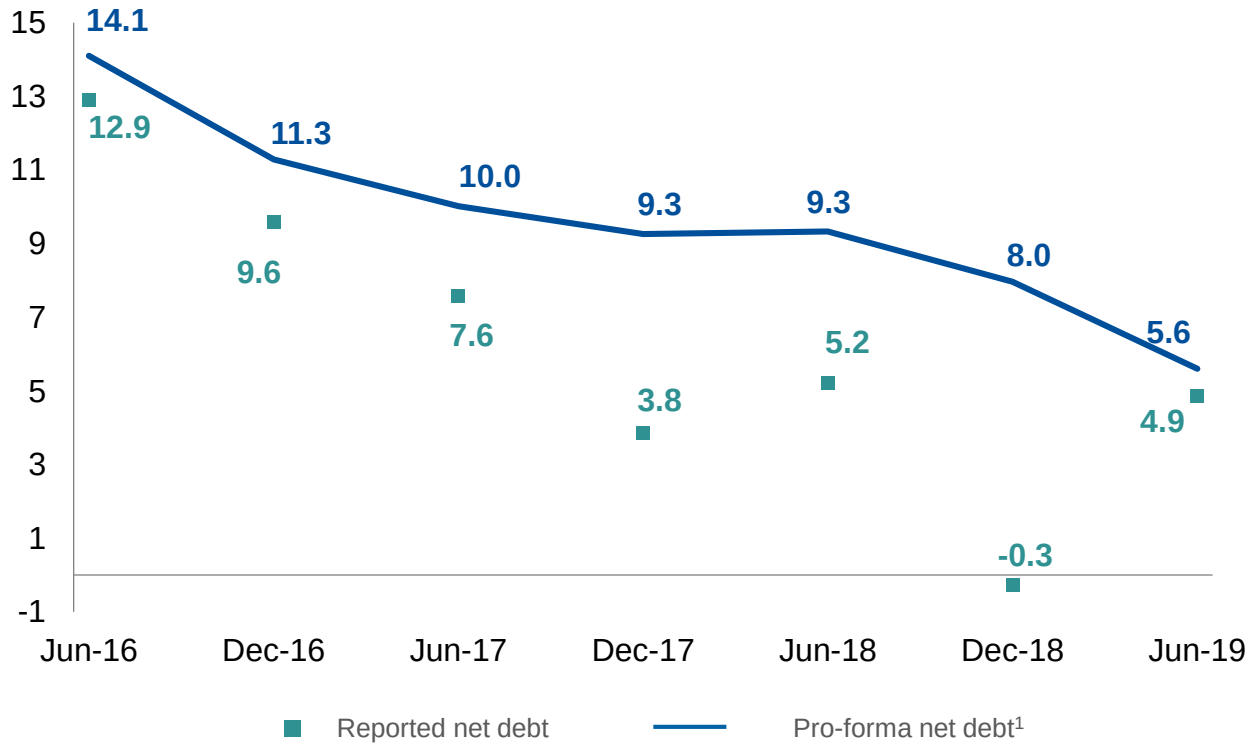
Our strong balance sheet creates resilience and optionality

Reduces cyclicality of cash flows

Enables counter-cyclical behaviour

Creates optionality

Net debt $ billion



[1] 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.

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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

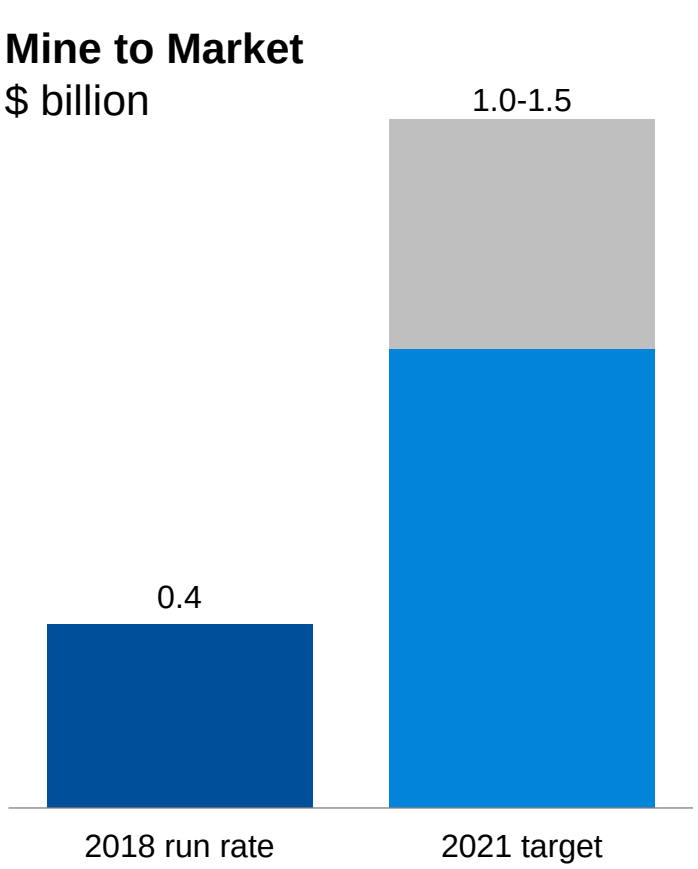
Three levels of assurance for managing tailings and water storage

Closure, the long-term view

$10bn[1] of provisions
Robust rehabilitation plans

[1] At 31 December 2018

Operational excellence: productivity is a key lever



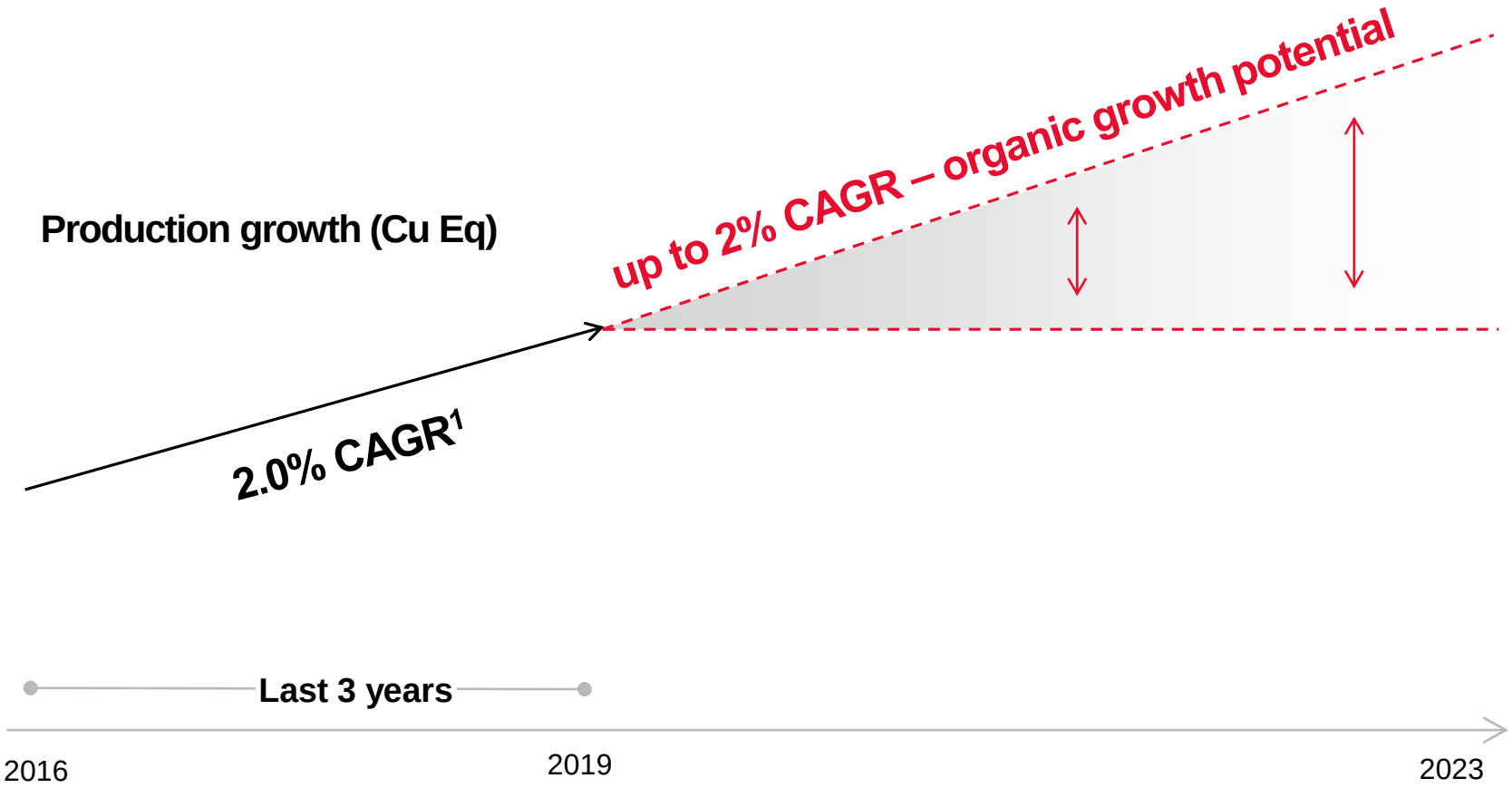
M2M[1] free cash flow target of **$1.0-1.5 billion** run-rate from 2021, dependent on:

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



Value over volume

Day-to-day commercial considerations by commodity

Investment decisions entirely driven by value

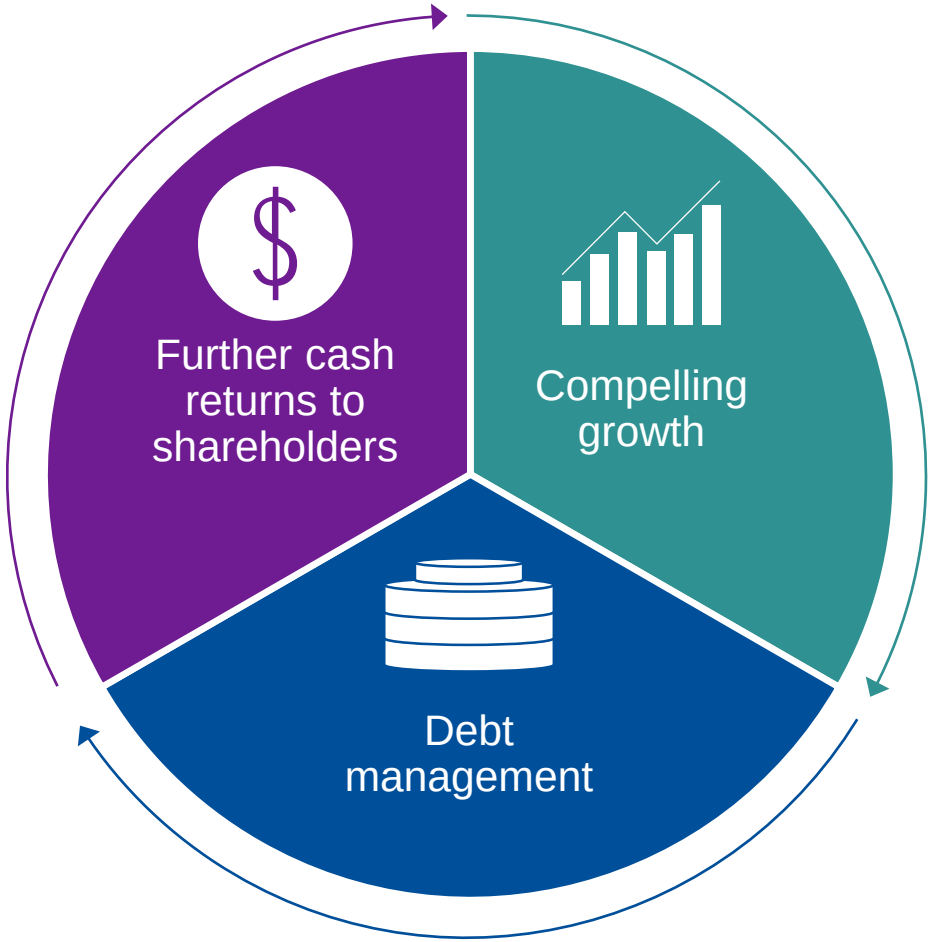
[1] Compound Annual Growth Rate (CAGR) from 2H2016 to 1H2019

Disciplined allocation of capital

1 | **Essential sustaining capex**

2 | **Ordinary dividends**

3 | **Iterative cycle of**



Controlled ramp-up of investments

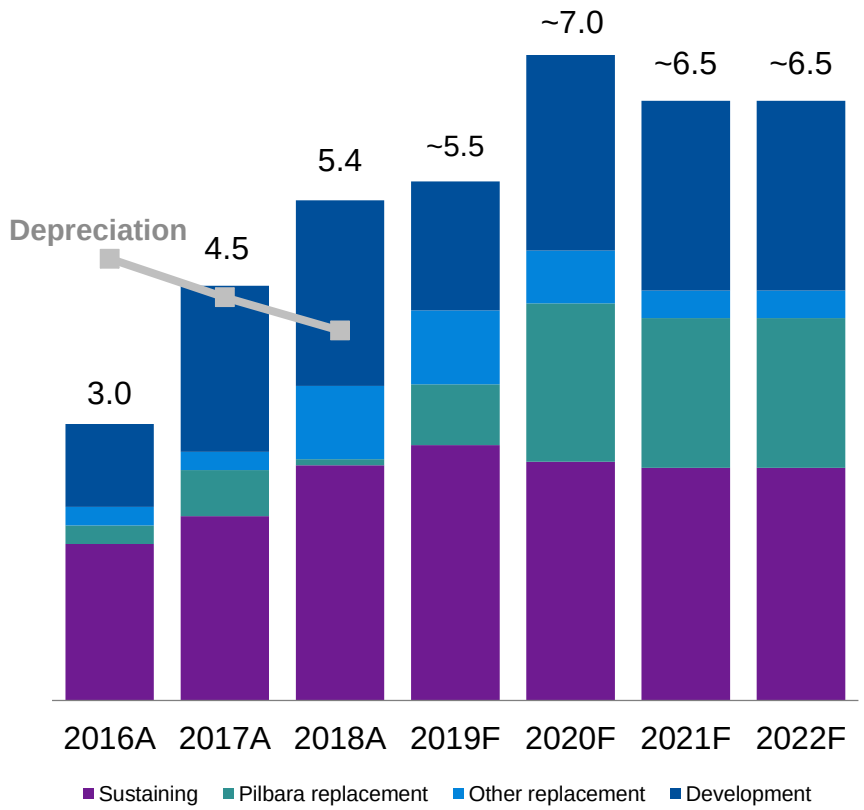
Sustaining capex of around $2.5 billion per year

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

Capital expenditure profile
$ billion



Counter-cyclical: divested assets while disciplined on capital spend

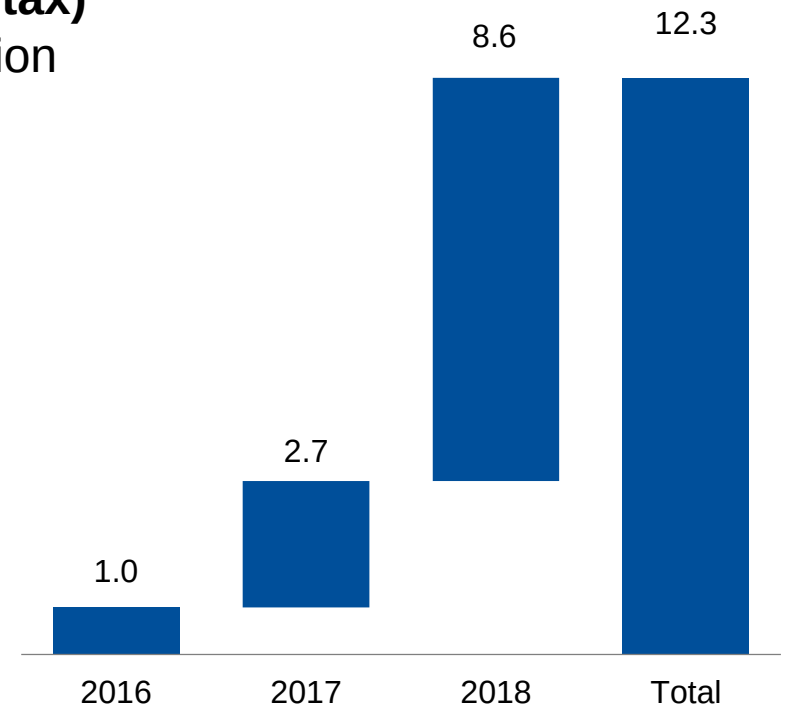
Divested assets in strong commodity markets

18 assets divested since 2016

Raised $12.3 billion in pre-tax cash flow

All post-tax divestment proceeds have been returned to shareholders

Cash proceeds from divestments (pre-tax)
$ billion



	2016	2017	2018
Global PMI[1]	51	53	53

[1] PMI – Purchasing Managers Index

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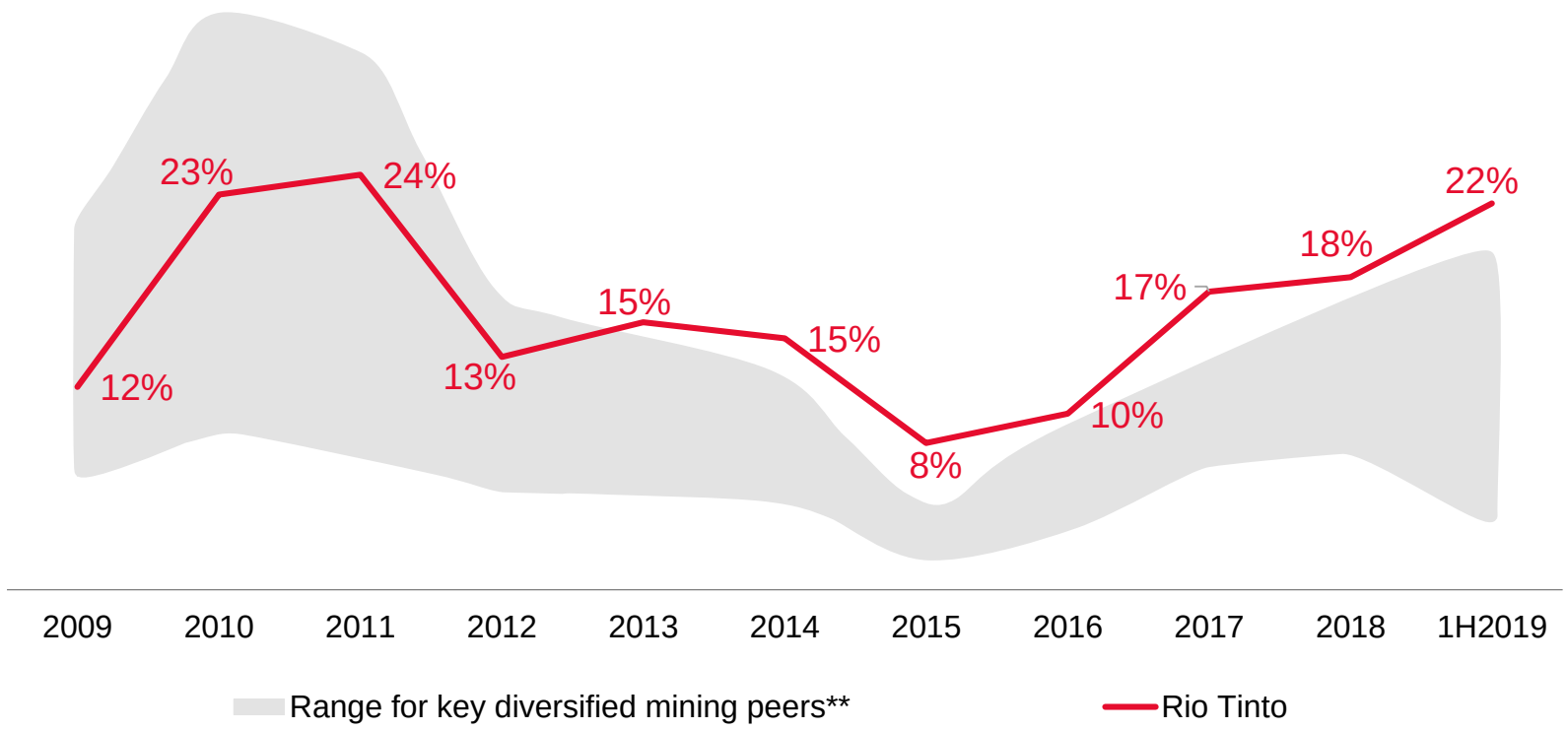
Our performance: industry-leading profitability…

Average ROCE 2009 to 2019 of 16%

Average ROCE 2001 to 2008 of 22%

Only one year of single digit ROCE in two decades

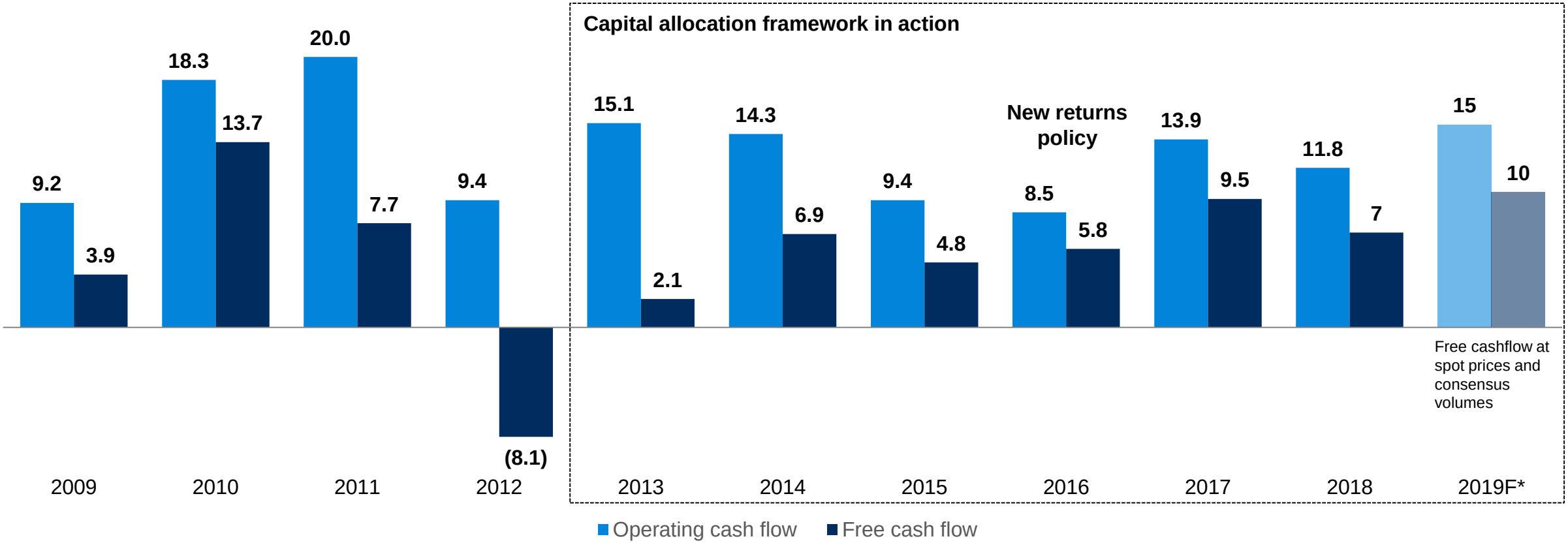
Return on invested capital*, post tax



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.

…that drive strong cash flows…

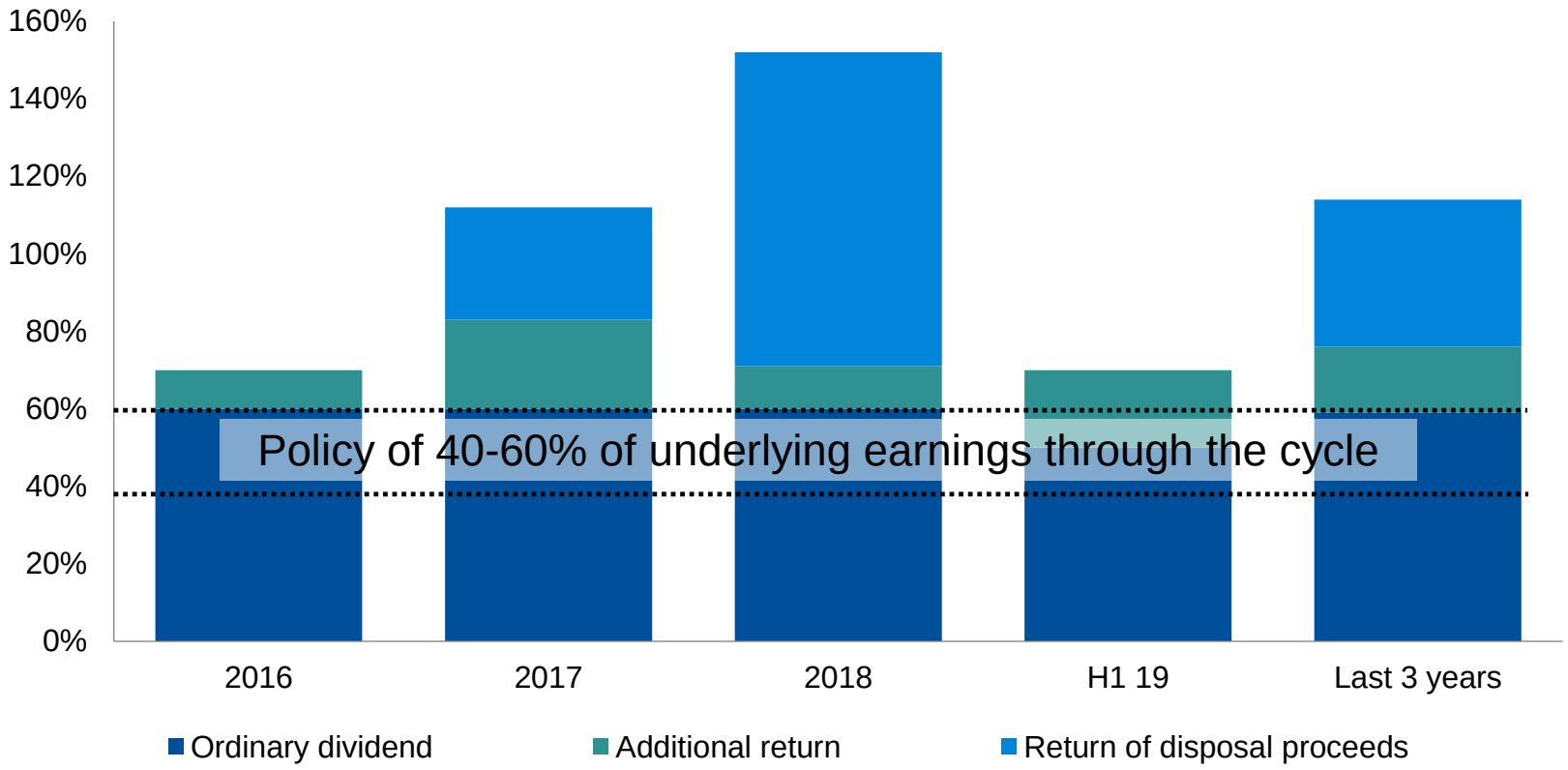
Cash flow in $ billion



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

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J-S Jacques

Chief executive

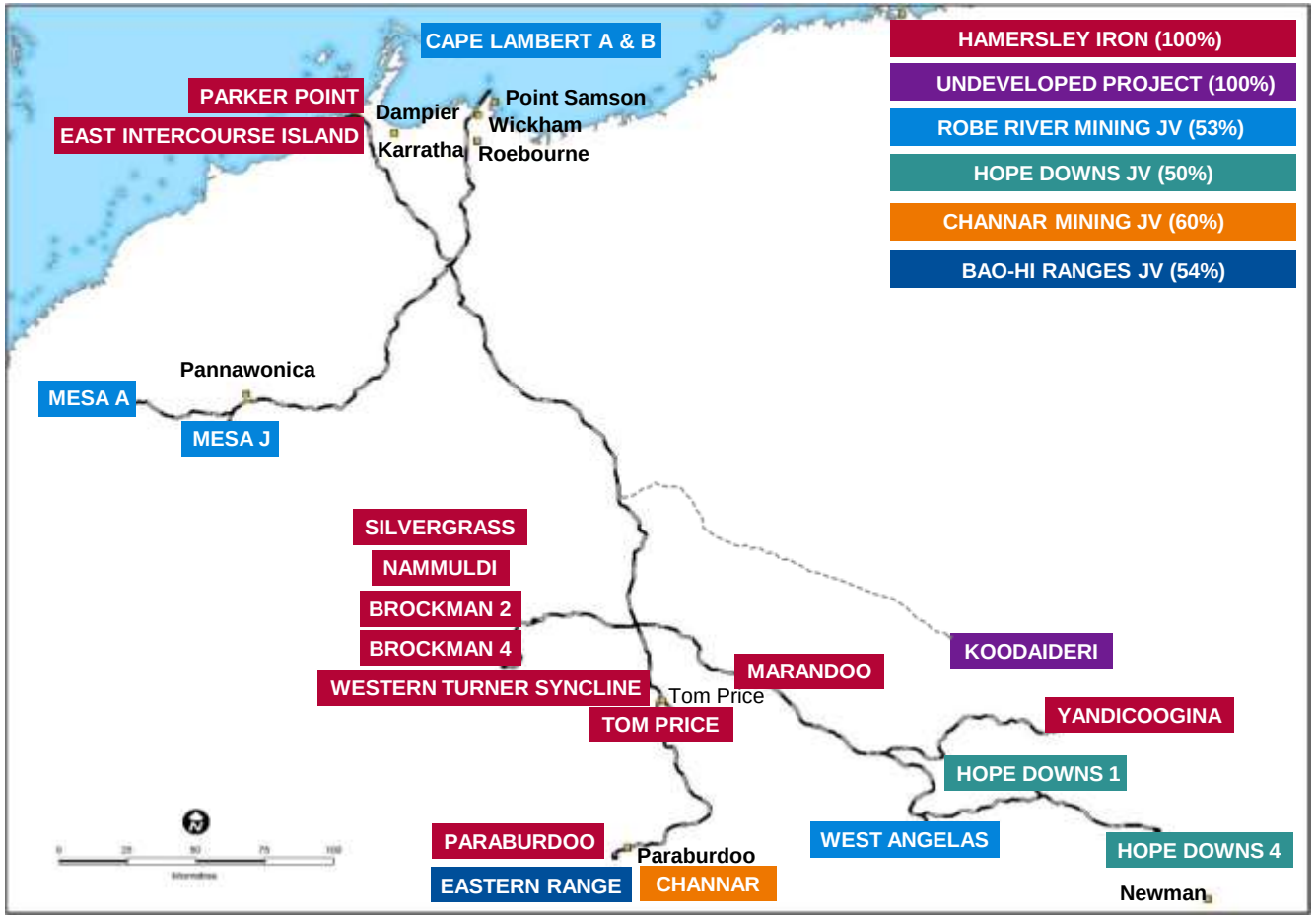
RioTinto

Appendices

31 October 2019

London

World-class iron ore assets - fully integrated and agile network



16
Mines

1,700
Rail (km)

4
Port terminals

4
Power stations

>370
Haul trucks

> 150
Autonomous haul trucks

55
Production drills

>20
Autonomous drills

>200
Locomotives

> 100
Global customers

Benefits to Mongolia already significant and will continue for generations

World-class
safety performance

88%
water recycling rate

212,000
saplings planted

Support
gazelle and wildlife

South Gobi
partnerships

$9.5bn
spent to date in Mongolia

$2.4bn
in taxes and royalties

15,000
employees

93%
Mongolian

342k
hrs in training in **2019**

$3bn
spent with **~700** local businesses

Direct economic
contribution

International
reputation

Industry
development

Human capital
development

Building the future
business eco system

Delivered to date

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


Load commissioning of Jaw Crusher

- 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


Lateral mine footprint development

- 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

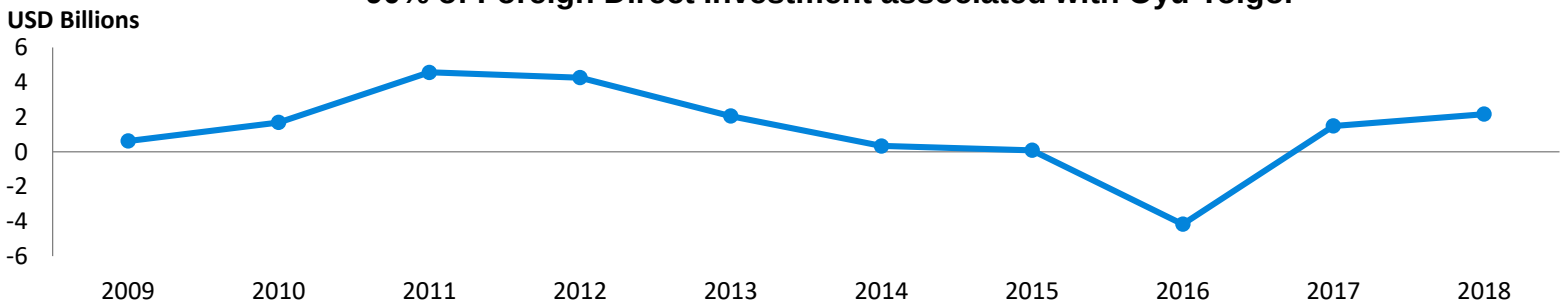
Underground construction suspended

UDP signed and project finance secured

Underground construction recommenced & ongoing

2009	2011	2013	2015	2016	2018	TODAY
Investment Agreement	Amended & Restated Shareholder Agreement (ARSHA)		Underground Development Plan (UDP)	Project Finance	Power Agreement	

~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

	FY2019	FY2020	FY2021	FY2022
CAPEX				
Total Group	$5.5bn	~$7.0bn	~$6.5bn	~$6.5bn
Sustaining Capex Group	~$2.5bn	~$2.5bn	~$2.5bn	~$2.5bn
Pilbara Sustaining Capex	$1.0bn	$1.0-$1.5bn	$1.0-$1.5bn	$1.0-$1.5bn
Productivity	$0.5bn		$1.0 - $1.5bn[1]	
Effective tax rate	30%			
Returns	Total returns of 40 – 60% of underlying earnings through the cycle			

[1] Exit run rate of additional free cash flow by end of 2021

Group level financial guidance

	2019 production guidance[1]	2019 costs	2020 guidance
Iron Ore Shipments	320 – 330mt (100% basis)	$14-15/wmt (FOB)[2]	Up to 5% increase on shipments from 2019 guidance, subject to market conditions.
C&D		C1 unit costs 110-120 c/llb	
Mined Copper	550 – 600kt		
Refined Copper	220 – 250kt		
Diamonds	15 – 17 m carats		
Aluminium		Modelling guidance provided for Canadian smelters only (see slide 91)	
Bauxite	around 54mt		
Alumina	around 7.7mt		
Aluminium	at lower end of 3.2 – 3.4mt		
Minerals			
TiO2	1.2 – 1.4 mt		
IOC	10.7 - 11.3 mt[3] (RT share)		
B_2O_3	0.5mt		

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

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
Alumina (FOB)	191
Green petroleum coke (FOB)	34
Calcined petroleum coke (FOB)	30
Coal tar pitch (FOB)	7

* 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

	Rio Tinto Group		Oyu Tolgoi and Turquoise Hill[1]		Proforma Rio Tinto Group (excluding OT and TRQ)[2]	
	Jun-19 YTD Actual ($m)	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**
Consolidated sales revenue	**20,722**	40,522	**735**	1,180	**19,987**	39,342
Net operating costs (excluding items shown separately)	**(12,818)**	(27,115)	**(470)**	(1,058)	**(12,348)**	(26,057)
Impairment charges	**(2,349)**	(132)	**(2,240)**	-	**(109)**	(132)
Net gains on consolidation and disposal of interests in businesses	**-**	4,622	**-**	-	**-**	4,622
Exploration and evaluation costs	**(287)**	(488)	**-**	(5)	**(287)**	(483)
Profit relating to interests in undeveloped projects	**8**	278	**-**	-	**8**	278
Operating profit	**5,276**	17,687	**(1,975)**	117	**7,251**	17,570
Share of profit after tax of equity accounted units	**208**	513	**-**	-	**208**	513
Profit before finance items and taxation	**5,484**	18,200	**(1,975)**	117	**7,459**	18,083
Finance items	**(298)**	(33)	**1**	(22)	**(299)**	(11)
Profit before taxation	**5,186**	18,167	**(1,974)**	95	**7,160**	18,072
Taxation	**(2,255)**	(4,242)	**(80)**	44	**(2,175)**	(4,286)
Profit for the period	**2,931**	13,925	**(2,054)**	139	**4,985**	13,786
- attributable to owners of Rio Tinto (net earnings)	**4,130**	13,638	**(641)**	125	**4,771**	13,513
- attributable to non-controlling interests	**(1,199)**	287	**(1,413)**	14	**214**	273
Non-GAAP measures (per Financial Information by Business Unit)						
Underlying EBITDA	**10,250**	18,136	**306**	375	**9,944**	17,761
Underlying Earnings	**4,932**	8,808	**52**	69	**4,880**	8,739

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] Includes income and expenses arising in other Rio Tinto group companies from transactions with Oyu Tolgoi and Turquoise Hill.

Group Balance Sheet

	Rio Tinto Group		Oyu Tolgoi and Turquoise Hill[1]		Proforma Rio Tinto Group (excluding OT and TRQ)	
	Jun-19 YTD Actual ($m)	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**
Non-current assets	**69,887**	70,047	**8,848**	10,375	**61,039**	59,672
Current assets	**16,479**	20,168	**3,280**	3,813	**13,199**	16,355
Assets of disposal groups held for sale	**386**	734	**-**	-	**386**	734
Total assets	**86,752**	90,949	**12,128**	14,188	**74,624**	76,761
Current liabilities	**(10,897)**	(10,571)	**(503)**	(540)	**(10,394)**	(10,031)
Non-current liabilities	**(31,386)**	(30,261)	**(4,400)[2]**	(4,367) [2]	**(26,986)**	(25,894)
Liabilities of disposal groups held for sale	**(169)**	(294)	**-**	-	**(169)**	(294)
Total liabilities	**(42,452)**	(41,126)	**(4,903)**	(4,907)	**(37,549)**	(36,219)
Net assets	**44,300**	49,823	**7,225**	9,281	**37,075**	40,542
Equity attributable to owners of Rio Tinto	**39,565**	43,686	**4,739**	5,345	**34,826**	38,341
Attributable to non-controlling interests	**4,735**	6,137	**2,486**	3,936	**2,249**	2,201
Total equity	**44,300**	49,823	**7,225**	9,281	**37,075**	40,542
Non-GAAP Measures (per Financial Information by Business Unit)						
Operating assets	**44,420**	43,431	**5,954**	6,072	**38,466**	37,359
Net debt	**(4,855)**	255	**(1,215)**	(727)	**(3,640)**	982
Equity attributable to owners of Rio Tinto	**39,565**	43,686	**4,739**	5,345	**34,826**	38,341

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.

Group Cash Flow Statement

	Rio Tinto Group		Oyu Tolgoi and Turquoise Hill[1]		Proforma Rio Tinto Group (excluding OT and TRQ)[2]	
	Jun-19 YTD Actual ($m)	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**	**Jun-19 YTD Actual ($m)**	**Dec-18 YTD Actual ($m)**
Cash flows from operations	**9,429**	16,455	**287**	357	**9,142**	16,098
Net interest paid	**(250)**	(612)	**(169)**	(165)	**(81)**	(447)
Dividends paid to holders of non-controlling interests in subsidiaries	**(57)**	(420)	**-**	-	**(57)**	(420)
Tax paid	**(2,733)**	(3,602)	**(1)**	(3)	**(2,732)**	(3,599)
Net cash generated from operating activities	**6,389**	11,821	**117**	189	**6,272**	11,632
Purchase of property, plant and equipment and intangible assets	**(2,391)**	(5,430)	**(651)**	(1,284)	**(1,740)**	(4,146)
Disposals of subsidiaries, joint ventures, unincorporated joint operations and associates	**46**	7,733	**-**	-	**46**	7,733
Purchases of financial assets	**(47)**	(1,572)	**-**	-	**(47)**	(1,572)
Other investing	**17**	590	**-**	1	**17**	589
Net cash (used)/generated in investing activities	**(2,375)**	1,321	**(651)**	(1,283)	**(1,724)**	2,604
Cash flows before financing activities	**4,014**	13,142	**(534)**	(1,094)	**4,548**	14,236
Net cash flows used in financing activities	**(7,881)**	(12,951)	**(9)[3]**	(2)[3]	**(7,872)**	(12,949)
Effects of exchange rates on cash and cash equivalents	**(34)**	151	**-**	-	**(34)**	151
Net (decrease)/increase in cash and cash equivalents	**(3,901)**	342	**(543)**	(1,096)	**(3,358)**	1,438
Non-GAAP measures						
Free cash flow	**3,879**	6,977	**(334)**	(900)	**4,213**	7,877

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] Includes income and expenses arising in other Rio Tinto group companies from transactions with Oyu Tolgoi and Turquoise Hill.